

From: Melanie Wolfe
To: [CA Broadband Council](#)
Subject: Public Comment re: California Executive Order N-73-20 and the California State Broadband Action Plan
Date: Friday, November 20, 2020 10:56:50 AM
Attachments: Ting Submission re California Broadband Strategy.pdf

Dear California Broadband Council,

Please find attached Ting's public comment regarding the California Broadband Strategy. Although I did not get a chance to attend the video focus groups with ISPs, I watched the recordings of both sessions and appreciate that you hosted them. I look forward to staying involved in these discussions, and I hope you find Ting's comment to be helpful.

Best,
Melanie

Melanie Wolfe
Policy Analyst

Ting Internet | Tucows





November 20, 2020

California Department of Technology
Office of Broadband and Digital Literacy
1325 J Street, Suite 1600
Sacramento, CA 95814-2941

To Whom It May Concern:

In response to Governor Newsom's Executive Order N-73-20 and subsequent actions by the California Broadband Council (CBC) to solicit feedback from the community, Ting Fiber submits the following comment to the public record.¹

As a small fiber network builder and broadband internet service provider (ISP) to a number of growing towns across the country, including Fullerton, Solana Beach, and Culver City in California, Ting believes all Americans should have access to affordable, high-speed broadband service. Our experience working closely with local governments to build fiber networks that serve all members of their communities informs our belief that California's broadband strategy should support the market entry of smaller ISPs to meet the unique needs of communities across the state. To increase the number of local providers serving Californians, we encourage the CBC to 1) reimagine a broadband infrastructure funding program that seeks to support the deployment of future-proof fiber networks to the maximum extent possible, 2) set forth a concrete strategy to improve the granularity and accuracy of broadband availability data, and 3) urge the CPUC and local governments to adopt policies that welcome competition by lowering the economic and regulatory barriers to deployment, especially those that disproportionately burden non-incumbents.

As California reconsiders how it allocates funds to support broadband infrastructure projects, we encourage the state to mirror the structure and rules the FCC adopted for the Rural Digital Opportunity Fund (RDOF). In particular, the incorporation into the auction process of a "budget clearing round" rule increases the likelihood that the winning bidder will provide gigabit service, as the funds for a particular area are awarded to the provider offering the highest-speed service once the budget has been reached in the reverse auction.² Additionally (or as an alternative), the CBC should use a waterfall auction, where bidding would first occur to provide gigabit (or fiber) service, after which bids would be received for the remaining areas with providers offering to provide less robust service. Overall, Ting stands by the reverse auction process, as it allows for more objective review and provides for a more efficient outcome relative to charging a state panel or commission with reviewing grant applications and awarding funds.³

¹ Throughout our comment, we refer to several submissions filed with the Federal Communications Commission (FCC) by the Fiber Broadband Association (FBA), of which Ting is a member. Referenced FBA submissions are included as appendices for your review.

² See Appendix A for the FBA's comments on the importance of all-fiber connectivity.

³ For a more comprehensive argument on competitive bidding procedures for public broadband funds, please see the FBA's comments on RDOF in Appendix B

On the subject of broadband availability data, no one disputes there is room for improvement. When it comes to actual strategies to obtain more accurate data, however, state broadband plans are notoriously vague. Given that the traditional model of census-block-based reporting is both outdated and insufficiently specific, we recommend California build upon the requirements and processes in the federal Broadband DATA Act and the FCC's Digital Opportunity Data Collection. The FCC is implementing these enhanced broadband availability data collection and reporting processes by instituting a challenge process and crowdsourcing to further verify the accuracy of provider data submissions. Ting encourages California to both participate in and encourage consumers to participate in these processes. Further, Ting encourages California to coordinate with the FCC as it adopts the Broadband Fabric methodology of providing geolocation data and then assisting providers in submitting their own geolocated broadband availability data.

Lastly, Ting urges the CBC to keep the concerns of smaller providers top-of-mind when it comes to niche policies like pole attachment regulations, and requirements to access municipal rights of way (MROW). While these issues are just a small sampling of the hurdles that can thwart an ISP's attempt to serve a new community, they are reflective of the forces that exist in the U.S. telecommunications industry that inhibit competition. When utility companies or towns charge unreasonable rates to access poles or MROW, respectively, inhibits or even prevents small ISPs from having a chance to compete and drives them to pursue projects elsewhere. The FBA suggests policy improvements concerning pole attachments and access to public rights of way in its filing on Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment (**Appendix C**).

In an attempt to focus our comments on three barriers Ting and other local ISPs tend to encounter frequently, we realize other essential broadband policy questions are in play. Nonetheless, we hope that our comments are helpful as your team continues to refine California's Broadband Strategy. We welcome any invitation to expand upon this submission, address any questions, or further collaborate with the CBC.

Best,



Melanie Wolfe
Policy Analyst
Tucows//Ting Fiber

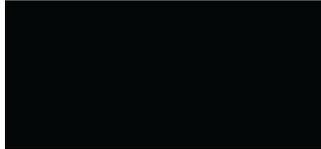
Appendix A

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC**

In the Matter of)
)
Inquiry Concerning Deployment of Advanced) GN Docket No. 20-269
Telecommunications Capability to All)
Americans in a Reasonable and Timely Fashion)

COMMENTS OF THE FIBER BROADBAND ASSOCIATION

Lisa R. Youngers
President and CEO
Fiber Broadband Association



September 18, 2020

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COMMENTS OF THE FIBER BROADBAND ASSOCIATION

I. INTRODUCTION AND SUMMARY

The Fiber Broadband Association (“FBA”)¹ hereby submits comments in response to the Federal Communications Commission’s (“Commission’s”) annual Section 706 Notice of Inquiry (“NOI”) inquiring “whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion” and on progress to close the digital divide.² For five years, the Commission has relied on the 25/3 Mbps speed metric as the sole benchmark to evaluate the deployment of advanced telecommunications capabilities and proposes to use that same metric once again in the Sixteenth Broadband Deployment Report.³ It does so despite evidence that the 25/3 Mbps benchmark is inadequate for the communications requirements of

¹ FBA is a not for profit trade association with more than 250 members, including telecommunications, computing, networking, system integration, engineering, construction, and content-provider companies, as well as traditional service providers, utilities, and municipalities. Its mission is to accelerate deployment of all-fiber access networks by demonstrating how fiber-enabled applications and solutions create value for service providers and their customers, promote economic development, and enhance quality of life. A complete list of FBA members can be found on the organization’s website: <https://www.fiberbroadband.org/>.

² *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 20-269, Sixteenth Broadband Deployment Report Notice Of Inquiry, FCC 20-112 (rel. Aug. 19, 2020); 47 U.S.C. § 1302(b).

³ NOI at ¶ 11.

daily life in 2020 and beyond, as consumers need and are demanding higher performance broadband services and evidence demonstrates that providers have made gigabit performance the new baseline for broadband service.

As explained herein, while FBA does not object to the Commission establishing a benchmark for advanced communications capabilities to performance that may be satisfactory for today's average consumer – which should be at least 100/100 Mbps⁴ – the Commission should recognize that consumers increasingly require and are subscribing to much higher performance broadband service, particularly offered over all-fiber infrastructure. In fact, there is a consensus that fiber is the fundamental communications infrastructure for all 21st Century communications networks – even 5G relies on fiber – and indisputable evidence that all-fiber connectivity is far and away the market winner, as evidenced by widespread availability today and annual growth rates exceeding all previous wireline technologies. As AT&T's CEO, John Stankey, said earlier this week:

[P]riority #1 is to make sure that we're investing in our core businesses, and that's fiber and making sure that we have broadband connectivity on 5G. And when you think about it, those 2 aren't dissimilar. When you have a great 5G network, you're deploying a lot of fiber, and that's something that we think are married well. And we think we're in a very unique position because the fiber that we deploy, not only powers our wireless business, but it helps our consumer business and fixed broadband. It helps our enterprise customers and how we deal with them as well, and so we strategically want to make sure we're doing that.⁵

⁴ The Commission just released its most recent report on broadband access, which analyzes Form 477 data submitted at the end of 2018 – over 18 months ago – wherein it found, “[t]he median downstream speed of all reported fixed connections was 100 Mbps and the median upstream speed was 10 Mbps.” See “Internet Access Services: Status as of December 31, 2018,” Office of Economics & Analytics, Federal Communications Commission, at 8 (Aug. 17, 2020).

⁵ “AT&T at Goldman Sachs Communacopia Conference (Virtual),” Edited Transcript, Refinitiv StreetEvents (Sept. 15, 2020) (“AT&T CEO at Communacopia”), <https://investors.att.com/~media/Files/A/ATT-IR/events-and-presentations/jts-at->

The Commission too has effectively recognized the superior role of fiber when, in the Rural Digital Opportunity Fund (“RDOF”) *Report and Order*, it decided to award support to providers that offer the highest performance networks after the budget has cleared.⁶ It did so to

encourage[e] the deployment of networks that will be sustainable even as new advancements are made and which will be capable of delivering the best level of broadband access for many years to come, all while keeping funding within the Phase I budget. [As such], the auction will have selected the best possible service, at a competitive level of support, for the same number of consumers living in those areas, and this will result in more rapid and efficient funding for such deployment.⁷

Only all-fiber connectivity can provide the high-performing future-proof networks to which the Commission was referring.⁸

In light of the current market realities and consumer needs, the Commission’s proposal to rely again on 25/3 Mbps as the sole benchmark to measure the deployment of advanced telecommunications capability is all the more surprising. In the Sixteenth Broadband

goldman-transript-sept-15.pdf. *See also*, *Verizon CEO: Fiber build out is paying off for more than 5G*, Fierce Telecom (Jan. 30, 2020), <https://www.fiercetelecom.com/telecom/verizon-ceo-fiber-build-out-paying-off-for-more-than-5g> (“While Vestberg acknowledged that fiber played a key role in serving its cell sites, he said on the earnings call that fiber has more use cases ahead of it, specifically for business services. ‘I think this is one of the most critical assets in a network today – in today’s world, especially as we build Verizon Intelligent Edge Network and you want actually to start delivering the 5G experience that we’re expecting. . . . And I can tell you during 2019, I met so many large corporations that we now can actually work with, because our offering is so strong when it comes to fiber and 5G.’”).

⁶ *Rural Digital Opportunity Fund; Connect America Fund*, WC Docket Nos. 19-126 and 10-90, Report and Order, FCC 20-5, ¶ 21 (rel. Feb. 7, 2020) (“RDOF R&O”).

⁷ *Id.* at ¶ 21 (footnotes omitted).

⁸ Congress and the President also have acknowledged the critical role of fiber through enactment of federal “Dig Once” requirements aimed at facilitating installation of fiber in federally-funded highways. *See* Section 607, Broadband Infrastructure Deployment, the Consolidated Appropriations Act, 2018 (Pub. L. 115–141), Division P, Title VII (“MOBILE NOW Act”); 47 U.S.C. 1504.

Deployment Report, the Commission has the opportunity to be forward looking by setting a benchmark that will “ensure that the Commission’s efforts to close the digital divide are working and . . . guide future policymaking”⁹ to promote the deployment of fiber networks. Accordingly, FBA submits that should the Commission continue with the current benchmark of 25/3 Mbps or even increase this benchmark to a more apt standard of 100/100 Mbps, the Commission also should benchmark gigabit symmetric performance so that it is positioned to measure whether advanced telecommunications capabilities delivered by all-fiber networks are being deployed in a reasonable and timely fashion.¹⁰

II. THE MARKET HAS CHOSEN ALL-FIBER NETWORKS AS THE ESSENTIAL INFRASTRUCTURE FOR FIXED BROADBAND SERVICE

Over the last 15 years, all-fiber network growth has exploded. In 2003, 50,000 homes had access to all-fiber connectivity. By 2018, that number had increased 1000 times to nearly 50 million (40%) households. All-fiber deployments continue to surge with average increases of 10% annually.¹¹ As the Commission highlighted in the NOI, “fiber networks were deployed to roughly 6.5 million new homes in 2019” alone, marking “the second consecutive year of record-breaking single-year increases.”¹² By 2024, 50% of American households will be passed with

⁹ NOI at ¶ 1.

¹⁰ It was just a decade ago when former Chairman Genachowski announced his “100 Squared” objective – 100 Mbps to 100 million homes by 2020. It turns out that this substantially underestimated both the public’s needs and providers’ capabilities. By the end of 2018, more than 85% of consumers had access to 250/50 Mbps, and those numbers have continued to rise.

¹¹ See “North America, 2019 Advanced Broadband Report,” RVA, LLC for the Fiber Broadband Association, at 10 (Dec. 19, 2019) (“RVA 2019 Report”) available at www.fiberbroadband.org.

¹² NOI at ¶ 3.

fiber,¹³ and as discussed below, that number could reach 90% by 2029 with concerted efforts by government and industry.¹⁴ At the end of 2019, fiber networks also connected over 1 million commercial buildings and anchor institutions,¹⁵ and that number continues to rise. In fact, fiber is the fastest growing fixed communications network technology in the nation’s history,¹⁶ outpacing the growth rates of copper and coaxial last-mile transmission connectivity, which took 40 years and 25 years, respectively, to reach 40% of homes.

Beyond availability, all-fiber connectivity continues to climb, rising to second place behind cable, which has peaked and begun to decline. (Cable provider networks are building all-fiber infrastructure in greenfield areas, and some are even upgrading their HFC networks to all-fiber.)¹⁷ As for other fixed technologies, they have only a *de minimus* market share.¹⁸

All-fiber infrastructure is the fixed broadband market winner because fiber has multiple characteristics that set it apart from competing technologies. To begin with, fiber offers superior performance, widely offering 1 GB symmetrical data transmissions today, with 10 GB speeds

¹³ “U.S. Fiber Broadband Growth And Share,” RVA, LLC for the Fiber Broadband Association, at 2 (Sept. 6, 2020) (“RVA 2020 Market Study”) available at www.fiberbroadband.org.

¹⁴ See “All-Fiber Deployment Cost Study 2019,” Cartesian for the Fiber Broadband Association, at 2 (Sept. 10, 2019) (“Cartesian Cost Study”) available at www.fiberbroadband.org.

¹⁵ See e.g., *2019 U.S. Fiber Lit Buildings LEADERBOARD*, Vertical Systems Group (Apr. 2, 2020), <https://www.verticalsystems.com/2020/04/01/2019-us-fiber-leaderboard/> (“The number of on-net fiber lit commercial buildings exceeded one million in 2019 as network providers concentrated on U.S. footprint expansion.”).

¹⁶ See RVA 2019 Report at 18.

¹⁷ RVA 2020 Market Study at 3. In highly-competitive Tier 1 markets where fiber has its greatest availability and has had time to mature, fiber has taken 54% of the market, with cable broadband trailing in second place at 30% and all other technologies taking the remaining 16%. In markets served by Tier 2 and Tier 3 providers, where fiber is available, fiber has been even more dominant, achieving 62% of market share. *Id.* at 4, 5.

¹⁸ *Id.*

already being offered in some markets.¹⁹ Fiber is also future-proof, meaning it is readily scalable to provide higher performance to meet increasing consumer demands for decades to come simply by upgrading electronics.²⁰ As a result, fiber not only provides the performance that supports the enormous data flows engendered by video transmissions and other innovative applications that consumers rely on today, but it will meet these needs for decades to come.

Further, fiber is the most secure, reliable, and durable of the network technologies. Fiber technology offers greater network security because it is less vulnerable to cable tapping and hacking,²¹ and new innovations are making it even more impenetrable.²² Fiber reliability exceeds that of other network infrastructure because it is less susceptible than cable, DSL, fixed wireless, and satellite to inclement weather, electromagnetic interference, and other issues that degrade or destabilize service.²³ In particular, buried fiber networks have proven to be the most

¹⁹ See e.g., *10 Gig Internet*, Cedar Falls Utilities, <https://www.cfu.net/tv-internet/internet-service-info/10-gig-internet> (“We know customer demand for bandwidth and connection speed will continue to grow. . . . We view it as our job to offer a world-class communications network and get out of the way to see what our customers can do with no limitations. Most importantly, the business-ready infrastructure helps local companies succeed and positions Cedar Falls to compete nationally for new jobs and economic growth. The 10 Gig network is a platform built for innovation.”).

²⁰ A recent study shows the promise of fiber’s future. By combining different existing amplifier technologies into a hybrid system, engineers in the UK and Japan were able to achieve 178 terabits per second (Tb/s) through existing fiber infrastructure – fast enough to download the entire Netflix library in under a second. Irving, Michael, *Internet speed record shattered at 178 terabits per second*, New Atlas, (Aug. 20, 2020), <https://newatlas.com/telecommunications/internet-speed-record178-terabits-per-second/>.

²¹ *The Benefits of Fiber*, USTelecom (June 2, 2017), <https://www.ustelecom.org/the-benefits-of-fiber/>.

²² As the foundational transmission medium, optical fiber and cable are essential to supply chain security and consequently must rely on trusted suppliers to minimize vulnerability.

²³ *The Benefits of Fiber*, *supra* n.21; see also “Operational Expenses for All-Fiber Networks are Far Lower Than for Other Access Networks,” Fiber Broadband Association, at 7 (June 2020) (“FBA OpEx Study”).

robust transmission media, especially in areas prone to natural disasters, because fiber cables and associated materials are specifically designed to withstand water penetration and corrosion and because active electronics in fiber networks tend to be housed in well-constructed buildings and not in outdoor cabinets in the field or as radios attached to infrastructure. Thus, fiber allows data to flow over great distances without degrading so consumers can enjoy steady and stable internet connections.

In addition, all-fiber networks have low costs to operate and upgrade the network. A study completed by FBA concluded that the operational expenses (“OpEx”) of all-fiber networks are below other delivery mediums – fiber offers 50% OpEx savings over HFC and 63% over DSL – in large part because they have fewer active (i.e., powered) components from central office or headend to the home.²⁴

²⁴ FBA OpEx Study at 6-12. In a coaxial network, there are several powered elements from the headend to the subscriber, including the Cable Modem Termination System (“CMTS”) or Hybrid Fiber Cable (“HFC”) nodes spaced roughly every 2 km and up to five coaxial line amplifiers on a path to a home. For the most competitive DSL network (second generation very-high-bit-rate DSL or “VDSL2”), which ostensibly tops out at speeds of 100 Mbps symmetrical under laboratory conditions, cabinets with amplifying equipment are needed every 1 km. Conversely, all fiber networks can transmit up to 20 km without amplifying equipment. Each active component increases the costs to power, maintain, and upgrade a network. The number of active components also increases the potential failure points, which in turn translates into costs responding to customer service requests. In fact, the costliest part of providing service, and the greatest cost differential between fiber and HFC and DSL, is that of truck rolls. Additionally, the greater frequency of maintenance issues for HFC and DSL result in greater customer dissatisfaction, which increases the amount of customer churn. This results in lost revenue and increased costs due to provisioning and deprovisioning of customers and customer acquisition costs. In addition, while OpEx and upgrade costs for fiber are expected to remain flat over time, they are likely to increase for all other fixed broadband mediums because they will each require greater amounts of investment to replace aging facilities that are reaching their end of life – likely with durable and easily-upgradable fiber – and as they attempt to keep up with consumer demand. *See id.* at 7-8; *see also* *What Speeds Can I Expect on ADSL2+/VDSL2*, Sonic, <https://help.sonic.com/hc/en-us/articles/115007031987-What-Speeds-Can-I-Expect-on-ADSL2-VDSL2> (last updated Sept. 14, 2020).

As evidenced by past and current growth of all-fiber deployments, providers largely view the economics of deploying all-fiber networks on a total life cycle basis and find them favorable. Further, contrary to some perceptions, the economics of deploying all-fiber in rural areas do not vary considerably from urban deployments. A September 2020 report by MoffettNathanson explained that the higher costs to deploy all-fiber networks in rural areas as compared to urban areas is largely offset by greater penetration.²⁵ And this does not even account for the long-term costs savings from fiber's lower maintenance and upgrade costs.

Deploying all-fiber networks ubiquitously not only will ensure all Americans have the robust connectivity essential to their futures, it is within our grasp. As FBA has conveyed to the Commission, a study completed for FBA by consulting firm Cartesian showed that between innovative deployment models by all-fiber providers, government efforts to lower access to essential infrastructure, and efficiently provided government support, by 2029, all-fiber networks can be deployed to 80% of households with an additional \$52 billion of investment and 90% of households with \$18 billion more.²⁶ The fiber industry is actively playing its part. A study by FBA member Corning shows the costs to deploy fiber have already been driven down by industry-led investments in technology and deployment efficiencies.²⁷ The Commission can play its part in this proceeding by benchmarking advanced communications capability to gigabit symmetric performance and by ensuring its policies and investments are geared toward deploying all-fiber infrastructure.

²⁵ "Q2 2020 Broadband: The Footprint Expansion Game," MoffettNathanson (Sept. 10, 2020).

²⁶ *See* Cartesian Cost Study at 2.

²⁷ *See* "Getting More Gigabit Service from the Rural Digital Opportunity Fund," Corning, at 2 (Dec. 19, 2019).

The simple fact is that all-fiber networks are the fixed broadband market winner because it is the best investment. No other technology – cable, DSL, fixed wireless, or satellite – brings together all components of performance, reliability/security, and low operational and upgrade costs.²⁸ This has caused an industry-wide consensus that fiber is the only network technology that can support the ever-increasing demand by consumers for a superior experience from traditional broadband service. All-fiber network dominance in the fixed broadband market is a foregone conclusion. As such, by maintaining 25/3 Mbps as the sole benchmark, the Commission is ignoring the advanced communications capability – gigabit symmetric – that consumers are increasingly selecting today and will certainly opt for tomorrow. FBA submits that it is time for the Commission to catch up to consumers, providers, and the market and evaluate whether gigabit symmetric advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.

III. ALL-FIBER CONNECTIVITY IS ESSENTIAL FOR CONSUMERS, COMMUNITIES, AND INDUSTRY, INCLUDING 5G

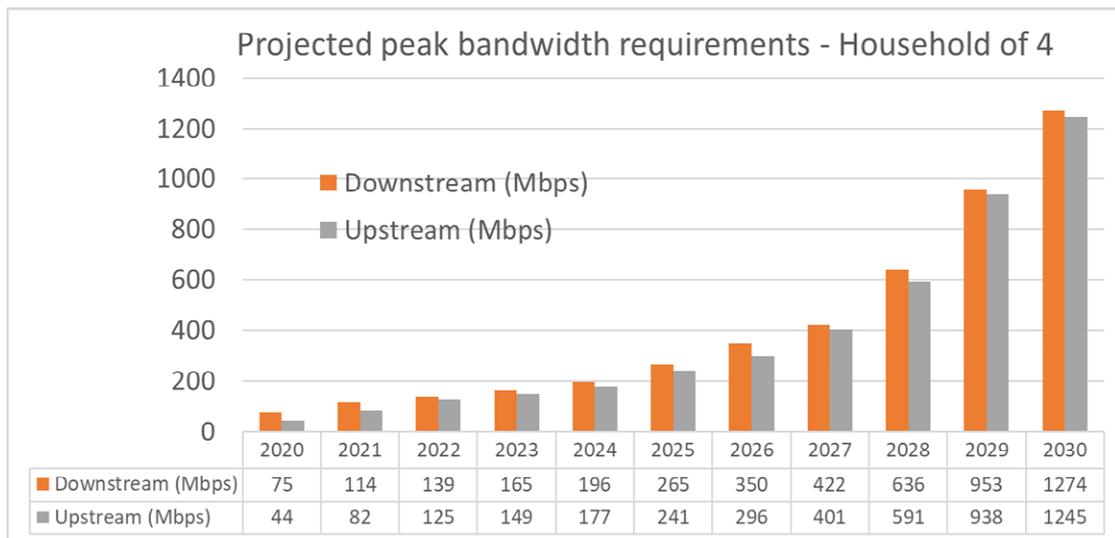
All-fiber connectivity is the clear market leader because consumers, businesses, 5G and various other providers demand high-performance broadband capabilities. An FBA study set to be released later this year shows that residential demand for both upstream and downstream bandwidth has been growing at a rate of 20-25% annually for over two decades – and it should continue such that peak bandwidth demands for a family of four in approximately seven years

²⁸ For additional evidence, see *The Case for Fiber to the Home, Today: Why Fiber is a Superior Medium for 21st Century Broadband*, EFF (Oct. 16, 2019), <https://www.eff.org/wp/case-fiber-home-today-why-fiber-superior-medium-21st-century-broadband>.

should exceed 400 Mbps symmetric and will grow even faster after that for the reasons set forth below.²⁹

This skyrocketing demand is because consumers are using more bandwidth hungry applications requiring both higher downstream and upstream speeds over an increasing number of devices. On any given day, multiple family members in a single household might connect to their home networks on separate devices at the same time to work and participate in online education, apply for jobs, review the latest news, share their views on Twitter, video chat with

²⁹ The graph below is based on the following bottom up calculation of bandwidth requirements for various uses.



Downstream		2020		2021		2022		2023		2024		2025		2026		2027		2028		2029		2030	
Bandwidth		Streams	Total																				
5	HD Video	2	10	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	4K Video	1	25	1	25	2	50	2	50	1	25	1	25	1	25	0	0	0	0	0	0	0	0
75	8K Video	0	0	0	0	0	0	0	1	75	1	75	1	75	2	150	2	150	1	75	1	75	0
40	AR/VR - Low	0	1	40	1	40	2	80	2	80	1	40	0	0	0	0	0	0	0	0	0	0	0
100	AR/VR - HD	0	0	0	0	0	0	0	0	1	100	2	200	2	200	1	100	2	200	1	100	1	100
500	AR/VR - Retinal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	500	1	500	2	1000	2	1000
20	Gaming	1	20	1	20	1	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Download/Updates/IoT	1	20	1.2	24	1.4	29	1.7	35	2.1	41	2.5	50	3.0	60	3.6	72	4.3	86	5.2	103	6.2	124
20%	Totals		75		114		139		165		221		290		360		422		591		791		938

Upstream		2020		2021		2022		2023		2024		2025		2026		2027		2028		2029		2030	
Bandwidth		Streams	Total																				
5	HD Video	3	15	2	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	4K Video	0	0	0	2	50	2	50	1	25	1	25	1	25	0	0	0	0	0	0	0	0	0
75	8K Video	0	0	0	0	0	0	0	1	75	1	75	1	75	2	150	2	150	1	75	1	75	0
40	AR/VR - Low	0	1	40	1	40	2	80	2	80	1	40	0	0	0	0	0	0	0	0	0	0	0
100	AR/VR - HD	0	0	0	0	0	0	0	0	1	100	2	200	2	200	1	100	2	200	1	100	1	100
500	AR/VR - Retinal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	500	1	500	2	1000	2	1000
2	Security/Monitoring	2	4	3	6	4	8	5	10	6	12	7	14	8	16	9	18	10	20	11	22	12	24
20	Gaming	1	20	1	20	1	20	0	0	0	0	0	0	0	0	2	40	0	0	2	40	2	40
5	Upload/Backups/IoT	1	5	1.2	6	1.4	7.2	1.7	9	2.1	10	2.5	12	3.0	15	3.6	18	4.3	21	5.2	26	6.2	31
20%	Totals		44		82		125		149		202		266		331		426		591		791		938

friends and family on Zoom, utilize telehealth services, stream a movie on Netflix, or play Fortnite with opponents connected around the world. This demand and those uses are not just a phenomenon brought on by the COVID-19 pandemic; they were a preexisting reality. For example, a study conducted by the National Telecommunications and Information Administration (“NTIA”) found that in 2019, a third of Americans (roughly 51 million) used the Internet to work remotely and one fifth (about 43 million) used it to take classes or complete job training.³⁰ A separate study by Deloitte found that by the end of 2019, the average U.S. household had 11 connected devices.³¹

And, the COVID-19 pandemic has only accelerated demands for high-performance bandwidth connectivity. As AT&T’s CEO just explained, “[I]f I went and looked at the some of the trends that were going on in key parts of our business, COVID was kind of short of adrenaline, right? It just accelerated things that were happening and carry them forward.”³² OpenVault, which tracks broadband usage, found in a report issued this past May that median usage was up 60% from 2019 to 2020 and that upstream usage “rose sharply,” and that these usage increases are moving subscribers toward faster speeds.³³ Further, last month, OpenVault reported:

³⁰ *Nearly a Third of American Employees Worked Remotely in 2019, NTIA Data Show*, NTIA (Sept. 3, 2020), <https://www.ntia.gov/blog/2020/nearly-third-american-employees-worked-remotely-2019-ntia-data-show>.

³¹ Press Release, *Deloitte survey: Connectivity cravings drive consumer appetite for 5G, home automation, and more control of personal data* (Dec. 4, 2019), <https://www2.deloitte.com/us/en/pages/about-deloitte/articles/press-releases/deloitte-launches-connectivity-mobile-trends-survey.html>.

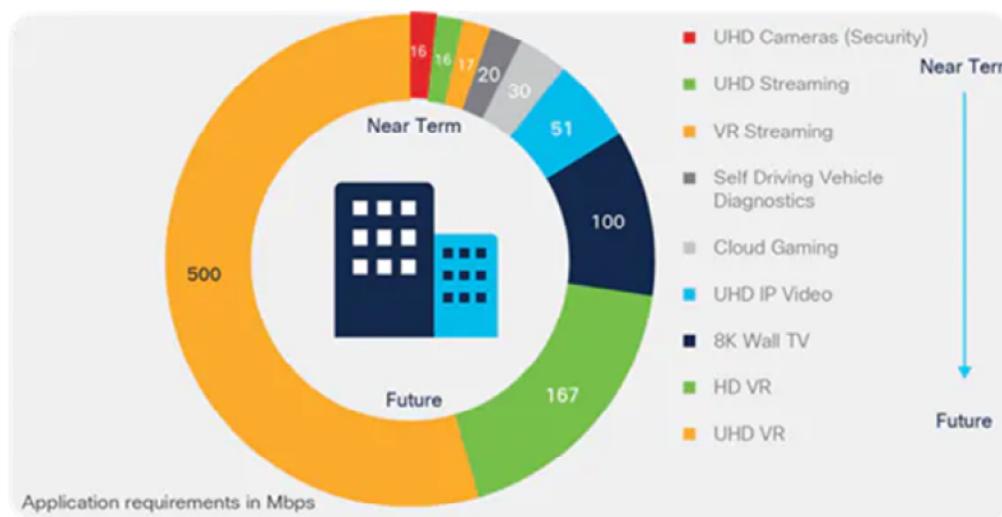
³² AT&T CEO at Communicopia.

³³ *COVID-19 Impact: Broadband Usage Jumps 47% IN Q1, Nears YE2020 EXPECTATIONS*, OpenVault (May 4, 2020), <https://openvault.com/covid-19-impact-broadband-usage-jumps-47-in-q1-nears-ye2020-expectations/>.

Consumers are continuing to increase reliance on upstream bandwidth and are opting for faster speeds to meet dramatically changed usage habits. The 2Q20 OVBI shows that nearly 5% of subscribers now receive connections of 1 gigabit or faster, up 133% year-over-year and up 75% in the last six months alone. About 61% of all subscribers now have connections of 100 Mbps or faster, a one-year increase of 27%.³⁴

Future increases in the need for substantially greater downstream and upstream bandwidth are being driven by an array of new technologies, including 8K video, virtual reality (“VR”) and augmented reality (“AR”). These technologies hold substantial promise for consumers and businesses, such as greatly improved virtual education, telemedicine, work from home, business, security, and entertainment, but we can only seize these opportunities by providing to all households in the country higher performance symmetric broadband service. According to the Cisco VNI report, “today’s bandwidth needs are a sliver of the future needs.”³⁵

Figure 13. Significant demand for bandwidth and video in the connected home of the future



³⁴ *OVBI: Upstream Broadband Usage, Faster Speeds Spike Higher in Q2 2020*, Open Vault (Aug. 11, 2020), <https://openvault.com/ovbi-upstream-broadband-usage-faster-speeds-spike-higher-in-q2-2020/>.

³⁵ See *Cisco Annual Internet Report (2018-2023) White Paper*, (Mar. 9, 2020), <https://www.cisco.com/c/en/us/solutions/collateral/executive-perspectives/annual-internet-report/white-paper-c11-741490.html>.

Key industry players are developing AR and VR systems that will enable home based Americans to experience a greatly enhanced quality of life – but only if they have the symmetric bandwidth that all-fiber networks provide. VR creates a physical presence in virtual worlds, and AR seamlessly merges the real world with virtual objects. According to ABI research:

AR and VR educational applications shift the learning process from passive to active, allowing students to interact with content and practice their knowledge in real-time conditions. Learning by experience leads to better understanding, enhances knowledge recall, and strengthens retention. Immersive and interactive experiences stimulate students’ motivation and increase their engagement level, which are fundamental factors for achieving learning goals.³⁶

However, both AR and VR applications will require much higher symmetric bandwidths than available to many Americans today – up to 5000 Mbps – to deliver a realistic experience to the end user, due to the cloud-based processing that enables cost effective consumer equipment.³⁷

According to GSMA Future Networks, “[t]he most significant factor with Cloud AR/VR solutions is the transfer of the processing capability from the local computer to the cloud. A high-capacity, low-latency broadband network allows for responsive interactive feedback, real-time cloud-based perception, rendering, and real-time delivery of the display content.”³⁸ For AR in particular, “[t]he upstream bandwidth for the sensor input to understand the real-world is

³⁶ *The Power of Augmented Reality & Virtual Reality for Education*, ABIresearch (May 22, 2019), <https://www.abiresearch.com/blogs/2019/04/25/power-augmented-reality-virtual-reality-education/>.

³⁷ “VR and AR Pushing Connectivity Limits,” Qualcomm Technologies, Inc. (Oct. 2018), <https://www.qualcomm.com/media/documents/files/vr-and-ar-pushing-connectivity-limits.pdf>.

³⁸ “Cloud AR/VR Whitepaper,”GSMA Future Networks (Oct. 26, 2019), <https://www.gsma.com/futurenetworks/wiki/cloud-ar-vr-whitepaper/>.

significant and can be as high or even higher than the downlink requirements.”³⁹ In sum, more than just being something that consumers want and enjoy, fiber is also what consumers need.

The COVID-19 emergency highlighted what FBA already knew to be true – to effectively participate in today’s society, families need access to the high performance broadband that only all-fiber networks can deliver. They cannot rely on 25/3 Mbps speeds, particularly when delivered via high-latency or low reliability services, when several family members are connecting multiple devices for the various activities discussed above, let alone frequent two-way video conferences for school, work, and telehealth doctor’s appointments, which have become typical during the pandemic.⁴⁰ A recent study by RVA, LLC for FBA conducted during the pandemic found that over 90% of respondents indicated the Internet is either somewhat or very important to their household, but consumers with low-performance broadband connections have had to ration their broadband (asking family members not to use the Internet during video conference calls) and have lost productivity due to time spent waiting for applications to load.⁴¹ In other words, the pandemic has shown that all-fiber connectivity has become essential.

³⁹ *Id.*

⁴⁰ A stay-at-home individual’s broadband needs, during the emergency, has often exceeded 50-100 Mbps both upstream and downstream, and this amount quickly rises when multiple people in a household seek access at once. *See Home Internet data usage surges amid COVID-19 crisis*, LightReading (Mar. 18, 2020), <https://www.lightreading.com/services/home-internet-data-usage-surges-amid-covid-19-crisis/d/d-id/758298>. An RVA, LLC study completed for FBA found that between 2019 and 2020, video conferencing increased by roughly 15% for business, 13% for education, 10% for healthcare, and 20% for family. “U.S. Broadband Internet Access In The 2020 Pandemic: Broadband Importance, Shifts, Differences, Stresses, And Divides,” RVA, LLC for FBA, at 5 (2020) (“RVA Pandemic Study”).

⁴¹ RVA Pandemic Study at 4, 9. Between the top and bottom broadband performance tiers, the bottom tier had over twice as much in-home rationing (48%) and hours per week of lost productivity (11 hours). *Id.*

The critical nature of all-fiber connectivity is especially important for rural Americans who rely more than their urban counterparts on online access for telehealth, education, civic engagement, communicating with family and friends, entertainment, and other applications. Many of these communities do not even have broadband at 25/3 Mbps. For example, an April 2018 Department of Education Report found that 18% of rural children do not have access to reliable broadband to do their homework.⁴² Another study found that rural residents who live more than an hour away from the nearest hospital tend to be the least likely to have the broadband connections they need to access telehealth services, and these residents tend to be older and sicker than their urban counterparts.⁴³ But because these consumers need to be able to use high-bandwidth applications that require symmetrical speeds, new deployments at 25/3 will be obsolete as soon as those residents are connected, only serving to widen the digital divide.

Beyond home use, all-fiber connectivity has become essential for communities and industry. Municipalities are increasingly deploying all-fiber networks to support smart city applications and spur economic growth through gigabit broadband service offerings to homes and businesses when the private sector has not stepped up to provide this performance.⁴⁴ In

⁴² See Berdik, Chris, *Rural Kids Face an Internet 'Homework Gap.'* *The FCC Could Help*, Wired (Nov. 12, 2018), <https://www.wired.com/story/rural-kids-internet-homework-gap-fcc-could-help/>.

⁴³ Carroll, Linda, *Until broadband access improves, telemedicine won't help rural communities*, Reuters (May 20, 2019), <https://www.reuters.com/article/us-health-telemedicine-rural-internet/until-broadband-access-improves-telemedicine-wont-help-rural-communities-idUSKCN1SQ29W>.

⁴⁴ In August 2020, Lexington, KY became the largest gigabit city in the United States when its fiber network was completed through a public-private partnership with MetroNet, an all-fiber provider. *MetroNet Completes Construction of 100% Fiber Optic Network in Lexington, Lexington Becomes Nation's Largest Gigabit City*, Business Wire (Aug. 25, 2020), <https://www.businesswire.com/news/home/20200825005826/en/MetroNet-Completes-Construction-100-Fiber-Optic-Network>.

industry, the reliability, high through-put, and rapid speeds make fiber the needed infrastructure for precision agriculture,⁴⁵ autonomous vehicles, remote surgery, and gaming while the future-proof and ubiquitous characteristics of fiber allow for improved functionality, monitoring, and efficiencies across the energy sector, including for smart grids. Additionally, the sensing capabilities that can ride on fiber optic cable allow for real-time automatic monitoring of building/structural integrity, oil/gas pipeline safety, water line leaks, border patrol, and seismic activity.

Fiber is also the essential underlying infrastructure for towers, wireless networks, small cell, and 5G deployments. As a general matter, to increase performance, mobile wireless providers aim to get the transmission “out of the air” and “into the ground” as quickly as possible, increasingly using fiber.⁴⁶ But when it comes to 5G, it is not a goal, it is a necessity – there are no 5G networks without fiber.⁴⁷ 5G networks rely on fiber for fronthaul, midhaul, and backhaul and to ultimately tie together existing cell sites and the hundreds of thousands new

⁴⁵ See, e.g., *The Invisible Advantage*, The John Deere Journal (Feb. 15, 2020), <https://johndeerejournal.com/2020/02/the-invisible-advantage/> (“For modern agriculture, rural broadband is nearly as indispensable as water and sunshine. Farmers use it not just to maximize the efficiency of their equipment, but also to keep an eye on global commodity markets, stay in touch with customers, and search for new markets around the globe.”)

⁴⁶ The Commission has noted that 80% of “wireless” use is Wi-Fi offload, and developments in wireless networks will depend on the availability of fiber backhaul. See *Lifeline and Link Up Reform and Modernization, Telecommunications Carriers Eligible for Universal Service Support, Connect America Fund*, WC Docket Nos. 11-42, 09-197, 10-90, Second Further Notice of Proposed Rulemaking, Order on Reconsideration, Second Report and Order, Memorandum Opinion and Order, FCC 15-71, ¶ 45 & n.134 (rel. June 22, 2015).

⁴⁷ For more discussion, see “The Road to 5G is Paved with Fiber,” A White Paper by the Fiber Broadband Association (Dec. 2017), <https://www.fiberconnect.org/page/paving-the-road-to-5g-with-fiber>; *Why Fixed 5G Will Never Completely Replace Wired Internet*, gvec.net (June 10, 2019), <https://www.gvec.net/fixed-5g-will-never-completely-replace-wired-internet/>.

small cell deployments that are needed⁴⁸ so that mobile providers can achieve the performance metrics they have promised.⁴⁹ Additionally, unlike traditional wireless networks where computing and processing power is co-located at the cell sites, 5G networks place more of the processing power in the network core, meaning these networks will need even more fiber connectivity to support data rates that are many times greater than in 4G networks.⁵⁰ Because of 5G's reliance on fiber, FBA estimates that for each square mile of small cells, providers will need to deploy approximately eight miles of fiber.⁵¹ That amounts to 250,000 miles of fiber in the top 25 U.S. urban areas alone. For perspective, in 2018, less than 50,000 miles of fiber were deployed to small cells.⁵² Finally, a 2018 survey of municipal officials shows a clear correlation

⁴⁸ *Industry Data*, CTIA, <https://www.ctia.org/the-wireless-industry/infographics-library/> (last visited Sept. 14, 2020) (“There are 154,000 cell towers today. To meet growing mobile data demands and win the Race to 5G Accenture projects we will need to install hundreds of thousands of small cells in the next few years. S&P Global Market Intelligence projects more than 800,000 small cells deployed by 2026.”).

⁴⁹ For example, Verizon explains that it has been able to introduce Verizon 5G Ultra Wideband thanks to its efforts to secure millimeter wave spectrum and deploy a massive fiber network. *What's the technology behind 5G?*, Verizon, <https://www.verizon.com/about/our-company/5g/what-5g>.

⁵⁰ In addition to upper millimeter wave band configurations for 5G, even mid-band and low-band configurations for 5G all require fiber. FBA notes that the O-RAN Alliance has a working group dedicated to transport requirements. *Transforming Radio Access Networks Towards Open, Intelligent, Virtualised And Fully Interoperable Ran*, O-RAN Alliance, <https://www.o-ran.org/> (last visited Sept. 14, 2020) (“WG9: Open X-haul Transport Work Group. This workgroup focuses on the transport domain, consisting of transport equipment, physical media and control/management protocols associated with the transport network”). See e.g., *White Paper: ORAN Use Cases and Deployment Scenarios White Paper*, O-RAN Alliance, Fig. 2 (Feb. 2020), <https://static1.squarespace.com/static/5ad774cce74940d7115044b0/t/5e95a0a306c6ab2d1cbca4d3/1586864301196/O-RAN+Use+Cases+and+Deployment+Scenarios+Whitepaper+February+2020.pdf> (showing the connectivity, the vast majority of which will be fiber, required among cell sites, edge clouds, and regional clouds).

⁵¹ This estimate assumes 60 small cells are spaced at 750 feet in each square mile.

⁵² RVA 2019 Report at 19.

between existing all-fiber networks in a community and accelerated deployment of small cell antennas.⁵³ We cannot accelerate 5G network deployment without in tandem accelerating the ubiquitous deployment of all-fiber infrastructure.

IV. THE COMMISSION SHOULD SET A GIGABIT SYMMETRIC BENCHMARK TO ENSURE ALL-FIBER INFRASTRUCTURE IS BEING DEPLOYED TO ALL AMERICANS IN A REASONABLE AND TIMELY MANNER

The Commission has stated that its top priority is to “bring[] to every American the economic, education, health, civic, and social benefits that a broadband connection provides.”⁵⁴ Because consumers have “voted” overwhelmingly for all-fiber infrastructure, viewing it as essential to accessing those benefits, the Commission should find it is an advanced communications capability that everyone can access. To achieve this, the Commission should establish gigabit symmetric performance as a benchmark for the Sixteenth Broadband Deployment report and going forward, which will allow the Commission to evaluate where all-fiber networks are being deployed to Americans in a reasonable and timely manner. As evidenced by the growth in all-fiber availability in many urban and suburban areas, such advanced communications capability is being provided; however, in other, principally rural areas, consumers and businesses are being left behind.

With the new information the Commission receives, it will be positioned to better target government support for deployments and reorient its policymaking to ensure it is actually closing the digital divide and does not leave anyone stranded. This is important because, as discussed above, while near-nationwide all-fiber deployments are possible within the next decade, it will

⁵³ “Status of U.S Small Cell Wireless/5G & Smart City Applications from the Community Perspective,” RVA, LLC for Next Century Cities at 8, 15 (Mar. 2018) available at <https://nextcenturycities.org/wp-content/uploads/5Gresearch.pdf>.

⁵⁴ NOI at ¶ 1.

take coordinated actions by the private and public sector to make that happen. One of the most beneficial assets the Commission can deliver is financial support. Late last year, U.S. Senators John Thune (R-S.D.), Amy Klobuchar (D-Minn.), and almost four dozen other Senators wrote Chairman Pai emphasizing that “[i]f our rural communities are to survive and flourish, our rural constituents need access to services that are on par with those in urban areas. By contrast, it would be an inefficient use of resources to promote services that cannot keep pace with consumer demand and the evolution of broadband in urban areas.”⁵⁵ As previously noted, the Commission took a step in the right direction by deciding to award RDOF support to the highest-performance network after the budget clearing round in the auction, but setting the gigabit symmetric benchmark will help guarantee that future awards will be targeted toward fiber.⁵⁶

The Commission can also calibrate some of its other efforts to ensure it is continuing to promote and facilitate broadband deployment. Over the past decade, the Commission has made strides toward facilitating access to utility poles, ducts, and conduits, most recently through the adoption of One-Touch Make-Ready.⁵⁷ The Commission also clarified rules for accessing state and local government rights-of-way, particularly to ensure providers are charged cost-based rates.⁵⁸ FBA commends these efforts and urges the Commission to be vigilant, continuously

⁵⁵ Letter to Chairman Ajit Pai, Federal Communications Commission, from Sen. John Thune (R-S.D.), Sen. Amy Klobuchar (D-Minn.), United States Congress (Dec. 9, 2019), available at <https://www.klobuchar.senate.gov/public/index.cfm/2019/12/klobuchar-thune-46-colleagues-urge-federal-communications-commission-fcc-to-promote-the-deployment-of-sustainable-broadband-networks-in-rural-america>.

⁵⁶ More financial resources are needed, and FBA continually advocates for Congress to allocate more to the Commission for disbursement.

⁵⁷ *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Inv., et al.*, WC Docket No. 17-84, et al., Third Report and Order and Declaratory Ruling, 33 FCC Rcd 7705 (2018).

⁵⁸ *Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment et al.*, WT Docket No. 17-79, FCC 18-133, 33 FCC Rcd. 9088 (2018).

monitoring whether its regulations are working as intended and updating and refining them where necessary. The Commission should also enforce laws and regulations in a commercially reasonable timeframe. Additionally, the federal government should identify ways to remove state-level barriers to entry so that municipalities can develop fiber networks when private providers are not.⁵⁹ Finally, the federal government should strengthen its efforts to enhance workforce training and education for fiber deployments. Because of the many all-fiber networks currently being deployed across the country, FBA members are finding that getting and retaining skilled personnel is among the biggest chokepoints in deployments, even though these are good jobs with a good career path. FBA members are taking the initiative to help fill the gap, and some have received support from other government and educational institutions, but any additional workforce-development support from the federal government will help.

Together, the Commission's gigabit symmetric benchmark, targeted support, and new policymaking focus will facilitate all-fiber deployments that will ensure the digital divide is being closed shut.

V. CONCLUSION

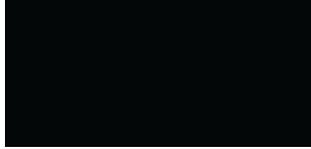
For the reasons above, FBA urges the Commission to create a gigabit symmetric benchmark for the Sixteenth Broadband Deployment Report so that the Commission measures whether advanced telecommunications capabilities delivered by all-fiber networks are being deployed in a reasonable and timely fashion.

⁵⁹ Over 20 states limit or prohibit entry by municipalities, often even where private providers offer substandard service. *See Muni Broadband is Roadblocked or Outlawed in 22 States*, BroadbandNow (May 13, 2020), <https://broadbandnow.com/report/municipal-broadband-roadblocks/>.

Respectfully Submitted,



Lisa R. Youngers
President and CEO
Fiber Broadband Association



September 18, 2020

Appendix B

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Competitive Bidding Procedures and Certain)	AU Docket No. 20-34
Program Requirements for the Rural Digital)	
Opportunity Fund Auction)	
)	
Rural Digital Opportunity Fund)	WC Docket No. 19-126
)	
Connect America Fund)	WC Docket No. 10-90

COMMENTS OF THE FIBER BROADBAND ASSOCIATION

Lisa R. Youngers
President and CEO
Fiber Broadband Association



March 27, 2020

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COMMENTS OF THE FIBER BROADBAND ASSOCIATION

I. INTRODUCTION AND SUMMARY

The Fiber Broadband Association ("FBA" or the "Association") submits these comments in response to the Federal Communications Commission's ("Commission" or "FCC") request for comments on the Rural Digital Opportunity Fund ("RDOF") Auction competitive bidding procedures.¹ The Association applauds the Commission's efforts to promote the availability of high-performance broadband services in unserved communities while also remaining a good steward of the universal service fund. In support of these goals, the FBA comments herein on two key issues raised in the RDOF Auction Notice. As an initial matter, the *RDOF Auction Notice* posits that low earth orbiting satellite systems ("LEOs") may be able to provide low latency

¹ Federal Communications Commission, Public Notice, "Comment Sought on Competitive Bidding Procedures and Certain Program Requirements for the Rural Digital Opportunity Fund Auction (Auction 904)", AU Dkt. 20-34, WC Dkt. No. 19-126, WC Dkt. No. 10-90 ("RDOF Auction Notice").

service,² but neither the *RDOF Auction Notice* nor any submission in the record provides any information whatsoever to indicate that such systems can provide Gigabit and Above-Baseline performance ("higher performance tiers"). In fact, to date, Space Exploration Technologies Corp. ("SpaceX"), perhaps the most advanced LEO provider operationally, has not completed or tested its network, begun selling service, or announced the speeds for its broadband service.³ Accordingly, the Commission should use its predictive judgement to prohibit LEOs from bidding for higher performance tiers to protect against winning bidders defaulting, as well as to preserve the integrity of, and maximize participation, in the auction. The *RDOF Auction Notice*, after all, prohibits geostationary satellite providers, which have operated commercial networks for many years, from bidding in these tiers because it has no evidence these providers can meet "all the requirements for these performance tiers."⁴ To favor an applicant using a nascent technology and network that has never been in operation over one using a proven technology and fully operational network defies logic and would be unreasonably discriminatory. Further, the Commission's "inclination" against adopting a prohibition against applicants using LEOs bidding for these higher performance tiers and, instead, reviewing them on a case-by-case basis⁵ after short-form applications are filed runs counter to having a transparent and accountable process. That is, the basis for the Wireline Competition Bureau's decision upon reviewing the short-form application is unknowable and its decision is unreviewable. Should the Commission not adopt this approach

² *Id.*, ¶ 49.

³ See "SpaceX delivers more Starlink satellites to orbit, booster misses drone ship landing," SpaceFlight Now (Feb. 17, 2020), <https://spaceflightnow.com/2020/02/17/spacex-delivers-more-starlink-satellites-to-orbit-booster-misses-drone-ship-landing/> ("must launch roughly 20 more missions before completing the first phase of its Starlink network."). See also, e.g., Comments of SES Americom, Inc. and O3b Limited, WC Dkt. Nos. 19-126 and 10-90 at 3 (Mar. 26, 2020) ("SES/O3b Comments") ("Space Exploration Technologies Corp. ("SpaceX") – a company that has not yet commenced service to customers.").

⁴ See *RDOF Auction Notice*, ¶ 50.

⁵ *Id.*, n.94.

in the face of these substantial flaws and decide to review on a case-by-case basis the performance capabilities of applicants seeking to provide LEO service, it should presume they are not capable of providing higher performance tier service and require any LEO applicant to rebut this presumption by a preponderance of the evidence. At the end of the day, if the Commission does not place the burden of proof on LEOs, in addition to the problems described above, it runs the risk that consumers in unserved areas will not receive broadband service that will meet their needs. As for the Association's second concern, it urges the Commission to maintain the minimum geographic bidding unit at the census group block level to encourage full participation in the RDOF auction.

II. LIMITING ELIGIBILITY TO BID FOR HIGHER PERFORMANCE TIER AND LATENCY COMBINATIONS

A. USING PREDICTIVE JUDGMENT TO PROHIBIT LEO SYSTEM PROVIDERS FROM BIDDING IN THE GIGABIT AND ABOVE-BASELINE TIERS WILL PROTECT AGAINST DEFAULT, PRESERVE AUCTION INTEGRITY, AND ENCOURAGE AUCTION PARTICIPATION

The Commission rightly establishes eligibility requirements and procedures ensuring that only qualified applicants bid on certain performance tiers and latency combinations in the RDOF auction. For instance, the *RDOF Auction Notice* proposes to limit the tiers for which applicants using geostationary satellite systems ("Geosats") and those using DSL and fixed wireless networks can bid.⁶ However, to ensure that applicants can truly meet the performance requirements, the Commission should not only assess the capabilities of incumbent networks and operations but should use its predictive judgment to restrict or prohibit auction performance tier bidding by applicants that are seeking to deploy new technologies over networks that are not fully operational

⁶ *Id.*, ¶¶ 48-51.

– and thus cannot provide sufficient information to demonstrate that the applicant's technology can provide service meeting the performance requirements.⁷ To that end, the Commission should, for the reasons elaborated upon below, prohibit providers using commercially unproven LEOs from bidding on higher performance tiers. By adopting this approach, the Commission will limit potential defaults attributable to LEO providers being unable to fulfill winning bids. Moreover, the bidding prohibition on applicants using LEOs will preserve the integrity of, and encourage participation in, the auction by ensuring that all bidders know that they are competing only with entities that can actually perform should they prevail.

The Commission is on solid ground to adopt the approach proposed by the Association. As the Commission explained in the *Connect America Fund* auction proceeding, using predictive judgment to restrict or prohibit certain applicants from bidding on certain performance tiers is appropriate "unless those applicants have reported deployment at that speed."⁸ This focus on a bidder's evidence of operation and service capabilities is the basis for the Commission's proposal, using predictive judgment, to prohibit applicants using Geosat systems from bidding on higher performance tiers and to restrict them from selecting low latency when bidding on other performance tiers.⁹ In proposing the prohibition, the Commission concluded that it "see[s] no evidence that geostationary satellite providers already offer service that meets all the requirements for these performance tiers."¹⁰ Moreover, the Commission appears to assess an applicant's performance strictly, potentially prohibiting bidding by those entities, like Viasat, Inc. that are

⁷ See *Connect America Fund II Auction Scheduled for July 24, 2018 Notice and Filing Requirements and Other Procedures for Auction 903*, Public Notice, 33 FCC Rcd 1428, 1468-69, ¶ 105 (2018) ("CAF Auction 903 Notice").

⁸ *Id.*

⁹ *RDOF Auction Notice*, ¶¶ 49-50.

¹⁰ *Id.*, ¶ 50.

providing service but whose services do not completely demonstrate the requirements of the higher performance tiers.¹¹

Auction applicants using LEOs, many of which are only in the nascent stages of development,¹² undoubtedly will experience the same inability, as have Geosat and other providers, to demonstrate actual operations or performance meeting the higher performance tier service requirements. A wide variety of knowledgeable analysts express uncertainty about the ability of LEO systems to provide viable and reliable broadband service. For instance, Deloitte, an industry consultant, identifies several "important hurdles that companies in this young industry will likely need to clear" including "[m]eeting service expectations" and "[e]nsuring satellite reliability."¹³ Research firm MoffettNathanson recently noted that LEO services offer promise "[b]ut there are still some very big unanswered questions that argue for healthy speculation."¹⁴

And, the Commission does not even need to credit the analysis of these reputable firms. SpaceX, the LEO provider that may be the furthest along in terms of operational development, has not yet launched a commercial service, much less operated a complete and fully loaded network, nor has it provided in the Commission's record any evidence of its ability to provide those services,

¹¹ *RDOF Auction Notice*, ¶ 50 (noting that Viasat reported on the FCC Form 477, service with download speeds of 100 Mbps and upload speeds of only 4 Mbps.) The Above Baseline performance tier requires upload and download speeds, respectively, of 100/20 Mbps and the Gigabit tier requires upload and download speeds, respectively, of 1 Gbps/500 Mbps. *In re: Rural Digital Opportunity Fund, Connect America Fund*, Report and Order, FCC 20-5, ¶ 31 ("RDOF Order"). FBA notes that applicants using Geosat and other technologies that are prohibited from bidding for higher performance tiers likely have a reasonable basis to allege unreasonable discrimination if LEO applicants are held to a lesser standard to prove compliance with performance requirements. *See, e.g.*, SES/O3b Comments at 3-4 (noting the potential "inconsistency" in treatment of SpaceX and other satellite technologies.)

¹² *See, e.g.*, "High speed from low orbit - A broadband revolution or a bunch of space junk? TMT Predictions 2020", Deloitte (Dec. 9, 2019), <https://www2.deloitte.com/us/en/insights/industry/technology/technology-media-and-telecom-predictions/2020/satellite-broadband-internet.html>. (mentioning proposed satellite broadband offerings from OneWeb, SpaceX, Amazon and Kepler Communications).

¹³ *Id.*

¹⁴ "Broadband Q4 2019: A Deep Dive into Alternative Fixed Wireless Broadband Architectures", at 14 MoffettNathanson Research (Mar 2, 2020) ("MoffettNathanson").

including with higher performance tier capabilities.¹⁵ Despite SpaceX's assertions that it can provide low latency and high speed broadband consumer service consistent with "the laws of physics,"¹⁶ the single, brief news article submitted with SpaceX's *February Ex Parte Notice* to the Commission identified only limited testing of internet service for the U.S. Air Force.¹⁷ Moreover, SpaceX's President and Chief Operating Officer acknowledged the extremely preliminary nature of the company's test program activities, stating, "Right now, we're just testing the capability and figuring out how to make it work."¹⁸ Further, the Commission cannot rely on evidence – more a single data point – that SpaceX could provide higher performance tier services based upon SpaceX's non-commercial, limited service-testing program for the U.S. Air Force. Any communications network engineer knows that technologies that work in the laboratory or on a limited basis may never work in the field when fully operational. That is why the Commission can only reach a conclusion about any network technology by examining an operational network under customer loads meeting the RDOF performance requirements. Here, where no such operational network exists, the Commission is more than justified in using its predictive judgement to prohibit LEO applications from bidding for higher performance tiers.

The Commission's use of its predictive judgment to prohibit high performance tier bidding by applicants using LEOs will affirmatively benefit the RDOF program by limiting bidder default and encouraging full RDOF auction participation by protecting the integrity of the auction. While

¹⁵ See Letter to Marlene Dortch, Federal Communications Commission, from David Goldman, Space Exploration Technologies Corp., at 1, WC Dkt. No. 19-126, WC Dkt. No. 10-90 (January 20, 2020) ("SpaceX January Ex Parte Letter") (noting SpaceX is "targeting service in the Northern U.S. and Canada in 2020").

¹⁶ See Letter to Marlene Dortch, Federal Communications Commission, from David Goldman, Space Exploration Technologies Corp., at 1, WC Dkt. No. 19-126, WC Dkt. No. 10-90 (February 21, 2020) ("SpaceX February Ex Parte Letter").

¹⁷ *SpaceX February Ex Parte Letter*, Attachment B ("SpaceX satellites are being used by the Air Force to test encrypted internet for military planes", Reuters (Oct. 23, 2019)).

¹⁸ *Id.*

the Commission has established monetary forfeitures applicable to winning bidders that default on their bid performance obligations,¹⁹ preventing bidding by unproven, nascent LEOs, will ensure against waste and inefficiency in the auction process by preventing unqualified applicants from winning bids that they likely are unable to fulfill. The risk of default is not theoretical. OneWeb, one of the few LEO competitors to SpaceX, recently stated that it is considering filing for bankruptcy protection and noted that "it is inevitable that there will be delays to our launch schedule and satellite manufacturing due to increasing travel restrictions and the disruption of supply chains globally."²⁰ And a March 27, 2020 *Financial Times* article, which describes OneWeb as "at the head of a pack of new satellite internet companies, alongside Elon Musk's SpaceX and Amazon's Project Kuiper", suggests that a bankruptcy filing is beyond the "consideration" stage, noting that OneWeb is "preparing for bankruptcy and to lay off most of its staff, after failing to secure new funding from investors" and that a bankruptcy filing is imminent with a bankruptcy petition potentially being filed the same day that these comments are submitted.²¹ By taking the Association's suggested approach, the Commission will achieve its goal of minimizing the risk of "awarding support to an applicant that Commission staff believes is likely to default or be unable to fulfill its obligations."²²

Prohibiting bidding by applicants using unproven, non-fully operational networks also will drive greater participation in the RDOF auction, which is critical to meeting the Commission's goals of "ensur[ing] continued and rapid deployment of broadband networks to unserved

¹⁹ See *RDOF Order* ¶¶ 114-117.

²⁰ "SpaceX gets FCC license for 1 million satellite-broadband user terminals", *ars technica* (Mar. 23, 2020), <https://arstechnica.com/information-technology/2020/03/spacex-gets-fcc-license-for-1-million-satellite-broadband-user-terminals/>.

²¹ "OneWeb collapses after SoftBank funding talks fall through", *Financial Times* (Mar. 27, 2020), <https://www.ft.com/content/8695c459-effd-4b54-8d96-69d8e614f6b4>.

²² *RDOF Auction Notice*, n.96.

Americans" while "maintaining fiscal responsibility and cost-effectiveness" of the universal service program.²³ As the Commission noted in the *RDOF Order*, it "serves the public interest to maximize participation, and to award support to the most cost-effective bids."²⁴ It is only by attracting the greatest number of qualified bidders that the RDOF auction will result in unserved and underserved areas of the United States receiving the highest broadband performance service cost-effectively. This full participation is encouraged when potential bidders perceive that the RDOF auction includes only those applicants that are able to fulfill performance and operational requirements. Moreover, applying the auction eligibility process in a manner that ensures only qualified applicants are permitted to bid not only ensures the integrity of the auction process but accomplishes the Commission's goal of "maximiz[ing] the impact of finite universal service resources while awarding support to those providers that will make the most efficient use of the budgeted funds."²⁵ In contrast, the perception, whether reasonable or not, that the auction does not provide a level playing field, detracts from participants' belief in the fairness of the auction.

B. CASE-BY-CASE REVIEW OF UNPROVEN NASCENT NON-FULLY OPERATIONAL NETWORKS UNDERMINES HAVING A TRANSPARENT AND ACCOUNTABLE AUCTION PROCESS

The Commission states that it is "inclined" against adopting a bidding prohibition on applicants using nascent non-fully operational networks such as LEOs in favor of conducting a case-by-case analysis of the applicant's qualifications,²⁶ despite evidence that these networks are not operating today to provide service meeting the higher performance tier requirements. At its

²³ *RDOF Order*, ¶¶ 5, 19.

²⁴ *Id.*, ¶ 28.

²⁵ *Id.*, ¶ 19.

²⁶ See *RDOF Auction Notice*, n.94.

core, the Commission's proposed process – with the Wireline Competition Bureau conducting a review after short-form applications are filed – is neither transparent nor accountable.

The bidding eligibility process operates by having the Commission, after public notice and comment, adopt "prohibitions and presumptions for applicants selecting certain performance tier and latency combinations that may be inconsistent with the technologies they intend to use to meet...[the] public interest obligations."²⁷ Such a process is transparent – as parties file comments and *ex partes* and the Commission provides its rationale in a written order. It also is an accountable process – as parties can seek court review or reconsideration of the order.

By contrast, the Commission's proposal that the Wireline Competition Bureau staff review nascent non-fully operational networks on a case-by-case basis, after short-form applications are submitted,²⁸ introduces an opacity to the evaluation process that conflicts with the Commission's goal of distributing RDOF support "consistent with our policy goals and priorities in a transparent manner."²⁹ The FBA respectfully submits that, conducting case-by-case reviews, without definitive or published standards and without review of and the ability to comment on an applicant's submissions, precludes any meaningful oversight of the evaluation process. By its nature, the case-by-case review process provides no standard by which other applicants can be compared or by which an applicant can challenge another applicant's approval to participate in the auction. This case-by-case review process detracts from the certainty, transparency, and integrity of the application review process with no discernable, or at most non-material, countervailing benefits.

²⁷ *Id.*, ¶ 15.

²⁸ *See Id.*, n.94.

²⁹ *RDOF Order*, ¶ 18.

The FBA respectfully suggests that, should the Commission go forward in the face of these substantial flaws and adopt a case-by-case evaluation process -- an alternative with which the FBA disagrees -- it should include a presumption that the applicant using a LEO is not qualified to bid on higher performance tiers. This presumption should be rebuttable only upon the applicant providing a preponderance of evidence, including based on a fully operational network and service, that it is qualified and can fulfill its performance obligations should it win a higher performance tier bid.³⁰ The level of proof proposed by the Association is necessary here where the Commission potentially could be providing millions, or even billions, of dollars to LEO providers that have not previously demonstrated that they can provide the services upon which they bid. Critical RDOF support, intended to benefit those currently unable to access adequate broadband service, should be distributed only to those that demonstrate their ability to efficiently utilize those resources. Requiring the applicant to provide such evidence that it qualifies to bid on higher performance tiers simply expands upon the Commission's prior position that, when conducting a case-by-case review, the Commission must "tak[e] into account the applicant's experience, its responses to the short-form operational questions, its spectrum access (if applicable), and other information collected in the short-form application."³¹ Moreover, requiring the applicant to provide information regarding its performance capabilities is consistent with the Commission's requirement that, for established technologies, *all applicants, regardless of their years of operational experience*, must provide operational and network performance information enabling

³⁰ The Association notes that the performance obligations are not limited to just speed and latency, but also include capacity and robustness, so that all customers receive the promised service with specified data minimums. Connect America Fund, DA-18-710, 33 FCC Rcd 6509 (July 6, 2018).

³¹ *CAF Auction 903 Notice* at 1469, ¶ 106. In the LEO context, access to spectrum may be difficult to establish, because the FCC has not licensed the multiple mega-constellations with exclusive access to spectrum, and at this stage there is no way of knowing how many systems will be sharing the spectrum or how they will do so.

the Commission to assess the applicant's likelihood of fulfilling the service requirements if selected as a winning bidder.

III. THE MINIMUM GEOGRAPHIC BIDDING UNIT SHOULD BE SET AT THE CENSUS BLOCK GROUP LEVEL

The *RDOF Auction Notice* seeks comment on the proposed minimum geographic bidding unit to be used in the RDOF auction and proposes potentially using census tracts or census group blocks as the minimum bidding unit.³² The Association submits that establishing the minimum geographic bidding unit at the census group block will encourage participation in the RDOF auction, as bidders will have "greater flexibility" in identifying geographic areas for which the bidder can make a rational business case for bidding. When participating in the auction, bidders will be assessing whether the buildout obligations associated with particular geographic areas will be economically feasible. In particular, a geographic area may contain some eligible census blocks that are economic for the bidder to serve and others that are uneconomic to serve. The smaller census group block minimum geographic bidding unit allows bidders to tailor their bids to those areas where the bidder can provide required services in a cost effective and efficient manner. The flexibility provided by the census group block minimum geographic bidding unit also would be attractive to smaller providers or those bidders seeking to expand existing networks.³³

In contrast, requiring bidders to bid at the census tract level may deter qualified bidders from participating in the RDOF auction. If the minimum geographic bidding unit is established at a census tract level, rather than the smaller census group block level, the potential for a bidder to

³² See *RDOF Auction Notice*, ¶ 10.

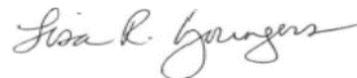
³³ *Id.*, ¶ 11.

encounter census blocks that are uneconomic to serve will almost certainly increase significantly.³⁴ To the extent bidders perceive an increased likelihood of being unable to make a business case for the required buildouts over an expanded area; the bidders will be prone to opt not to participate in the auction at all.

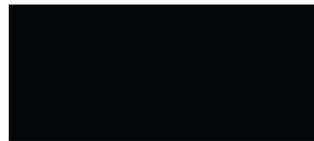
IV. CONCLUSION

For the foregoing reasons, the FBA urges the Commission to adopt the proposals identified herein as a means of ensuring the RDOF auction provides the most robust broadband service to consumers in eligible areas.

Respectfully Submitted,



Lisa R. Youngers
President and CEO
Fiber Broadband Association



March 27, 2020

³⁴ *Id.*, ¶ 81 (noting that "A bid in a minimum geographic area is a bid for support for the locations within all eligible census blocks within that area.").

Appendix C



July 20, 2018

Via ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission

[REDACTED]

[REDACTED]

Re: *Ex Parte* Filing of the Fiber Broadband Association on Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment, WC Docket No. 17-84

Dear Ms. Dortch:

The Fiber Broadband Association (“FBA”) generally supports the proposed reforms to the pole attachment process in the draft Third Report and Order in *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, WC Docket No. 17-84 (“Draft Order”)¹ and urges their adoption at the August 2nd meeting of the Federal Communications Commission (“Commission”).

Because poles, ducts, and conduit are critical infrastructure for telecommunications and cable (as well as broadband) network deployments, some forty years ago, the US Congress adopted the pole attachment statute² to facilitate access to this infrastructure on a reasonable and

¹ *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment; Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment*, WC Docket Nos. 17-84, 17-79, Public Draft, Third Report and Order and Declaratory Ruling, FCC-CIRC1808-03 (July 12, 2018) (“Draft Order”). See *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, WC Docket No. 17-84, Notice of Proposed Rulemaking, Notice of Inquiry, and Request for Comment, 32 FCC Rcd 3266 (2017); *Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, WC Docket No. 17-84, Report and Order, Declaratory Ruling, and Further Notice of Proposed Rulemaking, 32 FCC Rcd 11128 (2017).

² 47 U.S.C. § 224. See Communications Act Amendments of 1978, Pub. L. No. 95-234, 92 Stat. 33 (1978).

non-discriminatory basis. Ever since, the Commission has been diligent in implementing the law, regularly identifying barriers and adopting solutions. The last major reforms to the implementing regulations were in 2011, when, among other things, the Commission prescribed the four-part process for undertaking attachments: Application Review and Survey, Estimate, Attacher Acceptance, and Make-Ready.³ While the 2011 reforms were beneficial, not all issues were addressed, and new barriers subsequently developed. Stakeholders from all sides, including the FBA,⁴ have submitted comments and other filings to the Commission identifying barriers to attachments and proposing fixes to address those concerns. In addition, the Commission's Broadband Deployment Advisory Committee ("BDAC") has aired many of these same concerns and, after substantial discussion, adopted numerous proposals to facilitate the pole attachment process.⁵ In sum, the Commission has before it a robust record, ripe for a decision.

The FBA thus is pleased the Commission will consider the Draft Order at its next meeting. The Draft Order includes a series of amendments to existing rules and the adoption of new rules that have achieved substantial support and will reform the pole attachment process in meaningful ways. More specifically, the FBA believes the following rules would significantly facilitate the attachment process:

Permitting New Attachers to Use One-Touch Make-Ready ("OTMR") for Simple Make-Ready for Wireline Attachments in the Communications Space – The FBA agrees with the Draft Order's finding that "OTMR speeds and reduces the cost of broadband deployment by allowing the party with the strongest incentive – the new attacher – to prepare the pole quickly to perform all of the work itself, rather than spreading the work across multiple parties."⁶ OTMR holds out the promise of bringing all-fiber broadband service to many more locations in a much shorter timeframe. The FBA supports the new rule permitting a new attacher to use OTMR for simple make-

³ *Implementation of Section 224 of the Act; A National Broadband Plan for Our Future*, WC Docket No. 07-245, GN Docket No. 09-51, Report and Order and Order on Reconsideration, 26 FCC Rcd 5240 (2011).

⁴ *See, e.g.*, Comments of the Fiber Broadband Association on the Notice of Proposed Rulemaking, Notice of Inquiry, and Request for Comment, WC Docket No. 17-84 (June 15, 2017); Comments of the Fiber Broadband Association on the Further Notice of Proposed Rulemaking, WC Docket No. 17-84 (Jan. 17, 2018) ("FBA FNPRM Comments"); Reply Comments of the Fiber Broadband Association on the Further Notice of Proposed Rulemaking, WC Docket No. 17-84 (Feb. 16, 2018) ("FBA FNPRM Reply Comments"); *Ex Parte* Filing of the Fiber Broadband Association on Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment, WC Docket No. 17-84 (Apr. 10, 2018).

⁵ *See* BDAC, Report of the Competitive Access to Broadband Infrastructure Working Group (Jan. 23-24, 2018), available at <https://www.fcc.gov/sites/default/files/bdac-competitiveaccess-report-012018.pdf> ("BDAC Report").

⁶ Draft Order at para. 2.

ready for wireline attachments in the communications space.⁷ The FBA also supports the Draft Order’s conclusion that no federally-imposed indemnification is warranted for OTMR because new attachers are already directly liable for any damage they cause to poles and other attachments.⁸ A broad indemnification provision would significantly restrain attachers’ ability to elect OTMR, thus greatly reducing the benefits of the Draft Order. Going forward, while FBA believes the Draft Order’s proposed OTMR rule will prove beneficial, the Commission should view it as only an initial step toward permitting OTMR for complex make-ready as well.

Codifying the Commission’s Overlapping Precedent – The record establishes that overlapping significantly expedites and lowers the cost of fiber deployment and that overlappers have strong incentives to attach responsibly to protect pole safety and reliability.⁹ The Commission thus has a sound basis to conclude that enabling overlapping without approval from the utility “will hasten deployment by resolving disagreements over whether utilities may impose procedural requirements on overlapping by existing attachers”¹⁰ and to adopt the new rule.¹¹ While the FBA does not believe there is sufficient basis to permit utilities to have up to 15-days’ advance notice of overlapping, it commends the Draft Order’s inclusion of an admonition to utilities that they “may not use advanced notice requirements to impose quasi-application or quasi-pre-approval requirements, such as requiring engineering studies.”¹²

Establishing Processes for a “Complete” Application – The Commission’s attachment timeline is meaningless if new attachers cannot even get a utility to agree that the threshold action in the process, having the utility deem an application complete, is achieved. Many stakeholders identified the “complete application” issue as a major barrier, and the Draft Order properly acknowledges that new attachers may face delays as a result of being unable to determine what information needs to be included in an application or because the utility drags its feet in examining whether an application is complete.¹³ The Draft Order therefore includes new application completeness and timing rules for OTMR and non-OTMR processes, based on the BDAC’s recommended rule.¹⁴

⁷ *Id.* at Appendix A, 47 C.F.R. § 1.1412(j).

⁸ *Id.* at para. 68.

⁹ *See, e.g.*, FBA FNPRM Comments at 2-6; FBA FNPRM Reply Comments at 2-6.

¹⁰ Draft Order at para. 107.

¹¹ *Id.* at Appendix A, 47 C.F.R. § 1.1416.

¹² *Id.* at para. 111.

¹³ *Id.* at paras. 54, 73.

¹⁴ *Id.* at Appendix A, 47 C.F.R. §§ 1.1412(c)(1), 1.1412(j)(1). *See* BDAC Report at 32-33.

The FBA believes these rules will help reduce uncertainty and expedite the processing of applications.

Requiring an Offer of Joint Surveys – The attachment process can be expedited by increasing cooperation among utilities and new and existing attachers. The BDAC found that one way to achieve this goal is to require coordination in the survey process, which “would speed up the application process and lower the cost of attachments.”¹⁵ The Draft Order agrees that joint surveys would make the “process more efficient and transparent,”¹⁶ and it adopts joint survey requirements both for OTMR¹⁷ and non-OTMR¹⁸ processes.

Improving the Viability of the Self-Help Make-Ready Remedy for Attachers Not Electing OTMR – The Draft Order recognizes that the existing self-help remedy,¹⁹ which could be invoked if the make-ready process extends past the deadline, has not been effective.²⁰ The BDAC sought to fix the flaws with the self-help remedy by first making the requesting attacher responsible for overseeing the make-ready work by the existing attachers and then permitting the requesting attacher to immediately undertake make-ready using its own contractor if the existing attacher fails to complete its work.²¹ The Draft Order generally follows the BDAC recommendation, although it establishes a different, albeit not unreasonable, approved-contractor process.²² Moreover, the Draft Order extends the self-help remedy to work above the communications space.²³ The FBA believes these new rules should prove beneficial, first to provide an additional incentive for existing attachers to complete make-ready on time and then to enable the new attacher to expeditiously begin and complete work.

The FBA also supports the Draft Order’s clarification that “new attachers are not responsible for the costs associated with bringing poles or third-party equipment into compliance with current safety and pole owner construction standards to the extent such poles or third-party equipment were out of compliance prior to the new attachment” and that “a utility cannot delay

¹⁵ BDAC Report at 29.

¹⁶ Draft Order at para. 76.

¹⁷ *Id.* at Appendix A, 47 C.F.R. § 1.1412(j)(3).

¹⁸ *Id.* at Appendix A, 47 C.F.R. § 1.1412(c)(3).

¹⁹ 47 C.F.R. § 1.1420(e)(v).

²⁰ Draft Order at para. 90.

²¹ *See* BDAC Report at 34-43.

²² Draft Order at Appendix A, 47 C.F.R. § 1.1412(i).

²³ *Id.* at 47 C.F.R. § 1.1413(a).

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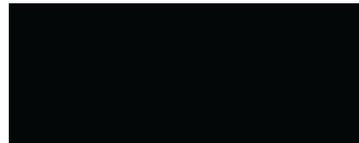
completion of make-ready while it attempts to identify or collect from the party” responsible for the pre-existing violation.²⁴

In closing, the FBA believes the rules proposed by the Draft Order get to the heart of many of the most significant problems in the the pole attachment process. By adopting them at the upcoming meeting, the Commission will accelerate network upgrades and new deployments in areas throughout the country.

This letter is being filed electronically pursuant to Section 1.1206 of the Commission’s rules.²⁵



Lisa R. Youngers
Executive Director
Fiber Broadband Association



cc: Jay Schwarz
Erin McGrath
Travis Litman
Jamie Susskind
Daniel Kahn
Michael Ray
Adam Copeland

²⁴ *Id.* at paras. 112-113.

²⁵ 47 C.F.R. § 1.1206.