

**Before the
Federal Communications Commission
Washington, DC 20554**

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

To: The Commission

**COMMENTS OF
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I. Introduction & Summary

New America's Open Technology Institute ("OTI") and Access Now submit these comments in response to the Commission's Notice of Inquiry ("NOI") in the proceeding captioned above: *Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*.¹ Unfortunately, many of our recommendations and responses reiterate concerns raised in our previous filings in this proceeding, as the Commission has consistently failed to adequately address them.

First, the Commission's annual Section 706 proceeding comes during an unprecedented time in history that has exposed the vast gulf in access to telecommunications service. Testimonies on how the lack of internet access during the ongoing COVID-19 pandemic is severely affecting people's ability to stay healthy, work, and learn abound, especially for those already living at the margins. Millions of Americans are not being served by high-speed broadband, and this year's Section 706 report is the Commission's chance to face the overwhelming evidence and accurately represent the state of deployment and availability.

Second, the Commission should increase the benchmark for broadband to account for current needs and technological advancement. Service that is 25 Mbps in download speed and 3 Mbps in upload speed is insufficient for online applications used today, including streaming content, cloud services, and more. Broadband at higher speeds is also widely available, and keeping the definition of broadband service at 25/3 Mbps may prevent communities from

¹ Sixteenth Broadband Deployment Report Notice of Inquiry, GN Docket No. 20-269 (Rel. Aug. 19, 2020), <https://docs.fcc.gov/public/attachments/FCC-20-112A1.pdf> ("Section 706 NOI").

accessing funding opportunities for improving local internet infrastructure and service to speeds befitting current needs.

Third, the latest proceeding must confirm that mobile broadband is not a substitute for fixed broadband. Mobile broadband cannot provide the service fixed broadband does in work and education contexts, and consumers use much more data on fixed broadband than they would be able to with a solely mobile connection. The COVID-19 pandemic has also revealed the need for strong and reliable fixed broadband, as families have been forced to stay at home for safety and use the same connection for streaming lessons, researching projects, and writing essays.

Fourth, the Commission's analysis of Section 706 must include affordability. Cost is the most significant barrier to broadband adoption - broadband service cannot be considered available if it is too expensive for people to purchase. Adoption rates actually differ depending on a person's income level, with a significant percentage of lower income individuals lacking a home internet connection, reflecting the impact of price on access. The Commission must collect information on internet service prices to ensure that everyone can afford to get connected.

Finally, the Commission cannot rely on Form 477 data alone to assess broadband availability. The failures of Form 477 are widely understood by both political parties, who recognize that using a flawed dataset that overstates broadband availability like Form 477 reports will not lead to an accurate assessment of whether broadband is being deployed to all Americans in a reasonable and timely fashion. Furthermore, the issue with the Form 477 process demonstrates how misguided the Commission's understanding of deployment is, as assessing deployment in an increased number of connections doesn't actually help determine whether each and every person is being served. Many independent reports have reflected the inability of Form

477 data on its own to reflect broadband deployment and availability, which has repeatedly failed marginalized communities, including Tribal nations. If the Commission continues to use flawed data to assess telecommunications access across the country, the digital divide will never be closed.

II. The COVID-19 Pandemic Has Further Revealed that Broadband Is Not Being Deployed to All Americans

The Commission has an obligation to ensure that “advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.”² The Commission, for the past three years, has claimed that high-speed broadband is indeed available, and is being deployed to all Americans in a reasonable and timely manner. The Commission made these claims despite the overwhelming evidence—detailed in the sections below—that the underlying broadband availability data produced by Form 477 is deeply flawed and overstates deployment figures. For example, one study from BroadbandNow has estimated that the true number of Americans without broadband availability is 42 million,³ and ongoing research from Microsoft has found that 157.3 million people in the U.S.—almost half of the entire country’s population—do not use broadband at the Commission’s speed threshold of 25 megabits per second download by 3 megabits per second upload speeds.⁴ The stories of the digital divide are not merely anecdotal; for years, data has suggested the Commission’s conclusion that broadband is being deployed to all Americans is patently false. Further, the Commission has also continued

² 47 U.S.C § 1302.

³ John Busby et al., “FCC Reports Broadband Unavailable to 21.3 Million Americans, BroadbandNow Study Indicates 42 Million Do Not Have Access,” BroadbandNow (Feb. 3, 2020), <https://broadbandnow.com/research/fcc-underestimates-unserved-by-50-percent>.

⁴ Shelley McKinley, “Microsoft Airband: An annual update on connecting rural America,” Microsoft (March 5, 2020), <https://blogs.microsoft.com/on-the-issues/2020/03/05/update-connecting-rural-america/>.

to ignore the key role affordability plays in driving the digital divide as it reviews high-speed broadband availability. Doing so has ignored a central issue in broadband availability.

The COVID-19 pandemic has revealed just how ludicrous the notion that high-speed broadband is available to all Americans truly is. People across the country have been asked to stay at home to rest, work, and learn. Since the virus outbreak reached the U.S. and shutdowns began, stories of how the digital divide has harmed education, healthcare, and work have continued to emerge. A coalition of more than 200 organizations requesting immediate Lifeline support detailed the grave stories of those who do not have broadband or adequate phone support: “For example, just this week a community health care professional was alarmed to see many low-income patients coming in-person to the clinic because they could not afford to use voice minutes to call ahead. And public housing authority workers reported elderly Lifeline tenants rationing their Lifeline minutes to their detriment.”⁵ The letter focused on the necessity of unlimited voice and texting for Lifeline recipients, but it highlights the desperate need for broadband in the time of COVID as well.

For example, studies show that millions of students in the U.S. do not have access to the broadband services they need to engage in remote learning. One study found that 16.9 million children do not have home broadband access needed to facilitate online learning,⁶ while another found that 15 to 16 million students lack sufficient internet access or devices to get online.⁷

⁵ Emergency Request for Increased Lifeline Support During the COVID-19 Crisis, Docket Nos. 11-42, 09-197, 96-45, 17-287 (March 23, 2020), <https://mediajustice.org/wp-content/uploads/2020/03/Final-3-23-20-Lifeline-Emergency-Request-FCC-252-signers-updated.pdf>.

⁶ John B. Horrigan, “Students of Color Caught in the Homework Gap,” Alliance for Excellent Education (All4Ed) et al. (July 2020), https://futureready.org/wp-content/uploads/2020/07/HomeworkGap_FINAL7.22.2020.pdf.

⁷ Chandra, S., Chang, A., Day, L., Fazlullah, A., Liu, J., McBride, L., Mudalige, T., Weiss, D., (2020). Closing the K–12 Digital Divide in the Age of Distance Learning. San Francisco, CA: Common Sense Media. Boston, Massachusetts, Boston Consulting Group,

Black, Latinx, Native American, and rural Americans are disproportionately more likely to be on the wrong side of this homework gap.⁸ A recent Pew Research Center study found that 22 percent of U.S. adults with children whose schools were closed said it was very or somewhat likely that their children would not be able to complete schoolwork at home and would instead have to rely on public Wi-Fi.⁹ That number went up to 40 percent for lower income respondents, while only 6 percent of upper income respondents said the same.¹⁰ During a public health crisis where experts have strongly cautioned people to stay at home and away from indoor places with crowds, putting students in the position where they must go out in public to rely on Wi-Fi for their schoolwork can be extremely dangerous and reflects a broken broadband market where not everyone has broadband available to them. Further, for these households, it is not only that the students are unable to learn, but also that the rest of the household is unable to work remotely, use the internet to find healthcare services or information that could be crucial to staying safe, or live the remote, quarantined lifestyle that those who do have high-speed broadband access at home are privileged enough to have.

Numerous studies have shown that Form 477 data likely overstated the broadband availability maps and that cost is a central part of broadband adoption. These studies should have been enough basis for the Commission to start to seriously reconsider its conclusions that broadband is being deployed to all Americans. But now, with the country still fighting the spread

https://www.common sense media.org/sites/default/files/uploads/pdfs/common_sense_media_report_final_7_1_3pm_web.pdf.

⁸ *Id.* at 3.

⁹ Emily A. Vogels et al., 53% of Americans Say the Internet Has Been Essential During the COVID-19 Outbreak, The Pew Research Center (April 30, 2020), <https://www.pewresearch.org/internet/2020/04/30/53-of-americans-say-the-internet-has-been-essential-during-the-covid-19-outbreak/> (“Pew Research Center COVID-19 Broadband Research”).

¹⁰ *Id.*

of COVID-19, it is more clear than ever that access to broadband is not only essential to enable Americans to adapt to life during the pandemic, but also that the digital divide is deep, and is hurting people in this country today. Take Georgetown, Maine, a coastal town profiled recently by CBS Sunday Morning in a report on how the digital divide has harmed communities nationwide during the pandemic. “The FCC says this coastal community has broadband internet, because residents can sign up for DSL service,” CBS Sunday Morning Reported.¹¹ “It’s terrible. It is absolutely awful,” a local told the news outlet, adding, “Most of the time, we have little to none. And only occasionally does it get up to mediocre! It’s really bad!”¹² There have been numerous stories of schools trying to make remote learning work and largely being held back by the grave disparities in broadband access across student households. For example, in one district in rural Pennsylvania, an estimated 30 to 40 percent of students in the area lack broadband access at home,¹³ and in a broadband desert in one majority-Black district in South Carolina, half of the population does not have home broadband access.¹⁴ The districts and states across the country that have dispatched fleets of school buses outfitted with mobile hotspots to connect students without broadband access at home—in both rural and urban school districts—is another reflection of the fact that broadband is simply not available to all Americans. Districts ranging

¹¹ “The great broadband divide: Living without high-speed internet access,” CBS Sunday Morning (Aug. 11, 2020),

<https://www.cbsnews.com/news/the-great-broadband-divide-living-without-high-speed-internet-access/>.

¹² *Id.*

¹³ Tony Romm, “‘It shouldn’t take a pandemic’: Coronavirus exposes Internet inequality among U.S. students as schools close their doors,” The Washington Post (March 16, 2020),

<https://www.washingtonpost.com/technology/2020/03/16/schools-internet-inequality-coronavirus/>.

¹⁴ Nellie Peyton, “Black and rural students left behind as U.S. schools go online,” Thomson Reuters Foundation Long Reads (Aug. 26, 2020),

<https://longreads.trust.org/item/coronavirus-black-students-suffer-poor-internet-schools-online-teaching>.

from desert areas in Oregon¹⁵ to districts in cities such as Austin, Texas,¹⁶ or Montgomery, Alabama¹⁷ as well as the entire state of South Carolina¹⁸ have needed to turn to mobile hotspots on school buses to connect students during the pandemic. Unfortunately, large swaths of their student bodies live in households that do not have access to broadband, whether that be due to deployment or affordability.

In the context of the COVID-19 pandemic, the Commission has a genuine chance to address the overwhelming evidence that there is something deeply wrong with broadband availability and adoption in the U.S., and to accurately represent the state of deployment and availability in its annual Section 706 report. The Commission need only take a look at the state of the country to see that millions of Americans are not being served by high-speed broadband. Research found that by the last two weeks of March 2020, following widespread shelter-in-place orders across the U.S., the number of counties that did not meet the FCC's minimum criteria for broadband speed had increased from 52.8 percent to 62.2 percent.¹⁹ While most ISPs report being able to handle the increased workday traffic, last-mile infrastructure is failing to do its job

¹⁵ James Sinks, "The Wheels on the Bus Bring WiFi and Lunches," My Oregon News (April 24, 2020), <https://www.myoregon.gov/2020/04/24/the-wheels-on-the-bus-bring-wifi-and-lunches/>.

¹⁶ Alaa Elassar, "Austin school district deployed over 100 school buses equipped with WiFi for students without internet access," CNN (April 14, 2020), <https://www.cnn.com/2020/04/14/us/austin-wifi-busses-independent-school-district-trnd/index.html>.

¹⁷ Sally Pitts, "Montgomery Public Schools using buses as WiFi hotspots for quarantined students," WSFA 12 News (April 14, 2020), <https://www.wsfa.com/2020/04/14/montgomery-public-schools-using-buses-wifi-hotspots-quarantined-students/>.

¹⁸ Jacob Reynolds, "S.C. likely to roll out wifi-enabled buses on Monday as students learn at home," CBS News 19 (March 18, 2020), <https://www.wltx.com/article/news/education/sc-likely-to-roll-out-wifi-enabled-buses-on-monday-as-students-learn-at-home/101-feb0f900-dd3c-41ea-88da-2dbacaefecf8>.

¹⁹ Sascha Meinrath, "The coronavirus pandemic is breaking the internet," The Hill, May 2, 2020, <https://thehill.com/opinion/technology/495806-the-coronavirus-pandemic-is-breaking-the-internet-and-what-to-do-about-it>

of delivering connectivity to the home.²⁰ Furthermore, neighborhoods serviced by DSL have reported many complaints, reflecting ISPs' lack of investment in these networks, with performance on these networks degrading every year as broadband usage increases.²¹ It is clear that high-speed broadband is not available to millions of Americans who need the connectivity now, in the middle of a pandemic, with a disproportionate impact on BIPOC communities. The American Indian Policy Institute found in 2019 that only 49 percent of residents on tribal lands have fixed home internet service.²² Recent testimony by the President of the Navajo Nation confirms that this figure is even worse in the Navajo Nation, where over half of Navajo chapters lack any broadband access.²³

Internet access has not only become a necessity for the modern day economy and our modern society, but it is now also a public health issue. The Commission has a chance to act and take a holistic look at the state of broadband deployment and availability now. It must fix the problems that have left so many on the wrong side of a digital divide, creating deep, long-lasting inequities in education.

III. The Commission Should Increase the Benchmark for Broadband From 25/3 to Reflect Current Reality

²⁰ Sascha Meinrath, "The coronavirus pandemic is breaking the internet," The Hill, May 2, 2020, <https://thehill.com/opinion/technology/495806-the-coronavirus-pandemic-is-breaking-the-internet-and-what-to-do-about-it>

²¹ Doug Dawson, "Putting COVID-19 Traffic Growth into Perspective," POTs and PANs, June 15, 2020, <https://potsandpansbyccg.com/2020/06/15/putting-covid-19-traffic-growth-into-perspective/>

²² Traci Morris and Brian Howard, *Tribal Technology Assessment: The State of Internet Service on Tribal Lands*, American Indian Policy Institute at Arizona State University, (Fall 2019), https://aiji.asu.edu/sites/default/files/tribal_tech_assessment_compressed.pdf

²³ Testimony of Jonathan Nez, President of the Navajo Nation, Before the United States House of Representatives Committee on Energy and Commerce Full Committee Hearing on, "Addressing the Urgent Needs of Our Tribal Communities," July 8, 2020, <https://docs.house.gov/meetings/IF/IF00/20200708/110874/HHRG-116-IF00-Wstate-NezJ-20200708.pdf>

The Commission must move beyond its definition of broadband as 25 Mbps in download speed and 3 Mbps in upload speed. Keeping this current standard allows the Commission to continue to claim that most people in the country are connected, even though it is clear that 25/3 Mbps service is insufficient for current connectivity needs. For example, with most schools adopting online-only distance learning programs for this school year with the ongoing COVID-19 pandemic, children need a sufficiently fast internet connection to get connected to virtual classrooms, download learning materials, and contact their teachers. Additionally, adults in these same households also need a sufficient internet connection to work from home at the same time as their children attend classes. A report from Common Sense Media notes that the 25/3 Mbps minimum speed benchmark should not apply to households with multiple users, giving the example that if two students live in a household and rely on distance learning videoconferencing at the same time, the bandwidth required for a quality experience would be double the minimum requirement: 50 Mbps / 6 Mbps.²⁴

Keeping the definition of broadband at 25/3 Mbps not only is too slow in light of current connection needs, it also threatens opportunities for communities to get funding for faster service and better infrastructure.²⁵ If the FCC deems that a region is served because ISPs claim they can provide service there meeting the 25/3 Mbps standard, that region will not be prioritized for funding opportunities, though that service may likely not meet the needs of that area. Jonathan

²⁴ Chandra, S., Chang, A., Day, L., Fazlullah, A., Liu, J., McBride, L., Mudalige, T., Weiss, D., (2020). Closing the K–12 Digital Divide in the Age of Distance Learning. San Francisco, CA: Common Sense Media. Boston, Massachusetts, Boston Consulting Group, at 17.
https://www.common Sense Media.org/sites/default/files/uploads/pdfs/common_sense_media_report_final_6_29_12-42pm_web_updated.pdf

²⁵ Doug Dawson, "Time to Stop Talking About Unserved and Underserved," CircleID, August 11, 2020, http://www.circleid.com/posts/20200811-time-to-stop-talking-about-unserved-and-underserved/?utm_source=sendgrid&utm_medium=email&utm_campaign=Newsletters

Sallet at the Benton Institute for Broadband and Society has recommended a new minimum standard of 100 Mbps in both download and upload speed. Commissioner Jessica Rosenworcel has also pointed to the need to update the definition of broadband service to at least require service symmetrical in both download and upload speeds, especially recognizing actual changes to technology used today.²⁶ Increasing upload speeds is especially important with people using significant upload bandwidth for virtual meetings, doctors' appointments, classes, and more during the pandemic. Most of the overall 30 to 40 percent increase in traffic during the pandemic is from demand for uploading.²⁷ To ensure that broadband is being deployed in a reasonable and timely manner, the Commission must revisit its definition of broadband service and raise the minimum standard from 25/3 Mbps to higher symmetrical speeds.

IV. Mobile Is Still Not a Substitute for Fixed Broadband

The Commission asks if mobile broadband should continue to be considered a complement, and not a substitute for fixed broadband.²⁸ OTI strongly agrees that the Commission should continue to deem fixed and mobile broadband complements, and that mobile broadband is not a sufficient substitute for fixed broadband. While the Commission has asked if mobile and fixed broadband are substitutable each of the past three years, the facts underlying the “marketplace and technological conditions” described in the Commission’s 2020 Broadband

²⁶ Sallet, Jonathan. *Broadband for America's Future: A Vision for the 2020s*. Washington, D.C.: Benton Institute for Broadband & Society, Oct. 2019, at 66, <https://www.benton.org/publications/broadband-policy2020s>; Statement of Jessica Rosenworcel, Dissenting, Re: Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, GN Docket No. 20-269, <https://docs.fcc.gov/public/attachments/FCC-20-112A2.pdf>

²⁷ Doug Dawson, “How Will Cable Companies Cope with COVID-19?” POTs and PANs, June 26, 2020, <https://potsandpansbyccg.com/2020/06/26/how-will-cable-companies-cope-with-covid-19/>

²⁸ Section 706 NOI ¶ 10.

Deployment Report have not substantively changed.²⁹ The Commission should conclude, as it has each time it has sought comment on this question, that mobile is a complement and not an adequate substitute to fixed broadband. OTI has detailed the many reasons that mobile broadband is not an adequate substitute for fixed broadband for the past three years, and there have been no substantive changes in the market nor consumer behavior to change this reality.³⁰ The future capabilities of mobile 5G networks does not change the underlying limitations of mobile broadband in the context of this proceeding.

The actual technical capabilities of mobile broadband render it inadequate to serve as a substitute for fixed broadband, which explains why the vast majority of Americans who can afford both a fixed and mobile subscription purchase both. Mobile broadband service is useful for connectivity on the go, but in comparison to fixed broadband, is generally more expensive, less reliable (particularly in rural areas), slower, and usually includes data caps or expensive overage fees that kick in at a small fraction of the level of data consumption that households typically consume on fixed networks. Additionally, smartphones and other mobile devices increasingly rely on Wi-Fi connected to fixed networks to offload the vast majority of mobile data travels onto fixed broadband networks. By 2022, that number will rise to 59 percent, according to Cisco.³¹ Recently, a Verizon executive vice president stated that between 70 and 75

²⁹ *Id.*

³⁰ Comments of New America's Open Technology Institute and Access Now, GN Docket No. 19-285 (Nov. 21, 2019), <https://ecfsapi.fcc.gov/file/11210171325727/OTI%20and%20Access%20Now%20Section%20706%20Comments.pdf> ("OTI and Access Now 2019 Section 706 Comments"); Comments of New America's Open Technology Institute, GN Docket No. 17-199 (Sep. 21, 2017), <https://ecfsapi.fcc.gov/file/10921256530521/OTI%20FCC%20Section%20706%20Comments.pdf> at 4- 22; Comments of New America's Open Technology Institute, GN Docket No. 18-238 (Sep. 17, 2018), <https://ecfsapi.fcc.gov/file/109170024011310/2018-09-17%20OTI%20Section%20706%20Comments.pdf> at 20-30 ("OTI 2018 Section 706 Comments").

³¹ Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2017–2022, Cisco White Paper (Feb. 2019).

percent of mobile device data is likely being offloaded over Wi-Fi.³² Charter reports that its cable network currently supports more than 300 million devices, and that 80 percent of the wireless data its customers consume on those devices travel over Wi-Fi onto Charter’s cable network.³³

Further, the actual functionality of mobile broadband and mobile devices reflect their inability to serve as a substitute for fixed broadband. OTI has detailed the specific ways consumers cannot depend on mobile broadband to replace the functions of fixed broadband for the past three years. The Commission has agreed and declined to find the two are substitutes. Consumers do not see the two as substitutes, as studies show that those who have the means to purchase both tend to, while low-income Americans are more likely to rely on mobile broadband.³⁴ The Pew Research Center recently surveyed U.S. adults during the COVID-19 outbreak, asking if their children would need to do schoolwork on their cellphone while school is closed. Pew reports that 43 percent of U.S. adults with lower incomes said it is very or somewhat likely, while only ten percent of upper income U.S. adults said the same.³⁵ Simply put, if mobile broadband was actually a substitute for fixed, then the data would show that more households that are able to purchase both would purchase only mobile plans.

Additionally, the average monthly consumption of fixed broadband data by households is much higher than the amount that a mobile broadband connection could process, and vastly larger than the limits on even the higher-tiered unlimited mobile data plans.³⁶ The average

³² Verizon, Citi 2020 Global TMT West Conference, Webcast (Jan. 7, 2020), <https://www.verizon.com/about/investors/citi-2020-global-tmt-west-conference>; Monica Allevan, “Verizon Anticipates Indoor 5G Without Wi-Fi,” Fierce Wireless (Jan. 7, 2020), <https://www.fiercewireless.com/wireless/verizon-anticipates-indoor-5g-without-wi-fi>.

³³ Notice of Ex Parte Presentation of Charter Communications and CableLabs, ET Docket No. 18-295, GN Docket No. 17-183, at 1 (Feb. 21, 2020).

³⁴ OTI and Access Now 2019 Section 706 Comments at 5-6.

³⁵ Pew Research Center COVID-19 Broadband Research.

³⁶ *Id.* at 6-7.

monthly household consumption of data on fixed networks is more than 15 times the soft data caps that apply to “unlimited” plans offered by the largest mobile carriers. Studies from OpenVault show a 26 to 31 percent increase in household fixed data consumption from last year, which has spiked up during the ongoing COVID-19 pandemic to roughly 400 GB per month.³⁷ This is more than 10 times the usage limit for a Verizon “unlimited” mobile data plan.³⁸ Particularly indoors, a mobile broadband connection is typically both unreliable and unaffordable for video conferencing for work, for lectures for school, for transferring large files, and other essential day-to-day needs. This deficiency is even more true for multi-member households. A household of several people cannot share a single mobile broadband connection to support the vast variety of needs that come with the demands of work, school, healthcare, commerce, entertainment, information, and more. The COVID-19 pandemic has increased the need for each household to have a high-capacity and reliable fixed broadband connection that can support multiple students streaming lessons, researching for projects, and writing essays, as well as one or more adults using the same connection for working remotely.

The Commission asks, as it did last year, if the “increasing deployment” of mobile 5G services should change the Commission’s conclusion on mobile broadband’s viability to replace fixed broadband. The answer is unequivocally “not yet.” The technology is too nascent for the Commission to consider 5G a mobile service substitute for fixed broadband. There has been a lot of hype over the capabilities of mobile 5G, but these services have not yet been deployed in a widespread manner.

³⁷ “COVID-19 Broadband Impact Tracker,” OpenVault, <https://openvault.com/trusted/>

³⁸ “Verizon Doubles 4G Data in Unlimited Plans, Cuts Monthly Smartwatch Fee,” CommunicationsDaily, September 18, 2020, <https://communicationsdaily.com/news/2020/09/18/Verizon-Doubles-4G-Data-in-Unlimited-Plans-Cuts-Monthly-Smartwatch-Fee-2009170065>

The vast majority of consumers have not experienced 5G and have no access to it—either because the three national carriers have not finalized networks in their city yet, or because mobile phones and laptops compatible with the new standard are unavailable or too expensive.³⁹ Moreover, as a mobile speed measurement study by *The Washington Post* revealed earlier this month, what carriers are marketing as “5G” is typically no faster than 4G.⁴⁰ Nor are there mobile data plans that offer consumers hundreds of gigabytes of capacity per month at an affordable flat rate, as nearly all cable and other wireline plans do.

The Commission should seriously consider a technology that is not available to the vast majority of Americans as a substitute for fixed service. The fact is, that has not happened yet. One study found that in 2019, there were 10 million 5G wireless connections *worldwide*—which would only be 2.6 percent of the U.S. population even if it were all in the United States.⁴¹

The 5G services that are coming to market this year are going to be closer to 4G in speeds, rather than anything truly “revolutionary” as the mobile carriers have been touting.⁴² Furthermore, companies are deploying 5G with a hyper-focus on urban areas with higher population densities, or high-traffic venues, and will very likely continue to center on these areas in the years to come. As OTI detailed last year, and as the mobile carriers themselves have

³⁹ Samsung’s 5G phone came to market at \$1,299. Cameron Faulkner, “T-Mobile will launch 5G in six US cities on June 28th with Samsung’s Galaxy S10 5G,” *The Verge* (June 25, 2019), <https://www.theverge.com/2019/6/25/18744225/samsungs-galaxy-s10-5g-launch-t-mobile-mmwave>.

⁴⁰ Geoffrey A. Fowler, “The 5G lie: The network of the future is still slow,” September 8, 2020, *The Washington Post*, <https://www.washingtonpost.com/technology/2020/09/08/5g-speed/>

⁴¹ Kevin Casey, “5G: 12 statistics to see,” *The Enterprisers Project* (Jan. 31, 2010), <https://enterpriseproject.com/article/2020/1/5g-12-statistics-see>.

⁴² Brian X. Chen, “What You Need to Know About 5G in 2020,” *The New York Times* (Updated April 10, 2020), <https://www.nytimes.com/2020/01/08/technology/personaltech/5g-mobile-network.html> (“Instead, this year our cellular networks will broadly shift to a version of 5G that is less exciting. Let’s call this vanilla 5G. Vanilla 5G will have speeds that are only slightly faster than current 4G networks.”).

conceded, the technical characteristics of millimeter wave spectrum mean that the technology will likely never scale to rural, tribal, and other less densely populated areas.⁴³

In sum, there is currently not enough evidence to support a conclusion that 5G services are an adequate substitute for fixed broadband, and that 5G is available to a sufficiently large share of consumers with the same levels of data capacity and reliability necessary to determine the two are substitutes. Rather than prematurely raise the issue year after year, the Commission should wait until mobile 5G is widely deployed and adopted by a substantial share of consumers before seeking comment on whether it has become an adequate and affordable substitute to fixed broadband.

V. The Commission Must Incorporate Affordability Into Its Section 706 Analysis

Year over year we have asked the Commission to collect pricing data on broadband service, yet this latest notice again fails to mention prices or cost of service to consumers. Determining whether advanced telecommunications capability is being deployed to all Americans, as Section 706 dictates, requires knowing whether people can actually afford service where deployed. The Commission must collect data on service prices as broadband service that is too expensive for people to purchase cannot be considered to be available.

The issue of affordability in access can be seen in differing adoption rates by income level. One study from early 2019 found that while 92 percent of U.S. adults with an annual income greater than \$75,000 have home broadband service, only 56 percent of adults making less than \$30,000 are home broadband users.⁴⁴ This difference by income level is directly related

⁴³ OTI and Access Now 2019 Section 706 Comments at 8.

⁴⁴ Internet/Broadband Fact Sheet, Pew Research Center, June 12, 2019, <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/#who-has-home-broadband>

to cost of service—a recent survey found that 51 percent of 6 million U.S. households with annual incomes under \$25,000 didn't have home internet because it was too expensive.⁴⁵

Without affordable home broadband service, those marginalized are further disadvantaged. A Pew Research Center survey from 2018 found that about 24 percent of students in households making less than \$30,000 a year are often or sometimes unable to complete homework assignments because they do not have reliable access to a computer or internet connection, compared to just 9 percent of students in households with an annual income of \$75,000 or more.⁴⁶ Worse, Black and Hispanic teens were more likely to say they cannot complete homework assignments for this reason than white teens, with 25 percent of Black students and 17 percent of Hispanic students unable to complete their homework due to lack of access, compared to 13 percent of white students.⁴⁷

Affordability is undeniably a primary reason students and families don't have internet service at home, which is especially concerning as schools partially or fully implement distance learning during the COVID-19 pandemic. The average income for the 9 million students in the United States who are fully disconnected, with neither distance learning devices nor internet service, is 1.9 times the poverty line, such that 20 to 30 percent of this group qualifies for food

⁴⁵ Rafi Goldberg, "Unplugged: NTIA Survey Finds Some Americans Still Avoid Home Internet Use," National Telecommunications and Information Administration, April 15, 2019, <https://www.ntia.doc.gov/blog/2019/unplugged-ntia-survey-finds-some-americans-still-avoid-home-internet-use>

⁴⁶ Brooke Auxier and Monica Anderson, "As schools close due to the coronavirus, some U.S. students face a digital 'homework gap'," Pew Research Center, March 16, 2020, <https://www.pewresearch.org/fact-tank/2020/03/16/as-schools-close-due-to-the-coronavirus-some-u-s-students-face-a-digital-homework-gap/>

⁴⁷ Brooke Auxier and Monica Anderson, "As schools close due to the coronavirus, some U.S. students face a digital 'homework gap'," Pew Research Center, March 16, 2020, <https://www.pewresearch.org/fact-tank/2020/03/16/as-schools-close-due-to-the-coronavirus-some-u-s-students-face-a-digital-homework-gap/>

stamps.⁴⁸ Concerningly, 30 to 40 percent of this segment is Black, Hispanic, or Native American—the three groups with the highest proportion of individuals without connection. This again emphasizes the role affordability plays in internet access, and that this particularly encumbers groups that have been historically oppressed and economically marginalized.

Given the lack of federal data on pricing, third party studies like OTI's *Cost of Connectivity* reveal just how unaffordable and expensive internet service in the United States is. The overwhelming majority of the U.S. cities in our report rank in the bottom half of cities worldwide for average monthly price for service.⁴⁹ Even when controlled for population density, cities in the United States generally offer more expensive options for internet service than offered in cities abroad. Additionally, the report confirms that advertised monthly prices are only part of the cost consumers bear for service—average installation and activation fees for service in the United States can add an additional 1,000 percent to advertised monthly prices, and recurring monthly fees like those for renting a modem or router can tack on an average of an additional \$13 to monthly costs.

Research suggests that low-income people can only afford to pay about \$10 per month for broadband, a cost which competes with bills for other necessary utilities like electricity, gas, and water.⁵⁰ *Cost of Connectivity* found that even with promotional pricing, no private provider

⁴⁸ Chandra, S., Chang, A., Day, L., Fazlullah, A., Liu, J., McBride, L., Mudalige, T., Weiss, D., (2020). *Closing the K–12 Digital Divide in the Age of Distance Learning*. San Francisco, CA: Common Sense Media. Boston, Massachusetts, Boston Consulting Group, https://www.common sense media.org/sites/default/files/uploads/pdfs/common_sense_media_report_final_6_29_12-42pm_web_updated.pdf

⁴⁹ Chao, Becky and Park, Claire. *The Cost of Connectivity*. Washington D.C.: New America's Open Technology Institute. July 15, 2020. <https://www.newamerica.org/oti/reports/cost-connectivity-2020/global-findings>

⁵⁰ Sallet, Jonathan. *Broadband for America's Future: A Vision for the 2020s*. Washington, D.C.: Benton Institute for Broadband & Society, Oct. 2019, at 66, <https://www.benton.org/publications/broadband-policy2020s>

offers a plan at or below \$10 a month, effectively meaning that low-income households cannot have broadband service.⁵¹

It is time for the Commission to collect data on service pricing and affordability, which lie at the heart of the issue of availability. A provider that self-reports servicing an area cannot be considered to be providing service if that service is too expensive for residents to afford. The Commission cannot begin to address problems with broadband adoption and access at the exclusion of affordability.

VI. The Commission Cannot Continue to Rely on Form 477 Data To Assess Broadband Availability

The Commission suggests relying on Form 477 data yet again for its crucial report detailing the status of broadband deployment and availability, despite the well-documented limitations of such data.⁵² OTI strongly urges the Commission to reconsider allowing the flawed Form 477 dataset that overstates broadband availability to serve as the foundation for the country's understanding of whether broadband is being deployed to all Americans in a reasonable and timely fashion.

The failures of Form 477 are widely understood and the subject of broad bipartisan agreement in both the House and the Senate, leading to the passage of the Broadband DATA Act directing the Commission to improve the data collection.⁵³ That came, of course, after the

⁵¹ Chao, Becky and Park, Claire. *The Cost of Connectivity*. Washington D.C.: New America's Open Technology Institute. July 15, 2020.

<https://www.newamerica.org/oti/reports/cost-connectivity-2020/global-findings>

⁵² Section 706 NOI ¶ 16.

⁵³ "Bipartisan E&C Leaders Applaud Signing of 5G Security and Broadband Mapping Legislation," Press Release (March 23, 2020),

<https://energycommerce.house.gov/newsroom/press-releases/bipartisan-ec-leaders-applaud-signing-of-5g-security-and-broadband-mapping>.

Commission itself voted in a bipartisan manner to pass the Digital Opportunity Data Collection Order setting up a more granular broadband mapping collection operation as well.⁵⁴ In this very NOI, the Commission states, “... [W]e recognize the limitations of the FCC Form 477 data, and we consider the shortcomings and challenges of the dataset when those data are used to inform our funding and policy decisions.”⁵⁵ In last year’s Broadband Deployment Report, the Commission concedes that the method by which Form 477 reporting deems census blocks as served—if a single location in that census block is served or could be served by an internet service provider— “likely overstates to some degree the coverage experienced by some consumers, especially in large or irregularly-shaped census blocks, causing the report to possibly overstate the deployment of fixed and mobile services.”⁵⁶ In short, the Form 477 data does not give an accurate depiction of who can purchase broadband, and who cannot. The Commission knows it, members of Congress know it, and the general public has caught on to these inaccurate maps as well.⁵⁷

Yet the Commission suggests using Form 477 data—without any other dataset or check to cross-reference the conclusions derived from those reports—as the entire basis upon which to assess the state of broadband availability in the United States. The Commission passed its Order to improve broadband mapping data in August of last year.⁵⁸ At that time, the Commission said it

⁵⁴ Establishing the Digital Opportunity Data Collection, WC Docket Nos. 19-195, 11-10, Report and Order and Second Further Notice of Proposed Rulemaking, FCC 19-79, (Aug. 6, 2019) (“Broadband Mapping Order”).

⁵⁵ *Id.* ¶ 17.

⁵⁶ *Id.*

⁵⁷ See e.g.: Karl Bode, “How Bad Maps are Ruining American Broadband,” The Verge (Sep. 24, 2018), <https://www.theverge.com/2018/9/24/17882842/us-internet-broadband-map-isp-fcc-wireless-competition>; Rob Pegoraro, “The Problem With America’s New National Broadband Map,” CityLab (Feb. 28, 2018), <https://www.bloomberg.com/news/articles/2018-02-28/the-problem-with-the-fcc-s-new-national-broadband-map>.

⁵⁸ Broadband Mapping Order.

would “need to continue to rely for now on the current Form 477 collection” because it “granted providers six months after the new mapping platform becomes available to submit the new maps.”⁵⁹ The Commission argues that the passage of the Broadband DATA Act, and the inclusion of some slightly different aspects, has resulted in the Commission having to put out another Order, and that the results from this new methodology will not be ready in time for the next Section 706 Broadband Progress Report.⁶⁰ The Commission should do more to ensure integrity in the results of this report. Instituting an entirely new regime of broadband data collection is certainly complex, but the Commission has now had a year to make these changes and to alert the broadband industry of such new reporting requirements. The facts at issue in this proceeding are too important to continue relying on faulty data, and even an incremental change towards more robust data would be welcome.

Additionally, the Commission argues, as it did last year, that “continuing to rely on FCC Form 477 deployment data for now will best enable us to assess the level of deployment by providing a consistent unit of measurement.”⁶¹ As OTI explained last year, this is not a reasonable argument for retaining Form 477 data as the foundation for the Section 706 Report.⁶² Maintaining a consistent unit of measurement is not helpful to determining the state of broadband availability in the U.S. if that unit of measurement is consistently inaccurate. The Commission could reasonably argue that establishing its new data collection regime will be complicated, and that it is taking steps to integrate new data into this report, but that it will take

⁵⁹ Fifteenth Broadband Deployment Report Notice of Inquiry, GN Docket No. 19-285 (Rel. Oct 23, 2019), <https://docs.fcc.gov/public/attachments/FCC-19-102A1.pdf> ¶ 18.

⁶⁰ Section 706 NOI ¶¶ 19-20.

⁶¹ *Id.* ¶ 20.

⁶² OTI and Access Now 2019 Section 706 Comments at 10-11.

time. To argue it seeks consistency through its reliance on Form 477 contradicts the rigorous study that should go into this review and assessment.

Relying on Form 477 data additionally has outsized consequences for already marginalized communities, including tribal nations, as it understates broadband needs and affects funding opportunities for broadband initiatives. A report published by the Government Accountability Office (GAO) in 2018 found that the FCC’s data overstates broadband access on tribal lands.⁶³ For instance, GAO found that by assessing broadband deployment and availability based on census blocks, and allowing providers to deem an entire census block “served” if only one location in that block is or could be served, the FCC gives an inaccurate picture of service availability. Additionally, since the FCC considers broadband access primarily in terms of deployment, or the scope of an area where a company claims it could provide service, without verifying whether companies actually provide service, this leads to an overstatement of service for areas including tribal lands.

The Commission’s inaction on improving data collection on broadband access in tribal lands follows a history of neglect in federal policymaking in support of tribal nations, and must change. For instance, the agency does not currently have a formal process to obtain tribal input on the accuracy of Form 477 data. The Commission must ensure that tribal governments with firsthand knowledge and data on tribal members and chapters served, cost and quality of service, can challenge providers’ claims about where they offer service, and start collecting accurate data on broadband in tribal lands.⁶⁴ It is impossible to draw an accurate report on broadband

⁶³ *Broadband Internet: FCC’s Data Overstate Access on Tribal Lands*, Government Accountability Office, (September 2018: Washington, D.C.) <https://www.gao.gov/assets/700/694386.pdf>

⁶⁴ Traci Morris and Brian Howard, *Tribal Technology Assessment: The State of Internet Service on Tribal Lands*, American Indian Policy Institute at Arizona State University, (Fall 2019), https://aiipi.asu.edu/sites/default/files/tribal_tech_assessment_compressed.pdf

deployment based on flawed data, and would only reiterate an inaccurate picture of the digital divide.

VII. Conclusion

The Commission's Section 706 proceeding is a crucial aspect of the process to close the digital divide. The Commission must ensure that its review of the status of broadband deployment and availability is as robust as possible, and should include broadband pricing and affordability as part of this analysis. The Commission cannot continue to rely on faulty and outdated datasets, such as Form 477 reporting, as the foundation for such a crucial report when it is patently obvious to the rest of the country that broadband is not being deployed to all Americans in a reasonable and timely fashion as the statute requires. The COVID-19 pandemic has compounded the deep inequities that have been around for decades, and broadband access is but one of them. The Commission should take this chance to review the facts and ensure that it comes up with a strong report that portrays the reality of broadband availability in the U.S. in 2020.

Respectfully submitted,

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