

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

In the Matter of)	
)	
<i>Inquiry Concerning Deployment of</i>)	WC Docket No. 18-238
<i>Advanced Telecommunications</i>)	
<i>Capability to All Americans in a</i>)	
<i>Reasonable and Timely Fashion</i>)	

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I. INTRODUCTION AND SUMMARY

Public Knowledge and Common Cause 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 After three 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. The Commission also has an opportunity to conduct an honest assessment of the state of broadband availability in the nation, both its successes and remaining challenges. However, its current interpretation of its Congressional mandate under section 706, reliance on Form 477 data, and methodology to evaluate broadband availability are all pitfalls that can lead the Commission to overstate deployment and paint an inaccurate picture of broadband access. The *NOI* also asks to what extent mobile and fixed broadband services are substitutes of each other. But little has changed since the Commission's last report for it to now find the two services are equivalent substitutes.

The Commission should continue to include broadband deployment measurements for Puerto Rico and other U.S. territories in its annual broadband deployment progress 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 Lifeline, to spectrum have all widened the digital divide or unnecessarily slowed broadband deployment.

¹ 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) ("*NOI*").

² See *NOI* at 4.

³ See Broadband Data Improvement Act, S. 1492, 114th Cong. (2007).

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 for assessing whether advanced telecommunications capability is being deployed to all Americans.²

However, under the Broadband Data Improvement Act ("BDIA"), the Commission is mandated to continuously improve the standard for broadband.³ 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.⁴ 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.⁵ Therefore, the *NOI*'s proposal to maintain the current benchmark broadband speed

² See *NOI* at 4.

³ See Broadband Data Improvement Act, S. 1492, 114th Cong. (2007).

⁴ 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).

⁵ 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).

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 broadband access is commonly available to the American public."⁶ As part of its objective to promote universal service of communications technology, the Commission is also required to establish "an evolving level of telecommunications services...taking into account advances in telecommunications and information technologies and services."⁷

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

In prior Broadband Deployment Progress Reports, the Commission adopted a forward-looking approach and updated its benchmark speed when warranted. For example, in its *Sixth Report*, the Commission took "the overdue step of raising the minimum speed threshold for broadband" to 4 Mbps downstream.⁸ The FCC stated that "technologies, retail offerings, and demand among consumers have evolved in ways that demand increasing amounts of bandwidth."⁹ In its 2015 report, the Commission again raised the broadband benchmark speed to

⁶ FCC, *Measuring Broadband America, Fixed Broadband Report* (2016), <https://www.fcc.gov/reports-research/reports/measuring-broadband-america/measuring-fixed-broadband-report-2016>.

⁷ 47 U.S.C. § 254(c)(1).

⁸ 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).

⁹ *Id.*

25 Mbps.¹⁰ Here, the Commission once again acknowledged that it is required to reassess “the existing speed benchmark to reflect advancements over time.”¹¹

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. For example, Free Press notes that 25 OTT video services launched in 2015 and another 17 launched in 2016.¹² Further, OTT video providers are offering more of their programming with 4k streaming capabilities.¹³ Streaming in 4k requires high bandwidth capabilities; Amazon recommends a broadband connection of at least 15 Mbps and Netflix recommends 25 Mbps.¹⁴ 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

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 No. 14-126, *2015 Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Broadband Deployment*, 30 FCC Rcd 1375, 1377 (2015).

¹¹ *Id.*

¹² 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/2018-06/internet-access-and-online-video-markets-are-thriving-in-title-II-era.pdf>.

¹³ 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/>.

¹⁴ 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/>.

and the cloud storage market.¹⁵ 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. Further, as more households use broadband for an increasing number of high-bandwidth uses such as telemedicine¹⁶ and internet of things devices, faster broadband speeds are required. Therefore, the Commission should adopt a forward-looking approach and increase the benchmark for broadband speed to 100 Mbps downstream to take into account the needs of consumers today but also the near future.

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.¹⁷ The European Union also instituted an action plan in 2016 to transform the countries of the European Union into gigabit societies by 2025.¹⁸

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

¹⁵ See Comments of the Open Technology Institute at New America, GN Docket No. 17-199, at 22-23 (filed Sept. 21, 2017).

¹⁶ 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).

¹⁷ See European Commission, "Digital Single Market: Broadband Europe," <https://ec.europa.eu/digital-single-market/en/broadband-europe>.

¹⁸ *Id.*

regard to mobile download speeds.¹⁹ Several Commissioners have stated that the FCC’s goal is to win the international race to 5G.²⁰ 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. Maintaining the current benchmark speed for 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.

The Commission’s *NOI* proposes to continue using FCC Form 477 deployment data for fixed services.²¹ However, data sourced from Form 477 is widely recognized as inaccurate for several reasons. 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 residence on the block is served.²² 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.²³ Indeed, a recent Government Accountability Office (“GAO”)

¹⁹ *International Comparison Requirements Pursuant to the Broadband Data Improvement Act*, Sixth Report, 33 FCC Rcd 978 ¶¶ 9-10 (2018).

²⁰ 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>.

²¹ *NOI* at ¶ 16.

²² See FCC, Fixed Broadband Deployment Data from FCC Form 477, <https://www.fcc.gov/general/broadband-deployment-data-fcc-form-477>.

²³ *NOI* at ¶ 16.

report confirmed that the FCC’s data overstates broadband access on tribal lands.²⁴ The GAO’s report *specifically* cited the FCC’s method of data collection under Form 477 as the cause to overstatements of broadband availability on tribal lands.²⁵ 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.

The FCC also fails to measure some key metrics in its Form 477 data collection such as pricing and quality of service. Given that cost is consistently cited as the main barrier to broadband adoption,²⁶ pricing information is critical to evaluating broadband availability. As Commissioner Clyburn stated, “service cannot truly be *available* if you cannot *afford* it.”²⁷ Broadband quality is a metric that ensures consumers have access to reliable broadband.

Further, the 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.”²⁸ Coupled with the Commission’s recent deregulation of copper retirement and network transition rules, consumers across the nation are likely to see a downgrade in service as carriers retire their legacy services, arguably rendering them unserved. Without incorporating these metrics into its methodology, the Commission will continue to receive an incomplete picture of broadband availability.

²⁴ GAO, *Broadband Internet: FCC’s Data Overstate Access on Tribal Lands*, (Sept. 2018), <https://www.gao.gov/assets/700/694386.pdf> (“*GAO Tribal Broadband Report*”).

²⁵ *Id.* at 17.

²⁶ 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>.

²⁷ 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 Commissioner Clyburn, 33 FCC Rcd 1660 (2018) (“*2018 Broadband Deployment Report*”).

²⁸ *GAO Tribal Broadband Report* at 22.

B. Including Fixed Satellite Service Overstates Deployment.

The *NOI* proposes once again to include fixed satellite services as part of its assessment of broadband deployment.²⁹ While satellite service has made improvements, the technology still has higher latency, is more susceptible to weather disruptions, and faces other performance issues that can make it inadequate to other fixed broadband services like cable and fiber.³⁰ As a result, including satellite services in measuring broadband availability can significantly overstate deployment. The Commission should separately analyze satellite broadband deployment until it becomes as adequate as other fixed broadband technologies.

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

The *NOI* seeks comment to what extent mobile and fixed broadband services are substitutes for each other.³¹ Little has changed since the publication of the *2018 Broadband Deployment Progress Report* (“*2018 Report*”) for the Commission to now suddenly 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.”³² Indeed,

²⁹ *NOI* at ¶ 17.

³⁰ 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.

³¹ *NOI* at 5.

³² 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*

the 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 data a customer can use over their internet connection.³³ 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 character differences between fixed and mobile broadband include pricing models, variability of speed, and reliability.³⁴ 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.³⁵

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).

³³ See Data Caps, Public Knowledge, <https://www.publicknowledge.org/issues/data-caps>.

³⁴ 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”).

³⁵ 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* (November 2014), at 8, https://www.publicknowledge.org/assets/uploads/blog/Smartphones_and_Broadband.pdf.

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. This is increasingly important as studies indicate a majority of Americans rely on both fixed and mobile broadband for service, and that those who are smartphone-only are disproportionately low-income Americans.³⁶

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 years away from being deployed as fully-realized commercial services.³⁷ Indeed, the standard for 5G was completed merely a few months ago, and there is still much work to be done in finalizing these specifications and actually building out hardware and infrastructure.³⁸ Second, while 5G networks promise to offer faster speeds, less latency, and greater capacity, in some cases they

³⁶ Pew Research Internet Broadband Fact Sheet, <http://www.pewinternet.org/fact-sheet/internet-broadband/>.

³⁷ 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>.

³⁸ See Monica Allevan, *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>.

will only be a minor improvement to 4G LTE.³⁹ Critically, this does not address problems with reliability of connection, persistence of available speed, or other features that distinguish mobile from fixed broadband. In these instances, 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 even different deployment plans. Carriers like AT&T plan on deploying 5G using millimeter wave spectrum.⁴⁰ Other carriers may deploy 5G primarily using a combination of mid-band and low-band spectrum.⁴¹ 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.⁴²

³⁹ 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).

⁴⁰ See Colin Gibbs, *AT&T quietly acquires FiberTower for 24, 39 GHz spectrum*, FierceWireless (Feb. 1, 2017), <https://www.fiercewireless.com/wireless/at-t-quietly-acquires-fibertower-for-24-39-ghz-spectrum>.

⁴¹ 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).

⁴² 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 its usual practice of considering fixed wireless broadband service as a competitor to wireline.

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

The *2018 Report* departed significantly from nearly a decade of precedent since the BDIA⁴³ 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 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.”⁴⁴ This interpretation of the Commission’s congressional mandate is incorrect and misguided, and the Commission must not continue to base broadband measurements off of it.

A proper examination of the statutory framework, informed by the legislative history, makes clear that the proposal advanced in the *NOI* would constitute a further step backward from what Congress intended when it passed the BDIA in 2008. 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.⁴⁵ 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

⁴³ See Broadband Data Improvement Act, 47 U.S.C. §§ 1301-1305 (2008) (“BDIA”).

⁴⁴ *2018 Broadband Deployment Report* at ¶ 6.

⁴⁵ 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).

and alarming rate.⁴⁶ Additionally, the Commission’s methodologies leading up to 2008, as pointed out by the GAO in a 2006 study,⁴⁷ were problematic and overstated the actual progress of broadband deployment.

In response to these concerns, Senator Daniel Inouye introduced S. 1492 in 2007.⁴⁸ The Senator’s sponsor statement outlined failures of the Commission’s approach, how those failures led to inaccurate data, and how Congress intended the FCC to correct these deficiencies. Notably, Inouye stressed that without more granular data, designed explicitly to determine where the United States lagged behind other developed nations, neither Congress nor the FCC could “craft policies that will increase the availability of affordable broadband service in all parts of the Nation.”⁴⁹ At the committee hearing on the BDIA, Senator Inouye again made it clear that the Section 706 report was not intended to focus on existing deployments or on carriers, but to measure the overall availability of broadband to all Americans.⁵⁰ On introduction of S. 1492 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.⁵¹

The language of the BDIA also stresses these themes, and thus since 2008, the Commission has conducted its annual broadband deployment report with particular ends in mind

⁴⁶ BDIA Senate Report at 2-4.

⁴⁷ 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).

⁴⁸ See S. 1492, 114th Cong. (2007).

⁴⁹ 153 Cong. Rec. S6849-01, S6860 (2007).

⁵⁰ 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).

⁵¹ See 154 Cong. Rec. H10618-02 (2008).

and with recourse to a specific framework. However, contrary to history and congressional intent, the Commission conducted the *2018 Report* and proposes to conduct the 2019 Report with the same inadequate methodologies and interpretation that prompted corrective Congressional action via the BDIA. Not only is the Commission's approach contrary to Congressional intent, it is logistically insolvent; The Commission's interpretation is circular reasoning – it measures the adequacy of deployment based on existing uses, which are the product of existing deployment, therefore deployment is always timely, since consumers are always using it.

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.

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

In its *NOI*, the Commission rightfully states that the 2016 broadband deployment data does not account for the massive damage that occurred as a result of the 2017 hurricane season.⁵² However, the Commission then alarmingly suggests the exclusion of Puerto Rico and the U.S. Virgin Islands from the 2019 Broadband Deployment Report.⁵³ Not only is this suggestion insensitive to the national rhetoric surrounding Puerto Rico's hurricane recovery -- it is also 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,

⁵² *NOI* at ¶ 22.

⁵³ *Id.*

meaning the FCC’s authority absolutely extends to the Territories and the FCC’s obligations to measure and report on broadband deployment are identical to the obligations the FCC has regarding the continental U.S. In light of the Commission’s lackluster response in aid to Puerto Rico, it is imperative that the Commission continue to track the progress of broadband deployment *and* communications infrastructure recovery in Puerto Rico and the U.S. Virgin Islands.

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*”).⁵⁴ The *Resiliency Report* focused on analyzing 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 functions as an agreement that allows roaming between carrier’s networks during an emergency and shares *aggregated data* on network performance post-emergency. 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.”⁵⁵ The *Resiliency Report* found that the Commission lacks a formal plan to track, analyze, facilitate and hold accountable industry wireless carriers’ emergency resiliency and recovery efforts.⁵⁶ Specifically, GAO recommended that the Commission 1) track and evaluate the completion of the initial steps of the framework; 2) determine specific measures to evaluate whether or not the framework achieves the industry coalition’s goals; and 3) effectively communicate the framework to all public safety officials and

⁵⁴ GAO, *TELECOMMUNICATIONS: FCC Should Improve Monitoring of Industry Efforts to Strengthen Wireless Network Resiliency* (2018), <https://www.gao.gov/assets/690/688927.pdf>.

⁵⁵ *Id.* at Highlights Page.

⁵⁶ *Id.*

other stakeholders.⁵⁷ Instead of eliminating Puerto Rico and the U.S. Virgin Islands from the 2019 Broadband Deployment Progress Report, the Commission should continue to track and report on broadband deployment through the lens of the GAO study's recommendations.

Additionally, in August 2018 the Commission released the *2017 Atlantic Hurricane Season Impact on Communications Report and Recommendations* (“*Hurricane Report*”).⁵⁸ The FCC's *Hurricane Report* detailed the damage caused by the 2017 hurricanes in Puerto Rico and the U.S. Virgin Islands. While the *Hurricane Report* was helpful to the public in some ways, it contained gaping holes of information and data, including hard numbers on how much of the islands' respective wireline infrastructure was destroyed. Unfortunately, the *Hurricane Report* was little more than a fluff piece, seemingly intended only to bring the Commission plaudits for its minimal efforts to aid hurricane recovery. The incomplete nature of the *Hurricane Report* is further reason for the Commission to refrain from excluding geographical areas recovering from natural disasters from the 2019 Broadband Deployment Progress Report: the Commission's proposal to replace measuring broadband deployment in Puerto Rico and the U.S. Virgin Islands with Reports like the *Hurricane Report* suggests that those “replacement” reports give an adequate picture of the status of broadband-- something the *Hurricane Report* certainly did not do. Thus, if the Commission eliminates these areas from its 2019 Report, it will fail to give an adequate update on the status of broadband for those areas altogether, failing to fulfill its congressional mandate.

The Commission should continue to include U.S. Territories in its deployment estimates, and should track recovery for areas included in the report that are recovering from natural

⁵⁷ *Id.*

⁵⁸ The 2017 Atlantic Hurricane Season's Impact on Communications: Report and Recommendations, Federal Communications Commission, Public Safety Docket No. 17-344, (rel. Aug. 2018), <https://docs.fcc.gov/public/attachments/DOC-353805A1.pdf>.

disasters. In addition, any area that no longer has infrastructure because of flooding or wildfire or other disaster 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, like those seen in the Carolinas and California in 2018. In the *NOI*, the Commission requests comment on how to “account for the proglongs and extensive damage to the communications infrastructure and electric grid in Puerto Rico and U.S. Virgin Islands in reporting deployment figures in the next report.”⁵⁹ The answer for *how* to account for all areas affected by natural disaster recovery is simple: include comprehensive data on the recovery of broadband for that region. This is in line with the recommendations of the aforementioned GAO *Resiliency Report*, and would fulfil the Commission’s congressional mandate to report on the status of broadband deployment in the United States-- not *just* the continental United States.

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

The Commission’s *2018 Report* detailed “the many actions the Commission has taken to encourage deployment of advanced telecommunications capability and close the digital divide.”⁶⁰ In its 2019 Report, the Commission plans to examine the Commission’s actions since issuing the *2018 Report* to spur broadband deployment and close the digital divide.”⁶¹ Put simply, the Commission’s actions since the *2018 Report* have widened the digital divide, particularly for rural and low-income Americans.

⁵⁹ *NOI* at ¶ 22.

⁶⁰ *Id.* at ¶ 23.

⁶¹ *Id.*

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 has voted to eliminate nearly all consumer protections previously enacted to safeguard consumers during the discontinuance, retirement and transition of the legacy copper network.⁶² In doing so, the Commission reasoned that it is “reducing barriers to investment” in broadband infrastructure⁶³ -- a clever, yet vague promise that by rolling back regulations, the Commission is encouraging carriers to invest savings 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.⁶⁴ In particular, 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.⁶⁵ While it is nearly always a good thing 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

⁶² 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).

⁶³ *NOI* at ¶ 24.

⁶⁴ *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).

⁶⁵ 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.

nature.⁶⁶ Adequate notice to those millions of Americans could mean life or death for those who rely on the copper network to support their medical devices and alarm systems. This is particularly true for rural America, where small businesses rely on credit card and fax machines that still hook into the copper network. 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.

B. The Commission’s Proposed Cuts to the Lifeline Program Will Widen the Digital Divide.

Since the publishing of the *2018 Report*, the Commission has also worked to reduce the effectiveness of the universal service fund. Most notably, the Commission has placed Lifeline, the only subsidy program assisting low-income Americans in securing communications services, on the chopping block. The Commission has proposed to alter the provider eligibility requirements by only allowing providers that are facilities-based to participate in the Lifeline program.⁶⁷ This seemingly small change would cause 70 percent of current Lifeline subscribers to lose service, some of whom do not have another provider available to them in their geographic area.⁶⁸ Americans who rely on Lifeline are some of the most vulnerable in our society: veterans, domestic violence survivors and every day people fighting to stay out of poverty. The Commission’s facilities-based proposal is joined by proposals for a program budget cap, and

⁶⁶ See “State Level Subscriptions,” *Voice Telephone Services Report*, Federal Communications Commission (rel. Feb. 2018), <https://www.fcc.gov/voice-telephone-services-report>.

⁶⁷ 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) (“*Lifeline NPRM*”).

⁶⁸ Comments of Low Income Consumer Advocates, WC Docket Nos. 17-287, 09-197, 10-90, at 18-20 (filed Feb. 21, 2018).

lifetime benefit limit.⁶⁹ 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-- especially for areas in most need of continuance of the program, like very much still recovering Puerto Rico.

C. The Commission's Spectrum Policies Have Teed Up Access to Mid-Band and Millimeter Wave Frequencies, But Needlessly Delayed CBRS Deployment and Created the Potential for Spectrum Warehousing.

Since the release of the *2018 Report*, the Commission's spectrum policies have in parts been productive toward the goal of freeing up additional spectrum for broadband deployment; however, some notable Commission actions have needlessly delayed deployments or laid the groundwork for inefficient spectrum warehousing by wireless carriers.

The Commission's progress toward freeing up mid-band spectrum has been a bright spot in 2018. In July, the agency approved a Notice of Proposed Rulemaking that includes a proposal to bring high-speed broadband to rural and unserved and underserved communities by empowering fixed wireless providers to coordinate in vacant portions of the 3.7-4.2 GHz band.⁷⁰ 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. The Commission's progress toward authorizing unlicensed sharing across the 6 GHz band (5925-7125 megahertz) has also been a positive step toward opening additional spectrum to supplement Wi-Fi and other unlicensed operations. Freeing up 1200 megahertz of contiguous spectrum for unlicensed use, particularly

⁶⁹ See generally, *Lifeline NPRM*.

⁷⁰ Expanding Flexible Use of the 3.7 to 4.2 GHz Band, et al., GN Docket Nos. 18-122, 17-183, RM-11791, RM-11778, *Order and Notice of Proposed Rulemaking*, FCC 18-91 (rel. July 13, 2018).

next-generation, gigabit-fast Wi-Fi is crucial because the majority of total mobile data traffic is already offloaded onto fixed networks using Wi-Fi or femtocell, and 5G networks and IoT devices will require significantly more unlicensed frequencies to carry traffic.⁷¹

The Commission's failure to implement the Citizens Broadband Radio Service ("CBRS") rules governing shared use of the 3.5 GHz band has been misguided and counterproductive to timely deployment in the band. In 2015, the Commission adopted its CBRS rules on a bipartisan 5-0 vote.⁷² The Commission resolved Petitions for Reconsideration and adopted final rules in April, 2016.⁷³ In 2017, the FCC opted to reconsider its licensing rules for the CBRS Priority Access Licenses ("PALs") ("*CBRS NPRM*"),⁷⁴ and throughout 2017 and 2018, the agency's efforts have needlessly delayed deployment in the 3.5 GHz band. and threaten to make the band entirely unsuitable for the needs of numerous industry groups and municipal entities -- including rural ISPs, cable companies, technology companies, hotel and property management firms, utilities, critical infrastructure providers -- in the service of making the band more desirable for a small number of national and regional wireless carriers. In addition to causing unnecessary

⁷¹ See e.g., Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2016-2021, White Paper, Cisco (Mar. 28, 2017), <https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/mobile-white-paper-c11-520862.html>; Global State of Mobile Networks, Open Signal (Feb. 2017), <https://opensignal.com/reports/2017/02/global-state-of-the-mobile-network>; Yochai Benkler, *Open Wireless vs. Licensed Spectrum: Evidence from Market Adoption*, 26 HARV. J. L. & TECH. 1, 72 (Fall 2012).

⁷² See Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band, GN Docket No. 12-354, *Report and Order and Second Further Notice of Proposed Rulemaking*, 30 FCC Rcd 3959 (2015).

⁷³ See Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band, GN Docket No. 12-354, *Order on Reconsideration and Second Report and Order*, 31 FCC Rcd 5011 (2016).

⁷⁴ See Promoting Investment in the 3550-3700 MHz Band; Petition for Rulemaking Regarding the Citizens Broadband Radio Service, GN Docket No. 17-258, RM-11788, RM-11789, *Notice of Proposed Rulemaking and Order Terminating Petitions*, 32 FCC Rcd 8071, 8074-8089 ¶¶ 9-49 (2017).

delay, the *CBRS NPRM* and the “compromise” that the national and regional wireless providers have settled on,⁷⁵ has already disrupted investment and deployment decisions by a variety of stakeholders representing a diverse range of use cases. If adopted, new CBRS rules eliminating census tract-sized PALs will undermine rural broadband deployment and other goals of the CBRS.⁷⁶ The Commission can best promote timely deployment in the CBRS by moving forward with implementing its existing rules and discarding its *CBRS NPRM* proposals to change the existing PALs rules.

In June 2018, the Commission adopted a Third Report and Order, Memorandum Opinion and Order, and Third Further Notice of Proposed Rulemaking in its Spectrum Frontiers proceeding (“*Spectrum Frontiers Order*”).⁷⁷ The *Spectrum Frontiers Order*’s operability requirement throughout the 24 GHz band benefits broadband deployment and wireless competition by helping create economies of scale and lowering the cost of devices operating in the 24 GHz band, and ensuring that carriers and consumers are not forced to relive the problems and delays that plagued licensees in the Lower 700 MHz band.⁷⁸ Further, the Commission’s ratification of its 2016 decision to make all 600 megahertz between 37-37.6 GHz available for non-exclusive, shared-use, will permit small wireless carriers, WISPs, and other entities to

⁷⁵ See CTIA and Competitive Carriers Association *Ex Parte* Letter, GN Docket No. 17-258 (filed Apr. 20, 2018) (proposing eliminating the census tract size Priority Access Licenses in the 3.5 GHz band and replacing them with Metropolitan Statistical Area size licenses in the top 306 Cellular Market Areas (“CMAs”) and county-based licenses in the remaining 428 CMAs).

⁷⁶ See *additionally*, Comments of The Open Technology Institute at New America; American Library Association; The Benton Foundation; Consumer Federation of America; Consumers Union; Institute for Local Self-Reliance; National Hispanic Media Coalition; Next Century Cities; Public Knowledge; Schools, Health and Libraries Broadband Coalition; and X-Lab, GN Docket Nos. 17-258, 15-319, 17-183, 14-177, at 6-20 (filed Sept. 11, 2018).

⁷⁷ Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, et al., GN Docket No. 14-177, WT Docket No. 10-112, *Third Report and Order, Memorandum Opinion and Order, and Third Further Notice of Proposed Rulemaking*, FCC 18-73 (rel. June 8, 2018).

⁷⁸ See *id.* at 5-7 ¶¶ 11-15.

deploy in the Lower 37 GHz band for a variety of uses.⁷⁹ The Commission should model future spectrum bands on this innovative sharing model to speed deployment by lowering barriers for a variety of users to access spectrum and to ensure scarce public resources are used as efficiently as possible.

Unfortunately, the *Spectrum Frontiers Order* also eliminated its previously adopted pre-auction aggregation limits in the 24 GHz, 37 GHz, and 39 GHz bands.⁸⁰ While the Commission has taken positive steps to tee up the auction of millimeter wave (“mmW”) licenses in the 28 GHz and 24 GHz bands in the coming months,⁸¹ eliminating the agency’s aggregation limits for several of the mmW bands is counterproductive to the Commission’s deployment goals. Without aggregation limits, dominant carriers that have already acquired significant mmW holdings have incentives to warehouse mmW spectrum to prevent or delay competitive deployments by rivals.

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.

⁷⁹ See *id.* at 11-12 ¶¶ 26-28.

⁸⁰ See *id.* At 12-16 ¶¶ 29-36.

⁸¹ See Auctions of Upper Microwave Flexible Use Licenses for Next-Generation Wireless Services, Comment Sought on Competitive Bidding Procedures for Auctions 101 (28 GHz) and 102 (24 GHz), Bidding in Auction 101 Schedule to Begin November 14, 2018, AU Docket No. 18-85, *Public Notice*, FCC 18-43 (rel. Apr. 17, 2018).

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