



Statement by

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The 5G Workforce and Obstacles to Broadband Deployment
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INTRODUCTION AND BACKGROUND

Chairman Wicker, Ranking Member Cantwell, and members of the Committee, thank you for this opportunity to testify today to discuss continued obstacles for broadband deployment and the need for a strong workforce to build out the next generation of broadband networks across America.

I am Shirley Bloomfield, CEO of NTCA–The Rural Broadband Association, which represents approximately 850 small businesses deploying broadband infrastructure in 46 states.

These cooperatives and small commercial companies serve the most rural parts of the United States, reaching areas that contain less than five percent of the U.S. population, but which are spread across more than 35 percent of the U.S. landmass, or roughly seven subscribers per square mile.

So how do we overcome the challenges of distance and density to deploy and sustain rural broadband? In the first instance, you need a business case to even consider deploying rural broadband. Questions related to deployment obstacles are important, of course – but if you can't afford to deploy the network at all, those questions never come into play.

The economics of broadband are difficult, if not impossible, in many rural markets. The rates that rural consumers pay are rarely sufficient to cover even the costs of operating in rural areas, much less the large capital expenditures required to deploy broadband in rural America.

That's why ongoing support from the High-Cost Universal Service Fund program overseen by the FCC is critical to making a business case for rural broadband, both now and into the foreseeable future. NTCA is supportive of the work that Congress and the FCC has accomplished over the past several years on rural broadband, including this Committee's work on the *Broadband DATA Act* and the FCC's recently released *Rural Digital Opportunity Fund Order*, which will be voted on by the FCC next week and aims to distribute over \$20 billion in High Cost USF support to over ten years. Your work on these important items is essential to build the business case for small providers to deploy and then continue to operate and deliver affordable services in rural areas.

The High-Cost Program supports the fixed rural broadband networks that play an essential role in the provision of mobile wireless service. Indeed, to deliver on the greatest promise of 5G, fiber will need to be installed to small cells or towers which must be located very close to the user. But in rural America specifically, where customer density is often measured in miles rather than feet, it will take unprecedented investment in fiber to deliver 5G capabilities. In fact, a technical paper released last year found that deploying 5G-capable networks to such rural areas could be nearly the equivalent of simply providing fiber to the home, especially if using the spectrum bands that promise the highest level of 5G service and speed.

With this as backdrop, Congress should therefore implement and promote policies that will advance *both* the future of 5G wireless technology *and* the fiber networks needed to connect thousands of “small cells” and otherwise respond to consumer and business demands. For rural consumers to have a broadband experience reasonably comparable to that in urban America as the statutory mandate for universal service dictates, we must enable and support deployment of both fixed and mobile broadband networks. At bottom “wireless needs wires” – or, these days, “5G needs fiber” – if we are to ensure sufficient broadband access in rural America.

HOW PERMITTING REFORMS CAN HELP OVERCOME DIGITAL DIVIDES

Once the business case for rural broadband network deployment has been made in the first instance, we must address significant barriers to deployment. One outstanding obstacle to broadband deployment continues to be obtaining reasonable and timely access to rights-of-way on federal lands. NTCA and its members recognize the need to protect our nation’s natural resources, and appropriate, well-designed permitting processes are a necessary part of such protection. However, we believe these goals can be achieved without the significant deployment delays that providers currently experience.

Smaller providers like those in NTCA’s membership have neither the staff nor the resources to navigate complex regulatory structures for securing the permits needed to deploy broadband networks over vast rural expanses. For companies and cooperatives with an average of approximately 25 employees, time and money spent on permitting delays translates to time and money not spent building broadband.

In South Dakota, for example, a small, rural provider’s multimillion-dollar fiber deployment requiring U.S. Forest Service approval confronted permitting delays that put completion of the construction project on hold for more than a year.

We believe sensible reforms such as harmonizing agency applications, increasing staffing in local offices for permitting, and providing a categorical exclusion for the installation of communications infrastructure on previously disturbed federal lands would improve broadband deployment speeds without harming the environment. While legislation has attempted to take this on in the past, it has focused largely on facility deployment for mobile wireless services – but as noted above, these wireless networks require robust wired backhaul to realize their full potential, which means we need greater focus on harmonizing and rationalizing permitting rules related to deployment of fiber networks as well.

Another example of a deployment barrier is the process for constructing broadband networks across or within railroad rights-of-way. In Missouri, one NTCA member waited seven months and spent roughly \$50,000 for rights-of-way across just three railroads; these were not the costs of construction – this sum represents just the fees and the resources required for railroad right-of-way approval. In some parts of the country, such delays can push construction into the winter months, when boring into the ground is

not possible. A delay of a few months then becomes a one-year or longer delay, as crews wait for the ground to thaw and soften.

Further, the "fees" are often for boring beneath a railroad track where the railroad crossing intersects state highways. In such cases, the fiber installed under the railroad does *not* touch railroad property on either side of the track and the work is completed by the broadband provider in a few hours.

Several states have recognized these issues and made efforts to address these concerns by capping railroad crossing fees. Unfortunately, in these states, members are now reporting increased "safety" or "observation" fees, which appears to serve as an offset for crossing fees and an end-run around the caps. To be clear, this is not to say that those installing networks should be given free access to railroad rights-of-way, but common-sense rules of the road are needed to ensure we can continue the work of delivering broadband to those currently on the wrong side of the digital divide.

The examples described above highlight the continued need for sensible reform of permitting procedures to ensure greater efficiency and timeliness in the process, especially when the work involves replacing or upgrading facilities in existing rights-of-way.

Finally, I would like to briefly mention the impact of "one-touch-make-ready" poles on deployment of broadband networks in rural America – and this segues into a discussion of workforce development.

In 2018, the FCC updated its pole attachment access rules. This included adoption of a new "one-touch-make-ready" (OTMR) regime under which a new attacher may opt to perform all work to prepare a pole for a new attachment.

NTCA members seeking to invoke this new rule report a common barrier in the lack of properly trained staff or outside contractors qualified and available to perform the work. Even when the process for invoking one-touch-make-ready is complete such that work can begin, the lack of qualified staff can act as another barrier to timely installation of broadband infrastructure. This is one area where focusing on workforce development could help advance broadband deployment, and brings me to a discussion of the workforce issues teed up by the committee in this hearing.

A WORKFORCE FOR TOMORROW'S RURAL AMERICA

As manufacturing, agriculture and other fields are responding to the increasing incorporation of technological development and broadband connectivity into their lines of business, some NTCA members are already working with local schools to train homegrown talent for the innovative careers that did not exist a quarter-century ago but are now among the fastest-growing sectors of job opportunities.

School curricula that evolved to meet the needs of the Industrial Revolution must evolve again to meet the demands of the tech and communications revolution. These demands, however, can seem overwhelming for small school districts challenged by economies of scale that cannot support specialized instruction. Several approaches, if not a combination of them, may be advantageous.

1. Convene local and regional industry, political leadership and school administrators to identify job and educational opportunities and to assess whether local/regional educational curricula meet those needs. With the STEM economy enjoying double-digit growth, a multi-party force to capture its gains would be pivotal for rural areas.
2. Bring rural broadband providers into the conversation to identify and/or create broadband-enabled responses such as distance education, which can bridge geographically-dispersed students and instructors. While 91% of urban students take AP courses, only 66% of rural students take those opportunities. The difference may be related to a combination of factors, but increased access would seem like one helpful step toward increasing the take-rate.
3. If they do not yet exist in the community, develop internship and apprenticeship programs that earn academic credit.
4. Encourage partnerships on the state, local or regional level to develop apprenticeship programs that can help address the current or future workforce needs.
5. Continue to support benefit plans like those offered by NTCA to our membership where, through the national scope and scale of aggregating rural broadband employees, our members can offer competitive benefit plans that at least help to recruit and retain talent in rural communities.

NTCA–The Rural Broadband Association is grateful for this committee’s continuing leadership and focus on identifying and solving barriers to broadband deployment. It will take a holistic hybrid deployment of wired and wireless networks to make 5G services a reality in rural America, and taking steps to reduce barriers to deployment of both – and training workforces to assist in the deployment and operation of both – will be key to overcoming our nation’s digital divide. Thank you for inviting me to be with you today and I look forward to the chance to converse further with you on these topics.