

**SENATE COMMITTEE ON COMMERCE, SCIENCE, & TRANSPORTATION
THE 5G WORKFORCE AND OBSTACLES TO BROADBAND DEPLOYMENT**

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Chairman Wicker, Ranking Member Cantwell, and Members of the Committee, I am Lisa Youngers, President & CEO of the Fiber Broadband Association (FBA). Thank you for inviting me to testify today.

The Fiber Broadband Association is the only association across the Americas dedicated to accelerating the deployment of all-fiber networks to all locations and for all purposes. We have more than 250 members including broadband service providers, network deployment contractors, equipment vendors, and others, all of whom are dedicated to accelerating the deployment of all-fiber networks throughout the country. As I expect you know, fiber is the fundamental network technology for the 21st Century providing the needed underlying infrastructure not just for 5G, but for wireless networks, smart communities, smart grids, as well as Internet of Things applications, while also providing direct connections to homes, businesses, and anchor institutions.

To date, we are making great progress in achieving our goal of rapid all-fiber network deployments. As of September, 2019, 46.5M homes have access to all-fiber networks (about 40% of total homes), and 20.5M homes are connected with fiber – a 44% penetration rate. Over the past year, all-fiber networks became available to 6.5M additional homes – a record level of

additions. While large providers account for most fiber connections, over the past year, smaller providers accounted for 25% of the new home connections and 41% of all-fiber capital expenditures. All-fiber deployments to various customer end-points are at record levels. In 2019, over 450,000 fiber routes were deployed – driven by new deployments to homes, upgrades by cable operators, and the beginning of deployments to 5G sites and small cells.

We expect the good news about all-fiber deployments will continue, especially should the Federal Communications Commission (FCC) adopt and implement the Rural Digital Opportunity Fund with the so-called “budget clearing round” proposal, which many of you support. This proposal will drive support for future-proof networks to many more locations in unserved areas. We also expect further progress as the Rural Utilities Service continues to implement the ReConnect program by awarding funds for all-fiber network builds.

As for removing barriers to all-fiber deployments, FBA members have developed new construction techniques that lower the cost and shorten the timeline for fiber-builds, and they have worked to develop and provide training for the many new employees that are needed on their projects – a subject I will touch on further in a moment. The FCC and state and local governments have made significant strides over the past several years. For example, the FCC’s 2018 pole attachment order, which instituted One-Touch Make-Ready (OTMR) and other measures, was a positive step. Additionally, many of our members support efforts that require government entities to act promptly to approve access to their rights-of-way at cost-based rates.

That said, there are still too many barriers that delay and even halt all-fiber deployments. This not only harms consumers, but jeopardizes our international competitiveness. A recent report from the Center for a New American Security highlighted that “China has invested more heavily [than the U.S.] in the fiber and physical infrastructure for standalone 5G,” and that “the

Chinese government has undertaken significant investments in building up a more robust digital infrastructure of fiber optic networks that are important to facilitate the large-scale deployment of 5G.”

Based on recent discussions with our members, let me highlight some barriers to deployment that are of greatest concern to them.

Labor and Job Training

The annual investment from the private and public sectors in communications infrastructure is enormous – by our count more than \$80 billion – and we see that trend continuing. Not only are we rapidly building all-fiber networks across the country, but providers are investing enormous amounts in other communications technologies, including 5G. As a result, our members are telling us that getting and retaining skilled personnel is among the biggest chokepoints in deployments. Yet, these are good jobs with a good career path. The personnel shortfall has become so bad that one of my construction members said it has started to turn away work. Another member said the company is short 100 crews needed to support the amount of work they could bring in – not people, crews. And one of my equipment providers said that after two years of record sales, contractors have stopped buying new equipment because they do not have enough people to run the machines.

As I mentioned at the outset, our members have been engaged in efforts to increase the workforce for the fiber industry. Because existing educational programs do not provide the skills they need, companies are partnering with community colleges and trade schools to develop programs and curricula that will give students training on deploying broadband networks: from creating network architecture and reading blueprints, to fusing, splicing and closing fiber connections, and from operating heavy machinery to climbing poles and towers to install fiber

and other equipment, as well as training on how to conduct “locates” – the ability to locate and mark other facilities that are already in the ground.

One example of such a program is the Utility System Technician associates degree at the State Technical College of Missouri. This degree offers students a hands-on education, learning how to install and maintain utility systems, including fiber, and even offers a “Fiber Optic Technician” certification. The program is up and running thanks to \$2 million in state funding, donations from private companies in the form of heavy operating equipment, and industry support in creating the curriculum. Another example is Wilson Community College in North Carolina, which partnered with a local fiber broadband provider to bring a 10-week course and a 5-day boot camp on fiber deployment training to the school in 2019. There are already efforts to expand these courses into a degree or certificate program. Each of these programs and their curricula can be models for other institutions across the country.

In addition to these developments, other members are working to drive interest in broadband deployment careers among high school students. One member has created a scholarship for high school students planning to enroll in community colleges or trade schools and who have an interest in apprenticeship or pre-apprenticeship in construction trades. Another member has been working with a local high school, talking to students interested in engineering and other careers in the broadband construction industry and providing them with internship opportunities. Our members have also been ramping up their on-the-job training, which they feel is needed to support employees new to the industry and as an addition to tech school or community college training. These efforts are significant, but they will not alone meet increasing workforce demands.

Federally-supported workforce development programs provide productive opportunities to support and expand educational opportunities. The Department of Labor (DOL) Employment and Training Administration oversees two grant programs that can make a difference. The Workforce Opportunities for Rural Communities (WORC) and the Apprenticeship Readiness grant programs are each geared toward supporting educational institutions and other programs that will provide skills training that help put people to work. In fact, working with some of our members, some community colleges are waiting to hear back now on applications for Apprenticeship Readiness grants to support their efforts to establish new utility programs or update existing programs that provide fiber and other communications deployment training. In 2019, these DOL grant programs offered \$130 million combined in grants, any portion of which could make a significant impact in developing the broadband deployment workforce. The Department of Labor should prioritize granting funds for broadband deployment, fiber deployment, and 5G training – calling out those areas in their grant programs and announcements specifically. Congress should also explore other opportunities to find new funds to support this type of training.

I also want to mention the TOWER Infrastructure Deployment Act, introduced by Senators Gardner and Sinema. This legislation would create the Telecom Workforce Development Advisory Council to advise the Federal Communications Commission on workforce needs in the communications industry, ways to encourage participation in industry-led workforce development programs, and ways to improve workforce development in the industry. We encourage the Committee to ensure this legislation includes a directive that individuals with expertise in fiber workforce issues be appointed as members to the Advisory Council.

Pole Attachments

In adopting the federal pole attachment statute (Section 224 of the Communications Act), Congress understood that poles were both an essential and limited input for cable and telecommunications providers. The alternative is burying facilities, which takes far longer and can cost twice as much. Yet, while the statute seeks to facilitate access to poles (while accounting for important safety and reliability concerns), there remain issues in getting the utilities to abide by regulations they believe are contrary to their interests. As a result, while the FCC has spent the past 40 years diligently working to implement the statute, FBA members continue to have substantial problems in getting timely access to poles at reasonable rates. For instance, a utility just informed one of our members that it would need to pay \$400 per pole just to conduct a survey of potential attachment issues. Another utility increased make-ready charges to a long-time service provider by 500% – and to make the problem even worse, this utility is entering the broadband business as a competitor to our member. One of our service provider members needed access to only 10 poles, but the project was held up for months because it refused to buckle under and pay the utility’s unreasonable make-ready fee for one pole. And, other service providers have told us they consistently face issues getting utilities to deliver power to their facilities once they are finally on the poles. Without power, services cannot be provided. We hear examples like these virtually every day. So, what can be done to improve the situation?

- First, in its 2018 order, the FCC sought to address utility concerns that attachers comply with safety and reliability requirements by establishing a process whereby electric utilities would certify contractors that attachers could then hire to undertake survey and make ready work on poles and to make attachments. The FCC now needs to make sure

this process is fully implemented as soon as possible and that the utilities are not allowed to cause further delay by not having available enough certified contractor personnel.

- Second, even though the FCC recently adopted rules to facilitate the filing and pursuit of pole attachment complaints, the process continues to be so costly and take too long that it is unusable to address most issues attachers face. In effect, attachers may have a right, but they do not have a remedy, which leads to utilities dragging out the process and making unreasonable requests. We propose Congress enact legislation establishing a commercially reasonable remedy – that is, the same type of alternative dispute resolution process that is found in commercial agreements between parties with equal bargaining power, and it must be one where an appeal can be taken to court – and not to the full FCC.
- Third, the FCC needs to regularly review its rules – either by seeking comments or holding a workshop to ensure the rules are truly addressing problems – such as the power issues discussed above – and the FCC should regularly ask stakeholders whether they have additional concerns that need to be addressed.

Access to Railroad Easements

One of the most vexing problems for FBA members is getting the right to cross railroad tracks. On its face, you would not think it would be that difficult to string a wire over or bury one under railroad tracks. The actual work typically can be completed within a day, if not much less time. However, virtually anyone building an all-fiber network can tell a story about having difficulties getting to cross the tracks – and there are lots of railroad tracks in the U.S. Just like with pole access, it too often takes too long and costs too much. But, unlike with poles, there is no federal statute to help. As a result, providers can be held up for six months or more, and the

fees, while sometimes reasonable, can skyrocket. One FBA member had to cross two tracks next to each other, each of which was owned by a different railroad. One charged \$5,000 to cross its tracks; the other \$25,000, thus showing the arbitrariness of these charges. And, quite frankly, even a \$5,000 fee is unreasonable. To address this concern, South Dakota has enacted a law with a \$750 crossing fee, and it updated this law two years later to prevent railroads from adding surcharges to this amount. Other states also responded with Iowa setting a \$750 fee, Wisconsin a \$500 fee, and Nebraska a \$1,250 fee.

FBA encourages the Committee to examine this issue further, and we encourage additional States to enact crossing laws. In the meantime, we have reached out to railroad representatives to begin a dialogue on ways to address our members' concerns.

State and Local Rights-of-Way

Virtually all fiber providers need access to state and local rights-of-way, and most have good relations with state and local governments. However, there are outliers that take too long to approve an application or seek to charge market, rather than cost-based, rates. Let me raise just one pending example.

For years, the New York State Department of Transportation (DOT) did not charge telecommunications providers for use and occupancy of the state-owned rights-of-way. However, that ended a year ago, when the state, as part of revenue legislation, adopted a new law authorizing the DOT to charge "fiber optic utilities" a fee that could be up to market value. No fee was imposed on other network technologies. Moreover, "fiber optic utilities" are prohibited from passing the fee along to consumers. So, the fee, contrary to federal law (Section 253 of the Communications Act) is discriminatory and not cost-based – and it is hidden from the public. As we all know, if you want less of something, you tax it. At a time when we are seeking to bring

all-fiber networks to new homes and businesses and to support 5G and wireless networks and smart communities, New York State's action is clearly counter-productive. Hopefully, the State will rethink this law. The alternative is for fiber providers in New York State to seek relief in court.

Federal Rights-of-Way

Congress is to be commended for adopting, as part of the MOBILE NOW legislation, provisions that seek to improve the process for access to federal rights-of-way. It was warranted. Just several years ago, the Forest Service took 16 months to grant a permit to one of our service provider members to deploy fiber in a mere 8 miles of federal government rights-of-way. Our member was able to engineer, permit, and construct the other 142 miles of this build in much less time.

While we are hopeful that the new law helps expedite the processing of permits by federal agencies, we urge the Committee to be vigilant. Just recently, one member was held up for 6 months waiting for a federal agency to sign-off on a permit. We understand that a large part of the problem is that issuing right-of-way permits is not a primary task of federal agencies, and so they can be easily tasked in other areas. For that reason, we believe Congress should establish a shot clock in the range of 90-120 days, which is similar in duration to what is required by the FCC for wireless siting applications. Moreover, if the agency does not meet the deadline, the application should be deemed granted.

Entry Barriers

While I have focused my testimony so far on barriers to deployments, let me add that there are still barriers to become an all-fiber provider. Many states have acted recently to tear down those entry barriers for electric cooperatives by enacting legislation that permit their entry

while guarding against harm to electric ratepayers and to broadband competition. Further, many electric cooperatives in these states have built all-fiber broadband networks and are providing high-performance service to locations that once received inadequate service. We urge states that have not acted to follow.

Although FBA strongly supports private sector providers driving all-fiber builds, we are troubled by the continuing barriers many states have erected to municipal provision of broadband service. While some claim that municipal entry will undermine the free market, no one can assert that the free market is working well in many higher-cost areas to bridge the digital divide. That is why we support government subsidy programs, and that is why municipal entry, when driven by the local community, should be permitted. Just look at Colorado, where residents in Fort Collins and many other communities determined that private providers were not going to build higher-performance broadband networks they need and voted to enable their municipalities to provide all-fiber broadband service. FBA thus urges Congress and States to permit communities in rural areas to determine their “broadband destiny.”

Let me conclude by saying that we should not lose sight of the tremendous progress we have made over the past 20 years in wiring America with fiber. At the same time, we know that we can accelerate that pace and ensure deployment of this fundamental infrastructure – the very infrastructure needed for 5G, wireless networks, and smart community and IOT applications – throughout the country. The Committee is to be applauded for keeping up the pressure to address barriers we still face, and the FBA stands ready to work with you to address these concerns.