Testimony of

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Hearing on The State of Broadband Amid the COVID-19 Pandemic

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Introduction

Long before the COVID-19 crisis, Americans turned to broadband "for every facet of daily life."[2] Broadband is critical for everything from finding a job to receiving medical care, connecting with loved ones, learning, engaging in democratic processes, and being entertained. Without broadband, our nation can't compete economically, advance technologically, or promote the public interest.[3] Unfortunately, this essential service is not available to all Americans.[4]

Congress recognized that broadband was essential, but not universal, 10 years ago, when it required the Federal Communications Commission to create a National Broadband Plan outlining ways to improve internet access across the country.[5] However, today, many Americans still find themselves unconnected. This digital divide has been around for a long time, but the COVID-19 crisis has made it clearer than ever. That is why Public Knowledge believes it is *essential* that all Americans have access to affordable broadband both during the COVID-19 crisis and moving forward. We support a comprehensive legislative package that ensures that broadband is affordable, reliable, and available universally. It's the only way to ensure that no American gets left behind.

Broadband is an Essential Service Without Universal Access

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

[3] 47 U.S.C. § 257(b)

[4] In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, GN Docket No. 19-285 (April 24, 2020) https://www.fcc.gov/document/new-fcc-report-shows-digital-divide-continuing-close-0.

[5] Federal Communications Commission, *Connecting America: The National Broadband Plan*, https://www.fcc.gov/general/national-broadband-plan (The National Broadband Plan)

Before this crisis, millions found themselves at a disadvantage because of an inability to connect to broadband. Stroke patients in areas with a dearth of neurologists were unable to adhere to American Heart Association recommendations to virtually consult with a physician -- potentially jeopardizing their lives.[6] Teenagers reported being unable to complete their homework.[7] Small to medium businesses that could not access global markets through the internet were 30% less likely to survive.[8] Moreover, public safety officials could find themselves unable to communicate life-saving information to local residents and even first responders from other jurisdictions.[9]

Broadband was essential before the COVID-19 pandemic, but is particularly critical now, as governments and health experts are asking or requiring people to stay at home in order to keep people safe. During this crisis, students without broadband connections find themselves doing schoolwork from the parking lots of closed schools or libraries, if they are able to do their schoolwork at all.[10] In North Carolina, a teacher had to teach a two-hour class from her car.[11] Sick or injured individuals may be forced to jeopardize their safety or the safety of others to seek in-person medical care, because they are unable to access telehealth. Other individuals,

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[6] The National Broadband Plan at 201 *citing* American Heart Association, A History of Trans Fat..
[7] Monica Anderson and Andrew Perrin, Nearly one-in-five teens can't always finish their homework because of the https://www.pewresearch.org/fact-tank/2018/10/26/nearly-one-in-five-teens-cant-always-finish-their-homework-because-of-the-digital-divide/ digital divide (October 2018)
[8] Robert Pepper et al., Cross-Border Data Flows, Digital Innovation, and Economic Growth, The Global Information Technology Report 2016 at 41 (2016) http://www3.weforum.org/docs/GITR2016/WEF_GITR_Chapter1.2_2016.pdf.
[9] The National Broadband Plan at 313.
[10] Cecillia Kang, *Parking Lots Have Become a Digital Lifeline*, New York Times (May 5, 2020) https://www.nytimes.com/2020/05/05/technology/parking-lots-wifi-coronavirus.html; Juliette Rihl, *How the pandemic is exacerbating the digital divide in Allegheny County*, Public Source (April 9, 2020) https://www.publicsource.org/how-the-pandemic-is-exacerbating-the-digital-divide-in-allegheny-county/; Jennifer Hemmingsen, *A catalyst for bridging the digital divide*, The Seattle Times (May 8, 2020) https://www.seattletimes.com/opinion/a-catalyst-for-bridging-the-digital-divide/?utm_source=email&utm_medium=email&utm_campaign=article_inset_1.1.
[11] Cecillia Kang, *Parking Lots Have Become a Digital Lifeline*, New York Times (May 5, 2020) https://www.nytimes.com/2020/05/05/technology/parking-lots-wifi-coronavirus.html.

particularly the elderly, report feeling isolated and desolate due to an inability to connect with their loved ones in person or virtually. One woman in Missouri was unable to even virtually meet her new grandchild because she did not have an internet connection at home.[12] Moreover, without internet, it's difficult to access news about this health crisis – something that 70% of Americans report doing.[13] Without this information, Americans may accidentally violate public safety directives because they are not aware of them.

Although broadband is critical, our nation has a large digital divide, leaving those on the wrong side of it struggling to connect. Currently, more than 42 million Americans don't have the ability to purchase broadband, and almost half of the country can't access the internet at broadband speeds (currently defined as 25/3 Mbps).[14] Rural, tribal, and minority communities are particularly impacted by the digital divide. According to the FCC's 2019 Broadband Deployment Report, in 2017, 26% of those in rural areas lacked access to fixed broadband.[15] This number is even more stark for households on rural tribal lands – where less than half have access to fixed broadband.[16] Moreover, according to a Pew Research Center survey, black and Latinx families

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[12] Tali Arbel and Michael Casey, *Those without broadband struggle in nation stuck at home because of coronavirus*, USA Today (March 31, 2020) https://www.usatoday.com/story/money/2020/03/31/those-without-broadband-struggle-nation-stuck-home-coronavirus/5101320002/.

[13] Monica Anderson and Emily A. Vogels, *Americans turn to technology during COVID-19 outbreak, say an outage would be a problem*, Pew Research Center (March 31, 2020) https://www.pewresearch.org/fact-tank/2020/03/31/americans-turn-to-technology-during-covid-19-outbreak-say-an-outage-would-be-a-problem/.

[14] John Busby et al., *FCC Reports Broadband Unavailable to 21.3 Million Americans*, BroadbandNow Study Indicates 42 Million Do Not Have Access, BroadbandNow (February 3, 2020) https://broadbandnow.com/research/fcc-underestimates-unserved-by-50-percent *citing* John Kahan, *It's time for a new approach for mapping broadband data to better serve Americans*, Microsoft (April 8, 2019) https://blogs.microsoft.com/on-the-issues/2019/04/08/its-time-for-a-new-approach-for-mapping-broadband-data-to-better-serve-americans/.

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

[16] Consumer & Governmental Affairs Bureau et al., *Report on Broadband Deployment in Indian Country, Pursuant to the Repack Airwaves Yielding Better Access for Users of Modern Services Act of 2018* at 3 (May 2019) https://docs.fcc.gov/public/attachments/DOC-357269A1.pdf.

are less likely than their peers to have access to broadband internet at home. Only 66% of African Americans and 61% of Hispanics report having broadband at home.[17]

The COVID-19 pandemic has highlighted how essential broadband is to modern life, and how broadband will still be essential when this crisis is over. We need a comprehensive legislative package that goes beyond short-term measures to promote broadband during the COVID-19 crisis, and this includes passing policies aimed at narrowing the digital divide in the long term as well. Congress can do this by investing in expanding broadband access to those in need in rural, suburban, and urban communities across the country; by passing policies that ensure broadband is affordable and that consumers have the devices and digital literacy skills they need to access it; and by ensuring that all internet access is reliable, resilient, and sufficient to enable households to meaningfully engage a broad range of online activities.

It should be noted that these needs and functions complement – rather than compete – with each other. Accordingly, a policy designed to promote deployment may also benefit affordability or reliability. Too often, special interests have sought to set stakeholders against each other by portraying these policies as a zero-sum game where money for affordability subsidies is set against money for rural infrastructure. In reality, affordability subsidies are as important to providing rural networks for deployment as they are to providing service in urban communities. We must therefore fully fund these policies in a coordinated fashion recognizing that money spent to enhance competition and reliability improves affordability, while subsidies for affordability in turn support deployment and the cost of maintaining resilient networks.

Congress Must Ensure that Broadband is Universally Available

[17] Andrew Perrin and Erica Turner, *Smartphones help blacks, Hispanics bridge some - but not all - digital gaps with whites*, (August 20, 2019) https://www.pewresearch.org/fact-tank/2019/08/20/smartphones-help-blacks-hispanicsbridge-some-but-not-all-digital-gaps-with-whites/.

As previously noted, more than 42 million Americans don't have the ability to purchase broadband because it is not available.[18] To remedy this problem, the Federal Communications Commission has estimated that it will cost $80 billion to deploy broadband nationwide.[19] Congress must provide sufficient funding for flexible and efficient deployment strategies that help connect unserved and underserved individuals across the United States.

Funding Should Be Directed Towards All Unserved and Underserved Areas

Our nation cannot close its digital divide if funding is not directed to all unserved and underserved areas in urban, suburban, and rural areas. Currently, internet service providers are less likely to deploy broadband in low-income or rural areas because doing so is less profitable or riskier than deploying elsewhere.[20] In order to promote deployment to rural and low-income areas, comprehensive legislation could condition the receipt of federal deployment funding with buildout requirements to serve both more and less profitable parts of a provider's area.

This is particularly true in urban areas where "digital redlining" has reemerged.[21] Unlike rural areas, where providers receive a subsidy to serve a high-cost area, no subsidies exist to encourage providers to serve or upgrade urban neighborhoods despite the perceived lack of profit. Accordingly, although neighboring census tracts might enjoy access to ever increasing speeds, the broadband infrastructure in these neighborhoods degrades over time instead.

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[18] John Busby et al., *FCC Reports Broadband Unavailable to 21.3 Million Americans*, BroadbandNow Study Indicates 42 Million Do Not Have Access, BroadbandNow (February 3, 2020) https://broadbandnow.com/research/fcc-underestimates-unserved-by-50-percent *citing* John Kahan, *It's time for a new approach for mapping broadband data to better serve Americans*, Microsoft (April 8, 2019) https://blogs.microsoft.com/on-the-issues/2019/04/08/its-time-for-a-new-approach-for-mapping-broadband-data-to-better-serve-americans/.

[19] Paul de Sa, *Improving the Nations Digital Infrastructure*, FCC Office of Strategic Planning and Policy Analysis (2017) https://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0119/DOC-343135A1.pdf.

[20] Rose, *Gregory, Wireless Broadband and the Redlining of Rural America*, New America Foundation (2010) https://www.newamerica.org/oti/policy-papers/wireless-broadband-and-the-redlining-of-rural-america/.

[21] Bill Calhallan, *AT&T's Digital Redlining in Dallas: New Research by Dr. Brian Whitacre*, NDIA Blog (August 6, 2019) https://www.digitalinclusion.org/blog/2019/08/06/atts-digital-redlining-of-dallas-new-research-by-dr-brian-whitacre/

Traditional deployment funding to broadband providers will not remedy this problem because the providers do not take deployment funding to serve areas that are not profitable (although increasing subsidies to low-income recipients would help to make these neighborhoods more profitable).[22] Either we should build new programs explicitly designed to create competing providers in these underserved neighborhoods (as described below) or legislation should require universal service standards or other anti-redlining measures enforced at either the state level or by the FCC. These standards could require the recipients of federal deployment funding to buildout to both more and less profitable parts of a provider's area.

Congress Should Prioritize Funding Municipal Broadband and Other Alternative Providers

As previously noted, internet service providers usually do not serve areas that do not promise sustained profitability over time, even with deployment funding. In order to ensure that broadband deployment funds are used in the areas that need it most, one approach is to encourage non-commercial entities to provide broadband access. For example, Congress should encourage municipal broadband and broadband cooperatives to step in where for-profit companies do not see worthwhile business opportunities. These entities usually provide more affordable offerings than for-profit providers because they want to deploy broadband as a public service. Offering affordable broadband can be a natural fit for these entities because they already have experience running utilities, like water and electric.[23] However, half of all states have blocks or bans on municipal broadband.[24] These policies harm competition, and federal competition policy should supersede them.

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[22] Bill Callahan, *AT&T's Digital Redlining of Dallas: New Research by Dr. Brian Whitacre*, National Digital Inclusion Alliance (August 6, 2019) https://www.digitalinclusion.org/blog/2019/08/06/atts-digital-redlining-of-dallas-new-research-by-dr-brian-whitacre/.

[23] Harold Feld, *Solving the Rural Broadband Equation, 51 State and Local Government Review* (forthcoming).

[24] Kendra Chamberlain, *Municipal Broadband Is Roadblocked Or Outlawed In 25 States*, BroadbandNow (April 17, 2019) https://broadbandnow.com/report/municipal-broadband-roadblocks/.

Additionally, it makes sense to prioritize funding for municipal broadband providers, broadband cooperatives, or local providers (or ensure that a certain percentage of money intended for deployment is awarded to these providers). Studies repeatedly show that local broadband providers offer better service and promote adoption better than non-local providers, whether for-profit or non-profit.[25] Federal funds should therefore encourage local broadband deployment rather than trying to entice those otherwise uninterested in the community to deploy.

Encouraging deployment of fiber to low-income neighborhoods is equally urgent but requires a more surgical approach. Encouraging the formation of broadband cooperatives in public housing units, allowing residents to pool their resources, and funding fiber installation and necessary equipment in each public housing apartment during construction will promote competition. This would drastically reduce the cost of servicing these buildings with high-speed broadband, expanding incentives for providers to offer service to the residents of these housing projects.

Funding Should be Used Efficiently

When Congress is providing funding for broadband deployment, it should ensure that those funds are used efficiently. To do this, Congress can empower municipalities to plan for deployment in their own communities and require "dig once" policies.

A West Virginia state program demonstrates how broadband grants and state initiatives can help localities develop a broadband plan that assesses all the relevant local strengths and efficiently makes recommendations. In 2018, West Virginia allocated $2.4 million in community development block grants exclusively for broadband. Through this fund, the West Virginia

[25] Pew Charitable Trusts, "How States Are Expanding Broadband Access: New Research Identifies Tactics for Connecting Unserved Communities," (February 2020). Available at: https://www.pewtrusts.org/-/media/assets/2020/02/broadband_report_final.pdf

Development Office makes planning grants available to counties so they can determine what areas need public funding to deploy broadband networks and the best way to use that money to achieve deployment.[26] As highlighted by PEW, this program has helped West Virginia make significant advances in broadband deployment by allowing for efficient expenditure of resources and enhanced community engagement.[27] By engaging in similar fact-finding, other localities may find that they already have available conduit, fiber, or spectrum licenses that can be used to provide part of the network.

Funding can also be used efficiently by implementing "dig once" policies. These policies reduce the costs of deploying broadband by requiring the installation of conduit or broadband during construction projects receiving federal funding. Doing so when the roads are initially constructed can significantly reduce deployment costs because up to 90% of the cost of installing broadband is tied to digging up roadways.[28] In fact, Broadband Now estimated that the country could have saved up to $126 billion dollars by implementing "dig once" policies nationally.[29]

Congress Must Enforce the Use of Accurate Data for Broadband Deployment Funding

If Congress were to invest the funds needed to deploy broadband universally, that funding would be unlikely to completely close the digital divide because the FCC doesn't have accurate mapping data with which to make funding decisions. Congress recently passed the Broadband Data Act to fix problems with the FCC's data collection process since that process

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[26] Dylan Vidovich, *Commission Hears Details of Broadband Grant*, The Logan Banner (Sept. 11, 2019), https://www.loganbanner.com/news/commission-hears-details-of-broadband-grant/article_c04a6281-7e9f-5374-82dd-099b898224e1.html.

[27] Pew Charitable Trusts, *How States Are Expanding Broadband Access: New Research Identifies Tactics for Connecting Unserved Communities* (Feb. 2020), https://www.pewtrusts.org/-/media/assets/2020/02/broadband_report_final.pdf.

[28] Federal Highway Administration Office of Transportation Policy Studies, *Policy Brief* (October 2013) https://www.fhwa.dot.gov/policy/otps/policy_brief_dig_once.pdf.

[29] Tyler Cooper, *Dig Once: The Digital Divide Solution Congress Squandered And Policy That Could Save $126 Billion On Broadband Deployment*, BROADBAND NOW (Aug. 7, 2019), https://broadbandnow.com/report/dig-once-digital-divide/.

leads the FCC to dramatically overstate broadband coverage.[30] However, the FCC has stalled implementing that Congressional mandate.[31] States, recognizing the federal deficit and how imperative it is to spend funds based on accurate data, have started their own efforts. Georgia passed the Achieving Connectivity Everywhere Act in 2018, which created a separate state broadband mapping program to supplement the existing federal mapping program. Georgia now has a more accurate and granular state-level broadband map that encourages investment in specific infrastructure.[32]

Although the FCC does not have accurate broadband deployment data, it has proposed distributing billions of dollars in funding for rural broadband based on the current faulty maps.[33] FCC Commissioners Rosenworcel and Starks have both noted that distributing funds based on incorrect data will foreclose networks that potentially would serve millions of unserved Americans from receiving funding.[34] Still, the FCC has chosen to preclude areas deemed to be served from receiving federal funding for broadband deployment through the Rural Digital

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[30] Broadband Deployment Accuracy and Technological Availability Act P.L 116-130; The FCC's most recent broadband deployment report estimates that less than 18 million Americans lack broadband, while other reports believe nearly 42 million Americans lack broadband. 2020 Broadband Deployment Report, In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, GN Docket No. 19-285 (April 20, 2020) https://docs.fcc.gov/public/attachments/FCC-20-50A1.pdf

[31] FCC Proposes the 5G Fund for Rural America, Federal Communications Commission (April 23, 2020) https://docs.fcc.gov/public/attachments/DOC-363946A1.pdf.

[32] DeMuth, Mary Ann, "Transforming Digital Dirt Roads," GeorgiaTrend.com (December 29, 2019) https://www.georgiatrend.com/2019/12/31/transforming-digital-dirt-roads/?utm_source=sendgrid&utm_medium=email&utm_campaign=Newsletters&mc_cid=b647a19688&mc_eid=bf11efc24c

[33] FCC Proposes the 5G Fund for Rural America, Federal Communications Commission (April 23, 2020) https://docs.fcc.gov/public/attachments/DOC-363946A1.pdf; Report and Order in the Matter of Rural Digital Opportunity Fund Connect America Fund, WC Docket No. 19-126 WC Docket No. 10-90 (February 7, 2020) https://docs.fcc.gov/public/attachments/FCC-20-5A1.pdf.

[34] Statement of Commissioner Geoffrey Starks Re: *Rural Digital Opportunity Fund*, *Connect America Fund*, WC Docket No. 19-126; WC Docket No. 10-90 (January 30, 2020) https://www.publicknowledge.org/documents/fcc-commissioner-starks-statement-on-rural-digital-opportunity-fund/.

Opportunity Fund or the 5G Fund.[35] The FCC has also excluded some unknown additional number of census blocks from receiving funding if a network within the census block has received state or other federal funding, even if the network remains unbuilt. According to FCC Commissioner Starks, this could reduce or eliminate the opportunity for Americans in about 30 states to benefit from new broadband deployment funds.[36] In order to ensure that needy areas are not being precluded from broadband deployment funding, Congress must hold the FCC accountable for implementing updates to its data collection about where broadband is and is not available, and should instruct the FCC to treat state grants as a complement -- rather than a replacement -- to federal efforts.

Congress Should Help Narrow the Homework Gap

Before this pandemic, an estimated 12 million students in this country did not have internet access at home and could not complete schoolwork.[37] Students in black and Hispanic households are particularly likely to be impacted. One-fourth of black teens report sometimes being unable to complete their homework due to a lack of digital connectivity, and another one in 1 in 5 black teens report that they sometimes must rely on public Wi-Fi in order to do homework.[38] This pandemic shines an even brighter light on the "homework gap." As schools close and classes transition online for the foreseeable future, students who fall into the

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[35] Report and Order in the Matter of Rural Digital Opportunity Fund Connect America Fund, WC Docket No. 19-126 WC Docket No. 10-90 (February 7, 2020) https://docs.fcc.gov/public/attachments/FCC-20-5A1.pdf.

[36] Statement of Commissioner Geoffrey Starks *Re: Rural Digital Opportunity Fund*, *Connect America Fund*, WC Docket No. 19-126; WC Docket No. 10-90 (January 30, 2020) https://www.publicknowledge.org/documents/fcc-commissioner-starks-statement-on-rural-digital-opportunity-fund/; Statement of Commissioner Jessica Rosenworcel *Re: Establishing a 5G Fund for Rural America*, GN Docket No. 20-32, WT Docket No. 10-208 (January 30, 2020) https://docs.fcc.gov/public/attachments/FCC-20-52A5.pdf.

[37] Kim Hart, *The Homework Divide: 12 million schoolchildren lack Internet* (December 2018) https://www.axios.com/the-homework-gap-kids-without-home-broadband-access-3ad5909f-e2fb-4208-b4d0-574c45ff4fe7.html

[38] Monica Anderson and Andrew Perrin, *Nearly one-in-five teens can't always finish their homework because of the digital divide*, Pew Research Center (October 2018) https://www.pewresearch.org/fact-tank/2018/10/26/nearly-one-in-five-teens-cant-always-finish-their-homework-because-of-the-digital-divide/

homework gap risk falling behind their peers. While these students may have been able to access broadband in their local school or library before the pandemic, these facilities are now closed. For example, 30% of students in Yakima County, Washington do not have home internet service, leaving them unable to compete with their peers.[39] We commend Commissioner Rosenworcel for her efforts in highlighting the seriousness of this problem and diligently championing students.

In order to ensure that this inequity is not exacerbated, and to promote success amongst K-12 students, Congress should pass the "Emergency Educational Connections Act of 2020." This bill would provide funding to ensure that K-12 students have home internet and devices during the pandemic and do not have to rely on publicly accessible Wi-Fi.

Congress should also ensure that postsecondary students do not fall behind during the COVID-19 pandemic. Over 96% of postsecondary students report using the internet for schoolwork.[40] However, many postsecondary students may struggle to learn from home, where students aren't able to access campus Wi-Fi. The E-Rate program supports connectivity for K-12 schools and libraries, but not postsecondary students.[41] Congress can ensure that postsecondary students can successfully train for good jobs during the pandemic by enacting the "Supporting Connectivity for Higher Education Students in Need Act," which would provide temporary support to higher education institutions to increase connectivity for their students.

It should, however, be noted that these pieces of legislation are a short-term solution for student connectivity because of their reliance upon mobile hotspots. Mobile hotspots enable

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[39] Jennifer Hemmingsen, *A Catalyst for Bridging the Digital Divide*, The Seattle Times (May 8, 2020) https://www.seattletimes.com/opinion/a-catalyst-for-bridging-the-digital-divide/?utm_source=email&utm_medium=email&utm_campaign=article_inset_1.1.

[40] Robert B. Kvavik, *Convenience, Communications, and Control: How Students Use Technology*, EDUCAUSE Center for Analysis and Research and University of Minnesota, Twin Cities (2005) https://www.educause.edu/research-and-publications/books/educating-net-generation/convenience-communications-and-control-how-students-use-technology.

[41] Universal Service Administrative Co., *School and Library Eligibility*, https://www.usac.org/e-rate/applicant-process/before-you-begin/school-and-library-eligibility/.

devices like laptops to connect to wireless networks. Unfortunately, wireless networks are generally slower than wired networks (particularly fiber); can become congested more easily; are more likely to carry usage limits such as data caps; and may not be available in rural areas to begin with.[42] Neither are mobile hotspots an ideal way to connect an entire household of devices, or to provide connectivity to streaming devices like smart TVs. There is a reason why, within the home, even devices with built-in LTE typically connect to Wi-Fi networks that are connected to wired networks. While an expedient short-term solution during the COVID-19 crisis, Congress should prioritize other methods of deployment for the long term.

In the long term, our nation can ensure that students have internet by supporting the E-Rate program, which was created to help schools and libraries obtain affordable internet.[43] In addition to funding school and library connectivity, Congress and the FCC should consider ways that E-Rate funding could be utilized to help serve communities. This would include making policy changes to the E-Rate program that allow the schools and libraries who want to do so to

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[42] "Even when a [wireless] network is designed with a small cell radius to decrease the number of subscribers covered by each cell, the number of user devices simultaneously trying to communicate with the antenna can still cause congestion." Columbia Telecommunications Corporation, *The State of the Art and Evolution of Cable Television and Broadband Technology 2014* at 15 (2014) https://www.publicknowledge.org/wp-content/uploads/2019/09/State_of_the_Art_and_Evolution_of_Cable_Television_and_Broadband_Technology.pdf (CTC Report); "Wireless availability is lower in rural areas and speeds get slower the further from cities you go." Open Signal, *Mobile Experience in Rural USA - An Operator Comparison*, (2019) https://www.opensignal.com/2019/09/24/mobile-experience-in-rural-usa-an-operator-comparison; "Additionally, Actual wireless availability in rural areas frequently doesn't live up to coverage claims." *See Mobile Wireless in Vermont* (2019) https://publicservice.vermont.gov/sites/dps/files/documents/Connectivity/BroadbandReports/2019/Mobile%20Wireless%20Report.pdf ; Justin Strawser, *Though '100 percent coverage' Valley cellular dark zones exist*, The Daily Item, July 19, 2019, https://www.dailyitem.com/news/though-percent-coverage-valley-cellular-dark-zones-exits/article_97f81258-9bec-11e9-8f57-df3fe97f0454.html; "Wireless dead zones are common in cities as well. Dead zones occur in cities, too." CBS Chicago, *An Analysis Of Chicago Cell Phone Dead Zones*, September 22, 2019, https://chicago.cbslocal.com/2019/09/22/an-analysis-of-chicago-cell-phone-dead-zones; *see generally* https://www.deadcellzones.com; "Unlike wired connections, wireless signals are affected by terrain, weather, buildings and other factors." CTC Report 13-14; "Finally, data caps are both more common, and more restrictive on wireless connections." *see generally* Public Knowledge's resources at https://www.publicknowledge.org/issues/data-caps.

[43] Federal Communications Commission, *E-Rate - Schools & Libraries USF Program,* https://www.fcc.gov/general/e-rate-schools-libraries-usf-program (last visited May 11, 2020).

use their connectivity funded through E-rate to provide backhaul. For example, in Boulder Valley, Colorado, school districts will extend the school's fiber network to nearby low-income housing complexes.[44] In this way, the schools could allow their networks, which are largely unused during non-school hours, to share excess bandwidth with students who need it to complete homework.

We Should Help Tribes Close the Digital Divide

When distributing broadband deployment funds, Congress must not leave tribal areas behind and should enact policies targeted at eliminating the significant digital divide between tribal and non-tribal areas; there is a nearly 27-point gap in the number of housing units with fixed 25/3 Mbps service on rural tribal lands than non-tribal rural lands.[45] The FCC should work in consultation with tribal leaders to make sure deployment programs meet the needs of tribal communities. A first step is to add tribal areas to the universal service principles, thus ensuring that the FCC must require deployment of broadband to tribal communities at service levels and rates comparable to non-tribal areas.[46]

Another way to do this is to utilize the E-Rate program. Libraries play a key role in closing the digital divide because they provide internet access to residents without access, such as students, seniors, and job seekers. However, despite catering to residents that are particularly impacted by the digital divide, only 15% of tribal libraries receive E-Rate funding.[47] This is due in large part to not meeting the eligibility criteria because of the diverse functions many tribal

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[44] Before the Federal Communications Commission *In The Matter of Modernizing the E-Rate Program for Schools and Libraries. WC Docket No. 13-184 (May 2016)* https://ecfsapi.fcc.gov/file/60001843683.pdf

[45] Federal Communications Commission, *Report on Broadband Deployment in Indian Country, Pursuant to the Repack Airwaves Yielding Better Access for Users of Modern Services Act of 2018* (May 2019) https://docs.fcc.gov/public/attachments/DOC-357269A1.pdf.

[46] *See* 47 U.S.C. §254(b).

[47] American Library Association, *A Broadband Imperative: Equitable Opportunity for Tribal Communities through Libraries* (Oct. 2018), http://www.ala.org/advocacy/sites/ala.org.advocacy/files/content/telecom/TribalBroadband.pdf.

libraries perform. In order to ensure that tribal communities have access to broadband, Congress should direct the FCC to revisit how to better connect tribal libraries and other tribal community anchor institutions that serve similar functions, such as tribal cultural centers.

Finally, Congress can require the FCC to allow Tribes and tribal carriers to share unused spectrum. Many companies that hold the license to the spectrum available on tribal lands never use it because wireless internet can be expensive to deploy.[48] Many tribes want to use that spectrum to deploy their own wireless internet but are not allowed to because they don't have the license. Congress should require the FCC to create a policy allowing others (including tribes themselves, or other broadband providers) to use those frequencies if the license holder does not build out within a given period. Once the license holder does build out, the entity sharing the spectrum could once again fully use their spectrum. Combined, these policy solutions can improve tribal connectivity.

Congress Must Ensure that Broadband is Affordable

Even if broadband is *available* it is not always *affordable* and, consequently, it is not adopted. Lower broadband adoption is correlated with lower household incomes.[49] Furthermore, Americans with higher incomes are more likely to have more than one device enabling them to connect to the internet.[50] Individuals in households without broadband struggle to participate in economic, social, and educational activity that takes place online. A broadband provider's presence in a market is not an appropriate proxy for broadband adoption, and any analysis that informs a policy decision must closely evaluate the number of households actually connected.

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[48] *See* In re Improving Communs. Servs. for Native Nations , 26 FCC Rcd 2623 (F.C.C. March 3, 2011)..
[49] Angela Siefer, *FCC broadband report ignores affordability issue*, National Digital Inclusion Alliance (May 30, 2019) https://www.digitalinclusion.org/blog/2019/05/30/fcc-broadband-report-ignores-affordability-issue/.
[50] Monica Anderson and Madhumitha Kumar, *Digital divide persists even as lower-income Americans make gains in tech adoption*, Pew Research (May 7, 2019) https://www.pewresearch.org/fact-tank/2019/05/07/digital-divide-persists-even-as-lower-income-americans-make-gains-in-tech-adoption/.

To close the digital divide and bring the cost of broadband within reach for consumers across the country both during and after the COVID-19 pandemic, multiple policy solutions should be leveraged in tandem. A competitive market for broadband -- one in which multiple service options are available — can lower the cost and increase quality of service to consumers. Congress can also promote broadband affordability through subsidies that give Americans a way to pay for services they may otherwise decide is too expensive.

We Should Promote Broadband Competition Through Open Access Infrastructure and Regulation

Numerous studies on internet pricing demonstrate that new internet service providers entering a market can substantially benefit consumers.[51] Absent competition, consumers may miss out on lower, more affordable options. For example, AT&T customers with gigabit connections in areas without competitive providers can pay up to $60 more a month than consumers in regions with competitive providers.[52] This lack of competition should be especially concerning considering how expensive broadband is in America compared to countries around the world. A recent study comparing broadband among 35 Organization for Economic and Cooperation Development (OECD) countries found America to be among the most expensive.[53]

Although competition is immensely valuable, a significant portion of Americans lack access to competitive options. In addition to the millions of Americans who don't have access to any broadband, approximately a quarter of Americans have access to only one fixed broadband

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[51] Jonathan Sallet, *Broadband for America's Future: A Vision for the 2020s*, Benton Institute for Broadband and Society at 49 (October 2019) https://www.benton.org/sites/default/files/BBA_full_F5_10.30.pdf.
[52] Karl Bode, *Harvard Study Shows Why Big Telecom Is Terrified of Community-Run Broadband*, Vice (January 12, 2018) https://www.vice.com/en_us/article/d345pv/harvard-study-shows-why-big-telecom-is-terrified-of-community-run-broadband..
[53] Jonathan Sallet, Broadband for Americas Future: A Vision for the 2020s, Benton Institute for Broadband & Society (October 2019) https://www.benton.org/sites/default/files/BBA_full_F5_10.30.pdf.

provider.[54] Because too many areas lack competitive providers, consumers are paying artificially higher broadband prices. Studies show that prices for packages, including broadband access, are about $25 higher per month than they should be.[55]

When existing incentives fail to bring about broadband competition, open access infrastructure can create conditions that support competitive markets. Typically, broadband providers deploy in communities where the expected profits outweigh the cost of investment.[56] However, if broadband providers are spared the cost of building the infrastructure for deployment, they are more likely to offer their services to a particular area. Open access infrastructure is built and owned by local governments, functioning as wholesalers. Local governments lease this infrastructure to broadband providers, permitting them to provide services to homes and commercial entities.[57] This policy option may be particularly beneficial for areas in which broadband providers are still reluctant to offer service even with the aid of existing government deployment subsidies. This strategy helped deploy broadband in Lincoln, Nebraska, when the Public Works Department identified over 350 square miles of decommissioned pipelines that they were able to use as conduit to lay fiber. This attracted multiple providers, since they were able to pull fiber through the area cheaply.[58]

Congress must do more to promote competition. If one carrier has a dominant market position, the simple presence of other small players alone does not secure a competitive market.

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[54] Federal Communications Commission, *Fact Sheet Communications Marketplace Report* at 99, GN Docket No. 18-231 (November 21, 2018) https://docs.fcc.gov/public/attachments/DOC-355217A1.pdf.
[55] Calculations made by Mark Cooper showing the increase in profit by wireless companies based on earnings before taxation, depreciation, and amortization.
[56] Harold Feld, *Solving the Rural Broadband Equation, 51 State and Local Government Review* (forthcoming).
[57] Amina Fazlullah and Christopher Mitchell, *Connecting the Unconnected with Open Access Infrastructure*, Benton Institute for Broadband and Society (December 20, 2018) https://www.benton.org/headlines/connecting-unconnected-open-access-infrastructure
[58] Community Broadband Bits Podcast, Episode 228, *City of Lincoln Conduit Spurs FTTH, School Network Innovation*, Munitnetworks.org (Nov 15, 2016) https://muninetworks.org/content/transcript-community-broadband-bits-episode-228.

Incumbent companies have demonstrated their willingness to engage in anti-competitive behavior that reinforces their dominance.[59] Congress should begin by removing limitations on overbuilding as a means of promoting competition. As the Benton Institute recently advised in its recommendations for broadband policy: "'overbuilding' should be called by its more familiar name, 'competition.'"[60]

We Must Provide Subsidies to Make Broadband Affordable and Keep Struggling Americans Connected

A key way that Congress can ensure everyone is able to connect to the internet is to subsidize access, with a priority for those who are struggling to make ends meet. To date, over 33 million Americans have lost their jobs due to the COVID-19 crisis, and millions more have had their hours reduced, jeopardizing their ability to pay for broadband.[61] Even before the COVID-19 crisis, millions of Americans did not subscribe to broadband because they couldn't afford it. In one survey, 50% of non-broadband subscribers cited price as the reason they lacked home service.[62] This is further evidenced in statistics about who subscribes to broadband. Only 56% of American adults making less than $30,000 subscribe to broadband, while 92% of Americans making $75,000 or more subscribe.[63]

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[59] Mark Cooper, *Overcharged and Underserved: How a Tight Oligopoly on Steroids Undermines Competition and Harms Consumers in Digital Communications Markets*, Consumer Federation of America and Public Knowledge (December 2016) https://consumerfed.org/wp-content/uploads/2016/12/Overcharged-and-Underserved.pdf.
[60] Jonathan Sallet, *Broadband for America's Furture: A Vision for the 2020s*, Benton Institute for Broadband & Society at 32 (2019).
[61] Heather Long and Emily Guski, *Over 33 million Americans lost their job during the pandemic. 77 percent believe they'll get it back, Post-Ipsos poll finds*, Washington Post (May 7, 2020) https://www.washingtonpost.com/business/2020/05/07/nearly-80-percent-laid-off-workers-believe-they-will-return-their-old-job-post-ipsos-poll-finds/.
[62] Monica Anderson, *Mobile Technology and Home Broadband in 2019*, Pew Research Center (June 2019) https://www.pewresearch.org/internet/2019/06/13/mobile-technology-and-home-broadband-2019/
[63] Monica Anderson, *Mobile Technology and Home Broadband in 2019*, Pew Research Center (June 2019) https://www.pewresearch.org/internet/2019/06/13/mobile-technology-and-home-broadband-2019/

Given the increasing necessity of broadband during the crisis, and the increasing number of Americans who cannot afford it, we must subsidize broadband for those who need it during this crisis so that no one has to choose between staying connected to essential communications and feeding their families. One way to do this is to create an emergency Lifeline or Lifeline-style benefit that subsidizes the cost of internet for eligible residents in economic distress during the crisis. This should also provide a larger subsidy to tribal residents to account for their lower connectivity rates. An alternative approach would provide subsidies for all Americans during the crisis, to ensure that those who most need financial assistance are able to get it quickly and easily.[64]

Additionally, Congress must ensure that those who can no longer pay for broadband because COVID-19 has impacted their financial security will not find this critical service shut-off during the pandemic and its economic recovery period. Americans cannot continue to rely on the voluntary pledges of for-profit companies, themselves under increasing pressure from shareholders as the ongoing COVID-19-induced financial crisis continues. We therefore support the "Continuing Online Networking, Negating Economic Conditions on Technology (CONNECT) At Home Act," which would ensure continued connectivity for Americans, despite an inability to pay, for the duration of the crisis.

Once the COVID-19 crisis is over, we need to continue providing broadband subsidies to needy households through the Lifeline program. Although there are a variety of policy interventions available to bring down the cost of broadband, the Lifeline program will ensure that the most economically vulnerable Americans have access. Policymakers should also consider changes to the Lifeline program that will bring broadband affordability within reach for

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[64] Harold Feld, *Want to Keep America Home? Give Everyone Free Basic Broadband,* Public Knowledge (March 2020) https://www.publicknowledge.org/blog/want-to-keep-america-home-give-everyone-free-basic-broadband/

Americans in the greatest need of assistance. First, the Lifeline program should be allowed to support standalone broadband, independent of phone service, in order to ensure that consumers have choice and competitive options. In recently submitted comments to the FCC, Public Knowledge highlighted that this restriction unduly limits consumer choice, especially during a time when Americans are increasingly relying on broadband to conduct important work and educational activities.[65] Second, we must ensure Lifeline is utilized. Even before COVID-19, only about 40% of households that were eligible for Lifeline subscribed.[66] According to the Government Accountability Office, this is due in part to individuals not knowing about the program.[67] Ensuring that eligible consumers know about their eligibility is an easy way to narrow the digital divide. Finally, policymakers should increase subsidy amounts to ensure that eligible consumers are able to partake in the program. Studies show that $10 per month is the most low-income Americans can afford to pay for broadband.[68] However, current subsidies are only $9.25 a month per household while the cost of monthly broadband is approximately $50-68 – likely meaning consumers will pay far more than they can afford if they choose to participate.[69]

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[65] Public Knowledge Comments In the Matter of Wireline Competition Bureau Seeks to Refresh Record in Restoring Internet Freedom and Lifeline Proceedings in Light of the D.C. Circuit's Mozilla Decision, WC Docket Nos. 17-108, 17-287, 11-42 DA 20-168 (April 20, 2020) https://www.publicknowledge.org/documents/public-knowledge-net-neutrality-fcc-remand-comments/.

[66] *Demand for Broadband in Rural Areas: Implications for Universal Access*, Congressional Research Service (December 9, 2019) https://crsreports.congress.gov/product/pdf/R/R46108 ("Enrollment rates vary significantly by state, but are under 40% in most cases.")

[67] Government Accountability Office, *FCC Should Evaluate the Efficiency and Effectiveness of the Lifeline Program*, Report to the Chairman, Committee on Commerce, Science and Transportation, U.S. Senate (March 2015) https://www.gao.gov/assets/670/669209.pdf.

[68] Jonathan Sallet, *Creating an Affordability Agenda*, Benton Institute for Broadband and Society (January 23, 2020) https://www.benton.org/blog/creating-affordability-agenda.

[69] Angele A. Gilroy, Federal Lifeline Program: Frequently Asked Questions, Congressional Research Service (October 19, 2017) https://fas.org/sgp/crs/misc/R44487.pdf; Joan Engebreston, *Broadband Affordability Report: Nearly Half of U.S. Population Lacks Access to a Low-Price Offering*, TeleCompetitor (April 2, 2019) https://www.telecompetitor.com/broadband-affordability-report-nearly-half-of-u-s-population-lacks-access-to-a-low-price-offering/.

With sufficient funding and appropriate modification, the Lifeline program will significantly narrow the digital divide by ensuring that needy households can afford broadband.

We Must Fund Digital Equity

Even if subsides and increased competition will allow consumers to afford broadband, they can't connect without equipment and digital literacy skills. Thirty-seven percent of non-broadband users cite the cost of a computer as one of the reasons they do not have broadband at home.[70] Digital literacy can also be a barrier to connecting. A startling one-third of Americans lack digital skills they need to successfully navigate digital devices.[71] The Digital Equity Act would provide funding to states to implement digital equity plans, and to other stakeholders to support digital equity projects.[72] This bill is an important component to any policy effort to bring broadband to all Americans.

We Need the FCC to Collect Price Data

Recently, major carriers have increased the charges for internet services, however prices for consumers won't go down until they are transparent. [73] Without price transparency, the FCC can't determine whether the broadband market is sufficiently competitive and affordable, and make policy changes accordingly. Moreover, consumers won't be able to make an informed choice about which service to subscribe to. However, the FCC does not collect data about how much providers are charging for their services. Congress should remedy this by requiring the FCC to collect from providers information about the prices they charge consumers, including all

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[70] Monica Anderson, *Mobile Technology and Home Broadband 2019*, Pew Research Center (June 13, 2019) https://www.pewresearch.org/internet/2019/06/13/mobile-technology-and-home-broadband-2019/.
[71] National Skills Coalition, *Applying a racial equity lens to digital literacy* (March 20, 2020) https://www.nationalskillscoalition.org/resources/publications/file/Digital-Skills-Racial-Equity-Final.pdf.
[72] National Digital Inclusion Alliance, *The Digital Equity Act of 2019 One Pager*, https://www.digitalinclusion.org/wp-content/uploads/2019/04/Digital-Equity-Act-One-Pager-1.pdf
[73] James K. Wilcox, *Cable TV Prices Are Climbing for 2020*, Consumer Reports (January 16, 2020) https://www.consumerreports.org/tv-service/cable-tv-prices-climbing/.

associated fees and equipment rentals. This should also include information about bundled packages. All told, these stories show that learning how much providers are charging, is a key component of keeping broadband affordable, and closing the digital divide.

We Must Ensure That Broadband is Reliable and Resilient

Even if Americans are able to access broadband, they will not be able to truly stay connected if that broadband is slow, unreliable, or subject to data caps. That's why it's important to regulate the quality of the internet service provider offerings and ensure that broadband providers invest in improving their networks.

We Must Promote Adequate Speeds

Sufficient broadband speeds are essential for Americans to engage in the facets of life that are enabled by broadband. This is particularly true during the COVID-19 pandemic, when many families are all together working and learning from home. This likely entails frequent video conferencing and streaming of educational content. According to the FCC, for even half of a family of four to engage in these activities at once, the household will need more than 25 Mbps.[74] However, that figure is likely higher, because most families have multiple family members engaging in high-bandwidth activities at once, and the bandwidth demands of work and educational applications continue to increase.[75] After this pandemic, many Americans may continue to rely on their home broadband connections more frequently. If consumers experience slowdowns or don't have sufficiently fast broadband to begin with, they may be forced to choose which family members can work or learn at any given time.

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[74] Federal Communications Commission, *Household Broadband Guide*, https://www.fcc.gov/consumers/guides/household-broadband-guide

[75] For example, Netflix recommends 25 Mbps for high-quality video alone. *See* Netflix, *Internet Speed Recommendations*, https://help.netflix.com/en/node/306.

Contrary to some reports from internet service providers, with more activities moving online during the COVID-19 crisis, many cities have in fact experienced internet slowdowns.[76] In mid-April, Broadband Now reported that approximately one-third of the 200 most populous cities in the country experienced speed decreases.[77] Some of these cities, including Albuquerque, New Mexico, and Boca Raton, Florida, have seen speed decreases of more than 40%.[78] According to the same report, rural areas have also seen speed decreases from earlier in 2020.[79] This data indicates that, despite reassurances about the overall health of the internet, many families are unable to meaningfully engage in necessary digital activities because of slowdowns.

This surge in demand highlights why Congress should require the FCC to increase its current broadband benchmark speed from 25/3 Mbps to at least 100 Mbps downstream, and to periodically increase its benchmark speed thereafter. The FCC has not increased its benchmark speed in five years.[80] Although the COVID-19 lockdown has dramatically accelerated existing trends, evidence already showed that American consumers were using faster than the minimum speeds, and providers are offering significant speed increases. According to the Fiber Broadband Association, "average upload speeds in the U.S. surpassed 10 Mbps over two years ago, grew by

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[76] USTELECOM, Network Performance, https://www.ustelecom.org/research/network-performance-data/

[77] Over the past week, 67 cities (33.5% of the top 200) experienced median upload speed decreases of 10% or greater below range of previous weeks in 2020. *See* Tyler Cooper, *Internet Speed Analysis: Rural, top 200 Cities April 12-18*, BroadbandNow (April 2020) https://broadbandnow.com/report/internet-speed-analysis-april-12th-18th/?utm_campaign=Newsletters&utm_source=sendgrid&utm_medium=email&mc_cid=efc9112c3f&mc_eid=bf11efc24c.

[78] Tyler Cooper, *Internet Speed Analysis: Rural, top 200 Cities April 12-18*, BroadbandNow (April 2020) https://broadbandnow.com/report/internet-speed-analysis-april-12th-18th/?utm_campaign=Newsletters&utm_source=sendgrid&utm_medium=email&mc_cid=efc9112c3f&mc_eid=bf11efc24c.

[79] Tyler Cooper, *Internet Speed Analysis: Rural, top 200 Cities April 12-18*, BroadbandNow (April 2020) https://broadbandnow.com/report/internet-speed-analysis-april-12th-8th/?utm_campaign=Newsletters&utm_source=sendgrid&utm_medium=email&mc_cid=efc9112c3f&mc_eid=bf11efc24c.

[80] Public Knowledge Comments Re: Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, GN Docket No. 19-285 (January 30, 2020) https://ecfsapi.fcc.gov/file/10130208551747/PK%20Letter-%20Jan.%2030%2C%202020.pdf.

75% over the next year, and continues to increase significantly."[81] Analysts project that, even after COVID-19, working from home will increase significantly.[82] Without increasing the minimum benchmark speed, our nation will invest in deploying broadband networks that are outdated by the time they are built -- leaving consumers and employers to face the consequences.

We Must Ensure that Providers Invest in Improving and Maintaining Networks

While internet slowdowns can jeopardize consumers' ability to use the internet effectively, internet outages can jeopardize consumers' ability to use the internet altogether. Roughly 9 in 10 Americans report that a major interruption in internet or cellphone service during the pandemic would be a problem, with nearly half claiming it would be a "very big" problem.[83] However, networks are not reliable if they are not upgraded regularly and are not resilient if they can't withstand natural disasters or increased capacity.

During this crisis, our nation's networks are demonstrating that they are unable to fully withstand the increased capacity. Global network outages reached record highs in February and March of 2020, as an increasing number of governments issued stay-at-home orders.[84] When these outages occur, families are completely prevented from engaging in essential online activities for school and work.

Since 2003, it has been the national policy to encourage the replacement of copper telephone lines with fiber.[85] This policy became accelerated in 2013, when the FCC began a

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[81] *Ex Parte Letter of Fiber Broadband Association, Ex Parte Letter*, WC Docket No. 19-126 (Jan. 3, 2020).
[82] *See* Vivienne Walt, *Covid-19 Will Change the Entire Notion of Offices: Companies Eye Rental Savings After Working at Home*, Fortune (April 19, 2020) https://fortune.com/2020/04/19/coronavirus-going-back-to-work-from-home-commercial-real-estate-offices/
[83] Monica Anderson and Emily Vogels, *Americans turn to technology during the Covid-19 outbreak, say an outage would be a problem* (March 2020) https://www.pewresearch.org/fact-tank/2020/03/31/americans-turn-to-technology-during-covid-19-outbreak-say-an-outage-would-be-a-problem/.
[84] Yevgeniy Sverdlik, *The Pandemic Puts the Internet's Resiliency and Fragility on Display* (April 2020) https://www.datacenterknowledge.com/uptime/pandemic-puts-internet-s-resiliency-and-fragility-display.
[85] Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, *Report and Order and Order* on Remand and Further Notice of Proposed Rulemaking, 18 FCC Rcd. 16978 (2003)

series of proceedings to encourage phone companies to phase out legacy telephone technology generally known as the "Technology Transitions." Yet, current FCC rules allow providers to rip out old copper lines without any rules requiring them to replace those networks with ones of equal or better quality.[86] Without regulation requiring providers to upgrade their networks, some providers have chosen to allow their existing copper networks to deteriorate and service to degrade. As shown in recent filings by Frontier as it prepares for bankruptcy, this is simply a case of putting short-term profits ahead of long-term profits for the benefit of share prices. While upgrading their customers to fiber would cost the company money initially, they nevertheless would have recouped this investment and profited handsomely in the long term. Still, they chose to leave their customers with crumbling copper infrastructure, in a likely effort to appease shareholders in the short term.[87] As a result, multiple states have found Frontier (and other rural telephone companies) have failed to maintain their networks at even close to a serviceable level.[88]

The same problem can occur in urban areas. One report found that AT&T withheld fiber-enhanced broadband from a disproportionate amount of high-poverty Dallas neighborhoods, leaving the cities' low-income residents with severely limited internet access, in some cases 3Mbps downstream or less.[89] In order to ensure that all of America has access to high-quality

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[86] Press Release, *Public Knowledge, In Loss for Consumers, Ninth Circuit Rejects Challenge to FCC Deregulation of Telephone Reliability Standards* (Jan. 23, 2020) https://www.publicknowledge.org/press-release/in-loss-for-consumers-ninth-circuit-rejects-challenge-to-fcc-deregulation-of-telephone-reliability-standards/.

[87] Ernesto Falcon, Cory Doctorow, and Katherine Trendacosta, *Frontier's Bankruptcy Reveals Why Big ISPs Choose to Deny Fiber to So Much of America*, Electronic Frontier Foundation (April 30, 2020), https://www.eff.org/deeplinks/2020/04/frontiers-bankruptcy-reveals-cynical-choice-deny-profitable-fiber-millions

[88] Ernesto Falcon, Cory Doctorow, and Katherine Trendacosta, *Frontier's Bankruptcy Reveals Why Big ISPs Choose to Deny Fiber to So Much of America*, Electronic Frontier Foundation (April 30, 2020), https://www.eff.org/deeplinks/2020/04/frontiers-bankruptcy-reveals-cynical-choice-deny-profitable-fiber-millions

[89] Bill Callahan, *AT&T's Digital Redlining of Dallas: New Research by Dr. Brian Whitacre*, National Digital Inclusion Alliance (August 6, 2019) https://www.digitalinclusion.org/blog/2019/08/06/atts-digital-redlining-of-dallas-new-research-by-dr-brian-whitacre/.

broadband, Congress must require the FCC to reinstate rules governing the retirement of copper loops, requiring companies to replace old infrastructure with something of equal or better quality. [90]

We Must Ban Data Caps

Consumers facing slow speeds and frequent outages will struggle to stay connected both during and after the pandemic. Data caps will have a similar impact, as they could force consumers to ration data. This could mean choosing between a parent accessing virtual medical care or a child engaging in schoolwork. Data caps can artificially impose the amount of data customers can transfer over a network, and often, once consumers hit those data caps, their connection speeds are throttled to a crawl. Providers claim that data caps curb network congestion, but in reality, their primary purpose is to encourage consumers to choose content the network prefers (because it doesn't count against the data cap) or to spend more on more expensive service offerings.[91] Banning data caps is essential for allowing families to access the internet as they need to during this pandemic.

We Must Require Data Collection on Network Reliability and Resiliency

Mixed reports of the internet's failure to maintain expected speeds across the country, and the record high number of outages, show how important it is to assess network performance during COVID-19 and after. Unfortunately, there is no unified source of data about how well our nation's networks function even in the best of times.

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[90] *See* Report and Order, Order of Reconsideration and Further Notice of Proposed Rulemaking, In the Matter of Technology Transitions Policies and Rules Governing Retirement of Copper Loops by Incumbent Local Exchange Carriers Special Access for Price Cap Local Exchange Carriers AT&T Corporation Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services, GN Docket No. 13-5 RM-11358 WC Docket No. 05-25 RM-10593 (August 7, 2015) https://docs.fcc.gov/public/attachments/FCC-15-97A1.pdf.

[91] Hibah Hussain and Patrick Lucey, *Capping the Nation's Broadband Future?* (December 2012) https://www.newamerica.org/oti/policy-papers/capping-the-nations-broadband-future/.

We need the FCC to collect data that fully reports how our networks are holding up during COVID-19, and we need the agency to then make that report available to Congress and the general public. During other emergencies, like hurricanes, the FCC will activate its Disaster Information Reporting System and use that data to issue regular updates on network status.[92] COVID-19 has had similar effects on our networks, so the FCC should be issuing similar reports. We appreciate the voluntary efforts of industry stakeholders to share some network information during the pandemic, however, the conflicting reports require the FCC to ensure all network analyses are shared.

In addition, stakeholders need data about how our networks fare in the long term, including information about the number, length, and breadth of outages from particular providers, the actual speeds that consumers experience (as opposed to the speeds providers advertise), and how quickly networks bounce back after emergencies. With this data, policymakers could take steps to improve performance. For example, Congress or the FCC might consider imposing liability on providers for long, unexcused outages, or consistent poor performance. This could encourage providers to restore service as quickly as possible or invest in the quality of their networks. Furthermore, consumers could use this information to make decisions on which networks will serve them best.

Conclusion

In conclusion, the digital divide is not a new problem. It is simply an existing problem exacerbated by the COVID-19 pandemic. Given the essential nature of broadband, Congress must take every step it can to ensure that broadband is affordable, reliable, and universally

[92] Federal Communications Commission, Disaster Information Reporting System (DIRS), https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0.

available. We believe a comprehensive legislative package that addresses these issues will help us get there.