

**THE STATE OF BROADBAND AMID
THE COVID-19 PANDEMIC**

HEARING

BEFORE THE

**COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE**

ONE HUNDRED SIXTEENTH CONGRESS

SECOND SESSION

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MAY 13, 2020
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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED SIXTEENTH CONGRESS

SECOND SESSION

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THE STATE OF BROADBAND AMID THE COVID-19 PANDEMIC

WEDNESDAY, MAY 13, 2020

U.S. SENATE,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 10 a.m., in room SD-G50, Dirksen Senate Office Building, Hon. Roger Wicker, Chairman of the Committee, presiding.

Present: Senators Wicker [presiding], Thune, Blunt, Fischer, Moran, Sullivan, Gardner, Blackburn, Capito, Lee, Cantwell, Klobuchar, Blumenthal, Schatz, Markey, Udall, Peters, Baldwin, Tester, Sinema, and Rosen.

OPENING STATEMENT OF HON. ROGER WICKER, U.S. SENATOR FROM MISSISSIPPI

The CHAIRMAN. This hearing will come to order. Welcome, welcome. Today the Committee convenes to discuss the state of broadband amid the COVID-19 pandemic. I extend my appreciation to my colleagues for their attendance and their participation, several of whom will participate remotely. I welcome our distinguished panel of witnesses, and thank them for appearing.

Today we will hear from Mr. Steven Berry, President and Chief Executive Officer of the Competitive Carriers Association; Ms. Shirley Bloomfield, Chief Executive Officer of NTCA, The Rural Broadband Association; Mr. Gene Kimmelman, Senior Advisor of Public Knowledge, who will be appearing and testifying remotely; and Mr. Jonathan Spalter, President and Chief Executive Officer of USTelecom, The Broadband Association.

The COVID-19 crisis has changed life dramatically for almost every American. As the Administration and the Centers for Disease Control and Prevention encourage social distancing to prevent further spread of the virus, normal activities like work, school, and health care services are now increasingly taking place online. This has caused a huge uptick in the use of broadband. One estimate shows that average broadband usage is up by 47 percent since the pandemic began.

The good news is that there has been some progress in connecting all Americans. The FCC's recently released Broadband Deployment Report tells us that the number of households without access to broadband service continues to decline. Yet, despite these advances, there is still significant work that needs to be done to get every American connected.

The current public health crisis has made these efforts all the more urgent. I appreciate the initiatives led by the FCC to sustain and accelerate the availability of broadband connections. This includes the Keep Americans Connected Pledge, where providers have committed not to terminate broadband services to any residential or small business customers because of an inability to pay their bills among other commitments, along with temporary modifications to existing Universal Service Fund (USF) programs to support the surging demand for Internet service. These commitments have been done with some inconvenience and cost to those making the pledge and I appreciate that.

The bipartisan CARES Act also provided Federal resources to broadband-related programs in response to COVID-19. For example, the FCC received \$200 million for a telehealth program that is designed to provide immediate assistance to eligible health-care providers to support their broadband needs. The CARES Act also provided \$13 billion to the Department of Education to support distance learning. These resources can be used to ensure students have access to broadband, digital devices, and other equipment to continue their learning from home.

Today's hearing is an opportunity to discuss what more can be done to address immediate connectivity needs stemming from the COVID-19 crisis.

Critically, efforts to expand broadband access depend upon accurately identifying unserved areas and communities. The Broadband DATA Act, which was recently signed into law, will help provide the FCC with more precise data about where broadband is available and where it is not and at what speeds.

The FCC will soon begin rolling out new and important USF programs, such as the 5G Fund. The FCC is currently seeking comment on whether to implement the Broadband DATA Act before moving forward with the 5G Fund. This program will succeed however only if the FCC follows the law. I look forward to working with members of this committee and the Appropriations Committee to ensure that the Commission has the funding it needs to implement the Broadband DATA Act.

There have also been several legislative proposals in both chambers of Congress to prioritize the delivery of broadband services during this outbreak.

I hope witnesses will discuss the merits of these proposals and how they will provide immediate relief and connectivity to Americans.

We also need a regulatory framework that fosters investment and promotes broadband deployment.

I look forward to discussing how to ensure all levels of government have the appropriate regulatory processes in place to promote rather than create barriers to broadband build-out. This includes making sure broadband providers have access to permits in a timely manner to maintain and upgrade their networks to support increased demand for Internet services.

As more Americans rely on their Internet connections to maintain contact with colleagues and loved ones, enhancing network security and resiliency is also a top priority for this Committee.

I hope to learn more about how dedicating resources to the FCC's newly authorized "rip and replace" program, in addition to other initiatives, will help keep our networks secure, enhance our ability to get Americans back to work, and expand broadband access.

Finally, I wish to thank our country's broadband network providers and technicians for their tireless effort to make sure Americans stay connected during this pandemic, so thank you to all of those individuals. Unlike in other countries, the surge in online traffic and bandwidth consumption in the United States has not diminished network performance; nor has it required the slowing of online services and applications. Instead, U.S. providers have been able to meet the growing demand, allowing Americans to continue enjoying high-quality Internet services throughout this pandemic and that is a fine accomplishment.

So, I thank the witnesses, again, for being here and for participating remotely. And with that, I will turn to my dear friend and Ranking Member, Senator Cantwell, for her opening remarks.

Senator Cantwell.

**STATEMENT OF HON. MARIA CANTWELL,
U.S. SENATOR FROM WASHINGTON**

Senator CANTWELL. Thank you, Mr. Chairman, and thank you for holding this important hearing. And thank you to our witnesses for appearing today, both in person and virtually, to discuss solutions. The COVID crisis has made it crystal clear: functioning broadband is absolutely necessary for every American home. We spent a lot of time in this Committee over the past several years talking about the persistent digital divide and the harms that come to both our economy and society, but we have not done enough to close that divide. And now, we are in the middle of a crisis where people who are disconnected from school, work, health care, friends, and family, need access urgently.

Staying connected is as critical as ever. And as one of our witnesses will say today, Mr. Kimmelman, "broadband is essential, but right now it's without universal access."

It's no wonder that according to Pew Research, the majority of Americans now consider broadband connectivity to be essential in their lives. And yet millions of American families still do not have access to this essential service.

The FCC reports that at least 18 million Americans lack access to broadband and support the number—suspect the number is significantly higher. Millions of Americans have Internet connections that can support essential applications and software for remote learning, but there are many who cannot. And the glaring disparities between those who cannot now afford to deliver those services into the home because of cost is also something this Committee should consider.

That is why we must address our short-term emergency needs and also invest in closing the digital divide.

To put it into perspective, the Pew Research nationally showed that 35 percent households with school-aged children and annual incomes below \$30,000 do not have access to high-speed Internet at home. Twenty-five percent of African-American homes and 23

percent of Hispanic homes with school-aged children do not have access to high-speed Internet at home.

And in the state of Washington, more than two-thirds of our school districts responded to a recent survey showing that some of the families could just simply not afford broadband services. Statewide, 16 percent of families with children had no access to broadband. And the Spokane School District recently did a survey of 34 different schools and found varying degrees of connectivity and concerns by teachers about who could fully engage in distance learning.

That's why I want to thank Senator Markey for his tireless efforts to close the homework gap. I'm proud to be a co-sponsor of legislation that he has for emergency FCC E-Rate funding to address this need and try to close the gap.

And also COVID has demonstrated the importance of healthcare during this crisis. COVID-19 has changed the healthcare delivery system. Primary care physicians are closing their offices around the country to inpatient care. People are afraid to go to the hospital to seek out necessary care because of the infection. So telehealth has become the best way to protect the public during the COVID crisis. And clinics in my state have transitioned to using telehealth as the first contact with each patient.

In fact, some clinics in my state report around 90 percent of their initial contacts with patients now occur online. That is why it's so important to make sure that people have access to broadband if our healthcare delivery system, in initial contacts, are going to move in that direction.

The CDC recommends that health clinics throughout the country use remote contact with patients as their first line of defense for COVID-19. But that only works if those clinics and those patients have broadband. A recent Brookings report cited the lack of broadband or insufficient broadband service to support remote diagnostics as a key barrier to widespread use of telehealth.

So I want to again thank some of our colleagues, Senator Schatz, who has been leading the charge to support a telehealth package as part of the next COVID round of packages. And we need to make sure that these services are widely available, allowing patients to access the care they need.

The added benefit for doctors is they can actually care for more patients in a day, take the pressure off of their colleagues who are dealing with the COVID crisis.

So, broadband also can help with the understanding of COVID-19. The FCC has already compared health outcomes like diabetes with broadband availability, and I want to thank Senator Rosen for her work pressing the FCC to study additional issues like maternal health outcomes and other issues related to broadband availability.

And last, Mr. Chairman, I wanted to bring up Indian Country. This represents a nearly 27 percent point gap in non-tribal to tribal areas when it comes to broadband access. This gap only widens according to a report by the FCC, that when 31 percent of households on tribal land lack access to high-speed broadband compared to 7 percent in non-tribal areas.

So I want to thank my colleagues Senators Udall and Tester for their continued work in delivering broadband to Indian Country.

And it's clear, we have to make sure that new tools are put in place to make up for the shortfalls that we currently see. Broadband connectivity can be a great equalizer in this country. But if access is not there, then we can see right here and now during the COVID crisis, the challenges to our education system, our healthcare system, and just basic contact with family and loved ones.

So I look forward to hearing from the witnesses today in what we can do to close this gap immediately. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Cantwell. We'll begin our testimony with accepting the full statements from all four of our witnesses, they will be included in their entirety in the record at this point and we'll ask each witness to summarize his or her testimony in approximately 5 minutes beginning with Mr. Steven Berry.

Mr. Berry you are recognized.

STATEMENT OF STEVEN K. BERRY, PRESIDENT AND CHIEF EXECUTIVE OFFICER, COMPETITIVE CARRIERS ASSOCIATION

Mr. BERRY. Chairman Wicker, Ranking Member Cantwell and Members of the Committee, thank you for the opportunity to testify about how Competitive Carriers have gone above and beyond to keep Americans connected during the COVID-19 pandemic. CCA is the Nation's leading association for competitive wireless providers. Our members range from small, rural carriers serving less than 5,000 customers, regional and nationwide providers serving millions of customers.

As the country faces the largest public health crisis of our lifetime, I am proud of how CCA members have worked to maintain connectivity in the face of unprecedented demand for telecommunication services across every aspect of day-to-day life as economic, educational, health and social connections move online to stay connected, while staying apart. Tethering use is up significantly and one CCA member reported educational app usage up nearly 150 percent.

Despite the increase in network usage, I can report that Competitive Carriers have proven to be up to the task, and they have taken extraordinary measures to maintain connectivity. I also applaud the FCC for helping carriers temporarily tap into a pool of unutilized spectrum to meet these demands. I hope this experience will encourage additional innovative uses of spectrum partitioning and disaggregation going forward.

Of course, networks cannot function without the men and women who work every day to preserve and expand mobile broadband services. It is imperative to keep these professionals safe and healthy to maintain connectivity for all and they must have reliable access to PPE.

And to help their customers, many CCA members signed on to the FCC's Keep Americans Connected pledge to waive late fees and maintain service.

Whether signatories to the pledge or not, CCA members of all sizes are helping their communities stay connected by offering billing credits, adding additional data capacity, standing up new sites to provide service for educational use, and even working with local

health centers to develop triage applications. After all, CCA members have been a vital part of their communities for years, and that's just what you do for your friends and neighbors. These efforts come at no immediate cost to consumers, but can draw significant resources from the carriers providing these services.

To be candid, carriers, especially small carriers, are experiencing many of the same economic challenges as every small business. As the national emergency continues, consumers may accrue significant balances on accounts for communication services.

To assist these consumers, CCA supports the Stay Connected voucher proposal. The Stay Connected voucher is the missing element to help consumers remain connected, without later facing bill shock and undue hardships. It's a technology neutral approach that empowers consumers by giving them the ability to determine which services are most important during these difficult times. And importantly, it builds on Congress's work in the CARES Act itself, and would not require new eligibility or verification processes.

The pandemic has underscored the significant disconnect experience between those on the wrong side of the digital divide. To bridge this divide, policymakers must focus on updating our Nation's mobile broadband coverage maps.

I congratulate Chairman Wicker and this Committee for your work to enact the bipartisan Broadband DATA Act. The FCC should begin immediately to work to implement the mobile provisions of the law as directed by Congress and use newly collected data to guide the proposed \$9 billion 5G program.

Finally, our networks must be secure. Thank you for your efforts to create the Secure and Trusted Communication Networks Reimbursement Program. We joined with Chairman Pai in urging Congress to fully fund this program to provide carriers with the resources necessary to maintain connectivity for the customers while complying with the National Security directives. The lack of funding is huge. It's a huge impediment to achieving this priority.

As our Nation shifts from relief to recovery, all Americans are facing challenging times, but it's very clear connectivity is critical and worth additional investment, especially in rural America. And CCA stands ready to work with you. And thank you for the opportunity to testify and I welcome your questions.

[The prepared statement of Mr. Berry follows:]

PREPARED STATEMENT OF STEVEN K. BERRY, PRESIDENT AND CHIEF EXECUTIVE
OFFICER, COMPETITIVE CARRIERS ASSOCIATION

Chairman Wicker, Ranking Member Cantwell, and Members of the Committee, thank you for the opportunity to testify about how competitive carriers have gone above and beyond to keep Americans connected during the COVID-19 pandemic.

I am testifying on behalf of Competitive Carriers Association ("CCA"), the Nation's leading association for competitive wireless providers. CCA is composed of nearly 100 carrier members ranging from small, rural providers serving fewer than 5,000 customers to regional and nationwide providers serving millions of customers, as well as vendors and suppliers that provide products and services throughout the mobile communications ecosystem.

As the country comes together to face the largest public health crisis of our lifetime, it is now painfully clear that there are many areas of the country where more work needs to be done to provide and extend wireless services. We cannot ignore the undeniable fact that the digital divide persists, both in terms of areas of the country without access to broadband and in individual consumers' ability to maintain broadband connections in this challenging economic climate. Broadband access

has been put to its greatest test as a vast swath of the country—and world—is under stay-at-home orders. Unfortunately, we have confirmed nearly overnight that access to broadband is imperative to support all aspects of everyday life, from distance learning to remote work, healthcare, grocery shopping, family and virtual social gatherings, and more.

I am proud of how CCA members have worked to maintain connectivity in the face of an unprecedented transformation in how and where consumers are using telecommunications services. Our members have seen significant increases in network traffic reflecting seismic shifts across critical aspects of day-to-day life, as economic, educational, health, and social connections move online to stay connected while apart. Despite the increase in network usage, I can report that competitive carriers have proven to be up to the task and have taken extraordinary measures to maintain connectivity to serve these demands. Additionally, CCA members have taken steps to work with their customers, through formal processes and on a person-to-person basis, to maintain services even when customers face financial hardships. After all, CCA members have a well-deserved reputation for putting customers first and have been a vital part of their communities for years, and that is what you do for your friends and neighbors.

While it is important to focus today on the steps being taken to maintain connectivity for those where services are available, we must also recognize how the pandemic has confirmed the significant disconnect experienced by those on the wrong side of the digital divide. New network planning has slowed substantially, and carriers are facing new challenges navigating the permitting process at state and local levels due to the pandemic. CCA stands ready to continue to work with Congress and the Federal Communications Commission (“FCC”) to preserve and expand the latest mobile broadband services throughout the nation, both to support continued relief during the current health crisis and to promote recovery going forward with expansion of wireless connectivity and the deployment of 5G.

Maintaining Connectivity During the COVID-19 Pandemic

All carriers have experienced increased network use over the last few months because of the COVID-19 pandemic. Increased network utilization for mobile broadband networks has also included a shift in where traffic occurs and the type of use, with greater traffic in residential areas as we all have complied with directions to stay home. CCA members have reported overall increases in data traffic and notable increases tied to certain categories, including messaging, food delivery applications, gaming, and video streaming. Tethering use is up significantly, and one CCA member reported educational app usage up nearly 150 percent. Even in cases where the number of voice calls has declined, the average length of calls has increased, as Americans are using communications services to stay connected.

Recognizing the financial hardship faced by so many during these challenging times, many CCA members have signed on to the FCC’s Keep Americans Connected Pledge. Signatories to the Pledge have agreed not to terminate service for residential or small business customers because of their inability to pay due to the disruptions caused by the coronavirus pandemic, and to waive any late fees that these customers incur. Whether signatories to the Pledge or not, CCA members of all sizes are taking extraordinary steps to help their communities respond to the crisis. Beyond the pledge, I have heard from members who are providing bill credits, additional data capacity, standing up new sites to provide service for educational use, and even working with local health centers to develop triage applications that can provide vital information to citizens if they believe they are experiencing symptoms of COVID-19. Many CCA members automatically increased speeds and data allocations anticipating the enhanced demand. Crews have been working around the clock to enhance connectivity to schools, healthcare facilities, government offices and many businesses faced with remote work challenges. In fact, in polling CCA members recently regarding whether they signed on to the FCC’s Pledge, one carrier responded yes, but that they found it unnecessary as they were going to work with and make accommodations for any affected customer regardless of the Pledge. These efforts come at no immediate cost to customers but can draw significant resources from the carriers providing these services. To be candid, small carriers that serve rural areas are experiencing many of the same economic challenges as every small business. These carriers want to help keep staff on payroll, keep networks up and running, and help keep their customers connected. But reduced revenues are starting to have a real impact and add strain on their ability to do all three.

I applaud the FCC for taking decisive action by working with carriers facing unprecedented capacity demands to supplement their networks by temporarily tapping into a pool of unutilized spectrum. Due to the FCC’s prompt grant of Special Temporary Authority (“STA”) licensing, carriers were immediately able to enhance ca-

capacity and coverage by deploying these additional airwaves. I thank CCA members large and small who cooperated in this process, either by agreeing to lease spectrum to other carriers, including competitors, where it was needed or who leveraged these arrangements to best support Americans' urgent need for connectivity. Through this cooperative effort that showcased the public and private sectors at their best, carriers put the spectrum to work, sometimes within days, to provide consumers with additional capacity and increased speeds. I am optimistic that this experience will encourage additional innovative uses of spectrum partitioning and disaggregation going forward, especially in rural areas.

Of course, networks cannot function without the men and women who work every day to preserve and expand mobile broadband services, including tower technicians, engineers, retail employees, call center workers, and those who support Network Operations Centers ("NOCs"). Like many other industries, wireless carriers have rapidly transitioned as many workers as possible to work from home, placing the health and wellbeing of their employees first. But not all functions can be completed remotely, and CCA member's employees have had to improvise and innovate to ensure that their communities remain connected. I have always said that competitive carriers are innovators, and this has been true from a customer service standpoint in recent weeks, as members have converted to curbside or drive-through service to provide customers with new devices or repairs and even added leveraged services like PayPal, through gift cards purchased at convenience or grocery stores, to process cash payments for customers even when retail locations are shuttered.

In recognition of the critical and essential work of these professionals who have continued to interface with the public, staff NOCs, and perform emergency operations to ensure network connectivity remains smooth and secure, I appreciate the inclusion of communications workers in the Department of Homeland Security Cybersecurity and Infrastructure Security Agency's Advisory Memorandum on Identification of Essential Critical Infrastructure Workers During COVID-19 Response. Permitting these essential professionals to have access to the facilities needed to keep network services up and operating. And the issuance of Federal guidance on the essential status of communications personnel was extremely helpful in helping our members navigate varied state and local access requirements.

It is imperative that carriers have the means to keep this skilled workforce employed. Keeping these essential professionals safe and healthy is pivotal to maintaining wireless networks and ultimately sustaining connectivity for consumers. Like many Americans, the communications sector has scrambled to find sufficient Personal Protective Equipment ("PPE"). Normal supply chains for masks, hand sanitizer, wipes, disinfectant spray and even tissues have been disrupted or discontinued as supplies are redirected to frontline health care workers and first responders.

CCA has leveraged our membership in the Communications Sector Coordinating Council ("CSCC") to help our members mitigate the challenge of obtaining PPE. Through the CSCC, the telecommunications sector as a whole was able to secure PPE in the form of re-usable cotton masks from the Federal Emergency Management Agency ("FEMA"). At a time when PPE is scarce, obtaining this valuable resource will help CCA members maintain network operations and consumer connectivity.

FEMA guidance issued in April for non-health care sectors indicates it is unlikely they will provide additional PPE. Rather, they direct carriers to their regular supply chains, and then to state and local resources if they are unsuccessful. Efforts to re-open society and the economy will be dependent on essential workers, like communications professionals, having secure, uninterrupted access to PPE. CCA members continue to prioritize the health and safety of their employees as paramount as stay-at-home regulations begin to ease to ensure continued connectivity and the health of their workforce.

Keeping Americans Connected Going Forward

While many actions taken by carriers addressed above are at no immediate cost to consumers, they are not free and have costs to providers. As the national emergency continues, those who are unable to pay their bills in full or on time may accrue significant balances on accounts for communications services. To address these concerns, CCA supports the Stay Connected Voucher proposal. The Stay Connected Voucher would help customers remain connected without later facing bill shock, undue hardship, and potentially negative impact to their credit. It is a technology-neutral approach that empowers consumers by giving them the ability to determine which services are most important to them during these difficult times. Importantly, it builds on Congress's work in the CARES Act and so would not require new eligibility or verification processes. Briefly, here's how it would work:

Qualified households would receive two \$50 vouchers during each month of the declared COVID-19 crisis to apply to communications services bills or at the point of sale. Vouchers would expire six months after the end of the emergency period. Eligible consumers could choose to apply their vouchers to one or more communications providers, according to their household's unique communications needs—broadband, mobile, video, or voice. Further empowering consumers, vouchers could be used separately (one for each of two different providers) or combined to pay a single provider. The vouchers could be used for prepaid or postpaid services. Upon receipt of a voucher from an eligible consumer, providers would redeem the voucher for reimbursement from a fund established by the voucher legislation.

Every household with an individual that received a full rebate check under the CARES Act would receive the vouchers. By building on the CARES Act, the voucher program also recognizes that the economic strain imposed by the emergency is being felt by a wide range of households beyond those served by the traditional support programs. Using the CARES Act model also avoids the need to create new eligibility and verification processes. The program would also utilize the existing distribution mechanism that Treasury has set up for CARES Act checks.

The Stay Connected Voucher Program would be implemented and administered by the FCC, but the program would complement and not replace efforts to expand the existing Lifeline and E-rate programs, which focus on low-income households. Many consumers impacted by the pandemic are not eligible to participate in these programs. Likewise, Stay Connected would complement other efforts to provide more targeted support, including the Keeping Critical Connections Act.

The current crisis calls for creative solutions. CCA believes that the Stay Connected Voucher Program meets this objective. Congress turned to a voucher program to help consumers navigate the transition from analog digital television. That experience can serve as a model, tailored to today's needs. Respectfully, we urge the Committee to give it serious attention and would be happy to work with you to address any questions you may have.

Bridging the Digital Divide

As previously discussed, the current emergency has revealed the extent to which society has become increasingly dependent on communications services for telework, telehealth, distance learning, and critical connections with friends and loved ones. This shift has underscored the imperative need to close the digital divide. To do so, policymakers in Congress and the FCC must focus on updating our Nation's mobile broadband coverage maps, reform deployment policies to support a 5G future, and provide resources to ensure that ubiquitous mobile services are available in urban and rural areas alike.

I congratulate Chairman Wicker, the Commerce Committee, and Congress for your work to enact the Broadband DATA Act into law this year. It is impossible to solve any problem without knowing its contours, and this overwhelmingly bipartisan law is critical to identifying the areas that do, and do not, have reliable mobile broadband coverage. The FCC should begin work immediately to implement the mobile provisions of the law in accordance with the Congressional mandate, and in any event prior to moving forward with determining which areas will receive support for the next decade. The FCC is currently considering options for a \$9 billion 5G Fund that either would rush forward without updating coverage data to identify areas lacking unsubsidized mobile service, or would insert unnecessary delay as the FCC works to collect new, more reliable data but postponing distributing support for years. These options are a false choice, and I strongly urge the FCC to expeditiously implement the mobile provisions of the Broadband DATA Act in accordance with the mandate from Congress while keeping the auction for support on a reasonable timeline.

Armed with reliable data on where mobile broadband services are available, we must continue to support processes for carriers to preserve, expand, and upgrade mobile services, particularly as wireless networks transition to 5G. CCA strongly supports ongoing review of the regulatory steps that are required to upgrade existing infrastructure or deploy new services, including requirements and best practices regarding historical and environmental review, compound expansion, and power delivery. As state and local resources are strained from pandemic response efforts, any steps that streamline processes and appropriately tailor fees present win-win scenarios for state and local officials and carriers seeking to deploy services. Deployment on Federal lands continues to be a persistent problem and should not be a roadblock preventing access to wireless services in rural and tribal communities.

Finally, as our Nation shifts from relief to recovery, Congressional efforts should support providing additional resources to support mobile broadband deployment. Any recovery package should include significant funding to deploy the digital infra-

structure that will power our economy going forward. This investment will support job growth and expanded connectivity so that our Nation remains competitive and has the required network functionality in place to deal with challenges in the future.

Increased Access to Spectrum

As previously noted, I commend the FCC for steps to make additional spectrum available during the pandemic through STAs and leasing agreements. This has helped carriers meet immediate demands. However, as states reopen and economic activity resumes, network usage will not decline. Competitive carriers needed access to additional spectrum resources before the pandemic to keep up with consumer demands and enable advanced connectivity for future generations of technologies and services.

To meet these spectrum needs, policymakers must embrace an all-of-the-above approach, and specifically:

- Ensure competitive access to mid-band spectrum, including upcoming auctions of CBRN and C-Band spectrum.
- Identify additional spectrum bands that can be reallocated for mobile use, including looking at Federal spectrum holdings to ensure all spectrum is used efficiently.
- Include reasonable aggregation limits to promote participation in auctions and competition in the market.
- Require interoperability within spectrum bands to promote economies of scale and competition.

I commend this Committee for previous work to support increased access to spectrum for mobile use, and CCA stands ready to continue as a partner in those efforts.

Securing Communications Networks

I would be remiss if I did not mention the critical need for our Nation's communications networks to be secure. While many competitive carriers are taking steps to ensure their communities remain connected during the pandemic, continuity of service can be particularly challenging for those who are "on-the-clock" to remove covered network elements that are deemed to pose security risks and replace them with alternative equipment. CCA thanks Congress for creating the Secure and Trusted Communications Networks Reimbursement Program and commends your work to enact the Secure and Trusted Communications Networks Act this year. We join with FCC Chairman Pai in urging Congress to fully fund this program to provide these carriers with the resources necessary to maintain connectivity for their customers while completing the steps required by Congress. While all carriers want to comply with national security directives, the lack of funding to begin the enormous task of removing covered equipment from networks is a huge impediment to achieving this priority. While our Nation works internationally to encourage our allies to implement similar national security telecommunications policies, the United States must show the way and provide critical funding for this effort. We all want solutions to these challenges, and funding the Secure and Trusted Communications Networks Reimbursement Program is imperative. As this process moves forward, I urge policymakers to provide carriers with clear guidance regarding the national security needs for communications networks.

Further, as I have previously discussed with this committee, 5G wireless services provide increased potential to transfer network services from physical equipment to software, and new technologies are increasingly coming to the market, including Open Radio Access Network equipment. We find ourselves at a unique junction of challenge and opportunity, with the onset of a new generation of technology meeting the need to secure our networks for the future. These new opportunities, with the potential to disaggregate functionality to increase efficiency and reduce costs, should be explored, without mandating specific technologies for carriers.

* * * * *

We are all facing unprecedented times, but those who are on the fortunate side of the digital divide have maintained many aspects of life through their broadband connections. CCA stands ready to work with you to ensure that all Americans have the ability to benefit from the latest mobile services today and the potential of 5G in the years ahead.

Thank you for the opportunity to testify at this important hearing, and I welcome any questions.

The CHAIRMAN. Thank you very much, Mr. Berry. Next the Committee will hear from Ms. Shirley Bloomfield, Chief Executive Officer, NTCA—The Rural Broadband Association.

And this is a big room and you're clear down at the other end. So if all of us could speak directly into the microphones that would help folks like me.

STATEMENT OF SHIRLEY BLOOMFIELD, CHIEF EXECUTIVE OFFICER, NTCA—THE RURAL BROADBAND ASSOCIATION

Ms. BLOOMFIELD. Excellent. Chairman Wicker, Ranking Member Cantwell and Members of the Committee, we are delighted to be able to testify before you here today, I'm Shirley Bloomfield, the CEO of NTCA, The Rural Broadband Association. We represent about 850 community-based carriers across the country, who are small broadband providers, as well as small businesses in 45 states.

The pandemic has highlighted more than ever that robust and reliable broadband is essential for everyday life. And even in this time of crisis, the stories of selflessness and creative acts by NTCA members serve to me as a constant reminder that when the going gets tough, the tough get innovating. So thanks to their community commitment, and their entrepreneurial spirit and the support of this committee, as well as agencies like the FCC and RUS, NTCA's community-based providers were well-prepared to keep Americans connected during a crisis.

That's because NTCA members have led the charge in building future-proof broadband networks for years, with over 60 percent of the rural customers having access to fiber connectivity in speeds in excess of 100 megabits.

As hometown providers, it's not surprising that more than half of the signers of the FCC's Chairman pledge to "Keep Americans Connected" are NTCA members. And so many have gone above and beyond that pledge in terms of keeping their families, their friends, and their neighbors connected.

Smart rural community carriers from Big Bend in Texas who is extending their fiber network to students' homes, to Golden Belt Co-op in Kansas working with school administrators to connect over 100 students in 3 days and bump up all their consumers to the next tier of service for free. To ATMC in North Carolina who immediately offered broadband at no cost to households with students, including college students who previously had no connectivity.

And then there's the hundreds and hundreds of hotspots, the Wi-Fi connectivity that have been rolled out into these communities. And that's just a tiny sampling of what NTCA members are doing to help ensure that their rural communities are able to navigate the many difficulties brought on by this pandemic. And despite the pandemic, members report that they're hoping to hold fast to plans for continuing to deploy new broadband, the infrastructure that they'd already plan to roll out, but challenges certainly persist.

NTCA providers are doing everything they can to keep everybody's Internet lights on. But to do that they need to keep their own lights on. An increasing number of customers are becoming unable to pay for service and members are concerned about

their ability to repay loans and purchase critical supplies like routers, fiber, or backbone access to the internet. And of course, they have to pay their own employees as well. None of these costs are things that they can simply barter away or ignore.

Speaking of employees, sourcing personal protective equipment, as Steve mentioned, continues to be a struggle. It's critical for our members to obtain access to masks, disinfectant wipes, gloves, and hand sanitizers, especially if anybody wants to reopen the economy. Concerns about delays in the supply chain for equipment could also hinder deployment plans later this year.

We've also encountered frustration when it comes to the Paycheck Protection Program. While this program offers helpful promise, there's still confusion among stakeholders on whether certain kinds of small businesses such as cooperatives actually even qualify. To help with some of these challenges, NTCA recommends that Congress view the challenges ahead as requiring a mix of near-term and longer term solutions.

In the near-term, we need both to make sure that those who are not currently connected get connected. And also to make sure that those who are connected can stay connected. We applaud the FCC for taking quick action to make its USF programs more accessible to those in need, and expanded emergency broadband benefits for consumers in distress will certainly help.

But these steps alone will not keep every American connected. We therefore also encourage Congress to pass the Keeping Critical Connections Act, which was introduced by Senators Klobuchar and Cramer, this bipartisan, bicameral bill which has 30 senate cosponsors, including nine members of this Committee, would create a temporary emergency fund to keep Americans connected during the pandemic.

In the longer term, Congress should adopt a forever connected perspective when it comes to promoting broadband. From the Alaskan Bush to the Mississippi Delta, no American should get second class broadband service or worse yet, no service at all.

While NTCA appreciates the broadband infrastructures ideas that continue to be put forth, we believe the best approach is to avoid creating new programs and to instead leverage the existing broadband programs that have been improved upon as time has gone on.

NTCA recommends five simple principles to guide a forever connected approach.

First, leverage existing broadband programs to get the most immediate return on investment, while also avoiding confusion and potential interagency conflicts. Second, prevent duplication of scarce Federal resources by requiring all agencies to strictly coordinate use of their programs. Three, require all agencies to use updated broadband maps and meaningful challenge processes to ensure that unserved areas are accurately identified and served. Four, invest in technology that can be easily upgraded to deliver the fastest speeds over the long-term life of the asset.

We certainly wouldn't use our highway program to create a two-lane road when we know that an eight-lane highway is what is going to be needed five-to-10 years down the road. We should approach broadband infrastructure the same way. Remember on

number five that any program must focus not only on building the broadband network itself, but also sustaining that network over time once it's actually been built.

We're all in this together and the work that Congress is doing will be essential to see us through this crisis and make a lasting impact for future generations to come. Thank you so much for the opportunity to join you today. And I look forward to your questions.

[The prepared statement of Ms. Bloomfield follows:]

PREPARED STATEMENT OF SHIRLEY BLOOMFIELD, CHIEF EXECUTIVE OFFICER,
NTCA—THE RURAL BROADBAND ASSOCIATION

INTRODUCTION AND BACKGROUND

Chairman Wicker, Ranking Member Cantwell, and members of the Committee, thank you for this opportunity to testify today to discuss the incredible work our small, community-based broadband providers are doing to both connect rural Americans and keep rural Americans connected during the COVID-19 pandemic.

I am Shirley Bloomfield, CEO of NTCA—The Rural Broadband Association, which represents approximately 850 small businesses deploying broadband infrastructure in 45 states.

These cooperatives and small commercial companies serve the most rural parts of the United States, reaching areas that contain less than five percent of the U.S. population, but which are spread across nearly 35 percent of the U.S. landmass, or roughly seven subscribers per square mile.

The hearing today is well-timed. Now more than ever before, Americans realize just how essential high-speed broadband is to our everyday lives. This pandemic has highlighted that having the connectivity enabled by high-speed download and equally important upload speeds in your home is one of the most important elements of everyday life. For years, NTCA members have seen that high-speed broadband facilitates so much more than just streaming video entertainment or playing video games. Having broadband means having the ability to connect to your doctor when you have a high fever without traveling to the office or hospital; it's the ability for students to continue their education even when the classroom is hundreds of miles away or just right down the street but shut; it's the ability for people to continue receiving paychecks by working remotely using secure and bandwidth-intensive virtual private networks; and it's the ability for all of us to maintain social interactions with our loved ones during these trying times.

Thanks in part to the hard work of this Committee and programs like the FCC's Universal Service High-Cost Program, NTCA's smaller, community-based broadband providers were well-prepared to keep Americans connected during a pandemic through robust networks sized to meet future demand and a spirit of customer service that is second to none.

COMMUNITY-BASED PROVIDERS HELPING STRUGGLING CONSUMERS AND COMMUNITIES

The COVID-19 pandemic has altered society as we know it. All of us understand that regardless of how quickly we may come out of stay-at-home orders and evolve in social distancing practices, Americans are witnessing a shift in the conduct of everyday lives and new ways of doing so many things.

Today, communities across America are struggling to battle new realities unfathomable just a few months ago. While 33.5 million Americans have filed for unemployment in recent weeks and we are rightfully concerned about the health of our families and loved ones, the daily stories of selfless acts and community service we see on the news serve as constant reminders that when the going gets tough, the tough get innovating.

I have never been prouder of NTCA's membership than I have over the past several months. As "hometown providers" based largely in the areas they serve, their community commitment in the face of the coronavirus pandemic has been heartening. We estimate that more than half of the signers of FCC Chairman Pai's pledge to "Keep Americans Connected" are NTCA members—and, in so many cases because of their hometown presence, our members have gone above and beyond the terms of the pledge to help their families, friends, and neighbors.

The following are just a few examples of their efforts to get and keep homes, schools, libraries, and medical facilities connected in rural America:

1. Big Bend Telephone (BBT) (Alpine, Texas): BBT Engineering developed a solution to extend school districts' networks to students' homes in a scaled back temporary installation package that provides synchronous connectivity and basic home Wi-Fi. The student experience completely mimics the classroom without actually being in the classroom. All of this has been provided at no cost to the school district or the students' families.
2. Rainbow Communications (Everest, Kan.): Rainbow Communications has installed 30 community Wi-Fi hot spots throughout its service area that provide free Internet access to students. The company also increased the Internet plans at the local libraries to accommodate higher usage demand and has worked with school districts to identify and promote improved access for students in need at home.
3. NineStar Connect (Greenfield, Ind.): NineStar Connect connected a COVID-19 triage clinic in just three days—a process which usually takes weeks. NineStar also partnered with the hospital to offer customers e-visits to serve more people and reduce risk of infection.
4. Consolidated Telephone Company (CTC) (Brainerd, Minn.): To maintain proper social distancing, CTC created "Broadband in a Box" where a CTC technician will complete pre-installation tasks outside of the premises and then leave a self-installation kit on the customer's doorstep to allow for completion of the activation work. The standardized kit includes step-by-step instructions on how to complete installation and other helpful resources.
5. Scott County Telephone Cooperative (SCTC) (Gate City, Va.): SCTC is upgrading broadband connections for any customer with students and/or teachers in the home. The company is also upgrading any displaced workers for free. Additionally, SCTC set up Wi-Fi at 12 locations to provide free access for school age kids, and available to use by all.

These stories are just a tiny sampling of what our hundreds of providers are doing to help their rural communities navigate the many difficulties brought on by the pandemic. In the end, whether by pledge or by DNA, because they so often live in the small towns and very rural areas they serve, NTCA members are simply focused on doing the right thing by their customers and community.

And despite the pandemic, we continue to move full speed ahead on deploying new broadband infrastructure. A recent NTCA survey revealed that 90 percent of our members remain focused on fulfilling network deployment plans this year, and even in the past month, we have heard a number are using responsible socially distant practices and the relatively lower traffic on roadways to complete as much construction activity as possible. This being said, as I will discuss below, some concerns are beginning to emerge with respect to the supplies necessary to complete this important work.

Finally, I would be remiss if I failed to note how our members' networks have held up in the face of unprecedented shifts in how they are used. In a recent survey, 145 NTCA members from 38 states serving more than 650,000 broadband connections reported that their networks continue to perform as designed and without disruption despite changes and increases in demand. Key findings from our network status survey include:

- From March 13 (the date that a national emergency was declared) through March 31, members indicated on average their networks experienced:
 - 23 percent increase in *overall downstream* bandwidth demand
 - 24 percent increase in *overall upstream* bandwidth demand
 - 21 percent increase in *peak downstream* bandwidth demand
 - 21 percent increase in *peak upstream* bandwidth demand
- An overwhelming majority of respondents (93 percent) indicated no material shift in peak utilization windows, but nearly all respondents stated that the average utilization of their networks is much higher over the course of the day.
- More than 40 percent of respondents reported taking steps since March 13 to augment capacity on middle mile, transit, or other backhaul connections to anticipate and accommodate increased overall demand, but there have been no reports of congestion or disruption arising out of the increased demand.

In short, as our annual broadband survey has confirmed year after year, NTCA members have led the charge in rural broadband for years, with over 60 percent of their rural customers have access to fiber-to-the-premises connectivity and speeds in excess of 100 Mbps. And, as our more recent network status survey confirms,

these investments have paid off by giving rural communities reliable and robust access to broadband when they need it most, without congestion or disruption.

CHALLENGES PERSIST

While NTCA members continue to do their very best to keep their friends and neighbors connected, the ability to sustain these efforts over time is jeopardized by the devastating economic impacts of COVID-19. Providers are doing all they can to keep the Internet lights on for all, but in order to do that, they need to keep their own lights on as well.

NTCA members are both crucial providers of critical infrastructure to millions of Americans in rural America and small businesses that face many of the same concerns as other American small businesses. Because of this unique status, and because they serve not only small rural towns but outlying areas where there may be only one customer every few miles, NTCA members and providers like them face some relatively significant challenges in sustaining their mission of universal service.

Uncollectibles Rising

It is estimate that approximately 33.5 million Americans have filed unemployment claims since the start of the pandemic. It is therefore perhaps not surprising that NTCA members report that customers are increasingly raising concerns about an inability to pay for their communications services in recent weeks; a recent survey of our members found that 54 percent of members have seen “uncollectibles”—unpaid accounts receivable—increase by up to 20 percent since March 13 (the date that a national emergency was declared), with another 20 percent reporting that it was simply too soon to tell what sorts of payment shortfalls might arise given billing cycles. To put such impacts into perspective, we heard from one rural cooperative who is nearly \$60,000 in the red already in keeping voice and broadband service on for customers who have become unable to pay these past several weeks. We are in the process of conducting an updated survey of members now to determine whether and to what degree these figures may have changed, but I have no reason to believe that the situation will have improved given the steady and unfortunate increase in unemployment claims nationwide.

To continue delivering critical connectivity to more than a third of the Nation’s landmass, these smaller rural operators must be able to pay suppliers for things like routers and fiber. Our members are seeing unprecedented demand for new installations, and this takes not only the kinds of innovation I described earlier in terms of installation techniques but also the costly network supplies needed to put those connections in place. NTCA members also need to pay larger national and regional operators for the connections between the very rural markets they serve and Internet points of presence around the country—these are costs that only grow larger in the face of increased network demands as described above, and no one is asking those larger national or regional providers to make their backbone and transit capacity available for free during the pandemic. Finally, and most importantly, they must pay their own employees—the front-line essential workers who are being sent out despite the risks to make sure that those without voice and broadband services or those in need of upgraded services get such access.

Personal Protective Equipment

Our providers are doing all they can to protect themselves and their customers. Many members have moved to work-from-home operations for the bulk of their employees, and for even those essential employees that must be in the field or at network locations, our members are taking care to promote proper distancing and protocols to limit contact between employees to the greatest extent possible. Members are also taking further precautions when it comes to work in the field. In addition to adopting procedures associated with any interaction with customers prior to entry of any premises, many of our members are finding innovative solutions to connect customers from outside such as videoconferencing, self-installation kits, or even temporary drops of fiber and conversations through doors and windows to guide customers through the process. Indeed, a recent survey showed that, as of mid-April, more than 25 percent of our members will no longer enter households under any circumstances, and I expect that this figure will only grow as we survey our members again now.

However, even with preventative measures in place to limit contact, there are many cases where frontline workers have no choice but to enter certain locations, whether it is for mission-critical repairs or to enable much-needed connectivity at locations such as nursing homes and hospitals. For this reason, personal protective equipment (PPE) is more important now than ever before.

Unfortunately, sourcing PPE for employees continues to be a struggle. Employee health is of utmost importance to our providers, and it is critical that they continue to have the equipment needed such as masks, disinfectant wipes, gloves, and hand sanitizer. As small businesses, if even just one employee falls ill, depending on exposure, this can wreak havoc on operations and disrupt installation and repair activity for an entire rural community. We appreciate the efforts of Federal and state agencies in attempting to help members locate PPE as operators of critical infrastructure, but I am sorry to report that this remains a top-level concern and that I hear nearly daily from members desperate for masks, sanitizer, or other supplies as the pandemic persists.

Paycheck Protection Program

We thank Congress and the Administration for their work on the Paycheck Protection Program. Unfortunately, even as the program could be so helpful to small businesses in need, one of our greatest frustrations has been the lack of clear public guidance on whether 501(c)(12) nonprofit cooperatives qualify for the program. As small businesses, we wholeheartedly believe these cooperatives fit within the Congressional intent of the Paycheck Protection Program, and we ask both Congress and the Administration to clarify that these small cooperatives are eligible for the program. To be clear, this request is urgent and time-sensitive, as the date for declining a program loan and returning funds is May 14; while we have been asking for a clear affirmative statement—one way or the other—as to cooperative eligibility for several weeks now, there only a few days for this to be addressed.

Supply Chain

As mentioned earlier in this testimony, NTCA members are eager to do whatever they can to advance broadband network deployment, and many of them are doing what they can to move forward with deployment plans in 2020. We have started to hear, however, of concerns regarding the timing of their supply chain. In particular, for key pieces of network transmission equipment and routers necessary for installation and activation of services at customer premises, we are hearing that suppliers are beginning to ration distributions and that lead times are growing from weeks to months for delivery.

This obviously presents a significant challenge in executing on immediate capital investment plans for individual operators, but it also has the potential to become a national crisis—it would be ironic indeed for Congress and Federal agencies to pour billions of dollars into broadband infrastructure only to find that the gear necessary to meet buildout milestones and deployment goals will be delayed far beyond anyone's reasonable expectations.

HOW CONGRESS CAN HELP

NTCA believes it is most effective to conceive of potential responses to the challenges presented by the COVID-19 crisis in the form of near-term and longer-term measures. In the near-term, we need both to make sure that those who *are not* yet connected get connected and to make sure that those who *are* connected today stay connected. In the longer-term, we need to think about how we can develop a coherent and coordinated national broadband infrastructure policy so that we are not back here again someday, staring at the next crisis and wondering why some customers lack broadband altogether, why other customers have unreliable access that does not enable effective use of virtual private networks or distance learning platforms, and why still other customers might have access to robust, future-proof networks but lack the ability to afford services atop those networks.

Near-Term Initiatives

First, to help those who are unable to afford a connection get and keep one, an emergency broadband program should be established that provides financial support for consumers facing economic hardship due to the coronavirus pandemic. This program should provide a specified amount of funding per month for each such consumer during the pandemic, and for a period thereafter reflecting the likelihood of a lingering economic crisis, to allow that customer to purchase a broadband service at a speed and performance level of his or her choosing. To this end, we applaud the FCC for taking quick action to make its Universal Service Fund Lifeline programs more accessible to those in need. But with rural areas having higher costs to deliver broadband services, and with the prospect that even a Lifeline subsidy or something like it may not cover the full cost of a broadband bill for any given consumer, more is needed to ensure we can keep every American connected.

Second, in addition and as a complement to an emergency broadband benefit program for lower-income consumers, Congress should provide funding to help ensure that *all* customers can remain connected. For example, some customers who just re-

cently lost jobs or suffer from reduced wages may not qualify for the emergency benefit described above but still face difficulty paying their broadband bills; similarly, health care providers, students, and small business customers covered by the FCC Chairman’s pledge would not necessarily be eligible for such a program despite also desperately needing connectivity. Moreover, even those broadband customers that *do* qualify for the emergency benefit program may find that the amount of support received does not cover the full amount of their broadband bill (especially if the customer decides that he or she needs a more expensive higher-speed service for work or distance learning), leaving those customers still very much at risk for a loss or downgrade of service. Creating a program that provides dedicated funding to “help cover” bills that go unpaid by such broadband users therefore represents a logical and necessary complement to the emergency benefit program described above, and is ultimately essential to help ensure that broadband providers can “keep the Internet lights on” throughout this crisis and keep Americans connected consistent with the goals of FCC Chairman Pai’s laudable pledge.

S. 3569, *The Keeping Critical Connections Act*, introduced by Sens. Amy Klobuchar of Minnesota and Kevin Cramer of North Dakota, represents the kind of measure that could work very well as complement to an emergency broadband benefit program for consumers suffering from economic hardship due to the crisis. This bipartisan, bicameral bill, which to date has 30 Senate sponsors including nine members of this Committee, would direct the FCC to create a temporary emergency fund for reimbursing small broadband providers only when an operator: (1) provides households with students with free or discounted broadband or free upgrades to meet distance learning needs; or (2) keeps low-income customers connected who cannot pay their broadband bill due to the economic impact of the COVID–19 national emergency. NTCA requests that Congress include this legislation in any upcoming stimulus bills related to the pandemic. Companion bi-partisan legislation has also been introduced in the House (H.R. 6394) by Reps. Peter Welch of Vermont and Roger Marshall of Kansas.

Third, Congress should give additional flexibility to providers struggling to repay outstanding loans issued by the United States Department of Agriculture’s Rural Utility Service Program (RUS). Options such as the ability to fully refinance RUS loans at the current interest rate and a congressionally directed blanket suspension of principal and interest payments for several months would help alleviate the pain and strain that many providers will face due to reduced revenues from customers using those providers’ voice and broadband services.

Fourth, Congress should finish last year’s hard work by fully funding Chairman Wicker’s *Broadband DATA Act* as well as the *Secure and Trusted Communications Networks Act of 2019*. Both pieces of legislation are critical for the future of our broadband programs, and Congress and the President have already of course recognized their immense value by enacting and signing them into law. The final steps now must be taken to fund these efforts.

Finally, providers have learned a lot about network resiliency during these times. While NTCA contends that fiber-based infrastructure has outperformed other technologies, we have also seen the strain third parties can place on our rural networks. As Congress looks toward the future of how networks handle increased demand during times of crisis, we believe the outside sources of congestion and strain on rural networks should be studied. To this end, NTCA recommends that Congress direct the preparation of a study to assess how different services and applications and web-enabled businesses place data demands on networks and the costs that follow from accommodating such demands.

A Long-Term ‘Forever Connected’ Broadband Plan

As for the long-term—the question is how do we avoid ending up here again, where some rural customers still lack sufficient broadband? While NTCA is proud of our members for providing hotspots and other innovative ideas such as drive-in Wi-Fi in the face of the immediate crisis, these are not long-term solutions to eliminating the homework gap or addressing America’s digital divide. The homework gap, for example, begins at home—meaning that we should focus on programs that drive the delivery of world-class networks to every American home throughout a community so that students can engage in synchronous learning; as the pandemic has shown, we also need networks with robust symmetrical capability that truly enables virtual private networks and other applications that make effective and productive teleworking possible.

From the Alaskan Bush to the Mississippi Delta, no American should get second-class broadband service, or worse yet, no service at all. That is why NTCA recommends that Congress adopt a “Forever Connected” approach to promote the deployment of future-proof networks and ensure the next time we find ourselves in

a national disaster, no student, senior citizen, or rural or urban American is left in the digital darkness.

There are many ideas out there for how to fix this complex problem, and NTCA applauds members of Congress for prioritizing this issue. While NTCA appreciates the innovative ideas put forth already, our ultimate recommendation to Congress is that there is actually no need to reinvent the wheel with new programs, but to instead simply enhance, improve, and direct any new funding to existing broadband programs that have been improved over years and even decades.

More specifically, programs such as the FCC's Rural Digital Opportunity Fund and the USDA's RUS ReConnect Program are better equipped to receive and then distribute additional funds. Creating yet another program from whole cloth at yet another agency could take years to get right and would risk duplicating the work of the more established Federal broadband support programs at best, and conflicting with the work of these programs at worst.

We recommend following these simple guidelines when crafting legislation for long-term broadband solutions:

1. Leveraging existing broadband programs is the best way of getting the most immediate return on investment while also avoiding confusion and potential inter-agency conflicts.
2. Prevent duplication of scarce Federal resources by requiring all agencies to strictly coordinate use of their broadband programs.
3. Require all agencies to use updated broadband maps and meaningful challenge processes to ensure that unserved areas are accurately identified.
4. Invest in technology that can be readily upgraded to deliver the fastest speeds over the long-term life of the asset being built, rather than supporting technologies that look cheaper to deploy now but are unable to provide meaningful Internet access over time and thus will in fact cost more over time to upgrade to keep pace with increased demand. We would not use our highway program to create a two-lane road when we know an eight-lane highway will be needed in 5 or 10 years—that would be a terribly inefficient use of funds—and we should think of our broadband infrastructure the same way.
5. Remember that any program must focus not only on building the broadband network itself, but also sustaining that network over time once it has been built. In many cases, rural operators are serving roughly one subscriber per square mile, and operating a network with so few users takes not only capital for initial deployment but continued support to maintain over the long-term and keep services affordable on that network.

NTCA—The Rural Broadband Association is grateful for this committee's ongoing leadership and focus on identifying and solving barriers to broadband deployment—especially during the COVID-19 Pandemic. We are all in this together, and the work that Congress will do over the next several months can make a lasting impact on broadband policy in America for future generations to come. Thank you for inviting me to be with you today and I look forward to the chance to converse further with you on these topics.

The CHAIRMAN. Thank you Ms. Bloomfield. And let me just say at this point, as one of the ones who met late into the night, developing the CARES Act, I see no reason why a 501(c)(12) nonprofit cooperative, who is otherwise qualified, should be prohibited from participating in the Paycheck Protection Program and I have urged Treasury to make that decision clear and I hope we get a positive answer very, very soon.

I thank the Committee for indulging me there. And now, Mr. Kimmelman, Senior Advisor to Public Knowledge joins us remotely and Mr. Kimmelman, we're delighted to have you and we take this opportunity to thank the technicians who have made this possible.

**STATEMENT OF GENE KIMMELMAN, SENIOR ADVISOR,
PUBLIC KNOWLEDGE**

Mr. KIMMELMAN. Yes, thank you. Thank you so much, Mr. Chairman, Senator Cantwell and Members of the Committee. On behalf

of Public Knowledge I truly appreciate this invitation to testify this morning.

Wow, just think of a gut punch that this virus has delivered to all of us. It's really demonstrated just how dependent we are on a high-quality, fast-speed, video capable broadband——

[Audio lost.]

The CHAIRMAN. If we could hold up for a moment and restore the audio. We were doing so well.

Mr. KIMMELMAN.—our jobs, most of us need this service. The education of our children is now fully dependent on high speed broadband, getting food and supplies, the delivery of health care, as Senator Cantwell mentioned. Broadband has just become the true lifeline to our functioning today.

So just imagine, just imagine what it's like to be among the 42 million Americans who don't have access, access to the wired broadband to deliver that kind of connectivity, or the 26 percent of rural Americans who can't get fast enough broadband. The more than 50 percent of people on rural, tribal lands who lack wire line broadband. The 12 million-plus students who lack access to Internet at home. And the millions, millions of low-income households, many of them elderly; almost 40 percent of Black and Latinx household who just can't afford a high price of broadband.

Yes, we're all struggling. But these people are virtually helpless and they need attention immediately.

Unfortunately, the FCC has abandoned its most effective tools for overseeing broadband, and some of this pain these have nots are experiencing could have been mitigated. Now, of course, we appreciate all of the industry's voluntary efforts to provide some assistance to those in need, it's truly helpful. We're extremely appreciative of the Congress for coming together in a bipartisan way to provide some critical resources for individuals, small businesses, and those who've lost their job. And we hope it's that sentiment, discarding ideological differences to unite for the good of our country that will continue.

First, we urge you to commit as many resources that you can to address all broadband needs during this emergency given how essential high speed Internet is to daily life. From lifeline to the E-Rate program to expanding deployment of telehealth, all need resourcing. We particularly appreciate FCC Commissioner Rosenworcel's leadership in the charge to take care of kids who can't do their homework due to the lack of broadband. We need to fix that and all of these other affordability problems

But most importantly, Mr. Chairman, we need a long-term solution to bridge the digital divide. Broadband has become not just essential to individuals and households, it is fundamentally intertwined with many of our most important societal needs. It's critical. Any path forward out of this crisis, to jumpstart our economy, we're going to need full access to the Internet for as many people as possible; to educate our kids, to keep families and relationships going and healthy and supported. We all need high speed Internet to practice our social distancing, to do our jobs, to avoid unnecessary travel. We all need the Internet and to support our democracy we need a local journalism that can clean up the disinformation,

the falsehoods that are flowing on the Internet in order to make sure we can tell fact from fiction.

Let's extend the bipartisan spirit that you've shown in the most recent legislation to a commitment to reliable, affordable, universally high-quality broadband for all Americans to help speed up this recovery and move us to a path back to normalcy.

Thank you so much, Mr. Chairman.

[The prepared statement of Mr. Kimmelman follows:]

PREPARED STATEMENT OF GENE KIMMELMAN,¹ SENIOR ADVISOR, PUBLIC KNOWLEDGE

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

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 percent 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

¹I would like to thank Jenna Leventoff, Senior Policy Counsel, and Tsion Tesfaye, Communications Justice Fellow, for their support in preparing this statement.

²Inquiry 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).

³47 U.S.C. § 257(b)

⁴In 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>.

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

⁶The National Broadband Plan at 201 *citing* American Heart Association, *A History of Trans Fat*.

⁷Monica 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)

⁸Robert 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.

⁹The National Broadband Plan at 313.

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, 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 percent 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 percent 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 are less likely than their peers to have access to broadband Internet at home. Only 66 percent of African Americans and 61 percent 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 infrastruc-

¹⁰Cecilia 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=e-mail&utm_medium=e-mail&utm_campaign=article_inset_1.1.

¹¹Cecilia 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>.

¹²Tali 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/>.

¹³Monica 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/>.

¹⁴John 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/](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).

¹⁶Consumer & 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>.

¹⁷Andrew 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/>.

ture. 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

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. 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 al-

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>.

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 Calhahan, *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/>.

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/>.

ready 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.

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 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 percent 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 leads the FCC to dramatically overstate broadband

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/>.

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

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/>.

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 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 homework gap risk falling behind their peers. While these students may have been able to access

³⁰Broadband 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>

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

³²DeMuth, 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=e-mail&utm_campaign=Newsletters&mc_cid=b647a19688&mc_eid=bf11efc24c

³³FCC 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>.

³⁴Statement 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/>.

³⁵Report 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>.

³⁶Statement 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>.

³⁷Kim 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>

³⁸Monica 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/>

broadband in their local school or library before the pandemic, these facilities are now closed. For example, 30 percent 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 percent 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 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 use their connectivity funded through E-rate to provide backhaul. For example, in Boulder

³⁹Jennifer 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=e-mail&utm_medium=e-mail&utm_campaign=article_inset_1.1.

⁴⁰Robert B. Kvik, *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>.

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

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-exists/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.cbstocal.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>.

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

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 percent 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 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.

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

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>.

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/>.

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 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. 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

⁵¹Jonathan 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.

⁵²Karl 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.

⁵³Jonathan 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.

⁵⁴Federal 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>.

⁵⁵Calculations made by Mark Cooper showing the increase in profit by wireless companies based on earnings before taxation, depreciation, and amortization.

⁵⁶Harold Feld, *Solving the Rural Broadband Equation*, 51 *State and Local Government Review* (forthcoming).

⁵⁷Amina 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>

⁵⁸Community Broadband Bits Podcast, Episode 228, *City of Lincoln Conduit Spurs FTTH, School Network Innovation*, Munitnetworks.org (Nov 15, 2016) <https://munitnetworks.org/content/transcript-community-broadband-bits-episode-228>.

⁵⁹Mark 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>.

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 percent 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 percent of American adults making less than \$30,000 subscribe to broadband, while 92 percent of Americans making \$75,000 or more subscribe.⁶³

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 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 percent of households that were

⁶⁰Jonathan Sallet, *Broadband for America’s Future: A Vision for the 2020s*, Benton Institute for Broadband & Society at 32 (2019).

⁶¹Heather 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/>.

⁶²Monica 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/>.

⁶³Monica 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/>.

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

⁶⁵Public 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/>.

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 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 subsidies 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 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.

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 percent 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/>.

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/>.

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.

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 percent.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 75 percent 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

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>.

⁷⁶ USTELECOM, *Network Performance*, <https://www.ustelecom.org/research/network-performance-data/>

⁷⁷ Over the past week, 67 cities (33.5 percent of the top 200) experienced median upload speed decreases of 10 percent 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=e-mail&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=e-mail&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-18th/?utm_campaign=Newsletters&utm_source=sendgrid&utm_medium=e-mail&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>.

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/>.

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 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 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 expen-

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)

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/>.

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>.

sive 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.

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

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

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

RECENT TRENDS (2015-2019): OVERCHARGES & RENT COLLECTION IN NETWORK SERVICES**The key economic indicators examines in the 2016 report**

Prices -	Costs =>	EBITDA	Investment
Earnings before Interest, Taxes, Depreciation & Amortization => DA/CapEx			
2015-2019			
Continuing Increases	Continuing Decreases	Continuing Increase	Mixed VZ constant C decline
Rent collection (i.e. pocketing the surplus)		Up slightly VZ 4% C 8%	Up sharply 15% 15%

Pricing patterns are similar to the past. For 2015-2019: Cable is up 15%, landline is up 6%, info services are flat, wireless is down 15%; info and telecom equipment is down 23%.

Infor processing equipment, communications equipment and cloud computing costs are available through 2017. They were declining at 10%-15% per year. Even if there were no additional cost declines in 2017-2019, the average annual cost declines would be 5% to 8%. In other words, there is likely a significant increase in rent collection based on cost and price, plus an increase due to the reduction in the tax rate.

In the 2016 document we estimated the overcharges to be about \$540 per household per year. We put wireline broadband overcharges at \$25 per month. Today the number is certainly larger than that. A cautious range would be \$570-\$600.

The CHAIRMAN. Thank you very, very much, Mr. Kimmelman, and we now turn to Mr. Jonathan Spalter, President and CEO of USTelecom, The Broadband Association.

Sir, you are recognized for five minutes.

**STATEMENT OF JONATHAN SPALTER,
PRESIDENT AND CHIEF EXECUTIVE OFFICER,
USTELECOM—THE BROADBAND ASSOCIATION**

Mr. SPALTER. Well, thank you very much Chairman Wicker, Ranking Member Cantwell, Members of the Committee. I am Jonathan Spalter, and I don't believe I've ever been more proud to serve as President and CEO of USTelecom and supporting our members, their frontline essential workforce and their customers through this national emergency.

You've asked us here today to share the extraordinary steps our members are taking, and also what's required during these uncertain times to keep our citizens connected. And I'm really grateful to have this opportunity. And I got to tell you, we don't have to go very far to tell this story.

In fact, if we were to walk out of this building on Constitution Avenue, you go a mile and a half up Massachusetts Avenue, you would get to the Washington Convention Center. And there you would find not out of town visitors but you would find the Army Corps of Engineer, Medstar, the D.C. government, and USTelecom member Smart City, working side-by-side in 12 hour shifts in harm's way to convert that convention center into a world class emergency field hospital.

You know, Smart City teams are doing this exact same work in 17 different convention centers across the country, with another dozen or so teams on standby just in case their communities need to ramp up at the last moment emergency services quickly.

And here's the bottom line, these active teams are operating at an 85 percent loss, and the standby teams are at a total loss with no guarantee of cost recovery. I asked Smart City Board Member Marty Rubin, who's also on our board of directors, "Why do you do it?" And his answer was, "There was never any question. These are our communities."

You know, this is the story of all our member companies at USTelecom, whether it's AT&T's—just one instance \$10 million dollars Distant Learning and Family Connections Fund or Big Bend Telephone, led by USTelecom Chair Rusty Moore in Alpine, Texas, reallocating unused broadband resources that are fallow right now in his local schools and redirecting them into the homes of students and families in need to ensure that they can continue to learn at home in West Texas. To Verizon's \$55 million—so far—contribution to push back against the global COVID-19 crisis. CenturyLink donating its time and equipment to connect and wire the U.S. Navy's hospital ship MERCY in a mere 48 hours in its new home port of the Port of Los Angeles.

You know, our companies have always gone above and beyond to serve our community, pledge or no pledge, and never do we stand taller than in a time of crisis. And the same can be said of our networks, you know, among the 10 largest countries in the world the U.S. is the only nation that recorded no substantial degradation in terms of speed last month in April, unlike countries that took a more heavily regulated path to broadband infrastructure, which has led to significant underinvestment in their network's capacity and performance.

As the world shuts down, the U.S. Internet remains open. We've demonstrated that Americans can count on their network if they are connected to it. So where do we go from here to close the digital divide? Decisively, we must pursue with tremendous urgency, Mr. Chairman, a permanent fix to universal service, one that puts the digital divide in the rear view of our Nation once and for all. We need to evaluate carefully what the cost would be the speeds, the capacity, and the timelines.

We also need to be crystal clear about the underlying principles that will steer our public-private partnership forward to get the job done. And I'm committing today that we will work with you to do this and we're ready to start now.

USTelecom delivered to the FCC last year a blueprint for broadband maps that can identify with pinpoint accuracy every home and business that remains unserved in our Nation. Congress green-lighted this approach and thank you for that. Now we need it funded.

From there we get to work. We should rely on programs we know have been stress tested, and not waste money or time on unproven experiments. We should commit the resources required, both private and public, and move forward with determination.

I'll conclude with the words of my Board Member Marty Rubin at the beginning. There is no question what is the right thing to

do, let history look back on our service, yours as lawmakers, and ours on the frontline of an essential industry and say there was never any question that every American should be connected. If not now, when? And if not us, who? Thank you.

[The prepared statement of Mr. Spalter follows:]

PREPARED STATEMENT OF JONATHAN SPALTER, PRESIDENT AND CHIEF EXECUTIVE OFFICER, USTELECOM—THE BROADBAND ASSOCIATION

Chairman Wicker, Ranking Member Cantwell, and distinguished Members of the Committee, thank you for the opportunity to testify at this timely and important hearing. My name is Jonathan Spalter, and I am the President and CEO of USTelecom—The Broadband Association.

I want to start with a big thank you to each and every one of you for your tireless work during this unprecedented time on behalf of your constituents who are living through such uncertainty and disruption in their day-to-day lives. And to those of you who have been personally affected by COVID-19, I sincerely hope that all of our friends and family return to good health in short order.

USTelecom's members include broadband providers, suppliers, and technology innovators connecting our families, communities, and enterprises to the future. Our diverse membership ranges from large publicly traded global enterprises to local, Main Street companies and cooperatives—all of whom have stepped-up and stood tall during this emergency to ensure continued access to communications services for all citizens regardless of where they live and work—urban, rural and everywhere in between. I have never been more proud and humbled to serve as the CEO of USTelecom.

This pandemic is unprecedented for broadband companies and their customers in so many ways, in particular the increased and sustained use of and reliance on residential broadband networks for virtually every critical function, and also the severe economic impacts felt by so many people and businesses affecting their ability to pay for service. These realities have shined an even brighter light on what we already knew—broadband connectivity is reshaping the delivery of 21st century education, healthcare, access to government services, entertainment, civic participation, and commerce. It has also shined a light on the significant impact on those of our fellow citizens who still are unable to access these critical networks—whether due to a lack of availability or an inability to afford the service.

With these realities in mind, it is incumbent on all of us to meet these challenges head on with immediate actions to address the near-term impacts of the pandemic and to simultaneously set a bold course toward connecting every home and business in America with high-speed fiber broadband service—including providing the resources necessary to meet that vision.

Before turning to what we should do, let me start by telling you what our members are already doing to meet the broadband needs of the communities and enterprises they serve. USTelecom's member companies were among the first to commit to maintaining connectivity during this time for customers faced with financial hardships. USTelecom endorsed the FCC's Keep Americans Connected Pledge and our members are committed to working with their customers going forward. As the first billing cycle since the outbreak of COVID-19 comes to an end, many are starting to see that doing the right thing (maintaining service, in some cases without payment) is coming at a substantial cost. While their spirit and their networks remain strong, these companies are comprised of people, of your constituents, proud to serve—often in harm's way—on the frontlines of our global battle against this crisis, and dedicated to the communities, families, and enterprises they connect and serve. That said, several in our industry are struggling with the same financial challenges and uncertainties that many of our fellow Americans are facing. Programs like the Paycheck Protection Program have been helpful, but I encourage Congress to continue to look for ways to both ensure customers can afford the broadband they need and keep providers on sound financial footing as they continue to do everything possible to keep our Nation connected.

To that end, we appreciate the leadership of Senator Klobuchar and Senator Cramer for their focus on direct assistance to companies requiring support as a result of the pandemic. We also appreciate the consideration of proposals that would provide support to consumers unable to pay for broadband as a result of the pandemic. USTelecom was honored to join virtually every association from our sector in a recent letter to the leadership of this Committee, including my colleagues at the table today, calling on Congress to assist consumers and businesses most im-

pacted by the pandemic by providing significant funding. Broadband providers are doing everything they possibly can on their own initiative to help customers proactively through this uncertain time, and keep them as customers for the long haul. At the same time, we are encouraged to see serious proposals emerging in Congress on how best to provide support to those consumers and companies in greatest need as a result of the pandemic. We stand ready to work with you and other stakeholders to develop the effective, achievable, and practical mechanisms to do so.

Despite the challenges COVID-19 has presented for our citizens, our workforce, and our companies, USTelecom members continue to rise to the challenge, and are doing extraordinary things to meet the needs of their communities. USTelecom member Smart City, based in Orlando, Florida, continues to face unprecedented challenges as much of its business is tied to connecting the devastated convention and hospitality industries. In the first month of the pandemic, Smart City lost over 75 percent of its revenues, and was forced to furlough much of its workforce, reduce management salaries, and seek emergency credit lines. Yet, in the face of adversity, and despite its mounting losses, Smart City soldiers on, and continues to deploy network engineers and specialists at 38 major convention centers across the country which have been or may be transformed into hospitals, homeless shelters, and COVID-19 testing centers. Just a few blocks away, at the Washington Convention Center, four Smart City technicians as we speak are deploying state-of-the-art broadband connectivity to support the U.S. Army Corps of Engineers and the DC government for the emergency field hospital it has now become. And at the San Diego Convention Center, Smart City team members are providing connectivity for the 1100 neighbors in need in the homeless shelter it houses.

But Smart City is by no means alone among our Nation's broadband providers in this collective and fierce commitment to keep our citizens, students, our emergency responders, and our enterprises connected through these anxious days.

BBT, a third-generation, family-owned business based in Alpine, Texas, has worked to reallocate currently unused broadband resources at the closed schools it serves to ensure students in need have the connectivity required for online learning at home.

South Carolina-based Hargray is partnering with educators, including Beaufort County Schools, to ensure students have the necessary Internet connectivity to continue their studies during school closings. The company launched programs to support remote learning for students in grades K-12 and college with free Internet service to households in its service area with students who do not already have a Hargray Internet subscription.

To note just one of the company's many initiatives, Washington State-based Rainier Connect collaborated with Tacoma Public Schools and the Foundation for Tacoma Students to help get laptops and high-speed Internet service into the homes of Tacoma students. With the help of Rainier Connect, the partnership made free high-speed home Internet service available for student households who currently do not have access. These connections will be for up to one year at no cost to those who receive them. They are prioritized for students who have the most need, based on graduation requirements, advanced classes, and a lack of existing connections at their residence.

Blackfoot Communications serves homes and businesses in eastern Idaho and throughout Montana, which has the highest percentage of rural schools in the United States. Blackfoot is making available free Wi-Fi hotspots in key areas to help ensure all students are able to participate in remote learning, download course materials, and stay on top of their classwork.

From our local and regional providers to our national and global technology leaders, USTelecom's members are contributing massively. AT&T's \$10 million Distance Learning & Family Connections Fund is committing more than \$500,000 to organizations focused on connecting young people with meaningful mentor relationships—online. Verizon's total COVID-19 crisis commitment now stands at over \$55 million in contributions and donations to nonprofits around the globe. And, in a mere 48 hours, CenturyLink deployed 1,000 feet of fiber line to connect the USNS Mercy hospital ship to a nearby network terminal, waiving all installation fees and donating 12 months of free service.

These are but a few of the countless stories across the country of USTelecom members serving and connecting their communities and their country in a time of need. Though the tools and technologies USTelecom members use to connect Americans have greatly changed since the association's founding in 1897 as a business league of independent rural telephone companies, this commitment to service and to community has remained constant—in good times and bad, through wars, depressions, and earlier public health emergencies. This commitment is no less enduring

today, in the broadband era. There are many more examples of how USTelecom members are going above and beyond to support their customers during this crisis at www.ustelecom.org.

The Internet has emerged as the central means of keeping Americans connected during the COVID crisis and our Nation's broadband networks remain strong. As the world has shut down around us, the Internet remains open. This resiliency and openness is not an accident; it is the direct result of our Nation's broadband providers investing between \$70 and \$80 billion dollars annually to connect new communities, upgrade infrastructure, and innovate in their networks. Broadband providers made these investments as a direct result of smart bipartisan policy decisions allowing companies to compete, invest, and innovate in a lightly regulated marketplace. As a direct result, USTelecom members had the incentive and flexibility to build, maintain, and enhance their networks, which produced today's dynamic and secure networks that so successfully and seamlessly have met the increased demand during this crisis. While some unwisely have called for imposing utility-like regulations on broadband networks, the success we have seen during the COVID-19 pandemic in how the networks have adapted and are efficiently supporting the sharply increasing traffic demands of our citizens illustrates exactly why smart, forward-looking bipartisan policies made today's connectivity possible.

We continue to closely monitor network traffic trends, and even as traffic has at times soared more than 25 percent higher than pre-crisis levels, the performance of our networks remains seamless for our Nation's citizens. Indeed, according to one recent study, "[o]f the top 10 countries in the world by population, the U.S. is the only [country] that recorded no download speed degradation on average in the month of April." The same cannot be said for those countries which took a different path toward more heavily regulating and underinvesting in broadband networks. The essentiality of broadband service and the performance of American broadband providers during this pandemic is Exhibit A for a continuation of our smart, nimble, consumer-focused, light-touch policy approach.

COVID-19 has removed any lingering doubts about the important role broadband plays in today's society, but it also magnifies the need for actions that make broadband accessible for all, including policies designed to address increased adoption, affordability for low-income households, and access to expanded opportunities for online education and healthcare applications. We appreciate the \$200 million Congress set aside in the CARES Act for telehealth programs which, thanks to the extraordinary efforts of the FCC, is already proving to be a vital resource for many healthcare providers around the country. USTelecom is also encouraged by the \$13.5 billion in the CARES Act for the Education Stabilization Fund, which schools can use to purchase technologies to support online learning.

These are among several important initiatives to meet the immediate challenge, but we must also use this opportunity to meet the long-term connectivity needs of this country and to fully fund a bold, but necessary and fully achievable vision. One of the undeniable lessons from COVID-19 is that the United States needs to once and for all roll up its sleeves and provide the funding necessary for ubiquitous, futureproof broadband. Our goal must be 100 percent connectivity for all Americans. We've pursued this public policy goal for some time, but incremental approaches with limited budgets, combined with rapid redefinitions of how we use and integrate broadband into our lives has left too many Americans still without the access they need. The economic challenges of this goal are well documented and connecting the last one to two percent of Americans is extremely expensive. Different entities and even Congress have identified various funding targets for ubiquitous fiber broadband, some of which exceed \$100 billion. This is a significant amount of money, but if that is what it takes to get the job done, then let's get it done.

To achieve this, Congress should adopt a legislative framework that capitalizes on the work, preparation, and foresight of the government agencies it has already charged with meeting our Nation's broadband needs. The best programs are the ones that were implemented deliberately, well thought out with both government and industry input, and that can provide nearly immediate results. Rather than hastily standing-up unproven new programs in the face of an emergency, which in the recent past has shown to produce mixed results, duplication, and financial inefficiencies at best, Congress should leverage existing broadband programs in place today at the FCC and the Rural Utilities Service (RUS). Specifically, Congress should provide substantial additional funding to the FCC that it can allocate toward programs such as the Rural Digital Opportunity Fund (RDOF) which is set to launch later this year, as well as the Alternative Connect America Cost Model (ACAM) at levels that will achieve 100 percent fiber broadband connectivity nationwide.

As we work together to emerge from our current emergency and prepare all our citizens to meet the challenges of any similar events in the future, investing in our Nation's broadband infrastructure at this moment is critically important, especially as doing so will only get more expensive in the future.

Together, we therefore have the opportunity to move decisively to put our Nation's digital divide finally and forever in our Nation's rearview mirror.

If not now, then when?

For our part, USTelecom commits to work in close partnership with Congress to do the critical work of evaluating what will be the necessary levels of support needed (in addition to substantial continued private investment) to realize this vision, at what speeds, and in which timeframe. We also commit to bedrock principles that must guide our work, including ensuring the security and resiliency of our networks; the need for supportive, flexible, and forward-looking policies to promote continued investment in the ever-evolving capacity, speeds, and architectures of our networks; and accelerating and sustaining critical public-private technology partnerships and Federal programs fundamental to finishing the job of connecting all of our citizens in need to affordable and accessible Internet service.

One hurdle in this challenge is knowing where to target these resources. While we are working toward implementing effective broadband funding mechanisms we can simultaneously develop a comprehensive broadband map showing precisely where broadband service is available and, most importantly, where it is not. Congress wisely passed the Broadband DATA Act earlier this year to do just that—but these maps have not yet been funded. Any Congressional broadband initiative to achieve 100 percent connectivity must start with funding the maps. We have to know where to target broadband funding in order to ensure no home is left behind.

As we look to meet the challenges and opportunities ahead together, we know there is nothing we can do without the dedicated women and men who are working tirelessly during this crisis to keep our networks functioning. Many of our employees in the field remain in dire need of personal protective equipment as they work on repairs and provide direct, often on-site assistance to customers. As its chair, USTelecom has worked through the Communications Sector Coordinating Council with agencies including DHS and FEMA to secure and distribute approximately 1 million cotton masks to broadband providers around the country. However, more and better equipment is needed. Congress should consider it a priority to provide additional protective equipment for these essential workers.

Finally, on behalf of USTelecom's members and their employees, I want to acknowledge the important work of our colleagues in Congress, your staff members, and numerous Federal agencies that continue to press ahead with their important work. In particular, USTelecom appreciates the work of the FCC's staff who are keeping the pedal to the metal on important communications policy issues while simultaneously addressing COVID-19-related challenges. We have appreciated the FCC's foresight and willingness in providing extensions and waivers of various rules and to consider broader near-term policy requests. Local and tribal government efforts to assist, and not delay, deployment in these challenging times is also appreciated. For example, the Navajo Nation, which like many communities in America has been seriously impacted by COVID-19, worked with broadband provider Frontier Communications to expedite permitting and rights-of-way for deployment. Frontier is now laying fiber for new and improved broadband connections across the Nation to help connect residents and businesses to telemedicine, education, and economic opportunities.

To that end we urge state, local, and tribal governments to do the same by expeditiously reviewing pending requests for regulatory approval or relief to facilitate continued operations and investment, including, for example, pending change-in-ownership approval requests, permitting, tower siting and rights-of-way applications, and requests for relief of certain reporting and other administrative requirements. We encourage Congress' support of the same.

With your help, we can close the digital divide. With your help we can ensure all Americans have access to the connectivity that will open doors to their education, their healthcare, and their future. We must work together to ensure—in times both of pandemics and prosperity—that all Americans have access to the greatest resource of modern time, the internet.

Thank you for inviting me today. On behalf of the entire connectivity industry and our courageous and committed workforce, we appreciate all that you are doing. I welcome any questions.

The CHAIRMAN. Thank you all. And we have votes beginning at noon. It's now at 10:36. Let's agree we're going to strictly enforce

the 5-minute rule and that doesn't mean getting all of your questions in in 5 minutes. It's the question and answer in 5 minutes. And I'll be using the gavel to try to get us all a chance to do that.

Mr. Spalter, you were talking about the Broadband DATA Act just now and you said it needs to be funded. How much is that going to cost in your estimation? And how important is that?

Mr. SPALTER. Well, thank you for the question. Also, thank you again, for your support of that very important legislation. We're grateful for it.

We expect that—we undertook pilot studies and we've been able to model that. We think that we can actually scale and get the national maps done at a cost of about \$25 million, give or take, with annual plus-ups to maintain the mapping exercises going forward.

We think we can also do it, now that we've actually undertaken that important spadework in modeling these maps, and we think we can actually get and deploy nationally these maps in a matter of months.

The CHAIRMAN. OK. I sure hope so. Let's move on. And I began, in my testimony, talking about the fact that we've seen Internet usage increase by as much as 47 percent since the pandemic began. I made the statement that our networks are performing and responding well to this dramatic increase in usage. Let's just ask all four of you to comment on this. Have I got it right? And if we're doing better, why is that?

Ms. BLOOMFIELD. I'll jump in Mr. Chairman.

The CHAIRMAN. OK, good. We'll do you and then we'll go back to Mr. Berry and then just around the panel.

Ms. BLOOMFIELD. Perfect. And you know, we have definitely seen an increase in the utilization of our networks up to about 40 percent. The interesting thing is we focus so much on download speeds and what we're seeing is that the upload speeds are also—that need for that upload is increasing as well. Where folks—particularly because we're using so much, you know, two-way communications.

So, you know, I think that it's going to be important to continue to build these future-proof networks. That is why I think these networks, even though we're seeing the length of the time of the network usage expand, to fill the day because people are working from home and students are taking their classes from home.

So you're not seeing that peak time when people are streaming videos at night to relax. You're just seeing a longer heavier use of that network. But again, it's both upload and download speeds and that is why we are so bullish about the fact that you all have supported fiber investment because that is allowing these networks to sustain that excess capacity.

The CHAIRMAN. Are we doing well on the on the uploads and the downloads?

Ms. BLOOMFIELD. That's the beauty of fiber.

The CHAIRMAN. Mr. Berry.

Mr. BERRY. Thank you, Mr. Chairman.

The CHAIRMAN. And if you could get closer to the microphone.

Mr. BERRY. OK, is that is that good?

The CHAIRMAN. Good.

Mr. BERRY. All right, thank you. You know, wireless is a little different in the sense that our, our networks are resilient, because many of them are self-contained especially in the rural areas. They build a network so that it'd be the network that they would like to utilize.

They build in the possibility of innovation. They build in the possibility of competing with other carriers in the network. I think you're seeing the United States, fiber and wireless, they build to connect with other networks that have very high quality of service standards, so that you know what you're getting when you're connecting with the network. And there is some resiliency in multiple access to the network.

So, we not only have a wireline capability, we have wireless, fixed wireless, we have backhaul that can be provided by cable companies as well as wireline and many of the wireless companies using microwaves. So we have a variety of opportunities to modify and provide diversity in the network itself.

And then the one of the things that Shirley mentioned, the entrepreneurial spirit. There's this idea that they can build a better network and attract more customers and keep them because they provide better service. And that's what the smaller carriers, they have been, they've been doing it for 25, 30 years.

The CHAIRMAN. Good. We've got a minute now to squeeze Mr. Spalter and Mr. Kimmelman in on this topic. Mr. Spalter?

Mr. SPALTER. Sure. I'll be very quick. We are monitoring very carefully network performance and network capacity. We publish these data on our website.

The CHAIRMAN. Are we doing better than other countries?

Mr. SPALTER. We are. In fact—

The CHAIRMAN. And why is that?

Mr. SPALTER. One of the direct reasons, sir, is because we have made the ability to have a policy framework that allows and incentivize network investment by our sector upwards of \$70 billion annually. This light touch, flexible, forward looking approach has given us the ability to keep a new normal of performance during times of surge and in an emergency. And it's the key ingredient that's going to keep this success going.

The CHAIRMAN. OK, Mr. Kimmelman.

Mr. KIMMELMAN. Thank you, Mr. Chairman. I certainly hope these companies are doing that kind of performance and—or that focus, but just ask your constituents, just the people in rural America have all kinds of problems getting connected and keeping speeds up. People in inner cities have some of the same problems.

I mean, we're hearing it. I'd say, you know, your constituents can better answer that one. And I really appreciate you staying on the companies and the FCC to get the maps done, and get the service improved.

There are a lot of gaps and holes and I hope the companies are on it.

The CHAIRMAN. OK, thank you very much. Senator Cantwell.

Senator CANTWELL. Thank you. Mr. Kimmelman, we're hearing you loud and clear, by the way.

I wanted to ask you, your testimony, I think you have a longer version of it that cited many issues, but particularly you're calling

for a comprehensive legislative package that goes beyond short-term measures, and I couldn't agree with you more. I think the witnesses have outlined why this is so critical. The question is, what are the solutions?

So, you mentioned a couple of things in your testimony; more competition, some reliance on municipal entities. You bring up both something creative that West Virginia did in working with their communities. And then obviously, this horrific example that you have of Yakima County, which is one of the hardest hit COVID spots. I think it is the most hard-hit West Coast county, Yakima, Washington, where 30 percent of students do not have access to Internet services.

So what one or two things should we be doing now to try to address this in a more comprehensive way? And I'm intrigued by your statement about the press and the delivery of information, too.

You know, we have been pushing to have the next PPP coverage, make sure that broadcasters and news entities also can apply because they—we've had—we've lost tens of thousands, if not more jobs from broadcasters, and I want the local information to be there.

So if you have any other ideas what we should be doing there, I'd like to hear from them. But what one or two things should we be doing on broadband now to be more comprehensive than the current programs we have?

Mr. KIMMELMAN. Well, you just have to, first of all, expand Lifeline and E-Rate, money to telehealth, you're already taking some of these initiatives. That's the stop gap to get us over. We need to update the Universal Service Fund. We need broader contributions from the broader players in the broadband service ecosystem. It's going to take a lot more money.

The infrastructure is expensive. That's why we call for sharing. You need oversight and the competition is critical because we know we're not going to be regulating every jot and tittle here. So there's a variety of ways to let communities participate more, open the door to more competition, don't let states block competition in broadband.

And on the democracy front, what we've learned is that as we rely on broadband, the way in which we get that critical local news and information from broadcasters and newspapers increasingly depends on Internet delivery. And in the digital marketplace, we're seeing the flow of advertising revenue diminish, most direct—dramatically for newspapers. It will come from broadcasting as well. We need a new business model there.

And I believe that what we're seeing with the explosion of the Internet is with all the good information, there's a lot of pollution. And that bad information, misinformation, falsehood about the virus, and more broadly, is dangerous to our democracy.

So I believe you need a specialized fund, like the Superfund was for toxic waste cleanup. Let's get information cleaned up. And let's get it resourced to support news gathering, fact checking, helping people navigate their way to get around disinformation and falsehood.

So I call it really a comprehensive program. It's time to update the law and address all of this together because all of these issues are intertwined.

Senator CANTWELL. Thank you. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you Senator Cantwell. Senator Blunt.

**STATEMENT OF HON. ROY BLUNT,
U.S. SENATOR FROM MISSOURI**

Senator BLUNT. Thank you, Chairman, great to be with you and be part of this hearing. And so, one of the hearings we've done in the last few days using a technology that we hadn't used before, where some of us are in the hearing room and some of us are not. Some of the witnesses are in the hearing room, others are somewhere else.

I think what we've seen in the last several weeks is a huge leap forward in people's not only willingness to use technology, but also a greater understanding of our dependence on that technology. And really, I'm going to try to focus on a couple of questions here quickly.

One is what if you don't have even the possibility of access to broadband like too many rural Missourians and rural Americans don't have. And the other would be what if you have access, but you can't afford it?

So let's go first to the first question on access, I think I'll ask Ms. Bloomfield, and anybody that wants to answer this question for the record certainly could. Would there be merit to the Congress beginning to set some deadlines of our own on how quickly of these auctions and distributions need to occur?

I know there's some discussion now of moving the proposed September deadline forward, but even if that was, if all we did was make the September deadline mandatory, would it be helpful or not to have a more clear understanding of when these things were going to happen?

Ms. BLOOMFIELD. Thank you, Senator. Actually, I think the FCC has done a very good job as they get prepared for the Rural Digital Opportunity Fund, which is the auction that I believe you are referring to, which will be the next tranche of really figuring out where those unserved Americans are and committing \$16 billion over the next 10 years to connect those folks.

I think, I actually think they're on track to begin the process in October, which I think given that we really want to make sure we know where those who are served and those who are underserved and those who are served exist, I think the ability to start some of the mapping initiatives that hopefully can also get support. I think this puts us in a good timeframe.

I think the thing that I would be loath to see is that kind of effort delayed. I think we're on track. I think we need to start moving quickly. And I think we need to unify both the RDOF program as well as the Reconnect program working out of USDA. I think in concert, those programs can actually do some significant good.

Senator BLUNT. Well, I hope that's right. I believe that's right. And I think all of us believe that we can't continue to delay much longer. I think the FCC has moved forward in good faith here. But

we might at some point decide that there have to be even more parameters on when those things have to occur.

On the other topic of access, but no affordability. Mr. Berry, would you talk a little bit about what we might do to help people get access to this effort that could be telemedicine? It certainly has been tele-education for most Americans who are in elementary and secondary school and even college for the last several months.

So could we be doing more to help people afford to be part of that process?

Mr. BERRY. Thank you, Senator. Yes, I truly believe so. I think the E-Rate program that Senator Cantwell mentioned, I think Senator Markey has a bill that would actually encourage filling some of those gaps on the educational side. And we need a rollout of broadband services that also include fiber but also wireless. And many times wireless, the wireless connection may be the fastest opportunity to connect, and especially in those areas that are not connected.

But I can't say enough that we have to find where those places are. You need the Broadband DATA Act that you passed in this Committee, and we need to get on with where are those holes? Where are those needs? And then let's find the money to fill those gaps.

And I would suggest that Gene Kimmelman is absolutely right. We need contribution reform under the USF program, you can no longer sustain enhanced spending on broadband activities if you're basing that on a revenue from a long-distance wireline declining fund.

When the cost gets up to 25 percent of your bill, because you're making contributions to USF, you're pushing the envelope and you're not getting any more money to do what everyone in this room has said, that is we need more broadband in those areas that are either underserved or not connected.

And I think we need to find those places first. Thank goodness this Committee did that. And now we need to get on with the business of what is the resource requirement to actually get it done.

The CHAIRMAN. Thank you.

Senator BLUNT. Thank you Mr. Chairman.

The CHAIRMAN. Well done, Senator Blunt. And now we move to Senator Klobuchar. You are recognized.

**STATEMENT OF HON. AMY KLOBUCHAR,
U.S. SENATOR FROM MINNESOTA**

Senator KLOBUCHAR. Thank you very much Mr. Chairman. Thank you to you and Senator Cantwell. And I wanted to note, thank you to Senator Blunt for the work we've done together to make these remote hearings a reality through the Rules Committee.

I wanted to start with the disparity that we're seeing. I thought Senator Cantwell did such a great job of going through those statistics in her own state, a state that's home to so many great technology companies and you see this not just in Washington State, but all over the country where kids that are now being asked to learn from home and parents who are asked to teach them, the disparity when they don't even have access to internet.

We have the story out of Minnesota where one of our tribal communities, when someone got Internet there in one household High Speed was able to pay for it. All the kids gathered in the front yard to do their homework. But we just can't have that continue into the summer and into the rest of the year.

So my first question of you, Ms. Bloomfield, as you mentioned, the bill that I have with Senator Cramer, we now have 28 cosponsors, including eight members of the Committee, a number of Republicans and Democrats on this bill, which allows our smaller providers to keep providing service because the last thing we want to do in rural areas right now is to cutoff service.

Could you briefly describe why that is so important?

Ms. BLOOMFIELD. Absolutely. And thanks for your leadership, Senator Klobuchar on this legislation. And I'm proud to say we're now up to 30 members of the Senate and nine on the Committee.

This bill is really important because what it does is it basically allows the spirit of the pledge at the FCC to continue which is that people will not be cutoff of critical service right now because of economic hardship due to COVID-19 and students will be connected.

So what the bill does is basically allows companies to make that delta up between what customers cannot afford to pay anymore and to continue to keep that service up at that level or even a higher level. So it is—you think about it as essential services, I think about the analogies of the grocery store or newspapers. They're essential right now, right?

But you can't expect the doors of those stores to be open 24/7, and people take things off the shelf and expect them to continue to operate. You've got to be able to continue to support the support of the network. The ability for the technicians to connect the schoolchildren, to upgrade the speeds for those who are now working from home.

So the bill actually helps create that—builds that delta in what people cannot afford to pay any longer. That in conjunction potentially with the Lifeline program could be very powerful at this point in time. But that support is so essential if we're really going to say that broadband connectivity is what we need right now. The support through that legislation is going to be absolutely necessary to ensure these network providers can continue to operate and keep people connected.

Senator KLOBUCHAR. Thank you very much.

Mr. Kimmelman, it's good to see you out of the antitrust setting here today. And I want to talk to you about something we haven't focused as much on and that is all the people in assisted living, who are no longer able to see their loved ones, except virtually and it's a very, very lonely existence. And of course, also, we all know, also a scary existence right now and we sadly lost so many people who are seniors.

In your testimony, you highlight how many older Americans can't connect with their friends and their families. Senators Casey and Capito and I are leading the Access Act to expand telehealth to facilitate virtual visits. Could you talk briefly about this?

Mr. KIMMELMAN. Thank you. We also support your other bill with Senator Cramer. We think it's essential for the companies to

be there in order for consumers to even have the access to broadband.

So obviously, this crisis has shown us that we can't communicate, we can't keep up with our families and those particularly who has special needs like those in assisted living. We're fully dependent on a high speed Internet connection to just interact with them to just get some sense of how their life is going, what they need from us, what we can do for them to keep people working their way through this, and trying to deal with the struggles and the dangers of this pandemic.

So it's just become crystal clear that telehealth is fundamental to healthcare delivery, and we need to build that into the system.

Senator KLOBUCHAR. Thank you. And I can ask you this on the record, but as you know, we're working on the Lifeline program with, as you noted, only 40 percent of households eligible for Lifeline have actually subscribed. And that's something that we want to continue to focus on.

And then finally, just this week, we put out the Connectivity for Higher Education Students in Need Act with Senators Hirono, Peters, and Rosen of the Committee, to create a fund to help some of our college students who are having the same problem that high school and elementary have.

And as we know, a lot of our students of color are having incredible problems accessing and here they are worked so hard to get into college and now they're unable to compete and to be part of that college experience if they don't have the internet. Ten seconds on that because my time is up.

Mr. KIMMELMAN. Thank you, Senator. We appreciate your leadership. These are all critical needs. They're intertwined. You just remind me that the first Lifeline bill I worked on was sponsored by Senator Heinz a long, long time ago. I hope we can continue to make sure affordability is there for everyone.

Senator KLOBUCHAR. All right, thank you very much. Thank you Mr. Chairman.

The CHAIRMAN. And Senator Klobuchar and Senator Blunt, I do want to thank you for your leadership on the Rules Committee in helping to make the technology possible and smooth the way for really a different day and approach in being able to hold these hearings remotely.

Senator Fischer, you are recognized.

**STATEMENT OF HON. DEB FISCHER,
U.S. SENATOR FROM NEBRASKA**

Senator FISCHER. Thank you, Mr. Chairman. We've heard from some of my other colleagues about really the challenges that our students are facing right now when it comes to trying to work at home and being dependent upon their digital connections. And for those who don't have that access, it is not just the effects of a pandemic that is stressing but also the ripple effect out and how this is affecting their lives not having that.

We all know that expanding broadband takes time and it takes investment. But I would like to begin with you, Mr. Spalter, and ask if you have any ideas on any kind of short-term strategies that we can look at for this connectivity that can support the students

that are home right now, and trying to maintain and grow in a different environment with regard to their education.

Mr. SPALTER. Well, thank you for that question, Senator. And I think that we are already seeing extraordinary voluntary steps that are being taken by providers: large, regional, and local; including right in your state companies like Great Plains that have been extending Wi-Fi hotspots and service upgrades and installations to families that have students in need to move forward, but it's not just them. It's Hamilton and Sawtown and CenturyLink and Frontier and others that are doing exactly this kind of work in your state and across the country.

I wrote a letter to the FCC commissioners at the very outset of this crisis, saying we needed to move very rapidly to establish emergency funding programs akin to Lifeline, akin to E-Rate, to be able to accelerate our ability to get broadband service to our communities that are in need, particularly our learners in a home environment.

And we have to be innovative not only on the government side, but also continue the innovation that our companies are showing on the ground supporting their communities and their students.

Senator FISCHER. Ms. Bloomfield, when we look at partnerships, we always talk about public-private partnerships. This is such an important move for the days that we're looking at right now, having schools being able to partner—not just with other government entities, not just looking for funding in trying to move forward but to be able to partner with small companies. Mr. Spalter mentioned so many that we have in Nebraska that have stepped forward.

What else can we do to encourage that kind of partnership to encourage interested parties to be able to reach out and, honestly, just move us forward at a quicker pace? You know, I've mentioned how long it takes to get anything build out when it comes to infrastructure, that really applies to broadband. So how are we going to do this in a timely manner and be ready for not just the far distant future, but how are we going to be ready in another month or two?

Ms. BLOOMFIELD. And not only that, Senator, but I think we start to look and say what's going to happen in the fall? You know, we're hitting the end of the school year, but we need to be ready that this is not just a 2-month blip, that we're going to have to be ready to continue this education at home. And I think your point on partnerships is so important.

One of the things that, you know, my companies have the advantage and that they're community-based, but I still think everybody needs that—a little bit of a push to say, talk to your local health clinic, talk to your school superintendents.

When we saw folks kick into action really fast, it was those that had those really tight relationships that knew they could go to the administrator and say: Who in your school district doesn't have broadband? Who do we need to reach out to, to connect? Who do we need to bring broadband in a box to their front door to get them up and running?

And I would say the same with telehealth, right? I think right now, we're not seeing a lot of that money from the FCC going to small clinics. But let's get those critical conversations going in

these communities. They need that connectivity just as much as an urban area does. And getting the carriers and getting the public officials having those conversations and maybe even, you know, having folks like you go back home and facilitate some of those will help kick some of that off.

Senator FISCHER. Thank you very much. Thank you, Mr. Chairman.

Mr. BERRY. If I may, Senator Fischer. One of the things that is not normally known is that there are impediments in the programs that sometimes keep carriers from actually reaching out and doing that.

I mean, the FCC was pretty good at lifting some of the requirements for donations. We have carriers that have given them Wi-Fi—

Senator FISCHER. Great.

Mr. BERRY.—MiFi slots, and tablets to members, I mean to children that they couldn't have given before and that's been very much appreciated, and it's maybe it's something we ought to think about going forward.

Senator FISCHER. Thank you. Thank you Mr. Berry. We can talk later about that, my time has expired. Thank you.

The CHAIRMAN. Thank you very much. I'm told that Senator Udall is next. Tom, are you there?

**STATEMENT OF HON. TOM UDALL,
U.S. SENATOR FROM NEW MEXICO**

Senator UDALL. Thank you, Chairman Wicker and Ranking Member Cantwell. It's great to be here with you today.

Today's hearing is titled, "The state of broadband amid the COVID-19 pandemic." The state of broadband throughout the country depends on where you live. If you're located in Indian Country, the state of broadband is unacceptable and I'm glad that Senator Klobuchar raised this issue as far as the Minnesota tribes and tribes across the Nation.

Prior to COVID-19, tribal communities were significantly behind much of the Nation in terms of access to affordable broadband service. Sadly, the pandemic has only exacerbated this. While tribal communities grapple with COVID-19 response, they must simultaneously adjust to an increasingly broadband reliant society. Now more than ever, broadband service is critical to telemedicine, to online education, and to teleworking.

My bill, The Bridging the Tribal Digital Divide Act sought to update existing authorities to rapidly address this inequity. One provision of my bill created a tribal set aside under the Universal Service Fund, similar to what the FCC did under the Tribal Mobility Fund.

This is a question to all the panelists here, what should Congress and the FCC do in order to bridge the tribal digital divide? And do you support further set asides under the Universal Service Fund for tribal communities?

Mr. SPALTER. Let me begin, Senator, it's good to see you again, even if virtually. I would be very happy to take a very close look at the Tribal Digital Divide Act that you and Senators Cantwell and Gardner have put forward.

I can tell you that our industry is doing its best to work closely and in close coordination with the Native American Community and is committed to continue to work closely with them. I know that Senator Cantwell had worked with CenturyLink to identify for just for example, Neah Bay on the Olympic Peninsula occupied by the Makah tribe there and a Coast Guard Station that is very much in need of broadband service. And so, altered their own CAF build-out plans to ensure service was available in the Bay in Washington.

Recently, then the Navajo Nation leadership worked to expedite permitting and rights of way issues that were impeding the speedy delivery of broadband to Navajo lands in Arizona, Utah, and New Mexico. Frontier Communications is working with them getting this permitting, streamlining done and now is able to actually deliver broadband to those communities that are being hit most hard by COVID-19.

There's a number of steps and there's a number of points of light ahead and I really look forward to evaluating your legislation on the days ahead.

Senator UDALL. Thank you.

Ms. BLOOMFIELD. And Senator, I would just say obviously, tribal lands have unique challenges. We would also be really interested in your legislation, we have a number of tribal communication companies. And I would go back to the points that has been made about contribution reform being so important because there's so many different needs that we have to use that support in ways to bridge some of these divides.

The other thing I would end with is take a look at what Sacred Wind is doing in your state. They're doing amazing things. They are bringing literally remote broadband access to the folks on the reservation right now and doing some amazing things in really innovative ways and I'm really proud of the work that they're doing.

Mr. BERRY. And same here, Senator, I think the tribal lands have long been overlooked. We have several members that actually service tribal lands. A good example is ATNI, in New Mexico and Arizona, applied for the STAs, the Special Temporary Authority permits to increase access to spectrum and they were able to turn up 54 sites doubling capacity, literally in a week's time—five to 6 days, in the very tribal lands that, you know, that we care so much about, about serving more.

And I think some of those lessons that we're learning now, in spectrum disaggregation and also spectrum partitioning, should be explored as we move from relief to a more normal process. So, we would greatly appreciate the opportunity to work with you on your legislation. I think it's a very much needed initiative.

Senator UDALL. Thank you.

Mr. KIMMELMAN. Senator Udall, we fully support your legislation. We think that it's critical. We appreciate your leadership along with Senator Cantwell's in highlighting this important inequity. And I believe we should immediately be pushing the FCC to use its Lifeline program and E-Rate program to make more resources available to tribal lands.

Senator UDALL. Thank you. I yield back Mr. Chairman.

**STATEMENT OF HON. JOHN THUNE,
U.S. SENATOR FROM SOUTH DAKOTA**

Senator THUNE [presiding]. Thank you. We've seen as we've noted earlier now more than ever, as we rely on technology to do our jobs, and stay connected to our families and friends. Just the importance of reliable Internet connectivity and ensuring that all parts of the country have reliable access to broadband services is critical.

Without access to these services, we wouldn't have students continuing their education through distance learning. Many parts of the country's workforce wouldn't be able to telework and we wouldn't be able to provide essential telehealth services to many individuals.

Throughout the COVID-19 pandemic, I've been encouraged by the performance of both mobile and fixed broadband networks in the United States. Carriers by and large are meeting consumers' demands and even with the unprecedented amount of traffic on our communications networks, they have stepped up to keep our country connected. So we thank you for that.

This is much different from what we are seeing in other parts of the world. Take for example, Europe, which has pursued a more heavy-handed regulatory approach to broadband services. This has resulted in far less investment in communications network expansion. And now today we're seeing their network struggle to keep up with the increased demands.

Because of the light touch approach to broadband regulation by the Federal Government of the United States, we've seen access to these critical services expand significantly, including to some of the most rural areas of the country. And if we want the Internet to continue to thrive and serve as an engine for economic innovation and advancement, we should ensure that our policies continue to encourage more investment by the private sector in our communications networks.

Mr. Spalter, could you just talk about what impact the current U.S. broadband regulatory climate has had on broadband investment, especially in rural areas? And would you expect the same level of investment in the broadband sector if it was more heavily regulated?

Mr. SPALTER. I think that the extraordinary performance that we're seeing in our networks today and the ability to have expanded broadband access, albeit still work to be done, is a direct result and is no accident—to exactly that light touch flexible, forward looking, and I must stress this bipartisan approach that has been the hallmark of American innovation policy for fully a generation.

The reason that American broadband companies can invest upwards of \$70 billion annually in our Nation's infrastructure to bring broadband, best in the world broadband, to our citizens is directly related to that policy framework. If we want to continue the runway for this kind of progress as we transit to new generations of service, and to fundamentally do the important work of closing the digital divide once and for all, that framework is a critical input and without it, we are going to regress, not progress.

Senator THUNE. Mr. Berry, you referenced that in your testimony as well. Could you expand on those regulatory burdens and how they will continue to affect carriers once the pandemic is over, especially as we think about transitioning to 5G technologies?

Mr. BERRY. Thank you, Senator. Your Streamline Cell Siting Act is something we very much support. We appreciate the effort, you and Senator Schatz have been stellar in your effort on that. I think that is going to help us advance 5G, not only 4G LTE, VoLTE, and 5G, as we move forward.

We're seeing a lot of pent up need for licensing and permitting, because, you know, the local, county, and state governments that approve the permits are sheltering in place also. So I think we're going to see an opportunity right after the COVID-19 pandemic crisis to have a new initiative in building out rural broadband, especially in the rural areas where you need to approve sites and especially on Federal lands. So, thank you for that legislative initiative.

Senator THUNE. Thank you. Ms. Bloomfield, it's clear that this pandemic has highlighted the importance of reliable broadband services, and I know you've spoken I think to this already, but what steps should Congress take to ensure that truly unserved areas are getting access to these services?

Ms. BLOOMFIELD. Well, thank you very much, Senator. I think you've also taken a huge step by initiating some mapping initiatives. So again, we can kind of do it right, do it smart.

As we've talked about with this panel today, broadband deployment is not a cheap proposition, but we know how critical it is and I think we've seen over the past 2 months that it's more critical than we even knew.

So the key is to do it, right. The key is to make the best use of those resources to take programs that you've got, like the upcoming RDOF auction at the FCC to take the Reconnect support from USDA. How do you marry those programs together? And then how do you also interject potentially what state initiatives might be, so that you are getting the best bang for your buck and you're reaching the most Americans and you're making sure that we're not doing this again in another five, 10 years.

Senator THUNE. And very quickly, as a follow up to that to Mr. Berry because we did pass—and Ms. Bloomfield referenced the Broadband DATA Act, which is legislation aimed at improving the mapping process at the FCC.

How important is it that we get the data right as we deploy new broadband networks?

Mr. BERRY. I think it's absolutely critical, Senator. If you go back a decade when we did the first broadband map, and then the stimulus programs thereafter, it was a shot in the dark. We spent billions of dollars not knowing where the money should actually go.

We have an opportunity a decade later, through the legislation that this Committee passed to get it right. And I think it's the old saying measure twice, cut once. Well, I think if you only have \$9 billion over 10 years for a mobile product, and you have about three times that on a wireline product, you've got to get it right the first time. And I would hate to think that we're going to overlook

those areas that could and should and very well need to be connected because we don't know where they are.

It just boggles my mind that we can't actually focus our resources in the areas that are in most need.

Senator THUNE. Thank you.

The CHAIRMAN. I hope everyone is listening there Mr. Berry. Senator Tester, are you with us?

**STATEMENT OF HON. JON TESTER,
U.S. SENATOR FROM MONTANA**

Senator TESTER. Yes. Well, thank you, Mr. Chairman. I want to thank you and the Ranking Member and the folks who testified today and I kind of want follow up where we just left off.

It actually blows my mind also, because I'm in one of those areas where we do have pretty decent internet. In fact, it's pretty damned good. The problem is, is this thing right here [indicating his cellphone]. It works only if you hold it to your mouth in a certain position and it drives me a little crazy.

So I want to—mapping has been talked about a couple times here. And I guess I'm going to start I could direct this to anybody, but I'm going to direct it to you Shirley Bloomfield.

Can we build out in the unserved areas without a good mapping program?

Ms. BLOOMFIELD. So Senator—

Senator TESTER. Is that even possible?

Ms. BLOOMFIELD. First of all, I'm hoping one of my members serves you, but I believe I checked after the last hearing to make sure you were served by a community-based provider there in Montana.

Senator TESTER. Yes, they do.

Ms. BLOOMFIELD. Yep, mapping is really important. Mapping is critical. We need to know what we need to know.

The other part of that component I would also add is the challenge process. So part of it is you've got the map and you've got people putting in data, you've got people self-certifying, the other part of that is the ability—and this is one thing that I think RUS does extremely well, is before they put money into the ground, if it's contested, they go out and they check and they literally do speed checks and they say, you know, if you said this is what you're going to get, this is what I'm getting out here in the field.

I think those two things go hand-in-hand. Let's get better data. Let's compile it. Let's figure out what we need to know and where we need to build, but at the same time let's make sure we're also able to challenge before we put money in the ground.

Senator TESTER. Right on. So just for the record, I think one of your members does serve me—the internet, which isn't too bad.

Ms. BLOOMFIELD. You said it was really good actually.

Senator TESTER. Verizon claims that this works on my place. And it like I said, it depends on what corner of the house you're standing in as to whether it works.

So getting back to the point Shirley, on the maps—and anybody else can answer this, too. The FCC, unless they've changed their position have said, “we're just going to start building out because we can't get the information on the maps quicker.”

Ms. BLOOMFIELD. I would actually jump in and let somebody else answer as well. But the beauty of the RDOF is they're going to start with the completely unserved. So I think that allows us to keep the process moving, but at the same time starting off where you know you've got no service. So I think that's actually a wise course of action.

Mr. BERRY. Senator, let me address that just a little. I think we can walk and chew chewing gum at the same time. I think we can identify where the holes are by gathering the data. I mean, Chairman Pai testified in the Appropriations Committee about three and a half months ago. And he said along with what Mr. Spalter said, that it's a matter of months to get the data, not years.

And they produced what I call was a false choice in their 5G fund. You can either spend the money now without knowing where it's going or the impact it's going to have, or you can wait for 3 years to get the right data to spend a dollar.

That's absolutely a false choice. It should not be—should not be proposed by the agency of expertise.

Senator TESTER. I agree with you a hundred percent and thanks for saying that because the truth is, is that—look, if one thing this pandemic has pointed out is we need high speed internet, we need good cell service. Otherwise we don't have healthcare that can be distanced. We don't have to tele-education when schools are not out, so it's really important

I just got one last question. I'll direct this to you, Mr. Berry. And that is, if you had the money, do we have the workforce and you spoke of PPE, do we have the PPE to protect that work?

Mr. BERRY. Thank you, Senator. We've been getting sufficient amounts of PPE to our members. And I think all the group sitting here at the table, have had some experience with the FEMA, but that is now starting to wane. And many of our carriers now are seeing that whether it's mask or handset or sanitizers, and gloves, it's getting more and more difficult.

Actually, we're trying to find and locate providers of those services and goods and equipment for our members now because it is getting very difficult to do that. And you're right. You can't keep the networks up and running if the crews and the employees are unsafe when they go out to do it.

I appreciate the question and I hope that we can get a little better response going forward.

Mr. SPALTER. If I could—I could not agree more with Mr. Berry, we are in dire need of additional resources to ensure that what has been designated as a critical infrastructure, essential workforce, our frontline broadband providers are out there every day trying to get installs done, often in harm's way can have the protective equipment that's required.

We've been literally shipping cotton masks from our offices to our members. We've got to make sure that that pipeline of safety and opportunity for health for our workers is in place and intact.

Senator TESTER. Thank you all. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Tester. Mr. Berry let me just ask you this, because we really need to know. Ms. Bloomfield said, with the RDOF, which is right upon us, the maps are less of a

problem than with the long-term 5G Fund, because they will be directed toward completely unserved areas.

Can we have a comfort level there?

Mr. BERRY. I happen to believe that RDOF would also be benefited by better information. But they have and they moved forward and they've set some deadlines. We have many members that are looking at that. And I would hate to see it moved up, because those that have been planning on participating in the September-October time-frame could be disadvantaged.

But I think that everyone could benefit from better data right now.

The CHAIRMAN. OK, well, you got that in. I was going to give everybody a chance to comment on that. But if everyone would speak to that in answers on the record, because we really need to know that. But this thing's got to happen at least in the time-frame that has been laid out. And October will be here before you know it. Things have to unfold before then, but answer on the record, do we have a comfort level that that is going to go only to unserved areas?

Next, we have Senator Moran, thank you for indulging me Members of the Committee. Senator Moran, are you there?

**STATEMENT OF HON. JERRY MORAN,
U.S. SENATOR FROM KANSAS**

Senator MORAN. I am here. Mr. Chairman, thank you. It wouldn't surprise you or maybe our witnesses that I'm going to continue along the line that you just asked about, and a number of my colleagues have asked this morning, the inaccuracy of the maps and the consequence of that.

When the maps were provided to me months ago, I don't know how long ago it was now. You could look at a map and see that it did not reflect reality in Kansas. And it would be easy to go places where the map says there's coverage and clearly demonstrate that there isn't. So we've been at this map issue for a long time, and it does seem—I serve on the Appropriations Subcommittee that funds the FCC. I was at the hearing that was just described. It seems to me that too often this has been presented to me and to Congress and to the Senate as kind of an all or nothing.

These maps, we can use these and we can get it done. Or we can modify the maps, it will take a while and during that while the deployment of broadband will be slowed or eliminated.

So, I led an effort a couple of weeks ago with the Kansas delegation, in corresponding with the FCC, regarding what balance there should be between the accuracy and the granular data, the information that we're looking for versus—if that's the case—versus the speed of deploying Federal broadband funding through particularly through the 5G Fund auction.

I was going to ask Mr. Berry, and you just headed him down this path. But let me start with Mr. Berry. So do we see the one versus the other? I heard what Ms. Bloomfield said about this issue. I'm looking for the same kind of assurance, perhaps that the Chairman was asking for.

Isn't there a way or is there a way—let me be less definitive in my views. Is there a way in which we can continue to deploy

broadband while we acquire the necessary information to do it accurately and appropriately? And while the U.S. Senate and the Congress provides additional resources to the FCC to accomplish that, Mr. Berry?

Mr. BERRY. Thank you, Senator. And let me thank you for your letter to the FCC. That was an extraordinary letter and I think brought a lot of light to the subject matter.

So yes, I think we can. You know, it has been 5 months. I've been focused on 5G mainly because that's more wireless. And wireline, it's easier to figure out where the wireline goes and where it stops and who it's serving, than in a wireless scenario, when you have a broad area that is—it's controlled by physics and the spectrum manipulation, so I think you can do both.

Again, RDOF is more focused on a wireline and a fixed wireless solution. And I think in those areas, you may have a much better chance of saying we know there is no line that goes in to this place. On the wireless side. I think you have to have good data and this committee was very specific with the legislative statute in the terms and conditions and requirements. After 5 months of announcing the 5G Fund, I haven't heard the FCC one time ask for additional funds from your subcommittee or this committee or has started a new mapping data collection process.

It's disappointing to say the least.

Ms. BLOOMFIELD. Senator—

Senator MORAN. Let me ask the others on the panel if they would like to add to this discussion.

Mr. SPALTER. I would Senator, if I could.

Senator MORAN. I'm not surprised.

Mr. SPALTER. So first of all, nobody I think in the United States of America wants to deploy broadband more quickly and rapidly and efficiently than USTelecom and our members and I say that because our members have deployed more fiber than all other parts of our industry combined. And as experts, I would say that, yes, we can move quickly, but we need to move forward particularly in the context of the Rural Digital Opportunity Fund. The auction for which is coming up in just 5 months. In a way that's not going to subvert as some have suggested, the competition put taxpayers at risk, potentially have money left on the table by up-ending the rules now to get money out the door in an un-vetted way, in absence of the competition and the process the FCC is moving forward on with its auction process.

I think we can go through this auction and move very rapidly and the opportunity for Congress, it is your prerogative to insist that the FCC not change its rules midstream and potentially cause risk to the program and to future broadband deployment. But insist that those companies that have bid successfully for gigabit fiber to the home census blocks or tracts, be qualified and approved immediately and the money go out the door immediately after the auction.

To do so before the auction, by changing the rules to potentially benefit just one competitor and their consultants would be financially imprudent and fiscally irresponsible and would put taxpayers on the line.

The CHAIRMAN. Thank you, Mr. Spalter.

Senator MORAN. I withdraw my request for other panelists to speak. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you. They can answer on the record. We appreciate you indulging us there. Senator Markey.

**STATEMENT OF HON. EDWARD MARKEY,
U.S. SENATOR FROM MASSACHUSETTS**

Senator MARKEY. During this pandemic, it's not just a homework gap which we face. It's a much larger learning gap that is really becoming an opportunity gap for the children of our most vulnerable families and that's why yesterday I introduced the Emergency Educational Connections Act legislation that would provide \$4 billion in E-Rate funding to ensure that all K through 12 students have homework access at home. So they have the connectivity, they have the devices that they are going to need during this coronavirus pandemic.

And I'm proud that 45 of my colleagues joined this bill, including every Democratic member of the Committee and that our effort was endorsed by over 50 organizations including the National Education Association, The American Federation of Teachers, Common Sense Media, USTelecom, CTIA, and NCTA.

So my question is to the entire panel. Do you support providing billions of E-Rate dollars to bridge the learning gap during the public health crisis? Yes or no?

Mr. BERRY. Yes.

Ms. BLOOMFIELD. Yes, along with the High Cost Fund.

Mr. SPALTER. We believe that there should be absolutely programs, emergency programs to supplement and direct dollars for E-Rate, Lifeline and to do so as quickly as we possibly can.

Mr. KIMMELMAN. Yes, Senator Markey we fully support your effort.

Senator MARKEY. So thank you. And I think it's going to be critical for us to include that money in this next package.

Although students must be a top priority, they are unfortunately not the only ones during the Internet access crisis that we're having during this pandemic. According to a February 2020 analysis, 42 million Americans still lack reliable broadband and that is simply unacceptable. During the coronavirus crisis more than ever, we are seeing how necessary robust and affordable broadband is to the future of American life, education, jobs, and medical care.

That's why I have introduced a National Broadband Plan for the Future Act. Legislation that instructs the FCC to update the National Broadband Plan, as well as to study how the coronavirus pandemic has changed the way Americans live, work, and learn online.

I authored the amendment to the 2009 Recovery Act that created the original National Broadband Plan. I'm proud of that plan's roadmap for universal connectivity and the amazing progress we've made over the last 10 years, but work remains to be done. Mr. Kimmelman, do you agree that we should update the National Broadband Plan in the next coronavirus relief package?

Mr. KIMMELMAN. Absolutely, Senator Markey and I think it needs to be done in conjunction with getting the money flowing for the actual initiatives. We can't just do the plan. We have to do all

the other pieces to keep as many people on the broadband networks.

Senator MARKEY. But we need to plan as well. So a vision without funding is a hallucination, but first you need a plan to make sure that it's spent correctly. So thank you.

And, Mr. Chairman, I'll just say that finally I'll close on two notes. First, we must also address the T band in our next coronavirus package. Every day first responders on the frontlines of the COVID-19 crisis rely on T band spectrum. Unfortunately, a provision from a 2012 tax law required the FCC to auction the T band by February 2021. Instead of saddling first responders with billions in bills to move spectrum bands, Congress should do right by the heroes, keep us safe, and preserve the access to T band in the next COVID-19 recovery legislation.

And second, this Committee must continue to work and conduct oversight to ensure we keep small businesses connected, and that carriers are not unfairly raising rates in the midst of this pandemic of what's most important today, more than ever, is that we keep everyone connected. And that's why I'm so glad that you're having this timely hearing.

Mr. Chairman, I yield back.

The CHAIRMAN. Thank you. Thank you so much, Senator Markey. Senator Blackburn.

**STATEMENT OF HON. MARSHA BLACKBURN,
U.S. SENATOR FROM TENNESSEE**

Senator BLACKBURN. Thank you, Mr. Chairman, and thank you to our witnesses. I think it's fair to say that each of you have been on this subject for a long time. I enjoyed working with you in the House as I crafted the Ray Baum's Act and moved that to passage and the reauthorization of the FCC and of course, we were so pleased that was able to be completed by the Senate's action. And it did set up an expansion for high speed Internet and for putting us on the right path for 5G.

And Mr. Berry, I appreciate that you talked about that and I—about 5G, and I will have to tell you in bringing up the USF, it is time for us to review that and reform it or either eliminate it and be able to address that component of the portion of an individual's bill that goes to that.

Ms. Bloomfield, you talked about maps. One of my topics, we know that the maps have been incorrect. There's been quite a bit of discussion today. And my hope is the NTIA will address this. In Tennessee, we have 20.3 percent of our state that is still without access to high speed internet. I'm one of those without it. In order to work, during this pandemic, my staff ended up sending a mobile hotspot that we were able to use. Our landline provider has a space that does not—that is still on copper and doesn't have fiber and I'm in that area. So you're right, it makes life difficult for everyone.

And Mr. Spalter, I hope that USTelecom will start to think, not just in terms of smart cities, but smart counties, smart rural areas, as you look for ways to expand access to high speed internet.

In that vein, I think Ms. Bloomfield let me come to you with my question. Last year, as Senator Baldwin and I did the Internet Exchange Act and having these IXPs located so we can move greater

volume of data, we need to begin to rethink the placement and rethink that access because as we have seen people are moving out of the urban core and into more rural areas for safety of their children and their families and there's quite a bit being written. So if we plan ahead, if we look at how this pandemic may change where society chooses to live and to work, talk about the necessity or having those IXPs.

Ms. BLOOMFIELD. Thank you very much, Senator and you are spot on, which is one of the reasons why we have created a smart rural community initiative to do just that, to recognize that rural areas can be very attractive places to live in. And I think we're going to see some very interesting patterns once our economy recovers a little bit and people kind of choose what kind of lifestyle they'd like to lead and I would commend you on your leadership on that legislation. It is another really important tool in the toolkit. What you have been looking to do is to make sure that it can be affordable to carry that middle mile traffic.

What a lot of people forget is that when my carriers, who are small rural carriers, have their Internet traffic, they have to hand it off to a backbone provider to carry that traffic. That can in a lot of times be the most expensive part of that transit. And frankly, as part of the costs that aren't going down right now, if nothing else, they're increasing.

So your initiative to make that a more reasonable part of the package will definitely make it easier for broadband connectivity, for robust networks, as well as caching of video services to be carried along into rural communities. So again, a little bit of foresight on your part, for sure.

Senator BLACKBURN. Well, my hope is that we're going to be mindful of the load and the capacity of day-to-day operations of our regional carriers, if you will, as we look at how children are learning, how healthcare is being delivered, how economic development is needed as we repatriate manufacturing back to this country.

And Mr. Berry, I have to tell you, I was amused, I read a story, which I thought was so innovative. A school district in Alabama had WiFi in school buses. So in order to help children get their schoolwork done during the pandemic, they moved the school buses into neighborhoods at fire station so that children could come. So a big cheer for WiFi and that ability and 5G, and the ability for them to handle that workload and be able to have enough bandwidth to meet the needs of those children. I thought that was a great way to get those tasks done.

So, thank you all for your continued work, support, and interest. I yield back, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Blackburn. Senator Rosen.

**STATEMENT OF HON. JACKY ROSEN,
U.S. SENATOR FROM NEVADA**

Senator ROSEN. Thank you, Chairman Wicker, Ranking Member Cantwell, for holding this important hearing. And, of course, for all the witnesses being here today. I appreciate Senator Blackburn talking about rural communities because we have a lot in Nevada, but I particularly want to thank this Committee for helping get my

bipartisan Building Blocks of STEM Act that I introduced with Senator Capito signed into law last year.

When we passed that bill, we didn't know we would be facing a global pandemic that fundamentally changes the way we provide students with education. That bill was about breaking down barriers for young girls pursuing STEM education, facing implicit bias, but now as Senator Fischer mentioned earlier we are dealing with the technological barriers, which could place education out of the reach for millions of underserved American students. As Senator Blackburn said, it's a particular challenge in our rural areas.

In a city like Elko, Nevada, it's a wonderful and vibrant community in the northeastern part of our great state. It is ranked among the top cities nationwide for the slowest Internet speed. It's a list you don't want to be on the top of and no city in Nevada ranked near the top actually for the highest Internet speeds.

So Elko is not alone. Sixty-five percent of our rural population is without access to high speed internet, compared to just 5 percent of our urban centers. And so, Elko with a population of about 20,000 has made significant efforts to incentivize providers to deploy broadband to their community, for which its leadership should be commended. But to encourage providers to deploy the city even dropped franchise fees to zero. But so far it has still not received any offers from telecommunication companies.

So I know that we're going to speak to this and what else—what can a city like Elko do if it has no takers from telecommunication companies? They need to improve their internet. All around Nevada we need to improve our internet, rural Nevada. What suggestions might you have for them?

Mr. BERRY. Well, Senator, I'll start. Some of our carriers, especially in rural Mississippi in some of the areas that are very difficult to reach, have gone around and signed up government businesses/pre-designated locations. And once you get enough of those interested companies and individuals to sign on, then they could see a business case to get a loan and actually build not only fiber, but wireless or fixed wireless internet. That's one area that you can do it—one way you can do it without government support.

The other is if we get broadband data mapping done that would show up significantly as a hole or a gap and we could target funds that are already available under the, I don't know, if it's the 5G Fund or the RDOF Fund, or even some of the existing Mobility II funds. Those are a couple things that you can do immediately, but I think it really is up to the local government entities to help identify carriers that are willing to take that risk to go in and build.

Ms. BLOOMFIELD. And Senator, I would also just add in the spirit of thinking creatively, you know, one of the things about RDOF that I really like is that it is telling carriers who don't want to upgrade, who aren't willing to go to that next tier speed to basically cry uncle and say, "all right, I'm not going to serve this area" and allow other providers to come in and do that service.

So I think, to Steve's point, you know, being able to get some of that support to do it will be important. But another thing that I'm seeing an interesting model is, I've got a lot of areas where my local community-based providers are partnering with municipalities. Municipalities are able to kind of support the business model

and the local broadband companies are able to then come in and basically provide the service.

So we think we need to think creatively about what kind of partnerships can you create in a public-private environment that will actually get the job done. And I think getting people to be open to those business models is going to be important.

Mr. SPALTER. If I could add to that, Senator. First of all, thank you for your question, because it cuts right to the heart of what we're here, with what the FCC is working on, what Congress has been working on, to achieve, which is 100 percent connectivity for all of our communities across the country. And the connectivity gaps that you referenced that we're seeing today I think are reflective of a few major policy deficiencies, not deficiencies in companies not wanting to actually deliver broadband. But because there are underlying and systemic policy issues.

Let me just point to three. First is incrementalism. The fact is that we're constantly redefining in midstream through programs what is unserved is 4-1, 10-1, 25-3. And as a result, we're never really being able to as efficiently reach those who still have no service. The second is funding, we've talked about this, we need to ensure that that the recognition that delivering broadband is an extremely expensive proposition in our most remote and rural communities. And so, a significant amount of money is required to get the job done. Well, let's meet that challenge. And let's do it today.

And the third, and Steve Berry, we've talked about this—is the indispensable input that mapping, and funded mapping, would deliver to ensure that we are spending these resources with the accuracy that's required to reach the truly unserved. Not where broadband currently is going, but rather to know where it is not going. And if we can solve that problem, and it is in your hands to be able to do that through appropriations, I think we will be much further toward our goal of 100 percent connectivity.

The CHAIRMAN. Thank you. Thank you, Mr. Spalter. Senator Capito and then Senator Lee.

**STATEMENT OF HON. SHELLEY MOORE CAPITO,
U.S. SENATOR FROM WEST VIRGINIA**

Senator CAPITO. Thank you Mr. Chairman. Thank you, Mr. Chairman. Am I OK?

The CHAIRMAN. You're on.

Senator CAPITO. I'm good. Thank you. Thank you again, Mr. Chairman. And the Ranking Member. Just briefly, being from West Virginia during this COVID experience. We've heard—I've heard anecdotally from a guy in Clendenin who lost his landline for 27 days. He has no availability for connectivity. So the landline really is his only emergency. I've heard from a gentleman whose daughter, he's in Waverly, she has to drive 10-to-15 miles to get the connectivity to continue her education at West Virginia University remotely on distance learning. And we have these stories all across the country.

I think Mr. Kimmelman points out in his statement, that West Virginia has taken some CDBG money and devoted that to our West Virginia Broadband Council to really have a good assessment of what we really have. Because as I've studied this, sometimes I

think the reason we're not getting it deployed to where we are is because we're not really sure what we really have, aside from the mapping issue, where we have, where the resources are, who the people are, that are interested in really deploying this.

So I want to go to Ms. Bloomfield first, because I don't want to rehash a lot of the questions but one of the things that you said in your opening statement, and something I'm concerned about deeply is we have USDA, we have FCC, we have Commerce, and we have other dollars coming in from others areas, providers and everything. I think the worst thing we can do is waste money here. And I think that's what's happened in a lot of cases.

And so, those unserved and underserved areas are still unserved and underserved. You have a program, I think you call it the Forever Connected Broadband Program, is that aimed at that particular problem?

Ms. BLOOMFIELD. It's my aspirational desire that we actually get that coordination, because you do have, you know, funding is limited, and you got to use it wisely. And I look at things that USDA is doing, and how do we coordinate that, you know, through RUS with what the FCC is doing?

The nice thing is, I think you're seeing more critical conversations there. But then how do they loop in if West Virginia has their own initiative? How do they become part of that? How do we make sure, for example, that under RDOF, that if anybody has gotten West Virginia money that that does not get them kicked out of eligibility?

I think we've got to make sure that we have a coordinated approach. And that is really where I think Congress will take a very key role in making sure that all of these key agencies are talking, sharing information, sharing challenge processes, and coordinating where those dollars go so we can use them best.

Senator CAPITO. Another thing that when I was talking to one of our main providers several years ago, I said, what is it really going to take? And he says, "Well, Shelley is going to take time and money." Well, we're talking about money here. Let's talk about timelines. I mean, when we see what—I mean, I think this COVID, one of the lessons learned is this connectivity issue. It's just been incredible to the telehealth expansions and the way people like it, they like to have the telehealth appointments and it provides much more accessibility.

Where do each of you think timeline-wise we're going to cease having these conversations and have conversations about maybe over exposure to Internet or things overbuild? Mr. Berry, do you have 3 years, 5 years, 1 year, 6 months?

Mr. BERRY. Yes, thank you. You know, the issue is predictable availability of assured funding. And I think you do that. I mean, we could spend a trillion dollars probably building out broadband in the United States. But you can't do that all in 1 year. You have to have the equipment, put fiber in the ground, it takes time, it takes permitting.

You know, if we had a \$50 billion USF program after you do a contribution reform, and you knew that that was going to come through every year, and you had maps that were accurate, and you had terrain factors. Like in West Virginia, it's, you know, a beau-

tiful state. I mean, I was over in Davis, West Virginia a couple years ago and the Mayor carried three phones because he didn't have coverage.

Senator CAPITO. Right.

Mr. BERRY. So, it's a great place to live, work and enjoy the mountains. That's a very expensive place to build.

Senator CAPITO. Right.

Mr. BERRY. But I think if you had that, then West Virginia could in fact, get access to the funds that it's so desperately needs for broadband and so can the rest of the United States. And we really have to get serious about reforming the USF contribution factor and giving some real dollars, long-term predictable dollars to that fund.

Senator CAPITO. So then Mr. Spalter 5 years?

Mr. SPALTER. Well, let me—I think that the only way to actually sufficiently and accurately answer that question is to understand that it is fundamentally a policy question. Our broadband providers are ready to go to work to not only deploy more broadband, but get more customers and close that digital divide of the last one or 2 percent.

Timing is a question of what the political will to actually put the resources that will be required to have a permanent fix to Universal Service and it also equally it will be accelerated if we're ready to have the political will to fire up that weed whacker and make sure that we can streamline permitting. Make sure that Federal lands permitting is available and level the playing field when it comes to things like pole attachment rates.

Senator CAPITO. Right.

Mr. SPALTER. Where co-ops and electric co-ops and municipal charges are tripled, quadrupled more than the rates of other broadband providers. These are all steps we can take.

Senator CAPITO. The Chairman is telling me my time is up. Thank you.

The CHAIRMAN. Thank you, Mr. Spalter and thank you Senator Capito. Senator Lee.

**STATEMENT OF HON. MIKE LEE,
U.S. SENATOR FROM UTAH**

Senator LEE. Thank you very much, Mr. Chairman. Mr. Spalter, I'd like to stop and start with you and I want to talk about firing up that weed whacker. I like the idea a lot. I live in a state, in Utah, where two-thirds of the land is owned by the Federal Government.

As a result of that somewhat unique dynamic, it creates unique challenges for us. You know, anytime we have to cross Federal land or use a right of way, we continue to experience very significant project delays, sometimes very lengthy project delays that are tied to Federal mandates and regulations and bureaucracy.

We've heard a lot of discussion today as to why we need more Federal funding. And I think that should certainly be up for debate, we ought to have that conversation. But I don't think that's the only conversation we need to have. And I think in the case of Utah and many other western states, where there is a disproportionate amount of Federal land as a percentage of our land mass,

we're reminded of the fact that we can't solely spend our way out of the problem and there are other things we need to look at.

Now, MOBILE NOW had some of these good provisions to help streamline deployment efforts on Federal land, but there are still a lot of significant problems that I think we need to address. What in your view should Congress do to streamline the agency permitting process for broadband deployment on Federal lands?

Mr. SPALTER. Well, first and foremost, I think the recognition that this is a profound and festering problem. I've heard stories from providers in Utah and beyond in other states not having to wait days and months to get permitting to actually provide access to unserved community, but measured in months, sometimes even years to suffer through those burdensome and illogical permitting problems.

Your initiative through MOBILE NOW, other congressional initiatives, to actually do whatever we can to streamline Federal permitting, to ensure that it is actually a process that can be coordinated tightly and in real time across agencies that have varying responsibilities on Federal lands. And to make sure that that is both prioritized from a policy perspective, but it's embedded into this principle.

And you said it exactly right, Senator, that it is not money alone that's actually going to deliver the promise of full universal connectivity for our Nation. It's going to be smart policies to compress the time it takes and the burdens that are imposed on our providers to actually deliver that. And that starts with Federal land streamlining permitting processes.

Senator LEE. And I assume you'd agree with me that the biggest disparity, one of the biggest single disparities you can see in this country is the distinction between rural and non-rural America. Right? In terms of access.

Mr. SPALTER. Yes.

Senator LEE. And would you also agree with me that in western states like mine, the distinction between rural and non-rural is heavily influenced by—if not almost synonymous with Federal land issues. In other words, rural communities throughout my state are awash in Federal land. And so, oddly enough, in those areas where we need broadband access the most, it can be the most difficult to deploy in those areas, precisely because there's a mountain, a Byzantine labyrinth of Federal regulations that they have to go through in addition to the NEPA process, which can take many, many years. And that could do more to help close this divide than almost anything we could spend money on, couldn't it?

Mr. SPALTER. I agree. Another way of putting it is that broadband providers more easily can extend broadband and dig trenches right through mountains, then conquer the more severe mountains of Federal bureaucracy on our on our Federal lands to actually deploy.

Senator LEE. Mr. Berry, can we better meet the future needs as far as spectrum in our country by doing a careful review of Federal spectrum allocations?

Mr. BERRY. Yes, sir. And I'm glad you raised that because wireless runs on the spectrum availability. We really do need to do a serious, deep dive on what are the spectrum allocations within the

Federal users in the United States and then make some of that available for wireless use, commercial/auctioned licensed use. And that's the only way we're going to get to that next level of it in the 5G world, is if you get a mix of low, mid, and high band spectrum, and we do it sooner rather than later.

A good example is, the one that I just talked about was the Navajo Nation worked with one of our carriers with this unusual opportunity to get an SCA. We actually doubled the speed and they actually doubled the usage and the capacity because we had more spectrum.

If we can't get there, then we're not going to see the promise of gigabit wireless for a long time. And I'm very thankful that we got the C-band coming up. We got CBRS, it's going to start here in June. And we hope that additional spectrum will be made available as we move down the road. So, but thank you for the question. It's important.

Senator LEE. If you could do that with the Navajo Nation, imagine what we could do if we had the cooperation of Federal agencies, including the Department of Defense in conducting an inventory and widespread assessment of spectrum that is in Federal hands. Thank you, Mr. Chairman. I see my time has expired.

Senator SULLIVAN [presiding]. As the Acting Chairman, I just want to say Senator Lee's points are right on with regard to cooperation involving the Federal Government to help us.

Senator Baldwin.

**STATEMENT OF HON. TAMMY BALDWIN,
U.S. SENATOR FROM WISCONSIN**

Senator BALDWIN. Thank you so much, Mr. Chairman and to our witnesses for providing such great testimony today. As others have observed today, we have a new day with regard to the amount of use and reliance on broadband, high speed broadband in particular. And while this committee has spent a lot of time talking about the need for broadband access throughout the United States, the COVID-19 crisis has laid bare the reality of how needed it is.

We've used broadband to work, telework, to telelearn, to access medical care, to connect with government services, to stay in touch with friends and family. And in Wisconsin, in our most recent elections to order absentee ballots and try to upload photo IDs. And so, I, this crisis in my mind may permanently shift more of our everyday lives into these modes of communication, work, learning, et cetera.

I wanted to follow up on some of the questions and testimony that was provided earlier. I wanted to start with you Ms. Bloomfield about the increasing importance of upload speeds. You talked about the fact that we usually look at download speeds. But if you might just talk a little bit about what you've seen change in the last couple of months in terms of usage of networks. And you know what, what that involves, specifically for telehealth, telelearning, telework.

Ms. BLOOMFIELD. So thank you. So it's not lost on me that we are having this hearing using broadband connectivity as well. Right. So here we are talking about broadband and many of you on the Committee are actually using broadband to connect. And

that's exactly that two-way communication that we're seeing really an explosion of.

As we've talked about, you know, we've talked about what are the speeds, what is the right speed. But one of the things that we are seeing that I think is most interesting is that two-way that we are seeing people needing to upload as quickly as they're needing to download, to be able to do all of those WebEx meetings and Zoom conferences and all of the different two-way communication tools that we're currently using.

Particularly as we think about teachers in the school room, you know, trying to teach to 30 children remotely using technology and for the children to be able to respond, to upload their homework, to share their projects, all of that back and forth. If we're really going to be saying that our world may be a different world and it may be a virtual connected world, that ability to have that two-way communication that is, you know, relatively the same time is going to be very important. We can't do what we're doing right now if you're having jitter, if you're having you know that that time delay. It really makes the tool so much less effective.

So I think again, as we're looking at networks, and we're looking at the deployment of the networks, that robust nature is going to be more important than I think we had thought previously because we are seeing how people are actually using this technology. In the past people were very happy just downloading and responding on e-mails. But we are seeing that as we use it as a tool to stay connected, that robust nature is going to be really important.

Senator BALDWIN. One of the things we talked a fair amount about during this hearing is the importance of mapping. As we said earlier, measure twice before you cut or map twice before you dig. One of the things I'm curious about is the information that we are getting from schools about which of the pupils have access to adequate broadband speeds and have broadband access, and which of the pupils and their families don't.

Are we using that data at all to inform our mapping projects? Would it be a good idea to do so?

Mr. BERRY. Senator, let me address that because I think you've hit something that we haven't thought a whole lot about previously. We have a couple of carriers that provided connectivity to the schools that did not have a WiFi, MiFi, you know, broadband connection sufficient to do you know, virtual education, and then the school shut down. And then they came—the teachers came and said, listen, we have 150-some students that have no access at home. Well, our carrier didn't know that until the school principal came and said, we know who they are and we know where they are. And guess what? We went to work, that carrier started providing iPads that were connected to WiFi and MiFi. They put the facilities in the school buses and drove school buses to the neighborhoods where some of these children lived and left the school bus there so that they can have connectivity.

You've hit on something that I don't think we really, you know, utilized the data and information that we have and the schools have because it's never been a need to share with carriers. And I think we can do a lot better job with that information moving forward. And that's something that we have to include in our maps.

The other thing I'd address, and Shirley's concept, that people are working from home. And that's why we kept pushing and continue to push the Stay Connected voucher because it used to be you would do that at work, and now you're doing it at home and you're having to pay for it and the consumer is going to be in a tough bind as we move down this road, the longer we stay in virtual connection with our offices. So we hope that you would consider looking at the voucher program. It's complimentary to the Cramer-Klobuchar bill.

Senator BALDWIN. Thank you.

**STATEMENT OF HON. DAN SULLIVAN,
U.S. SENATOR FROM ALASKA**

Senator SULLIVAN. On behalf of the Chairman, I'm going to recognize myself. And there's been a lot of discussion of rural needs, rural states. There's rural and then there's my state, the great state of Alaska. So I'm going to focus a little bit on these issues. I do appreciate Senator Klobuchar and Senator Udall highlighting the needs of Native Americans/Alaskan Natives that's almost 20 percent of my state's population. And I do want to emphasize Alaska Natives, whether members of tribes, Alaskan Native corporations, or both, are just as in need of support from the Federal Government as Native Americans in places like New Mexico and other states.

And more to the point on something that occurred over the recess, and is really burning me up as a U.S. Senator, continued personal attacks on the Assistant Secretary of Interior for Indian Affairs, an Alaska Native woman of impeccable integrity who's doing an amazing job, by senior Democratic senators are shameful, unacceptable and need to stop. And I hope all of my colleagues listen to that and take heed. But I'm digressing here on an issue of importance.

Let me ask the panelists. What else can Congress do for extreme rural states like mine?

Mr. SPALTER. Let me let me just jump right in there. Senator, I had the great opportunity to visit our member Alaska Communication Systems as one of the first trips I made as CEO at USTelecom and I was able to understand the extraordinary complexity and challenge of delivering broadband to the broad communities, geographically that Alaska proudly has. We believe that—and we would support providing additional funding to health care through the Rural Health Care Program, at the FCC.

We would recognize that the need for those funds has outpaced the actual amounts of those funds. At the same time I think we have to be very careful about not putting into place and implementing major reforms as we're struggling through getting our sea legs during this current pandemic.

Senator SULLIVAN. A very good point.

Mr. SPALTER. We need to be cadenced, but we also need to recognize that rural healthcare provision through that program, unique to Alaska, is very important.

Senator SULLIVAN. And as you know, now, a lot of people are talking about rural health care. My state was actually the lead innovator of that just for the needs of the populations in Alaska. We

have over 200 communities that are not actually connected by roads. So this is imperative. I think the FCC Chairman, unfortunately, has failed to recognize how important this is. So we're going to keep pressing that issue, but I appreciate your thoughts and ideas on that.

Ms. Bloomfield, can I ask you, and maybe if you also want to address my initial question, but in addition, I'm cosponsoring with Senator Klobuchar the Keeping Critical Connectors Act which is more focused on smaller providers, which, of course in Alaska, we have a number of those. Can you talk to how you think that's going to be helpful and again, for all the panelists, I'll just put this out there, the PPP program. Have the smaller telecoms been able to access that, in your experience, what are you hearing with regard to those issues?

And again, I'll open it up for all the panelists to address any and all the comments and questions I just asked, but why don't we start with you.

Ms. BLOOMFIELD. So Senator, that was—there was a lot in there, so I'm going to try to go really fast.

Senator SULLIVAN. Yes, there was a lot in there.

Ms. BLOOMFIELD. Alaska is unique and that's one of the reasons why the FCC had done the Alaska plan to basically take a look and make sure that they got the support that they need, because they're—

Senator SULLIVAN. And we appreciated that.

Ms. BLOOMFIELD. And it was important. And I think it's time now to start thinking about what that next step is because we know how quickly time passes. So I think, you know, the folks in Alaska are led by a great state association and they're thinking already proactively on that. So I think that's one piece.

On the second piece. When you talk about the Keeping Critical Connections Act, it's really important. It is the piece that is going to allow these essential providers to continue to build and sustain and maintain their networks while people aren't able to afford to pay for the service. So I think it is a really important initiative. And we're very delighted that you're co-sponsoring that.

Senator SULLIVAN. Well, it has strong bipartisan support, as you've seen. So we're going to hopefully move that here in the Commerce Committee.

Ms. BLOOMFIELD. Absolutely. And on the rural health care, the leadership from Alaska has been critical. I will just share an anecdote that we offer a tele-doc program. We provide health care insurance to 60,000 rural Americans through our programs. We have seen the increase in our tele-doc program, 45 percent in March, 55 percent in April. The need is there. We just need to get some of those other pieces together, but you need the underlying broadband to make that connectivity work. And then we can work on licensing and all of the other bureaucracies that go along with that.

Senator SULLIVAN. Great, thank you.

Mr. BERRY. Thank you, Senator. We have I think five members including GCI as—Senator Sullivan. Yes.

Mr. BERRY.—members of our association. Thank you for all your help all your constant support and work on how do you serve an area as vast as your state? It's unbelievable.

Senator SULLIVAN. It has been a frustration with the FCC Chairman. I'll just say.

Mr. BERRY. We share that occasionally.

Senator SULLIVAN. Yes, I know you do.

Mr. BERRY. But—but thank you. And you mentioned the KCC, the Keep Americans Connected Pledge. We also we support the Stay—which I think is complimentary support the Stay Connected voucher program. Because when you ask the customer, a consumer, what do you want? They're going to say, I want to pay my bill. If you ask the carrier, what do you want? I want to be able to keep my network up and running.

And just as the PPP program was conceived as a complimentary program to the SBA Loan and for Loan Forgiveness program, I think these two programs go hand-in-hand. It addresses the need to have the, you know, network up and running and fill those holes that have, quite frankly, it hurt a lot of small carriers right now, but it also addresses the issue that the consumer. The consumer gets to make the decision, what is the most important connectivity in their household, and I think we do both things, because this is a severe crisis that we're going through in Alaska. God bless them up there. I've got a first cousin up there. It's a tough—right now, it's a tough—

Senator SULLIVAN. We have challenges, but we'll get through it. We're a tough, resilient state.

Senator Schatz.

**STATEMENT OF HON. BRIAN SCHATZ,
U.S. SENATOR FROM HAWAII**

Senator SCHATZ. Thank you, Mr. Chairman. Thank you for all of your testimony, and all of your good work. I am struck by the following dynamic. It seems to me that we're having the same conversation that we normally have about broadband and connectivity and telehealth, and now distance learning and the homework gap. And all of that is really important, but we're missing the plot. We're missing the fact that right now, kids can't learn. We're missing the fact that right now, teachers can't even teach because they lack connectivity in their homes.

And so, we need to think in terms of phasing this out and I am, you know, I take a backseat to no one on criticizing the FCC about mapping or the use of USF or whatever it is. But a lot of what's being contemplated today in this hearing is at least medium-term and a lot of it long-term, \$16 billion over 10 years, mapping reform, USF reform, and we've got to move at the speed of the virus.

And so, I have one simple question. We are going to be contemplating the HEROES Act as it comes over from the House of Representatives. What is the one thing that we ought to do right away in the next piece of legislation in order to connect people in whatever way is possible? And think of it as a band aid, whether it's WiFi hotspots or whatever we need to do, but we don't have the luxury of thinking about broadband infrastructure over the next six to 18 months or five to 10 years. We have to figure out how to connect kids right now. We have to figure out how to connect people who are eligible for telehealth under Medicare right now.

And so, I'll start with Mr. Kimmelman and go down the line, what's the one thing we ought to do? In the next bill?

Mr. KIMMELMAN. Thank you, Senator Schatz, I think you're spot on. I think you need to put money immediately into expanding E-Rate and allow the schools to be used to serve adjacencies to expand WiFi availability. If we can't get to the digging right away. If we can't build out the infrastructure right away, you should put a lot of money into that. But let's take full advantage of the spectrum and the facilities we have to share more broadly so that more kids and frankly communities can be connected.

Senator SCHATZ. Thank you. Jump ball.

Mr. SPALTER. I'll grab that ball Senator, and I completely agree with you from the get-go. We sent a letter to all of the commissioners at the FCC we recently with seven associations came together and asked Congress do exactly the same thing. Which is a) let's get significant funding immediately out the door to support those families, communities, and enterprises that are currently in need.

With respect to FCC-related programs. We called on the FCC to establish immediately a Lifeline-like program that can be constituted as an emergency funding program so it will be able to do an end-run around all of the Byzantine rules and requirements and compliance obligations so that we can actually get money out the door quickly.

With respect to Lifeline. You know, at a minimum such a new program should also tweak the rules to support one fixed and one mobile broadband connection per household immediately. Similarly with E-Rate, let's think more flexibly in an emergency program that would be able to direct more assistance immediately with more flexibility in rules that would actually be able to deliver those dollars,

Two key principles. One, they have to be administrable in an easy way. And two, we have to have very low barriers for folks, both consumers and for providers for signing up for these programs. Those have to go hand-in-hand.

Senator SCHATZ. Thank you.

Ms. BLOOMFIELD. All right, I'm going to do three points: One, create an emergency Lifeline program to allow those folks who can't afford conductivity to stay connected. Two, support the networks themselves through the Keeping Critical Connections Act. And three, look at the DOE money that they just received, \$16 billion, and make sure that some of that money goes to tools and applications and broadband for school children.

Senator SCHATZ. Thank you.

Mr. BERRY. And I would I would second that. I would say that first, like a good physician, first you do no harm. I think the first thing you have to do is make sure these networks are up and running, the KCC program does that. The Stay Connected voucher program takes care of the consumers to make sure that they continue to be connected. And then I think you have to do some triage on those programs that are there right now like the E-Rate program, and the Lifeline program. That you can beef those up because you don't need six, ten, 12 months in order to deliver solutions. You need immediate relief.

And then let's talk about how we do this in a much more methodical fashion as we move forward to get broadband connectivity to 100 percent of the United States.

Senator SCHATZ. Thank you very much.
Senator SULLIVAN. Senator Blumenthal.

**STATEMENT OF HON. RICHARD BLUMENTHAL,
U.S. SENATOR FROM CONNECTICUT**

Senator BLUMENTHAL. Thanks, Senator Sullivan. And thank you all for being here. Thanks for your leadership. I want to pursue that line of questioning about Lifeline and E-Rate, because I do think they are key to bridging and closing the digital divide and the homework gap that is ongoing right now. It's urgent and pressing. We need to meet it. We need a bold plan and leadership and I am proud to have led a letter with 26 of my Senate colleagues to congressional leadership calling for \$1 billion right away for the Lifeline program.

Lifeline and other emergency broadband benefits ought to be at the core of a comprehensive plan. And I think we've been sort of marching around it. In normal times Lifeline is underfunded, during a pandemic and when schools are shut down and businesses are shuttered, it is more essential than ever.

And we ought to remind ourselves that after Hurricane Katrina, the FCC took sweeping action to keep those whose lives have been upended by disaster connected through the Internet and within 1 month dedicated more than \$200 million to fund connectivity efforts and aggressively opened up Lifeline and E-Rate programs to new carriers and subscribers.

I am thankful to FCC Chairman Pai. He's made some useful changes to Lifeline and E-Rate in recent weeks, but by comparison, these changes are just baby steps in the right direction.

So let me ask every one of you whether you have an estimate. Let's talk dollars about how much should be devoted to Lifeline. Is \$1 billion the right amount? Would you recommend more or less? Again, let's go down the line and ask—for Mr. Kimmelman, since you're by remote to start us.

Mr. KIMMELMAN. Thank you Senator Blumenthal, it's a great initiative. If Senator Schatz had given me more options, I would have had Lifeline right there with use of the existing wireless facilities. One billion at least. I think you could spend quite a bit more because the cost of high speed broadband is so out of reach for so many people.

Senator BLUMENTHAL. Thank you, Mr. Spalter.

Mr. SPALTER. Let me let me say that without specifically saying what the amount is, I do think that we should think as well on program reforms so that these temporary emergency programs both for Lifeline and E-Rate can actually flow money as quickly as possible.

We have, a past is prologue, we've seen that that can be done through the Telehealth Emergency program, where dollars are actually reaching hospital systems to actually stand up telehealth initiatives. We could do the same with Lifeline and E-Rate.

For example, extending the waivers or changes to E-Rate rules to include dollars to flow to actually allowing teachers and stu-

dents, their families, to have access to funds for not just connectivity, but for devices at home.

With respect to Lifeline, we could move very quickly to think about mechanisms to ensure that a temporary emergency program would be extensible not just to traditional Lifeline eligible participants, but to gig workers, to newly unemployed workers, so that the scope of impact can actually be broader in this immediate moment. I agree that the actual number, the dollar figure is going to not be in the millions. It will be in the billions, but we need to move quickly.

Senator BLUMENTHAL. Well, I think that's a helpful answer, since you're talking about billions as Mr. Kimmelman is, as well. Ms. Bloomfield.

Ms. BLOOMFIELD. I'd be loath to guess what the number is, but I think it's going to be significant. And I think that your initiative to be thinking about an emergency plan because there are going to be some people who are newly unemployed, who will not be immediately eligible for the existing Lifeline program. So how do we capture those people whose lives have just been up-ended? And these are the same households that have students that need access.

So I think it's going to be looking at the program in the long run, but in the short run doing something where we can get that support out the door, and I will say, you know, again, the Keeping Critical Connections Act will allow these small providers to maintain or increase the speeds to those consumers, that will actually be a complement to the Lifeline subsidy.

Senator BLUMENTHAL. Thank you.

Mr. BERRY. And, Senator, I totally agree you're on the right track. As I mentioned, we support the Stay Connected voucher program. That would be a compliment to the Lifeline and the E-Rate program. When you think about it, it goes directly to the consumer. Empowers the consumer. They make the decision. It could cost, depending on if you have two vouchers to each household, up to nine plus billion dollars.

So there's your number for getting funds and much needed access to communications services directly. And the thing about it is the process is already established. The CARES Act already has sent, you know, \$1,200 checks to everyone, and it goes down deeper and more technology neutral than anything else that's out there. It can be done immediately. And I think it'd be very complementary to your concept.

Senator BLUMENTHAL. Thank you. I appreciate all of your supporting this concept in real dollars because we have that job of making it happen. And we can all support the principles here, but the dollars really make the difference. And so thank you all for your support. Thanks, Mr. Chairman.

Senator SULLIVAN. Senator Sinema.

**STATEMENT OF HON. KYRSTEN SINEMA,
U.S. SENATOR FROM ARIZONA**

Senator SINEMA. Thank you Senator Sullivan and thank you to all of our witnesses for participating today. The coronavirus pandemic has highlighted the importance of having reliable high speed Internet access throughout the country. It's a difficult time for Ari-

zonians, but having broadband access opens up many opportunities for more employees to work from home, students to participate in distance learning, for families to access telehealth, for friends to keep in touch, and even for United States Senators to participate in Commerce Committee hearings remotely.

Yet, according to the Department of Commerce, 28 million American households cannot access the Internet from home. So expanding broadband for rural, tribal, and urban communities is critical for families in Arizona during this crisis and into the future. I was proud to support broadband provisions in the CARES Act, but we need to do more.

The next relief package must continue to expand access for Arizonians. Looking forward, we need to make sure that we have a long-term plan to invest in broadband infrastructure, ensure that we have an appropriate regulatory framework, develop better coverage maps, and utilize Federal resources efficiently. And I'm looking forward to working with all the stakeholders and my colleagues on this committee to address these issues.

My first question is for Mr. Kimmelman. As you know over 20 million Americans, including 12 million children, lack reliable Internet access, which is a necessity for Arizona students to get on-line learning during this crisis. I've heard amazing stories of communities in Arizona working to mitigate these challenges for students.

For example, two dozen school buses in Tucson Sunnyside Unified School District are parked in parking lots around the community. They provide Internet access for nearby students so that they can receive assignments and communicate with their teachers.

I'm a cosponsor of Senate bill S. 738, which is a bill that requires the FCC to make the provision of WiFi access on buses eligible for E-Rate support. This bill addresses the homework gap by helping students who can't get the Internet at home.

My question for you is how else do you think we can support kids with their distance learning? And how can we support school districts that are utilizing innovative options during school closures?

Mr. KIMMELMAN. Thank you, Senator Sinema. I really appreciate your efforts here because the access Wi-Fi on buses is critical triage right now and an immediate crisis and I hope the Congress will move forward on that. I think from there, we need to make sure we're getting the infrastructure builds as quickly as possible in unserved communities, shovels in the ground where you know you need fiber and get moving faster than what the FCC has been doing. We need to put the money into deployment so supporting small companies, as Senator Klobuchar suggested with Senator Cramer, and expanding Lifeline so that those who can't afford broadband where it exists, can at least have access to it and can take advantage of it.

We need to get everyone on the network who can possibly be on the network so that you can provide health care services and expand telehealth so that you can make education work as distance learning the best you can. Those are a variety of initiatives that need to happen immediately.

Senator SINEMA. So I appreciate it. My next question is for Mr. Berry and Mr. Kimmelman. Broadband is essential to ensure tribal

communities across the country have the resources they need to preserve public health and repair economic fallout. But seven in 10 residents on rural tribal lands remain without access.

The Navajo Nation, as you know, has been disproportionately affected by the coronavirus pandemic, we have over 100 confirmed deaths. I've heard from Navajo Nation leadership that Internet access is essential to help them mitigate this crisis in their community.

During my time in the Senate, I've worked hard to ensure that tribes in Arizona can utilize the gigahertz band for broadband services and I was glad to see that last month, the FCC agreed to let the Navajo Nation use unassigned spectrum to help increase access during the crisis.

They've also received funding from the telehealth program in the CARES Act to provide home health care and remote monitoring services to patients who are isolated, including low income elderly and high risk patients.

So could you discuss how the FCC and Congress should further support connectivity in Indian Country during this crisis?

Mr. BERRY. Thank you, Senator and also thank you for your leadership on this issue. You've been a stalwart of support for everyone, especially the Navajo Nation. As I mentioned earlier, we do have several companies that service Navajo territories and cooperate and are in business with the Navajo Nation itself.

And it's extraordinary with the increase of the access to spectrum in through the SDAs that the FCC provided. Our carriers are—I mean, 54 sites in 1 week were able to be turned up and provide quality broadband capability, and they're working more efficiently and trying to find other ways to enhance this SDA concept.

I think we need to look at disaggregation and partitionment of the spectrum that's currently out there in the rural areas that may not be fully utilized by a carrier that may actually own it, or it could be leased. Some of the rules that the FCC, especially on partitionment and disaggregation are complicated. And a carrier that may wish to lease or provide spectrum to another provider may not be able to do so without extraordinary exceptions at the FCC.

So all those things I think we need to explore and I like the idea of having special attention given to Native Americans, not only at the FCC, but in the legislative packages that are going around. That's one of the reasons why we do support the Stay Connected voucher because it will go directly to the consumer.

There may be service out there that they can't afford and hopefully they can do that. But you know, your issue it goes deeper than just broadband connectivity, as you know, many of those in the Navajo Nation that got that access to broadband, their homes don't even have running water. So when they say wash your hands, wash your hands, you just kind of—your heart just has to fill for those individuals that are lacking more than broadband. So thank you for the question.

Mr. SPALTER. Can I just to very briefly extend that answer Senator Sinema. It's Jonathan Spalter. You know, again, thank you for your leadership.

One part of the solution set though, is just as the FCC and other Federal agencies and this Congress is trying to move forward to streamline and speed up deployment and removing obstacles to doing so. That state, local, and tribal leaders and governments should be encouraged to do the same. Speeding up permitting, deployment barriers, speeding up every possible effort, change of control requirements, that do get in the way of carriers that want to actually deliver broadband as quickly as they're able.

We're seeing that right now with the Navajo Nation, having streamlined a set of permitting—railroad crossing, and other rights of way issues and as a result, one provider, Frontier is moving rapidly to deploy additional broadband to that community.

Senator SINEMA. Thank you. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Sinema.

And I just want to thank the witnesses. Mr. Berry, your comment on that final point, although it's not really broadband, I couldn't agree more with my state has over 30 communities where people, American citizens, some of the most patriotic Americans in the country because Alaska Natives like lower 48 Indians serve at higher levels in the U.S. military than any other ethnic group in the country. Very patriotic.

But over 30 communities in my state don't have running water. It's hard to tell people to wash your hands frequently when they don't have running water in their communities. So I hope we can get through that. And again, that should be tribal, Alaska Native shareholders, and tribes or both, become an issue, which I think is ridiculous has become an issue. Again, I hope some of my Democratic colleagues will cease and desist in that regard.

But it's all help that's going to be needed. I want to thank again, the witnesses. I think two important conclusions here. This pandemic has heightened the need even more for the need for broadband, but I think especially in rural areas, extreme rural areas, tribal areas, Native communities, and I also believe that you see from this very interested group of senators, so much participation, that there is broad bipartisan support to get this done. So I think that's positive.

I want to thank all four of you for your fine testimony and good answers to the questions. The hearing record will remain open for two weeks. During this time Senators are asked to submit any questions for the record. Upon receipt, the witnesses are requested to submit their written answers respectfully to the Committee as soon as they can, but by no later than Wednesday, June 8, 2020.

Again, I want to thank the witnesses for appearing today. This hearing is now adjourned.

[Whereupon, at 12:30 p.m., the hearing was adjourned.]

A P P E N D I X

April 29, 2020

Hon. NANCY PELOSI,
Speaker of the House,
United States House of Representatives,
Washington, DC.

Hon. MITCH McCONNELL,
Majority Leader,
United States Senate,
Washington, DC.

Hon. KEVIN McCARTHY,
Minority Leader,
United States House of Representatives,
Washington, DC.

Hon. CHUCK SCHUMER,
Minority Leader,
United States Senate,
Washington, DC.

Dear Speaker Pelosi, Majority Leader McConnell, Minority Leader McCarthy, and
Minority Leader Schumer,

We, the undersigned, urge you to support access to affordable broadband Internet in forthcoming COVID-19 stimulus package(s). Tens of millions of Americans don't have broadband Internet at home. Low-income families, rural residents, and people of color are particularly affected, leaving our most vulnerable communities struggling to stay connected with school, work, healthcare, entertainment, and their loved ones during the COVID-19 crisis.

To make matters worse, more than 26 million Americans and counting have lost their jobs due to the pandemic, and millions more have likely had their hours and pay reduced. These individuals may struggle to pay their broadband bills—if broadband is available to them at all.

During a time when communication tools have never been more critical, and unemployment has never been so high, Congress must enact policies to ensure that everyone has broadband internet. Broadband is crucial for keeping residents home, safe, and as connected with everyday life as possible during these trying times. Broadband enables people to work remotely, access medical care, and apply for government benefits. As all levels of education and training transition online for the foreseeable future, reliable Internet access is essential for students to be successful. Perhaps most importantly, broadband allows residents who are isolated during the COVID-19 pandemic to stay informed, entertained, and connected with loved ones while protecting public health.

Like food, water, and electricity, everyone needs broadband Internet service during this unprecedented crisis. That is why Congress must include policies that support broadband availability, including increased funding for adoption, network sustainability, and deployment for areas still lacking access, in upcoming stimulus packages.

Sincerely,

Industry

A Better Wireless, NISP, LLC
American Sustainable Business Council
Channelford Associates Inc
CommScope, Inc.
Corporation for Education Network Initiatives in California (CENIC)
Digital West
E-rate Central
EDGE Consulting Partners
ELAE Enterprises, LLC
Engine
Epic Communications, Inc.
Espy Services Inc.
Fiber Broadband Association
Fully Equipped 4 Life Training Solutions
GWI, Inc
I-Light Indiana's Higher Education Optical Network

INCOMPAS
 IT Remarketing, Inc. (DBA TechnoCycle)
 Kajeet, Inc.
 Lit Communities, LLC
 Mighty River, LLC
 Mobile Beacon Mozilla Corporation
 National Asian/Pacific Islander American Chamber of Commerce and Entrepreneurship (ACE)
 National Rural Electric Cooperative Association
 North Carolina Telehealth Network Association
 NTCA-The Rural Broadband Association
 On-Tech Consulting, Inc.
 Open Hub
 Pacific Northwest Gigapop
 Revolution D, Inc.
 Rural Wireless Association, Inc.
 Silicon Harlem
 Smart City Media LLC
 Sonic Telecom
 Starry, Inc.
 Stem Nastics LLC
 Stemnastics LLC
 Synogy Group
 Tribal Digital Village Network
 Twitter, Inc.
 Utah Education and Telehealth Network
 Velocity Fiber
 Vimeo, Inc.
 Waste Management Innovations, Inc.
 Wyoming County Chamber of Commerce

Local Government and Government Associations

Alaska Department of Education and Early Development
 League of Oregon Cities
 National Association of Telecommunications Officers and Advisors
 National League of Cities
 State of New Mexico Public School Facilities Authority SFA
 Washoe County, NV
 Wisconsin Department of Public Instruction

Nonprofits and Other Associations

Access Humboldt
 Access Now
 Adoptions Together
 Adult Learning Center
 Advance CTE
 Advocates for Basic Legal Equality
 Alabama Supercomputer Authority
 AMERICAN FEDERATION OF TEACHERS, AFLCIO
 Ashbury Senior Computer Community Center
 Asian Americans Advancing Justice / AAJC
 Association for Career and Technical Education
 Association of Latino Administrators and Superintendents
 Austin Free-Net
 Austin Pathways at the Housing Authority of the City of Austin
 Benton Institute for Broadband & Society
 Brookline Interactive
 California IT in Education (CITE)
 Cambridge Public Access Corporation dba Cambridge Community Television
 Center for Democracy & Technology
 Center for Innovative Technology
 Center for Rural Strategies
 Central City Concern
 Change Inc.
 Citizens Action Coalition of IN
 Common Cause
 Common Sense Media
 Communications Workers of America

Community Justice Project
 Connect Your Community
 Connected Insights
 Connecting For Good
 Consumer Reports
 CoSN—Consortium for School Networking
 Demand Progress
 Digital Harbor Foundation
 Digital Inclusion Practitioners of NJ
 Disability Rights Pennsylvania
 E2D, Inc.
 Educators for Excellence
 Electronic Frontier Foundation
 Energy Outreach Colorado
 EraseTheRedline Inc
 EveryLibrary Institute
 EveryoneOn
 Fight for the Future
 Filipina Women's Network
 Free Geek
 Free Press Action
 Future of Music Coalition
 Generations on Line
 George Wiley Center
 Goodwill Industries International, Inc.
 Grahamtastic Connection
 HBCU Innovation Center
 Health Information Exchange of Montana
 Health, Education and Legal Assistance Project: A Medical-Legal Partnership
 Higher Learning Advocates
 Home Forward
 HOPE Village Revitalization
 Hopes Cap Inc,
 Human-I-T
 IBSA, Inc.
 Independent Sector
 Information Technology Exchange
 InnovateEDU
 Institute for Higher Education Policy
 Institute for Intellectual Property & Social Justice
 Institute for Local Self-Reliance
 International Society for Technology in Education
 Internet Society
 Island Institute
 Japanese American Citizens League
 Joint Center for Political and Economic Studies
 Latino Network
 Low Income Utility Advocacy Project
 Marconi Society
 Maryland Alliance of Public Charter Schools
 Media Alliance
 MediaJustice
 Merit Network, Inc.
 Mobile Citizen
 mohuman
 Montana Organizing Project
 MORE
 Mountain Connect
 Multicultural Media, Telecom and Internet Council (MMTC)
 MuralNet
 NAACP
 National Center for Learning Disabilities
 National Consumer Law Center, on behalf of its low-income clients
 National Cristina Foundation
 National Digital Inclusion Alliance
 National Hispanic Media Coalition
 National Queer Asian Pacific Islander Alliance
 National Queer Asian Pacific Islander Alliance (NQAPIA)

National Skills Coalition
 National Summer Learning Association
 National Urban League
 Native Public Media, Inc.
 New America Education Policy Program
 New America's Open Technology Institute
 New Hampshire Society for Technology in Education (NHSTE)
 Nostos Charity
 NTEN
 OCA—Asian Pacific American Advocates
 Open Signal: Portland Community Media
 Oregon Citizens' Utility Board
 Palmetto Care Connections
 Partners Bridging the Digital Divide
 PCs for People Baltimore
 Pennsylvania Mountains Healthcare Resource Development
 Pennsylvania Utility Law Project, on behalf of our low income clients
 PhillyCAM
 Project Appleseed Pu
 blic Knowledge
 R Street Institute
 Right Here, Right Now Project
 ROANEnet
 Schools, Health & Libraries Broadband (SHLB) Coalition
 Schuylkill Women in Crisis
 South Carolina Office of Rural Health
 St. Paul Community Literacy Consortium
 State Educational Technology Directors Association
 Success Against All Odds
 Tech Goes Home
 Tech:NYC
 Technology For All
 Temple University—WELL Program
 The Education Trust
 The Hunt Institute
 The Mann Center for the Performing Arts
 United Church of Christ, OC Inc.
 United Communities Southeast Philadelphia
 United Neighborhood Centers
 Utah Center for Civic Improvement
 VALUEUSA
 Vermont Mutual Aid Society
 Vietnamese Social Services
 Virginia Citizens Consumer Council
 Virginia Society for Technology in Education
 Voqal
 Women's Resource Center
 World Education, Inc.
 Writers Guild of America West
 X-Lab

Schools and Libraries

Boulder Valley School District
 California Center for Rural Policy
 Cheektowaga Public Library
 Dunkirk Public Library
 Free Library of Philadelphia
 Gigabit Libraries Network
 LEARN: Lonestar Education and Research Network
 Multnomah Education Service District
 NASPA—Student Affairs Administrators in Higher Education
 Niagara Falls Public Library
 Northeast Kansas Library System
 Portland Community College
 Providence Public Library
 PSTV—Education Channel of the School District of Philadelphia
 Sonoma County Library
 St. Bonaventure University

State Higher Education Executive Officers Association
 Western New York Library Resources Council
 Ysleta Independent School District

Post Tech Policy in the Pandemic

MEASURING BROADBAND TRAFFIC IN A TIME OF CRISIS

By Sara Collins, Harold Feld

March 30, 2020 Broadband Access, Communications & Pandemic Series, Congress, Connectivity, FCC, FCC Data, Interconnection, Last Mile, Network Congestion, Network Speeds, WiFi, Wifi Access

This blog post is part of a series on communications policies Public Knowledge recommends in response to the pandemic. You can read more of our proposals here and view the full series here.

As social distancing becomes the new normal across the globe, demands on broadband networks have grown larger, and those demands have begun to strain the system. Over the past week Netflix, Facebook, and YouTube have reduced streaming quality to help with the load, but our Internet is still slowing down. However, not all users will be affected in the same way. Some may experience a minor inconvenience, like having to turn off their video connection during a conference call. Others may find their connection degrades so that they can't participate in distance learning programs or receive care via telehealth.

In order to know where these weak points are, the Federal Communications Commission (or Congress) must require all Internet service providers to report to the FCC traffic management information, with an emphasis on getting data around the three major chokepoints in wireline residential broadband access networks: the WiFi access points, the last mile, and the interconnection points between the broadband access provider and the Internet "cloud." (Mobile wireless networks have different stress points, the tower, the backhaul, and the interconnection point. But because so many people are staying at home, let's focus on fixed broadband.) This reporting would create a "heat map" that shows the stress points of our national broadband infrastructure. It will tell us where users aren't receiving adequate Internet access, where reinforcements need to be made, as well as give us a roadmap to follow in planning for the next emergency.

A WiFi access point is a networking hardware device that allows other WiFi devices to connect to a wired network. When you're on your laptop you can see not only your WiFi access point, but any other access points in range. However, there are only a limited number of frequencies that can transport WiFi signals. So while you cannot connect to those access points, they still create noise that congests those frequencies. If you're living in an apartment building, townhouse, or other stacked development, this congestion is compounded and ends up slowing down your Internet speeds. If two parents are at home, both doing video conferencing from their laptops, while kids are home too, maybe watching streaming video, a remote class, or just chatting with their friends, there can be slowdowns that are not caused by the Internet connection itself, but WiFi problems. If you're paying for a gigabit connection, in a densely packed area, you could experience slowdowns of up to 30 percent. While that circumstance might be annoying, if you have a 20 or 10 Mbps connection, that 30 percent slowdown is catastrophic. (Users can help mitigate this, perhaps by repositioning their WiFi access points or by connecting as many devices as possible to ethernet.)

The "last mile" describes the physical connection that an end user has with the internet. This connection determines the bandwidth, or speed, of a user's Internet connection. A DSL network was designed to operate in one direction—sending information toward the user. Download speeds tend to be much higher than upload speeds, which is great for streaming a movie, but not so great for broadcasting your Twitch channel, live video conferencing, or having a live telemedicine visit, which need much higher upload speeds. Mobile wireless networks, fixed wireless networks in rural areas, and satellite broadband services will also experience similar issues because they weren't designed for the heavy two-way traffic we are now seeing on the network.

Interconnection points are similar to the last mile, except they describe the connection an entire neighborhood has with the internet. When these interconnection points experience a normal ebb and flow of activity, broadband providers can slowly build out greater capacity. In this case the interconnection point is experiencing not

an ebb and flow, but a tidal wave, and broadband providers can't respond quickly enough to increase capacity. This tidal wave clogs the interconnection point, which means nothing can get through. If your community is served by a smaller ISP, this is also the point where their network is connected to the larger incumbents, and where agreements to exchange traffic between competing companies can be the difference between good and bad quality connections for an entire community.

There are likely to be congestion points still further upstream. Cloud service providers like Amazon AWS and Microsoft Azure, and their connections to the Internet at large, may become congested. There may be issues with Internet backbone providers as well. All these considerations are why reporting more data is so essential right now.

What we're currently experiencing is unprecedented, and our networks have never been tested like this before. It's to be expected that there would be chokepoints and failures in the system. This is why we must take the opportunity to collect data, learn where the weak points are, and fix them before there is another crisis.

SARA COLLINS, HAROLD FELD

About Sara Collins

Sara Collins joins Public Knowledge as a Policy Counsel focusing on all things privacy. Previously, Sara was a Policy Counsel on Future of Privacy Forum's Education & Youth Privacy team and specialized in higher education. She has also worked as an investigations attorney in the Enforcement Unit at Federal Student Aid, as well as the Director of Legal Services for Veterans Education Success. Sara graduated from the Georgetown University Law Center in 2014, where she was the symposium editor of the *Journal of Gender and the Law*. After graduating law school, she completed a Policy & Law Fellowship at the Amara Legal Center, an organization dedicated to fighting domestic sex trafficking within the DMV area. Originally from Chicago, Sara attended the University of Illinois, where she received a B.A. in both Political Science and English.

Post Rural Broadband Access Tech Transitions

WHAT AMERICA CAN DO TO STRENGTHEN ITS COMMUNICATIONS INFRASTRUCTURE

By Lindsay Stern

March 13, 2020

Every American should expect their communications systems to work regularly and reliably, especially during a public emergency. As we transition to new, more sophisticated and technologically-advanced networks that support an array of new services, users should expect those networks to work as reliably as the networks they replace. Those networks must also not disrupt services used by customers served by existing networks. So we should all be concerned about ensuring that the new networks have a built-in capacity to provide reliable service.

Moreover, while we need to encourage the transition to these new networks, even with the continually declining state of our Nation's existing communications infrastructure, it must still provide service. As telephone service providers allow their embedded networks to rust and degrade with very little accountability and oversight, millions of Americans lack basic, reliable voice telephone service, including during and in the aftermath of a natural disaster—problems that are persisting into the new services, such as VoIP (“Voice over Internet Protocol,” a form of telephone service provided over broadband connections) and the wireless telephone networks upon which so many Americans are dependent.

Network reliability and network resiliency are distinct concepts that are inextricably linked. “Network reliability” means that you can rely on the fact that you will have phone service to make and receive phone calls and text messages. As an example, a network can become unreliable from a lack of network maintenance that leads to total degradation, or a lack of preparation to handle technological failure. In California, residents experienced cell phone outages due to both a lack of maintenance and preparation.

“Network resiliency” means that after a network outage, the network revives quickly to allow consumers, including emergency responders, to make phone calls and send text messages. Network resiliency is especially important today as natural disasters are on the rise and extended outages can leave people in total isolation. Network resiliency is crucial so that people can call their loved ones, 911, and other emergency responders without those calls failing. Similarly, it allows for emergency

responders to contact one another and blast public safety announcements to their communities.

America is currently facing a serious crisis in network reliability and resiliency. Communities around the country are experiencing systemic failures of critical communications infrastructure. Telephone service providers are private companies, and without regulation, they will likely choose to cut costs and increase profits rather than invest in strengthening their networks for emergency preparedness or to prevent network outages. Congress created the Federal Communications Commission for the purpose of having a centralized agency to regulate the Nation's communications networks—and the FCC can do more to help prevent these systematic failures. If the phone providers allow their networks to degrade, these companies will suffer no consequences unless Federal or state regulators take enforcement action. Unfortunately, the past decade has seen a radical deregulation of the communications industry. All states have deregulated the industry to some degree, and 37 states have eliminated direct regulatory oversight. At the Federal level, in 2015, the FCC adopted the Tech Transitions Order, which encouraged a national upgrade from copper to fiber communications while also codifying various consumer protections during this transition. Public Knowledge supported this Order. But in 2017, FCC Chairman Ajit Pai eliminated these consumer protections. Public Knowledge sued the FCC to challenge the elimination of consumer protections, but the case was dismissed on technical legal grounds.

A major reason why network resiliency is so important is because many people think that if there is a power outage, they will still be able to dial 911, for example, on their VoIP phone or mobile phone—but that is not necessarily true. Telephones connected to traditional “telephone company” landline copper networks are powered from the telephone company’s office and have back-up power systems so if the power goes out, your phone still works. But today, many more services have broadband based technology (*e.g.*, VoIP Services), which do not power the telephone. And remember, while we have a national Tech Transitions policy that is encouraging every network to switch from copper-based to broadband-based technology that will allow new services, those new networks do not provide all the types of support provided by the embedded copper network. In 2015, the FCC did adopt an Order that will require companies who provide telephone company-like services to make available, at an extra cost to the consumer, equipment that the consumer can use to make 8 hours of backup power available. For the moment, these providers only need to offer this option at the point of sale. Customers can purchase a self-powered battery for their home network, but they are expensive and only last a few hours, so many do not. Instead, the FCC should require VoIP providers to offer customers the capability for 24-hour backup power at no charge.

There’s also a serious problem with cell phones. If you are relying solely on your cell phone during a power outage, you will eventually lose battery and not be able to recharge your phone. But even if your cell phone is fully charged, if there is no power at a cell tower, the signal will hit the tower and go nowhere.

In today’s deregulated communications industry, companies are not being held accountable for their degrading, unreliable networks, nor are they being required to provide basic assurances of network reliability—like ensuring that when you call 911 from your mobile device, the call goes to a cell tower that has power. Congress, the FCC, and states should do more to solve this problem. Here are some ideas of what can be done at the state and Federal level:

Policymakers can impose liability on companies through fines for inexcusable outages.

Cell towers should be required to have backup generators so that there is backup power at every cell tower. Merely encouraging backup network generators is not enough, if there is little-to-no incentive for companies to spend money on emergency preparedness. Congress and the FCC should mandate cell tower generators to ensure that everyone has phone service during a power outage.

The FCC has been preempting local and state authority over broadband-based services like VoIP. Instead, it should allow localities to craft rules that are sensible for their locality and geographic landscape.

Private market incentives to invest in emergency preparedness have not worked. The FCC should set a mandatory framework that includes the following:

Require wireless providers to abide by the Wireless Resiliency Cooperative Framework, which is currently a voluntary industry commitment to promote resilient wireless communications during disasters. This includes having providers utilize the Disaster Information Reporting System.

Require wireless providers to participate in Wireless Emergency Alerts. They currently choose whether to participate, but it should not be voluntary.

Consumers should have access to information regarding which companies invest in their networks reliability and resiliency. This information can better inform consumer decisions and increase competition among providers.

Policymakers should include electric utility companies in the regulations, given the role that a lack of power plays in communications access.

Congress should continue to hold hearings and hold FCC Commissioners accountable, including ensuring that they have field hearings on this issue.

Congress should pass the RESILIENT Act. Among other things, it requires pre-planned coordination agreements so that providers have agreements to help serve each other’s customers during and after an emergency when their networks are not operating.

The FCC and Congress must take network reliability and resiliency seriously or we will continue to experience these issues. Too many consumers are being left behind, and the problems caused by network failures are not only an inconvenience—they are often a matter of life or death.

LINDSAY STERN

About Lindsay Stern

Lindsay Stern is a Policy Fellow at Public Knowledge. Prior to joining PK, Lindsay was a legal intern at the U.S. Senate Judiciary Committee in the office of Senator Dick Durbin, as well as at the Mid-Atlantic Innocence Project, and Street Law, Inc. Lindsay received her J.D. from The George Washington University Law School, where she was a member of the Federal Circuit Bar Journal, and received her B.A. in Government at Franklin & Marshall College. She also spent a semester studying at the University of Edinburgh. Lindsay was born and raised in New York. She is a yoga and frozen yogurt enthusiast.

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

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

**REPLY COMMENTS OF PUBLIC KNOWLEDGE, COMMON CAUSE, AND
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I. INTRODUCTION & SUMMARY

Public Knowledge, Common Cause, and Next Century Cities submit these Reply Comments in response to the Federal Communications Commission’s (“FCC” or “Commission”) *Notice of Inquiry* (“NOI”) seeking comment on whether advanced telecommunications capability is being deployed to all Americans in a reasonable

and timely fashion.¹ The record in this proceeding supports the fact that broadband is not being deployed to all Americans in a reasonable and timely fashion.

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

The record demonstrates that the current benchmark speed of 25 Mbps/3 Mbps is no longer adequate to meet the broadband needs of households today, and that technological innovation and consumer demand for faster broadband warrant the FCC to update its benchmark speed to 100 Mbps downstream.² USTelecom argued that even though emerging technologies may eventually require more bandwidth, “there is no reason to move away from the 25/3 Mbps as the target benchmark today.”³ On the contrary, there are plenty of reasons to increase the benchmark speed. As Open Technology Institute (“OTI”) explained, the Commission should increase the current broadband benchmark because “[t]he trends in the United States show that the average speeds are increasing every year, and have long surpassed the 25 Mbps/3 Mbps scale,”⁴ and increasing the current benchmark will “reflect the current realities of the marketplace and consumer demand.”⁵

Industry commenters provided evidence of offering broadband speeds significantly faster than 25/3 Mbps despite calling on the Commission to maintain the current benchmark. WISPA argued in favor of maintaining the current standard, “[g]iven the fact that the speed required for the applications that most broadband consumers use has not changed substantially since then, and actual subscriptions have not yet consistently surpassed the benchmark level[.]”⁶ Yet, USTelecom explained that broadband at higher speeds is currently widely available, citing that as of mid-2018 wired broadband service at 100/10 Mbps was available to 89 percent of Americans.⁷ Similarly, Internet Innovation Alliance commented that the Commission should keep the current benchmark speed, but it then explained how “broadband providers are constantly increasing speeds in response to competitive pressures,” and that it expects this trend to continue and accelerate as the Nation moves towards 5G wireless broadband.⁸

Arguing that the Commission should maintain an outdated benchmark speed while also arguing that most broadband providers are providing higher speeds is nonsensical. The Federal standard is designed to reflect the widespread utility and set guardrails to ensure that every household is positioned to take advantage of advances in technology.⁹ The Commission should use a contemporary and forward-

¹See Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, GN Docket No. 19–285, *Fifteenth Broadband Deployment Report Notice of Inquiry*, FCC 19–102 (rel. Oct. 23, 2019) (“NOI”).

²See Comments of the Benton Institute for Broadband & Society, *Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, Docket 19–285 (Nov. 22, 2019) (“Benton Institute Comments”), at 11; see also Comments of the Fiber Broadband Association, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019) (“Fiber Broadband Association Comments”), at 4; Comments of INCOMPAS, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019) (“INCOMPAS Comments”), at 6; Comments of Next Century Cities, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019) (“Next Century Cities Comments”), at 4; Comments of the New America’s Open Technology Institute *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 21, 2019) (“OTI Comments”), at 3–4.

³Comments of USTelecom—The Broadband Association, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019) (“USTelecom Comments”), at 10.

⁴OTI Comments, at 3.

⁵*Id.* at 14.

⁶Comments of The Wireless Internet Service Providers Association, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019) (“WISPA Comments”), at 5.

⁷USTelecom Comments, at 4.

⁸Comments of Internet Innovation Alliance, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019), at 6.

⁹See generally Jameson Zimmer, *FCC Broadband Definition Has Changed Before and Will Change Again: Analysis of the FCC’s Broadband Internet Benchmark of 25/3Mbps, and why it changes over time*. (Feb. 10, 2018), <https://broadbandnow.com/report/fcc-broadband-definition/>

looking approach that accurately reflects the broadband marketplace instead of one that is outdated.

As reliance on broadband services continues to increase, the Commission cannot continue to evaluate broadband nationwide with a benchmark speed that has not been updated in five years and runs the risk of becoming outdated.¹⁰ CTIA explained that consumers enjoy 90 percent faster download speeds than they did five years ago.¹¹ Similarly, ACA Connects commented how its members “often deliver service that vastly exceeds 25/3.”¹² Yet commonplace applications are quickly outpacing the Commission’s standard for broadband. As Benton Institute rightly stated, the Commission should “set a new benchmark that better represents marketplace realities,” and the reality is that broadband connections in the United States “regularly deliver 100 Mbps downloads and are increasingly capable of reaching 1 Gbps symmetrical speeds.”¹³ If it maintains the current benchmark speed, the Commission bears the risk of adopting policies that do not reflect today’s marketplace realities.

Claims by the wireless industry and assumptions by the Commission that 5G widespread deployments are imminent in 2020 make clear that a 25/3 Mbps standard will not suffice. To keep up with the realities of the marketplace, the Commission must upgrade its definition of broadband. For example, INCOMPAS explained that 1 Gbps is no longer “aspirational” as a benchmark, but rather it represents the reality of speeds being deployed today across the U.S. INCOMPAS noted, “[e]ntry-level service options by major BIAS providers are typically at least 50 Mbps (and usually 100 Mbps) up to 2 Gbps.”¹⁴ The Fiber Broadband Association also called for the Commission to increase the benchmark speed to at least 100/10 Mbps in order “to reflect current and near term use.”¹⁵ The realities of the marketplace demand the Commission increase its minimum speed definition of broadband.

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

The Commission should not continue to rely only on Form 477 data when evaluating the status of the Nation’s broadband. Form 477 data is too incomplete and inaccurate for the Commission to do so. In fact, last week, Commission staff discovered that “the Mobility Fund-II coverage maps submitted by Verizon, U.S. Cellular, and T-Mobile likely overstated each provider’s actual coverage and did not reflect on-the-ground performance in many instances. Only 62.3 percent of staff drive tests achieved at least the minimum download speed predicted by the coverage maps—with U.S. Cellular achieving that speed in only 45.0 percent of such tests, T-Mobile in 63.2 percent of tests, and Verizon in 64.3 percent of tests. Similarly, staff stationary tests showed that each provider achieved sufficient download speeds meeting the minimum cell edge probability in fewer than half of all test locations (20 of 42 locations).”¹⁶ As a result, the Commission’s Rural Broadband Auctions Task Force recommended that the Commission “analyze and verify the technical mapping data submitted in the most recent Form 477 filings of Verizon, U.S. Cellular, and T-Mobile to determine whether they meet the Form 477 requirements.”¹⁷ The Commission acknowledged that “Form 477 currently affords providers significant discretion in determining the extent of their mobile broadband coverage.”¹⁸ Although the Commission continued to explain that “this discretion does not encompass reporting inaccurate mobile coverage,”¹⁹ inaccurate reporting nevertheless occurs and will continue to occur if the Commission does not reform its current data collection process.

This recent wireless example helps support Benton Institute’s claim that “Form 477 method is vulnerable to errors in the data carriers report.”²⁰ As another exam-

¹⁰ *Next Century Cities Comments*, at 4.

¹¹ Comments of CTIA, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019) (“CTIA Comments”), at 13.

¹² Comments of ACA Connects, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019) (“ACA Connects Comments”), at 2.

¹³ *Benton Institute Comments*, at 10.

¹⁴ *INCOMPAS Comments*, at 6.

¹⁵ *Fiber Broadband Association Comments*, at 4.

¹⁶ Federal Communications Commission, *Rural Broadband Auctions Task Force Releases Mobility Fund Phase II Coverage Maps Investigation Staff Report*, GN Docket No. 19–367 (rel. Dec. 4, 2019), <https://www.fcc.gov/document/mf-ii-coverage-maps-investigation-staff-report>, at 2.

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ *Id.* at 3.

²⁰ *Benton Institute Comments*, at 3.

ple provided by Benton Institute of inaccurate reporting, “the Center for Rural Pennsylvania concluded that although the Commission’s broadband maps ‘show 100 percent availability across the entire state of Pennsylvania of broadband speeds that exceed 25 Mbps,’ the Center’s data ‘showed that there were zero counties in Pennsylvania where at least 50 percent of the populace received’ 25/3 Mbps service. In other words, no Pennsylvania county had the broadband coverage that the Commission said was enjoyed by every Pennsylvania county.”²¹

As part of reforming its data collection process, the Commission should require providers to submit more granular data on Form 477 as well as enable a robust challenge process.²² The Commission is aware that its reliance on Form 477 data collection overstates the number of households with broadband coverage and even cited a recent report from George Ford estimating a 3 percent overstatement.²³ Given that the Form 477 process will likely not be updated by the time next year’s 706 Report is underway, it would be misleading and harmful for the Commission to rely solely on Form 477 data to report on nationwide coverage. As OTI explained, “continuing to issue reports based on flawed data would skew the Commission’s findings under Section 706 and perpetuate a consistently inaccurate view of the digital divide.”²⁴ This result would run contrary to the Commission’s goal of closing the digital divide by understating the scope of the divide, likely leading to insufficient and ineffective policies to solve the problem.²⁵

To the contrary, NCTA argued that the Commission should continue to rely on Form 477 data even if there will be overreporting, and that “there is no evidence to suggest that the degree to which coverage has been overstated has changed in any meaningful way over time.”²⁶ However, the Commission should not justify using an inaccurate process just because that process has been inaccurate for a long time. On the contrary, this is a compelling reason for the Commission to update its Form 477 process and why it cannot solely rely on this data for the upcoming report. There is also evidence that the Commission’s maps have grown less accurate over time. According to a report published by the Center for Rural Pennsylvania, “since 2014, the discrepancy between ISPs’ self-reported broadband availability in the FCC’s broadband maps and the speed test results collected via the M-Lab platform has grown substantially in rural areas, but not in urban areas; this may indicate a systematic and growing overstatement of broadband service availability in rural communities.”²⁷ The report explains how “it appears that official broadband maps are becoming less accurate over time—particularly those for rural areas—and that the methodology used by the FCC not only overstates broadband speeds and availability, but are showing results that are less and less accurate year-after-year.”²⁸

USTelecom supported the Commission’s continued use of Form 477 as it “agrees with the Commission that Form 477 deployment data for fixed technologies is currently the most reliable and comprehensive dataset with which to assess availability of fixed services,”²⁹ and ADTRAN argued a similar perspective.³⁰ However, Form 477 is characterized as the most reliable and comprehensive dataset because it is the *only* current dataset that the Commission uses to analyze broadband deployment. Moreover, Colville Confederated Tribes (“CCT”) expressed that Form 477 is “far from comprehensive.”

Form 477 has the potential to be much stronger if the Commission required ISPs to submit more granular data, such as actual speeds provided and pricing informa-

²¹*Id.* at 5.

²²Comments of Public Knowledge, Common Cause, and Next Century Cities, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019), at 12–14.

²³See *NOI*, at ¶ 17.

²⁴*OTI Comments*, at 11.

²⁵See *NOI*, at ¶ 25 (“The next Report will examine our actions to spur broadband deployment and close the digital divide since issuing the 2019 Report. We seek comment on the ongoing effects of these efforts in spurring broadband deployment, as well as any additional efforts we might undertake.”).

²⁶Comments of NCTA—The Internet & Television Association, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019) (“NCTA Comments”), at 4–5.

²⁷The Center for Rural Pennsylvania, *Broadband Availability and Access in Rural Pennsylvania* (June 2019), at 8–9, https://www.rural.palegislature.us/broadband/Broadband_Availability_and_Access_in_Rural_Pennsylvania_2019_Report.pdf.

²⁸*Id.* at 75.

²⁹*USTelecom Comments*, at 12.

³⁰Comments of ADTRAN, Inc., *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019) (“ADTRAN Comments”), at 9.

tion. CCT rightly stated that new granular data collection methods “will bridge the gap between reporting and reality so that big carriers will not be able to over-report deployment in the future.”³¹ Notably, every commenter in this proceeding that discussed Form 477, including the Commission itself, recognized that Form 477 data is flawed.³² As a result, the Commission must figure out other ways to supplant its analysis.

While the Commission did use OOKLA consumer speed test data, it should be weary that, according to CCT, this speed test “does not measure true network performance and only shows you how fast you can move small files between sites. This is not what people do when they go onto the Internet.”³³ CTIA also supported the Commission using other resources to evaluate the state of broadband. As it explained, “the Commission should take a holistic view of deployment progress that looks beyond just speeds and coverage data to other data that reflect the consumer mobile experience today” and to evolve its collection of data “to more closely reflect consumers’ experiences.”³⁴

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

The majority of commenters in this proceeding that commented on the substitutability of mobile and fixed broadband agreed that mobile broadband service should continue to be treated as a separate, complementary service to fixed broadband, rather than as a substitute.³⁵ As WISPA put it, “[t]hese two distinct types of service are not functional substitutes, but remain complementary services, each independently required by most users to meet significantly different elements of their daily communications and information needs.”³⁶ If mobile broadband was to be considered as a substitute for fixed broadband, it would not explain the fact that, as Next Century City highlighted, “the vast majority of households that have mobile Internet access concurrently subscribe to a fixed access service provider.”³⁷ The two services play different roles, as evidenced by the fact that “the vast majority of data usage travels over Wi-Fi or local fixed connections rather than on a mobile network.”³⁸ In addition, as NTCA explains, slowdowns or breaks in mobile network service can cause severe delays or reductions in quality, which is not just an inconvenience, “but can mean a loss of revenue for a business or a loss of productivity for a student.”³⁹

In its comments, Free State Foundation encouraged the Commission to conduct a more incisive analysis of fixed/mobile broadband substitution due to the claim that “[t]echnological differences between mobile and fixed wireless, while significant, are less pronounced than in the past due to network convergence.”⁴⁰ The Commission should not overlook this concession that the differences between both services are “significant,” and many commenters have pointed out just how significant the differences are in these two services. As INCOMPAS explained, fixed and mobile broadband are distinct networks due to the inherent limitations of mobile.⁴¹ For example, “there is a distinct difference between the speeds and connectivity available to consumers of mobile service (with average speeds of 38.06 Mbps) and fixed (with average download 129.65 Mbps), and most Americans and businesses require access to a fixed broadband service because mobile is not a sufficient substitute.”⁴²

³¹ CCT, at 6.

³² See *NOI*, at ¶¶ 17; *ACA Connects Comments*, at 7; *ADTRAN Comments*, at 9; *Benton Comments*, at 3; *CTIA Comments*, at 17; *CTT Comments*, at 6; *NCTA Comments*, at 4; *Next Century Cities Comments*, at 6; *OTI Comments*, at 11; *USTelecom Comments*, at 12–13; *WISPA Comments*, at 6.

³³ Comments of Colville Confederated Tribes., *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 21, 2019) (“*CCT Comments*”), at 10.

³⁴ *CTIA Comments*, at 17.

³⁵ See *ADTRAN Comments* at 6; *Benton Institute Comments*, at 9; *CCT Comments* at 3; *INCOMPAS Comments*, at 5; *Next Century Cities Comments*, at 9; Comments of NTCA—The Rural Broadband Association, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019) (“*NTCA Comments*”), at 1–2; *OTI Comments*, at 1; *WISPA Comments*, at 2.

³⁶ *WISPA Comments*, at 2.

³⁷ *Next Century Cities Comments*, at 2.

³⁸ *Id.* at 3.

³⁹ *NTCA Comments*, at 5.

⁴⁰ Comments of The Free State Foundation, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019) (“*Free Station Foundation Comments*”), at 8.

⁴¹ *INCOMPAS Comments*, at 5.

⁴² *Id.* at 8–9.

While speeds are one consideration, Benton Institute pointed to other differences between mobile and fixed broadband, including latency, network architecture, usage limits, and pricing.⁴³ ADTRAN echoed similar concerns by explaining that “in light of capacity constraints, pricing policies and usage limitations, current mobile broadband services are not a perfect ‘functional substitute’ for fixed, wireline broadband.”⁴⁴ CCT highlighted that the reality for many rural Americans, including tribal lands, is that many areas do not even have access to cellular coverage, and those that do experience significant differences in the costs and data caps of each service.⁴⁵

In an effort to support its argument that mobile is a substitute for fixed broadband, CTIA noted the fact that “roughly one-in-four lower-income adults are ‘smartphone only’ Internet users,” and that “the share of lower-income Americans who rely on their smartphone for going online has roughly doubled since 2013, rising from 12 percent to 26 percent in 2019.”⁴⁶ Yet this statistic strengthens the argument that low-income Americans are not always choosing to be mobile-only because they see it as an equivalent to fixed, but rather the cost of subscribing to both services is often prohibitive.⁴⁷ The record is clear. Mobile and fixed broadband continue to be complementary services and are not substitutes for each other.

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

The Commission’s two prior Broadband Deployment Reports departed significantly from nearly a decade of precedent since the Broadband Data Improvement Act (“BDIA”)⁴⁸ by concluding that broadband is being deployed to the U.S. in a timely and reasonable manner. CTIA argued that “[w]here it Congress’s intent to seek Commission input on whether deployment to all Americans has been achieved, Congress easily could have easily done so.”⁴⁹ But Congress *did* do precisely that, and congressional reports show that it was Congress’ intent to look at current broadband deployment rather than come to its conclusion based on the progress from the prior year.⁵⁰ Calculating broadband progress from year-to-year makes sense and is a good idea, but the determination of whether progress has been made was never intended to be the conclusion or the finding of the 706 Report. If it was, it does not explain why for nearly a decade after BDIA was enacted the FCC looked at the number of Americans with access to broadband for its 706 Report before switching to the year-over-year improvement standard in 2018.⁵¹

Millions of Americans without broadband access will continue to be left behind if the Commission claims that broadband is being served in a reasonably and timely fashion when reality shows otherwise. ADTRAN attempted to justify the Commission’s progress-based approach by claiming that the report “ought not simply be asking . . . ‘are we there yet?’—with ‘there’ being the goal of 100 percent coverage. Rather, ADTRAN explained, the Commission should be assessing whether progress towards the goal of universal broadband availability is occurring at a constant, accelerating or slowing pace.”⁵² But why isn’t the Commission also asking “are we

⁴³ *Benton Institute Comments*, at 9.

⁴⁴ *ADTRAN Comments*, at 6.

⁴⁵ *CCT Comments*, at 3.

⁴⁶ *CTIA Comments*, at 20.

⁴⁷ John B. Horrigan and Maeve Duggan, *Barriers to broadband adoption: Cost is now a substantial challenge for many non-users*, PEW Research Center (Dec. 21, 2015), <https://www.pewresearch.org/internet/2015/12/21/3-barriers-to-broadband-adoption-cost-is-now-a-substantial-challenge-for-many-non-users/>.

⁴⁸ See Broadband Data Improvement Act, 47 U.S.C. §§ 1301–1305 (2008) (“BDIA”).

⁴⁹ *CTIA Comments*, at 5.

⁵⁰ See S. Rep. No. 110–204, at 1–5 (2007), as reprinted in 2008 U.S.C.C.A.N. 1707, 1707–09 (“BDIA Senate Report”); 154 Cong. Rec. H10618–02 (2008) (the House passed S. 1492 as passed by the Senate. As a consequence, there is no House Report or Conference Report); See also Consumer Benefits of Broadband Service: Hearing Before the S. Comm. On Commerce, Science and Transportation, 110th Cong. (2008) (statement of Daniel K. Inouye, Chairman, Commerce, Science and Transportation Committee); 154 Cong. Rec. H10618–02 (2008).

⁵¹ See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, 2016 Broadband Deployment Report, GN Docket No. 15-191 (rel. Jan 29, 2016), at ¶¶ 119–120 (finding that advanced telecommunications capability was not being deployed in a reasonable and timely fashion because “although deployment has increased . . . we are not satisfied that approximately 34 million Americans lack service, nearly the population of Canada.”).

⁵² *ADTRAN Comments*, at 4–5.

there yet?” ADTRAN is correct that “there” is the goal of 100 percent coverage, but it is incorrect in comparing this question to a child.⁵³ That is exactly what the Commission should be aiming for and should be making a finding on an annual basis.

WISPA also urged the Commission to continue using a progress-based approach that measures the availability of advanced services in an incremental process “rather than by setting artificial a priori goals that may be more aspirational than realistic.”⁵⁴ But the Commission’s new progress-based approach is aspirational by painting a rosy picture that broadband is adequately being served nationwide rather than explaining the truth. In reality, millions of Americans are not connected to broadband. The Commission used to find this was cause for concern and a call to action, but now interprets this fact to mean that broadband is being deployed timely and reasonably. As Benton Institute stated, “[c]oupled with the Commission’s continued reliance on FCC Form 477, the Commission’s ‘progress-based approach’ misrepresents the true reach of broadband in the U.S.”⁵⁵ CCT justifiably expressed concern that the progress-based approach and how this methodology “harms tribal lands in remote locations with overreporting . . . it clearly does not work.”⁵⁶

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

Reporting separately on U.S. Territories runs directly contrary to the Commission’s congressional mandate to report on all of the United States (including its territories)⁵⁷ as well as the agency’s obligation to promote universal service.⁵⁸ Furthermore, residents of U.S. Territories are U.S. citizens, and the FCC has an obligation to report on broadband deployment in those areas. Excluding the residents of U.S. Territories from the Report is misleading as it dramatically

understates the number of Americans without access to broadband. The record in this proceeding is silent and includes no evidence why U.S. Territories should not be included in the Commission’s Report. In fact, CCT is the only other commenter that discussed this issue and it agrees that the Commission “should include data from every state and territory.”⁵⁹ CCT goes on to explain that “[b]y not including such data the FCC decisions are not transparent and based upon accurate data in order to make it appear as if over all deployment is consistently moving forward. Disasters happen, and the re-deployment of those networks is just as important as new deployments to un-served areas.”⁶⁰

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

We support and appreciate recent actions that the Commission has taken with regard to spectrum,⁶¹ but the Commission still has a long way to go to close the digital divide. Many of the Commission’s recent actions have been ineffectual or even counterproductive and widened the gap, particularly for rural, low-income, and other marginalized communities. As ITTA explained, even using the Commission’s overstated measure of broadband deployment, over 21 million Americans still lack broadband access, and so the Commission must “continue to arduously pursue ac-

⁵³ *Id.*

⁵⁴ *WISPA Comments*, at 6.

⁵⁵ *Benton Institute Comments*, at 2.

⁵⁶ *CCT Comments*, at 1–2.

⁵⁷ See 47 U.S.C. § 1302 (“The Commission. . . shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to *all* Americans . . .”) (emphasis added); see also *NOI*, at 2 (“The Commission’s top goal is closing the digital divide and bringing the economic, educational, healthcare, social, and civic benefits of connectivity to *all* Americans seeking broadband access.”) (emphasis added).

⁵⁸ 47 U.S.C. § 151 (“For the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States, without discrimination . . . there is created a commission to be known as the ‘Federal Communications Commission’”); see also FCC’s Website, *Universal Service* (“Universal service is a cornerstone of the law that established the FCC”), <https://www.fcc.gov/general/universal-service>.

⁵⁹ *CCT Comments*, at 13.

⁶⁰ *Id.*

⁶¹ See *Auction 105: 3.5 GHz*, Federal Communications Commission, <https://www.fcc.gov/auction/105>; see also Margaret Harding McGill, *Pai: FCC will auction coveted 5G spectrum*, *Axios* (Sept. 18, 2019), <https://www.axios.com/fcc-will-auction-5g-spectrum-d205fcf0-f9e5-4687-8d5f-d0f2e676f9a1.html>.

tions to foster broadband deployment.”⁶² The United States also continues to fall significantly behind other countries in broadband penetration rates. For example, China has an 86 percent penetration rate for fiber Internet connections compared to only 25 percent for the U.S.⁶³ Before shifting its focus to “winning the race to 5G,” the Commission must focus on closing the digital divide and ensure that all Americans have access to broadband. This is especially true because 5G wireless networks are unlikely to be deployed anytime soon in currently unserved or underserved areas.⁶⁴

There is widespread agreement that rural, tribal lands are being left behind. According to CCT, [t]he only infrastructure that has been put into play over the last decade has been provided by CCT itself.”⁶⁵ This is unacceptable. Much more work needs to be done. As NCTA expressed, “In determining how to fill the remaining gaps, we agree with Commissioner Starks that it is important to understand why some areas are still unserved and what role the Commission’s policies have played to date.”⁶⁶ The Commission should take a second look at some of the policies it has enacted and plans to enact, including the elimination of copper retirement safeguards, the proposed universal service fund cap, and pending proposals to weaken the Lifeline program.⁶⁷ If the Commission’s number one priority is truly to close the digital divide,⁶⁸ then its policies must comprehensively reflect this goal.

VIII. CONCLUSION

For the reasons described above, the record supports the notion that the Commission should increase the benchmark broadband speed to 100 Mbps downstream; rely not only on Form 477 data when evaluating the status of the Nation’s broadband; continue to find mobile and fixed broadband as distinct services; return to its previous interpretation of how to report on the status of broadband deployment, rather than a progress-based approach; include U.S. Territories in its annual report; and ensure that its actions help close the digital divide.

BROADBAND FOR AMERICA’S FUTURE: A VISION FOR THE 2020S

A special report written by Benton Senior Fellow Jonathan Sallet

Download Full Report

The broadband revolution is sparking broad social and economic change. We see three overarching benefits that High-Performance Broadband can deliver in the next decade:

Growing the American Economy. High-Performance Broadband transforms industries that are basic to everyday life, positively impacting agriculture, education, healthcare, energy, and more.

Empowering Workers. High-Performance Broadband advances skills training to boost individual opportunity, helping to overcome income inequality and economic frustration.

Strengthening Communities. High-Performance Broadband spurs economic growth and jobs. It can enable civic participation. It can improve the health, education, and learning of community members.

Broadband for America’s Future: A Vision for the 2020s collects, combines, and contributes to a national broadband agenda for the next decade. Our work is built on the lessons of communities, public-interest advocates, government officials, and

⁶² Comments of ITTA—The Voice of America’s Broadband Providers, *In the Matter of Inquiry Concerning Deployment of Advanced Telecommunications Capacity to All Americans in a Reasonable and Timely Fashion*, GN Docket 19–285 (Nov. 22, 2019), at 12.

⁶³ See Tyler Cooper, *China’s Fiber Broadband Internet Approaches Nationwide Coverage; United States Lags Severely Behind*, BroadbandNow (Dec. 3, 2019), <https://broadbandnow.com/report/chinas-fiber-broadband-approaches-nationwide-coverage/>.

⁶⁴ Ali Breland, The Hill, *Rural America worries it will miss out on 5G* (Sept. 26, 30281), <https://thehill.com/policy/technology/408416-rural-america-worries-it-will-miss-out-on-5g>.

⁶⁵ CCT Comments, at 6.

⁶⁶ NCTA Comments, at 7.

⁶⁷ See *In the Matter of Bridging the Digital Divide for Low-Income Consumers*, Fifth Report and Order, Memorandum Opinion and Order and Order on Reconsideration, and Further Notice of Proposed Rulemaking, WC Docket No. 17–287 (rel. Nov. 14, 2019), see also *In the Matter of Lifeline and Link Up Reform and Modernization*, Order, WC Docket No. 11–42 (rel. Nov. 19, 2019).

⁶⁸ See FCC’s Website, *Bridging The Digital Divide For All Americans* (quoting Chairman Pai: “Since my first day as Chairman of the FCC, my number one priority has been closing the digital divide and bringing the benefits of the Internet age to all Americans.”), <https://www.fcc.gov/about-fcc/fcc-initiatives/bridging-digital-divide-all-americans>.

industry experts that have labored to expand broadband's reach to everyone in the United States. They deserve credit for their investments and innovations, and we have attempted to reflect their accomplishments and ideas, while contributing Benton's own insights—insights built on a body of work stretching back to the 1980s.

This publication is a part of a discussion on how public policy can close the digital divide and extend digital opportunity everywhere.

Report Breakdown

Today, too many people in the U.S. face barriers that keep them from maximizing the opportunities from fixed broadband connections that should run to everyone's home. Leaders at all levels of government should ensure that everyone is able to use High-Performance Broadband in the next decade by embracing the following building blocks for a National Broadband Agenda: 1) Deployment, 2) Competition, 3) Affordability and Adoption, and 4) Community Anchor Institutions.

[Download the One Sheet Summary](#) | [Download Full Executive Summary](#)

Join the Conversation

The latest conversations on *Broadband for America's Future: A Vision for the 2020s*.

Get Updates

Past Newsletters

June 8, 2020: *A Digital Chasm*

April 15, 2020: *The Broadband Moment*

Feb. 28, 2020: *The Growing Role of Community Anchor Institutions*

Jan. 27, 2020: *From Networks to People*

Dec. 18, 2019: *Broadband Success Stories Across the Country*

Nov. 19, 2019: *The Conversation About America's Broadband Future Continues*

Jon Cited in New America's "The Cost of Connectivity 2020"

On July 15, New America published *The Cost of Connectivity 2020*, a pivotal report on Internet affordability worldwide, with a particular emphasis on connectivity in the United States.

Authors Becky Chao and Claire Park cite Jon Sallet's recommendation of \$10 per month being an affordable benchmark for low-income households. The authors write, "Only six plans in our U.S. dataset meet this \$10 benchmark at any speed tier (only four meet Sallet's 50/50 Mbps recommendation)," and all six are offered in Ammon, Idaho. Ammon's municipal broadband network was featured in Jon's *Broadband for America's Future* report. "Even with promotional pricing, no private provider offers a plan that meets Sallet's \$10 benchmark for low-income households," said Chao and Park.

Read the Report

JON FEATURED IN FREETHINK VIDEO

The digital divide has left over 40 million Americans without access to reliable internet. The pandemic has kickstarted initiatives to change that. Jon Sallet said, "These are problems that existed for a long time but what this crisis has done is fast-forward us into a broadband future."

Watch the Video

JON SALLET AND MIGNON CLYBURN FEATURED IN BOSTON GLOBE IDEAS

Jon Sallet and former FCC Commissioner Mignon Clyburn wrote a piece, "Make Broadband Far More Affordable", that was published in the Boston Globe's Ideas section. Sallet and Clyburn write that the coronavirus pandemic has demonstrated that broadband is an essential pathway to full participation in our society and our economy, and urge Congress to ensure affordable broadband for all. "We urge Congress to establish a broadband credit—call it America's Broadband Credit—to ensure many more people can afford high-speed Internet access."

Read the Article

JON'S RESEARCH CITED BY REV. AL SHARPTON, FCC COMMISSIONER STARKS, ET AL. IN ESSENCE

On June 17, 2020, Rev. Al Sharpton, FCC Commissioner Geoffrey Starks, and other civil rights leaders published the article *Broadband Access Is A Civil Right We Can't Afford To Lose—But Many Can't Afford To Have in Essence*. "There is

a broadband emergency in America,” the article begins. “The COVID–19 pandemic has exposed the digital divide in an unprecedented way. As civil rights leaders and a commissioner of the Federal Communications Commission, we are calling on our Nation’s leadership to enact a robust connectivity plan to address the immediate and future needs of marginalized communities.”

They wrote, “A recent study indicates that more than 18 million households lack broadband simply because it is too expensive. An affordable broadband option will help ease the burdens on people who struggle to make ends meet. Research shows that low-income families can only afford to pay around \$10 a month for broadband, which is roughly the price point of many Internet offerings targeted toward low-income consumers. We must expand these offerings and remove barriers to participation,” which links to Jon’s Creating an Affordability Agenda.

Read the Article

AMERICA’S BROADBAND MOMENT: CREATING A BROADBAND COMPETITION POLICY
AGENDA

Broadband competition is more important than ever because—in these crises and beyond—America has fast-forwarded into its broadband future. But broadband competition is limited: At a typical broadband speed of 100/10 Mbps, at least 80 percent of Americans face either a monopoly (no choice) or a duopoly (only one choice) for fixed service. It’s worse in rural America, where monopoly is even more prevalent. The impact is obvious: higher prices, lower quality and/or slowed innovation limiting the ability of people to participate fully in society and the economy.

Here are five significant ways governments can encourage competition.

Read the Article

JON SALLET REFERENCED ON ITIF’S “INNOVATION FILES” PODCAST

On the June 1, 2020 episode of “Innovation Files,” a podcast from the Information Technology & Innovation Foundation, hosts Rob Atkinson and Jackie Whisman spoke with Larry Downes and Blair Levin about their recent article for Aspen Institute entitled “The Internet After COVID–19: Will We Mind the Gaps?”

Atkinson incorrectly claimed Sallet suggested that “we should have subsidized two networks in every area” and asked Downes and Levin for their thoughts. To listen to the episode or to view the transcript, see: What the COVID Crisis Teaches Us About Broadband Policy, With Special Guests Larry Downes and Blair Levin.

Listen to the Podcast

JON SALLET FEATURED ON NEXT CENTURY CITIES WEBINAR ON HOW LOCAL LEADERS
CAN INFLUENCE STATE AND FEDERAL POLICY

On May 27, 2020, Next Century Cities hosted a webinar to discuss the many ways for local officials to engage in state and Federal policymaking. Jon Sallet and Kathryn de Wit, who manages the Broadband Research Initiative at Pew Charitable Trusts, spoke on the importance of elevating local connectivity challenges while finding ways to work in partnership with state and Federal governments.

Watch the Call

FORMER FCC CHAIRMAN TOM WHEELER CITES JON SALLET, BENTON INSTITUTE
RESEARCH

On May 27, 2020, former Federal Communications Commission Chairman Tom Wheeler published 5 steps to get the Internet to all Americans: COVID–19 and the importance of universal broadband. He wrote:

“We hear often about the ‘digital divide’ in America. The challenge is greater than that, however. It is what Jon Sallet calls the ‘digital chasm’—a cluster of digital divides that are larger, longer lasting, multi-faceted, and harder to close. Once and for all, it is time to attack the digital chasm. Any such effort begins with fixing America’s connectivity problem, both in terms of access and affordability.”

He also cited Broadband for America’s Future: A Vision for the 2020s for the study that found low-income Americans can only afford to pay about \$10 per month for broadband. He went on to write:

“In the 21st century, a low-income subsidy for Internet access is as important as telephone access was in the 20th century. Americans availing themselves of the program should be able to use it to obtain service from any qualified broadband provider, not just a telephone company. And the provision of such

a low-income program should be a requirement if a company receives Federal support to expand broadband.”

Read the Report

JON SALLET REFERENCED IN FORBES ARTICLE ON ADDRESSING THE DIGITAL DIVIDE

In the May 7 Forbes article *Three Policies To Address The Digital Divide*, Robert Seamans discussed expanding and reforming the Lifeline program in an effort to address the digital divide. Seamans, an associate professor at New York University’s Stern School of Business and former senior economist on President Obama’s Council of Economic Advisers, specifically cited Jon Sallet’s suggestion that the Lifeline offering be increased to \$50 a month and recipients be allowed more choice in how they can spend the offering.

Read the Full Article

AMERICA’S BROADBAND MOMENT: MAKING BROADBAND AFFORDABLE

The time has come for Congress to establish a broadband credit—call it America’s Broadband Credit (ABC)—to ensure that people who can’t afford broadband can use broadband. The debate on whether broadband is a luxury or an essential connection to society is over.

Read the Article

JON SALLET DISCUSSES THE DIGITAL DIVIDE ON MARKET DAY REPORT

Jon Sallet discusses bridging the rural digital divide amid the coronavirus pandemic.

“Rural American needs High-Performance Broadband just as much as the rest of America. And that’s why Congress needs to act, hopefully, on a bipartisan basis.”

This clip aired on RFDTV’s Market Day Report on Wednesday April 29, 2020.

Watch on YouTube

JON SALLET REFERENCED IN BOSTON GLOBE EDITORIAL

On April 26, 2020, the Boston Globe editorial board published *A New Chance to Close the Digital Divide*. The article stresses the need for policy solutions that focus on the digital divide in urban areas, advocating for solutions that focus on cost. The editorial board suggests expanding the Lifeline program, which provides subsidies of \$9.25 per month for either fixed-line broadband at home or a wireless phone plan. They wrote:

To be eligible for Lifeline, a household must earn no more than 135 percent of the Federal poverty level, or \$29,000 for a family of three. But Jon Sallet, a senior fellow at the Benton Institute for Broadband and Society, says that 135 percent cut-off should be higher—as it is for other Federal anti-poverty programs—given the increasing importance of broadband for economic development and public health.

Read the Editorial

AMERICA’S BROADBAND MOMENT

The debate on whether broadband is a luxury or an essential connection to society is over. More than twice as many people are now using residential broadband during business hours as before the COVID-19 crisis. Over 55 million students have been impacted by school closures. The use of telehealth has skyrocketed.

This is our broadband moment: a hinge of history that will determine whether today’s residential broadband is fit for the changed world in which we inhabit or whether its limits work to disadvantage those that are not equipped to use it.

This is the time to invest in, plan for, and engineer High-Performance Broadband for every person in America.

Read the Article

JON FEATURED IN MERIT WEBINAR “HIGH-PERFORMANCE BROADBAND: ECONOMIC SUCCESS IN THE 2020s”

On April 9, Jon led a webinar for Merit Networks where he discussed the long-term prospect for ensuring that everyone in American has access to high-performance broadband, on the continuing importance of state and local leadership in broadband, and on short-term Federal action.

View Jon's Powerpoint

OUR NETWORKS ARE MORE VITAL THAN EVER. THE FCC OWES US UPDATES.

On March 30, Jon wrote an op-ed in Undark, arguing the FCC should issue a weekly broadband status report during the COVID-19 crisis.

“America’s network infrastructure is a patchwork quilt of technologies reaching across a vast geographic area with widely varying usage patterns even in normal times. But we are not in normal times, and the need for an entity that can provide school administrators, emergency planners, and the general public with a bird’s eye view of the health of our variegated communications systems and technologies has never been greater. It’s not enough to receive (if we do) individual network reports. The FCC, with its view across networks, should step up.”

Read the Article

OUR BROADBAND MOMENT—ACTING NOW AND LOOKING FORWARD

To mark the National Broadband Plan’s 10 year anniversary, Jon joined others in discussing what should be on the agenda for a plan for the next decade.

“The National Broadband Plan showed the way and it has stood the test of time. But we are being tested anew and we must, as a nation, respond with a broadband plan robust enough to withstand the challenges and seize the opportunities of this new, and already frighteningly novel, decade.”

Read the Article

JON QUOTED IN C/NET ARTICLE

Can U.S. broadband companies handle the increased network traffic from the coronavirus crisis?

“To be honest, I think we just don’t know the answer,” he said. “But that’s something the FCC should be asking the Nation’s broadband providers and telling the American people the answer.”

Read the Article

JON FEATURED ON PANEL “2020 COVID-19 PANDEMIC RESPONSE: WILL WE BREAK THE INTERNET?”

On April 8, the Fiber Broadband Association hosted a panel to examine the effect of COVID-19 on our Internet networks.

[Account required to view recording]

Watch the Recording

AFFORDABLE BROADBAND NOW AND LATER

In pursuit of achieving truly universal broadband service at a time when we know everyone desperately needs to stay connected at home, the Federal Communications Commission should immediately provide \$50 per month to low-income households to subsidize fast broadband service during these crises of health and economic dislocation.

But we must also look past this present emergency and think about long-term solutions for our long-standing problems.

Read the Article

JON FEATURED ON PANEL “HOW TO KEEP AMERICANS CONNECTED DURING THE CRISIS”

Public Knowledge hosted a webinar to discuss the specific regulatory and legislative solutions the FCC and Congress should consider to help America overcome the challenges from the coronavirus.

Four Steps Towards E-Rate Connectivity and Competition

There’s more we can do to improve the effectiveness of the E-rate program.

Special Construction Offers More Competition and Lower Costs

Buyer Consortia Can Lower Costs and Should Be Encouraged and Expanded

Improved Administration Would Expand the Reach of E-Rate and Lower Costs

State and Local Efforts Magnify the Positive Impact of E-Rate

Read the Full Article

COMMUNITY ANCHOR INSTITUTIONS AS LAUNCHING PADS FOR HIGH-PERFORMANCE
BROADBAND DEPLOYMENT

Community anchor institutions can serve as a launching pad for community-based broadband access and, in places where broadband has already been deployed, more broadband competition. As Joanne Hovis explains:

By their nature, most government networks to anchor institutions will reach deep into neighborhoods that house schools, libraries, public health offices, and government facilities such as water towers and fire stations. Many localities then lease excess capacity to private sector providers to enable service provision and last-mile build-out in the neighborhoods. This trend is fast accelerating as hundreds of localities make available spare fiber-optic capacity to private carriers at rates designed to catalyze new private sector investment and opportunity.

Read the Full Article

TELL THE STORY WE KNOW: BROADBAND COMPETITION IS TOO LIMITED

The competition story needs to be told: We can expect people with only one choice to pay monopoly prices, and people with only two choices to pay the higher prices typically charged by duopolies. People with three or more choices typically pay less. Clearly, people who can barely afford to pay a competitive price, say, low-income Americans, are particularly vulnerable to artificially high prices.

Read the Full Article

FROM PLACES TO PEOPLE—CONNECTING INDIVIDUALS TO COMMUNITY ANCHOR
INSTITUTIONS

Policymakers should help enable community anchor institutions to connect to their users wherever they are.

Congress and the Federal Communications Commission should expand E-Rate to provide wireless access to students of lower-income families who do not have broadband at home. At current prices, \$100 million would support the full cost of LTE service to between two million and three million K–12 students. (Such efforts should be affordable given that the E-Rate program is currently running about \$1.3 billion below its \$3.9 billion budget cap.)

Read the Full Article

SUPPORTING THE INCREASINGLY IMPORTANT MISSIONS OF COMMUNITY ANCHOR
INSTITUTIONS

Community anchor institutions should be at the center of any comprehensive national strategy to promote the availability and use of High-Performance Broadband. In the next decade of the 21st century, ubiquitous broadband and the special role of community anchor institutions will continue to evolve as ubiquitous broadband increasingly empowers such institutions where they are, and where their users are.

Read the Full Article

JON SALLET FEATURED IN BROADBAND COMMUNITIES MAGAZINE

An excerpt of *Broadband for America's Future* was featured in *Broadband Communities Magazine* January/February 2020 edition.

“Today, too many people in the United States face barriers that keep them from maximizing the opportunities from fixed broadband connections that should run to everyone’s home. To overcome these barriers, leaders—notably at the state and local levels—are executing policies to boost deployment of networks where adequate broadband does not exist; competition, which will increase choices and spur lower prices and better-quality service to residents; and affordability and adoption for those who wish to have broadband in their homes but lack the means or the skills to acquire it. They also are working to support and enhance community anchor institutions, such as schools and libraries, that increasingly serve users wherever they are.”

Read the Full Article

NEXT CENTURY CITIES' OPPORTUNITIES FOR BIPARTISAN TECH POLICY 2020

On January 23, Jon spoke on the panel “Broadband Access Versus Broadband Subscriptions—the Difference and Why It Matters” at Next Century Cities’ Opportunities for Bipartisan Tech Policy 2020.

You can watch video of the panel here: <https://livestream.com/internetsociety/bipartisntech2020/videos/201203851>

Moderator: Alejandro Roark, Executive Director, Hispanic Technology & Telecommunications Partnership

Joshua Edmonds, Director of Digital Inclusion, City of Detroit

Jonathan Sallet, Senior Fellow, Benton Institute for Broadband & Society

Angela Siefer, Executive Director, National Digital Inclusion Alliance

Tom Struble, Technology & Innovation Manager, R Street Institute

Watch The Video

CREATING AN AFFORDABILITY AGENDA

To meet the challenge of providing fixed broadband at roughly \$10 per month requires implementation of a variety of strategies. Here are seven ways governments can tackle the affordability challenge:

Spur Competition

Protect and Strengthen the Lifeline Program

Provide Assistance to Broadband Providers’ Low-Income Programs

Require Affordable Tiers of Broadband Service When Supporting Deployment

Educate and Protect Consumers

Support Programs That Make Low-Cost Computing Devices Available

Provide Access Via Community Anchor Institutions

Read the Full Article

HOW DO WE ENSURE THAT EVERYONE HAS ACCESS TO BROADBAND?

Jon was featured in a Next Century Cities video that asks “How do we ensure that everyone has access to broadband?”

Digital Skills and Broadband Adoption

A key element to adoption is the development of skills so people are able to find, evaluate, utilize, share, and create content using information technologies and the Internet. This digital literacy is a language, a language with which we become better speakers, learners, creators, employees, entrepreneurs, and citizens. The need for digital skills to get and succeed in new jobs is ubiquitous, across rural, suburban and urban areas, across demographics, across age groups. And the impact of success is equally broad—building economic success that strengthens a community, state and nation.

Read the Full Article

FROM NETWORKS TO PEOPLE

Broadband’s fundamental value doesn’t come from connecting computers to networks; its value comes from connecting people to opportunity, and society to new solutions. When a broadband network is available but a person who wants to use it can’t do so, then the network is less valuable to everyone else who does use it.

Drawing from *Broadband for America’s Future: A Vision for the 2020s*, over the next few weeks we’ll be looking at the challenges the U.S. faces as we try to achieve more equitable and effective broadband use. We will also focus in on adoption efforts in the first Google Fiber location—Kansas City.

Read the Full Article

TOO BIG TO BE LEFT UNNOTICED: AMERICA’S UNCOMPETITIVE BROADBAND MARKET

Jon’s speech at The Capitol Forum’s Annual Tech, Media, & Telecom Competition Conference on December 5, 2019.

We should pay more attention to the lack of competition in the provision of fixed broadband to homes and small businesses.

Fixed-broadband competition is very, very limited. That’s a problem for consumers and for their communities.

Pro-competition policies can tackle that problem by stimulating competition that delivers competitive benefits to consumers—more savings, more quality, more innovation.

The correct way to think about greater competition is not to ask simply what is most profitable for any one company; it is to ask what best serves consumers.

The benefits from the use of High-Performance Broadband accrue to the broader economic and social benefit of America. Limited broadband competition—without regard to its cause—therefore curbs the economic and social progress that broadband can help deliver.

Read the Full Speech

JON SALLET FEATURED ON THE BROADBAND BUNCH PODCAST

The Broadband Bunch podcast interviews Jon Sallet at the Broadband Communities Summit in October 2019. Live, from Washington, D.C.!

[Listen Here \(00:00–19:30\)](#)

“Nobody is saying broadband by itself solves every problem. But what we do think is that the big problems in America can’t be solved without including broadband. Agriculture, climate change, education for people of all ages, the economy, health care, all of these kinds of solutions will end up riding on broadband networks.”—Jon Sallet

Full Podcast

RURAL ELECTRIC COOPERATIVES DELIVER BROADBAND

Home broadband subscription rates continue to lag in rural areas, holding back local economies and access to telemedicine. The deployment of broadband networks to rural areas echoes the challenges earlier generations had ensuring that electrical networks and telephone service reached everyone. The solutions those earlier generations employed provide us lessons for today’s broadband challenges.

See Also: Georgia Authorizes Electric Cooperatives to Deliver Rural Broadband. Bill Verner, Senior Vice President with Georgia Electric Membership Corp., discusses how Georgia is using electric cooperatives to reduce the digital divide.

Read Jon’s Full Article

JON SALLET AND ADRIANNE FURNISS ON THE COMMUNITY BROADBAND BITS PODCAST

Benton Institute Executive Director Adrienne Furniss and Senior Fellow Jon Sallet sat down with Christopher Mitchell of the Insitute for Local Self-Reliance on the Community Broadband Bits Podcast.

In this episode, Jon analyzes stories and situations from around the U.S. and establishes a vision that will help us move forward to connect as many people as possible. He and Christopher discuss the four major factors that, if nurtured correctly, can help us integrate broadband into all sectors of society and maximize its usefulness. Christopher and Jon give special time to competition, an issue that arises repeatedly in the work at Benton and at the Institute for Local Self-Reliance.

Listen to the Interview

BUILDING BLOCKS FOR A NATIONAL BROADBAND AGENDA

Jon’s speech at the Broadband Communities Conference on October 30, 2019.

How does policy help us reach our broadband goal? Policymakers should use these four building blocks to create and further broadband policy.

Deployment of networks where adequate broadband does not exist;

Competition increases choices and spurs lower prices and better-quality service; Affordability and Adoption for those who lack the means or the skills to use broadband; and

Community Anchor Institutions, such as schools and libraries, increasingly serve their users wherever those users are.

Read Full Speech

JON SALLET (BENTON), VINT CERF (GOOGLE) AND JIM BALLER (CLIC) ADDRESS A NEW VISION FOR AMERICA’S BROADBAND FUTURE FOR THE 2020S

A packed audience in Alexandria, Virginia, listened intently during CLIC’s afternoon event on October 31, as CLIC’s President, Jim Baller, led a fascinating discussion on a new vision for America’s broadband future for the 2020s. This is a moment

worth remembering. Setting the tone was Gail Roper, Director of National Initiatives for the Knight Foundation, who noted how the Knight Foundation emphasizes the importance of access, and equity as new Internet applications unfold. Gail then introduced Jim Baller, who guided Jon Sallet and Vint Cerf (Vice President and Chief Internet Evangelist at Google) through a spirited discussion of the key components of Jon's special report entitled "Broadband for America's Future: A Vision for the 2020s."

Read the Full Article

BRINGING HIGH-PERFORMANCE BROADBAND TO RURAL AMERICA

Many rural communities understand the importance of broadband to their future and they are taking matters into their own hands. For example, drive about 80 miles from Washington, D.C., and you can find yourself in the northern portion of Queen Anne's County, Maryland. The research Jon has done for *Broadband for America's Future: A Vision for the 2020s* led him to observe Queen Anne's County's work to connect.

Read the Full Article

IMPERIAL COUNTY: CLOSING THE HOMEWORK GAP IN A CALIFORNIA DESERT COMMUNITY

In communities where too many people have no access to broadband infrastructure, investing in connections to community anchor institutions is an intermediate step that can pay huge public dividends. Imperial County, located in the sparsely populated desert region of southeastern California, is an exciting example. To close the Homework Gap, the Imperial County Office of Education teamed up with local school districts to start the BorderLink project, which relies on LTE technology to bring wireless Internet connectivity to students in eleven communities.

Read the Full Article

BROADBAND FOR AMERICA'S FUTURE STARTS WITH ANCHORS

An Article by John Windhausen, Executive Director of the Schools, Health & Libraries Broadband Coalition.

"Broadband for America's Future" author and Benton Fellow Jonathan Sallet previewed its policy recommendations for community anchor institution (CAI) connectivity at the 9th Annual SHLB Conference. Sallet identified the SHLB Coalition's "To and Through" philosophy as a fundamental principle for CAI broadband policy. To put it simply, connecting anchors to high-quality broadband enables them to serve as jumping off points to extend connectivity to surrounding residents and businesses in the community.

Unfortunately, some of the dialogue around closing the digital divide focuses on connecting residents and businesses, while completely ignoring the needs of CAIs. "Broadband for America's Future" recognizes that connectivity for anchor institutions isn't simply a goal of broadband deployment, but a necessary step in closing the digital divide. The report clearly shows we will not solve the digital divide unless policymakers and industry acknowledge the valuable role schools, libraries, and healthcare providers play in making broadband available and affordable to their surrounding communities. Learn more about the Benton Institute and read the full text of the report here.

Read the Blog Post

FCC COMMISSIONER GEOFFREY STARKS GIVES HIS SUPPORT

FCC Commissioner Geoffrey Starks on Oct. 31 at the Broadband Communities Conference, in his prepared remarks:

I really wish I could have made it here yesterday as well because I know Jon Sallet at the Benton [Institute] gave a stellar presentation on his new work, 'Broadband for America's Future: A Vision for the 2020s.' The National Broadband Plan was released in 2010 so I'm glad to see we have an advocate in this space who is thinking about creative and forward-thinking policies that will address Internet inequality. Jon and I share similar views. We recognize that broadband access is necessary if we truly want to empower our communities in this digital age. So, thank you to Jon and the Benton [Institute] team for all of their hard work on this project. I really look forward to diving into it and engaging with you all more.

NEXT CENTURY CITIES: REPORT GIVES A COMPREHENSIVE OVERVIEW OF A PROBLEM
THAT WE CAN SOLVE

Broadband for America's Future: A Vision for the 2020s highlights Next Century Cities' member stories, documenting their ability to overcome unique challenges with creative solutions. In a blog post, Next Century Cities said the report is, "sure to bring Next Century Cities' member municipalities and others a step closer to a shared goal of ensuring that every community has access to high-speed connectivity. Sallet offers a masterful account of the policy landscape while conveying a sense of urgency for broadband infrastructure to be a national priority. His report weaves together policy analysis, impact stories, and thoughtful recommendations."

Read the Blog Post

MICHIGAN'S MERIT NETWORK: CONNECTIVITY TO AND THROUGH COMMUNITY
ANCHORS

Investment in high-performance broadband infrastructure for community anchor institutions can deliver unforeseen dividends for years to come. Take, for example, the Merit Network, which operates almost 4,000 miles of fiber-optic infrastructure in Michigan. To extend critical broadband service to all community anchor institutions in Michigan, including in rural and underserved communities, Merit used two grants from the Broadband Technology Opportunities Program (BTOP) to create the REACH -3MC (Rural, Education, Anchor, Community and Health Care—Michigan Middle Mile Collaborative) project. Completed in 2014, the project constructed 2,287 miles of the almost 4,000-mile, open-access, fiber infrastructure network.

Read the Full Article

CONNECTING COMMUNITIES WITH HIGH-PERFORMANCE BROADBAND

Jon's speech at AnchorNETS: 9th Annual SHLB Conference on October 17, 2019. Based on what we've learned, we've formulated three basic principles for community anchor institution broadband policy.

First, community anchor institutions need access to competitively-priced, High-Performance Broadband, and they deserve the discretion to make informed choices about what best serves their communities.

Second, broadband is needed to connect community anchor institutions with their users wherever they may be.

Third, community anchor institutions can serve as launching pads for community-wide broadband access and, in places where broadband has already been deployed, more broadband competition.

Read Full Speech

VOQAL: REPORT 'OUTLINES ROAD MAP FOR ADDRESSING THE DIGITAL DIVIDE'

Voqal wrote an article on Broadband for America's Future, calling it a "magnum opus of broadband policy for the forthcoming decade." They note that Sallet's report highlights the Homework Gap and the value of immediate short-term solutions like Mobile Citizen, a Wi-Fi hotspot program Voqal operates.

Read the Full Article

LIBRARIES AND SCHOOLS JOIN HANDS TO CONNECT NEW MEXICO PUEBLOS

Over the last year or so, we've been speaking with people around the country about how communities are addressing their broadband needs. We know that community anchor institutions—schools, libraries, healthcare providers and others—play a key role in bringing service to broadband deserts. Our friends at the American Library Association (ALA) alerted us to how the Middle Rio Grande and Jemez-Zia Pueblo Tribal Consortia are connecting pueblos in New Mexico. As the release of our report nears, we think it is important to share some of the innovative solutions that we've heard.

CTIA
Washington, DC, May 13, 2020

Hon. ROGER WICKER,
United States Senate,
Washington, DC.

Hon. MARIA CANTWELL,
United States Senate,
Washington, DC.

Dear Chairman Wicker and Ranking Member Cantwell:

The COVID-19 pandemic has been the ultimate stress test for our Nation's wireless networks. Hundreds of millions of Americans quickly transitioned to staying at home as much as possible. This monumental shift, occurring in just a few days, meant a widespread and rapid change in how we use wireless devices and networks. We are proud to report the wireless industry has proven more than up to the challenge of mobile voice and data increases of nearly 25 percent higher than usual.

Americans are able to reliably connect to their family, friends, and co-workers even in the face of these unprecedented challenges. Wireless networks in other countries have not fared as well with degradations in network quality and speed. Our success is thanks to the hard work and billions invested by our Nation's wireless providers. The existing U.S. regulatory framework—fostered by this Committee—of promoting competition and private investment has also been crucial to our success.

In addition, both national and regional wireless operators have stepped up to enhance offerings, safeguard consumers, and take care of the employees that make it all possible.

Serving All Americans. We are especially proud of the steps our industry has taken to ensure the pandemic does not disrupt service for low-income and underserved communities. According to Pew Research Center, one in five Americans access the Internet solely through their smartphone, a number that grows much higher within communities of color. We take our responsibility as the only source of connectivity to those Americans seriously. Many carriers have taken extra steps to increase data allocations and rollout new and enhanced offerings for their low-income customers. We encourage Congress to partner with us to get more Americans online now.

Keeping Impacted Americans Connected. Access to wireless is important to households trying to stay connected to work and school. About half of Americans say COVID-19 poses a major threat to their finances and ability to keep up with their monthly bills. (Pew) More than 650 Internet providers voluntarily joined the FCC's Keep Americans Connected Pledge to waive late payment fees and service termination for those unable to pay their bills during the pandemic. The FCC's Pledge has played a key role, and we agree with the two-thirds of Americans that say the government should now help consumers who are unable to pay their wired and wireless broadband expenses. (Morning Consult) A simple and temporary safety net program to help keep those Americans connected will ensure continued broadband access in this critical time. One such proposal that merits congressional consideration is a voucher to offset the costs of connectivity in a technologically-neutral manner by leveraging existing CARES Act distribution mechanisms and the FCC's expertise. We stand ready to work with you to develop the right solution to help COVID-19 impacted consumers.

Connecting Schoolchildren. As distance learning becomes the norm, keeping students and educators connected has never been more important. The wireless industry has gone above and beyond to help create online educational tools, expand partnerships, and help provide devices to students and teachers. Many providers are also participating in CTIA's Connecting Kids Initiative, a program to help connect school districts seeking hotspot solutions with wireless carriers in their local community. So far, hundreds of thousands of kids have been newly connected thanks to these collective efforts. Here too, we cannot be successful alone. It is important that Congress provide the dedicated funding the education community has sought to support hotspot-capable devices and services for remote learning. To that end, we support the Emergency Educational Connections Act.

Building for Tomorrow. One of the primary reasons we could meet America's overnight surge in Internet usage is we build each year for tomorrow's network demands. The wireless industry invests more than \$20 billion a year, every year, to make sure that our networks continue to improve their reliability and resiliency. A key component of this annual push is incorporating new spectrum, and providers are meeting today's demand with up to 100 megahertz of temporarily leased spectrum. This much-needed capacity boost is thanks to the decisive action of the FCC. We urge Congress to provide a pipeline of future licensed spectrum, particularly mid-band spectrum, so we can build to be ready for tomorrow's needs. Operators must also continue to modernize, upgrade, and expand wireless facilities each and

every year. During this pandemic, Congress should ensure zoning and permitting offices have the resources and modernized processes they need to allow new deployments in a safe and timely manner. CTIA is ready to work with Congress and localities to ensure we can keep building tomorrow's infrastructure during the COVID-19 pandemic and our Nation's recovery.

Wireless carriers have risen to the challenge of the COVID-19 pandemic, working tirelessly to keep consumers connected and mobile networks strong. We are proud of how well the industry has responded, and we look forward to continuing to work with your Committee to ensure wireless resiliency and connectivity for Americans as we move forward together.

Sincerely,

MEREDITH ATTWELL BAKER,
President and CEO,
CTIA.

NATIONAL ASSOCIATION OF MANUFACTURERS
Washington, DC, May 13, 2020

Hon. ROGER WICKER,
Chairman,
Committee on Commerce, Science, and
Transportation,
United States Senate,
Washington, DC.

Hon. MARIA CANTWELL,
Ranking Member,
Committee on Commerce, Science, and
Transportation,
United States Senate,
Washington, DC.

Dear Chairman Wicker and Ranking Member Cantwell:

During this time of crisis, manufacturers in America continue operating while doing everything possible to ensure the health and safety of millions of employees, their families and their communities. The country is depending on the many products we make—from equipment and vehicles needed for our Nation's first responders to items that may not seem critical but are integral to the supply chain and necessary during these uncertain times.

The National Association of Manufacturers appreciates the committee's focus on the critical role of digital infrastructure at this unique moment. Manufacturers view today's hearing on "The State of Broadband Amid the COVID-19 Pandemic" as the beginning of an important conversation, and we will continue to contribute our perspective beyond today's hearing. Before the COVID-19 crisis, manufacturers have been reliant on robust and reliable broadband infrastructure to carry out operations, and today our sector's dependence on broadband is even more evident. Broadband is supporting remote work, training and education, and it is enabling new, technology-driven solutions that allow individuals to carryout in-person tasks while maintaining safe distances. Investments and policies to enhance broadband infrastructure can support this new era of digital transformation for manufacturers, their employees and their families. These solutions should be part of the plan for growth as we look toward the future.

The NAM's "*American Renewal Action Plan*" is our policy guide for the Nation's response, recovery and renewal as we continue to fight the COVID-19 pandemic. For long-term renewal, the plan calls for bold actions that set the stage for long-term growth, including historic investment in our Nation's infrastructure. The plan states:

Even before the crisis, America desperately needed bold infrastructure investment. Now, building a 21st-century infrastructure system will not only provide urgently needed jobs but also lay the foundation for a more competitive economy:

Congress should approve historic investment of at least \$1 trillion in our Nation's infrastructure that aligns with the NAM's "Building to Win" blueprint, which calls for upgrades to our transportation, water, energy and digital infrastructure systems.

The NAM's "*Building to Win*" plan covers all forms of infrastructure critical for the manufacturing ecosystem. In focusing on digital infrastructure, the blueprint explains, "internet-driven technology is at the heart of modern manufacturing through connected shop floors and the development and use of the Internet of things and emerging technologies." The plan calls for Congress to support investment in our broadband infrastructure system, maximize consumer choice in how they connect

and reduce regulatory barriers that can slow manufacturers' ability to deploy current and next-generation broadband infrastructure.

Enhanced broadband investment and the growth of next generation wireless networks are critical both for the current challenges in COVID-19 and to support the continued technological leadership of our Nation's manufacturers. We appreciate this Committee's attention to this issue, and we look forward to working with you to advance broadband infrastructure investments that support manufacturing growth and innovation.

Sincerely,

STEPHANIE HALL,
Director, Innovation Policy,
National Association of Manufacturers.

R STREET INSTITUTE
Washington, DC, May 13, 2020

Hon. ROGER WICKER,
Chairman,
Committee on Commerce, Science, and Transportation,
U.S. Senate,
Washington, DC.

Hon. MARIA CANTWELL,
Ranking Member,
Committee on Commerce, Science, and Transportation,
U.S. Senate,
Washington, DC.

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

Dear Chairman Wicker and Ranking Member Cantwell,

We at the R Street Institute ("R Street") commend you and the Committee for holding this hearing on "The State of Broadband Amid the COVID-19 Pandemic."¹ As we have noted recently, with the pandemic forcing many Americans to stay inside and work, study and socialize remotely, the need for high-speed broadband connectivity has never been greater.²

Fortunately, both the Federal Communications Commission ("FCC") and American broadband providers have risen to the challenge. On March 13, the FCC announced the "Keep Americans Connected Pledge," which over 700 providers have signed onto, agreeing to continue service, waive late fees and open their networks to the public.³ Initially set to expire this week, the pledge has since been extended through the end of June.⁴ Additionally, the Commission has granted wireless providers temporary authority to operate in key spectrum bands;⁵ waived its gift rules to allow schools, libraries and telemedicine providers to purchase Wi-Fi hotspots using their Universal Service support;⁶ eased the Lifeline program's recertification and reverification requirements to help consumers stay connected;⁷ and used funds

¹Hearing on "The State of Broadband Amid the COVID-19 Pandemic" Before the Senate Committee on Commerce, Science, and Transportation, 116th Cong. (May 13, 2020), <https://bit.ly/2yEK8hO>.

²Tom Struble, Boosting Connectivity to Help Conquer COVID-19, MORNING CONSULT (April 22, 2020), <https://bit.ly/35L6Sso>; Jeffrey Westling, FCC, Broadband Industry Rising to the Challenge of COVID-19, R ST. INST. (March 26, 2020), <https://bit.ly/2Wk3LVw>.

³Press Release, "Chairman Pai Launches The Keep Americans Connected Pledge," Fed. Comm'ns Comm'n (March 13, 2020), <https://bit.ly/35GqnTa>.

⁴Press Release, "Chairman Pai Extends Keep Americans Connected Pledge Through End of June Due to Ongoing COVID-19 Pandemic," Fed. Comm'ns Comm'n (April 30, 2020), <https://bit.ly/3ciPYUF>.

⁵Press Release, "FCC Grants AT&T and Verizon Further Temporary Spectrum Access to Keep Americans Connected During the Pandemic," Fed. Comm'ns Comm'n (March 20, 2020), <https://bit.ly/2yvq8OM>; see also Press Release, "FCC Grants Wireless ISPs Temporary Access to Spectrum in 5.9 GHz Band to Meet Increase in Rural Broadband Demand During Pandemic," Fed. Comm'ns Comm'n (March 27, 2020), <https://bit.ly/2xQ2iwK>.

⁶Order, Rural Health Care Universal Service Support Mechanism & Schools and Libraries Universal Service Support Mechanism, WC Docket No. 02-60 & CC Docket No. 02-6 (March 18, 2020), <https://bit.ly/3bhUD87>.

⁷Order, Lifeline and Link Up Reform and Modernization, WC Docket No. 11-42 (March 17, 2020), <https://bit.ly/2WezhnB>.

appropriated by Congress in the CARES Act to establish a \$200 million COVID-19 Telehealth Program.⁸

These efforts, combined with the FCC's light-touch approach to broadband regulation,⁹ have allowed American broadband networks to be remarkably resilient in handling the increased traffic they are facing.¹⁰ However, there is still more work to be done, and Congress should consider the following steps to help provide relief and boost connectivity in the short, medium and long term.

In the short term, Congress should focus on keeping existing networks online and assisting consumers with their broadband bills. The FCC's Lifeline program already provides low-income consumers with some support to help defray their broadband costs, but that support and eligibility for it are both quite limited. Congress should consider either boosting the Lifeline program, by expanding eligibility and increasing the amount of support available, or authorizing one-time vouchers akin to those used to assist Americans during the Digital Television transition.¹¹

In the medium term, Congress should unleash private capital by reducing regulatory barriers to infrastructure deployment through legislation like the STREAMLINE Act.¹² This is an issue explored in R Street's Broadband Scorecard, in which we analyze each state's laws governing various aspects of broadband deployment, including access to public rights of way, construction permitting, franchising and zoning.¹³ While many states have made great progress in streamlining processes and eliminating unnecessary red tape, numerous others lag behind. These regulatory barriers make infrastructure deployment slower and more expensive, so reducing them will help promote new investment and construction to aid in the recovery and boost connectivity once the pandemic has passed.

Finally, in the long term, Congress should work with the FCC and broadband providers to identify any areas where market forces and private capital are not enough. The recently passed Broadband DATA Act will help in that regard,¹⁴ identifying the areas that are truly in need of support. But while the FCC's Universal Service programs can address that problem on their own, additional support from Congress would accelerate that deployment. To fund such support, Congress should identify new wireless frequency bands that can support commercial services like 5G and extend the FCC's auction authority for those bands. Encouraging the Defense Department to finish its ongoing study of the 3.1–3.55 GHz band would help, but additional low-, mid- and high-band spectrum will be needed to keep pace with growing demand for wireless services. Congress should identify and begin the process of repurposing these bands as soon as possible.

* * *

We again commend you for your efforts to review the state of our broadband networks and help keep Americans connected during the pandemic.

Sincerely,

TOM STRUBLE,

Technology and Innovation Policy Manager,

R Street Institute.

JEFFREY WESTLING,

Technology and Innovation Policy Resident Fellow,

R Street Institute.

STATEMENT FROM THE UTILITIES TECHNOLOGY COUNCIL

The Utilities Technology Council (UTC) thanks the Senate Commerce, Science & Transportation Committee for the opportunity to submit these comments for the record. From previous hearings and testimonies, this Committee has well docu-

⁸Report and Order, Promoting Telehealth for Low-Income Consumers and COVID-19 Telehealth Program, WC Docket No. 19-213 & WC Docket No. 20-89 (April 2, 2020), <https://bit.ly/2SONcn2>.

⁹Christopher S. Yoo, Coronavirus Crisis Vindicates the FCC's "Net Neutrality" Rollback, WALL ST. J. (April 14, 2020), <https://on.wsj.com/35OaZES>.

¹⁰Alec Stapp, Why Netflix and YouTube Aren't Breaking the Internet in the United States, MORNING CONSULT (April 10, 2020), <https://bit.ly/2Llctkw>.

¹¹Deficit Reduction Act of 2005, Pub. L. No. 109-171, §§3001-3013, 120 Stat. 21 (Feb. 8, 2006).

¹²STREAMLINE Small Cell Deployment Act, S. 1699, 116th Cong. (June 3, 2019).

¹³Tom Struble & Jeffrey Westling, 2019 Broadband Scorecard Report, R ST. INST. (Feb. 12, 2020), <https://bit.ly/2YJHstM>.

¹⁴Broadband DATA Act, Pub. L. No. 116-130, 134 Stat. 228 (March 23, 2020).

mented that without access to fast, affordable, and reliable broadband, unserved and underserved communities are at a distinct socio-economic disadvantage. In a COVID-19 lockdown, having a broadband connection is a lifeline to everything people need for their everyday lives, and it opens up opportunities to work from home. Lack of connectivity hurts small businesses in these communities, and it also creates a homework gap for students that prevents them from studying at home or forces them to go out to surf on an open wi-fi connection in a parking lot near a restaurant or other business. It also prevents patients from getting access to telemedicine in hospitals and clinics and medical care in their homes. Unfortunately, but not surprisingly, the COVID-19 pandemic has once again cast these harsh realities into the public spotlight. As this hearing examines initiatives to maintain and expand broadband access to all Americans, including understanding the impact of funds recently made available by the CARES Act, UTC asks every committee member to think through, and expand upon, how electric utilities of all ownership types are already working to bring reliable broadband to unserved and underserved communities—and particularly in high cost deployment areas.

Established in 1948, UTC is the global association representing energy and water utilities on their needs related to the deployment of reliable and resilient information and communication technology (ICT), and when economically and regulatorily possible, are deploying creative broadband solutions and services. Energy and water utilities use ICT networks as the backbone for the infrastructure that delivers safe, reliable, and secure energy and water services.

The decision for many electric utilities to provide broadband is a natural progression, because in most cases, these utilities have already built, and are upgrading, communications networks to modernize the electric grid, and to enhance electric reliability and resiliency. These networks include wireline and wireless systems that can provide broadband capacity. Electric utilities are able to leverage both their communications network infrastructure and their existing knowledge to deliver broadband. Importantly, utilities are providing broadband services to areas where other communications service providers would not serve and they are offering gigabit speeds at prices that are often less than \$100 a month. The investments that utilities are making and have made in deploying broadband to unserved areas are making a big difference in these communities particularly during COVID-19, as distance learning and working from home have become increasingly prevalent. Given what utilities have accomplished with broadband already, an increasing number of both Federal and state policymakers view electric utilities as a natural fit to further engage in broadband deployment efforts.

The Rural Digital Opportunity Fund (RDOF) represents a significant opportunity for funding to help offset the high cost for utilities to deploy broadband in unserved areas. The RDOF will be critical to help fund and expand broadband services to unserved communities throughout America, as it will prioritize funding to projects that provide faster speeds and lower latency, and during the reverse auction, the FCC will immediately assign support in the clearing round to the bidder with the lowest performance tier and latency weight instead of, as was done in the CAF II auction, carrying forward all bids at the base clock percentage for the same area for bidding in additional clock rounds. This will invest Federal funding wisely in future-proof projects capable of meeting increasing consumer expectations on a cost-effective basis. Additionally, this will also avoid investments in technologies that become obsolete and must be replaced.

While a significant number of electric utilities are working diligently to participate in this once-in-a-generation funding opportunity, as many utilities plan to invest funds from RDOF to offer fiber-to-the-home services at affordable prices, some challenges remain. For instance, RDOF rules should ensure that only proven broadband technologies can bid for these critical dollars. Questionable claims about the technical capabilities of certain broadband services and coverage in eligible areas for RDOF must be appropriately examined and scrutinized by Federal Communications Commission (FCC) staff; and other areas that are funded using ReConnect loans and/or other Federal and state broadband programs to provide 25/3 Mbps services should be eligible for RDOF dollars. Lastly, with the necessity for access to broadband being reinforced by the ongoing pandemic, the FCC and this Committee should work to ensure that the RDOF auction remains on schedule and funding is awarded on an accelerated basis where possible.

As a trend, an increasing number of investor-owned utilities (IOUs) are entering into creative partnerships with regional and local broadband providers, and even electric cooperatives, to bring high-speed Internet to unserved and underserved areas. Appalachian Power and Dominion Energy in Virginia, along with Southern Company in Alabama and Entergy in Mississippi, are excellent examples of these partnerships. Importantly, these electric utilities are installing fiber in rural areas

to help transform and upgrade the electric grid for operational needs, and to support the use of new smart grid technologies, while simultaneously making it economically feasible for other providers to offer retail broadband services in unserved areas. As this Committee continues to work through solutions to close the rural digital divide, UTC urges members to consider how investor-owned utilities, as well as electric cooperatives and public power utilities are partnering to provide broadband. Grid modernization and rural broadband efforts are complementary, and when possible, should not be compartmentalized in silos.

Perhaps most traditionally and obviously, utilities empower broadband by providing telecommunications carriers and cable television operators affordable access to utility poles. Utility poles are essential to delivering reliable and affordable electricity to everyone in the country. Many, if not all, of these poles carry cable, broadband, and other services. However, evidence suggests that reducing pole-attachment rates has no bearing on the deployment of rural broadband. Indeed, state governmental agencies have found no conclusive evidence linking lower pole fees to rural broadband expansion. The Virginia State Corporation Commission concluded in a 2011 report that, “[n]o persuasive evidence was submitted in this proceeding that proved lower pole-attachment rates would directly result in additional broadband deployment.”¹ Therefore, the Committee and the FCC should develop deregulatory approaches that encourage voluntary access to utility infrastructure by telecommunications carriers and cable television service operators, which will in turn accelerate broadband deployment.

UTC once again thanks the Committee for holding this important hearing and appreciates the opportunity to submit this statement. Ensuring that all Americans have access to affordable, reliable broadband is just as important today as electricity was for the growth of the Nation a century ago. Now as then, electric utilities are critical partners in doing so and stand ready to assist. We look forward to working with the Committee in ensuring that all Americans have access to robust, affordable and reliable broadband networks and services.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. ROGER WICKER TO
STEVEN K. BERRY

Question. There are active initiatives and programs aimed at keeping small businesses in operation during the COVID-19 pandemic. During this time, telecommunications carriers and broadband providers have volunteered to not disconnect critical voice and Internet services to these small businesses. As Congress examines continued broadband connectivity needs amid the pandemic, how can Congress best support telecommunications carriers and broadband providers that have volunteered to keep small businesses connected during this public health emergency?

Answer. CCA members have implemented several measures, including signing on to the Keep America Connected pledge or otherwise implementing policies to maintain connectivity. These policies have a material impact on the business operations of smaller carriers, including cash flow and long-term outstanding debt. Any further extensions of the pledge absent relief will further strain carriers, affecting operations, employee retention, and could lead to additional carriers exiting the marketplace, in some instances leaving consumers rural areas without a reliable service provider. Unfortunately, the financial strain of the coronavirus pandemic on top of previously existing challenges faced by competitive carriers has led to certain carriers shuttering their business permanently and exiting the market during this time.

CCA supports the Stay Connected Voucher Program, which would help address the concern of mounting consumer debt as nonpayment continues. The Program would assist and empower consumers while maintaining connectivity and ensure carriers receive some reimbursement for communications services that have been and continue to be provided.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. ROY BLUNT TO
STEVEN K. BERRY

Question. This Committee has been focused on getting telecommunications access to families and business that still lack modern access. However, due to COVID-19,

¹“Report on Electric Cooperative Pole Attachment Issues.” Commonwealth of Virginia State Corporation Commission, November 1, 2011. Link to text: <http://www.scc.virginia.gov/docketsearch/DOCS/2h%40m011.PDF>

I understand that many Americans are being presented with new challenges, including concerns of telecommunications affordability. Many others have struggled with telecom affordability for a long time, depending on where they live and how competitive their particular area is. According to Pew, about half of Americans consider COVID to be a threat to their finances. Which is why many sectors, including the telecommunications sector, have made historic obligations to maintain service for customers during this crisis period, irreverent of ability to pay.

Are there any proposals out there to assist families in Missouri and across the country with telecom affordability and adoption concerns through this public health emergency period, and beyond it?

Answer. While multiple proposals have been suggested to assist families in Missouri and across the country to ensure consumers maintain critical broadband connectivity, particularly as education, health, business, and other functions have moved online, CCA strongly supports the Stay Connected Voucher proposal. This proposal builds on the established verification and distribution channels created by Congress in the CARES Act to swiftly ensure that families, including those facing mounting debt as services have remain connected even in cases where payment has been delayed due to circumstances resulting from the pandemic, can receive assistance to meet obligations to remain connected.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JERRY MORAN TO
STEVEN K. BERRY

Question 1. While I certainly support more Federal resources dedicated to the deployment of broadband infrastructure, I think it is important for Congress to also gauge the current financial situation of the more than 700 broadband providers participating in the FCC's Keep Americans Connected Pledge.

As Congress focuses its attention on improving broadband connectivity, particularly with the high-demand for such services in this pandemic, how should Congress prioritize funding support to the broadband providers that are already shouldering a significant financial hardship by putting their customers first and participating in the pledge? Is there an estimate of total aggregated costs to date of all the waived late fees and uncollected payments to participating providers?

Answer. Until regular payments from consumers resume, it is challenging to aggregate the overall cost to CCA members. As one industry example, Verizon recently noted that last month 2.5 percent of their customers were unable to pay. These impacts could be more significant in high cost areas, as well as when additional unemployment benefits and programs like the Paycheck Protection Program expire this summer.

Carriers that have signed on to the Keep Americans Connected Pledge, as well as those who did not formally sign the pledge but have adopted other policies to maintain connectivity, are experiencing financial stress as economic challenges continue.

Congress should prioritize funding in a way that empowers consumers through a program like the Stay Connected Voucher proposal. This proposal builds on the established verification and distribution channels created by Congress in the CARES Act to swiftly ensure that families, including those facing mounting debt as services have remain connected even in cases where payment has been delayed due to circumstances resulting from the pandemic, can receive assistance to meet obligations to remain connected.

Question 2. In terms of legislative solutions, the witness testimonies included the "Stay Connected Voucher Program" and the Keeping Critical Connection Act. How would each of these proposals meet the needs of the participating providers? Can these two proposals in particular co-exist and complement each other?

Answer. These proposals are complimentary: the Stay Connected Voucher Program empowers consumers to pay their bills and remain connected, while the Keeping Critical Connections Act ensures that small business providers, oftentimes the only provider in their geographic area, are not forced out of business due to stresses from the current crisis. This relationship is similar to Congress's approach in the CARES Act, to both provide resources for small businesses as well as qualifying consumers.

Question 3. These past few weeks, I have been speaking with community and business leaders across the state of Kansas to discuss a number of Federal policy issues in response to the COVID-19 pandemic, and while broadband is brought up in almost every conversation, connectivity specific to telehealth and remote learning purposes are clear priorities to my constituents.

Congress took important steps aimed to address these issues in the Phase III package, including the \$200 million to the FCC for a telehealth pilot program and dedicated funding to the Elementary and Secondary School Emergency Relief Fund for “purchasing educational technology;” however, I am not sure that these steps are enough to address the immediacy of the needs at hand.

How should Congress prioritize specific-use types, like telehealth and remote learning, in its consideration of future Federal broadband resources? Do we envision these specific use types providing connections to the home of the patient and/or student?

Answer. This pandemic has produced a monumental shift in how Americans utilize broadband at home. Ensuring connectivity for students and patients should be a priority. Wireless broadband can immediately support additional services, like remote learning and telehealth, where coverage is available, compared to the long-term challenges of expanding fixed access. Policies supporting immediate connectivity, based on data-driven research, should be embraced. I am proud of CCA member carriers that are taking extraordinary steps to provide their neighbors with connectivity to support telehealth and remote learning.

Question 4. How do we envision Federal support focused on telehealth and remote learning initiatives interacting with more comprehensive broadband programs, like USDA’s ReConnect and USF’s High Cost Program, that are more generally focused on providing high-speed broadband to the home of rural Americans? Can they be effectively coordinated to prevent duplication of Federal spending?

Answer. Any support should be closely coordinated at the Federal level to prevent duplication of Federal spending and maximize the use of funds for the benefit of as many Americans in need as possible. This is dependent on reliable data regarding where Americans do and do not have sufficient coverage.

Question 5. If Congress were to establish new Federal broadband programs that interact with existing Federal programs, should they be part of the existing programs like USF or RUS or should they stand alone?

Answer. Any newly established programs should not upset the long-term viability and need for ongoing high cost Universal Service Fund support but can leverage lessons learned to appropriately target resources to preserve and expand service. This requires reliable coverage maps. Outside of USF or RUS, Congress should consider providing assistance directly to consumers through the distribution process established in the CARES Act like the Stay Connected Voucher program.

Question 6. As a member of the Senate Appropriations Committee, I agree with your testimony emphasizing the importance of Congress appropriately funding the Secure and Trusted Communications Networks Reimbursement Program [also known as the “Rip-and-Replace” Program] to remove network elements that are deemed to pose security risks and replace them with alternative equipment.

Separately, I am interested in identifying an appropriate role for Congress to support the software-based technology solutions in Open Radio Access Network (O-RAN) equipment. How can Congress support development of this type of innovative technology without inappropriately tipping the regulatory scales in the form of technology mandates?

Answer. ORAN presents exciting new opportunities, with the potential to disaggregate functionality to increase efficiency and reduce costs. I encourage further research and development to explore virtualized solutions. The potential for introducing American vendors into the ecosystem has tremendous benefits, but each layer must be sufficiently vetted for security, and policymakers should not mandate which technologies are used in wireless networks, but instead should encourage research into new, secure technologies to enhance customer choice, innovation, and cost savings. Congress can support further research and development to support U.S. leadership in this emerging space without unintentionally harming trusted network equipment providers, particularly as carriers are working to remove covered equipment from their networks. I agree that technology mandates regarding O-RAN equipment are not appropriate.

Question 7. Your testimonies made clear that availability of personal protective equipment (PPE) for your employees remains a critical issue for many of the companies you represent. I have had similar conversations with many businesses from other sectors in Kansas, and while I understand FEMA has been able to provide PPE to your member companies in some situations, what are your member companies doing to engage their own supply chains for such equipment?

Do your trade associations assist your member companies in navigating these increasingly complex supply chain concerns?

Answer. Wireless carriers were largely left on their own to navigate the PPE marketplace and disrupted supply chain, facing the same difficulties many Americans

and business sectors faced acquiring PPE. CCA was able to assist our carriers in acquiring cloth facial coverings from the Federal government leveraging our participation through the Communications Sector Coordinating Council.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SHELLEY MOORE CAPITO TO
STEVEN K. BERRY

Question 1. The Federal Communications Commission (FCC) recently released their 2020 Broadband Deployment Report which has shown progress has been made in connecting our communities across the country. However, the report is based off data that we all agree is deeply flawed and continues to show that the majority of the unserved are in rural areas.

What are your members doing to keep Americans connected, and specifically for rural communities? As states begin to reopen, what impacts are your members anticipating in the months to come?

Answer. CCA members worked hard to provide seamless service during the near-immediate shift of consumers primarily utilizing residence-based broadband facilities in March of 2020. As America begins to reopen, CCA members are preparing their employees and networks to meet the needs of their consumers. Employee safety is paramount, and a return to “normal” operations will require access to Personal Protective Equipment (PPE) and supplies as they return to offices and retail locations.

I commend the FCC for expediting Special Temporary Authority (STA) licenses for spectrum, which have proven extremely beneficial in helping carriers meet additional demands on their data, allowing them to immediately enhance capacity and coverage by deploying service using additional airwaves. I would encourage policymakers to look at innovative ways to make this spectrum available for competitive carriers on a long-term basis where appropriate, to continue meeting consumer demand.

CCA members have taken several steps to keep their customers connected, from maintaining service despite inability to pay to increasing data allotments with no additional charge to consumers during these challenging times. These efforts are at significant cost to rural providers and are not sustainable long-term without support from Congress.

Question 2. The Federal Communications Commission (FCC) announced their plans for moving forward with the establishment of the 5G Fund for Rural America (5G Fund). Their proposal would distribute up to \$9 billion through USF to support 5G connectivity in rural America. I understand the FCC has received various opinions and concerns about the proposal which have also been expressed today.

In your testimony, you recommend that the FCC implement the mobile provisions of the Broadband DATA Act. With those provisions implemented what do you expect that timeline will be?

Answer. Our members believe that an appropriately targeted data collection can be completed expeditiously, allowing the FCC to conduct an auction in 2021.

Question 3. I participated in an EDTalk with the WV Education Alliance which focused on expanding access to learning during the COVID-19 crisis. One of the topics that was discussed was the FCC’s waiving of the gift rule for the E-Rate program. This would allow schools and libraries to accept improved capacity or Wi-Fi hotspots from providers to support remote learning.

Have any of your members been able to take advantage of this waiver?

Answer. Waiving the gift rule for the E-Rate program is a commonsense reform that we hope will enhance connectivity for students across the Nation. CCA members are continuing work to determine how they can best assist the students and schools in their community, and any waiving of red tape facilitates increased access for carriers of all sizes.

Question 4. Have you encountered any challenges in providing distance learning during the pandemic? How are your members working with school and libraries, and other anchor institution, in deploying hotspots to help fill the gap in our rural communities?

Answer. CCA members have gone above and beyond to provide connectivity and adapt their services during the pandemic. For Example, when schools quickly shifted to online learning in Rutland, Vermont, CCA member Vermont Telephone Company (VTel) partnered with Ericsson to provide free high-speed Internet and Google Chrome books to a school district with 70 percent of students receiving free or reduced lunch. In less than ten days, VTel and Ericsson deployed and installed 4G/5G wireless radios and antennas in downtown Rutland and delivered wireless

modems and routers to homes to allow students to receive free broadband service immediately.

Other CCA members have taken steps to increase WiFi access for their customers, including additional WiFi hotspots and access in community centers and near carrier facilities.

Several other members have gone above and beyond to make sure that hotspots and hotspot capable devices are widely available, including to support distance learning.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TODD YOUNG TO
STEVEN K. BERRY

Question 1. Mr. Berry, what more can Congress do to close the so-called homework gap and ensure Hoosier students have broadband access for distance learning?

Answer. To close the homework gap, we must first know where students, families, and educational facilities lack connectivity. This requires a collection of reliable data to determine where broadband connectivity is, and isn't being provided. Congress must ensure the FCC implements the Broadband DATA act in the manner Congress intended.

Question 2. I've heard from a number of Hoosiers that flexibility with E-Rate funds would go a long way to connecting more students during the pandemic.

Mr. Berry, what flexibility should be made available? What authority does the FCC currently have to provide flexibility? What authority should Congress give to the FCC to provide more flexibility?

Answer. E-rate funds should be made available to provide service to students who are learning from home, not only to educational facilities. Devices like hotspots and hotspot-capable devices should be included in the program to help expand the program's reach. Congress can use lessons learned from temporary programs implemented to address issues regarding the pandemic to appropriately tailor FCC authority, including flexibility, on a more permanent basis based on what does and does not work.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RICHARD BLUMENTHAL TO
STEVEN K. BERRY

Question 1. Companies in the telecommunications industry differ in being able to shoulder the financial pressures of the pandemic. The voluntary pledges from carriers to keep Americans connected have played a meaningful role helping distressed families; however, these commitments and deferments of nonpayment come at a cost to companies. Clearly this burden falls more heavily on smaller carriers.

What programs, support, and other assistance is available to protect the competitive telecommunications market as these carriers are being asked to keep families and small businesses connected?

Answer. Currently, there are no programs, support, or other assistance available to competitive telecommunications carriers to offset costs incurred to keep families and small businesses connected. Absent Congressional action to address these issues, consumers could face extreme bill shock as deferred payments become due, and competitive carriers may struggle from reduced cash flow and potentially uncollectable debt. CCA supports the Stay Connected Voucher program to help keep Americans connected.

Question 2. We should remain vigilant toward protecting competition in the telecommunications market during this time. A pandemic and a period of financial hardship for competitive carriers should not pretext for incumbents and others to hike up prices or stifle competition.

Are you concerned about this pandemic lessening competition in the telecommunications market? If so, why? Have you seen any indication that competitive carriers will have trouble weathering current financial pressures?

Answer. Fortunately, we have not seen price increases from incumbent or competitive carriers as the industry has worked to maintain connectivity as usage patterns and locations have shifted. However, I remain concerned that the digital divide persists, both in terms of areas of the country without sufficient broadband service and in individual consumers' ability to afford broadband. More work must be done to preserve and expand wireless broadband services and to foster increased competition in the marketplace.

The financial strain of the coronavirus pandemic, on top of existing challenges faced by competitive carriers, has challenged competitive carriers with increased fi-

financial pressures, and unfortunately led to certain carriers shuttering their business permanently and exiting the market during this time.

Question 3. Is it fair to expect that incumbent carriers should not be increasing rates charged to competitors for services during the pandemic and its foreseeable aftermath?

Answer. I am not immediately aware of rate increases charged to competitors for access to backhaul or roaming services. We have seen carriers of all sizes introduce service plans and other benefits to assist consumers during these challenging times, even at great cost to their business.

Question 4. Aside from financial assistance, is there anything else we should be doing to protect competition in the telecommunications industry during this time?

Answer. I would be remiss to downplay the urgent need for Congress to consider financial assistance for carriers and consumers for extraordinary circumstances during these challenging times.

In addition to financial assistance, the use of Special Temporary Authority (STA) licenses to increase access to spectrum to meet increased demands on networks have proven extremely beneficial, with carriers both making spectrum available for other carriers, including competitors, as well as putting additional spectrum to use, in some cases within days. I encourage policymakers to look at innovative ways to make spectrum available for competitive carriers on a long-term basis where it will otherwise remain underutilized.

As we move towards a 5G world, access to spectrum, devices, roaming, and infrastructure deployment will remain key issues to protect and bolster competition in the wireless industry.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. ROGER WICKER TO
SHIRLEY BLOOMFIELD

Question 1. In October, the FCC is expected to begin the first phase of the Rural Digital Opportunity Fund auction. Some are advocating for the FCC to accelerate parts of this auction, such as by expediting when the FCC considers long-form applications and by removing census blocks where only one provider has committed to deploying gigabit fiber-to-the-premises technology. Is this something the FCC should consider and is it feasible?

Answer. NTCA has long supported policies that enable the deployment and sustainability of future-proof networks in rural areas, with the most efficient approach being to “build it right” the first time and then scale capacity as needed to meet increasing consumer demand. We greatly appreciate the interest in seeking to promote such outcomes, and we look forward to working with members of Congress, the FCC, and stakeholders to continue the conversation about how best to ensure that the RDOF auction proceeds in a timely and most effective manner and ultimately delivers on a shared vision of universal service.

Question 2. There are active initiatives and programs aimed at keeping small businesses in operation during the COVID-19 pandemic. During this time, telecommunications carriers and broadband providers have volunteered to not disconnect critical voice and Internet services to these small businesses. As Congress examines continued broadband connectivity needs amid the pandemic, how can Congress best support telecommunications carriers and broadband providers that have volunteered to keep small businesses connected during this public health emergency?

Answer. It is critically important that Americans continue to have access to broadband services during this pandemic and any future emergencies. NTCA and its members understand this, which is exemplified by the fact that more than half of all providers who have taken Chairman Pai’s Keep Americans Connected pledge are NTCA members.

However, for small, rural providers to keep the Internet lights on for our customers, they must have the ability to keep their own lights on. With some NTCA members reporting significant losses in revenue due to “uncollectibles” arising out of customer failures to pay since the President declared a national emergency on March 13, the ability for small, rural providers to maintain critical broadband services is concerning.

To alleviate such financial pressures on these small businesses, and to allow them to sustain voluntary efforts such as those contemplated by the FCC Chairman’s pledge, NTCA encourages Congress to pass the Keeping Critical Connections Act (KCCA) or something substantially similar to it. The KCCA would create a temporary disaster program to provide critical support to smaller providers that ensure

that students and low-income individuals maintain access to broadband services from the safety of their own homes.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JERRY MORAN TO
SHIRLEY BLOOMFIELD

Question 1. While I certainly support more Federal resources dedicated to the deployment of broadband infrastructure, I think it is important for Congress to also gauge the current financial situation of the more than 700 broadband providers participating in the FCC's Keep Americans Connected Pledge.

As Congress focuses its attention on improving broadband connectivity, particularly with the high-demand for such services in this pandemic, how should Congress prioritize funding support to the broadband providers that are already shouldering a significant financial hardship by putting their customers first and participating in the pledge? Is there an estimate of total aggregated costs to date of all the waived late fees and uncollected payments to participating providers?

Answer. As of mid-May nearly 60 percent of small, rural broadband providers reported that customer account uncollectibles were up by as much as 10 percent, and an additional 15 percent reported that uncollectible amounts were up between 11 percent and 20 percent.

Small broadband providers that serve deeply rural areas operate on very narrow margins and should therefore be prioritized for support to ensure that no customer loses essential broadband access.

If substantial waves of customers are unable to pay for services over the coming months, smaller broadband providers in particular will face serious challenges in keeping those Americans connected, paying their own employees, and sustaining their operations. This would put at risk the connectivity that is so critical for millions of Americans to work and learn from home during this crisis.

At the same time, the financial hardship suffered by small providers during the pandemic could also result in decreased ability to upgrade networks or participate in new Federal broadband programs such as the FCC's Rural Digital Opportunity Fund.

Question 2. In terms of legislative solutions, the witness testimonies included the "Stay Connected Voucher Program" and the Keeping Critical Connection Act. How would each of these proposals meet the needs of the participating providers? Can these two proposals in particular co-exist and complement each other?

Answer. The Keeping Critical Connections Act (S. 3569/H.R. 6394) is bipartisan, narrowly drawn legislation to help broadband providers keep customers connected at a time when a reliable broadband connection is more essential than ever. The bill would direct the FCC to create a temporary emergency fund for reimbursing small broadband providers only when an operator provides households with students with free or discounted broadband or free upgrades to meet distance learning needs; or keeps low-income customers connected who cannot pay their broadband bill due to the economic impact of the COVID-19 national emergency.

Other suggestions such as the Stay Connected Voucher could also be helpful, although the mechanics of how support should be provided to low-income consumers remain a topic of further discussion to ensure that such support is distributed as efficiently as possible. However, we ask Congress to keep in mind that the price for broadband service in rural areas oftentimes exceeds the \$50 voucher or other emergency benefit suggested by some. The Keeping Critical Connections Act would serve in this case as a necessary complement to the voucher program—covering the rest of the cost for the full broadband service.

NTCA is open to all suggestions by Congress and industry to address the concerns raised during the recent hearing, and we believe the various proposals could complement the legislation introduced by Sens. Amy Klobuchar and Kevin Cramer.

Question 3. These past few weeks, I have been speaking with community and business leaders across the state of Kansas to discuss a number of Federal policy issues in response to the COVID-19 pandemic, and while broadband is brought up in almost every conversation, connectivity specific to telehealth and remote learning purposes are clear priorities to my constituents. Congress took important steps aimed to address these issues in the Phase III package, including the \$200 million to the FCC for a telehealth pilot program and dedicated funding to the Elementary and Secondary School Emergency Relief Fund for "purchasing educational technology;" however, I am not sure that these steps are enough to address the immediacy of the needs at hand.

How should Congress prioritize specific-use types, like telehealth and remote learning, in its consideration of future Federal broadband resources? Do we envision

these specific use types providing connections to the home of the patient and/or student?

Answer. Recent weeks have demonstrated the importance of telehealth and distance education. These services are not only useful during times of crisis. Rather, the benefits enabled by telehealth and distance education can have even greater impact when combined with traditional in-person patient/physician encounters and in-school learning. Stated differently, to not take advantage of these technologies in the future when we are not facing a national emergency would be to forego the enormous advantages they afford. Areas without access, and potential users without the ability to connect, will be left behind.

Accordingly, policies must support networks that can reach the homes, schools and offices of all students and patient-users. Policies that focus insufficiently on home connections and instead score as “accomplished” those communities where only anchor institutions are connected will deprive residents of the opportunities to access the full measure of broadband-enabled benefits. Broadband connections at schools are critical to enable rich educational resources, but those opportunities must not end with the school day. The “homework gap” is called the “homework gap” for a reason—because it describes the chasm between students who have access at home to continue their learning when the school day ends, contrasted against those who do. Similarly, telemedicine is useful when it enables physicians to consult with other experts—but it is necessary, as well, to enable the infirm, the elderly, and in these times at-risk patients to interact with physicians from the safety of their home. And, certainly in rural areas where lack of specialists and distance from medical facilities is prevalent, telehealth connectivity can enable patients with chronic conditions to maintain continuing care that facilitates better health outcomes and, ultimately, lower health care costs.

In summary, policies should support continuing deployment (including ongoing maintenance and support) of broadband to homes throughout a community, and those policies should reflect the need for users in those homes to access and engage telehealth and remote learning resources. Telehealth does not stop at the doctor’s office door, nor does remote learning hinge upon connectivity at the schoolhouse alone.

Question 4. How do we envision Federal support focused on telehealth and remote learning initiatives interacting with more comprehensive broadband programs, like USDA’s ReConnect and USF’s High Cost Program, that are more generally focused on providing high-speed broadband to the home of rural Americans? Can they be effectively coordinated to prevent duplication of Federal spending?

Answer. Interagency and inter-program coordination is necessary to achieve the highest return on Federally-enabled investments. NTCA has consistently championed the promise of building networks for the future, rather than deploying facilities that meet today’s needs without contemplating the future. Programs that aim to serve specific needs—such as telehealth and remote learning—are incredibly valuable, but they can and must be carefully coordinated even within a given agency and across agencies to promote coherence and cohesion with other policies. For example, the FCC can and should ensure that the high-cost and E-Rate programs are working in concert to achieve availability and affordability goals rather than racing to deploy duplicative connections to certain locations within a given community. Similarly, the FCC and RUS must coordinate with one another to ensure that their programs enable deployment and sustainability of the best possible networks, rather than enabling the construction of two government-supported networks that will compete with one another in an area where a business case for private investment in even just one network was lacking. This can indeed be done, but a consistent approach and mindfulness to the need to do so is essential.

Question 5. If Congress were to establish new Federal broadband programs that interact with existing Federal programs, should they be part of the existing programs like USF or RUS or should they stand alone?

Answer. Congress should look to leverage and build upon the success of existing programs at the FCC and RUS that have support the deployment and ongoing sustainability of robust, high-capacity networks in rural areas throughout the Nation. Where opportunities to develop targeted solutions for education, health care or other needs are identified, the accomplishments of existing programs can be leveraged to support “value adding” supplements that enable additional gains for those other needs. This coordinated approach will make the most of existing programs while enabling focused solutions that increase usefulness without the risk of waste or duplication.

Question 6. Your testimonies made clear that availability of personal protective equipment (PPE) for your employees remains a critical issue for many of the compa-

nies you represent. I have had similar conversations with many businesses from other sectors in Kansas, and while I understand FEMA has been able to provide PPE to your member companies in some situations, what are your member companies doing to engage their own supply chains for such equipment?

Do your trade associations assist your member companies in navigating these increasingly complex supply chain concerns?

Answer. NTCA members are in contact with local, state, and Federal authorities regarding access to PPE. Many are securing PPE through private companies—some through local lumberyards or other local sources and others through nationwide vendors. At the same time, other providers, who often reside in states where PPE supplies are in greater demand, continue to operate on limited supplies and continue to search for a steady supply of equipment such as N95 masks and contactless thermometers.

From the association level, NTCA engages with the government and industry on all COVID-19 related issues and responses and shares relevant information with members directly and on our website. NTCA has also worked closely with FEMA to secure cloth masks, which we are shipping directly to our members right now.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SHELLEY MOORE CAPITO TO SHIRLEY BLOOMFIELD

Question 1. The Federal Communications Commission (FCC) recently released their 2020 Broadband Deployment Report which has shown progress has been made in connecting our communities across the country. However, the report is based off data that we all agree is deeply flawed and continues to show that the majority of the unserved are in rural areas.

What are your members doing to keep Americans connected, and specifically for rural communities? As states begin to reopen, what impacts are your members anticipating in the months to come?

Answer. I have never been prouder of NTCA's membership than I have over the past several months. As "hometown providers" based largely in the areas they serve, their community commitment in the face of the coronavirus pandemic has been heartening. We estimate that more than half of the signers of FCC Chairman Pai's pledge to "Keep Americans Connected" are NTCA members—and, in so many cases because of their hometown presence, our members have gone above and beyond the terms of the pledge to help their families, friends, and neighbors.

In West Virginia specifically, Hardy OneNet of Lost River has temporarily increased its broadband speeds with no additional charge for residential customers.

Also, as mentioned in my testimony, the following are just a few other examples of NTCA members' efforts to get and keep homes, schools, libraries, and medical facilities connected in rural America:

1. Big Bend Telephone (BBT) (Alpine, Texas): BBT Engineering developed a solution to extend school districts' networks to students' homes in a scaled back temporary installation package that provides synchronous connectivity and basic home Wi-Fi. The student experience completely mimics the classroom without actually being in the classroom. All of this has been provided at no cost to the school district or the students' families.
2. Rainbow Communications (Everest, Kan.): Rainbow Communications has installed 30 community Wi-Fi hot spots throughout its service area that provide free Internet access to students. The company also increased the Internet plans at the local libraries to accommodate higher usage demand and has worked with school districts to identify and promote improved access for students in need at home.
3. NineStar Connect (Greenfield, Ind.): NineStar Connect connected a COVID-19 triage clinic in just three days—a process which usually takes weeks. NineStar also partnered with the hospital to offer customers e-visits to serve more people and reduce risk of infection.
4. Consolidated Telephone Company (CTC) (Brainerd, Minn.): To maintain proper social distancing, CTC created "Broadband in a Box" where a CTC technician will complete pre-installation tasks outside of the premises and then leave a self-installation kit on the customer's doorstep to allow for completion of the activation work. The standardized kit includes step-by-step instructions on how to complete installation and other helpful resources.
5. Scott County Telephone Cooperative (SCTC) (Gate City, Va.): SCTC is upgrading broadband connections for any customer with students and/or teachers in the home. The company is also upgrading any displaced workers for free. Addi-

tionally, SCTC set up Wi-Fi at 12 locations to provide free access for school age kids, and available to use by all.

Question 2. The FCC is preparing for the Rural Digital Opportunity Fund (RDOF) Phase 1 Auction and is currently in the pre-auction process with bidding expected to begin in October. I believe this is great news for rural America and West Virginia. According to the preliminary estimates, nearly 128,000 homes and businesses in West Virginia, or 230,000 individuals, would be eligible for the RDOF support. I know Mrs. Bloomfield you mentioned in your testimony that 90 percent of your members remain focused on network deployment plans for the year. In light of the pandemic, are your companies prepared and planning on applying?

Answer. Yes, our members are currently reviewing the RDOF bidding locations. Now more than ever, with so many needing access to the digital world, we cannot take our foot off the accelerator with respect to broadband deployment. Subject to ensuring that the final auction procedures do not hinder bids placed by proven technologies under the auspices of a “technology neutrality” policy that allows bids by unproven technologies at higher performance levels, we expect that—just as with every other universal service initiative to date—our members will engage and be involved in trying to reach neighboring communities that have been neglected too long by other providers.

Question 3. With Americans having to stay home during the pandemic, the security of our communications networks is even more critical. What are some of the initiatives your members are doing to keep their networks secure?

Answer. Cyberattacks are now so commonplace that all providers must have access to threat indicators to protect their network and customers. That is why NTCA—The Rural Broadband Association created CyberShare—a new cyberthreat information sharing program created especially for small broadband companies. CyberShare communicates critical information among local and regional telecommunications operators.

Based on a pilot program administered by NTCA in 2019 with funding from the National Institute of Hometown Security and Department of Homeland Security, CyberShare provides high-quality indicators of cyberattacks as well as actionable threat information. Through CyberShare, small providers have access to a trusted community that allows for collaboration to improve security posture—even if a company lacks the resources to hire a dedicated staff member with security clearance.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RICHARD BLUMENTHAL TO SHIRLEY BLOOMFIELD

Question 1. Companies in the telecommunications industry differ in being able to shoulder the financial pressures of the pandemic. The voluntary pledges from carriers to keep Americans connected have played a meaningful role helping distressed families; however, these commitments and deferments of nonpayment come at a cost to companies. Clearly this burden falls more heavily on smaller carriers.

What programs, support, and other assistance is available to protect the competitive telecommunications market as these carriers are being asked to keep families and small businesses connected?

Answer. NTCA—The Rural Broadband Association represents nearly 850 cooperatives and small businesses deploying broadband infrastructure in rural areas across 45 states. To continue delivering critical connectivity to more than a third of the Nation’s landmass, these smaller rural operators must be able to pay suppliers for things like routers and fiber. Our members are seeing unprecedented demand for new installations, and this takes not only innovation but also the costly network supplies needed to put those connections in place. NTCA members also need to pay larger national and regional operators for the connections between the very rural markets they serve and Internet points of presence around the country—these are costs that only grow larger in the face of increased network demands. Finally, and most importantly, they must pay their own employees—the front-line essential workers who are being sent out despite the risks to make sure that those without voice and broadband services or those in need of upgraded services get such access. As with most small businesses, the Paycheck Protection Program is available to address keeping employees paid. However, there is no program to address the cost of unpaid bills—the revenue from which goes into sustaining service.

NTCA therefore supports the Keeping Critical Connections Act (S. 3569/H.R. 6394), which represents bipartisan, narrowly drawn legislation to help broadband providers keep customers connected at a time when a reliable broadband connection is more essential than ever. The bill would direct the FCC to create a

temporary emergency fund for reimbursing small broadband providers of all kinds—but only when an operator provides households with students with free or discounted broadband or free upgrades to meet distance learning needs; or keeps low-income customers connected who cannot pay their broadband bill due to the economic impact of the COVID-19 national emergency.

Question 2. We should remain vigilant toward protecting competition in the telecommunications market during this time. A pandemic and a period of financial hardship for competitive carriers should not pretext for incumbents and others to hike up prices or stifle competition.

Are you concerned about this pandemic lessening competition in the telecommunications market? If so, why? Have you seen any indication that competitive carriers will have trouble weathering current financial pressures?

Answer. One important factor in the Federal Communications Commission’s understanding of competition is the “market failure” nature of many rural areas. Specifically, in many rural areas including those served by NTCA members, “reasonably comparable” end-user rates are not sufficient, standing alone, to cover the costs of paying loans that make broadband networks possible in the first instance and to maintain and upgrade such networks over the long-term to keep up with consumers’ needs. It is only via the sufficient and predictable support made available through the High-Cost Universal Service Fund Program that any operator can make a “business case” to buildout and maintain high-quality communications networks offering services reasonably comparable in terms of quality and price as compared to those found in urban areas.

Our small providers often operate on thin margins. While NTCA members continue to do their very best to keep their friends and neighbors connected, the ability to sustain these efforts over time is jeopardized by the devastating economic impacts of COVID-19. Providers are doing all they can to keep the Internet lights on for all, but in order to do that, they need to keep their own lights on as well.

NTCA members report that customers are increasingly raising concerns about an inability to pay for their communications services in recent weeks; a recent survey of our members found that as of mid-May nearly 60 percent of small, rural broadband providers reported that customer account uncollectibles were up by as much as 10 percent, and an additional 15 percent reported that uncollectible amounts were up between 11 percent and 20 percent. To put such impacts into perspective, we heard from one rural cooperative who is nearly \$60,000 in the red already in keeping voice and broadband service on for customers who have become unable to pay these past several weeks.

Question 3. Is it fair to expect that incumbent carriers should not be increasing rates charged to competitors for services during the pandemic and its foreseeable aftermath?

Answer. NTCA members, who are small broadband providers typically locally owned and operated, are not planning to use the pandemic to increase rates and charges—they continue to be regulated in many aspects of their state and Federal operations, and would need to seek regulatory approval to do so. The bigger concern, however, is whether these smaller providers can even sustain the services they have in place now. We estimate that more than half of the signers of FCC Chairman Pai’s pledge to “Keep Americans Connected” are NTCA members—and, in so many cases because of their hometown presence, our members have gone above and beyond the terms of the pledge to help their families, friends, and neighbors. In the end, whether by pledge or by DNA, because they so often live in the small towns and very rural areas they serve, NTCA members are simply focused on doing the right thing by their customers and communities.

Conversely, NTCA’s rural incumbent providers must continue to pay larger national and regional operators for the connections between the very rural markets they serve and the middle mile Internet backbone and transit capacity during the pandemic and in its foreseeable aftermath. These are costs that only grow larger in the face of increased network demands.

Question 4. Aside from financial assistance, is there anything else we should be doing to protect competition in the telecommunications industry during this time?

Answer. It is important to ensure that the FCC’s Rural Digital Opportunity Fund (RDOF) delivers on its promises to enable the delivery of robust and reliable voice and broadband services over wide swaths of rural America for decades to come. Given that the winners in the RDOF auction will essentially become the new “providers of last resort” in areas served for decades by price cap providers, this auction is critically important to provide broadband comparable to what is available in urban areas and generate competition.

The FCC voted to adopt final rules for phase one of the RDOF reverse auction that would allow certain unproven technologies to seek to bid in the highest tiers of the auction. We look forward to further review of the final auction procedures that the FCC develops, and we hope that they will promote the integrity and effectiveness of the auction. We are encouraged by Chairman Pai's reference to 'careful case-by-case review' of whether certain technologies without a meaningful track record of performance at high levels can indeed deliver on such promises, as such review of detailed information will be essential to ensure that rural Americans will realize the benefit of services being promised and that RDOF dollars are well-spent. Rural America no longer has the time or patience for empty promises.

Also, many rural areas are "market failure" areas, where reasonably comparable consumer rates will not cover the costs of repaying loans taken out to build networks and the costs of maintaining networks once built. NTCA therefore welcomes a renewed conversation now not only on how we get broadband where it is not, but also how we keep broadband where it already is—sustaining high-quality voice and broadband services at affordable rates for the long-term benefit of rural consumers and communities. One part of that conversation is to ensure the Universal Service Fund contribution base is modernized to better reflect the broadband services it supports.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. KYRSTEN SINEMA TO
SHIRLEY BLOOMFIELD

According to the FCC, only 65 percent of Americans living in rural areas have access to broadband. In March 2020, the Broadband DATA Act to improve and verify broadband mapping became law.

We still do not have updated coverage maps, which slows the distribution of additional funding to the rural areas that need it?

Question 1. Do you support using the FCC's Rural Digital Opportunity Fund rather than developing a new proposal?

Answer. The FCC's Rural Digital Opportunity Fund (RDOF) represents the next era of support for broadband deployment under the High-Cost Universal Service Fund Program. RDOF, if executed properly, promises to enable the delivery of robust and reliable voice and broadband services over wide swaths of rural America for decades to come. Given that the winners in the RDOF auction will essentially become the new "providers of last resort" in areas served for decades by price cap providers, this auction is critically important to provide those consumers with broadband comparable to what is available in urban areas and generate competition.

Current circumstances highlight how important such connectivity is for Americans, as it has become clear that a critical means of allowing Americans to work and learn from home using Virtual Private Networks and videoconferencing is latency-sensitive and bandwidth-intensive. If networks are built that only incrementally improve upon what the larger operators make available now, rural consumers might get a brief benefit only to find in a few years that they are once again falling behind the rest of the country. RDOF prioritizes stronger networks, which should go a long way toward fulfilling the mission of universal service both now and well into the future.

Question 2. How do you recommend we address the lack of quality maps prior to spending the new funding?

Answer. The first phase of RDOF will flow only to areas that are wholly unserved—these are areas where the maps are not wrong, because no one claims to serve there. By contrast, the FCC has specifically said they will hold back on sending any funds to places where the maps are in doubt, and funds for those areas will flow only after the maps are fixed. We believe this careful sequencing helps to address the legitimate concerns that have been raised about mapping while getting better service to areas where there is no dispute it is needed right now.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. AMY KLOBUCHAR TO
GENE KIMMELMAN

Question 1. At Wednesday's hearing, we discussed how millions of Americans who are newly eligible for the Supplemental Nutrition Assistance Program or Medicaid due to job losses or reductions in income during the pandemic are also eligible for the Lifeline program that helps low-income Americans obtain Internet services—but are unaware that they can receive this assistance.

Do you believe that we need Federal guidelines to ensure that low-income Americans are informed about existing resources to help them connect to the internet, and what key factors should be included in any such guidelines?

Answer. Broadband is essential for nearly every facet of daily life, yet Lifeline is the only Federal program aimed at ensuring that broadband access is affordable. Even before the pandemic caused millions of Americans to lose their jobs, only about 40 percent of households that were eligible for the Lifeline program subscribed, due in part to individuals not knowing that they are eligible. Federal agencies must ensure that eligible individuals are given notice of their eligibility for this program and guidelines are one way of doing this. Guidelines should address: (1) how Federal agencies administering benefits programs that make households automatically eligible for Lifeline benefits (like the Supplemental Nutrition Assistance Program administered by the U.S. Department of Agriculture) can work with each other and the Federal Communications Commission to notify eligible households of their lifeline eligibility; (2) how Federal agencies can also coordinate with state and local authorities, as well as organizations supporting low-income individuals; and (3) how eligible households can enroll in the Lifeline program through clear and simple explanations in multiple languages. These explanations should be given to eligible households.

Question 2. Reports have highlighted the challenges that many students of color face in accessing the Internet at home. At the hearing, we also discussed my bill with Senators Hirono, Peters, and Rosen to help ensure that college students with financial need can access Internet services and equipment during the pandemic, which includes dedicated funding for students at minority-serving institutions.

Why is addressing these disparities critical to closing the digital divide, particularly during the pandemic, and what risks are we facing in the absence of action to promote greater access to opportunities provided by the internet?

Answer. Individuals without access to postsecondary education are less likely to earn a living wage throughout the course of their lives. Ensuring that individuals can complete their postsecondary education is key to improving our Nation's economy. However, the pandemic has forced most colleges to move classes online, and in many cases, close their facilities that provide Internet to students. At the same time, minorities are less likely to have access to broadband at home. According to the Pew Research Center, only 66 percent of African Americans and 61 percent of Hispanics report having broadband at home. Thus, it can be more difficult for these students to complete schooling without special help accessing the internet.

Without action to help postsecondary students, and anyone without access to broadband, our Nation will never close the digital divide. That could mean that our country is split into the haves, and the have-nots. Millions of people without Internet access will be unable to participate in nearly every facet of daily life, including accessing online education, working from home, receiving virtual medical care, connecting with friends and family, or civically engaging. A key reason that many Americans don't have access to broadband at home is affordability. If we don't take action to make broadband more affordable, we will be unable to promote equal access to the opportunities provided by broadband.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RICHARD BLUMENTHAL TO
GENE KIMMELMAN

Question 1. Companies in the telecommunications industry differ in being able to shoulder the financial pressures of the pandemic. The voluntary pledges from carriers to keep Americans connected have played a meaningful role helping distressed families; however, these commitments and deferments of nonpayment come at a cost to companies. Clearly this burden falls more heavily on smaller carriers.

What programs, support, and other assistance is available to protect the competitive telecommunications market as these carriers are being asked to keep families and small businesses connected?

Answer. Ensuring a competitive broadband marketplace is a key way to ensure that broadband is affordable for all Americans. That is why our Nation must ensure that small carriers are able to weather this storm and continue to provide service after this crisis has ended. At the same time, it is incredibly important that we keep families connected during this COVID-19 crisis. After all, the Internet is essential for all facets of life while staying at home. That is why the FCC has asked carriers to adhere to the Keep Americans Connected pledge throughout the summer—this pledge would preclude carriers from shutting off service to those who can't pay their bills because of the pandemic. Currently, there is relatively little assistance available for small carriers. Some smaller carriers, as small businesses, are eligible for

Paycheck Protection Program loans, which can help keep their businesses afloat during the COVID-19 pandemic. There is also proposed legislation, the Keeping Critical Connections Act (S. 3569), that would reimburse small Internet providers for offering discounted service to needy students, or for maintaining service to households that are unable to pay their bills because of the crisis.

Question 2. We should remain vigilant toward protecting competition in the telecommunications market during this time. A pandemic and a period of financial hardship for competitive carriers should not pretext for incumbents and others to hike up prices or stifle competition.

Are you concerned about this pandemic lessening competition in the telecommunications market? If so, why? Have you seen any indication that competitive carriers will have trouble weathering current financial pressures?

Answer. Yes, I am very concerned about a less competitive marketplace after this pandemic ends. Smaller carriers have less money on hand to keep struggling customers connected without payment, and there are many reports of smaller carriers worrying about being able to stay afloat through the COVID-19 pandemic. We must support the ability of these carriers to weather the current storm so that they can continue to serve their customers and provide competition in the telecommunications marketplace. Many competitive carriers offer fiber in communities that larger carriers won't serve because these areas are not profitable enough (Comments of Incompas and the Northwest Telecommunications Assn, WC Docket No. 19-308, Feb. 5 2020). In other areas, these providers offer consumers a competitive option with lower prices and/or better customer service. If these carriers go out of business, then consumers will be left with little or no choice in broadband service.

Question 3. Is it fair to expect that incumbent carriers should not be increasing rates charged to competitors for services during the pandemic and its foreseeable aftermath?

Answer. Many competitive providers rely upon incumbent providers for access to infrastructure. By raising rates on the competition during a pandemic, incumbent carriers may speed up the dissolution of these businesses. That could leave many Americans without competitive options, or without access to broadband altogether, and is not acceptable. This could be exacerbated in the long term if the Federal Communications Commission moves forward with its Unbundled Network Elements proceeding. Evidence shows that precluding competitive providers from accessing unbundled network elements would prevent them from entering into new markets, leaving consumers with little or no choice in providers, and harm the deployment of competitive fiber networks.

If telecommunications were regulated as a Title II service, the Federal Communications Commission could hold carriers to charging just enough to get a "reasonable rate of return" (47 U.S.C. 201(b)). Without this safeguard, incumbents may try to make up the shortfall in profits from customers unable to pay their bills by increasing rental fees for infrastructure from competitive carriers. Currently, incumbent carriers are not prevented from increasing rates either by competition or by regulation—and consequently, may freely price out existing competition.

Question 4. Aside from financial assistance, is there anything else we should be doing to protect competition in the telecommunications industry during this time?

Answer. Promoting competition is about more than providing financial assistance during the COVID-19 crisis. It's about using Federal funds to promote competition from the get-go. The government should direct more funding towards open-access infrastructure, which can be used by incumbent and competitive providers. In addition, by directing funding to community broadband projects, Congress can create competition where there is none. This will ensure more choice for consumers.

In addition, Congress should also direct the FCC to prohibit all types of exclusive agreements between landlords and providers because they unjustly limit consumer choice. For example, landlords should not be able to enter into revenue-sharing agreements with broadband providers because such agreements incentivize the owners to allow only one communications provider to service their tenants.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. KYRSTEN SINEMA TO
GENE KIMMELMAN

Question. Arizonans across the state rely on local libraries for vital services during this crisis. Libraries support Arizonans with distance learning, teleworking, and helping vulnerable populations access necessities like food and health information.

In Arizona, some libraries have added outside antennas and boosted their Wi-Fi so residents can park in the library parking lots and access free Wi-Fi hotspots.

How can Congress further the work of libraries during this time?

Answer. Many without access to broadband at home rely upon libraries to connect, and Congress should promote policies that enable and promote libraries to serve their communities. The FCC has allowed schools and libraries to offer E-Rate funded Wi-Fi networks to patrons on the premises while the library is closed during the pandemic. However, it is often not practical, or even possible, for library patrons to sit in a parking lot to take virtual classes, work remotely, or receive virtual medical care. Congress must do more.

The first thing that Congress can do to further the work of libraries during the pandemic is to pass the Emergency Educational Connections Act of 2020 (S. 3690), which will enable library patrons without access to broadband to connect at home through the use of Wi-Fi hotspots, modems and/or routers. Congress can ensure more reliable connectivity by modifying the E-Rate program to allow schools and libraries to use their E-Rate funded connectivity to provide backhaul to community members throughout the pandemic, and ideally into the long-term. Additionally, Congress could promote connectivity on tribal lands by expanding the entities on tribal lands that are eligible to receive E-Rate funding because they function like a library. Congress should also continue to fund digital equity initiatives, many of which are spearheaded by libraries. These programs ensure that everyone has the skills and devices they need to access broadband.

Furthermore, Congress should adopt policies that ensure that it is as easy for libraries to provide patrons with access to books and other materials digitally as it is with physical copies. When libraries own copies of physical books, they can lend them freely, but e-books and other materials are often subject to licensing restrictions that make them much more costly and limited than print books ever were. While many libraries have introduced “controlled digital lending” programs to lend a digital copy of a book in place of a print book, Congress can do more to enhance the ability of libraries to provide their patrons with access to books and other materials in the digital age.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. ROGER WICKER TO
JONATHAN SPALTER

Question. In October, the FCC is expected to begin the first phase of the Rural Digital Opportunity Fund auction. Some are advocating for the FCC to accelerate parts of this auction, such as by expediting when the FCC considers long-form applications and by removing census blocks where only one provider has committed to deploying gigabit fiber-to-the-premises technology. Is this something the FCC should consider and is it feasible?

Answer. The FCC should not consider expediting parts of the Rural Digital Opportunity Fund auction to advantage one segment of potential bidders. While our members share your commitment for getting the Rural Digital Opportunity Fund implemented, it is imperative that the FCC stick with the original October RDOF auction schedule for ALL bidders, which in turn will allow it to make millions of locations available for bid, and ultimately served by broadband. The FCC still has very important work to do between now and October to ensure that the auction is a success; adding in an expedited phase for the benefit of only a limited number of potential bidders threatens the greater success of the auction, and may serve only to delay it.

Before the auction can begin the FCC must resolve challenges to the eligible areas and publish the final list of eligible areas; allow time for all bidders to devise their bidding strategy against the final set of eligible areas; establish a date and process for short form applications, review the applications, allow for corrections where deficient; and complete a mock auction to allow for a smooth and successful auction. The potential harms from the significant delay to the rest of the Phase I auction, and the millions of Americans who will be involved in that, far outweigh the limited benefits of accelerating the program for a select few.

In addition to these procedural challenges, removing certain census blocks from the RDOF auction will result in many areas not being subject to the competitive pressures of a reserve auction. There is no doubt that accelerating the process means that some providers who would be ready to bid in October as planned will not have that opportunity. This means taxpayers are on the hook for more money per location than would have been necessary and it means less money—millions and potentially billions—is available to serve additional locations that taxpayers will be asked to pay for later.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JOHN THUNE TO
JONATHAN SPALTER

Question. Most, if not all, of your companies have committed to the FCC's broadband pledge. Why do you think this pledge should remain voluntary and not be codified?

Answer. USTelecom members are committed to meeting the broadband needs of the communities and enterprises they serve. Our companies were among the first to commit to maintaining connectivity for customers facing financial hardships caused by the national health emergency and will strive to meet the broadband needs of all their customers going forward. With that said, we firmly believe that the pledge should remain voluntary. Codifying the pledge would put unnecessary constraints on the very sector that is keeping our economy going, and limit our members' ability to have flexibility to work directly with their customers. In today's highly competitive broadband market, our members have every incentive to work with their customers to retain them. Codifying the pledge is an unnecessary burden at a time when carriers are responding not only to the COVID-19 pandemic, but also to the growing demands our networks face as more of our economy moves online.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. ROY BLUNT TO
JONATHAN SPALTER

Question 1. The broadband funding being provided through CARES and other potential legislation would be on top of funding already provided through the FCC's universal service programs, the RUS ReConnect program, and other state programs.

How can we ensure that this funding is coordinated so that it goes to places that need it most instead of duplicating or overbuilding other efforts?

Answer. First, Congress can start by funding the Broadband DATA Act, which the President signed into law earlier this year. While the Act calls on the FCC to develop a targeted national map of broadband availability, the bill did not provide any source of funding to do so. Detailed, targeted maps provide policymakers and regulators a clear picture on where to direct limited broadband funding, putting Federal dollars to their most efficient use. Second, all Federal Government entities, and, to the extent possible, state governments, should use the map to direct and influence policy so there is one consistent tool for ensuring all government funding is coordinated, eliminating overbuilding and closing the digital divide.

Question 2. Back in January, I wrote to FCC Chairman Pai expressing concern about the Letter of Credit issue being imposed by the FCC for all Rural Digital Opportunity Fund auction winners.

In light of the COVID-19 crisis and access to capital drying up, can you provide us an update on where things stand with the Letter of Credit requirement?

Answer. First, thank you, Senator Blunt, for continuing to follow up on this important issue along with so many of your colleagues in the Senate. The Letter of Credit requirement is an impediment for every broadband provider interested in participating in the RDOF. We are happy that the FCC modified the Letter of Credit requirement in its final rules, but as capital markets continue to dry up during the COVID-19 crisis, the FCC should consider providing further modifications to ensure the RDOF auction is a success.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JERRY MORAN TO
JONATHAN SPALTER

Question 1. While I certainly support more Federal resources dedicated to the deployment of broadband infrastructure, I think it is important for Congress to also gauge the current financial situation of the more than 700 broadband providers participating in the FCC's Keep Americans Connected Pledge.

As Congress focuses its attention on improving broadband connectivity, particularly with the high-demand for such services in this pandemic, how should Congress prioritize funding support to the broadband providers that are already shouldering a significant financial hardship by putting their customers first and participating in the pledge? Is there an estimate of total aggregated costs to date of all the waived late fees and uncollected payments to participating providers?

Answer. USTelecom members participated in the FCC's Keep Americans Connected Pledge because keeping customers connected is the right thing to do. That said, there are real world costs to doing so. As our member companies continue to calculate the total pledge-related cost, it is clear that Congress should avoid man-

dates to ensure service providers have sufficient flexibility to work with their customers to maintain service going forward. Congress should also continue to examine near and long-term solutions to ensure that broadband is available and affordable for all Americans.

Question 2. In terms of legislative solutions, the witness testimonies included the “Stay Connected Voucher Program” and the Keeping Critical Connection Act. How would each of these proposals meet the needs of the participating providers? Can these two proposals in particular co-exist and complement each other?

Answer. We appreciate Congress continuing to look for ways to ensure broadband remains available for customers. There are likely ways that different approaches can complement one another. Providers are currently assessing the mounting costs related to the FCC’s Keep Americans Connected Pledge and the impact of COVID-19 on their businesses. In my opening statement, I discussed our member company SmartCity, who has experienced an 85 percent loss in revenue. There is no guarantee that SmartCity or many other service providers will ever recover those types of losses. However, the greater impact of these losses on the country as a whole is a reduction in the resources needed to deploy broadband deeper into the far reaches of the Nation. USTelecom encourages Congress to ensure that FCC high-cost support programs such as the RDOF, ACAM, and legacy rate-of-return remain on their current timetable for deployment and have the necessary resources and certainty to continue closing the digital divide.

In addition, as stated in a recent letter I sent to Congress, along with my counterparts at seven communications associations, we stand ready to work with Congress to ensure consumers are able to afford their broadband service. Regardless of the mechanism, whether through an emergency or Lifeline-like program, USTelecom appreciates that there are different options to provide support to consumers in need for broadband connectivity. Congress should ensure wireline technology is included and any program is easy to administer to ensure participation and success.

Question 3. These past few weeks, I have been speaking with community and business leaders across the state of Kansas to discuss a number of Federal policy issues in response to the COVID19 pandemic, and while broadband is brought up in almost every conversation, connectivity specific to telehealth and remote learning purposes are clear priorities to my constituents. Congress took important steps aimed to address these issues in the Phase III package, including the \$200 million to the FCC for a telehealth pilot program and dedicated funding to the Elementary and Secondary School Emergency Relief Fund for “purchasing educational technology;” however, I am not sure that these steps are enough to address the immediacy of the needs at hand.

How should Congress prioritize specific-use types, like telehealth and remote learning, in its consideration of future Federal broadband resources? Do we envision these specific use types providing connections to the home of the patient and/or student?

Answer. Ensuring access to broadband for our students and healthcare providers has never been more important than now. The best way we can ensure adequate access to broadband is for Congress to prioritize funding to enable universal connectivity in multiple formats. It is generally helpful to use the structures of existing programs but Congress should also give the implementing agency, like the FCC, the flexibility to move quickly and efficiently to distribute the funding to meet the Congressional goal, much as it did with telehealth funding in the CARES Act.

Question 4. How do we envision Federal support focused on telehealth and remote learning initiatives interacting with more comprehensive broadband programs, like USDA’s ReConnect and USF’s High Cost Program, that are more generally focused on providing high-speed broadband to the home of rural Americans? Can they be effectively coordinated to prevent duplication of Federal spending?

Answer. Telehealth and distance learning applications cannot be enabled without connectivity. A rising tide raises all ships. First, Congress should commit to providing the necessary funding to finally close the digital divide. An important part of that effort is funding the Broadband DATA Act, which calls on the FCC to develop a targeted national map of broadband availability. A detailed targeted map will give providers, policymakers and regulators a clear picture on where to direct broadband funding. Better targeting the resources of programs such as the Connect America Fund, Rural Digital Opportunity Fund and ReConnect will undoubtedly improve access to telehealth and remote learning education opportunities via broadband.

Question 5. If Congress were to establish new Federal broadband programs that interact with existing Federal programs, should they be part of the existing programs like USF or RUS or should they stand alone?

Answer. Back in March of this year I wrote to FCC Chairman Pai sharing some of USTelecom's recommendations on how the FCC along with help from Congress can better ensure that consumers, businesses, healthcare providers, and students can remain connected not just during this pandemic, but after this pandemic as well.

In my letter, I recommended that Congress authorize a one-time infusion of funds to ensure that all service providers can rapidly augment their existing infrastructure to support non-traditional usage demands, including funds to augment backhaul to prevent congestion. USTelecom strongly believes that leveraging the existing Rural Digital Opportunity Fund and its reverse-auction mechanism would best ensure that the funding gets to the consumers who need it the most the fastest.

Question 6. Your testimonies made clear that availability of personal protective equipment (PPE) for your employees remains a critical issue for many of the companies you represent. I have had similar conversations with many businesses from other sectors in Kansas, and while I understand FEMA has been able to provide PPE to your member companies in some situations, what are your member companies doing to engage their own supply chains for such equipment?

Do your trade associations assist your member companies in navigating these increasingly complex supply chain concerns?

Answer. The communications sector has proven to be amongst the most critical during this pandemic and many of our employees are on the front lines, directly interfacing with customers or even entering their homes. We can only protect our workers through proper PPE, and it remains difficult to source for our front line workers. USTelecom has been and continues to be actively engaged in communications with our members and recently completed a Covid 19 survey that provided important insights into where PPE constraints were most challenging. The area of primary and immediate concern right now is the availability of gloves and hand sanitizers and other hygienic products. Through USTelecom chairmanship the Communications Sector Coordinating Council (CSCC), we have been working closely with DHS and FEMA to secure and distribute approximately 1 million masks to broadband providers around the country. We would welcome Congress's continued focus on making PPE available to our front line telecommunication employees, especially in instances where supplies on the open market are not readily available.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SHELLEY MOORE CAPITO TO JONATHAN SPALTER

Question 1. The Federal Communications Commission (FCC) recently released their 2020 Broadband Deployment Report which has shown progress has been made in connecting our communities across the country. However, the report is based off data that we all agree is deeply flawed and continues to show that the majority of the unserved are in rural areas. What are your members doing to keep Americans connected, and specifically for rural communities?

Answer. The first thing Congress needs to do is ensure better and more accurate maps by funding the Broadband DATA Act. Completing the broadband maps will help us take a giant step toward identifying those locations that have no broadband service, estimating the costs to provide it and allocating resources appropriately. We need Congress to fund the maps today to start the projects of tomorrow.

USTelecom members were among the first to commit to maintaining connectivity during this time, even when customers are faced with financial hardships, and we will continue to do so. I could not be more proud of the efforts our providers are making during these times. Many of our members are providing free hot-spots to students to complete their work; providing free or reduced home broadband access to households with students, and, where possible, expediting their broadband deployment to unserved rural homes thanks to programs such as the Universal Service Fund.

Question 2. As states begin to reopen, what impacts are your members anticipating in the months to come?

Answer. Internet connectivity has proven to be a crucial resource during this pandemic and we expect to continue to see shifts in traffic over the networks. And there is still more to be done to ensure all Americans are connected. First, Congress should commit to providing the necessary funding to finally close the digital divide. That includes committing the resources it will take to serve even the hardest to reach parts of West Virginia. A central element to that effort is developing a targeted national broadband map that identifies where broadband is available, and where it is not. Congress wisely passed the Broadband DATA Act, which calls on the FCC to develop a national detailed targeted broadband map. Congress must now

fund that bill to give providers, policymakers and regulators a clear picture on where to direct broadband funding. With adequate funding and by better targeting the resources of existing programs such as the Connect America Fund, Rural Digital Opportunity Fund and ReConnect program, we can connect every American with high speed broadband service.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TODD YOUNG TO
JONATHAN SPALTER

Question 1. Mr. Spalter, what more can Congress do to close the so called homework gap and ensure Hoosier students have broadband access for distance learning?

Answer. Ensuring access to broadband for students is more important than ever, and USTelecom companies welcome congressional action that addresses closing the homework gap.

In March, I wrote to the FCC encouraging the Commission to take a hard look at modifying the E-rate program for this pandemic. The FCC and Congress could target funding to low-income or unemployed consumers or emergency programs specifically designed to target support to students. All options should be on the table and we are actively involved in discussions across the spectrum of stakeholders including Congress and the FCC to help close the homework gap.

Question 2. I have heard from Hoosier constituents that are closely watching—and in many cases planning to participate in the upcoming RDOF Phase 1 auction. Some have shared with us concerns about challenges filed with the FCC that, if accepted, could remove some blocks from eligibility of Phase 1 of the auction.

Mr. Spalter, how do you think the FCC should deal with these claims of service in order to get it right for these communities that have been waiting years for robust broadband while also ensuring RDOF phase 1 gets off the ground in a timely manner?

Answer. We all understand that our current broadband mapping process is flawed, leaving many locations ineligible for funding because a single home in a census block has broadband. As a result, many Americans are left without connectivity.

Congress wisely passed the Broadband DATA Act, which instructed the FCC to build a broadband map that is clear and accurate. Congress should complete that effort and provide the funding necessary to produce the map. Once the map is complete, we will have a means of distributing support on a targeted basis to the very households that are most in need.

Question 3. Is there a greater mapping issue at hand here?

Answer. Yes, absolutely this is a mapping issue. Congress passed the Broadband DATA Act but never provided the FCC the funding to implement it. The FCC estimates it needs \$65 million to complete the maps, and Congress should appropriate the funds immediately so we can get to work connecting all Americans.

Question 4. This pandemic has certainly underscored the need to explore any and all strategies that increase broadband access to as many rural and underserved areas as quickly as possible. One strategy that has been proposed is network virtualization and the move to an open, modular approach to telecommunications that will change supply chain dynamics in ways that favor the United States. We can improve broadband access and increase network security by prioritizing research and development in innovations such as O-RAN.

Mr. Spalter, how important is it that the United States steps up its investment in R&D? What role should the Federal Government play in the development and transition to this open architecture approach?

Answer. Funding R&D for modern communications network equipment is critically important for the U.S. to maintain our position as a global leader. These technological innovations will improve broadband access significantly—including for rural and underserved communities—while increasing security for everyone.

Additionally, by developing and standardizing O-RAN interfaces, we move to an environment where networks can be deployed without being dependent upon a single vendor. O-RAN will make the United States supply chain more secure by increasing supplier diversity, market competition, and opportunities for business innovation, protecting both the economic and national security interest of the United States.

The Federal Government's role in funding research and transitioning to an open architecture approach is critically important. But the Federal Government should also endorse market-based open interoperable solution and use Federal funds to support supplier diversity and support global deployment of interoperable 5G. Additionally, the Federal Government can remove barriers to 5G deployment, and avoid

heavy-handed or prescriptive solutions. Finally, I encourage Congress to continue to support our government's participation in the international standards-development process.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RICHARD BLUMENTHAL TO
JONATHAN SPALTER

Question 1. Companies in the telecommunications industry differ in being able to shoulder the financial pressures of the pandemic. The voluntary pledges from carriers to keep Americans connected have played a meaningful role helping distressed families; however, these commitments and deferments of nonpayment come at a cost to companies. Clearly this burden falls more heavily on smaller carriers.

What programs, support, and other assistance is available to protect the competitive telecommunications market as these carriers are being asked to keep families and small businesses connected?

Answer. USTelecom members participated in the FCC's Keep Americans Connected Pledge because keeping customers connected is their business and it is the right thing to do. The voluntary pledge has proven successful with providers working closely with their customers to maintain service. That said, there are real world costs to doing so.

We are pleased Congress continues to look for ways to ensure broadband remains available for customers and that providers have the opportunity to expand and grow their networks. While the industry at large remains on solid financial footing, individual providers are facing mounting costs related to the impact of COVID-19. In my opening statement, I shared the story of our member company SmartCity, who has experienced an 85 percent loss in revenue. There is no guarantee that SmartCity or other similar service providers will ever recover those losses.

As stated in a recent letter I sent to Congress, along with seven communications industry CEO colleagues, we stand ready to work with Congress to ensure consumers are able to afford their broadband service. Whether through an emergency or Lifeline-like program, Congress should ensure wireline technology is included and any program is easy to administer to ensure participation and success.

Question 2. We should remain vigilant toward protecting competition in the telecommunications market during this time. A pandemic and a period of financial hardship for competitive carriers should not pretext for incumbents and others to hike up prices or stifle competition.

Are you concerned about this pandemic lessening competition in the telecommunications market? If so, why? Have you seen any indication that competitive carriers will have trouble weathering current financial pressures?

Answer. The competitive broadband market has not changed. This pandemic continues to highlight the need, benefits of investing in, and maintaining robust broadband networks. I am proud USTelecom members wisely invested billions annually in their network infrastructure leading up to this crisis. Those investments are the reason why U.S. carriers continue to meet the increased demands during this time and why competition remains robust in the broadband market.

Question 3. Is it fair to expect that incumbent carriers should not be increasing rates charged to competitors for services during the pandemic and its foreseeable aftermath?

Answer. Competitive providers and USTelecom members alike must work through the unprecedented challenges of the COVID-19 pandemic. However, it is important that Congress and regulators recognize USTelecom members have the added responsibility and expense of addressing the growing demands on our network infrastructure as more of our economy moves online.

Question 4. Aside from financial assistance, is there anything else we should be doing to protect competition in the telecommunications industry during this time?

Answer. USTelecom and our members vigorously support a competitive marketplace. With the proliferation of competition among broadband providers who invest heavily in infrastructure comes a need to reassess the application of regulations to ensure all providers are competing on a level playing field. You may be surprised to learn that in many cases, USTelecom members have less than a ten percent share of the broadband market, but continue to be regulated like a dominant carrier.

While consumers are benefiting from vibrant competition and significant network investments through faster speeds, lower prices and innovative services, some providers are trying to use regulatory arbitrage to maintain unfair competitive advantages.

It is important that Congress and the FCC promote competition, rather than seek government interventions that artificially subsidize and prioritize one category of providers.

More immediately, we urge Congress to appropriate the necessary funds authorized in the Broadband DATA Act to finance the deployment of comprehensive broadband maps. The beneficiaries of better maps will ultimately be consumers, as bidders for Federal universal services program support will know with pinpoint accuracy not only where broadband has been deployed, but also where it has NOT yet been deployed. Better and more accurate maps will encourage more potential bidders to participate in future auctions, and hence encourage competition.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. EDWARD MARKEY TO
JONATHAN SPALTER

Question. We should remain vigilant toward protecting competition in the telecommunications market during this time. Are any of your five largest members raising prices, or proposing to raise prices, to any *carrier* customers during this crisis? Is it fair to expect that incumbent carriers should not be increasing rates charged to competitors for services during the pandemic and its foreseeable aftermath?

Answer. The competitive broadband market has not changed as a result of the pandemic. This pandemic continues to highlight the need, benefits of investing in, and maintaining robust broadband networks. I am proud USTelecom members wisely invested billions annually in their network infrastructure leading up to this crisis. Those investments are the reason why U.S. carriers continue to meet the increased demands during this time and why competition remains robust in the broadband market. Competitive providers and USTelecom members alike must work through the unprecedented challenges of the COVID-19 pandemic. However, it is important that Congress and regulators recognize USTelecom members have the added responsibility and expense of addressing the growing demands on our network infrastructure as more of our economy moves online.

