



Statement by

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INTRODUCTION

Chairman Wyden, Ranking Member Crapo, and members of the Committee, thank you for the opportunity to participate in today's hearing focused on funding and financing the nation's infrastructure.

I am Shirley Bloomfield, Chief Executive Officer of NTCA–The Rural Broadband Association (“NTCA”). NTCA represents approximately 850 rural, community-based carriers that offer advanced communications services throughout the most sparsely populated areas of the nation. All NTCA members are fixed voice and broadband providers, and many of our members also provide mobile, video, and other communications-related services to their communities. Operators like those in NTCA's membership serve less than five percent of the population of the United States, but cover approximately 37 percent of its landmass. As context, the average density of the areas that NTCA members serve is roughly seven subscribers per square mile – roughly the density of the state of Montana. These companies operate in rural areas left behind decades ago when communications networks were first being built out by other service providers because the markets were too sparsely populated, too high cost, or just too difficult to serve in terms of terrain.

Despite these challenges, and driven largely by the commitment to the communities in which they serve and live, NTCA's small broadband providers have been leaders in deploying advanced communications infrastructure that responds to consumer and business demands and connects rural America with the rest of the world. In rural America, broadband infrastructure enables economic development and job creation not only in agriculture, but for any other industry or enterprise that requires advanced connections to operate in today's economy. Yet, for all their progress to date, we still have a lot more work to do in deploying and operating this critical infrastructure. Too many rural consumers still lack sufficient broadband connectivity. And, even where networks exist, operators still face the challenges of sustaining and upgrading them to keep pace with consumer demand and delivering affordable services.

The good news is that NTCA members have led the charge in getting rural America connected. Nearly 70% of customers of NTCA's member companies have access to 100 Mbps or better broadband service; on average, roughly the same proportion of NTCA members' customers are connected by fiber despite the very rural nature of the areas in question. The bad news is that not every rural community is fortunate enough to have an NTCA member call it home – and even NTCA members still have work to do to realize their vision of delivering broadband to each and every consumer in the areas they serve. Nonetheless, the efforts of NTCA members and the programs that have supported their success offer important lessons as to what does and does not work when it comes to deploying and then sustaining broadband infrastructure and services. In the remainder of my testimony, I will offer principles and policy recommendations based upon this experience and with an eye toward the objective of ensuring that every American, rural or urban, has access to robust and affordable advanced communications services.

A HOLISTIC VIEW OF AND APPROACH TO BROADBAND INFRASTRUCTURE

President Biden expressly recognized the importance of advanced communications networks by including broadband within his broader infrastructure initiative. There appears as well to be bipartisan consensus in Congress that broadband should be considered a national infrastructure priority, and NTCA welcomes the opportunity to participate in a further discussion on how best to tackle this priority.

This being said, it is important to consider what investing in infrastructure means. It is not a one-time act of building something and then moving on. The asset being built needs to be maintained, upgraded, and made useful over its entire life, or there is serious risk that the investment will be wasted. In the case of broadband more specifically, it does no good to build a network if the provider cannot afford to operate it and recover the capital used to construct it – and even the very best network is certainly of little use if no one can afford to pay for the services offered atop it. Broadband services must be activated and delivered, maintenance must be performed before troubles arise, customer trouble calls must be answered, “middle mile” capacity to reach distant internet points of presence must be procured, and upgrades must be made to facilities and electronics to enable services to keep pace with consumer demand and business needs. In addition to these ongoing operating costs, networks are hardly ever “paid for” once built; rather, they are often built leveraging substantial loans that must be repaid or the use of cash-on-hand that must be recovered over a series of years or even decades.

All of these factors make the delivery of broadband in rural America an ongoing effort that requires sustained commitment, rather than a one-time declaration of “success” just for the very preliminary act of connecting a certain number of locations. Particularly when one considers that even where networks are available, many rural Americans pay more for broadband than urban consumers, and it becomes apparent that the job of really connecting rural America – and, just as importantly, sustaining those connections – is far from complete. Federal law mandates that the federal Universal Service Fund (USF) ensures reasonably comparable services are available at reasonably comparable rates in rural and urban areas alike. This mission cannot be lost as we focus on financing deployment. We must make sure the infrastructure is useful to and useable by the population it is intended to benefit. So while the rural broadband industry and our nation as a whole have a great story of success in delivering services, we have much more work to do in both deploying and operating networks – and this is where public policy plays such an important role in helping both to build and then to sustain broadband in rural markets that would not otherwise justify such investments and ongoing operations.

As this Committee considers tax incentives and bonds to spur broadband deployment, it should keep in mind that while such measures may help in certain areas, it must also overcome how distance and density make it difficult, if not impossible, to justify a business case for infrastructure investment to start in many rural markets. No provider, whether it be cooperative or commercial, and regardless of size, can deliver high-speed, high-capacity broadband in rural America without the ability to justify and then recover the initial and ongoing costs of sustaining infrastructure investment in high-cost areas. If there is insufficient help in the first instance to enable the business case for ongoing operation of networks and providing affordable broadband in rural areas, tax incentives may not by themselves promote meaningful broadband deployment in many rural areas most in need of broadband.

FUTURE-PROOF NETWORKS

Meeting Consumer Demand in Decades to Come

Any resources provided as part of an infrastructure plan should look to get the best return on such long-term investments. For networks with useful lives measured in decades – especially private investments that leverage federal dollars – this should mean the deployment of infrastructure capable of meeting consumer demands not only of today and tomorrow, but for ten or twenty years. Putting resources toward infrastructure that needs to be substantially rebuilt in only a few years’ time could turn out to be federal resources wasted – and would still risk leaving rural America behind. Similarly, putting billions of federal dollars into “bets” on emerging technologies that *may* deliver quality broadband *if* they turn out as promised is risky. The express intended use of these resources is to get Americans access to better broadband infrastructure, rather than speculate. These resources should be invested in technologies that have a proven track record of delivering for American consumers, rather than hanging hopes on marketing campaigns and equipment vendor promises as to capabilities to come.

As our members look to future data needs of their customers and their communities, they have taken aggressive steps to focus on anticipated increases in usage. This ongoing phenomenon accelerated during the global pandemic that forced so many to learn, work, and get treated by doctors at home; OpenVault has found, for example, that upstream broadband traffic increased by 63% from December 2019 to December 2020.¹ In addition to continuing to deploy “last mile” fiber as fast as they can, measures taken by NTCA members to stay ahead of such demands include establishing robust and reliable connections to statewide fiber networks that provide “middle mile transport” between our local communities and the rest of the world, and adding redundant connections to separate internet points-of-presence where possible.

Importance of Symmetrical Speed

Federally funded broadband programs should focus on the consumer experience and the long-term implications for rural communities by requiring the deployment of networks that in a decade or more will still deliver speeds and other performance capabilities that customers can rely upon. To this end, NTCA supports an increase in the minimum broadband deployment performance benchmark to at least a symmetrical speed of 100 Mbps/100 Mbps to ensure that federally supported networks will meet the future needs of consumers – in other words, any funding programs going forward should generally aim to ensure that new deployments perform at least at this speed threshold. Beyond the OpenVault findings noted earlier on pandemic-related traffic patterns, residential demand for symmetrical bandwidth has increased consistently at a rate of 20 to 25% annually for over two decades.² Continued growth in demand is expected to increase significantly in coming years, such that peak demand for a family of four is projected to exceed 400 Mbps symmetric in just seven years, with bandwidth needs accelerating in the years

¹ Dan O’Shea, *Pandemic Drove Upstream Broadband Traffic Boom: OpenVault*, Fierce Telecom (April 1, 2021, 12:46 PM), <https://www.fiercetelecom.com/telecom/pandemic-drove-upstream-broadband-traffic-boom-openvault>

² See Comments of the Fiber Broadband Association at 9-10, GN Docket No. 20-269, at 15 (Sept. 8, 2020) (“Comments of FBA”).

after that.³ These imminent increases are anticipated due to an array of new technologies that hold substantial promise for consumers and businesses alike, such as greatly improved virtual education, telemedicine, agriculture, business, security, and entertainment. Indeed, the Federal Communications Commission (FCC) has concluded that two users or devices simultaneously using one internet connection for a “basic” function, such as checking email, and more than one high-demand application, like video conferencing or streaming HD video, can require at least 25 Mbps, while adding just one more user or device would necessitate an internet connection exceeding 25 Mbps.⁴

Despite the clear need for better performance and higher quality broadband benchmarks, some claim an increased benchmark undermines the concept of “technological neutrality.” Congress should not sacrifice robust networks that meet the needs of Americans for the sake of “technological neutrality.” If a particular technology cannot meet the standards of customers today and tomorrow, the proper answer is for innovators in that field to find ways of improving network performance (and establish they work in the field) rather than defining standards downward. Existing federal programs employ competitive processes for considering applications that allow entities of all kinds to make proposals of all kinds using different technologies they want to deliver service. Lowering the bar simply so that all can play may make this process more competitive in a rudimentary sense, but it hardly serves the intended purpose of “buying the best possible networks” using taxpayer resources. Programs should aim higher with respect to minimum standards and uphold preferential scoring for higher-speed symmetrical and low latency performance, or risk leaving consumers with “just good enough” network technologies that might only temporarily bridge the digital divide, leaving rural communities in the lurch as they look in only a few years’ time at the better performance of networks in other areas.

Hold Providers Accountable

The FCC’s recent iterations of its High-Cost program support, through both the Connect America Fund and Rural Digital Opportunity Fund (RDOF), have utilized reverse auctions as its competitive bidding method. Despite proclamations of success when it comes to the use of such reverse auctions, there is little to no track record upon which to base such declarations as of yet. As of the date of preparation of this written testimony, the map depicting locations served through the FCC’s programs indicates a grand total of 87 locations in three states that have been served leveraging auction support.⁵ Performance testing to confirm that providers are actually delivering what was promised in the auction will not begin until 2023. Undoubtedly more locations are coming online, of course, but it is clearly premature nonetheless to conclude that reverse auctions, especially in their current form, necessarily work to promote and sustain the availability of broadband.

It is not too soon, however, to highlight serious concerns about the results of the recent RDOF Phase I auction – and in particular whether winning bidders will deliver on the services they have promised. Due to rules that allowed bidding on a confidential basis at speculative levels based

³ See Comments of FBA at 9-10.

⁴ See Household Broadband Guide, FCC, <https://www.fcc.gov/consumers/guides/household-broadband-guide> (last visited May 13, 2021).

⁵ See Connect America Fund Broadband Map, FCC, <https://data.usac.org/publicreports/caf-map/> (last visited May 13, 2021).

upon unproven technologies, many have raised questions about the transparency and accountability within the RDOF auction. While there is serious concern that this may have undermined the effectiveness of the auction itself, we continue to hope at the very least that the FCC will prioritize vetting RDOF winners now in a more transparent and accountable way before funds flow – and ensure that in any future programs to award funds, there is greater transparency and vetting of would-be support recipients *prior to* allowing them to participate or claim the ability to deliver services in certain ways.

The RDOF experience should inform how Congress directs agencies to distribute any broadband infrastructure funds moving forward. There should be clear standards for what will be expected of and achievable by providers looking to leverage any resources made available through such an initiative. Looking to providers with proven track records of operating in rural areas and delivering actual results makes the most sense, but whoever receives any support should be required to show clearly that they will use those resources to deliver better, more affordable broadband that will satisfy consumer demand over the life of the network in question. To ensure transparency, accountability, and the integrity of federal broadband programs, agencies should stringently review and weight the technical, managerial, financial, and operational capabilities of applicants or bidders as part of the process of deciding on any award of funds to serve an area. There is far too much money at stake and far too many consumers on hold to gamble on confidential promises and untested technologies, and the real success of any such effort will be defined by the actual delivery of robust and reliable broadband to rural consumers.

PROMOTE LOCAL PARTNERSHIP

Leverage Community-Based Providers

Based in the small rural communities they serve, NTCA members have deep long-standing relationships with their local governments and anchor institutions. They have seen that some of the best results can often be achieved when local commercial operators or cooperatives with significant experience in building networks and delivering communications services work with stakeholders in the community to identify and respond to specific needs. Creating programs that encourage and incentivize such partnerships and collaboration could unleash broadband investment and help sustain those networks once built.

NTCA providers know their customers, they know the geography, and they know the business of delivering communications services in these areas. As policymakers look for solutions to deliver broadband in unserved parts of rural America, small businesses based in or near those areas offer the greatest promise for achieving results quickly and effectively. We strongly urge Congress and the Biden administration to “look local” when it comes to identifying broadband solutions – and to leverage the expertise and experience of smaller community-based providers, regardless of corporate form, in overcoming these challenges.

PROGRAM COORDINATION

Coordinate with and Leverage Existing Broadband Programs

The prospect of creating a new program that will “finally solve the digital divide” is always exciting. But any new federal broadband plan should leverage what is already in place and has worked before. Creating new programs from scratch is not easy, and if a new broadband infrastructure initiative conflicts with existing efforts, that could undermine our nation’s shared broadband deployment goals. Moreover, even as some existing programs may not have performed as hoped and intended, a number of these existing initiatives have worked very well – where this is the case, the successful programs in place already should be enhanced and built upon, rather than pushed aside for something new. Therefore, any new federal broadband program should coordinate with federal broadband programs at the FCC, United States Department of Agriculture (USDA), and National Telecommunications and Information Administration, and also state broadband programs.

Furthermore, small, rural telecom providers have long used the FCC’s High-Cost USF and USDA Rural Utilities Service (RUS) loans in concert to deploy advanced telecommunications services in the most rural areas of the United States. Many smaller providers have successfully leveraged a mix of funds from these programs and private investment to deploy broadband to millions of homes, businesses, farms, and anchor institutions. While RUS lending programs have helped to finance the substantial upfront costs of network deployment, 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. Ensuring that sources of federal and state support for broadband networks continue to work in concert not only avoids duplication and helps deliver high-speed reliable broadband to the consumer, it recognizes the hard realities of both deploying robust networks and then delivering high-quality affordable services in the most remote, sparsely-populated areas of the nation.

Direct Funding for New Network Deployment to Unserved Areas

Funding for new network construction should be targeted to unserved areas to limit overbuilding of existing networks that are meeting federal broadband standards. We should focus funding on the areas most lacking in broadband and seek to build the best kinds of networks in those areas – and we can then turn our attention to the areas next most in need once that is complete. This iterative approach will ensure the best possible use of federal resources in the form of targeting funds for new networks to the consumers that need help most and ensuring that the networks then built to serve those consumers will last for decades thereafter. It will also avoid funding two competing networks in an area where without support cannot support even one.

SUPPORT ONGOING NETWORK OPERATIONS

Robust broadband infrastructure is crucial to the current and future success of rural America. But the characteristics that enable the unique beauty and enterprise of rural America make it very expensive to deploy advanced communications services there. 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 justify investment in many cases and pay the costs of deployment and ongoing operations through customer charges. Again, while so many focus on the upfront financing aspects of this debate – which is important, to be sure – it is equally important that we not overlook the long-term viability of networks in these sparsely populated rural areas and the kinds of support mechanisms needed to sustain them and keep services affordable on them.

BARRIERS TO DEPLOYMENT

While high costs are perhaps the most imposing obstacle to deploying and maintaining broadband in rural areas, other barriers remain too, such as time-consuming and expensive right of way and access delay issues and supply chain shortages.

Permitting Delays

Infrastructure investment depends not only on financing but also on prompt acquisition or receipt of permissions to build networks. Roadblocks, delays, and increased costs associated with permitting and approval processes are particularly problematic for NTCA members, each of which is a small business that operates only in rural areas where construction projects must range across wide swaths of land. The review procedures can take substantial amounts of time, undermining the ability to plan for and deploy broadband infrastructure – especially in those areas of the country with shorter construction seasons due to climate. Additionally, obtaining reasonable terms and conditions for attaching network facilities to poles that are owned and operated by other entities can result in long delays and costly fees charged to providers seeking to build out networks to rural communities lacking service.

Navigating complicated application and review processes within individual federal land-managing and property-managing agencies can be burdensome for any network provider, but particularly the smaller network operators that serve the most rural portions of the country. The lack of coordination and standardization in application and approval processes across federal agencies further complicates the deployment of broadband infrastructure. We have seen much agreement for some time now on solutions to simplifying the administrative barriers to deployment. Specifically, Congress should look to implement the recommendations of the FCC's Broadband Deployment Advisory Committee's Streamlining Federal Siting Working Group final report issued in January 2018.⁶ NTCA participated in the development of these recommendations, which address streamlining of environmental and historical reviews and application review periods, among other pertinent recommendations in removing further regulatory barriers to broadband deployment.

⁶ See Broadband Deployment Advisory Committee, Streamlining Federal Siting Working Group, Final Report, FCC, (Jan. 23-24, 2018) <https://www.fcc.gov/sites/default/files/bdac-federalsiting-01232018.pdf>.

Addressing Supply Chain Concerns

In recent years, Congress has provided significant funding through several agencies to deploy broadband infrastructure with the goal of bridging the digital divide. However, as broadband providers construct these networks, it is important to monitor the status of the communications supply chain. NTCA members are beginning to report significant backlogs for critical communications equipment like fiber, routers, antennas, network terminals, and customer premise equipment—ranging from several weeks to one year. Delays in production of necessary equipment appear to be related to both increased demand for broadband investment as well as ongoing effects of the pandemic. To ensure that existing and new infrastructure initiatives are as successful as possible in responding to consumer needs and demands, we believe it is important that the federal government work closely and directly with manufacturers, distributors, and other suppliers to avoid disruptions in the communications supply chain.

For these reasons, while there has been a great deal of focus on the *security* of our supply chains, we strongly encourage Congress to consider supply chain *continuity and reliability* as key components of delivering on a successful broadband infrastructure agenda. As Congress is poised to make future investments to solve the digital divide once and for all, supply chain shortages must be addressed—including consideration of ways to spur domestic supply chain production and address any other shortcomings in the global supply chain. Without attention to continuity and reliability, we risk billions of dollars in funds intended for immediate broadband deployment being tied up in held orders and delayed shipments.

CONCLUSION

Rural America is difficult and costly to serve, with each rural area presenting unique challenges. An effective national strategy to achieve universal broadband requires a holistic and coordinated approach that looks to solve challenges of availability and affordability in all kinds of areas and for all kinds of consumers. NTCA members are deeply committed to the customers they serve and, given their experience and success in serving the most rural areas, these providers should be seen as critical components of any strategy seeking to achieve universal broadband in the United States.

A legislative infrastructure initiative offers a unique opportunity to provide the resources needed to make these investments and mechanisms that ensure efficiency and accountability in the expenditure of funds already in place. Our industry is excited to participate in this conversation regarding broadband infrastructure initiatives, and we look forward to working with policymakers and other stakeholders on a comprehensive infrastructure strategy to ensure that all Americans will experience the numerous agricultural, economic, health, and public safety benefits of broadband.

Thank you for the opportunity to testify, and for the Committee's commitment to broadband infrastructure investment in rural America.