Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Inquiry Concerning Deployment of	)	GN Docket No. 19-285
Advanced Telecommunications	)	
Capability to All Americans in a	)	
Reasonable and Timely Fashion	)	

COMMENTS OF PUBLIC KNOWLEDGE, COMMON CAUSE, AND NEXT CENTURY CITIES

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I. INTRODUCTION AND SUMMARY

Public Knowledge, Common Cause, and Next Century Cities submit these comments in response to the Federal Communications Commission's ("FCC" or "Commission") *Notice of Inquiry* ("*NOI*") seeking comment on whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.[1] Despite the Commission's inaccurate conclusions in its two prior Broadband Deployment Reports, [2] broadband is not being deployed to all Americans in a timely fashion. The following comments lay out recommendations for ways that the Commission can ensure more robust and affordable broadband deployment as well as a more accurate Broadband Deployment Report.

First, after four years of maintaining the current benchmark broadband speed, the Commission should take a bold, forward-looking approach and increase the national broadband standard from 25 megabits per second to 100 megabits per second ("Mbps"). Technological innovation and consumer demand warrant the increased broadband standard. Second, the Commission has an opportunity to conduct an honest assessment of the state of broadband availability across the nation, including both its successes and remaining challenges. However, the agency's current interpretation of its Congressional mandate under section 706,[3] reliance on

[1] Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, GN Docket No. 19-285, *Fifteenth Broadband Deployment Report Notice of Inquiry*, FCC 19-102 (rel. Oct. 23, 2019) ("*NOI*").
[2] Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, *2019 Broadband Deployment Report*, 34 FCC Rcd 3857 (2019) ("*2019 Broadband Deployment Report*"); Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, *2018 Broadband Deployment Report*, 33 FCC Rcd 1660 (2018) ("*2018 Broadband Deployment Report*").
[3] Section 706 of the Telecommunications Act of 1996 (47 U.S.C. § 1302(b)).

Form 477 data, and methodology to evaluate broadband availability are all pitfalls that have led the Commission to overstate deployment and paint an inaccurate picture of broadband access. Third, the *NOI* asks to what extent mobile and fixed broadband services are substitutable services, but little has changed since the Commission's last report for it to now find that the services are substitutes. Fourth, the Commission should continue to include broadband deployment measurements for Puerto Rico and other U.S. Territories in its Broadband Deployment Report in order to ensure the disaster stricken areas are not left behind. Finally, the Commission's actions on a number of broadband related issues from copper retirement, to a proposed USF cap, and Lifeline have all widened the digital divide or unnecessarily slowed broadband deployment. However, the Commission has recently taken the right approach on spectrum issues; we hope it continues.

II. THE COMMISSION SHOULD INCREASE THE CURRENT BENCHMARK SPEED FOR BROADBAND TO 100 MBPS DOWNSTREAM

A. The Commission is Required to Adopt A Forward-Looking Approach to Broadband Standards As Directed By Congress and Its Own Policy Goals.

The Commission's *NOI* proposes to maintain the current benchmark broadband speed of 25 Mbps/3 Mbps for assessing whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.[4] However, this benchmark speed is no longer adequate to meet the broadband needs of households today. Technological innovation and consumer demand for faster broadband warrant the FCC to update its benchmark speed from 25 Mbps to 100 Mbps downstream.

Under the Broadband Data Improvement Act ("BDIA"), the Commission is mandated to

[4] *See NOI* at ¶ 9.

continuously improve the broadband standard.[5] Since the enactment of the BDIA in 2008, Congress has directed the FCC to conduct its annual broadband deployment report with particular ends in mind and with recourse to a specific framework. One of those particular ends was to adopt a forward-looking approach to broadband deployment. The Senate Report of the BDIA noted that the Commission should continue to revise the standard for broadband upward based on projected future needs from emerging patterns of business use and behavior and with reference to speeds and prices available in other countries.[6] The same themes were reflected when the House considered the BDIA: the need for forward-looking metrics to ensure that all Americans have access to ever better and more affordable broadband, and concern that other developed countries were deploying superior infrastructure and more affordable services.[7] Therefore, the *NOI's* proposal to maintain the current benchmark broadband speed without even inquiring what future benchmarks may be necessary runs contrary to the Commission's congressional mandate.

The Commission's own policy goals also require the agency to adopt a forward-looking approach to broadband standards. In its Measuring Broadband America Program, the Commission has set a goal of "continuing to evolve the speeds and quality of service at which

[5] *See* Broadband Data Improvement Act, S. 1492, 110th Cong. (2008).
[6] *See* S. Rep. No. 110-204, at 1-5, *as reprinted in* 2008 U.S.C.C.A.N. 1707, 1707-09. Notably, this was not changed by the recent adoption of the RAY BAUM'S Act. *See* Consolidated Appropriations Act, 2018, Pub. L. No. 114-131, Div. P-Repack Airwaves Yielding Better Access for Users of Modern Services Act of 2018, § 402, 132 Stat. 348 (2018).
[7] *See* 47 U.S.C. §§ 1301-1305 (2008); *see also* 154 Cong. Rec. H10618-02 (2008) (the House passed S. 1492 as passed by the Senate. As a consequence, there is no House Report or Conference Report).

broadband access is commonly available to the American public."[8] As part of its objective to promote universal service of communications technology, the Commission is also required under the Communications Act to establish "an evolving level of telecommunications services . . . taking into account advances in telecommunications and information technologies and services."[9]

B. The Commission Has Previously Adopted a Forward-Looking Approach and Updated Its Benchmark Speeds.

In prior Broadband Deployment Reports, the Commission adopted a forward-looking approach and updated its benchmark speed when warranted. For example, in its *2010 Report*, the Commission took "the overdue step of raising the minimum speed threshold for broadband" to 4 Mbps downstream.[10] The FCC stated that "technologies, retail offerings, and demand among consumers have evolved in ways that demand increasing amounts of bandwidth."[11] In its *2015 Report*, the Commission again raised the broadband benchmark speed to 25 Mbps.[12] The Commission once again acknowledged that it is required to reassess "the existing speed

[8] FCC, *Measuring Broadband America, Fixed Broadband Report* (2016), https://www.fcc.gov/reports-research/reports/measuring-broadband-america/measuring-fixed-broadband-report-2016.
[9] 47 U.S.C. § 254(c)(1).
[10] *See* Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, GN Docket Nos. 09-137, 09-51, *Sixth Broadband Deployment Report*, 25 FCC Rcd 9556, 9558 (2010).
[11] *Id.*
[12] See Inquiry Concerning the Deployment of Advanced telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, GN Docket No. 14-126, *2015 Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Broadband Deployment*, 30 FCC Rcd 1375, 1377 (2015).

benchmark to reflect advancements over time."[13] The evidence again supports the Commission taking this forward-looking approach in this year's Report.

C. Technological Innovation and Consumer Demand Warrant the Commission to Update Its Benchmark for Broadband to 100 Mbps Downstream.

Technological innovation and consumer demand for faster broadband warrant the Commission to update its benchmark speed from 25 Mbps to 100 Mbps downstream. Since the *2015 Report*, online innovation has dramatically grown with the increasing use of Over-the-Top ("OTT") streaming services. Free Press notes that 25 OTT video services launched in 2015 and another 17 launched in 2016.[14] More services have launched since then.[15] In fact, so many companies have announced their own upcoming streaming platform that the term "streaming wars" has become a catchphrase.[16] Further, OTT video providers are offering more of their programming with 4k streaming capabilities.[17] Streaming in 4k requires high bandwidth capabilities—Amazon recommends a broadband connection of at least 15 Mbps and Netflix

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[13] *Id.*

[14] *See* S. Derek Turner, *It's Working: How the Internet Access and Online Video Markets are Thriving in the Title II Era*, Free Press (May 2017), https://www.freepress.net/sites/default/files/legacy-policy/internet-access-and-online-video-markets-are-thriving-in-title-II-era.pdf.

[15] James K. Willcox, *New Streaming Video Services Are Ready to Launch*, Consumers Reports (Nov. 12, 2019), https://www.consumerreports.org/streaming-media-devices/new-streaming-video-services-to-check-out/.

[16] Steven Zeitchik, *Everything you need to know about upcoming streaming services, in one handy rundown*, The Washington Post (Sept. 20, 2019), https://www.washingtonpost.com/business/2019/09/20/everything-you-need-know-about-upcoming-streaming-services-one-handy-rundown/.

[17] *See* Jefferson Graham, *More 4k TV programming finally here in 2016*, USA Today (Jan. 1, 2016), https://www.usatoday.com/story/tech/2016/01/01/more-4k-tv-programming-finally-here-2016/78087454/.

recommends 25 Mbps.[18] Multiple active streamers in a household would therefore require speeds significantly greater than 25 Mbps.[19] With multiple users in a household using the same broadband connection, the Commission's current benchmark speed is inadequate for what is increasingly becoming consumers' primary way to stream online video. Other high-bandwidth applications of broadband have also dramatically grown over the years, such as online video game distribution and the cloud storage market.[20] As an example, one can look to Google's recently launched Stadia service, which is a cloud gaming service.[21]

The importance of increasing the benchmark speed is not simply about the ability to play the latest videogames online or stream movies. Rather, without broadband connections, or with a slow connection, it is much harder to do things like conduct research for homework, grow one's businesses, or find work online.[22] Often times a slow connection is functionally equivalent to no connection. Increasing the broadband benchmark speed is also important as households connect an increasing amount of devices for a variety of activities such as online educational classes and video conferencing. As more households use broadband for an increasing number of high-

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[18] *See* Rob Pergoraro, *You're buying a 4k TV. How much internet bandwidth do you need?* USA Today (Dec. 10, 2017), https://www.usatoday.com/story/tech/columnist/2017/12/10/youre-buying-4-k-tv-how-much-internet-bandwidth-do-you-need/933989001/.

[19] *See* James Wilcox, *Is Your Internet Fast Enough for Streaming*?, Consumer Reports (April 5, 2019), https://www.consumerreports.org/broadband/internet-fast-enough-for-streaming-broadband-speed/ (explaining that "homes with multiple active streamers will need internet service that can provide at least 50 Mbps speed.).

[20] *See* Comments of the Open Technology Institute at New America, GN Docket No. 17-199, at 22-23 (filed Sept. 21, 2017).

[21] Sean Hollister, *Google Stadia Review: The Best Of Cloud Gaming Is Still Just A Beta*, The Verge (Nov. 18, 2019), https://www.theverge.com/2019/11/18/20970297/google-stadia-review-gaming-streaming-cloud-price-specs-features-chrome-pixel.

[22] *The People Left Behind in a Broadband World*, The Wall Street Journal (Nov. 11, 2019), https://www.wsj.com/articles/the-people-left-behind-in-a-broadband-world-11573501015?fbclid=IwAR1HTn_PIlnWJrp8LoZ8SC3g-j4Q7C8_qgMNhN721OrhcINpBeRbN8y9FVg.

bandwidth uses, such as internet of things devices, faster broadband speeds are required.

Communities also increasingly depend on faster broadband speeds to access high-bandwidth applications such as educational, entrepreneurial, and telehealth services,[23] including in rural areas and low-income areas that are underserved. For example, telehealth can connect patients with healthcare providers online, promote independent living, and provide access to 24/7 care. In rural communities, hospitals and healthcare facilities continue to permanently close, forcing patients to drive long distances to receive treatment from a licensed healthcare provider. Telehealth services provide a way to lower medical costs for families living in areas without adequate healthcare services; however, unreliable and costly broadband impact rural communities' ability to benefit from these services.[24] The Commission's decision to maintain the current benchmark speed fails to consider the needs of consumers today and the near future.

Moreover, ISPs offer speeds well beyond 25 Mbps and therefore many consumers are subscribed to speeds well beyond the Commission's current benchmark speed of 25 Mbps. In fact, in the first half of 2017, six of the seven U.S. internet service providers' average speeds were above 25 Mbps, including Comcast's Xfinity at 69.58 Mbps.[25] According to the

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[23] *See, e.g.* Promoting Telehealth in Rural America, WC Docket No. 17-310, *Report and Order*, FCC 18-82, Statement of Chairman Ajit Pai (rel. June 25, 2018); *see also, What is the recommended bandwidth for different types of health care providers?*, HealthIT.gov, https://www.healthit.gov/faq/what-recommended-bandwidth-different-types-health-care-providers.

[24] *See* Peter L. Stenberg, *Rural Individuals' Telehealth Practices: An Overview, USDA, Economic Research Service*, (November 2018), https://www.ers.usda.gov/webdocs/publications/90530/eib- 199.pdf?v=869.3 (explaining that "telehealth users will likely require high-quality broadband service to fully access all telehealth services in the future because health providers continue to improve their telehealth offerings and the new services (such as virtual patient visits) require high-quality broadband service.").

[25] Rani Molla, *Fixed broadband speeds are getting faster — what's fastest in your city?*, *Recode* (Sept. 7, 2017), https://www.vox.com/2017/9/7/16264430/fastest-broadband-speeds-ookla-city-internet-service-provider.

Commission's own Measuring Broadband America Report, the median download speed, averaged across all participating ISPs, was approximately 72 Mbps in September 2017. In addition, ISPs advertise higher speeds on their website's homepage, which also shapes consumer expectations of faster broadband speeds.[26] If ISPs themselves claim to deploy higher speeds then it makes sense for the Commission to raise its standard accordingly. Overall, the Commission should adopt a forward-looking approach and increase the benchmark for broadband speed to 100 Mbps downstream.

D. The Current Benchmark Speed is Inadequate Compared to International Broadband Targets.

The current benchmark speed of 25 Mbps downstream and 3 Mbps upstream falls woefully short of international broadband targets. The European Union in its Single Digital Market directive has a goal of universal 100 Mbps downstream.[27] The European Union also instituted an action plan in 2016 to transform the countries of the European Union into gigabit societies by 2025.[28] The Commission's proposal to maintain the current benchmark speed comes at a time when the United States occupies a low-ranking position in international rankings of broadband capabilities. According to the Commission's own data, the United States ranked 10th out of 28 countries in 2016 in terms of fixed broadband download speeds and 24th out of 28 countries with regard to mobile download speeds.[29] Maintaining the current benchmark speed for

[26] *See, e.g.,* Fios by Verizon's Homepage (advertising speeds at 100/100 Mbps, 300/300 Mbps, and Gigabit Connection), https://fios.verizon.com/fios-speeds.html; Spectrum's Homepage (advertising speed of 100 Mbps), https://www.spectrum.com; Xfinity's Homepage (advertising speeds from 25 Mbps to 1000 Mbps), https://www.xfinity.com/learn/internet-service.
[27] *See* European Commission, "Digital Single Market: Broadband Europe," https://ec.europa.eu/digital-single-market/en/broadband-europe.
[28] *Id.*
[29] *International Comparison Requirements Pursuant to the Broadband Data Improvement Act*, Sixth Report, 33 FCC Rcd 978 ¶¶ 9-10 (2018).

broadband only places the nation at a disadvantageous position in the global broadband marketplace.

III. THE COMMISSION'S CURRENT METHODOLOGY IS FLAWED AND OVERSTATES DEPLOYMENT.

A. Form 477 Provides Inaccurate and Incomplete Information to Broadband Deployment and Should Not Be Used as the Only Data Collection Source for the 2019 Broadband Deployment Report.

The Commission's *NOI* proposes to continue using FCC Form 477 deployment data for fixed services even though the Commission itself "recognize[s] the limitations of the FCC Form 477 data" including its "shortcomings" and "challenges."[30] The fact that the FCC has recently adopted a new data collection distinct from Form 477 collection—where providers will be required to submit polygons[31]—evidences the fact that Form 477 on its own cannot and should not remain the only source of data that the Commission uses in its upcoming Broadband Deployment Report. While the *NOI* states that "this Inquiry is not a rulemaking, and therefore cannot be used to undertake changes to the Form 477 or any other Commission data collection," the inquiry also seeks comments on whether the Commission should use Form 477 as the data source for the Report.[32] The Commission must then consider comments that offer critiques to the pitfalls of using Form 477 data for the purposes of its Broadband Deployment Report.

As the Commission has acknowledged, data sourced from Form 477 is widely recognized as inaccurate for several reasons.[33] First, Form 477 data reports broadband service at the census block level, and the Commission considers an entire census block fully served if a single

[30] *NOI* at ¶¶ 16-17.
[31] *NOI* at ¶ 18.
[32] *Id.*
[33] *NOI* at ¶ 16-18.

residence on the block is served.[34] A Government Accountability Office ("GAO") report found that the Commission's method of data collection directly leads to overstatements of broadband availability on tribal lands.[35] Second, Form 477 data is self-reported by broadband providers without independent verification. As the Commission has already acknowledged, this likely overstates the availability of broadband throughout an area.[36] Indeed, BarrierFree was found earlier this year to have significantly over-reported its deployment numbers in the FCC's Form 477 database.[37] The Commission consequentially relied on BarrierFree's erroneous data to circulate its draft *2019 Report*, which skewed agency's findings on the number of households that lack access to broadband.[38] As Commissioner Starks pointed out, the Commission was in possession of BarrierFree's flawed data for almost 11 months but it took Free Press, a non-profit organization, to point out the problems in the data.[39] Despite the reforms the Commission recently made to its data collection, no auditing framework is currently in place to verify the accuracy of submitted Form 477 data. Therefore, the Commission's current inquiry may rely on erroneously reported data which would skew its findings. If the Commission wants its Broadband Deployment Report to be as accurate as possible regarding how many Americans are

[34] *See* FCC, Fixed Broadband Deployment Data from FCC Form 477, https://www.fcc.gov/general/broadband-deployment-data-fcc-form-477.
[35] *Broadband Internet: FCC's Data Overstate Access on Tribal Lands*, GAO (Sept. 2018), at 17, https://www.gao.gov/assets/700/694386.pdf ("*GAO Tribal Broadband Report*").
[36] *NOI* at ¶ 17.
[37] *See* Letter from S. Derek Turner, Research Director, Free Press to Marlene H. Dortch, Secretary, FCC, GN Docket No. 18-238 (filed March 5, 2019).
[38] *See* Tom McKay, *Report: Ajit Pai's FCC Touted Broadband Deployment Numbers Based on Asinine Mistake*, Gizmodo (March 8, 2019), https://gizmodo.com/report-ajit-pais-fcc-touted-broadband-deployment-numbe-1833143992.
[39] *See* Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, *2019 Broadband Deployment Report*, 34 FCC Rcd 3857, 4131 (2019).

connected to broadband speeds, it does not make sense to only use Form 477 data knowing that data is inaccurate and grossly overestimates reality.

In addition to Form 477 data, the Commission supplemented its analysis in the *2019 Report* by analyzing Ookla consumer speed test data. We support the Commission using other resources in addition to Form 477 while it is going through its process to improve the Form 477 data collection process.[40] However, the Commission should also look to partnering with other organizations such as Measurement Lab (or "M-Lab"), which is a consortium of research, industry, and public-interest partners focused on providing verifiable Internet speed measurements.[41] M-Lab data is a useful source of information for rural advocates who are concerned that the FCC's Broadband Map does not paint an accurate picture of the connectivity situation in their area and to prove that the FCC's "maximum speed available" is generally not the same as the "typical speed experienced."[42]

Overstatements of broadband availability and inaccurate data prevent both Congress and the FCC from enacting policies that ensure unserved areas get the necessary resources to achieve broadband access. For example, the rural news source Daily Yonder conducted focus groups to examine the information and connectivity environment for rural areas of Maine and Kansas. The focus group participants pointed out that they received relatively slow speeds—less than 10 Mbps—from their local provider, despite the FCC's broadband map depicting the area as having access to speeds of 25 or even 50 Mbps.[43] Supplementing the Broadband Deployment Report

[40] *NOI* at ¶ 21.
[41] Brian Whitacre, *Broadband Speed: FCC Map Vs. Experience on the Ground*, The Daily Yonder (July 25, 2018), https://www.dailyyonder.com/broadband-speed-fcc-map-vs-experience-ground/2018/07/25/26583/.
[42] *Id.*
[43] *Id.*

with additional data sources can help correct this problem of overstatement and is necessary for the Commission's report to be accurate.

B. The Broadband Deployment Report Should Include More Granular Information, Such As Quality of Service and Pricing Information.

The purpose of the Report is to review whether broadband is being deployed to all Americans in a reasonably and timely manner. However, broadband deployment means nothing to consumers if they cannot afford access or it is unreliable. Even with a perfect national broadband map and 100 percent deployment to all American households, millions of Americans will not be able to afford broadband access. Any meaningful effort to improve the Commission's data collection program must recognize that deployment is only one aspect of the digital divide. In order to have a complete picture of the digital divide that exists in the United States, many other factors should be analyzed alongside deployment.

The FCC currently fails to measure key metrics in its Form 477 data collection. These include broadband affordability and pricing data; information on demographics such as race, age, and disability; usage and subscription data; quality of service and actual service speed data; and network vulnerability and resilience. These metrics should be included when conducting a comprehensive review of broadband connectivity in America as they are an important part of the digital divide, yet the Commission currently collects little to no data about them. The Commission should expand its analysis to incorporate these metrics in its next Report.[44]

Broadband quality is a metric that ensures consumers have access to reliable broadband.

[44] Letter from public interest organizations to the FCC, *Re: In the Matter of Modernizing the FCC Form 477 Data Program, WC Docket No. 11-10*, July 24, 2019, available at: https://ecfsapi.fcc.gov/file/10725107246218/Public%20Interest%20Form%20477%20Ex%20Parte%20Letter.pdf.

Such a metric should include actual speed data, latency, and network vulnerability and resilience. A recent GAO report found that "quality of service is a key component of access to broadband and that routine outages, slow speeds, and high latency keep people on tribal lands from consistently accessing the Internet."[45] Coupled with the Commission's recent deregulation of copper retirement and network transition rules,[46] consumers across the nation are likely to see a downgrade in service as carriers retire their legacy services,[47] arguably rendering them unserved.[48] Without incorporating these metrics into its methodology, the Commission will continue to receive an incomplete picture of broadband availability.

Pricing information, including all below-the-line fees, is also critical to evaluating broadband availability given that cost is often cited as the main barrier to broadband adoption,[49] As Commissioner Clyburn stated, "service cannot truly be *available* if you cannot *afford* it."[50]

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[45] *GAO Tribal Broadband Report* at 22.

[46] *See* 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 11128, 11177 & n.425 (2017).

[47] *See* Report of the Minnesota Department of Commerce, *In the Matter of a Commission Inquiry into the Service Quality, Customer Service, and Billing Practices of Frontier Communications*, Docket No. P-407, 405/CI-18-122, (Jan. 4, 2019), http://mn.gov/commerce-stat/pdfs/frontier-service-quality-report-final.pdf (finding that Frontier failed to maintain its copper network leading to frequent and lengthy internet outages); *see also* Karl Bode, *Wildfire Victims Don't Have Cell Service Thanks to Greedy Telecoms*, Vice (Oct. 29, 2019) (explaining how the California wildfires have led to massive cellular outages).

[48] *See* Harold Feld, Making the Digital Transition an "Upgrade for All" Again, Public Knowledge Blog (Aug. 26, 2019), https://www.publicknowledge.org/blog/making-the-digital-transition-an-upgrade-for-all-again/.

[49] Rani Molla, *More than 60 million urban Americans don't have access to or can't afford broadband internet*, Recode (June 20,2017), https://www.recode.net/2017/6/20/15839626/disparity-between-urban-rural-internet-access-major-economies.

[50] Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, GN Docket No. 17-199, *2018 Broadband Deployment Report*, Dissenting Statement of Comissioner Clyburn, 33 FCC Rcd 1660 (2018) ("*2018 Broadband Deployment Report*").

Studies show that cost factors, from monthly fees to devices, are the main reasons that people do not subscribe to broadband.[51] According to a recent study from BroadbandNow Research, there was a shift towards higher broadband speeds across the country from Q2 to Q3 in 2019, but also to higher prices.[52] Overall, Q3 had more price increases than decreases, and of plans priced under $60 in Q2 that increased in price in Q3, 62 percent increased to a price greater than $60/month.[53] If the FCC's goal is to increase speeds, especially with its focus on 5G, a path where faster speeds result in every-rising prices will result in broadband becoming less affordable for a growing number of households.

C. Including Fixed Satellite Service Overstates Deployment.

The *NOI* proposes to include fixed satellite services as part of its assessment of broadband deployment.[54] While satellite service has improved, the technology is still relatively nascent, has higher latency, is more susceptible to weather disruptions, and faces other performance issues that make it an inadequate substitute to other fixed broadband services like cable and fiber.[55] As a result, including satellite services in measuring broadband availability

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51 Pew Research Center, *Digital divide persists even as lower-income Americans make gains in tech adoption*, May 2019, https://www.pewresearch.org/fact-tank/2019/05/07/digital-divide-persists-even-as-lower-income-americans-make-gains-in-tech-adoption/; Pew Research Center, *Cost is the most important barrier to adopting broadband*, Dec. 2015, https://www.pewresearch.org/internet/2015/12/21/home-broadband-2015/pi-2015-10-21_broadband2015-12/.

[52] BroadbandNow Research, *The State of Broadband in America, Q3 2019*, available at: https://broadbandnow.com/research/q3-broadband-report-2019.

[53] *Id.*

[54] *NOI* at ¶ 19.

[55] *See* Brian Whitacre, Roberto Gallardo, Angela Siefer, and Bill Callahan, *The FCC's Blurry Vision of Satellite Broadband*, (March 26, 2018), https://www.dailyyonder.com/fccs-blurry-vision-satellite-broadband/2018/03/26/24739/?utm_campaign=Newsletters&utm_source=sendgrid&utm_medium=email.

would significantly overstate deployment and understate the actual scope of the digital divide. The Commission should separately analyze satellite broadband deployment until it becomes an adequate substitute that delivers a similar and reliable quality of service to other fixed broadband technologies.

D. The Commission Should Update Its Methodology of Comparing Broadband Speeds.

In the *NOI*, the Commission proposes to maintain the evaluative framework it used in the *2019 Report* by continuing to rely on a five-year time period (2014-2018) in its analysis.[56] The *2019 Report* presented deployment figures for five speed metrics for fixed services—specifically 25 Mbps/3 Mbps, 10 Mbps/1 Mbps, 50 Mbps/5 Mbps, 100 Mbps/10 Mbps, and 250 Mbps/25 Mbps. The Commission should not continue using a 10 Mbps/1 Mbps metric to make determinations regarding broadband deployment in its upcoming Report because it falls below today's broadband standard. Collecting this data can be useful for comparing deployment over the years, but making determinations on outdated benchmarks can be misleading and overestimate deployment. If a certain metric does not count as broadband today, the Commission should not count it in its comparison of whether broadband deployment has improved. The 706 provision requires for the Commission to evaluate whether advanced telecommunications capability is *currently* being deployed to all Americans and therefore the Commission should not be comparing the current state of deployment with outdated metrics.

Moreover, simply reviewing broadband deployment over a 5-year period is inadequate. Deployment numbers will increase each year simply based on the growing population size. In

[56] *NOI* at ¶ 9.

order to conclude whether broadband is truly being deployed in a reasonable and timely fashion, the Commission should look at the sheer number of people that lack access.

IV. MOBILE BROADBAND SERVICE IS NOT A SIMILAR FUNCTIONALITY OR SUBSTITUTE TO FIXED BROADBAND.

The *NOI* seeks comment to whether the Commission should modify its previous conclusion regarding the extent mobile and fixed broadband services are substitutes for each other.[57] Little has changed since the publication of the *2019 Report* for the Commission to now find fixed and mobile broadband services are equivalent substitutes. Fixed and mobile broadband connections should continue to be seen as complementary products that the Commission measures separately. As the Commission has previously found, "fixed and mobile broadband are often used in conjunction with one another and, as such, are not functional substitutes."[58]

A. Mobile Broadband is a Distinct Service from Fixed Broadband.

Technological characteristics combined with consumer expectations make fixed and mobile services distinct, complementary products. For example, mobile broadband services typically come with data caps where the mobile network operator places a limit on the amount of

[57] *NOI* at ¶ 10.

[58] Inquiry Concerning the Deployment of Advanced telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, GN Docket No. 15-191, *2016 Broadband Progress Report*, 31 FCC Rcd 669 ¶ 24 (2016) ("*2016 Broadband Report*"); *see also 2018 Broadband Deployment Report* at ¶ 18 (finding that mobile services are not full substitutes for fixed services); *2019 Broadband Deployment Report* at ¶ 11 (stating "there is insufficient evidence in the record to conclude that mobile and fixed broadband services are full substitutes in all cases.").

data a customer can use over their internet connection.[59] Once a customer reaches that limit, the mobile carrier engages in certain actions such as slowing down data speeds or charging fees for data overages. This makes it difficult for consumers to continuously use data-intensive applications like video streaming or file downloads on a mobile connection, compared to a fixed connection where large amounts of data usage are generally permitted and speeds are typically not throttled for heavy usage. Other key differences between fixed and mobile broadband include pricing models, variability of speed, and reliability.[60] These characteristics fortify the argument that fixed and mobile broadband serve different needs, and surveys of consumer attitudes generally show the same result. Users typically see fixed and mobile as complementary ways to get online and have clear views about which service is suited to which particular task. For example 63% of respondents to one survey reported themselves as "not likely at all" to cancel home broadband and go mobile-only.[61]

Moreover, most mobile traffic is offloaded onto Wi-Fi, which then connects to the fixed network. According to Cisco, in 2017, 54 percent of total mobile data traffic was offloaded onto the fixed network through Wi-Fi or femtocell.[62] Therefore, even when consumers are using their

[59] *See* Data Caps, Public Knowledge, https://www.publicknowledge.org/issues/data-caps.
[60] *See* Karl Bode, *Unlimited Wireless No Threat to Fixed ISPs (Yet), Analyst Says*, DSLReports (April 17, 2017), http://www.dslreports.com/shownews/Unlimited-Wireless-No-Threat-to-Fixed-ISPs-Yet-Analyst-%20Says-139362 (stating that mobile broadband "typically offers lower speeds and weaker reliability than its wireline counterparts").
[61] *See* John Horrigan, Smartphones and Broadband: *Tech users see them as complements and very few would give up their home broadband subscription in favor of their smartphone* (Nov. 2014), at 8, https://www.publicknowledge.org/assets/uploads/blog/Smartphones_and_Broadband.pdf.
[62] *Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2017–2022 White Paper* (Feb. 18, 2019), Cisco, https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white-paper-c11-738429.html#_Toc953325.

mobile devices, they may not even realize that they are still relying on the fixed broadband network rather than the mobile network. In other words, they are using two distinct services.

Lumping fixed and mobile broadband technologies together for the purposes of measuring broadband deployment would distort the marketplace and likely paint too rosy a picture of the state of broadband availability and deployment. For example, if the Commission determines a consumer has access to two broadband providers (one mobile and one fixed), this would assume the consumer has multiple options for broadband access when in reality they only have access to one fixed provider and one mobile provider. This type of analysis could prevent the Commission or Congress from enacting policies that ensure robust broadband access for both fixed and wireless services.

B. Millions of Consumers Rely Solely On Mobile Broadband Because it is More Affordable, Not Because it is as Reliable.

Continuing to classify mobile and fixed broadband as separate services is increasingly important as studies indicate a majority of Americans rely on both fixed and mobile broadband for service, but that those who are smartphone-only are disproportionately low-income Americans.[63] In other words, low-income Americans are not choosing to be mobile only because they see it as an equivalent to fixed, but rather they do not have a choice at all. For the Commission to say these services are substitutes would overlook the reason why so many Americans are using mobile instead of fixed—not because they are functional equivalents, but because mobile is often the more affordable choice.

According to the Pew Research May 2019 Report, there is a major hole in America's

[63] Pew Research Center, *Internet/Broadband Fact Sheet*, https://www.pewresearch.org/internet/fact-sheet/internet-broadband/.

ability to provide affordable high speed broadband, evidenced by the fact that 26 percent of adults in lower income households rely on their smartphones instead of home broadband.[64] This does not mean that mobile is a substitute for fixed, but rather evidences the opposite. The fact that there is such a strong connection between income and reliance solely on mobile broadband shows that many consumers are not choosing to rely on mobile but rather that mobile is their only affordable option. As the Pew Report explains, "With fewer options for online access at their disposal, many lower-income Americans are relying more on smartphones. As of early 2019, 26 percent of adults living in households earning less than $30,000 a year are "smartphone-dependent" internet users — meaning they own a smartphone but do not have broadband internet at home." Moreover, according to a report by New York City's Comptroller Scott Stringer, "Internet disparities track closely to socioeconomic factors like poverty and are most apparent in traditionally marginalized communities. 44 percent of New Yorkers in poverty lack broadband internet access, as opposed to 22 percent above the poverty line."[65]

C. 5G Mobile Wireless Service is a Distinct Service from Fixed Broadband.

As the Commission examines new and emerging technologies when measuring broadband deployment, it should not consider the next generation of mobile wireless service – 5G – as a substitute for fixed broadband. First, it is important to note that 5G networks are still

[64] *See* Andrew Perrin, *Digital gap between rural and nonrural America persists*, Pew Research Center (May 31, 2019), https://www.pewresearch.org/fact-tank/2019/05/31/digital-gap-between-rural-and-nonrural-america-persists/; *see also* Bruce Kushnick, *I Can't Do My Homework On This Smartphone*, Medium (Oct. 10, 2019), https://medium.com/@kushnickbruce/i-cant-do-my-homework-on-this-smartphone-185891bac24d.

[65] New York City Comptroller Scott M. Stringer, *Census and the City: Overcoming NYC's Digital Divide in the 2020 Census*, https://comptroller.nyc.gov/wp-content/uploads/documents/Census_and_The_City_Overcoming_NYC_Digital_Divide_Census.pdf.

years away from being deployed as fully-realized commercial services.[66] Indeed, the standard for 5G was completed last summer and there is still much work to be done in finalizing these specifications and actually building out hardware and infrastructure.[67] Classifying 5G service as a substitute to fixed broadband in anticipation of 5G would assume that 5G service is already here as a market competitor. In reality, however, 5G service is not yet a competitor to fixed broadband. The Commission also has a poor track record in anticipating that new competition will emerge and taking pre-emptive action on that basis.[68] The Commission should not make the same mistake by considering 5G a market competitor to fixed broadband.

Second, while 5G networks promise to offer faster speeds, less latency, and greater capacity, in some cases they will only be a minor improvement to 4G LTE.[69] Critically, this does not address problems with reliability of connection, persistence of available speed, or other features that distinguish mobile from fixed broadband. These critical differences are likely to persist, and until they do not, the Commission must look at 5G as another mobile wireless service and treat it as a distinct product market from fixed broadband.

Finally, the term "5G" has evolved to mean different products over time and potentially

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[66] Dexter Johnson, *5G Poised For Commercial Rollout by 2020*, IEEE Spectrum (May 2, 2018). https://spectrum.ieee.org/tech-talk/telecom/wireless/5g-is-meeting-its-targets-for-2020-commercial-rollout.

[67] *See* Monica Alleven, *3GPP puts finishing touch on Standalone version of 5G standard*, FierceWireless (June 14, 2018), https://www.fiercewireless.com/wireless/3gpp-puts-finishing-touch-standalone-version-5g-standard.

[68] *See* Letter from Phillip Berenbroick, Public Knowledge, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 16-143, 15-247, 05-25 (filed June 16, 2016) (explaining that the Commission has acknowledge its "efforts to predict where competition will materialize and where it will not, have been unsuccessful.").

[69] *See* Dave Burstein, *5G NR Only 25% to 50% Faster, Not Truly a New Generation*, Wireless One, http://wirelessone.news/10-r/1036-5g-nr-only-25-to-50-faster-not-truly-a-new-generation (April 2018).

even different deployment plans. Carriers like AT&T plan on deploying 5G using millimeter wave spectrum.[70] Other carriers may deploy 5G primarily using a combination of mid-band and low-band spectrum.[71] It is also unclear what percentage of the new capacity carriers will allocate to network segments dedicated to non-consumer uses such as connected cars or other IoT dedicated networks. The various deployment plans mean 5G will have a broad range of functionalities across multiple spectrum bands, giving consumers varying degrees of service. These uncertainties add more credence that the Commission should not give blanket treatment to anything labelled "5G," whether fixed or mobile, whether millimeter wave or other frequency, as a substitute for fixed broadband.[72]

V. THE COMMISSION SHOULD RETURN TO ITS PREVIOUS INTERPRETATION OF ITS CONGRESSIONAL MANDATE TO REPORT ON THE STATUS OF BROADBAND DEPLOYMENT.

The Commission's two prior Broadband Deployment Reports departed significantly from nearly a decade of precedent since the Broadband Data Improvement Act (BDIA)[73] by concluding that broadband *is* being deployed to the U.S. in a timely and reasonable manner. The Commission reasoned that the expression "is being deployed" as well as the language requiring an evaluation of whether the deployment is "reasonable and timely" indicated that Congress

[70] *See* Colin Gibbs, *AT&T quietly acquires FiberTower for 24, 39 GHz spectrum*, FireceWireless (Feb. 1, 2017), https://www.fiercewireless.com/wireless/at-t-quietly-acquires-fibertower-for-24-39-ghz-spectrum.
[71] Sean Kinney, *FCC Moves to open mid-band spectrum for 5G*, RCR Wireless, https://www.rcrwireless.com/20180713/policy/fcc-mid-band-spectrum-5g-tag17 (July 13, 2018).
[72] The one exception, obviously, is where "5G" spectrum is used to deploy fixed mobile services. *See, e.g.*, Dan Jones, "Verizon Fixed 5G, A Cable Competitor is Coming!" Light Reading (May 25, 2018), https://www.lightreading.com/mobile/5g/verizons-fixed-5g-a-cable-alternative-is-coming!/d/d-id/743405. In such cases, the Commission should follow it's usual practice of considering fixed wireless broadband service as a competitor to wireline.
[73] *See* Broadband Data Improvement Act, 47 U.S.C. §§ 1301-1305 (2008) ("BDIA").

intended the Commission to evaluate the current state of deployment to all Americans and did not require each and every American to be served at that moment."[74] Thus, the FCC proposed using a year-over-year progress measure, and seeks to do so again in 2020. This interpretation of the Commission's congressional mandate uses the same incorrect interpretation of the law that prompted Congress to enact the BDIA. Given that the FCC's proposal for measuring deployment runs contrary to congressional intent, the Commission must not continue to base broadband measurements off of it.

In 2008, Congress enacted the BDIA, which required the FCC to continuously improve the standard for broadband. The BDIA was passed largely out of congressional frustration for the Commission's failure to provide granular information on access, and expressed broad concern over the decline of the United States in broadband rankings relative to other developed countries.[75] Much like now, in the years leading up to 2008, the Commission regularly found that broadband was being deployed in a timely and reasonable manner, despite the fact that nearly all other reports and rankings of the broadband and digital infrastructure showed the United States falling behind other industrial nations at an increasing and alarming rate.[76] Additionally, the Commission's methodologies leading up to 2008, as pointed out by the GAO in a 2006 study, were problematic and overstated the actual progress of broadband deployment.[77]

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[74] *2018 Broadband Deployment Report* at ¶ 6; *2019 Broadband Deployment Report* at ¶ 8.
[75] *See* S. Rep. No. 110-204, at 1-5 (2007), as reprinted in 2008 U.S.C.C.A.N. 1707, 1707-09 ("BDIA Senate Report"); 154 Cong. Rec. H10618-02 (2008) (the House passed S. 1492 as passed by the Senate. As a consequence, there is no House Report or Conference Report).
[76] BDIA Senate Report at 2-4.
[77] United States Government Accountability Office, Broadband Deployment Is Extensive Throughout the United States, but It Is Difficult to Assess the Extent of Deployment Gaps in Rural Areas, GAO–06–426, 38 (May 2006).

At the committee hearing on the BDIA, Senator Inouye again made it clear that the Section 706 report was intended to measure the overall availability of broadband to all Americans.[78] When S. 1492 was introduced on the floor of the House, the same themes were again stressed: frustration with the lack of data granularity, the need for forward looking metrics to ensure that all Americans have access to ever better and more affordable broadband, and concern that other developed countries were deploying superior infrastructure and more affordable services.[79] For nearly a decade after the BDIA was enacted, the FCC looked at the number of Americans with access to broadband for its 706 report before switching to the year-over-year improvement standard in 2018. For example, it the 2016 Broadband Deployment Report,[80] the Commission concluded that advanced telecommunications capability was not being deployed in a reasonable and timely fashion because "although deployment has increased . . . we are not satisfied that approximately 34 million Americans lack service, nearly the population of Canada." The raw number count utilized after the enactment of the BDIA was consistent with Congressional intent. Thus, in order to fulfill its congressional mandate and satisfy Congress' intent, accurately measure broadband deployment, and tangibly narrow of the digital divide, the Commission must revert to its previous interpretation of section 706 whereby it considered the number of Americans with access to broadband.

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[78] Consumer Benefits of Broadband Service: Hearing Before the S. Comm. On Commerce, Science and Transportation, 110th Cong. (2008) (statement of Daniel K. Inouye, Chairman, Commerce, Science and Transportation Committee).

[79] *See* 154 Cong. Rec. H10618-02 (2008).

[80] Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans) in a Reasonable and Timely Fashion, and Possible) Steps to Accelerate Such Deployment Pursuant to) Section 706 of the Telecommunications Act of) 1996, as Amended by the Broadband Data) Improvement Act, *2016 Broadband Deployment Report*, GN Docket No. 15-191 (rel. Jan 29, 2016), at ¶¶ 119-120.

VI. THE COMMISSION SHOULD CONTINUE TO INCLUDE BROADBAND DEPLOYMENT MEASUREMENTS FOR PUERTO RICO AND OTHER US TERRITORIES IN ITS ANNUAL BROADBAND DEPLOYMENT PROGRESS REPORT AND EVALUATE DISASTER RECOVERY IN ORDER TO ENSURE THE DISASTER STRICKEN AREAS ARE NOT LEFT BEHIND.

In the *2019 Broadband Deployment Report*, the FCC reported on the progress of "disaster affected" areas separately from the rest of the country so as "not [to] artificially deflate progress in deployment," while continuing to track rehabilitation progress.[81] However, the FCC deemed only U.S. Territories as disaster affected areas– not all areas within the United States that were impacted by a natural disaster. For example, it did not look to hurricane damage in Texas or wildfires in California. The FCC should include U.S. Territories in its Broadband Deployment Report and also report separately on the recovery of *all* disaster affected areas.

Reporting separately on U.S. Territories runs directly contrary to the Commission's congressional mandate to report on all of the United States (including its territories), as well as the agency's obligation to promote universal service. Furthermore, it is imperative to reemphasize that residents of U.S. Territories are U.S. citizens, and the FCC has an obligation to report on broadband deployment in those areas. Excluding the residents of U.S. Territories from the Report dramatically understates the number of Americans without access to broadband. Natural disasters can have longstanding impacts on the communities they ravage. For example, 2017's Hurricane Maria continues to have significant impact on communications in Puerto Rico. According to Connected Nation, an estimated 1,100 Puerto Rican businesses that had broadband before Hurricane Maria have not yet subscribed again.[82] And, new natural disasters continue to

[81] *2019 Broadband Deployment Report* at ¶ 23.
[82] Connected Nation, *Updated Data Shows Puerto Rico Businesses Are Using Technology In New Ways After Hurricane Maria* (Sept. 12, 2019), https://connectednation.org/blog/2019/09/12/updated-data-shows-puerto-rico-businesses-are-using-technology-in-new-ways-after-hurricane-maria/.

impact broadband access every year. Ignoring the impact that these disasters have on our nation's broadband connectivity is ignoring reality. Thus, the FCC must continue to determine the progress of broadband deployment in all disaster affected areas, both as a part of the entire country and separately, so that the impact of these disasters (and the resources needed to overcome their effects) are clearer.

Including U.S. Territories within the upcoming Broadband Deployment Report is also necessary in order to comply with the GAO's 2018 recommendations about network resiliency by helping the FCC to better hold wireless carriers accountable for performance during emergency events. On January 9, 2018, the GAO released a Report entitled *TELECOMMUNICATIONS: FCC Should Improve Monitoring of Industry Efforts to Strengthen Wireless Network Resiliency* ("*Resiliency Report*").[83] The *Resiliency Report* analyzed the Commission's choice to abandon its efforts to require individual wireless carriers to disclose how well their network performed during emergency events, and in lieu adopt the industry coalition's Wireless Network Resilience Cooperative Framework ("Framework"). This Framework is intended to promote network resiliency during emergencies and functions as an agreement that allows roaming between carrier's networks during an emergency and shares aggregated data on network performance post-emergency.[84] Though the Commission said it would engage with industry on the Framework's implementation, the GAO found that the FCC "has limited formal plans to oversee or spread knowledge of the framework."[85] The *Resiliency*

[83] GAO, *TELECOMMUNICATIONS: FCC Should Improve Monitoring of Industry Efforts to Strengthen Wireless Network Resiliency* ("*Resiliency Report*") (2018), https://www.gao.gov/assets/690/688927.pdf.
[84] https://www.fcc.gov/wireless-resiliency-cooperative-framework
[85] *Id*. at Highlights Page.

Report found that the Commission lacks a formal plan to track, analyze, facilitate and hold accountable industry wireless carriers' emergency resiliency and recovery efforts.[86] Specifically, GAO recommended that the Commission (1) develop performance measures for the framework; (2) monitor the framework's outcomes and document results to determine if the framework achieves the industry coalition's goals; and (3) effectively communicate the framework to all public safety officials and other stakeholders.[87] Including U.S. Territories within the upcoming Broadband Deployment Report, and also showing their progress separately, would adhere with the GAO's recommendations by helping stakeholders to better understand how well networks function during emergencies. The FCC can then use this information to hold wireless carriers accountable for their resiliency efforts.

The Commission should continue to include U.S. Territories in its deployment estimates and should separately track recovery for all areas included in the report that are recovering from natural disasters. In addition, any area that no longer has infrastructure because of flooding, wildfires, or other disasters should not be considered served until service is actually restored. This is paramount for forward facing policies as areas of the country face harsh storms and wildfires, such as those seen in California this year. This would fulfill the Commission's congressional mandate to report on the status of broadband deployment in the United States-- not *only* the continental United States.

[86] *Id.*
[87] *Id.*

VII. THE COMMISSION'S RECENT ACTIONS HAVE WIDENED THE DIGITAL DIVIDE INSTEAD OF NARROWING IT.

The Commission's *2019 Broadband Deployment Report* discusses the Commission's actions to close the digital divide.[88] However, many of the Commission's recent actions have served to widen the digital divide, particularly for rural and low-income Americans.

A. The Commission's Elimination of Copper Retirement Rules Puts Vulnerable Americans At-Risk for a Downgrade in Service.

Beginning in the fall of 2017, the Commission voted to eliminate nearly all consumer protections previously enacted to safeguard consumers during the discontinuance, retirement and transition of the legacy copper network.[89] In doing so, the Commission reasoned that it is "reducing barriers to investment" in broadband infrastructure[90]—a clever, yet vague promise that by rolling back regulations, the Commission is encouraging carriers to invest savings that they are no longer spending to overcome these "barriers," also known as consumer protections. In 2018 the Commission continued to eliminate more important consumer protections.[91] However, eliminating consumer protections has not coincided with more robust spending on deployment. AT&T has announced that it will cut its capital investment by $3 billion next year and it has

[88] *2019 Broadband Deployment Report*, at ¶ 52.
[89] *See* 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 11128, 11177 & n.425 (2017).
[90] Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, GN Docket No. 18-238, *Fourteenth Broadband Deployment Report Notice of Inquiry*, FCC 18-119 (rel. Aug. 9, 2018), at ¶ 24.
[91] Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment, WC Docket No. 17-84, *Second Report and Order*, FCC 18-74 (rel. June 8, 2018).

mostly stopped its fiber-to-the-home broadband construction.[92] Any increases in deployment investments are likely a result of buildout requirements that were a condition of the AT&T/DirecTV merger under the prior administration.[93]

In 2017, the Commission eliminated education and outreach requirements requiring carriers to provide basic, plain language information to its customers detailing the coming changes, repairs, or discontinuances of service.[94] While it is important for infrastructure and broadband services to be upgraded, and it is no doubt that the copper network is outdated, the Commission must continue to hold carriers accountable for how they treat customers in the process of network transition and ensure that adequate replacement services follow said transitions. Millions of Americans still rely on the copper network, regardless of its outdated nature.[95] In fact, over 20 million residential customers and over 30 million businesses still rely on traditional copper networks for both voice and broadband.[96] Despite the rise of fiber, copper networks still form the backbone of America's communication system, and providers are either

[92] Jon Brodkin, *AT&T will slash $3 billion off its capital investments next year*, Ars Technica (Oct. 30, 2019), https://arstechnica.com/information-technology/2019/10/att-is-cutting-capital-investment-from-23-billion-to-20-billion/.
[93] Jacob Kastrenakes, *FCC approves AT&T–DirecTV merger*, The Verge (July 24, 2015), https://www.theverge.com/2015/7/24/8876267/att-directv-merger-approved.
[94] It is also important to note, again, that these rules mysteriously were never officially placed on the books. The outreach and educational requirements housed in the Commission's 2016 Tech Transitions Order were subject to OMB approval. And yet, they were never approved or denied by OMB. Public Knowledge brought this to the Commission's attention earlier in 2018, and received no information in response.
[95] *See* "State Level Subscriptions," *Voice Telephone Services Report*, Federal Communications Commission (rel. Aug. 2019), https://www.fcc.gov/voice-telephone-services-report.
[96] *Voice Telephone Services: Status as of December 31, 2017*, Industry Analysis and Technology Division Wireline Competition Bureau (Aug. 2019), https://docs.fcc.gov/public/attachments/DOC-359343A1.pdf.

pulling the plug or letting them fall into disrepair.[97] Without section 214 discontinuance rules specifically designed to protect consumers from harmful carrier practices, much of rural and low-income America will be left unconnected. By eliminating the advance notice requirements, consumers and small businesses are left confused and unprepared once their carrier begins to retire their copper network, often leaving consumers with a less reliable and less resilient network.[98] While many Americans are switching to new digital services or dropping landline phone service altogether, copper landlines remain the only reliable option in many rural communities. This does not mean that the Commission should look to keep the legacy copper network operating forever but does mean that we need rules in place that make the upgrade of our communications network an upgrade for everyone—not an upgrade for some and a downgrade for the rest.

B. The Proposed Cap on the Universal Service Fund Will Make It More Difficult to Achieve Universal Service

In May 2019, the Commission proposed capping the total amount it would expend for Universal Service Fund (USF) programs as well as combing two USF programs – the E-Rate and Rural Telehealth programs.[99] This plan, if implemented, would make it even more difficult to promote Universal access to broadband. Broadband internet access is an essential tool that Americans use in almost every facet of daily life, including to do homework, apply for jobs, and

[97] *See* Harold Feld, Making the Digital Transition an "Upgrade for All" Again, Public Knowledge Blog (Aug. 26, 2019), https://www.publicknowledge.org/blog/making-the-digital-transition-an-upgrade-for-all-again/.
[98] *FCC Issues Report on CenturyLink Network Outage*, FCC (rel. Aug 19, 2019), https://www.fcc.gov/document/fcc-issues-report-centurylink-network-outage.
[99] *FCC Initiates Evaluation of Funding for USF*, FCC (rel. May 31, 2019), https://www.fcc.gov/document/fcc-initiates-evaluation-funding-usf.

utilize government services. In fact, the FCC has found that "Americans turn to broadband Internet access service for every facet of daily life."[100] However, broadband is not yet accessible for every American. According to the FCC's *2019 Broadband Deployment Report*, in 2017, 26 percent of those in rural areas and 30 percent of those in tribal lands lacked access to fixed broadband.[101] Although these percentages are staggering, Microsoft believes that the number of Americans without broadband is even higher – noting that more than 160 million residents do not use the internet at speeds the FCC would classify as broadband.[102]

The USF is comprised of four programs that promote universal access to broadband. These programs were created at a time when landline telephone service was the primary means of communications. As a result of that legacy, the universal service programs are funded through a fee on landline telephone subscribers. However, with the widespread adoption of mobile phones followed by smartphones, the number of landline subscribers has rapidly dwindled, leading the universal service charge levied on each remaining telephone subscriber to rise dramatically.[103] At the same time, the demand for universal service dollars to support broadband access has risen. To combat these rising costs, the Commission proposed capping the

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[100] Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, GN Docket No. 14-126; 2015 Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Deployment, 30 FCC Rcd. 1375, 1377 ¶ 2 (2015).

[101] Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, GN Docket No. 18-238, 2019 Broadband Deployment Report, FCC 19-44, 2 ¶ 1 (rel. May 29, 2019).

[102] See John Kahan, Microsoft on the Issues, "It's Time for a New Approach for Mapping Broadband Data to Better Serve Americans," (Apr. 9 2019), https://blogs.microsoft.com/on-the-issues/2019/04/08/its-time-for-a-new-approach-for-mapping-broadband-data-to-better-serve-americans/.

[103] Felix Richter, *Landline Phones Are A Dying Breed*, Statista (May 17, 2019), https://www.statista.com/chart/2072/landline-phones-in-the-united-states/.

budget and combining the E-Rate and Rural Telehealth programs.

However, by capping these programs while they experience rising demand, the Commission's proposal would undermine the Commission's goal of closing the digital divide. Each program within the USF plays its own distinct role in achieving universal access to communications services. A cap could force programs to compete against each other as some programs would lose funding if demand for another program increased. Because each program serves a distinct purpose, ease in support to one program does not translate to a benefit to the other. Increased funding for schools and libraries, for example, would not promote the needs of rural health care if resources from the latter were reallocated to the former. Likewise, an increase in funding for low-income consumers would not benefit rural network deployment. Residents should not have to worry that their children will either lack the internet they need in order to learn and prepare for the workforce, or not have the internet they need to access healthcare when they cannot physically make it to a clinic. These goals are separate, but important, and should not be made to compete. Members of Congress who have weighed in on this matter agree, writing, "it is detrimental to the goal of universal service to put the various USF programs in direct competition for USF funds."[104] By forcing these programs to compete, the Commission's proposed USF cap unnecessarily increases the hurdles for the Commission to cope with increasing demand for USF support. Instead, the four USF programs should be working together to narrow the digital divide. Thus, the Commission's proposal could serve to widen, and not narrow, the digital divide.

[104] H.R. 3351, 116th Congress (2019); Letter from Rep. Pocan, House of Representatives, et al., to Ajit Pai, Chairman, Federal Communications Commission, et al. (filed Jul. 9, 2019) (on file with author).

C. The Commission's Recent Actions and Pending Proposals to the Lifeline Program Will Widen the Digital Divide.

Since first introducing proposals in its 2017 proceeding[105] to drastically cut the Lifeline program, the Commission has continuously placed the only subsidy program assisting low-income Americans in securing communications services on the chopping block. First, the Commission's decision to eliminate the Lifeline Broadband Provider ("LBP") designation[106] removes a mechanism that was intended to promote more carrier participation in the program. As Commissioner Starks notes in his dissent, there were "approximately 40 companies with pending LBP designations, many of which have applied to provide service in several states with high rates of poverty."[107] Eliminating the LBP designation precludes market entry for competitive and innovative service providers for Lifeline subscribers, undermining the Commission's stated goal "to empower Lifeline subscribers to obtain the highest value for the Lifeline benefit through consumer choice in a competitive market."[108] In addition to eliminating the LBP designation, the Commission is now considering several toxic proposals such as surveying eligible Lifeline applicants on whether they could afford communications services without the discount,[109] and

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[105] *See* Bridging the Digital Divide for Low-Income Consumers, Lifeline and Link Up Reform and Modernization, Telecommunications Carriers Eligible for Universal Service Support, WC Docket Nos. 17-287, 11-42, 09-197, *Fourth Report and Order, Order on Reconsideration, Memorandum Opinion and Order, Notice of Proposed Rulemaking, and Notice of Inquiry*, 32 FCC Rcd 10475 (2017) ("*2017 Lifeline NPRM*"). Many proposals in this proceeding are still pending including the Commission's proposal to alter eligibility requirements which would cause 70 percent of Lifeline subscribers to lose service.

[106] *See* Bridging the Digital Divide for Low-Income Consumers *et al*, WC Docket No. 17-287 *et al, Fifth Report and Order, Memorandum Opinion and Order and Order on Reconsideration, and Further Notice of Proposed Rulemaking*, FCC 19-111 (rel. Nov. 14, 2019) ("*Fifth Report and Order*").

[107] *Fifth Report and Order*, Statement of Commissioner Geoffrey Starks Concurring in Part and Dissenting in Part, at 109.

[108] *2017 Lifeline NPRM* ¶ 80).

[109] *Fifth Report and Order*, ¶ 139.

requiring subscribers to pay a fee in exchange for receiving a handset.[110] These proposals are ultimately designed to reduce participation in the Lifeline program.

The Commission has also created program uncertainty around Lifeline by raising the minimum service standards while phasing out support for voice-only service, which goes into effect December 1, 2019.[111] The most recent data from the Universal Service Administrative Company indicates that as of February 2019, nearly 42 percent of Lifeline customers still subscribe to plans that qualify for Lifeline by virtue of meeting the minimum service standards for voice service.[112] The Commission's decision to raise the service standards and phase out support for voice-only service puts a significant amount of subscribers at risk of losing service.

Americans who rely on Lifeline are some of the most vulnerable in our society: veterans, domestic violence survivors, those experiencing homelessness, and every day people fighting to stay out of poverty. If the Commission moves forward with its proposed changes to the Lifeline program, it will succeed in widening the digital divide instead of narrowing it.

D. The Commission's Approval of the Sprint/T-Mobile/Merger Will Harm Consumers and Deepen the Digital Divide.

The Commission recently released its Order approving the proposed Sprint/T-Mobile merger.[113] After finding that the merger as proposed does not serve the public interest, the Commission still approved the transaction with conditions. The Department of Justice ("DOJ")

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[110] *Id.* ¶ 151.
[111] *See* Lifeline and Link Up Reform and Modernization *et al.*, WC Docket No. 11-42 *et* al., *Order*, FCC 19-116, ¶ 1 (rel. Nov. 19, 2019).
[112] *See* Joint Petition to Pause Implementation of December 2019 Lifeline Minimum Service Standards Pending Forthcoming Marketplace Study, WC Docket No. 11-42 *et al*., at 8 (filed June 27, 2019).
[113] *FCC Approves T-Mobile/Sprint Transaction with Conditions*, FCC (Nov. 5, 2019), https://www.fcc.gov/document/fcc-approves-t-mobilesprint-transaction-conditions.

similarly agreed to allow the transaction to proceed even after concluding that the proposed combination between the third and fourth largest U.S. wireless providers would harm consumers and eliminate competition.[114] If the deal closes, consumers will be left with only three facilities-based wireless providers, and the DOJ concluded that this market structure is likely to result in consumers collectively paying billions more per year for less attractive wireless service offerings. The Commission's decision to approve the merger is disappointing and harmful to consumers. The data and evidence in the FCC's merger docket, the lived experience of countries that have consolidated down to three wireless providers, and common sense all indicate that allowing more consolidation in the wireless market is extremely likely to lead to higher prices for consumers, less aggressive competition, reduced levels of innovation in the wireless market, and lower service quality for customers.[115] Like the DOJ, the Commission concluded that the proposed transaction was contrary to the public interest and likely to harm consumers and dramatically reduce competition. However, instead of rejecting the deal, both the DOJ and the Commission imposed convoluted behavioral conditions that are ultimately unlikely to remedy the identified harms. History has shown that the FCC has not enforced merger conditions in the past,[116] and state and local governments are not in position to enforce these agreements. The

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[114] *United States and State of Kansas, et al. v. Deutsche Telekom AG et al.*, July 26, 2019, ("Plaintiff States' Complaint"), https://www.justice.gov/opa/press-release/file/1187721/download.

[115] *See* Sam Rutherford, *New Research Shoes Why the Sprint/T-Mobile Merger Could Be a Disaster for Your Wallet*, Gizmodo (Apr. 29, 2019), https://gizmodo.com/new-research-shows-why-the-sprint-t-mobile-merger-could-1834395224; *see also* Commissioner Jessica Rosenworcel, *The T-Mobile and Sprint Merger Will Only Hurt Consumers*, The Atlantic (Oct. 16, 2019), https://www.theatlantic.com/ideas/archive/2019/10/t-mobile-and-sprints-merger-will-hurt-consumers/599245/.

[116] Bruce Kushnick, *See e.g., AT&T's Top 13 Broken Promises. DirecTV Merger? 'Giga'-Me-a-Break!*, HuffPost (Dec. 6, 2017), https://www.huffpost.com/entry/atts-top-13-broken-promis_b_5917694; Michael McCauley, *Comcast: A History of Broken Promises*, Consumer

average American household spends over $1,000 a year on mobile wireless service, not including the additional costs of wireless devices, applications, media content, and accessories. The merger will inevitably lead to extinguished competition, consumers paying even more a year, and for wireless services to continue to be unaffordable for millions of Americans.[117]

E. The Commission Should Ensure Its Spectrum Policies Align with the Public Interest, Including Public Auctions for C-BAND and CBRS Spectrum.

(i) The Commission Should Go Through With Its June 2020 CBRS Spectrum Auction.

It is critical that the Commission ensure the public's airwaves are used efficiently and in ways that best serve the public interest. Spectrum is the wireless infrastructure necessary for fixed and mobile wireless networks; sufficient licensed and unlicensed spectrum is necessary to ensure wireless networks are robust enough to support our nation's communications needs. The Commission is scheduled to auction licenses in the 3.5 GHz Band (also referred to as the Citizens Broadband Radio Service ("CBRS")) in June 2020.[118] Commercial operations utilizing CBRS spectrum on a general authorized access (GAA) basis are expected to begin by the end of the year.[119] Of the 150 MHz of spectrum available in each market, a total of 80 MHz is reserved for GAA use in each market; the Commission will then auction CBRS spectrum licenses, known as priority access licenses (PALs) next year.[120] The Commission plans to auction the remaining spectrum, which

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Reports (March 1, 2014), https://advocacy.consumerreports.org/research/comcast-a-history-of-broken-promises/.

[117] *Plaintiff State's Complaint*, at 2-3.

[118] *Auction 105: 3.5 GHz*, Federal Communications Commission, https://www.fcc.gov/auction/105.

[119] *FCC Adopts 3.5 GHz CBRS Auction Framework In Anticipation of Auction in 2020*, David Wright Tremaine LLP (Sept. 30, 2019), https://www.dwt.com/insights/2019/09/fcc-cbrs-auction-framework.

[120] *Id.*

will be as much as 70 MHz of spectrum in each market.[121] The Commission has designated county-sized licenses for the CBRS spectrum – the smallest license size the agency has ever auctioned.[122] These small license sizes, as well as the innovative shared structure of the band, will be critical for improving efficient use of spectrum, promoting deployment to rural communities that are often overlooked with large license sizes, and will serve as a model for spectrum sharing for future bands.

(ii) The Commission Should Ensure a Public Auction for C-Band.

We strongly support the Commission's decision to pursue a public auction that repurposes the 3.7-4.2 GHz band, otherwise known as "C-Band."[123] In July 2018, the Commission issued a Notice of Proposed Rulemaking seeking comment on proposals to allocate the 3.7-4.2 GHz spectrum band for wireless broadband services, promoting more efficient and intensive fixed use of the C-Band on a shared basis, while also protecting incumbent users of the spectrum and their customers.[124] The C-Band has been globally harmonized for wireless use, and the Commission's ongoing C-Band proceeding seeks to free up a significant swath of airwaves

[121] *Id.*
[122] In 2015, originally established census tract-sized licenses for the CBRS PALs. These smaller license areas would have been even more conducive to promoting broadband deployment to unserved areas by making the licenses affordable for small and rural mobile and fixed wireless providers. Instead, at the behest of CTIA and T-Mobile, in 2018, the Commission increased the geographic size of the licenses to counties to better suit the business models of large wireless carriers -- carriers that have historically neglected rural communities and have consistently failed to serve areas that remain on the wrong side of the digital divide. *See In The Matter of Promoting Investment in the 3550-3700 MHz Band*, GN Docket No. 17-258 (rel. Oct. 24, 2018), at ¶ 9.
[123] Margaret Harding McGill, *Pai: FCC will auction coveted 5G spectrum*, Axios (Sept. 18, 2019), https://www.axios.com/fcc-will-auction-5g-spectrum-d205fcf0-f9e5-4687-8d5f-d0f2e676f9a1.html.
[124] *See* Expanding Flexible Use of the 3.7 to 4.2 GHz Band, et al, GN Docket No. 18-122, *Order and Notice of Proposed Rulemaking* (rel. July 13, 2018).

for 5G mobile broadband. We support the Commission's proposal to reallocate C-Band spectrum for mobile broadband use and supports holding a public auction for a segment of the lower portion of the band.[125] The Commission's ongoing efforts present an opportunity to more efficiently use the under-utilized C-band spectrum and enable fixed wireless providers to bring high-speed broadband to rural areas, reallocate spectrum for mobile carriers to build 5G wireless networks, and protect incumbent satellite licensees from harmful interference.

A public auction will make certain that the allocation of C-Band licenses serves the public interest by providing agency oversight of the auction process to prevent anti-competitive behavior and collusion, and auction rules to enhance competition and ensure that small and diverse bidders have the opportunity to acquire the spectrum they need to bring connectivity to the communities they serve. FCC-led auctions provide transparency, due process, economic opportunity, and fairness to the public and to auction participants. There is no evidence that an untested approach, such as the unique "private auction" proposed by the C-Band Alliance, would achieve the same benefits of the Commission's tried and proven auction framework. A public auction of a significant portion of C-Band spectrum would not only free up airwaves for 5G mobile broadband, but would also generate substantial revenues that Congress could allocate to address pressing national needs, such as closing the digital divide, investing in Enhanced 9-1-1, and promoting digital equity and inclusion.[126]

Relying on an unproven private auction process that offers no benefits over the Commission's traditional, proven public auction introduces the potential for a failed auction,

[125] *Testimony of Phillip Berenbroick* before the U.S. House of Representatives Subcommittee on Communications & Technology, "Repurposing the C-Band to Benefit All Americans," Oct. 29, 2019.
[126] *Id.*

reduced public interest benefits, significant delay, and unnecessary legal risk. Moreover, the C-Band Alliance's proposed private auction of C-Band licenses would violate Section 309(j) of the Communications Act, which requires the Commission to auction licenses when there are multiple applicants for a license. These risks are unjustified given the importance of successfully reallocating hundreds of megahertz of C-Band spectrum for 5G mobile broadband. A private auction is also likely to distort competition in the mobile wireless market because it would likely exclude small and rural broadband providers– the same providers that are most likely to offer service to consumers in rural communities. A public auction will best ensure speedy reallocation of the band for wireless broadband use, promoting deployment.

The Commission should authorize the opening of unused frequencies in the C-Band for point-to-multipoint ("P2MP) fixed wireless service in order to bring high-speed broadband to rural, tribal, and other unserved areas. Allowing P2MP use of the band would put finite public spectrum resources to more efficient use and help close the digital divide by allowing fixed wireless broadband providers to extend high-speed broadband to rural and tribal areas, small towns, and other unserved or underserved communities. Permitting P2MP fixed wireless service to operate in vacant portions of the lower C-Band on a "use or share" basis and on a shared basis in the upper portions of the band will help deliver high-speed, fixed wireless broadband to rural and tribal communities and small towns quickly, efficiently, and inexpensively. Overall, allowing for more spectrum sharing and creative uses of the spectrum is important because it gives providers more access to spectrum that they can then use to close the digital divide.

F. In the "Race to 5G," The Commission Cannot Leave Unconnected Americans Further Behind.

Several Commissioners and President Trump have stated their goal of winning the international race to 5G.[127] The Commission should be as equally committed to winning the race on fiber and setting the benchmark speeds for both fixed and mobile broadband. As the Commission is well-aware, 5G wireless networks and gigabit wireless speeds will ultimately rely on the availability of a robust fiber network. America cannot win the "race to 5G" if she is wearing DSL shoes. While there is considerable excitement and anticipation regarding the eventual deployment of next-generation 5G wireless networks and making new spectrum allocations available for 5G use, communities that currently find themselves on the wrong side of the digital divide are unlikely to benefit from these networks—at least for the foreseeable future. In fact, the prospect of greater consolidation in the mobile wireless market (e.g., the proposed merger between T-Mobile and Sprint) is likely to exacerbate the divide between rural and urban areas—creating stronger incentives for the remaining firms to invest even more heavily in densely populated and wealthy areas, which will further delay deployment of 5G networks in exurban areas, small towns, and rural communities.

There is every reason to be skeptical that nationwide wireless carriers will prioritize deployment of 5G technologies to rural communities. These areas have low population density and high per-consumer costs, and therefore have historically lacked the economies of scale

[127] Remarks of FCC Chairman Ajit Pai at the Wireless Infrastructure Association Connectivity Expo (May 23, 2018), https://docs.fcc.gov/public/attachments/DOC-350919A1.pdf; Remarks of FCC Commissioner Brendan Carr at CTIA's Race to 5G Summit: "Next Steps on the Path to 5G" (April 19, 2018), https://www.fcc.gov/document/commissioner-carr-remarks-race-5g-summit; *President Donald J. Trump Is Taking Action to Ensure that America Wins the Race to 5G*, The White House, April 12, 2019, https://www.whitehouse.gov/briefings-statements/remarks-president-trump-united-states-5g-deployment/.

needed to attract strong investment from Sprint, T-Mobile, Verizon, and AT&T. Mobile 5G service will likely be a modest, incremental improvement over LTE speeds, particularly in areas where the cost of network densification is prohibitive. Mobile 5G networks will need more than wireless systems to function. They will rely heavily on fixed broadband networks for backhaul support to quickly deliver vast amounts of data, similar to current mobile wireless technology, evidenced by the fact that an estimated 60 percent of mobile data traffic is currently offloaded onto fixed networks, and that number is increasing annually. Due to historical trends, mobile 5G deployments will likely focus on the nation's most urban, affluent areas and do little for rural America. Therefore, in order to bring high-speed broadband to unserved and underserved areas, the proceeds from a public auction of repurposed C-Band licenses should be reallocated by Congress to deploy future-proof fixed broadband infrastructure in communities that do not have access to the high-speed broadband infrastructure that can provide fixed backhaul for next-generation wireless networks.

VIII. CONCLUSION

For the reasons described above, the Commission should conduct its inquiry in a way consistent with the law and cognizant of the importance of quality, reliable, affordable broadband access for all Americans.

Respectfully submitted,

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