CONNECTING AMERICA: BROADBAND SOLUTIONS TO PANDEMIC PROBLEMS

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(V)
The subcommittee met, pursuant to notice, at 11:00 a.m., via Cisco Webex online video conferencing, Hon. Mike Doyle (chairman of the subcommittee) presiding.

Members present: Representatives Doyle, McNerney, Clarke, Veasey, Soto, O’Halloran, Rice, Butterfield, Matsui, Welch, Schrader, Cárdenas, Kelly, Craig, Pallone (ex officio), Latta (sub-committee ranking member), Guthrie, Bilirakis, Johnson, Long, Hudson, Mullin, Walberg, Carter, Duncan, and Curtis.

Also present: Representative Pence.

Staff present: AJ Brown, Counsel; Jeffrey C. Carroll, Staff Director; Parul Desai, FCC Detalee; Jennifer Epperson, Counsel; Waverly Gordon, General Counsel; Tiffany Guarascio, Deputy Staff Director; Alex Hoehn-Saric, Chief Counsel, Communications and Consumer Protection; Jerry Leverich, Senior Counsel; Dan Miller, Professional Staff Member; Phil Murphy, Policy Coordinator; Joe Orlando, Policy Analyst; Kaitlyn Peel, Digital Director; Tim Robinson, Chief Counsel; David Brodian, Minority Detalee, Communications and Technology; Sarah Burke, Minority Deputy Staff Director; William Clutterbuck, Minority Staff Assistant; Nate Hodson, Minority Staff Director; Sean Kelly, Minority Press Secretary; Peter Killey, Minority General Counsel; Emily King, Minority Member Services Director; Bijan Koohmaraie, Minority Chief Counsel; Kate O’Connor, Minority Chief Counsel, Communications and Technology; Clare Paoletta, Minority Policy Analyst, Health; Brannon Rains, Minority Policy Analyst, Consumer Protection and Commerce, Energy, Environment; Olivia Shields, Minority Communications Director; Michael Taggart, Minority Policy Director; Evan Viaz, Minority Professional Staff Member, Communications and Technology; and Everett Winnick, Minority Director of Information Technology.

Mr. DOYLE. OK. Good morning, everyone. Can everyone hear me OK?

All right. I see it is 11 o’clock, and I think we will get started. So, if you can hear this imaginary gavel, the committee will now come to order.
Today, the Subcommittee on Communications and Technology is holding our first hearing of the 117th Congress, entitled “Connecting America: Broadband Solutions to Our Pandemic Problems.”

Before we get started, I just want to, you know, express all of our concern for these weather emergencies occurring down in Texas and throughout the Midwest. Our thoughts are with all of those folks.

And I know, Dr. Anderson in Kansas, there have been rolling blackouts, and the Governor of Kansas declared a state of emergency. And I think the schools in Topeka are closed this week. You might be able to fill us in during your testimony.

But anyways, I just want to express our concern for that, for all the folks that are going through that hardship right now, and hope they get power restored quick.

Before I get started, I want to welcome some of our new and returning Members on the Democratic side, including Congresswoman Robin Kelly, who has just joined the subcommittee. She is not new to Energy and Commerce, but she is new to the subcommittee, so I want to welcome Robin.

I also want to welcome Congresswoman Angie Craig and Congresswoman Lizzie Fletcher, who are all new to the committee this Congress. I am happy to have all of you join us.

I also want to welcome our new and returning Republican Members to the subcommittee, especially my good friend and colleague, Ranking Member Bob Latta. It is good to have you back. And, Bob, during your time, I am sure you can introduce your new members of the committee. We will certainly give you time to do that.

I look forward to working with all of you as we take on the important work of the Communications and Technology Subcommittee.

So back to the matter at hand. Due to the COVID–19 public health emergency, today’s hearing is being held remotely. All Members and witnesses will be participating via video conferencing. And, as part of our hearing, microphones will be set on mute for the purpose of eliminating inadvertent background noise. Members and witnesses, you will need to unmute your microphone each time you wish to speak.

Documents for the record can be sent to Joe Orlando at the email address we provided to staff. All documents will be entered into the record at the conclusion of the hearing.

So the Chair now recognizes himself for 5 minutes for an opening statement.

OPENING STATEMENT OF HON. MIKE DOYLE, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF PENNSYLVANIA

As we have all become far too aware over the last year, universal broadband connectivity is critical to our economy, to our education of our youth, and to keeping our communities safe and connected during this unprecedented crisis.

Americans throughout the country have struggled to get connected and stay connected. Too many households are going without broadband service because they can’t afford it, either because it was too expensive before or it is too expensive now.
Free Press, in their testimony, says that some 77 million people lack an adequate home internet connection due to high prices or lack of connectivity. We all know that our Nation needs to invest in deploying new networks, particularly in rural communities, if we are going to ensure that everyone can get online.

But what I think is more concerning about the data presented in their testimony is that far too many people go without because they can’t afford service. That is why I am glad we were finally able to come together at the end of last year to include several important broadband provisions in the COVID-bus package to address these challenges.

Among our accomplishments was the creation of a new emergency program, the Emergency Broadband Benefit program, based on legislation introduced by our colleague, Congressman Veasey. This $3.2 billion program will provide qualifying consumers with a $50 credit each month on their broadband bills.

Congress wrote this legislation to give consumers a great deal of flexibility in how they use this benefit, and it is critical that the program be implemented as such.

I also hope the FCC will ensure that existing tools that are helpful and part of the Lifeline program are available and accessible to participating carriers to the greatest extent possible to help facilitate this new program as well.

While the Emergency Broadband Benefit is temporary, I sincerely hope we can work together to find permanent solutions to ensuring that broadband service is available and affordable to all.

Last week, this committee marked up legislation to fund remote learning in our Nation’s classrooms. This investment is long overdue, and we have known about the homework gap for years, and the pandemic has really laid this inequality bare.

The new $7.6 billion Emergency Connectivity Fund seeks to start closing that gap. The fund will help low-income students by subsidizing the cost of internet-connected devices and broadband service so that students can learn at home.

Dr. Anderson, in your testimony, you talk about the great lengths Topeka schools are going to to keep students connected, including setting up Wi-Fi in school parking lots. But as you point out, too many students—and more importantly their parents—can’t sit in a parking lot all day. It is critical that we give students and families the resources they need to allow kids to participate in their own education.

It is my hope we can get these provisions signed into law as quickly as possible and get help to students and schools in need. And, finally, as we have all said for many years, we need to invest in rural broadband. We have had more hearings than I care to count where the truth has been obvious. The only way to solve this problem is through Federal investment. The business case just does not exist for too many communities.

Last Congress, the House passed H.R. 2, the Moving Forward Act, which included $100 billion for broadband deployment and adoption. I hope we can work with the Biden administration and our colleagues in the Senate to take up similar legislation again this Congress and finally take real steps in this country to close the digital divide.
I look forward to working with my colleagues on both sides of the aisle as we take all of these challenges on together.

And with that, I will yield the remainder of my time to my good friend from Vermont, Congressman Peter Welch.

[The prepared statement of Mr. Doyle follows:]

**PREPARED STATEMENT OF HON. MIKE DOYLE**

As we have all become far too aware over the last year, universal broadband connectivity is critical to our economy, to the education of our youth, and to keeping our communities safe and connected during this unprecedented crisis.

Americans throughout the country have struggled to get connected and to stay connected. Too many households are going without broadband service because they can’t afford it, either because it was too expensive before or it’s too expensive now. Free Press, in their testimony, say that 77 million people lack an adequate home internet connection due to high prices or a lack of connectivity.

We all know that our Nation needs to invest in deploying new networks—particularly in rural communities—if we are going to ensure that everyone can get online. But what I think is more concerning about the data presented in the testimony is that far too many people go without because they can’t afford service. That’s why I’m glad that we were finally able to come together at the end of last year to include several important broadband provisions in the COVID-bus package to address these challenges.

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This $3.2 billion program will provide qualifying consumers with a $50 credit each month on their broadband bills. Congress wrote this legislation to give consumers a great deal of flexibility in how they use this benefit—and it’s critical that the program be implemented as such.

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Dr. Anderson, in your testimony you talk about the great lengths Topeka schools are going to in order to keep students connected—including setting up Wi-Fi in school parking lots. But as you point out—too many students, and more importantly parents, can’t sit in a parking lot all day.

It’s critical that we give students and families the resources they need to allow kids to participate in their own education.

It’s my hope that we can get these provisions signed into law as quickly as possible—and get help to students and schools in need.

And finally, as we have all said for many years—we need to invest in rural broadband. We have had more hearings than I care to count where the truth has been obvious, the only way to solve this problem is through Federal investment—the business case just does not exist for private investment in many communities.

Last Congress, the House passed H.R. 2—the Moving Forward Act—which included $100 billion for broadband deployment and adoption. I hope that we can work with the Biden administration and our colleagues in the Senate to take up similar legislation again this Congress—and finally take real steps in this country to close the digital divide.

I look forward to working with my colleagues on both sides of the aisle as we take all of these challenges on together.

Mr. Welch. Thank you, Chairman Doyle.
And I think all of us on the committee, Republicans and Democrats, are thrilled that you are starting out with this hearing. The issue of broadband is existential. The case has been made. Many of us on this committee sent a letter to the President to support rural broadband. But what you are pointing out is that broadband is an equity issue. And it is not just getting access in rural America, it is getting affordability in urban America. So here we are with you from Pittsburgh, me from rural Vermont, and we have the same challenge. So this is about equity.

And there has to be two things. One, Federal investment. That is number one. But number two, local partnerships.

Now, we can partner with the private companies, but let me give an example. If they are not going to do the job, get out of the way. Let local communities that are developing their own co-ops move ahead. If you live in Peacham, Vermont—very small town—and you are on one side of Macks Mountain, Charter Spectrum will not answer your call and get you the broadband.

So this is about equity for all of our citizens in rural and urban America.

Thank you, Mr. Chairman, and we all look forward to working with you.

Mr. Doyle. Thank you, Mr. Welch.

It gives me great pleasure now to recognize my good friend and colleague, the gentleman from Ohio, our ranking member for the Subcommittee on Communications and Technology, for 5 minutes for his opening statement. Mr. Latta, you are recognized.

OPENING STATEMENT OF HON. ROBERT E. LATTA, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO

Mr. Latta. Well, thank you very much. And I appreciate my good friend for recognizing me this morning, and congratulations again for your leadership on the subcommittee. And I also want to thank and recognize Mr. Pallone for his continued leadership as chairman of the full committee.

But also, thanks very much for our witnesses for being on hand today. Greatly appreciate it.

And also, if I can just make mention of our new Members on the subcommittee, I would really appreciate it. Mr. Duncan, Mr. Hudson, Mr. Mullin, Mr. Guthrie, Mr. Curtis, and Mr. Carter. And I know they are all going to do a great job being on the committee—it is a great subcommittee—with us, and so I look forward to it.

But the COVID–19 pandemic has heightened the importance of reliable internet access as so much of our daily lives has moved online. From telehealth to education, closing the digital divide for all Americans has never been more critical. But, even before the pandemic changed the way we live, work, and learn, Americans, especially those who live in rural communities, were being left behind because of the lack of access to the internet.

In June of last year, I called on the majority to hold this hearing because people across the country, and Ohioans in my district, need better access to the internet so they can participate in the 21st century economy, get the healthcare they need from home, and learn remotely while our schools remain closed to in-person learning.
Mr. Chairman, I would like to also submit the letter for the record that I have before us.

But even as this hearing is long overdue, it is better late than never, and I am pleased we are having it today.

Before moving forward, again, I want to thank our witnesses for joining us.

One of the most evident needs for improving broadband during the pandemic is our country’s unprecedented reliance on telehealth. Telehealth services allow Americans to continue to see their doctors without risk of contracting the coronavirus.

Congress appropriated over $500 million to the FCC’s COVID–19 Telehealth Program last year, and now we must pursue aggressive oversight to understand how the emergency funding is being used to ensure needs are being met.

In my district, telehealth visits have spiked since the start of the pandemic last March, and I am sure we are seeing similar trends in my colleagues’ districts. This includes more than just primary care visits but also assessing mental health resources and substance abuse treatment as rates of suicide, drug abuse, and alcoholism are on the rise. But, for all Americans to benefit from telehealth services, we must close the digital divide with long-term solutions.

Under the last administration, the gap between urban and rural Americans with access to broadband closed significantly. Americans with access to 25/3 megabits per second fixed broadband fell from 30 percentage points at the end of the Obama administration in 2016 to just 16 points to the end of 2019.

Thanks to Republican policies and historic tax cuts that include private investments, providers were well positioned to immediately step up to the challenge presented by the once-in-a-century crisis.

While this regulatory flexibility enabled broadband providers to immediately upgrade their services for consumers, earlier this week E&C Republicans introduced the Boosting Broadband Connectivity Agenda, a package of broadband infrastructure and permitting reform bills, to make sure broadband gets to all Americans quickly.

We urge committee Democrats to join us in solving these important issues in a bipartisan fashion.

We often hear from our colleagues across the aisle about the need to get broadband to the home, particularly for low-income Americans and urban America. We agree and worked with you all to provide $3.2 billion at the end of last year to increase broadband access for all of those Americans.

While no American should have to go to a fast-food restaurant for internet, at least those Americans have access to it. Many of my constituents don’t even have that option.

We must close the digital divide once and for all. The COVID–19 pandemic has required novel approaches to address new problems, but we can’t forget about challenges that persisted before the pandemic that still demand our attention.

Internet connectivity and access are topics we must tackle together because they will be required for generations to come.
So thank you again to all my friends in the majority for holding this hearing today, and I look forward to today's discussion, and thanking our witnesses again.

Mr. Chairman, with that, I yield back the balance of my time.

[The prepared statement of Mr. Latta follows:]

PREPARED STATEMENT OF HON. ROBERT E. LATTA

Good morning, and welcome to the first Communications and Technology Subcommittee hearing this Congress. Congratulations to my friend Chairman Doyle on returning to lead this subcommittee, and to Chairman Pallone as well for his continued leadership.

The COVID–19 pandemic has only heightened the importance of reliable internet access as so much of our daily lives has moved online. From telehealth to education, closing the digital divide for all Americans has never been more critical. But even before the pandemic changed the way we live, work, and learn, Americans—especially those who live in rural communities—were being left behind because of the lack of access to the Internet. In June of last year, I called on the majority to hold this hearing because people across the country and Ohioans in my district need better access to the Internet so they can participate in the 21st century economy, get the healthcare they need from home, and learn remotely while schools remain closed to in-person learning. But even as this hearing is long overdue, it is better late than never, and I am pleased we are having it today. Before moving forward, I’d also like to thank our witnesses who joined us today to discuss this important topic.

One of the most evident needs for improving broadband during the pandemic is our country’s unprecedented reliance on telehealth. Telehealth services allow Americans to continue to see their doctors without the risk of contracting the coronavirus. Congress appropriated over $500 million to the FCC’s COVID–19 telehealth program last year, and now we must pursue aggressive oversight to understand how that emergency funding is being used to ensure needs are being met.

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But for all Americans to benefit from telehealth services, we must close the digital divide with long-term solutions.

Under the last administration, the gap between urban and rural Americans with access to broadband closed significantly. Americans with access to 25/3 megabits per second fixed broadband service fell from 30 percentage points at the end of the Obama administration in 2016 to just 16 points at the end of 2019. Thanks to Republican policies and historic tax cuts that encouraged private investment, providers were well positioned to immediately step up to the challenges presented by this once-in-a-century crisis.

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We often hear from our colleagues across the aisle about the need to get broadband to the home, particularly for low-income Americans in urban America. We agree and worked with you all to provide $3.2 BILLION at the end of last year to increase broadband access for those Americans. And while no American should have to go to a McDonald’s for internet, at least those Americans have access to it. Many of my constituents don’t even have that option.

We must close the digital divide once and for all. The COVID–19 pandemic has required novel approaches to address new problems, but we can’t forget about the challenges that persisted before the pandemic that still demand our attention. Internet connectivity and access are topics we must tackle together because they will be required for generations to come.

So, thank you again to my friends in the majority for holding this hearing today, and I look forward to the discussion.

Mr. DOELEY. The gentleman yields back.
The Chair would like to also recognize one of our new Members on the Democratic side from the great State of New York, Congresswoman Rice. Sorry for missing you there, Kathleen, but we are thrilled to have you on the committee.

Now, the Chair will recognize Mr. Pallone, chairman of the full committee, for 5 minutes for his opening statement.

OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. Pallone. Thank you, Chairman Doyle.

Right now, struggling families that lack internet connectivity have been shut out from school, work, telehealth, and other vital connections, and across the country children are unable to attend virtual classes because they don't have a reliable internet connection.

In New Jersey, for example, studies have found that nearly 17 percent of residents have no internet access in their homes. Of the families making $35,000 per year or less, only half have home internet connections, and for many schoolkids, the dining room table or a bedroom workspace have replaced their classrooms. So a lack of connectivity means that, in essence, they are locked out of school.

And it is not just kids. Struggling parents are trying to fill out job applications and complete educational courses on smartphones. Many, if not most, vaccine appointments require online registration. And, to make matters worse, many libraries that once provided a reliable internet connection are now closed to protect public health.

But nowhere is this problem more acute than on Tribal lands. Many Tribal students who were sent home from college and schools for their own safety returned to homes without sufficient internet connections for video conferencing or uploading assignments. And many Tribal members can't work from home or sell goods online, cutting off key sources of income. And these same Tribal communities are also among the last to receive important updates on health and emergency procedures, which are critically important for prevention.

Fortunately, Mr. Chairman, Democrats and Republicans came together at the end of the last Congress to pass the historic Emergency Broadband Benefit program. Under this program, eligible households can receive a discount of $50 per month for service or $75 per month for service on Tribal lands, and the Federal Communications Commission is in the process of setting this program up.

We also passed, as you know, the Broadband Connectivity Grant Program in that end-of-the-year package that provides a billion dollars for a range of efforts to increase connectivity on Tribal lands. The National Telecommunications and Information Administration is working to set up that program now, including significant Tribal consultation.

And then just last week, this committee approved, as part of the reconciliation instructions, $7.6 billion in funding to expand E-rate assistance for remote learning and remote library services. And we all want the schools and libraries to open, but we have to ensure
they are opened safely, and until that is possible, we have to prevent our kids from falling into the homework gap. And this funding in the reconciliation bill will allow millions of teachers, students, and families to access the technology and tools they need to participate in virtual classrooms and other online activities.

So we are going to continue to support broadband deployment across the country through another infrastructure bill or economic stimulus, which I think, you know, will follow the budget reconciliation hopefully on a bipartisan basis in April or May. That, I think, will incorporate a lot of the things that we did in our committee in the Moving Forward Act, which was passed by the House last year, but we couldn’t get the Senate majority leader then, Mitch McConnell, to move it in the Senate. But I think that a lot of our Republican Members will support a major infrastructure bill that has some major broadband deployment in underserved areas.

So I look forward to continue to find bipartisan solutions, Chairman Doyle.

[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

Right now, struggling families that lack internet connectivity have been shut out of school, work, telehealth, and other vital connections. Across the country, children are unable to attend virtual classes because they do not have a reliable internet connection.

In New Jersey, studies have found that nearly 17 percent of residents have no internet access in their homes. Of the families making $35,000 per year or less, only half have home internet connections. For many schoolkids, the dining room table or a bedroom workspace have replaced their classrooms, so a lack of connectivity means that, in essence, they are locked out of school. Congress must step in and provide support.

It’s not just our kids. Struggling parents are trying to fill out job applications and complete educational courses on smart phones. Many, if not most, vaccine appointments require online registration. And to make matters worse, many libraries that once provided a reliable internet connection are now closed to protect public health.

Nowhere is this problem more acute than on Tribal lands. Many Tribal students, who were sent home from college and schools for their own safety, returned to homes without sufficient internet connections for video conferencing or uploading assignments. Many Tribal members cannot work from home or sell goods online, cutting off key sources of income. These same Tribal communities are also among the last to receive important updates on health and emergency procedures, which are critically important for prevention.

Fortunately, Democrats and Republicans came together at the end of last Congress to pass the historic Emergency Broadband Benefit program. Under this program, eligible households can receive a discount of $50 per month for service, or $75 per month for service on tribal lands. The Federal Communications Commission is in the process of setting this program up.

We also passed the Broadband Connectivity grant program that will provide $1 billion for a range of efforts to increase connectivity on Tribal lands. The National Telecommunications and Information Administration is working to set up that program now, including significant Tribal consultation.

And then just last week, this committee approved $7.6 billion in funding to expand E-rate assistance for remote learning and remote library services. We all want schools and libraries to open—but we must ensure they are opened safely. Until that is possible, we must prevent our kids from falling into the homework gap. And this funding will allow millions of teachers, students and families to access the technology and tools they need to participate in virtual classrooms and other online activities.

We will also continue to support broadband deployment across the country through an infrastructure bill similar to the Moving Forward Act passed by the House last year but ignored by then-Senate Majority Leader McConnell.

I look forward to our continued work to find bipartisan solutions to these issues.
Mr. Pallone. And I would like to yield the rest of my time to Marc Veasey of Texas.

Mr. Doyle. The gentleman is recognized.

Mr. Veasey. Mr. Chairman, thank you very much for recognizing me. I want to, first of all, thank you for gathering us here today to talk about this extremely important topic, about broadband expansion, because right now, in this pandemic it is more important than ever that we have fast, reliable internet.

Our lives are primarily taking place online with work, school, and healthcare, not to mention basic communication between friends and family. So we have to make sure that our kids don't get caught in the homework gap and to make sure that our workers can find their next job online and that we don't lose meaningful communication with one another.

Last year, I introduced legislation to bolster access to broadband for individuals that are facing unprecedented challenges amidst the coronavirus pandemic. My legislation provides free or low-cost internet service to families with children who qualify for free or reduced school lunch, to college students that have Pell grants, and to those who have been laid off or furloughed due to COVID–19, and those that qualify for the FCC's current Lifeline program. And I was very proud that my legislation was included in the stimulus package that Congress passed at the end of last year to give Americans immediate relief.

In the upcoming months, I will continue to use my position on this committee to work with the incoming administration to ensure we facilitate a good rollout of this program, because I believe it is in everyone's interest.

And I wanted to thank everyone on the committee for all of their well wishes and prayers for everything that we are going through in Texas right now. I don't ever remember it being this cold here, and there are a lot of people out here suffering.

So thank you very much. And, Mr. Chairman, I yield back.

Mr. Pallone. And I yield back, Mr. Chairman.

Mr. Doyle. Thank you.

It is my understanding that Mrs. Rodgers was unable to attend and that my friend from the great State of Ohio, Mr. Johnson, is going to claim her time. So, Mr. Johnson, you are recognized for 5 minutes.

OPENING STATEMENT OF HON. BILL JOHNSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO

Mr. Johnson. Good morning, Chairman Doyle and Chairman Pallone. I want to thank you for holding this important hearing to look at the impact of the COVID–19 pandemic that has had—and all the terrible effects that it has had on our country's broadband networks.

It is certainly time that this committee holds a hearing to examine ways to close the digital divide and the homework gap, which House Energy and Commerce Committee Republicans urged you to hold last year in a letter to both you and Chairman Pallone. And though it took nearly a year, I am glad we are finally turning our attention to this matter.
These are two crucial issues facing Americans during the COVID–19 pandemic. And, Mr. Chairman, I request unanimous consent to enter the letter that was sent last year into the record.

Mr. DOYLE. Without objection, so ordered.

[The information appears at the conclusion of the hearing.]

Mr. JOHNSON. During the COVID–19 pandemic, our broadband networks have held our economy, our education system, and our communities together where access has been available. Despite the challenges that many American industries have faced, our Nation's broadband providers stepped up when it mattered most, and they were able to do this because our country's policies allowed them to do so.

The past 4 years of Republican-led, market-oriented policies created a competitive environment that facilitates innovation and investment in our networks, leading to increased speeds, extra capacity, lower prices, and flexibility to adapt when faced with the unexpected.

I can think of no greater test than the early challenges of the pandemic. More than 40 percent of America's workforce began working and learning from home overnight. Children began streaming classes and their favorite TV shows around the clock. Parents were juggling video calls with video weddings and reunions, family reunions, and even Congress began legislating over Webex.

All of the capacity that had been dedicated to office parks now suddenly needed to be made available at homes on short notice. And, in a stunning show of American ingenuity, our providers kept the internet up and running at full speed, while other major countries in Europe failed.

I commend all of the providers who continue to work around the clock to ensure Americans have the connectivity they need. Our country's policies foster a competitive communications marketplace, and this competition only benefits consumers.

Now, we are not there yet in most rural areas of America. While bipartisan policies led by Republicans have enabled the ISPs to do much good work with existing broadband infrastructure, there are many places throughout our country that do not have even the basic access to the 21st century digital economy. And we must continue to solve that problem.

Thankfully, we do not have socialized broadband in this country—yet. In fact, as long as we continue to push bipartisan policies, we will continue to move in the opposite direction from a socialized solution.

Last summer, committee Republicans worked with our Republican colleagues in the Senate to outline a framework that would help connect all Americans during the COVID–19 pandemic. We then worked with many of our colleagues here today to find bipartisan agreement to enact many of them into law, including establishing a $1.3 billion broadband grant program to connect unserved rural Americans and Tribes, increasing broadband access and digital opportunities in minority communities and for low-income Americans, increasing funding for telehealth programs, and providing funding for broadband maps and to secure our networks.
Though not in this committee’s jurisdiction, Congress also funded a cumulative $110 billion to the Department of Education to invest in hardware, software, and connectivity needed to safely reopen schools and continue remote learning.

Mr. Chairman, it is our duty to now make sure that money gets to where it belongs—to Americans. Let’s not abandon the American people when it matters most. We must make sure that money already appropriated gets to our children for distance learning. Without that, our efforts are in vain.

But there is more that can be done. With billions of dollars dedicated to connecting unserved Americans, we must now move swiftly to turbocharge that investment by removing barriers to deployment. We can start by working together to pass the Boosting Broadband Connectivity Agenda that committee Republicans unveiled this week. This agenda sets out an ambitious slate of proposals designed to roll back regulatory red tape, to put Americans back to work building next-generation networks, and maintain U.S. broadband leadership.

We have proven that, when we work together, we can help Americans in need. I hope my colleagues across the aisle will join us in this effort to encourage speedy, affordable broadband deployment so all Americans can be connected.

Thank you for being here today. And thank you, again, Chairman Doyle, for holding this important hearing. Better late than never. I yield back.

[The prepared statement of Mr. Johnson follows:]

PREPARED STATEMENT OF HON. BILL JOHNSON

Good morning. Chairman Doyle and Chairman Pallone, I want to thank you for holding this important hearing to look at the impact the COVID–19 pandemic has had on our country’s broadband networks.

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- Establishing a $1.3 billion broadband grant program to connect unserved rural Americans and Tribes;
- Increasing broadband access and digital opportunities in minority communities and for low-income Americans;
- Increasing funding for telehealth programs; and
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We have proven that when we work together, we can help Americans in need.

I hope my colleagues across the aisle will join us in this effort to encourage speedy, affordable broadband deployment so all Americans can be connected.

Thank you all for being here today, and thank you again Chairman Doyle for holding this hearing. Better late than never.

Mr. Doyle. The gentleman yields back.

The Chair would like to remind Members that, pursuant to committee rules, all Members’ written opening statements shall be made part of the record.

Now, I would like to introduce our distinguished panel of witnesses for today’s hearing:

Dr. Tiffany Anderson, superintendent of the Topeka Public Schools. Welcome.

Mr. Matthew Wood, vice president of policy and general counsel, Free Press Action, a Pittsburgher who has testified before this subcommittee many times. Welcome back.

Jonathan Adelstein, president and CEO of the Wireless Infrastructure Association, who has also testified before us both in his roles in government and in his current role many times. Welcome back, Jon.

And last but certainly not least, Chris Shelton, president of the Communication Workers of America. Chris, it is good to have you back also.

I want to thank all of our witnesses for joining us today, and we look forward to your testimony.
STATEMENTS OF TIFFANY ANDERSON, Ed.D. SUPERINTENDENT, TOPEKA PUBLIC SCHOOL DISTRICT; MATTHEW F. WOOD, VICE PRESIDENT OF POLICY AND GENERAL COUNSEL, FREE PRESS ACTION; JONATHAN S. ADELSTEIN, PRESIDENT AND CHIEF EXECUTIVE OFFICER, WIRELESS INFRASTRUCTURE ASSOCIATION; AND CHRISTOPHER M. SHELTON, PRESIDENT, COMMUNICATIONS WORKERS OF AMERICA

STATEMENT OF TIFFANY ANDERSON, Ed.D.

Dr. ANDERSON. Yes, sir. I am making sure I was off mute.

First of all, good afternoon. It is a pleasure and privilege to be here. I have to tell you what, I am so filled up hearing people talk about collective energy and moving together to move forward in this area of addressing broadband.

With that in mind, let me first extend an apology in that we sent an amended statement to you, as was stated at the beginning by Senator Doyle. Thank you for the comments about Kansas. We are on a blackout, so, look, I am just glad to see y'all this morning. And if we go out, I have a couple of hotspots right here, because they run by battery.

But I will tell you that, like other States, we actually are on a scheduled blackout. Therefore, rather than you being with me in Topeka in my office, you are right here in my home. And as I talk, I am going to really try to touch base on a few things.

One, trying to give you a feel of not just Kansans but people around the country really in terms of how we are addressing the matters that we are faced with now. But I will tell you this, that the need for broadband, which has already been said, it is not new. This is something that we have needed for some time. And, as we look at the homework gap, it has existed. It is the reason for the achievement gap and where we are now, which is just shining a bright light on things that we need to do. So I have to say in advance, thank you for the steps you have already taken.

In Topeka Public Schools, I come with you with the energy of about 30,000 people. A little bit over 13,000 are students, and the rest are parents and community members.

I will share with you, prior to the pandemic we were one-to-one technology. We had a multimillion-dollar bond. We had one-to-one technology for our students, pre-K through 12. We were what you would consider a future-ready district, like many districts.

We recognize that providing resources within the schools was key, but I will tell you for 73 percent of free-lunch students, just providing that at school has never been enough. And I will tell you why. And even after the pandemic, I want you to remember this, because we are in the space now which is shining a light, but after
this we are still in a space of making sure that we need to provide some level of permanent opportunity in the future for people to access resources at home and outside of school.

With that, as we started in Topeka this last couple of years during the pandemic and we had to shut down, as has already been said, we gave families maps of the city to share where Wi-Fi was, we provided hotspots on buses. We learned very quickly from our family that Quincy Elementary—man, I wish you all could be with me in Topeka talking right now, but you can't, so I am going to tell you about some students and some families.

And I will tell you what, at Quincy, several of the families live at the rescue mission. We have 400 homeless families. They immediately—they don't have broadband in that space, therefore they needed hotspots. So through our district, we will be able to provide some limited access to that support just for students to be able to get online. That is for those families.

But, again, in 73 percent free lunches and solely in our rural areas, you also have some transiency throughout the community, so families that move to different homes. And, again, if you don't have broadband, how are you going to access school?

Moving from that, as we now go into this next year, we have created a variety of opportunities. We have telehealth sessions, night school, morning school. We have students that access from work the services that we provide.

And so here is reality: Right now we are certainly in need, and not just in Topeka, but certainly all of rural America as well.

You know, I thought when we first closed down, that we need to really focus just on our students and getting them ready, and now I know that one of our teachers, the vice president of the NEA, couldn't access the internet. Why? Because she lives in rural America. She could drive to school and fix that, but her students could not.

I want to tell you about Chrishayla Adams, and Chrishayla was just in DC being awarded for the JAG, Jobs for American Graduates. See, she wants to graduate early, but to do that, you have to take classes at night virtually. And so, before the pandemic, we had virtual schools operating. So we have had this need, and this homework gap has been created, but now it is exponential.

So I ask and give you a plea from Topeka, but from all of our educators, our teachers, and our students, to really put the kind of resources that allow for expanded connectivity, that also allow for us to support students that are marginalized, such as our Native American students, our students in poverty, our rural American students, but all students deserve the access and the civil right to an education. Right now, they don't all have it.

If you have resources, when the pandemic is over you will be able to access night school and tutoring and all of those other things, ACC tutoring. But when the pandemic is over, I am asking you to continue to look at this issue, put resources behind it. And I welcome any questions.

In addition to being superintendent of Topeka Public Schools, I also serve on the Postsecondary Education Authority for the Governor, and I also serve on the Commission for Racial Equity and
Justice. This is an equity and opportunity gap, and I believe that you will help us close it.

Thank you.

[The prepared statement of Dr. Anderson follows:]
Dr. Tiffany Anderson  
Superintendent  
Topeka Public School District  
104 SW 24th Street  
Topeka, Kansas 66611  
Submitted February 14, 2021  

Hearing: Amended Testimony Connecting America: Broadband Solutions to Pandemic Problem  
Hearing Submitted to: Subcommittee on Communications and Technology of the Committee on Energy and Commerce  
Hearing Date: February 17, 2021  

Thank you for the opportunity to address the importance of the funding for E-rate support for emergency connections and devices for schools, libraries and Native American communities. My name is Dr. Tiffany Anderson, and I am the Superintendent of Topeka Public Schools in Topeka, Kansas.  

In order to understand the challenge that many Americans are facing with digital equity, we have to understand how far we have come as a nation in the past two decades. When E-rate was established in 1996, the FCC reported only 14% of the nation’s K-12 classrooms had access to the internet. The Educational Testing Service reported an average ratio of 24 students per computer in 1997. Now, twenty years later, roughly 99% of schools report internet-connected classrooms with speeds in excess of 100 kbps. Additionally, half of the nation’s teachers surveyed in 2019 reported a 1:1 ratio of students to computers. As a nation, we have come a long way, and the E-rate program has been a driving force for this change. As an educator, who has served as a superintendent for most of my 27 years in education, I believe the challenges have never been greater. Today, I will share what the opportunities and challenges look like from the school district level, and I am urging you to support continued improvements through increased funding to meet these challenges that directly impact economic prosperity for all.  

Device Needs and Challenges  
While many schools have devices, many homes still do not have devices or access to services. The challenges of the global pandemic have helped expose the basic digital inequities across our nation. In Topeka, we serve over 13,000 scholars. We have a diverse population, which also serves many historically marginalized populations that includes African American,
Hispanic, and Native American students. Many of our students of color represent the 73% free/reduced lunch recipients and the 4/6 homeless students. Many of our teachers live in rural areas in Kansas and they were unable to teach without adequate or reliable broadband services from home. The needs of the under-served grew exponentially during the pandemic where access to devices and remote services that relied on adequate Wi-Fi was crucial. Those living in shelters needed hot spots, which we provided. Students with some limited cable internet services at homes, didn’t have the speed from Broadband services to access the virtual platforms with high-speed requirements to remain fully engaged in learning. Therefore, students became disengaged as consistent connectivity from home became a barrier. English Language Learners with limited English proficiency needed translation services but often had limited or no Wi-Fi services and many relied on hot spots. Our Native American students did not have infrastructure and serves where they lived and we have continued to try to provide hot spots and services. The demand far outweighs the resources we have available. Topeka Public schools tried to serve more needs in the community by:

- Providing hot spots on buses and parking them in locations for students to walk to and use their device at. This worked for secondary students but many families with primary children were not independent enough to walk to such hot spot locations and broadband needs were even more evident.
- Distributing maps of the community shops that highlighted who had Wi-Fi for families. Rural and low poverty areas had fewer locations to access and this was not a long-term solution.
- Collaborating with the library for digital books and the local library gave the community access to use the Wi-Fi, however eventually the library had to limit patron access and eventually close to the public due to the spread of the virus.

The challenges of the lack of connectivity has created challenges for academic and economic progress for us all. Our story is not unique to Kansas or Topeka as I talk with superintendents around the country. In rural areas of Kansas, the infrastructure simply is not present in some areas to provide Wi-Fi and the issues we experienced were experienced in those areas. In larger districts beyond Kansas, resources for hot spots for thousands are limited and it forces districts to limit access. Broadband services and devices are a fundamental need, much like clothes, shoes, etc. Families simply cannot
access services without it and currently the marginalized suffer the greatest, which is widening the economic, and academic
gaps rapidly.

Connectivity Gaps Creates Academic Access Gaps
As students began to rely exclusively on remote learning (during peak virus transmission times of the pandemic), the
importance of having a digital device at home was paramount. In addition to affecting access to classrooms, it directly
affected access to electronic college admissions applications that previously scholars completed at school. Students needed
a device at home and one at school, much like we did years ago with textual materials which allowed students to work from
anywhere at any time without interruption. The pandemic issues reduced the ability to share materials and device
availability for use both school and home was key to learning without device issues. Families relied on the device and access
to their school for Telehealth services, parent conferences, social work access, academic access, tutoring and for access to
the extracurricular programs that continued while in a remote learning setting. Due to the health guidelines at this time, all
parent conferences are remote and the student’s device will be used as we host the student-led parent conferences with
families.

Through E-rate funding, Topeka Public Schools provided 1:1 internet services to devices to preschool – 12th graders. Middle
and high school scholars were taking devices home over my 5 years in Topeka, and using that same device at school as they
transported it to and from school. As with any item that is transported between school and home daily, there are challenges
with the upkeep of the item for it to last. The prior E-rate funding provided one to one services to device, and our district
funds to address the equipment challenges with power cord needs back up devices to use while others are repaired and other
equipment device needs used by our scholars and school library media specialist. In Topeka our teachers have become
future ready instructors and technology specialist as we assist to keep up with the over 13, 000 student technology needs of
our scholars. Our teachers need the continued investment for our students to provide the highest quality of education
possible.
Once the pandemic began, all students in preschool through high school needed connectivity with their device to take home. We collaborated with Cox Communications to offer reduced cost services with fees to free/reduced lunch families covered by grants. Our local libraries were instrumental in helping with connectivity for families who needed access to schools that were no longer accessible for in-person communication. We are thankful for the original E-rate funding to provide internet services to preschool through high school-age scholars with internet for devices; however, the need remains for expanded support, resources, and connectivity. The needs include hot spots, power cords, devices as we support the ongoing upkeep and device replacement plan to maintain devices.

**Category I Funding - Internet Services**

An essential component of the E-rate program is Category I funding, which primarily covers internet services for schools and libraries. Eligible schools and libraries receive discounts between 20-90% for the cost of internet access based on the percentage of students who qualify for the federal free or reduced lunch program. For high-poverty schools, this support is essential. As current economic conditions disproportionately impact our low-income families, many schools will find themselves with a higher percentage of families who qualify for free or reduced lunch, and therefore fully funding the program this next fiscal year will require more than a simple adjustment for inflation. The high-poverty schools throughout this nation need your assurance that Category I will be fully funded to satisfy the demand we will face.

**Category II Funding - Network Infrastructure**

Another component of the E-rate program is Category II funding, which primarily covers network infrastructure hardware and security appliances. Continued funding of these essential tools will allow students to access the internet safely and securely from our classrooms. Without this support, schools may not be able to provide consistent connectivity or provide consistent protections that keep our students safe from non-educational content that is otherwise available on the internet. While our schools have come a long way in providing connectivity to our students, without up-to-date equipment and security measures in place, these tools cannot be reliably used to educate our students. Therefore, high poverty schools throughout the nation need your assurance that Category II funding will also be fully funded.
The Challenge of the Digital Divide

The E-rate program, along with support from other federal and state funding resources, has helped school districts drive the inclusion of digital learning resources. Topeka partnered with Discovery Education and all students can access the many resources it provides if they have adequate connectivity. Students and staff are able to meet other schools, attend virtual field trips, and hear from speakers far beyond Kansas through the connected resources we have available. Like many districts, Topeka serves special education children who rely on assistive technology to speak and engage with others. Connectivity for our special needs population is key. These learning resources provide opportunities for students to engage in rich learning experiences that stretch beyond the walls of their classrooms. In short, we are bringing the world into their classrooms, allowing students to learn and grow within a global learning community. That is a tremendous success and can only continue and meet the growing needs through support for the E-rate program and broadband expansion.

While, many of our students have the opportunity to extend their digital learning beyond the classroom by connecting at home with a family-owned computer or their district-issued device, others do not have the same level of opportunities. Many living in poverty move from home to home, as the pandemic has killed many adults, more of our children are in foster care nationally, more are in shelters and many face lack of infrastructure in the community they live within. Equitable access for all must mean equitable access for all. The families who are not living in poverty who have access have a significant advantage over their peers that often begins before kindergarten and continues throughout their K-12 experience. They have the privilege to greater access which directly impacts the opportunity gap and it feeds generational poverty. As more digital learning resources replace traditional textbooks and other tangible resources in the classroom, the disadvantage to high-poverty students intensifies because these resources are not as accessible in their homes as the resources are in the homes of their privileged peers. Furthermore, the level of extended learning opportunities, both extra-curricular and co-curricular, and the level of digital socialization or digital problem solving, is sharply different between the homes with access to the internet and homes without. Every year of disadvantage compounds the problem for our students with the highest level of needs. E-rate and broadband can be the disruptor and the bridge to greater access and opportunities for all.
The U.S. Census Bureau’s report from 2018, based upon 2016 research, observed that 81% of households had a broadband connection of some sort within the home. Yet, a portion of those households deemed “smartphone only” households were predominantly low-income households identifying as either “Black” or “Hispanic.” The census study further concluded that nearly half of all households were considered “high connectivity households,” with a variety of tools available for internet access. Roughly 99% of households with an annual income above $150,000 had a computer, and 96% have a broadband connection subscription. On the other hand, only 72% of households earning less than $25,000 reported having a computer, and only 58% reported having a broadband connection in the home. While these figures may seem encouraging on the whole, the socio-economic disparity this data represents is alarming, and every year of disadvantage multiplies the risk of poverty and its impact on student achievement and economic prosperity for us all.

Emergency Educational Connections

The E-rate program is ideally suited to address the challenges of the digital divide at home. By expanding E-rate eligibility temporarily to allow students without home Internet access to receive support for home connectivity, including support for hotspots, computers and Internet access services, we can close the digital divide this year! We are hopeful that Congress will approve Emergency Educational Connections funding to make this a reality.

The recent pandemic has forced many school districts to face the digital divide challenge creatively armed with only limited funding, often issued to us after the tough decisions had to be made. At Topeka Public Schools, we supported our remote and virtual learning during the pandemic by using a portion of our pandemic-related CARES Act funding opportunities to pay for internet services that were necessary for our families to connect student-issued devices to the online learning resources and teacher interactions to keep our students engaged. We spend roughly $20,000 per month on this initiative and have connected roughly 60% of our families who are eligible for free or reduced lunch benefits. We want to do more to help our families, but we are mindful that the resources that have been allocated to this effort are both temporary and limited. However, delivering digital divide support for the home through the E-rate program would solidify this effort and help us help our high-poverty students and other unconnected in their homes catch up to their peers.
Emergency Broadband Benefit

To help households connect during the pandemic, the new Emergency Broadband Benefit program will help many of our Kansas families that are struggling to pay for internet service during the pandemic. With this new benefit, we will be able to keep more students connected to the classroom. Kansas ranks 28th in broadband access compared to other states. So many of our families are priced out of the market. Discounted broadband service for eligible households and those on tribal lands will further help us to bridge the digital divide.

Tribal connectivity

The group of people most impacted by the lack of internet access in the United States are Native Americans. According to the Federal Communications Commission (FCC), over 600 thousand Native households lack access to standard broadband. This is a rate four times higher than the general population. The American Indian Policy Institute (AIPI) concluded in a 2019 study that one in five residents on any given reservation do not have internet access in the home. The issue has been ongoing for many years, but with the added strain of COVID-19, the impact of having no broadband access is heightened. Issues related to healthcare, education, employment, and some of life’s basic needs have to be handled primarily through the internet.

Under the bill, Native American tribes are eligible for much needed funding to improve connectivity on Native lands. In Kansas, there are four federally recognized resident Indian tribes that have reservations: the Kickapoo Tribe in Kansas, the Prairie Band Potawatomi Nation, the Iowa Tribe of Kansas and Nebraska and the Sac and Fox Nation of Missouri in Kansas and Nebraska. According to broadbandnow.com, 73.86% of the Kansas tribal zip codes have wired broadband and 16.03% have affordable wired broadband. The Kickapoo Tribe in Kansas has 73% access to wired broadband and 47% access to low-priced wired broadband, the Prairie Band Potawatomi Nation has 46% access to wired broadband and 5% access to low-priced wired broadband, the Iowa Tribe of Kansas and Nebraska has 78% access to wired broadband and 71% access to low-priced wired broadband.
price wired broadband and the Sac and Fox Nation for Missouri in Kansas and Nebraska has 76% access to wired broadband and 71% access to low priced wired broadband.

According to internetsociety.org in a May 15, 2020 blog, COVID-19 is a contributing issue that brings the awareness that a lack of internet access is a detriment and negatively impacts the Native American population. The main concerns cited are the need for telehealth and mental health awareness in times of isolation. The blog post also notes that the Government Accountability Office (GAO) has consistently called out the FCC for allowing spectrum radios and other telecommunications to be inaccessible to tribal nations.

Angelina Newsom, a Northern Cheyenne Tribal member, wrote in an article posted on onezero.medium.com of her own experiences dealing her lack of inaccessibility in a world that relies heavily on broadband access. She points out the educational and economic shortfalls faced by her community due to this issue.

From an educational standpoint, Newsom explains that online courses are often less expensive than traditional in-person college courses. However, without broadband access, many indigenous people forego higher education opportunities due to the expense, travel time and the need to stay and provide for others. This, in turn, leaves many Native Americans without the ability to better their situations and that of their communities.

Newsom also notes that as remote employment rates rise, many Native Americans do not have the opportunity or resources available to apply for and perform these jobs. This is yet another contributing factor to high unemployment rates among Native Americans, especially those living on more remote reservations or in rural areas. Often those who wish to work and find employment must commute to other communities where the risk of exposure to COVID-19 is elevated. Many Native American communities already have a shortage or limited access for healthcare.

Telehealth services are in great demand and are a very useful tool as the nation faces the pandemic. However, not having broadband access leaves part of our population without access to adequate, available, and on-demand healthcare. As of
December 2020, the COVID mortality rate for Native Americans was twice as high as any other racial or ethnic group in the nation.

Without broadband access, in short, Native Americans are once again dealt the short end of the stick. The denial of basic, human needs is being withheld. The need for access to ordering food for pickup at a store, the need for educational opportunities, the need for physical and mental health attention... to deny these basic needs is wrong.

In order to ensure the deployment of robust broadband across all of America’s tribal lands, the FCC must commit to a sustainable, concerted effort to incentivize service and infrastructure development within them. This was vital before the pandemic, and now, it is absolutely crucial to the continued health and safety of some of our most vulnerable citizens.

In the past, Native communities have suffered immense tragedies due to a lack of critical infrastructure and aid. During the 1918 flu, these areas were affected four times more than the general population, according to a 2014 study published in American Indian Quarterly. At least 3,200 Native Americans died during that time, including 72 of 80 residents at the Inupiat village of Brevort Mission, Alaska.

To prevent history from repeating itself, we must act quickly to provide crucial communications and telehealth aid to communities who need it the most.

Summary
Free public education provided books, pencils and paper many years ago that students took home and utilized. Now, our device is our textbook, our electronic tools such as the mouse are the pencils and for students who have special education needs, their voice is often through assistive technology that is heavily dependent of adequate WiFi. Education is a basic civil right and to allow our scholars to access this right, funding resources supporting E-rate and broadband services are essential. Today, many of our students cannot share their digital learning resources with their families, because they cannot access them at home. This disadvantage can be eliminated with a temporary emergency expansion of the E-rate, a program
that is already aligned to achieve these results. With your support and commitment to equity, I urge you to make a strong investment in the future of our students, and ultimately in the future of our economy, as we strengthen the connectivity across communities. It is the shared responsibility of all Americans to ensure that we provide equitable educational resources and this is done in part by closing the digital divide with affordable, broadband available to everyone and with schools having resources to provide the devices so many rely on.

The budget reconciliation under consideration by this committee provides funds available from the Emergency Connectivity Fund for the purchase of needed equipment and advanced telecommunications and information services for schools and libraries, including tribal libraries and tribal government buildings, during this public health crisis. Please support Subtitle D, Chapter 2, section 3312 of the Budget Reconciliation.

Dr. Tiffany Anderson
Superintendent of Schools
Topeka Public School District
Unified School District 501
Topeka, Kansas
Mr. Doyle. Thank you very much.
Mr. Wood, you are now recognized for 5 minutes.

STATEMENT OF MATTHEW F. WOOD

Mr. Wood. Thank you, Chairmen Doyle and Pallone and Ranking Member Latta. And it is an honor to be appearing before the subcommittee again. Of course, appearing today means on your screens, not in Rayburn, where I think we would all rather be. And in a sense, that is just what this hearing is about.

I can afford good enough internet service for three kids to attend school from home—one of them is at the table with me now, in fact—and for me to join you online this morning too.

But why can people who look like me more easily pay for this service while it is still out of reach for nearly a quarter of the people in this country? The answer is all too obvious. COVID has changed everything in some ways, as social distance showed beyond a doubt that broadband is an essential utility for learning and livelihoods. Yet it has also changed nothing, merely highlighting and heightening the racial injustice and income inequality at our country’s root.

Measuring the digital divide depends on how we count people with mobile phones alone, but as Chairman Doyle said, our read of U.S. Census data shows that more than 77 million people lack adequate home connections today. This divide is based on income, for sure. Nine of ten in the top income bracket are on online. Only two-thirds in the bottom bracket are. And that group is overly reliant on mobile. Just 48 percent of low-income people have wired broadband.

But we are divided by race and ethnicity too. Twenty-six percent of White people lack wired broadband at home, compared to 34 percent of Black people, 35 percent of Latinx people, and 41 percent of indigenous people. So 13 million Black people, 18 million Latinx people, and 13 million indigenous Americans are without the broadband services they need.

This means affordability is an even bigger challenge than rural deployment. Nonadopters in rural and urban areas surpass the number who lack physical access to broadband. That is why Mr. Veasey’s Emergency Broadband Benefit legislation, passed in the December spending and stimulus bill, was a landmark bipartisan achievement.

It provides up to $50 a month, or $75 on Tribal lands, for any plan an eligible household can buy from participating ISPs. That is enough to give people better options and connect many who have never been online or who lost service in the pandemic.

That number spared disconnection by the previous FCC’s pledge, by the way, as best as we can tell from rough estimates, with something like 1 or 2 million people. And that is a lot, but it is relatively few compared to the country as a whole. Yet that is likely because many people most impacted by COVID were already offline, so they couldn’t lose what they already lacked.

Why are so many still unconnected? Well, it is high prices, plain and simple, in addition to the other barriers that Members have mentioned this morning.
Many people, including many of us here today, likely can't even say precisely what we pay for broadband. That is because we may pay for it with less hardship, but also because broadband is often bundled with other services at promotional rates that vanish over time and with modem rental charges, overages, and other fees tacked on.

But even through that haze, we see concerning reports about price hikes and renewed data caps, all while big ISPs make record profits. Broadband has been a pandemic-proof business in peak demand with ISPs’ revenues rising and their subscriber rolls growing.

We need the FCC to collect more granular pricing data, for sure, to get the full picture, but what we do have is the Bureau of Labor Statistics Consumer Expenditure Survey, which shows average U.S. internet bills increased 19 percent in the first 3 years of the Trump administration. That means nominal broadband prices rose at more than 4 times the rate of inflation.

Wireless prices over that span weren't quite as bleak, but with the T-Mobile/Sprint merger closing last April, the wireless consumer price index spiked 4.1 percent in 2020. No other annual increase had exceeded 1 percent since tracking began in 1998. Coincidence? Not likely.

Prices are rising for entry-level tiers too, and FCC data shows rates for lower-priced, stand-alone broadband up 20 percent in 5 years, more than double the rate of inflation, while it is up 50 percent in some cities.

So the big question is, what can we do? And part of that, of course, is the Emergency Broadband Benefit, but there are more things as well. Stopping the prior FCC’s attacks on Lifeline is a start, but we need bigger, permanent broadband benefits that come with a progressive, sustainable funding source, not increased regressive contributions.

We also need lower prices and increased choice from competition policy and restored FCC authority so the agency can do more than just ask ISPs to pledge just and reasonable service for all.

My written testimony details the failed efforts of the past 4 years, explaining that the prior FCC Chairman didn't actually spur broadband deployment or decrease prices like he claimed. In fact, investment declined every year of Chairman Pai’s tenure.

AT&T investment dropped 20 percent in 2020, and it is 52 percent down from its peak in the last year for the Obama FCC. Comcast dropped 4.5 percent last year, down 22 percent from 2016.

But, even if deregulation alone had increased deployment—and it didn’t—build-out alone would not lower price or increase adoption in the absence of competition, oversight, and more robust adoption subsidies.

Thank you, and I look forward to your questions.

[The prepared statement of Mr. Wood follows:]
Written Testimony of

Matthew F. Wood
Vice President of Policy and General Counsel
Free Press Action

Before the

Congress of the United States
House of Representatives
Committee on Energy and Commerce
Subcommittee on Communications and Technology

Regarding

“Connecting America: Broadband Solutions to Pandemic Problems”

February 17, 2021
INTRODUCTION

Chairman Doyle and Ranking Member Latta, Chairman Pallone and Ranking Member McMorris Rodgers, and members of the Subcommittee, it’s an honor to appear before the subcommittee again.

Of course, when I say appear today that means on your computer screens, not in the Rayburn House Office Building where I think we’d all rather be free to travel and see each other. In a sense, that’s what today’s hearing is all about. Not just the changes the COVID-19 pandemic brought to everyone’s lives, and the disruptions many of us in this hearing have experienced but typically had the privilege and the safety nets to manage.

It’s about the fact that I can afford a broadband internet connection good enough for our three children to attend school from here at home all year, for my wife to run her sole proprietorship as a children’s musician holding virtual classes and online concerts from our home, and for me to work from home and join you all online this morning instead of traveling across the District to get there.

The question we must ask, today and always, is this: why can people who look like me and have backgrounds like mine more readily pay for connections that are still out of reach for nearly a quarter of the people in this country.

The answer is all too obvious.

COVID has changed everything. Social distance showed beyond a doubt that broadband is an essential utility for learning and livelihoods. Yet it has also changed nothing, merely highlighting and heightening the racial injustice and income inequality at our country’s root.
We can measure the digital divide in many different ways, and my testimony will discuss a few of the most meaningful ones we’ve identified at Free Press Action, using data from the U.S. Census Bureau’s Current Population Survey, the Federal Communications Commission, and other sources. But however we measure this divide between those who have the means to connect and those who don’t, our 2016 report Digital Denied\(^3\) showed systemic racism plays a staggering large role in perpetuating it.

The largest part of this complex digital divide is not people who have no access to broadband options in rural and other hard-to-reach areas, though that problem typically gets sufficient discussion if not sufficient investment. It’s people who do have access to broadband today, but cannot afford to purchase it or choose not to adopt it. And as our research shows, this pernicious affordability divide is built on income inequality, with people in lower income brackets less likely to be connected at all—or if they do have a home internet connection, more likely to have a less adequate plan or mobile service alone instead of wired or other types of “fixed” broadband service.

But income alone does not explain the persistent gaps we see in adoption by different racial and ethnic groups. Income inequality is of course created in large part by systemic racism and racial bias, and economic disparity is a significant contributor to the digital divide. But there are adoption and deployment gaps beyond those attributable merely to differences in income, education, or employment figures for people in different racial and ethnic groups.

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That's why adoption support programs and subsidies are such a crucial part of closing the digital divide. The FCC's Lifeline program, modernized to support broadband in 2016, was weakened by a series of unfounded and frankly cruel attacks undermining its authority and its capabilities during the prior administration. Restoring its vitality and ending those attacks is absolutely essential to the federal government's work to close the digital divide. But you must do more than cheer on that program, and the events of the last few months and at the very end of the last Congress show that you can.

The $3.2 billion Emergency Broadband Benefit (or "EBB") passed in the December 2020 spending and stimulus bill was a landmark, bipartisan achievement. That is true even though it's only a temporary fund, and even though in some ways it arrived slower than it might have and yet moves extraordinarily fast. It became law more than half a year later than it should have, since the HEROES Act containing Representative Veasey's initial EBB bill and other important broadband measures first passed the House in May 2020. Yet it is now racing towards implementation in an FCC proceeding due to conclude in a matter of weeks, to get money out the door to people in need of connectivity support during the economic upheaval that COVID brought.

Once implemented, the EBB program will make available up to $50 a month, and up to $75 on Tribal lands, for any plan an eligible household can buy from participating internet service providers. That flexibility will be key to its success, allowing eligible households to choose any plan they like rather than either being shunted into pre-ordained "low-income" programs on the one hand, or on the other extreme being upsold and forced to buy more expensive plans just to use the discount.
Free Press Action worked hard with the bill’s sponsors to make sure ISPs could be reimbursed for any plan a recipient may choose, not just for a pre-set plan at a speed and price determined by Congress or the FCC. Any attempt to tailor-make the offerings eligible for support, or to re-make the entire broadband market in that way, would have been far slower and less effective for providing emergency benefits than this healthy discount available for any and all retail broadband plans on the shelf today.

The program will succeed as long as ISPs keep working together with non-profits. Not primarily with advocacy groups like ours, though we’ve played a role; but more importantly with local community leaders and governments, grassroots organizations, and digital inclusion specialists, all to publicize the program and verify people’s eligibility for the free and discounted plans these larger payments can temporarily secure.

This benefit will help narrow affordability gaps fostered by systemic racism and inequity that pre-dated the virus. And these inequities made it tougher to connect not only for people who lost jobs and significant income during the COVID crisis, but people already out of work, struggling to afford college, or trying to close the homework gap faced by kids whose families can’t afford robust home broadband connections.

Yet Congress and the FCC too can do much more. They can expand and extend robust broadband support programs modeled after the EBB’s flexible approach, but subsidizing so much of the retail price of broadband services offered at diminishing cost but increasing profits for ISPs is not the best and only long-term approach. Congress and the FCC also must address affordability by increasing broadband competition and choice in multiple ways, while restoring the agency’s oversight of unreasonable practices too.
The third part of my testimony will explain in brief how the last four years at the FCC failed to close the digital divide meaningfully, despite the frequent claims to the contrary made by the just-departed Chairman. It suggests what else must be done at the agency and here in Congress, besides extending an EBB successor and then funding it from general treasury, spectrum auction proceeds, or other such progressive sources rather than increased or expanded regressive contributions from consumer ratepayors.

But the first two parts will demonstrate who is still disconnected, and the primary reason why they are:

It’s poorer people who still face the biggest digital divide, sadly but not at all surprisingly. Disproportionately often, that means Black, Latinx, and Indigenous People.

And the main reason so many people cannot get online is the high price of broadband, which is an essential utility for modern life, and one offered in a tightening duopoly or even monopoly setting by ISPs raising their rates far faster than the rate of inflation—even as they cut costs, cut jobs, and cut investments.

1. Black, Latinx, and Indigenous People Faced the Biggest Digital Divides at the Start of the Pandemic, and They Still Do Now.

By the end of 2019, according to U.S. Census Bureau Current Population Survey data, approximately 4 out of every 5 households subscribed to the internet using either a mobile or fixed technology. While that overall adoption figure continues to grow, the rate of growth is slowing. And although this means that 80 percent of households are connected at home in some way, only about 68 percent of them subscribe to a wired broadband service.
This reflects the reality that a growing number of households are reliant on mobile data subscriptions as their sole form of access. That mobile service is vital, but mobile subscriptions alone tend to provide an inadequate quality and quantity of connectivity at all times, and especially during these times when many families are working and schooling from home.

**Figure 1**

Wired Home-Internet Adoption by Households and Persons age 3 and Above (2019)

- 72% of Persons (age 3+) with wired internet in home
- 68% of Households with wired home internet

Broadband, like all technologies, follows what’s known as an “S-Curve” of adoption. This refers to the trajectory of adoption over time, where initially uptake is slow, then accelerates, then slows again as the market reaches universal adoption (or a saturation level below such universal adoption).

Yet the slowing that we’re seeing is troubling. It’s increasingly clear that adequate broadband access at home is as necessary as telephone access at home was for most of the 20th century. But while household-level telephone adoption topped out at about 96 percent, both broadband adoption overall and wired broadband adoption in particular have a long way to go before they reach that level.
While the prior FCC in the Trump administration paid lip service to the issue of the digital divide, it all but ignored its racial and income aspects, and completely ignored the impact that a lack of adequate competition has on broadband prices and adoption.

What that means is that nearly all top income-earning homes are connected to the internet, with 84 percent of those people connected via a wired technology. But only 65 percent of people in the bottom income bracket are online, and just 48 percent of them have the wired connection needed to fully engage in distance learning. The overall internet adoption gap based on income is closing slightly, but this is largely due to poorer households adopting mobile. A low-income household is nearly four times more likely to be mobile-only than is a top-income bracket household.

In sum, this means that **77 million people in the United States** lack an adequate home internet connection (that is, they have no home internet at all, or they are solely reliant on mobile). This is far higher than even the most pessimistic estimates of the gap in deployment of 25 Mbps-level broadband (which range from 14 million according to the FCC’s most recent progress report, to as much as three times that number based on outside analysts’ re-evaluations of that FCC data).

And those without adequate home broadband are disproportionately people of color. While 26 percent of Census-identified “non-Hispanic whites” lack a wired broadband connection at home, that figure jumps to 34 percent of Black people, 35 percent of Latinx people and 41 percent of Indigenous people without such adequate home connectivity.
Even when we add in other types of home broadband connections besides wired, like fixed wireless and satellite options, it’s still **13 million Black people, 18 million Latinx people, and 13 million Indigenous Americans** who do not have the essential telecommunications services they need to fully participate in today’s economic and education systems.

That is how we entered the pandemic: with a shameful lack of connectivity for people of less economic means, and for people and communities subjected to so much discrimination not just for the last four years but the last four hundred years too. Why is there so much we must repair to get people connected?
II. Broadband Prices Are Still Too High and Rising—Before and During a
Pandemic—Despite ISPs' Record Profits and Falling Investments.

While plenty of goods and services get more expensive over time, broadband stands
out for several critical reasons.

First, broadband prices consistently increase faster than the rate of inflation while
the providers' own costs do not. That makes this increasingly-critical infrastructure service
both more expensive in real terms to users, and more profitable for the ISPs.

Second, in almost all consumer product markets, particularly those involving
technology, producers offer a wide array of service offerings that attract buyers of all
means. But as the broadband market matures, the nation's top ISPs are increasingly moving
away from low-priced entry-level tiers in favor of higher-priced, higher-speed packages,
which they market as having increased value. That may be true for some, but it's of little
use or consolation to people already unable to afford the service today.

Third, in many markets prices are more transparent to buyers. But in the wired
broadband market especially, providers market promotional prices to new customers, but
increasingly refuse to publish what their monthly charge will be after the introductory rate
expires. In addition, many wired ISPs impose additional charges such as data overage fees
and equipment rental fees. The latter practice is particularly burdensome, as these rental
fees (which also continue to rise even as the ISP's own costs to procure this equipment
decline) are often for modems and routers that people could purchase from retail providers.
And until Congress stepped in recently, some ISPs would charge their customers a fee even
for declining to use the providers' rental equipment.
Fourth, though it moved away from it for a time, the U.S. wireless market has now again fully embraced upfront handset device subsidies as a way of getting customers to enter into expensive two and three year service agreements. While this arrangement may seem beneficial to some customers, it has the impact of distorting the markets both for handsets and wireless service too, and it reduces pressure on wireless providers to compete on price. The recently-completed T-Mobile/Sprint merger only exacerbates this problem of reduced wireless pricing competition.

Finally, there was once a period when customers who lived in areas with a modicum of home internet competition could negotiate a lower rate when their promotional period ended. But even that is increasingly difficult as carriers focus on higher-return customers, and as cable ISPs widen their lead over legacy telephone companies’ remaining DSL service. ISPs such as Charter and Frontier have said they’ve stopped or reduced customer retention efforts, and anecdotes from other ISPs’ customers reflect the industry as a whole moving away from retention policies. Thus for many customers, they’re stuck on a non-promotional rate, and have to go through the headache (and switching costs) to chase a potentially lower promotional rate from a different ISP, if they’re even fortunate enough to have a reasonably comparable alternative.

This all adds up to bad news for internet users, and helps to illustrate why measures like the Emergency Broadband Benefit are so important to offset high and rising prices, but by no means the only measure we should take to combat these increases.
Broadband Pricing Methodologies and Studies Vary, But We Need More Data on the Actual Prices Individual Customers Pay Each Month.

There are different ways of measuring broadband prices. Understanding each is important for lawmakers' efforts. The broadband market is not like many product markets, where the price advertised is the price everyone pays. Prices in markets for many other consumer goods, commodities, and even other utilities can be far more transparent and easier for researchers to measure. In contrast, the broadband market is a complicated maze for users, with a myriad of promotional and non-promotional prices, hidden fees, and constant price hikes excused by carriers as "value enhancements."

With broadband, there are three main types of prices we can track:

- **Price Paid**: This is the most important metric when discussing broadband prices, as it is the actual dollar amount a customer forks over each month to their ISP. This price often includes not only the main service price but additional fees for equipment rental or data use charges.

- **Advertised Price/"Rate"**: Though ISPs’ advertised prices are often the easiest metric to track down, this price does not reflect the reality of what people actually pay each month for broadband service. Further, the published prices are often a promotional rate, and because many ISPs make it difficult or impossible to know what prices they charge after promotional periods end, the utility of this metric for policy purposes is limited. The advertised price is still informative, as it reflects the approximate price new customers can initially expect to pay, and gives an indication of whether and how ISPs are serving different customer segments.

- **Quality-Adjusted Price**: ISPs and those who would like to put a positive spin on constant price increases in this market often cite quality-adjusted prices, usually calculated from published rates divided by the downstream speed of the service, producing a unit of "price per Megabit." Like all data, this is informative; but it can be presented in misleading ways, and may not reflect the practical implications of a price increase. Current customers may be perfectly happy with their current service package, and not look favorably upon a 10 percent price increase that comes with a 25 percent increase in speeds. And people currently unable to afford broadband can no more easily afford it when the price goes up, even if the "value" goes up too.
When it comes to this last category, it is important to keep in mind that in a technology product market the expectation should be for quality-adjusted prices to continually decline, as the technology evolves, the market matures, and providers’ reap the benefit of signing up more customers for infrastructure they’ve already deployed.

But it’s that first category—the actual price customers pay every month—that is the most important metric to have for economic analysis and policy-making. And it’s the one we’re most lacking today because the FCC has not collected granular pricing data directly from ISPs and this information is not easily obtainable from any other source.

However, we can work towards average prices paid (if not individual variations in this key metric) with two methods: using publicly-traded ISPs’ reports to the SEC, we can calculate Average Revenue per User (or “ARPU”) for residential broadband services.

And there are a variety of surveys that estimate what people are paying on average for broadband and wireless services. By far the most comprehensive of these surveys is the Bureau of Labor Statistics’ (“BLS”) Consumer Expenditures Survey (“CEX”). This massive survey is conducted quarterly and gives a window into the typical household’s outlay on these and many other goods and services. Unlike ARPU data, the CEX data captures the entire U.S. market, not just what is happening at large publicly-traded firms. Yet while the CEX is a very high-quality data source, it also has limitations. Like all survey data, it requires respondents to actually know their broadband expenditures; and further complications crop up when respondents have to estimate the portion of a bundled service bill allocated to broadband.
The Data We Have Shows People Are Paying More While ISPs Spend Less.

With these data types and limitations in mind, we can look at how U.S. broadband prices and broadband provider performance have changed over the years, and especially during the last few years. For consumers, the results are not good: no matter how you look at it, broadband prices continue to rise far faster than the rate of inflation. Furthermore, the lower-priced tiers that are attractive to newcomers to the market and lower-income families are gradually disappearing.

- According to the BLS, the average U.S. Internet customer’s monthly broadband bill in “real” terms (i.e., adjusted for inflation) increased 19 percent from 2017 through the end of 2019—the first three years of the Trump administration. The increase will surely be above that once 2020 data is reported too.
- This means the nominal increase in the average bill was more than four times the rate of inflation during those three years.
- This CEX data also indicates that from the end of 2016 to the end of 2019, prices for cellular phone service increased “only” 1.3-times the rate of inflation in the general economy.
- But another BLS metric, the wireless consumer price index (which is a quality-adjusted metric, based on published prices), signals trouble after more positive news for eight years. With the T-Mobile/Sprint merger closing last April, the wireless CPI spiked 4.1 percent in 2020. Before that, no annual increase in this index had exceeded 1 percent since BLS began tracking it in 1998. We can’t say for sure the merger caused this, but it’s hard to ignore the timing.
- And after a lengthy period of single digit year-over-year increases, quality-adjusted prices for home internet services declined significantly in 2015 and continued to do so until mid-2018, when they started to rise once again.

How did ISPs fare in this time? They grew their profits before and during the pandemic by increasing actual charges at levels far exceeding the rate of inflation. For example:
- Between 2016 and 2019 the average price paid by a Comcast customer for residential internet service increased 15 percent, more than double the rate of inflation for all goods and services during that four year period.

- In 2020 Comcast enjoyed its largest-ever single year growth in residential high-speed internet customers and revenues. Comcast’s cable segment operating profit margin jumped significantly to 42.1 percent, despite continued declines in its traditional cable TV business.

- Charter’s residential internet customers also paid 15 percent more each month on average in 2020 than they did in 2016, double the rate of general inflation.

- Charter saw its largest-ever single year growth in residential high-speed internet customers and revenues during 2020. Its operating profit margin jumped significantly to 38.3 percent, the largest single year increase in profit margin since it closed its acquisitions of Time Warner Cable and Bright House.

Numbers like this, combined with reporting on price increases from other large ISPs, and the re-imposition of data caps that providers either waived last year during the first few months of the pandemic or that they’d held off on imposing for even longer, are not encouraging. We were pleased to see Chairman Pallone, Chairmen Doyle, and Representative McNerny write to nine large ISPs last month to inquire about their pricing practices and data usage restrictions during the current emergency.

Whatever their answers may be for any temporary plans and practices, the kinds of price increases propping up these eye-popping profits are devastating. That’s true not only for people already paying too much for broadband yet lucky enough to have it, but for people unable to afford any broadband options in the first place.

In fact, lower-priced entry-level options are disappearing, raising the adoption barrier for low-income families even further.
The FCC’s Urban Rate Survey data (another study based on advertised rates rather than actual prices paid) indicates that non-promotional rates for lower-priced, standalone broadband tiers rose 20 percent between 2015 and 2020, more than double the rate of inflation. Many ISPs are eliminating their budget tiers altogether, at least when it comes to offerings outside of their means-tested “low-income” plans. Entry-level prices in some markets have increased by 50 percent or more in the past four years.

These types of price increases may not seem significant to people who are well-off and don’t live paycheck to paycheck. But for tens of millions of families, these increases are felt deeply, forcing difficult decisions about which services to forgo so they can maintain critical internet access services.

What’s more, these broadband price hikes come even as ISP’s own costs to provide service continue to drop. Capital investment by providers large and small declined during the previous four years, with substantial declines at large companies like AT&T (where 2020 investment was 20 percent below 2019’s total and 52 percent below 2016’s on an inflation-adjusted basis), and Comcast (where 2020 cable segment investment was 4.5 percent lower last year and 22 percent below 2016’s level on an inflation-adjusted basis).

According to the most-recent Census data, in 2019 the U.S. telecom industry as a whole saw the largest non-recession year decline in capital investment since the aftermath of the 2001-2003 telecom bubble bursting. Based on data from leading ISPs, 2020’s industry-wide investments are expected to be even lower than 2019’s.
That means that, despite any bluster or spin to the contrary, broadband investment declined every year of Chairman Pai’s tenure. We’ll never say this was Chairman Pai’s fault. As we’ve been explaining for years, and as ISPs themselves explain quite clearly to Wall Street, broadband investment is cyclical and driven by factors like competition, demand, and technology evolution, not FCC regulations.

Yet what Chairman Pai must be faulted for is the false premise underlying his chairmanship. He claimed that deregulation alone would spur investment and decrease prices. It did not. And even if it had, buildout alone would not lower prices or increase adoption in the absence of competition, oversight, and more robust adoption subsidies.

This data is broad and indisputable. Broadband prices are increasing faster than the rate of inflation. And the best-available data indicates that the pain of these increases is most acute for low-income consumers and others who seek lower-cost service offerings. This should worry anyone who wants to see the economic and racial digital divides closed. It should also be a top concern for policymakers contemplating how to ensure that everyone has internet access during this global pandemic.

III. The Emergency Broadband Benefit and More Recent E-Rate Expansion in the Committee’s Reconciliation Package Are a Welcome Change in Direction, But We Need More Affordability Supports and Competition Spurs.

The results from the last four years of FCC inaction on affordability are plain to see. Prices for the general population and for people in need of lower-priced entry-level plans went up, as broadband providers merged, built market share, and generally enjoyed the fruits (for them) of a less competitive landscape. Tens of millions still lack adequate home broadband connections during this pandemic.
The last FCC wasted its opportunities to act on affordability, yet never wasted an
opportunity for unjustified boasting about its alleged accomplishments. A fuller litany of
the last four years is available in Free Press’s filing last fall in the Commission’s most
recent broadband progress report docket.2

That filing reported the discouraging adoption numbers for Black and Brown
communities detailed in Part I above, and gave a more comprehensive accounting of
aggregate and individual ISPs’ investment declines described in Part II above. It also
explained that broadband competition decreased from already meager levels over the last
four years, while the vast majority of any increases in fiber deployment and broadband
speeds were the result of plans and investments commenced during the prior
administration. For example, when it came to deployment:

- The rate of growth in basic broadband deployment at lower speed actually tiers
  slowed during the Pai era when compared to the prior administration.
- Fiber deployment under Chairman Pai was exactly what one would expect based
  solely on the deployment trends from the prior eight years accelerating at the
  predicted rate.
- Some 92 percent of Pai-era fiber deployments came from projects announced
during 2015-2016, and AT&T’s DirecTV merger buildout commitment (that Pai
opposed) accounted for two-thirds of all new household fiber deployments during
his tenure.
- AT&T’s fiber deployments all but ceased upon completion of these Obama-era
  commitments.
- Increases in availability of very-high speed cable broadband services were likewise
  planned, publicly announced, or begun before Pai’s tenure as chairman ever began.

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2 See Comments of Free Press, GN Docket No. 20–269 (filed Sept. 18, 2020),
And in terms of competition and other broadband price and performance metrics:

- At the start of 2014, cable company ISPs controlled 59 percent of the home internet market's customers, but today the cable industry's share is above 68 percent.
- According to BLS data, and as detailed far more extensively above, home internet and wireless prices are rising, reversing decreases seen after Title II went into effect and before T-Mobile and Sprint started talking merger.
- Chairman Pai often bragged about growth in average broadband speeds, but using the same data he did (from Ookla speed tests), we see that growth in speeds was slower in the Pai era than it was in the last three and a half years under the prior FCC.

Before looking ahead, to what a new Congress and a new FCC can do beyond the great strides already taken with passage of the EBB and last week’s E-Rate expansion voted out of this Committee, it’s important to say a word on the results of Chairman Pai’s “Keep America Connected” Pledge.

That Pledge certainly was not a bad idea in a vacuum, but it could have been so much more useful and comprehensive if the FCC could have required the continuation of service and prohibited unreasonable data caps rather than merely asking ISPs to step up to the plate. Many ISPs did do the right thing, at least for the first several months of the crisis last year, and (less often) with continued relief and expansion of free and reduced-price offers this year too. A shut-offs moratorium, and other measures the House actually passed in the HEROES Act, could potentially have been implemented at the FCC too, if the Commission had not surrendered the authority it has over broadband telecommunications under Title II.

But the Pledge may not have prevented as many disconnections as one might have expected, even though this silver lining provided no real cause to celebrate either.
The number spared disconnections by the Pledge has been difficult to tabulate, not only because ISPs took these steps voluntarily, but because they were not required to report results to the FCC or their investors in any standardized format. Free Press estimates the figure was relatively low, based on these inconsistent reports. We believe approximately 1 million households used the Pledge to maintain residential wired broadband access, and can even more roughly estimate a figure in that same range for the big three wireless carriers combined. Of course, there were also hundreds of complaints filed at the FCC by people who said their providers had not honored Pledge promises.

To characterize a million or two broadband customers potentially benefiting from the Pledge as relatively low should do nothing to minimize the benefits those people obtained. Keeping anyone online in the pandemic was of immeasurable value to their health and safety, economic prospects, educational opportunities, and family connections. But to say that only a million or so customers benefited from the Pledge may tend to suggest that the economic upheaval of the pandemic did not result in a terrible broadband cataclysm and a deepening of the digital divide.

Yet that's likely the case for two reasons: as the adoption figures in Part I illustrate, many people most likely to be impacted by the economic downturn were already offline. They couldn't lose what they already lacked. And as other data suggests, such as ISPs' increased subscriber counts during the pandemic and people reporting increased personal usage, millions who had difficulty affording broadband likely made it work anyway because they had no other choice during the COVID crisis.
So what can Congress and the FCC do next, to ensure not only the success of current emergency broadband measures, but to ensure that more people are connected reliably and affordably once the current health crisis ends?

Free Press has published broadband priorities for 2021 and beyond in various advocacy and academic materials over the last few months, but we look forward to more concrete action from the new administration, the FCC, and Congress too, on the solutions to make affordable connections available to everyone. Just for a start to improve affordability and adoption, especially by people of color, on Tribal lands, and in low-income communities more generally, we must:

- Wholeheartedly support Lifeline, and stop the attacks on that program launched by the last FCC, while also ensuring businesses contribute their fair share to USF.
- Explore more progressive ways to fund broadband support mechanisms as we did with the EBB, not only for people already eligible for Lifeline, with a mix of direct appropriations, spectrum auction revenues, or possible tax-credits to reduce the prices that working families and others pay for broadband today.
- Support legislation mandating FCC collection of data on the actual prices people pay for broadband, to provide a comprehensive picture of cost-based barriers to adoption and formulate policies to address them.
- Restore the FCC’s authority under Title II of the Communications Act to investigate and stop unjust and unreasonable practices and penalties, because as the FCC’s remand decision in the Open Internet litigation shows, a lack of authority jeopardizes Lifeline, the FCC’s authority to promote competitive broadband facilities, and public safety too.
- Support FCC action, and new legislation if necessary, to allow for broadband wholesaling and resale competition from providers that do not own their own networks. That kind of competition is still present in the wireless market to some degree but has almost disappeared in the wired broadband market.
- Support legislation that removes barriers to municipal broadband projects, and other cooperative and competitive initiatives, while using federal broadband-deployment subsidies to support local decision-making on construction and maintenance of these kinds of networks.
Mr. DOYLE. Thank you very much, Mr. Wood.
The Chair now recognizes Mr. Adelstein. You are recognized for 5 minutes.

STATEMENT OF JONATHAN S. ADELSTEIN

Mr. ADELSTEIN. Well, thank you, Chairman Doyle, Ranking Member Latta, and members of the subcommittee.

WIA certainly shares your goal of ensuring that all communities benefit from broadband, and this subcommittee has showed great leadership to do just that. You are taking this rare opportunity to address long-standing inequities, as Congressman Welch noted, and we can now build the best workforce to expand broadband across the country. WIA applauds your efforts.

I have heard every witness agree and every Member agree that the pandemic underscored the importance of broadband like never before. From virtual school to working from home, to telemedicine, connectivity is essential. And as a result, the pandemic generated unprecedented demand for wireless services, and the wireless industry is meeting the challenge. The network has performed exceedingly well, thanks to massive investments our industry made in infrastructure, like no other industry.

As bad as the pandemic hit our families and businesses, just think how much worse it would have been before the era of broadband. Think back just 10 or 20 years ago. This hearing wouldn’t be possible. I think our economy and quality of life would have collapsed. Congress, the FCC, and the industry worked together over many years with this committee in a lead role to make this happen. It was a miracle.

Yet, as we have heard today, a large portion of this country, particularly communities of color and rural areas, still don’t have access to broadband or can’t afford it. The negative economic and social consequences for those left behind contrast with the many businesses and finances that were saved by broadband when working from home.

Some rural residents, of course, were left without economic opportunities, and the homework gap hurts too many students. This subcommittee took real impactful action, we have heard about today, from the leaders of the community to address the digital divide, from funding accurate maps, to telehealth programs, to helping minority and underserved communities, to the Emergency Broadband Benefit program, and, of course, last week’s amazing action on the Emergency Connectivity Fund.

Now, the pandemic only exacerbated the damage of the digital divide. WIA’s mission is to work with you to find a sustainable solution so that all communities can benefit. I think the Congress can really build upon your longstanding efforts to expand broadband deployment. And given the dramatic benefits we have seen in the pandemic, sufficient subsidies for deployment are needed.

I think legislation along the magnitude of Majority Whip Jim Clyburn’s Affordable Internet for All Act is warranted. The connectivity package released yesterday by committee Republicans also includes a lot of helpful policies.

So we will work with all of you to promote broadband infrastructure legislation that is designed to meet the challenge. I think it
can be developed in a bipartisan manner, given the broad level of support it enjoys amongst so many on this subcommittee. An infrastructure package to make the best use of co-location, which officially leverages existing infrastructure and capital for new infrastructure as well, while reducing disruption to local communities. Congress should ensure that funds can be used for operational expenses, such as leases as well as capital expenses, and hold recipients accountable for outcomes. And it should be technology neutral. Building infrastructure with the most cost-efficient means to get the most bandwidth to the most consumers.

As part of making historic investments like this in infrastructure, I think it can really also prioritize building a more skilled workforce, with good new jobs that you create, workers that can meet the new demands of the latest 5G and broadband technology. We have an opportunity to put Americans hurt by the pandemic back to work in high-wage jobs that provide opportunities for advancement.

And as the wireless industry continues to grow, these workers will speed the economic recovery and they will grow along with us. So funding in any infrastructure package should support employers and programs that adopt registered apprenticeships, a proven technique that is ideally suited to broadband. That will help us develop the skills needed to deploy quickly, efficiently, and absolutely safely. Congress can seize this opportunity to re-skill dislocated workers, to diversify the workforce, to do these jobs.

We look forward to working with CWA President Shelton and the labor community to grow this workforce together.

Along with supporting employers, Congress should strengthen programs in institutions of higher education, such as community and technical colleges and HBCUs and TCUs. Academic institutions haven’t kept pace with how fast our industry has grown. I think Congress can fund partnerships, driven by employers, with educational institutions that can develop programs in broadband and 5G.

And here is some news. A new Gallup Poll will be released today. It found that 90 percent of the public supports investing in the broadband workforce as a priority, with overwhelming majorities from both parties. Ninety percent. That is big news.

Chairman Doyle and Ranking Member Latta, we certainly appreciate your focus on these critical issues. I look forward to continuing our work with you and this subcommittee because I really believe together we can make progress on our shared goal of expanding broadband across both rural and urban America, and to all of our citizens, especially those in need.

Thank you.

[The prepared statement of Mr. Adelstein follows:]
Testimony of
The Honorable Jonathan S. Adelstein
President and CEO, Wireless Infrastructure Association

Before the
Subcommittee on Communications and Technology
Committee on Energy and Commerce
United States House of Representatives

Hearing entitled
“Connecting America: Broadband Solutions to Pandemic Problems”

February 17, 2021

Chairman Doyle, Ranking Member Latta, and members of the Subcommittee, thank you for holding this important hearing and for the opportunity to testify. I am the President and CEO of the Wireless Infrastructure Association (WIA), representing the companies that build, develop, own, and operate the nation’s wireless facilities. Our members include infrastructure providers, wireless carriers, equipment manufacturers, and professional services firms. WIA advocates for the widespread, responsible deployment of wireless infrastructure to enable mobile broadband access for communities everywhere. The wireless infrastructure industry is committed to making next generation communications technology available to more Americans than ever before. The importance of broadband is dramatically underscored by the increased reliance on broadband during this unprecedented COVID-19 pandemic. We welcome the focus of the Subcommittee and Congress on promoting our shared goal of expediting broadband deployment and winning the race to 5G.

Importance of Broadband Networks During the Pandemic

COVID-19 brought forth new challenges and new opportunities for broadband deployment. Today, there is an even deeper recognition of how essential reliable wireless connectivity is to every household and to every industry. The wireless industry’s network investments enabled the entire economy to sustain itself during the pandemic. We helped businesses to stay afloat, children to continue learning, and doctors to see patients. Work-from-home, remote learning, and telehealth have all generated an unprecedented demand for wireless connectivity anchored by the need for wireless infrastructure. And the wireless industry is meeting the challenge.
Imagine if this pandemic had occurred 10 years ago, when average wireline speeds were 4 Mbps. There was no Zoom capability to help us work from home, nothing resembling today’s virtual learning for children, or telemedicine to replace a doctor visit. Far beyond the pandemic’s devastating impact we have seen on businesses and jobs, the economy and our way of life truly would have collapsed. Today, with average speeds on mobile networks alone of over 65 Mbps, broadband has enabled millions of Americans to transition quickly to working and learning from home. This means that traffic on networks has shifted as well—often from urban cores and office parks to residential and suburban areas. All done without a hitch. Because the networks performed so well amid the added demand, I believe it is underappreciated how much the successful leadership by Congress, the FCC, and the industry working together was responsible for this miracle.

In fact, U.S. networks’ performance during the pandemic continues to demonstrate why our networks are the envy of the world. COVID drove mobile traffic up 20 percent, essentially overnight. Yet, mobile data speeds kept pace. This was not the case in other countries. According to an Ookla report, China’s mobile download speeds saw speed increases of up to 40 percent during their peak COVID restrictions, while Italy saw decreases of up to 23 percent, and Spain saw decreases up to 15 percent. Over two-thirds of European countries experienced mobile speed decreases of up to 30 percent in late March, according to Opensignal.

U.S. wireless success is not accidental. Nearly $30 billion invested every year by the wireless industry, a timely supply of spectrum due to the leadership of this Subcommittee and the FCC, a regulatory framework that promotes investment in responsible wireless infrastructure, and U.S. wireless industry innovation all combined to put the U.S. in a better position than Europe during the pandemic.

4. Id. at 2.
5. Id. at 7 (comparing U.S. mobile broadband speeds to other countries).
Bridging the Digital Divide

Despite the enormous positive impact of broadband in sustaining vital communications through the pandemic, many Americans could not share those benefits. At least 18 million Americans do not have a high-speed broadband Internet connection according to the latest data from the FCC. This means that not all Americans can fully participate in today’s economy and democracy, tend to lag in school, and their local communities are not able to keep pace with the economic growth potential that broadband brings. While the number of new broadband subscribers continues to grow, studies and data indicate that the rate of broadband deployment in urban, suburban, and high-income areas is outpacing deployment in rural and low-income areas. This disparity has adverse economic and social consequences on those left behind.

This Subcommittee and the entire federal government are to be commended for the many efforts undertaken to address the digital divide. One important challenge that was addressed is the inaccurate maps that hinder the ability to determine which areas will receive grants to expand deployment. Under the continued leadership of this Subcommittee, the necessary funding for the FCC to collect accurate information and create more effective broadband availability maps was included in the Consolidated Appropriations Act.

The Consolidated Appropriations Act also included several important provisions to bridge the digital divide. NTIA, for example, is required to establish an Office of Minority Broadband Initiatives to focus on broadband access at historically Black colleges and universities, Tribal colleges, and universities, and other minority-serving institutions, including their surrounding communities. The measure also included important funding for the FCC for its COVID-19 Telehealth Program. This vital program will help health care providers bring connected care services to patients at their homes or mobile locations in response to the COVID-19 pandemic. Finally, the Consolidated Appropriations Act created two new grant programs at NTIA to support broadband connectivity on tribal lands and to support broadband infrastructure deployment in areas lacking broadband, especially rural areas. WIA stands with this Subcommittee in seeking bipartisan and sustainable solutions to ensuring that all communities can benefit from robust broadband service.

WIA recently filed reply comments on the FCC’s proceeding on the Emergency Broadband Benefit Program (EBB). This Subcommittee was instrumental in the creation of this program. The EBB program presents an important opportunity to address the digital divide by breaking down barriers to affordability so that underserved populations can be connected and can take advantage of the opportunities provided by broadband connectivity. Wireless services should have an important role in the program. WIA and its members are committed to working with the FCC and this Subcommittee to ensure that the program is implemented effectively.

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Closing the Homework Gap

The COVID-19 pandemic has exposed the digital divide more starkly, and it has become most apparent in education. Students without a reliable at-home broadband connection suffer from a homework gap. Pew has found that thirty-five percent of households earning less than $30,000 a year do not have broadband. More specifically, two million children live in households that rely exclusively on cellular networks, and there are three million households with school-aged children that do not have at-home broadband connections at all.

Students without sufficient access are more likely to lag in education and unless made up by other means may be less competitive in the workforce. Numerous studies have shown a high correlation between the geographic areas where students have no access to broadband with lower educational attainment, lower lifetime earning ability, greater health issues and lower life expectancy.

This problem has become especially pronounced during the pandemic as most school systems shifted to online learning. This school year, many are still conducting online learning and will do so for the foreseeable future. For families lacking broadband, the homework gap will only be exacerbated as students need internet connectivity to continue their schoolwork from home.

Last week, the full Committee approved recommendations for budget reconciliation that creates an Emergency Connectivity Fund. This fund would enable eligible schools and libraries to provide connected devices, internet service, and hotspots to students and teachers for broadband use at home. WIA is committed to work with this Subcommittee and members on both sides of the aisle working to implement equitable solutions to address the homework gap.

Expanding Broadband Infrastructure and Access

To address these increased demands and new challenges, Congress should build upon its longstanding efforts to ensure that broadband deployment expands across the country. It is the mission of my industry, and I am proud to say of my life, to make broadband available to as many Americans as possible. Notwithstanding the performance of U.S. networks, there are still Americans who lack basic broadband access. Whether due to affordability challenges or a lack of connectivity, we all must work together to address this problem, and WIA is ready to work with the Subcommittee to meet this moment.

Given the dramatic benefits of broadband for consumers, businesses, and the overall economy as witnessed in the pandemic, sufficient subsidies for deployment in unserved and underserved areas are clearly warranted. Federal investments of the magnitude approved by the House last year as part of the "Moving Forward Act,"11 that included Majority Whip James Clyburn's "Affordable Internet for All Act,"12 are needed and will offer outsized return on investments to the U.S. economy and for the quality of life in our country. We look forward to working with

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both sides to promote broadband infrastructure legislation and hope it can be done in a bipartisan manner given the broad level of support that it enjoys among so many in Congress and on this Subcommittee.

Such an effort should make the best use of collocation, which accelerates broadband deployment and efficiently leverages existing infrastructure and capital for new infrastructure while reducing disruption to communities. Shared infrastructure was critical to accelerating broadband deployment in the 4G era and is again proving so as 5G rolls out. WIA welcomes the focus and attention by many members of this Subcommittee on promoting collocation.

Congress should also ensure that funds can be used for operational expenses, such as leases, as well as capital expenses, be deployed expeditiously, and recipients are held accountable for outcomes. It should be truly technology neutral with the end in mind: getting critical infrastructure built to foster greater bandwidth to consumers using the most cost-efficient means. We can apply the lessons of the industry’s successful performance in the pandemic and 4G to expedite 5G deployment to ensure that all Americans can access advanced broadband networks.

Creating Good Jobs and Preparing People with Registered Apprenticeship and Training

As the House was approving such monumental legislation last year, President Biden pledged during his campaign to “bring broadband to every American household” with an investment of $20 billion in broadband infrastructure, which he estimated had the potential to create 250,000 new jobs. President Biden was right to highlight that expanding access to broadband is a direct and indirect job creator – putting hundreds of thousands of people to work in good paying jobs that can build careers and rebuild our economy.

To help ensure a diverse pipeline of job-ready workers ready for these jobs, Congress should take bold action to invest in registered apprenticeships and evidence-based job training and support. Last year, then-candidate Biden underscored this point saying his program for expanding broadband access would “require federally funded projects... to employ workers trained in registered apprenticeship programs.” This is a laudable commitment to workers and their development.

Today, registered apprenticeship in the broadband industry is new and would quickly need resources to scale to this level. I suggest that to increase the efficiency, equity, and success of a broadband infrastructure investment, a corresponding initiative is needed to develop the broadband workforce through additional support for registered apprenticeships and the educational and training system. An immediate expansion of education and skills training will create a pipeline for wireless infrastructure jobs in a growing industry of the future. Anchored in

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13 See Alan Pace et al., "Wireless Broadband Infrastructure: A Catalyst for GDP and Job Growth 2013 - 2017," Info. Age Econ., at 7 (Sept. 2015) (exploring how the use of existing infrastructure and then-new wireless structures, like small cells, were key to meeting increasing consumer demand during the adoption of 4G technology).  
registered apprenticeship and evidenced-based strategies to train and match people to broadband jobs, this sustainable pipeline will ensure all Americans, including underserved populations, will gain access to these high-growth, family-sustaining careers.

An infrastructure package contemplated by Congress and the Biden Administration provides an historic opportunity to put Americans impacted by the pandemic back to work in broadband jobs that truly matter to the long-term economic health of the country. These are high-wage jobs that provide opportunities for advancement as the wireless industry continues to grow and will speed economic recovery. As wireless technology evolves, the workforce needs to evolve with it. The skills of yesterday no longer suffice for the demands of today and tomorrow’s wireless jobs.

Congress can support successful efforts now underway by the industry to prepare to meet the demands of 5G, the most technologically complex generation yet. The Department of Labor is already working to develop the pipeline of skilled workers needed to deploy broadband across the country and to win the race to 5G. Secretary of Labor Marty Walsh noted in his recent confirmation hearing that “The Department (of Labor) has worked closely with the telecommunications and wireless industry for a number of years. ... DOL looks forward to continuing its partnership with WIA and others in the industry to help scale up these programs to support 5G deployment.” More federal efforts that build on current success are warranted to expand training programs so the U.S. can build the advanced networks of tomorrow by building a properly skilled workforce today. Of the more than $850 million in DOL grants for apprenticeship, less than 1 percent has gone to support broadband, 5G, or the broader telecommunications workforce.

Including support for 5G and broadband training in any future infrastructure package will further this Subcommittee’s goal of bringing advanced broadband services to communities throughout the U.S. It will create new jobs, reskill workers displaced by the economic disruption of the pandemic, and present new opportunities for the existing workforce. The immediate need is best served by utilizing existing, successful programs and evidence-based or proven models for apprenticeship workforce development and other training and support programs. Funds should target employers that adopt apprenticeships to develop their workforce with the skills needed to deploy broadband quickly, efficiently, and safely. Given the existing need for skilled labor, Congress can seize this opportunity to reskill diverse and dislocated workers to fill these jobs.

WIA has led efforts to expand wireless workforce training and development. WIA is the national sponsor of the Telecommunications Industry Registered Apprenticeship Program.

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(TIRAP), a multi-employer, nationwide registered apprenticeship program credentialed by DOL to support wireless workforce development. WIA has worked to move forward our relatively new industry, partnering to create TIRAP in 2014 with the DOL, the FCC, and a consortium of employers. TIRAP brought registered apprenticeships into the wireless industry for the first time, and is now helping telecommunications workers create sustainable careers, while supporting 5G infrastructure build-out and deployment needs. To date, TIRAP has signed up 50 employers of all sizes and has registered more than 2,200 apprentices in a growing number of telecommunications occupations.

Recently, eleven trade associations representing the entire telecommunications industry united by co-signing a letter urging Congress to support workforce skills training to deploy next generation wired and wireless networks. We noted the telecommunications industry is ideally suited for apprenticeship, which is a new but growing solution in our industry. We also backed the expansion of broadband training at institutions of higher education.

Registered apprenticeships are proven to help employers recruit and retrain workers, including underserved and underrepresented populations, provide case management, support services, and training to completion. Yet, substantial startup costs to apprenticeship and other types of evidence-based education and training can present substantial barriers for employers and workers. Apprentices require significant training and supervision before they become fully productive, which also poses a barrier if employers are not equipped to provide on-the-job and classroom training.

We therefore suggest that Congress fund direct training expenses for employees that lead to higher skills, wage gains, and career advancement. Eligible costs should include:

- Employer-sponsored training;
- Assessment and certification expenses;
- Equipment and consumable training supplies;
- On-the-job training and mentorship costs, and;
- Supervision, tracking, and apprenticeship administration.

Funding should be included as part of a broadband bill or as part of a much larger, broader investment in workforce development in the upcoming jobs and infrastructure package. Expanding apprenticeships nationally in the wireless industry should be a top priority for Congress as it looks to spur economic growth and to promote broadband deployment.

Along with supporting employers, Congress should strengthen programs at institutions of higher education, such as community and technical colleges, Tribal Colleges and Universities (TCUs),

and historically Black colleges and universities (HBCUs). Academic institutions have not widely adopted programs for broadband and 5G to keep pace with the rapid growth of our industry. A critical need remains for programs of study in broadband engineering, network deployment and field activities, cybersecurity, and network engineering. There is also a great need for courses that modernize existing programs, including hands-on field activities. To target funds to actual needs, federal investments should be employer-driven partnerships with educational institutions to develop degrees and programs of study on broadband deployment and 5G training. Congress should also directly fund new programs with HBCUs and TCUs to expand offerings in high-skill occupations such as electrical engineering and wireless engineering.

Current models exist for successful, effective partnerships between industry and educational institutions. With DOL support, TIRAP is collaborating to develop curricula to implement at five community and technical colleges to provide academic support to apprentices. WIA and the Power and Communication Contractors Association (PCCA) are collaborating to expand these programs at these colleges: Monroe County Community College (Michigan), Somerset Community College (Kentucky), State Technical College of Missouri, Terra State Community College (Ohio), and Wisconsin-Indianhead Technical College. PCCA developed successful utility technician training programs that WIA is enhancing with wireless curricula to teach workers skills for 5G deployment.

National intermediaries are also an efficient solution to recruit and place candidates, such as students and returning service veterans, into positions where there is high demand. Intermediary model also helps employers overcome the process-related barriers while entering the registered apprenticeship programs. Funding should support:

- Development and adoption of national industry-recognized credentials and curricula leading to those credentials;
- National registered apprenticeship sponsorship;
- Development of occupations, standards, and certifications; and,
- Outreach, job-matching, and placement.

Congress, especially members of this Subcommittee, has embraced the value of workforce training and apprenticeship. Reps. Walberg and Clarke recently introduced the "Telecommunications Skilled Workforce Act." This bill addresses the workforce demands in the telecommunications industry. We strongly support this measure and thank Reps. Walberg and Clarke for their leadership.

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Developing the workforce through training and apprenticeship requires long lead times. Now is the time, as we look to deploy 5G, to incentivize apprenticeship in telecommunications. The stakes are high. China can use centralized authority to quickly shift massive labor resources through government intervention. China is effectively using steroids to pump up its 5G rollout. In the U.S., the industry is leading without cheating. We simply ask Congress to support private sector efforts to ensure the educational system keeps up with our rapidly growing needs.

**Wireless Industry and Workforce Contributions During the Pandemic**

During the pandemic, wireless infrastructure companies pledged to continue serving their local communities.

The pandemic, of course, dramatically affected the needs of emergency services, hospitals, and medical professionals. Many locations around the country experienced overflowing emergency rooms as COVID cases mounted. This meant that medical professionals and patients relied even more on broadband connections to deliver critical care via telemedicine. People have logged into countless telemedicine sessions to determine whether they needed to risk going to a hospital or if they should stay home. Wireless was a literal lifeline, which saved more lives than we will ever know.

Wireless providers are offering extra capacity to first responders and COVID testing sites. They are helping people delay paying bills if they are facing financial difficulties. Some, such as JMA Wireless, have reallocated their facilities to manufacture ventilators and PPE. Carriers waived fees, increased data, and kept hotspots open for underserved Americans. Wireless companies have also provided free service and resources to schoolchildren who lack broadband access. There are hundreds of examples of the wireless industry stepping up to help those in need.

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28 See, e.g., *Keeping Americans Connected* (FED. COMM’NS COMM’N), <https://www.fcc.gov/keeping-americans-connected> (last visited Feb. 15, 2021) (outlining the over 800 organizations that pledged to ensure the burden of connectivity due to the coronavirus pandemic).


31 See Keep Americans Connected supra note 24 (discussing how signatories pledged to 'not terminate service to any residential or small business customer because of its inability to pay its bills due to the disruptions caused by the coronavirus pandemic.

32 See JMA Offers Free Open-Source Ventilation System Blueprints to All Manufacturers, JMA TOWERS (Apr. 9, 2020), <https://inside-towers.com/jma-offers-free-open-source-ventilation-system-blueprints-to-all-manufacturers/> (detailing JMA’s efforts to divert its assets to meet the critical ventilator shortage).

33 Keep Americans Connected supra note 24.

34 See, e.g., *Companies Have Gone Above and Beyond the Call to Keep Americans Connected During Pandemic* (FED. COMM’NS COMM’N), <https://www.fcc.gov/companies-have-gone-above-and-beyond-call-keep-americans-connected-during-pandemic> (last visited Feb. 15, 2021) (detailing efforts of various service providers to expand access to those in critical need, including students).
need, as well as countless efforts by wireless industry personnel continuing their work in the field to maintain and extend service across the country.

Collaboration with Municipalities

The pandemic clearly put a strain on local governments, as it did for so many others. With the transition to telework and limited access to government buildings, permit processing and other services related to network building were understandably disrupted. WIA and our members were grateful for the collaboration with municipal government leaders. In the early months of the pandemic, WIA convened a series of meetings with municipality government leaders to promote solutions to specific bottlenecks in communities, as well as broader approaches that were succeeding in enabling broadband buildout to continue during this time, particularly in critical areas to address pandemic needs. Increasing electronic filing, drop boxes, and holding community meetings online were some of the key commonsense solutions. Building wireless infrastructure requires partnerships with local communities. WIA was grateful to facilitate these important conversations, in collaboration with municipality leaders, including NATOA and the National League of Cities.31

BDAC Disaster Response and Recovery Working Group Recommendations

Industry, public interest, and local governments also came together to address the crisis through the FCC’s Broadband Deployment Advisory Committee (BDAC). I was honored to serve as the Vice-Chair of the BDAC’s Disaster Response and Recovery Working Group. As the pandemic spread across the country, the FCC asked us to shift our focus to determine in real-time how to keep communities connected. I am very proud of our work—a unanimous consensus report that outlined the difficulties that industry faced in continuing to offer reliable, fast broadband as network traffic shifted and the demand for data increased overnight.32 But, it also shows the heroic efforts that our partners in local government accomplished to continue performing their responsibilities while also being called upon to perform other jobs and helping with other departments during the crisis.

The report detailed the societal impacts of the pandemic, the impacts on local governments, and the impacts on networks and infrastructure. It provided recommendations for broadband availability and greater network resiliency during disasters, as well as network traffic engineering practices to maintain connectivity. For example, we recommended that the FCC continue to employ Special Temporary Authorizations for spectrum use to support networks in targeted areas for limited periods of time.33 The FCC and other federal agencies should have funding sources available for a pandemic response, which could be used to address the root

33 Id. at 19.
issues of broadband availability and adoption. Access letters, like those provided by the Department of Homeland Security (DHS), were vital for essential infrastructure providers to ensure that their crews could continue to provide service during the pandemic. DHS should continue to engage with personnel on "access letter qualifications and related rights for critical infrastructure providers through such programs or documents as the Interoperability Communications Technical Assistance Program, the National Emergency Communications Plan, and FEMA's National Response Framework." In addition, communications providers should have updated emergency and disaster response plans that account for weather, as well as pandemic events. Overall, the way that industry worked together with local governments and the FCC in response to the pandemic should be a model going forward.

As FCC Acting Chairwoman Jessica Rosenworcel has noted, incentive-based systems for municipalities to facilitate broadband deployment are well-considered. The wireless infrastructure industry supports federal incentives to encourage broadband deployment through policies, such as encouraging the use of existing infrastructure through Sections 6409 and 224, limiting fees to actual and objectively reasonable costs to ensure rights of way, and establishing clarity on pole replacement costs among utilities and attached, while encouraging one-touch make-ready policies.

4G Success and the Race to 5G

The U.S. has led the world in mobile wireless communications, winning the race to 4G. This victory was made possible by unrivaled industry investment in wireless infrastructure and fueled by a successful strong, unified, bipartisan commitment between industry and government. Federal policies supported investments by the wireless industry to deliver greater connectivity across the country and spur American technological innovation.

We need to repeat the success of winning the 4G race, which spurred millions of new jobs and the creation of entire new industries, such as the app economy. Wireless industry investments during the 4G era totaled $261 billion—a 43 percent increase from the decade prior. The U.S. wireless industry is now poised to invest another $275 billion to build 5G networks, which will create 4.6 million direct and indirect jobs and contribute $1.7 trillion to the U.S. GDP in the next decade. As of May 2020, current 5G design and buildout had already created 106,000 direct jobs.
jobs in installation and engineering. At the current rate of deployment, there will be 500,000 more, new, direct broadband and 5G jobs through 2025. Current and planned wireless industry investments and unparalleled innovation position the U.S. to win the race to 5G. We are united again, as today’s hearing highlights, to continue the successful partnership between the wireless industry and the federal government. We applaud the many successful bipartisan policies the federal government has implemented to support the three key legs of the stool needed to succeed: infrastructure, spectrum, and the workforce.

Conclusion

Wireless broadband helps to drive America’s innovation economy and fuels the nation’s economic future. The U.S. has always been the global leader in wireless innovation.

That is why the leadership of this Subcommittee is so critical. Several Members of this Subcommittee recently wrote to the President asking him to ensure that we address the challenge of broadband access. The signatories came from both parties. We all recognize these challenges and need to work together toward solutions. WIA appreciates the opportunity to partner with the Subcommittee in addressing these important issues. We are deeply grateful for the bipartisan recognition of the importance of infrastructure by this Subcommittee, by Congress, by the FCC and the Administration. All have implemented policies to promote wireless broadband deployment, and all are working to build on recent successes.

Thank you again, Chairman Doyle and Ranking Member Latta, for holding this hearing and inviting me to testify. I look forward to continuing to work with you and the rest of the Subcommittee to make additional progress on these very important issues.

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40 See Majed Al Ammar et al., Smart Cities: How 5G Can Help Municipalities Become Vibrant Smart Cities, ACCENTURE STRATEGY at 1, 4 (Feb. 2, 2017), https://sustainable-urban-development.housing.gov/5g-and-smart-cities/5g-and-smart-cities-smart-cities-5g-and-smart-cities. pdf (determining that 120,000 jobs will be created every year during the first seven years of 5G deployment).
Mr. DOYLE. Thank you, Jonathan.
And last but certainly not least, we have Chris Shelton. Mr. Shelton, you are recognized for 5 minutes.

STATEMENT OF CHRISTOPHER M. SHELTON

Mr. SHELTON. Good morning, Chairman Doyle, Ranking Member Latta, and members of the subcommittee. Thank you for the opportunity to testify today.

CWA represents hundreds of thousands of workers, including more than 150,000 employees in wireline and wireless telecommunications.

My own experience in the industry goes back to 1968, when I was hired by New York Telephone as a technician. I have worked in telecommunications and represented telecom employees my entire adult life.

The pandemic has made something clear to people across the country that CWA members have known for a long time: Affordable, reliable broadband internet connections are critical for all Americans. Yet millions of families do not have access to these connections.

We are living in an America where if you have $10,000 to spend on an ad in The Wall Street Journal, you can get quality internet access at home. But if you are a single mom struggling to pay the bills, your children have to sit in a McDonald’s parking lot, using the free Wi-Fi to do their homework.

This problem has been years in the making and was exacerbated by deregulation across the industry, as major telecom companies allowed their networks to deteriorate and failed to upgrade low-income communities to fiber optic service.

In 2006, CWA called for better FCC broadband maps, faster broadband speeds, a strong Lifeline subsidy program, and robust public investment to spur broadband deployment. We also worked with partners to address the fact that the digital divide also harmed many urban communities of color excluded from fiber broadband networks. And here we are, 15 years later, still discussing the same issues. Had our recommendations been enacted, we might not be facing the challenges the pandemic has exacerbated.

This committee’s work, including the recent enactment of an Emergency Broadband Benefit and last week’s directive for E-rate funding, is a good start, but I know the majority of this committee agrees that more must be done to achieve lasting structural change.

For example, we must strengthen the Lifeline program and protect the millions of consumers who rely on it. We must fight efforts to undercut it, like making funding contingent on the annual congressional appropriations process. We must modernize Lifeline so that the digital divide does not get worse.

Today, the funding mechanism that supports the USF is unsustainable because it levies fees only on traditional voice service, despite the shift to broadband. The Commission should explore options, including broadening the USF funding base, in order to fulfill the promise of universal service. And companies must not be allowed to shirk their responsibility to provide affordable access
through Lifeline. For example, as proposed, the Verizon/TracFone transaction could curtail availability of the Lifeline program for millions of low-income consumers.

Even a strengthened Lifeline won’t be enough without bold action to reinvigorate broadband deployment. Major telecom companies’ lack of investment has made the digital divide worse.

My written testimony describes AT&T’s merger build-out. The company, once the leader in universal service, has made fiber to the home available for fewer than one-third of the households in its 21-State network.

While many have placed enormous faith in the idea of competition in this sector, competition alone is not an adequate solution to ensure universal access in a capital-intensive industry like telecommunications. We need an infrastructure bill that will expand broadband access and create and protect good jobs, as President Biden has laid out in his plan to Build Back Better.

This means $80 billion in funding, as in Whip Clyburn’s Accessible Affordable Internet for All Act, to help close the digital divide. The bill sets standards that ensure the workers who build and maintain federally subsidized broadband networks can exercise their collective bargaining rights free from employer coercion and intimidation.

The bill also prohibits outsourcing of work with the intent of circumventing a collective bargaining agreement. This provision addresses the growing trend of major broadband companies avoiding accountability by contracting and subcontracting work, harming workers and consumers in the process.

CWA members who build, maintain, and service our telecom networks know better than anyone how broadband policy can help address the struggles our Nation faces. We are grateful that the Biden administration and congressional Democrats have begun to take the necessary steps to address these glaring digital inequities that the pandemic has exposed.

I look forward to answering any questions you might have. Thank you.

[The prepared statement of Mr. Shelton follows:]
Testimony of
Christopher M. Shelton
President, Communications Workers of America
Before the
U.S. House Subcommittee on Communications and Technology of the
Energy and Commerce Committee
February 17, 2021
Chairman Doyle, Ranking Member Latta, Chairman Pallone, Ranking Member Rodgers and members of the Committee: Thank you for the opportunity to testify today and for your leadership on broadband access, an immediate concern for people across the country.

My name is Chris Shelton. I am President of the Communications Workers of America (CWA). CWA represents working people in telecommunications, media, airlines, public service, and manufacturing. This includes more than 150,000 employees in wireline and wireless telecommunications. My own experience in this industry goes back to 1968, when I was hired by New York Telephone as a technician. I've worked in telecommunications and represented telecommunications employees my entire adult life. So I know a little something about this industry.

Today I'm going to talk about the path to universal broadband which the pandemic has made clear our nation must focus on addressing. This starts with recognizing the problem: the private sector alone has failed to close the digital divide. The crisis of the pandemic has forced us to recognize the need for collective action for the common good to finally solve this festering problem of digital disconnection for millions in our nation. As with electrification in the 1930s, the federal government has a critical role to play in closing the gaps in both access and adoption. We need an approach to broadband policy that accounts for the shortcomings of the recent decades of industry-driven deregulation and charts a new path with accountability and oversight as watchwords, and with frontline telecom workers as stakeholders whose jobs and voices matter, since they do the hard work of connecting all Americans.

The pandemic has made something clear to people across the country that CWA members have known for a long time: affordable, reliable broadband internet connections are a critical necessity for all Americans for work, education and healthcare and that millions of families in the United States do not have access to these connections. This is not a new problem, but one that has been years in the making. It has been exacerbated by deregulation across the industry over the last four decades leading to many of the broadband inequities we're
experiencing today. For years, we have protested as major telecom companies allowed their networks to deteriorate and failed to upgrade low-income communities to fiber-optic service. We fought to retain government oversight of providers so that rural communities wouldn't be left without advanced communications services as Wall Street set the broadband investment agenda. And with fewer regulatory tools to address this private sector neglect, workers, business owners, and especially consumers—in fact all Americans—have suffered as a result.

CWA's advocacy for universal broadband has often been prescient. In 2006, we launched the Speed Matters campaign, calling for better broadband maps at the FCC, faster broadband speeds, a strong Lifeline subsidy program to connect low-income households, and robust public investment to spur broadband deployment. If this sounds familiar, it's because we are still discussing the same issues 15 years later. CWA was an innovator, capturing real-time data on internet connection speeds and advocating for the United States to increase those speeds to be more competitive globally. In 2010, we called for gigabyte broadband service for anchor institutions -- hospitals, schools and libraries -- in every community, especially rural and lower income urban areas, because we knew that's the only way that applications like medical monitoring and diagnosis would bring the most benefit to the people of the United States. We worked with partners in the civil rights and digital equity communities to raise the issue that the digital divide was not just an urban/rural divide but also an urban/urban divide with growing numbers of communities of color being left out of the expanding fiber broadband networks around the country. We urged local, state and federal regulators and policymakers to take steps to stop and reverse this growing divide.

While our Speed Matters coalition won some victories, such as the increase in the broadband speed benchmark in 2015 and the modernization of the Lifeline program to include broadband service, the promise of universal broadband has been stymied by industry intransigence and legislative inaction. Had our recommendations been enacted, we might not be facing the severe challenges we are now. That’s because CWA has always been a union whose members know their interests lie with the communities they live in and serve -- we must fight for equity and full democratic participation, regulating our industry from the grassroots to connect everyone, everywhere.

Early actions during the pandemic

CWA’s members work on the frontlines building broadband networks, installing equipment in subscribers’ homes, and providing customer support. During the pandemic, CWA’s strong collective bargaining agreements enabled us to quickly negotiate protections for our members including access to protective equipment, protocols to ensure technicians did not have to enter customers’ homes if the situation was unsafe, and work-from-home for customer service and sales representatives. In doing so, we were able to ensure continued service for customers who badly needed it, without unnecessarily putting workers and their families at risk.

We also partnered with allies to fight for increased access to broadband early in the pandemic. In March 2020, CWA led a letter calling on broadband providers to lift all data caps and waive all data cap fees for all customers -- wired and wireless -- during the pandemic; and to remove barriers to immediate access to enrollment, including any waiting period and any disqualification of those with unpaid balances. The demands went further than the FCC’s

inadequate Keep America Connected pledge that carriers signed and the agency allowed to lapse in June.\(^4\)

Our demands have since been proven to be necessary -- Comcast, for example, announced at the end of 2020 that the company intends to roll out data caps in their northeast footprint, charging customers $10-and-up for using more than 1.2 terabytes of data starting this March.\(^5\) Facing pressure for imposing data caps during the pandemic, Comcast agreed to delay the imposition of these data caps until July,\(^6\) but its actions demonstrate that providers are chomping at the bit to profit off the connectivity that we cannot do without during this pandemic.

In May 2020, CWA, together with the American Federation of Teachers (AFT) and the Service Employees International Union (SEIU), wrote to Congress on behalf of our collective 4.4 million members, many of whom are on the frontlines of the fight against the pandemic. We called on Congress to fund broadband infrastructure expansion; appropriate $4 billion for an Emergency Connectivity Fund through the FCC’s E-Rate program; and direct the FCC to create an Emergency Broadband Benefit for low-income households of $50 per month to cover the cost of adequate broadband service.

Again, CWA’s policy demands acted as an early clarion call to address concrete needs on the ground and helped lay the groundwork for important Congressional action. Thanks to the leadership of Chairwoman Doyle, Chairman Pallone, and the important work of many on this committee, House Democrats were able to break through the years of resistance and gridlock to get millions of people much-needed help. In the latest pandemic relief package, Congress appropriated $3.2 billion for a low-income household Emergency Broadband Benefit. This


much-needed measure will provide up to $50 per month to eligible households, and up to $75 for those on tribal land. In addition, we applaud the House Energy and Commerce Committee vote last week to advance language in its section of the coming COVID-19 budget reconciliation measure that would allocate $7.6 billion for E-rate remote learning funding.

It is worth noting that, in March 2019, when the idea of a pandemic closing much of the country for a year would have been unimaginable to most people, CWA released an infrastructure proposal that called for bold public policy to promote investment in broadband networks that would also support the growth of good jobs, fair labor standards, and respect for workers’ rights in the telecommunications industry. We called for $40 billion in public investment to build broadband to unserved communities, raising the broadband speed benchmark to keep pace with advances in technology, deploying fiber networks to facilitate smart city applications, and closing the homework gap with a spectrum auction — an idea popularized by the current Acting Chair of the FCC, Jessica Rosenworcel. Less than two years after we released this platform, most of its proposals are now considered common sense among broadband policymakers.7

The private sector has failed to deliver universal broadband deployment.

It’s important to understand the reason we’re in this mess. Major telecom companies’ lack of investment has made the digital divide worse. Major broadband providers, both telecom and cable, have chosen not to build their networks to areas they deem less profitable, and not to upgrade many existing customers left behind by outdated technology. For example, Frontier Communications revealed recently that it targets an internal rate of return above 20% for new fiber builds within just a few years — the kind of short-term cash return Frontier’s new hedge

7 Communications Workers of America, “CWA Broadband Infrastructure Proposal,” (Mar. 2019). http://drive.google.com/drive/u/1/folders/1gQ691yKw9A_3bD1m/1XhIQGgn3fIMzFRetk
fund owners are looking for, but not the kind that will reach all communities. Cable providers are infamous for striking deals with each other to swap customers, creating cable monopolies in areas they deem profitable enough to serve, and using their dominance to avoid pressure for upgrades.

While many have placed enormous faith in the idea of competition in this sector, CWA knows well that competition alone is not an adequate solution to ensure universal access in a capital-intensive industry like telecommunications. As our elected leaders recognized in the 1930s, government plays a crucial role in establishing regulations and oversight that ensure all households have access to affordable, high-quality essential services -- whether it be electricity, water, or communication. Broadband industry players -- wireline and wireless -- have used every means available -- from lobbying Congress and state legislators to aggressively litigating -- to dismantle protections for residents, including carrier of last resort statutes. As in so many other parts of contemporary American life, from healthcare to banking, the choices that private companies have made in the wake of this deregulation have served to deepen racial and economic inequality.

Late last year, CWA and the National Digital Inclusion Alliance published a report revealing how AT&T, the nation's largest communications services provider, is making the digital divide worse and harming its customers and workers by failing to invest in crucial fiber-optic buildout. The report draws on an analysis of service availability in AT&T's 21-state network, a survey of CWA members, and reports by local advocates; it reveals widespread

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9 These deals are called "clustering arrangements" and are documented in Susan Crawford, "The Looming Cable Monopoly," Yale Law & Policy Review (June 1, 2010), https://yale.edu/yaleIfNeeded_all/looming-cable-monopoly
10 Communications Workers of America, "New Reports Detail How Telecom Companies Like AT&T are Failing to Provide Broadband and Good Jobs" (Oct. 5, 2020), https://cwa-union.org/news/releases/new-reports-detail-how-telecom-companies-like-at-t-are-failing-provide-broadband-and-good
service below the FCC’s broadband definition of 25/3 Mbps and demonstrates AT&T’s
disinterest in building fiber-optic cable, which it halted in mid-2019 after meeting an FCC-
 imposed deployment benchmark tied to its acquisition of DIRECTV. In all, AT&T has made fiber-
to-the-home available for fewer than one-third of the households in its network. AT&T’s
employees -- many of whom are CWA members -- know that the company could be doing much
more to connect its customers to high-speed Internet if it invested in upgrading its wireline
network with fiber. They know the company’s recent job cuts -- more than 50,000 since 2018 --
are devastating communities and hobbling the company’s ability to meet the critical need for
broadband infrastructure.11 We understand AT&T is ramping up for renewed fiber deployment,
which we welcome, though AT&T’s planned expansion to 2 million locations in 2021 is not as
aggressive a deployment as we have called for.12

The result of deregulation and private sector under-investment is a persistent and deeply
harmful digital divide that leads directly to children sitting in fast food parking lots to do their
homework during a public health crisis. Home broadband is a necessity for all, regardless of
race, income or geography — especially as we’re being asked to stay at home whenever
possible to stop the spread of the virus. Yet according to the FCC’s most recent Internet Access
Services report, 44 million households -- 36 percent of all households -- do not have a
broadband connection that meets the FCC speed benchmark, either because they do not have
access or they can’t afford it.

Broadband access is stratified by race and income. The digital divide remains deep, both
because of inadequate access and because broadband service is unaffordable for many. Only

11 Communications Workers of America and the National Digital Inclusion Alliance, “AT&T’s Digital
Redlining: Leaving Communities Behind for Profit,” (Oct. 2020). https://cwa-
union.org/sites/default/files/20201005attdigitalredlining.pdf
12 CWA called for AT&T to invest one-quarter of its annual free cash flow (projected to be more than $25
billion) into rapid fiber deployment, which could fund deployment to more than 6 million locations per year. 
AT&T said it plans deployment to 2 million locations in 2021. See AT&T, Inc., Fourth Quarter 2020
Earnings Call, January 27, 2021, https://seekingalpha.com/article/4401349-t-inc-cfo-john-stankew-on-
q4-2020-results-earnings-call-transcript?part=transcript
25% of households eligible for Lifeline subsidies participate in the program, according to the most recent data, which precedes the current economic crisis. According to Pew Research, 34 percent of Black households and 39 percent of Latinx households do not have a wired broadband connection, compared to 21 percent of white households. The Census Bureau recently found that Native Americans are the least connected population, with 33 percent lacking a broadband subscription and 47 percent of those living on tribal lands lacking broadband availability. For low-income households earning less than $30,000 per year, 44 percent lack home broadband, compared to 8 percent of households that earn over $75,000 per year. Economic inequality is a critical barrier to democratic participation in our society and the digital divide helps explain why that is.

Solutions to bridge the digital divide and achieve universal broadband

What can be done? President Biden and Congressional Democrats have been setting us on the right path over the last year. During his campaign, President Biden committed to closing the digital divide, promising he would invest $20 billion in rural broadband infrastructure and ensure that the work of installing broadband provides high-paying jobs with benefits. We've already discussed and praised Congressional Democrats' success with the essential Emergency Broadband Benefit and work to ensure E-rate funding so children can learn from home. The Emergency Broadband Benefit and ensuring E-rate funding is a good start, but I'm sure the majority of this Committee agrees that more must be done to achieve lasting structural solutions.

For example, we must work to strengthen the FCC's Lifeline program. CWA has long been an advocate for the Lifeline program and worked closely with allied groups to win

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modernization of the program under the Obama Administration so that it now provides broadband service. Of course, we, along with our civil rights and public interest allies, had to fight to defend the program under the Trump Administration and even before then from the hyperbolic attacks from Congressional Republicans. As the only federal program that addresses the issue of affordability, Lifeline is a crucial tool to close the digital divide and has been an essential resource for low-income people across the country during the ongoing COVID-19 pandemic. The program is truly a lifeline for low-income households and can help protect the health and well-being of these households and the larger community.

The Commission must strengthen the Lifeline program, first by ensuring that states are fully participating in the National Eligibility Verifier. Shoring up Lifeline for the long-term also means combating attempts to harm the program and the millions of low-income consumers who rely on it for service. One of the latest corporate attempts to undercut the Lifeline program and other Universal Service Fund programs is to remove the USF fee from customers' bills and make it dependent on Congressional appropriation. AT&T and Verizon are pushing this idea in the media and on the Hill and will continue doing so. Don't fall for it. It's true that the Universal Service Fund needs modernization— I'll get to that in a moment. But moving USF funding to the appropriations process would be a disaster for the program.

Lifeline may also suffer as a result of the wireless industry's pursuit of consolidation to increase profits. Verizon's proposed $7 billion acquisition of TracFone Wireless from América Móvil, the Mexican telecommunications giant owned by Carlos Slim, is currently before the FCC. TracFone is the largest provider of Lifeline services with approximately 1.7 million low-income subscribers in 42 states, or 22 percent of total Lifeline subscribers. In its application, Verizon provides almost no information on its Lifeline plans and makes no binding commitments to maintain

17 The Commission's Lifeline program provides a subsidy of $9.25 per month to help low-income households afford the cost of modern communications services, wired or wireless.
TracFone's significant participation in the program. Absent such commitments, the proposed Verizon-TracFone transaction could curtail availability of the Lifeline program for low-income consumers, negatively affecting millions of low-income Americans. Previous transactions have included conditions to protect Lifeline subscribers, and this deal should follow those precedents.

As we saw during the T-Mobile-Sprint merger process, our antitrust and public interest review process for mergers is lacking real teeth, leaving consumers and workers unprotected. Since the T-Mobile-Sprint deal closed on May 1, 2020, we have seen the first sustained increase in wireless prices since 2015. Prices have risen nearly 5% during this period, which raises serious questions about the value of voluntary commitments not to raise prices.¹⁸

Moving from adoption to access, we must take bold action to encourage greater broadband deployment. We need an infrastructure bill that will expand broadband access and create and protect good jobs -- the dual mandates that President Biden has laid out in his plan to build back better. This means $80 billion in funding for deployment that goes to proven technologies with strong accountability measures, as envisioned in Whip Clyburn's Accessible, Affordable Internet for All Act. This legislation would jump-start broadband deployment to unserved and underserved communities and help close the digital divide. In addition, the bill would establish the Office of Internet Connectivity and Growth, would conduct outreach to communities in need of better access to or adoption of broadband service, and create two new grant programs to help achieve digital equity.

One important accountability measure in Representative Clyburn's bill is standards that ensure the workers who build and maintain federally-subsidized broadband networks are able to exercise their collective bargaining rights and form unions free from employer coercion and intimidation. The bill also prohibits outsourcing of work that has the intent of circumventing a collective bargaining agreement. This provision addresses the growing trend of major broadband companies avoiding accountability by contracting and subleasing work, which

fragments and disempowers their workforce. In the broadband sector, most construction contractors are non-union and undercut the wages, benefits and quality of work that union members fought for and won over decades.

Let’s look at the case of AT&T. A recent CWA analysis found that AT&T has used more than 700 contractors to build and maintain its network over the past four years. The small contractors at the bottom of this pyramid compete largely on labor costs, squeezing their workers and cutting corners that risk safety and quality of work. CWA members are well aware of the risks these contractors pose in the field: our members observe issues including contractors that hit lines and cause service outages; cable that is not buried deep enough, risking hits by customer lawn mowers or other issues; incorrect installation of access points, conduit, and ducts for fiber installation to customer premises, delaying service activation; incorrect hanging of fiber that makes it vulnerable to squirrels and other animals; incorrect installation of conduit piping for laying fiber underground so that it is crushed or otherwise unusable; and broken fiber or copper cables. As one technician reported to CWA: “Contractors rush to get the job done quicker bypassing safety issues and damage the plant trying to get done quicker to make more money.”

Beginning in 2014, for example, AT&T deployed its GigaPower fiber service throughout the State of North Carolina. AT&T hired Anesco & Associates as a general contractor for this project. In the Raleigh area, Anesco further subcontracted construction work to companies including Georgia-based Synchronicity LLC. In the fall of 2016, Synchronicity began soliciting workers via Craigslist to help bury fiber for AT&T. These workers were hired as independent contractors rather than employees, meaning they have no access to workers’ compensation or

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other protections for employees. In October 2018, 19-year-old Derek Mims had his fingers crushed in a ditch-digging machine while installing fiber cables for Synchronicity. He lost his pinky and required two surgeries to save two other fingers. It was Derek’s first week on the job and “he had barely been trained” according to a field trainer quoted in the Raleigh News & Observer, who said she was fired for advocating for Mims and his coworkers. After weeks of fighting for unpaid wages, Mims and two coworkers met a Synchronicity representative in a parking lot and were given cash. Mims said his share amounted to $5 per hour for the time he had worked. 21

Before going further, I want to address some misinformation. I know many of you have heard about alleged worker shortages in the telecommunications industry in recent months. I urge you to be skeptical of these claims. AT&T and other telecom companies have laid off tens of thousands of workers in the past few years, including thousands of well-trained construction technicians, while non-union contractor companies claim they can’t find qualified workers. A labor shortage should lead to increased wages to compete for workers, yet the Economic Policy Institute recently found that wage growth in the telecommunications industry was slow over the last forty years despite increased productivity, and there is no evidence of a contemporary labor shortage based on detailed analysis of wage and employment data. 22 The lowest paid 10% of workers in telecom actually saw their wages decline by 12% in real terms since the 1970s, driven by outsourcing and the loss of union representation. When wireless infrastructure companies and their lobbyists start talking about workforce shortages, ask them for proof.

The wireless industry will also make appeals to this committee to further preempt local authority over the siting of wireless infrastructure in our streets and sidewalks. But we believe the new FCC leadership will recognize that local governments are indispensable partners to

ensure deployment protects the public interest and furthers digital equity. CWA and our allies in local government organizations like NATOA and the National League of Cities have strongly advocated that the FCC should rescind its 2018 Small Cell Order and support the role of local governments in facilitating safe deployment of wireless facilities in the public interest. Federal overreach into inherently local issues of public safety and right-of-way management doesn’t benefit the public or facilitate equitable deployment. It also leaves cities without resources to enforce accountability for fly-by-night contractors that cause damage to public property and utilities.

Finally, the digital divide will remain if we refuse to modernize the FCC’s tools designed to close it. Today, the funding mechanism that supports the Universal Service Fund (USF)—which funds the FCC’s deployment, E-Rate and Lifeline programs—is unsustainable because it levies fees only on traditional voice service, despite the shift to broadband as the primary communications service. The FCC reports that revenues subject to federal USF assessment have been steadily declining, falling from $67.5 billion in 2010 to $34 billion in 2020. To offset the decline in telephone revenue that can be assessed, the FCC has increased the USF fee on interstate and international telecommunications services from 12 percent in 2010 to 27 percent in 2020. In contrast to the decline in revenues subject to USF assessment, communications providers have reported growing non-telecommunications revenues—from broadband for example, which are not assessed—rising from $173.2 billion in 2010 to $337.2 billion in 2018. The growth of the USF fee negatively impacts vulnerable residential consumers, small businesses, and the communications industry that serves them. The current methodology for assessing the fee is unsustainable and, as a result, all of the USF programs are at risk if the funding mechanism is not stabilized. The Commission should explore options including broadening the USF funding base to include broadband customers. Broadband is a mature, profitable industry that cannot claim innovation will be hindered by returning some of its profits to fulfill the promise of universal service.
Conclusion

As many people work, learn, and access healthcare from home, broadband has finally been widely recognized as an essential service necessary for full participation in society. CWA members who build, maintain, and service our telecom networks know better than anyone how broadband policy can help address the public health and economic crises our nation faces. We have been issuing warnings for almost two decades about how neglect by the private sector and growing deregulation have set the stage for the digital inequities we see across the country today - in both rural areas and urban centers.

We are grateful that the Biden Administration and Congressional Democrats have begun to take the necessary steps to address these glaring digital inequities that the pandemic has exposed. And we look forward to working with you to build the solid foundation to make sure that we truly do build back better from this pandemic with a focus on ensuring affordable, reliable broadband internet connections for all.

Thank you for the opportunity to testify today on behalf of CWA’s members who have invested their working lives in the telecommunications networks that serve our country, and who have been politically active in the fight for truly universal service and corporate accountability. I look forward to answering any questions you may have.
Mr. Doyle. I thank the gentleman.

We will now—this has concluded opening statements. I am sorry. We have concluded our witness statements, and we are going to move to Member questions. Each Member will have 5 minutes to ask questions of our witnesses, and I will start by recognizing myself for 5 minutes.

Mr. Wood, Congress established the Emergency Broadband Benefit program in December of last year. This program allocated $3.2 billion to provide low-income consumers with $50 a month on their—benefit on their broadband bill. Why is this type of program so important now, and what kind of lifeline could it provide?

Mr. Wood. Thank you, Mr. Chairman. I mean, it is incredibly important because of the price. I talked about how prices have gone up for broadband pretty much across the board and especially at the lower end of the tiers that are offered.

But wherever they are going, we all know that Lifeline, as Mr. Shelton discussed, is incredibly important. It is only $9.25 a month, and it basically gets people a free phone with limited data. So getting more money into their hands so they can get plans that are available from ISPs today off the shelf at a much higher speed or a much more robust package is just crucial to getting people connected and keeping them that way.

Mr. Doyle. Yes. Are you concerned about objections raised by some that this program that we just marked up in full committee could target some of the same households?

Mr. Wood. No, I wouldn't say I am concerned. I mean, obviously, the new FCC can take account of that and maybe try to look for ways to be efficient and look for duplication. But even there is some duplication, I wouldn't say I was concerned by it because we all know that kids need connectivity at home. And if the kid has connectivity, that is great for the student, but the parents need internet too. So if a parent gets a device or has some broadband capability to conduct their own work, look for jobs, do telehealth visits, everything else that is part of our virtual lives right now, I certainly wouldn’t think that is bad. Most of us take that for granted, in fact, and that is something that many households would benefit from who don't have it today.

Mr. Doyle. Thank you.

Dr. Anderson, as you know, many folks are eager for schools to safely reopen for in-person instruction, and as an educator and superintendent, you are responsible for facilitating that transition. Do you believe, as many of us do, that the additional funding for remote learning, like the $7.6 billion this committee passed last week, will help schools safely reopen sooner?

We have some of our colleagues that are arguing rather strongly that the funding for distance learning would actually slow down the reopening process. What do you believe?

Dr. Anderson. Absolutely not. First of all, Topeka Public Schools, we actually reopened at the beginning of the year, K through 12. So we had in-person learning in small groups, and that is for over 13,000 students. As our virus spread, we did go back to remote learning.

I will tell you that schools across the country, if you have that added service for remote learning, that is not going to slow down
opening, because as I said at the beginning, prior to the pandemic, we needed these services. Virtual schools were already in place, telehealth has already been in place. In many ways, it is just a light being shined on it.

I think you further, I believe, would further open schools more quickly if we have the flexibility to address the current pressing needs from the pandemic, but we also have the flexibility to continue to address the needs that were already existing prior to the pandemic occurring.

So I especially don’t think additional funding would slow down by any measure the reopening, and many schools, particularly in rural America, have been opened throughout this pandemic. Perhaps because of the small size, again, in Topeka, we are not quite rural, but we were open as well, and all of our neighbors have been open as well, in Shawnee County, for most of their school districts, certainly throughout elementary.

Mr. DOYLE. Thank you, Dr. Anderson.

Mr. Shelton, tell me, why do you believe that legislation like H.R. 2, the Moving Forward Act, which would invest a hundred billion dollars in broadband deployment and adoption, will succeed in closing the digital divide where deregulation and consolidation have really failed to result in service getting deployed to my colleagues’ constituents in rural communities, or in lowering the cost of service for folks who are already struggling to pay their bills?

You need to unmute, Chris.

Mr. SHELTON. The only way to improve broadband deployment is getting the companies that know how to do it to move forward, and the only way that is going to happen is with Federal money used to help these companies get this done.

And, you know, it is obvious that deregulation, which has been going on for years now, is not doing the trick, because if it was, we wouldn’t be having this meeting today. There has been so much deregulation that these companies get away with abandoning their copper and not replacing it with any. As that fellow in California proves when he put a $10,000 ad in The Wall Street Journal, all of a sudden he had broadband put in about 3 days later.

Mr. DOYLE. OK. Thanks, Mr. Shelton.

I see my time is just about up, so I will yield back. And I will recognize my good friend, the ranking member, Mr. Latta, for 5 minutes for questions.

Mr. LATTA. Well, I thank the gentleman for yielding. And, again, I appreciate you holding the hearing today.

I would like to start my questions—before I start my questioning today, just correcting some of the facts that were listed in Mr. Shelton's opening statement that he made.

First, it is really essential that we have all the correct facts as we go forward, but it is important that we know first that the $3.2 billion Emergency Broadband Benefit was a bipartisan priority that was included in the funding package at the end of 2020 to respond to the pandemic.

And, second, the Office of Connectivity and Growth, which are called for in the statement, was also codified in that same bipartisan legislation.
And we all are here because we want to close that digital divide and we really want to work and make sure, in working with our colleagues across the aisle, that we are working in a bipartisan way. And I really appreciate the work that we have done in the past on this subcommittee. 

My first question is for Mr. Adelstein. Again, thank you for your testimony. And one of the reasons our networks have performed so well during the pandemic is because our country’s light-touch regulatory approach enabled providers to have the necessary flexibility to respond quickly to the increased traffic. It helped providers step up voluntarily to expand low-income programs, open up our Wi-Fi hotspots, and provide needed relief to many Americans.

Yesterday, I introduced the Wireless Leadership Act, which would require State and local governments to provide timely responses to applications that deploy wireless infrastructure, which will help the U.S. lead in 5G and improve connectivity for Americans. 

How will my bill and the other 27 permitting bills that were introduced by E&C Republicans yesterday help responsibly roll back regulations and ensure our country’s broadband networks can continue to handle more internet traffic?

Mr. Adelstein. Well, Congressman Latta, we are very grateful for the package of bills that you introduced. They really are full of thoughtful ideas. You know, I am especially appreciative of the fact that they will promote public safety in the deployment of—you know, we are talking about the pandemic and how essential it is to have service.

And people say, well, “we want backup generators, we want backup power,” but then they don’t let us site a generator here or they make it difficult. Well [inaudible] is going to make it easier to put in emergency power, make it easier to put in FirstNet for public safety, which people rely on. And, frankly, it makes it easier to put in equipment of all kinds that could benefit people that are having health emergencies, that are working from home. You know, we need to get infrastructure in place in order to do it, and we need to do it responsibly.

I think what I love about the bill is it focuses on colocation. I mean, this should be the low-hanging fruit. We are talking about stinging on existing infrastructure. It shouldn’t be that controversial to, you know, swap out equipment that is on existing infrastructure, to upgrade to 5G.

Now, we need to work together. Municipalities are our partners. We have worked with them on these things, and, you know, many municipalities are doing a great job of rolling out the red carpet. And I have to say, the pandemic, they realize, “Please invest, we need your investment to do it,” and they made it—you know, they bent over backwards during the pandemic to help us, make sure that we could continue the process, get emergency equipment in place to deal with bottlenecks that affected that.

But, you know, we need smart policies to build out, you know, 5G, and close the digital divide. We are going to contribute $1.5 trillion of the U.S. GDP through 5G, 4.5 million jobs in virtually every sector.
And, if this committee is talking about investing large amounts, it makes sense to think about how do you colocate that equipment on property—you know, wireless equipment—how do you streamline the process, shot clocks, Federal lands. Lot of good ideas we can sift through together. I look forward to working with you on them.

Mr. LATTA. Well, thanks very much. Let me follow up with this, and it is real interesting the information you gave on how much money that we are looking at 5G is going to have out there in the economy and also with the number of jobs. But do you have any information how much money and time carriers spend on complying to all the regulations necessary to deploy broadband in both our cities and rural communities?

Mr. ADELSTEIN. You know, because that information is so dispersed, we don’t actually gather it. I mean, every time there is a delay in getting something sited, you know, workers aren’t working to put that in place, people are paying for, you know, time that is not being used or leases that could have been, you know, started earlier. It is almost impossible to quantify.

I think what we can quantify is the benefit to the economy. I mean, if we are talking about, you know, basically one in six Americans are affected by this [inaudible]. You know, we have such a dramatic impact on the economy that it is just essential that we get that done quickly.

And, you know, it is not just our industry that it costs money for when it is delayed. It costs everybody. You are talking about the homework gap and equipment that serves them. We are so grateful for the committee’s work to try to address that.

Of course, the industry helped so many families at home. We want to help every family. And many were left behind, but so many were able to benefit, as Matt talked about with his family. We would need to bring those benefits to everybody and do it quickly. And private investment largely drives that.

We need help, I think as well, from public investment, but, you know, if we are going to do that, having the most efficient means to deploy, and reasonable. We don’t need to, you know, do it just rolling over, steamrolling this economy. But there are certain reasonable limits that we should have shot clocks, it is expedited, let’s get it done.

Mr. LATTA. Well, thank you very much.

And, Mr. Chairman, my time is expired, and I yield back. And I will submit my other question for the record. Thank you very much.

Mr. DOYLE. I thank the gentleman. The gentleman yields back. And now the Chair recognizes Mr. Pallone, the full committee chairman, for 5 minutes to ask questions.

Mr. PALLONE. Thank you, Chairman Doyle.

I want to thank all the witnesses. I am going to try to get three quick questions in here, hopefully with some quick responses, although each of them could take an hour to respond to.

So last month—this is for Mr. Shelton—last month I sent a bunch of letters to internet service providers cautioning them against raising prices, instituting data caps during the pandemic. And, you know, this has been an issue in my district, where one
provider instituted some large increases just before the pandemic, and other ISPs have tried to institute data caps during the pandemic.

Luckily, at least some of the major ISPs have decided to temporarily lift these data caps following our congressional oversight, but caps remain in some areas, and it is questionable at any time, but particularly during the pandemic, when so many people, you know, have to be online.

So, Mr. Shelton, can you talk about why, in your view, data caps are problematic, both for consumers and for labor, especially during the COVID pandemic? If you could spend about a minute responding to that, I would appreciate it.

Mr. SHELTON. The pandemic has really forced millions of working families to use far more data than they would normally be using, and to put data caps on them, to make them pay more money, would just make this matter—make this problem worse. You know, anybody, or any company, putting in data caps now and charging more for people that go over data caps is just exacerbating an already terrible situation.

Mr. PALLONE. Thank you, Mr. Shelton.

Mr. WOOD. Sure, Mr. Chairman. There is a lot there, but, yes, better data is crucial, and we need to know what we are addressing before we try to launch into it. We need to have more funding. I think it is as plain and simple as that. As I said, it needs to be progressive and not a regressive tax, frankly, on people who already have trouble affording the service.

It needs to be sustainable over the long haul. So many Members here have worked on the Lifeline program for so many years, and it is wonderful, it is necessary, but it is only $9.25 a month, and it is about 26 percent participation rate at the end of 2020, even with the pandemic putting so much economic pressure on people.

So we just need to get more money into the system, although we also need to account for the prices. We can't just forever subsidize rising retail rates without any attempt to lower those costs through competition and more choices and other measures that would help to bring prices down, even as subsidies go up.

Mr. PALLONE. All right. Thank you.

And then, lastly, Dr. Anderson, our committee just approved a reconciliation measure that would provide $7.6 billion for emer-
gency connectivity and end-user devices to connect teachers and students. And I know some like to think of it as funding for hot spots, but actually, it includes in-home broadband and other technological solutions. And some of my colleagues have said that money from the CARES Act is more than enough to solve this digital divide, and that, you know, we don't need more funding. Of course, I hear the opposite.

So with that, Dr. Anderson, how much has the Topeka Schools received from Federal COVID relief funding? What kinds of expenses have you covered with this funding, and how are you using it to resolve the homework gap? And, you know, would you say that the digital divide in your district is now resolved, or do we need to do more? And you have a minute or less.

Dr. Anderson. All right. A minute or less, well, then, I will speak really fast and pretty broadly over much of that. Let me start off with that funding overall. I know that is the area that is probably the hottest spot that you really want to talk about. I do know that that funding for us—and I will just kind of speak pretty broadly—in terms of the CARES Act and those funds, for us we had a little bit over $3 million, and 40 percent went to nutrition programs, 20 percent to transportation. We had 22 percent that went to PPE equipment, you know, then another percentage that went to disinfecting items.

So the CARES Act can't take care of all of broadband and connectivity issues, is my point in that regard. Now, certainly, we need to continue to do more. We need to make sure that we provide the level of services and resources for families to be able to connect at home.

Let me give you an example. We have parent conferences tonight. I bet you are wondering how. Well, through internet services at home that parents are doing with us. We have families right now that are still quarantined. We have families right now that are still addressing medically sensitive students that can't come back because they have some level of disease or cancer or whatever the items are that won't allow them to come back even if we reopen right now because they are medically fragile.

Those individuals are relying on those services, and they certainly deserve them. That is kind of a broad brush. So we certainly need the investment. CARES Act can't do it all. We need this additional money for remote, in-learning services.

Mr. Doyle. The gentleman's time is expired.

Mr. Pallone. Thank you, Mr. Chairman.

Mr. Doyle. The gentleman yields back.

The Chair now recognizes Mr. Scalise. Is Steve there? Steve, you need to unmute, if you are there.

If not, let's move down to Mr. Guthrie. We will go back to Steve if he is here. Mr. Guthrie, you are recognized.

Mr. Guthrie. Thanks, Mr. Chair. Appreciate it very much.

Mr. Adelstein, I understand there may be some carriers that have Huawei or ZTE in their networks that anticipate having difficulty ripping and replacing that equipment within the timeline laid out by the Secure and Trusted Networking Act because of delays on obtaining the necessary permits. Even though Congress just appropriated $1.9 billion to carry out this bipartisan reim-
bursement program, is there anything we can do to help providers meet this national security imperative?

Mr. ADELSTEIN. I believe there is a piece of legislation introduced in your package that addresses this that would expedite permitting for rip and replace. You want to get that done quickly. It is a national security issue [inaudible] network is, I think, an essential step, and we very much appreciate Congress providing the funding to make that happen and to make [inaudible].

Mr. GUTHRIE. OK. Thank you. And then also, Mr. Adelstein, the China task force led last year by House Republicans identified broadband permitting as an important way to help speed broadband deployment domestically, which in turn helps support trusted suppliers beat by Huawei. How important is the speed to achieving scale and infrastructure deployment to supporting trusted suppliers in the deployment of open RAN technologies?

Mr. ADELSTEIN. Well, you know, it is a part of the solution. I mean, there are a lot of things we need to do to keep up with China. They don't play fair, you know. Shield their IP, they have got a command economy. [Audio malfunction.] When you have a command economy, you know, South POC is right twice a year, and they picked 5G. I think they picked the right thing in this case to just shove it down the throats of their people.

If they need permitting, there is no problem. If they need equipment, there is no problem. If they need a workforce that can build out these networks, you think they have trouble recruiting people or training them? No, they say, “You will go and work in this industry, and we are going to train you and you will be set.” So we are not playing with the same hand.

We are expecting the private sector to [audio malfunction]. We will do it. And we are not asking for, you know, command economy. We are not asking for anybody but a helping hand in partnership with government, which we have seen in spectrum policy, we have seen it in infrastructure policy, we have made a lot of progress, and we would love to see with you together on workforce development as well.

Mr. GUTHRIE. OK. I have a third question for you, Mr. Adelstein, and you led right into it. And so, I just want to say, you know, my focus, I was on Ed and Workforce before I—I was on Ed and Workforce before, now I am just on Energy and Commerce this time. But it has always been—I have always enjoyed that committee because I wanted to make sure people just didn’t have access to a job, they had access to a career, a career that paid well where they could raise their family, and in a way that we all want people to have the quality of life.

And it all comes from having the skills. It means showing up with the skills that people are willing to pay for. And there is demand for those skills in your area, and what we are talking about. As a matter of fact, it will be hard to close the digital divide by deploying the necessary infrastructure without people with the skills.

Could you talk about what your association is doing about workforce in this area, and, hopefully, highlight to anybody listening the quality of career that you are offering people?
Mr. ADELSTEIN. Yes. These are great jobs, as Mr. Shelton knows. You know, they are high-paying jobs, and it is a growing industry, and we need a workforce pipeline to make sure we have skilled workers coming into it. So we could, in an organization that brought apprenticeships into the wireless industry for the first time called Telecommunications Industry Registered Apprenticeship Program. [Inaudible] apprenticeships, you know, and people are going to seek it out. We have 2,000 apprentices. We have 15 employers that are signed up to do it.

Secretary of Labor—in his confirmation hearing, Secretary Walsh lauded what we are doing at WIA. We are partnered with Power & Communications Contractors Association. We also are working with technical schools, with community colleges in States across the country, including in Kentucky, Somerset, that [audio malfunction] could even help us build this out.

And we would like to work with HBCUs, with Tribal colleges, because the academic world hasn’t kept pace with us. So we are teaching schools how to help our industry basically develop the skills because, you know, you can’t go to schools and learn field tech work. I mean, apprenticeships teach people to be on the ground. We want schools feeding people into apprenticeships, then get, you know, good jobs with our companies, then get good jobs [inaudible], you know. But why not get them the best skills possible?

So, if the Federal Government is making an investment in infrastructure, that investment can be spent efficiently with people that know what they are doing, the people who can diversify the workforce, can bring in people who were hit hard by the pandemic and give them good, high-paying jobs, start them in apprenticeships and they will have a career pathway that will last for many years to come and leads to very high-wage jobs they can support their families with.

Mr. GUTHRIE. OK. Thanks. Well, I was going to have Mr. Shelton talk about that as well, but I only have about 5 seconds left, So hopefully, he can touch on that in some other testimony as we move forward. So I am now out of time. I am sorry. I will yield back. Thank you.

Mr. DOYLE. The gentleman yields back.

The Chair now recognizes Mr. McNerney for 5 minutes.

Mr. MCNERNEY. Well, I thank the chairman for the great hearing, and I thank the witnesses for coming out on a cold day today.

Mr. Wood, I want to make sure that everyone who is eligible to participate in the Emergency Broadband Benefit program can easily do so. In California, the State has a program to help low-income individuals pay their utility bills. This is a self-certification process for initial enrollment. Ninety-five percent of eligible households participate in the program. This is much higher than participation in the Lifeline program.

Mr. Wood, why would it be important that we minimize the burden for eligible households to enroll in the Emergency Broadband program?

Mr. WOOD. I think, as you said, Congressman, it is crucial to get everybody connected and online, and we can’t really tolerate the low participation levels we have seen with Lifeline. You mentioned
self-certification or some kind of after-the-fact documentation, and it is great to hear about the successes in California.

I know that in the current FCC proceeding to implement the Emergency Broadband Benefit, some internet service providers have suggested that. So have some public interest groups. I think it would obviously depend on how that is done.

But anything we can do to lower the barriers, and especially to increase outreach, I think those are the two keys, to make sure that people can get into the program and they know about it in the first place, and that is what will make it a success.

Mr. McNerney. Well, thank you. I am concerned that, during and prior to the pandemic, there has been a real lack of transparency with respect to the information disclosed by providers to consumers and the Federal Communications Commission. Mr. Wood, if we don't have full transparency from providers about their offerings, including pricing, and detailed reporting about participation, they would be—they are seeing in their EBB program, what risks could this pose for the program's success?

Mr. Wood. Yes, definitely. We were so glad to see the letters that you sent along with both chairmen to the companies to ask about their practices and policies, both in pandemic and afterwards. We generally need more transparency about what they are doing. I laugh sometimes when ISP say the market is really competitive, and we say, “Well, what are your prices?” And they say, “Well, we can’t tell you.”

Mr. McNerney. Right.

Mr. Wood. So it is a little bit of trust-and-verify that we would like to see. But also in the pandemic and for this program, we need to make sure that, A, people are getting the best deal they can with this large and flexible benefit, and that providers are not doing anything like raising their rates artificially so they can get more subsidy out of taxpayers’ dollars.

So that is why transparency in the program is important, both for the individuals but also for the program as a whole and for the country.

Mr. McNerney. Right. Well, in your testimony you noted that prices have been increasing for internet service. As you know, I have expressed concerns that some providers have been doing this during the pandemic. Can you discuss how the price increases have correlated with capital investments by these providers?

Mr. Wood. Well, I mean, I think we should be clear. Investment by these companies is always high, it is just not consistent enough. As many Members will attest, it is not getting into rural areas quick enough. But it hasn’t taken the path that some have suggested. In fact, it has gone down over the last few years, because regulations don’t actually drive much of the investment. It is actually competition and, most importantly, most likely, the technology evolution and the cycles that they go through.

So many wire providers, especially, are on a downward path, and have been for the last 4 years, and that is why we said deregulation alone, without consideration of these economic factors, is not going to put us back in a better direction and really get everybody connected.
Mr. McNERNEY. Well, very good. Very good. You would think that all—with all the talk today by our Republican colleagues about streamlining, that it is a silver bullet to bringing broadband to everyone in the country. Unfortunately, I am not at all convinced, especially after the Trump FCC spent 4 years prioritizing deregulation and made little if any progress toward narrowing the digital divide.

Mr. Wood, would deregulating the infrastructure-setting process lead to increase in broadband access on affordability for families living in unserved and underserved areas?

Mr. WOOD. No, Congressman, I don’t think meaningfully so, no. Obviously, that matters. Streamlining and shot clocks like Mr. Adelstein is talking about, those are a fine idea, and we would be happy to consider how those work and the interplay between cities and providers. But, as I said, deregulation alone is not enough, and we need to also have policies that increase competition and that provide people support, because the price is too high right now, and we need to make sure the people have more options from the whole suite. They are not just forced into the cheapest plan they can get or the low-income plan, as helpful as those may be for some people.

Mr. McNERNEY. Excellent. Well, I want to emphasize that we must do everything possible to ensure that the most vulnerable are connected. In my district, many individuals living in public housing do not have broadband service. That is why I am currently working on legislation to improve broadband in public housing, and I will also be introducing—reintroducing the Digital Equity Act.

Thank you, again, Mr. Chairman. Thank you, all the witnesses, and I yield back.

Mr. DOYLE. The gentleman yields back.

I don’t see Mr. Kinzinger, so I am going to go to my fellow suffering Pittsburgh Pirates fan, Gus Bilirakis. You are recognized for 5 minutes.

Mr. BILIRAKIS. Thank you, Mr. Chairman. We did sign a pretty good pitcher last night, so I can still retain my position in Congress, which is a good thing. I don’t think I would do very well.

Before I get to my questions, Mr. Chairman—I appreciate it—I want to take an opportunity to acknowledge the hard work that the telecommunications industry has done throughout this pandemic. Programmers committed to $100 million to facilitate distance learning for children and are now engaging in the development of tools to help spread accurate information for vaccines, and how one gets an appointment. I know this is a tough task, but I want to commend them for doing that.

Additionally, providers stepped up with billions of capital investment to offer low-cost services to those financially strained by COVID–19 and free broadband to students and teachers for nearly a year to do their part in helping the next generation achieve success.

And, lastly, I have to thank the essential, on-the-ground technicians who literally have kept us all connected as they enter homes and businesses to maintain the sense of normalcy that is our internet services.
So, again, I want to thank them. Sometimes they don’t get the thank-you that they deserve. And I know we have to do much more, Mr. Chairman, but we can build on their successes.

As part of the—this is my question. As part of the boosting broadband connectivity rollout, I reintroduced the Coastal Broadband Deployment Act. In short, this legislation would codify an FCC action that reduces red tape for broadband projects in a flood plain where the applicant has met certain safety standards.

Mr. Adelstein, can you explain the importance of codifying regulatory action from the perspective of business development and investments?

Mr. ADELSTEIN. Congressman, I believe the bill makes it so the flood plains are not subject to NEPA and NHPA. It is, you know, an important area to review. It is something that I would like to look at closely with my members and provide any assistance I can. We certainly appreciate the effort.

I am familiar with the issues you face in Florida with regard to this. I mean, we need to make sure that we get broadband where it needs to be. Sometimes these difficult-to-reach areas need a little bit of help, and we need to get that out there quickly, efficiently, and we will work with you on your legislation. We will get back to you on the details. I was just reviewing it late last night, so I don’t have a lot to offer right now, but we will pledge to work with you on that and supply any further thoughts for the record.

Mr. BILIRAKIS. And I believe it is a bipartisan piece of legislation too, so—but I think it is crucial.

The second question, it is personal. In recent weeks, national attention has been drawn to the city of Oldsmar in my district. And, by the way, that is the— the founder of Oldsmar is R.E. Olds from Ohio, obviously, but he had a business in Michigan. But he founded Oldsmar in Florida, and he is the inventor of the Oldsmobile. So every year, we have an Oldsmobile parade. It was a great car. They should bring it back.

Folks, the city’s water treatment facility was the subject of a cyber attack where a hacker breached our critical infrastructure systems and attempted to increase water treatment chemicals to fatal levels. I am sure you have heard this. The breach was immediately discovered and neutralized, the infrastructure liability was strengthened, and the public was never at risk.

The incident is currently under Federal investigation, and the hacker remains at large, but preliminary reports show that a lack of infrastructure upgrades are a contributing factor. For our jurisdiction, I think this highlights the importance of making it as easy as possible to create and enhance our telecommunications infrastructure.

Again, for Mr. Adelstein, do you believe that reducing regulatory burdens would quicken infrastructure development to meaningfully reduce the chances of breaches like the one that we have seen in our district? And, again, folks, I would recommend you check with your cities because this could have been devastating if this guy was successful in hacking this particular program. So, but, sir, could you answer that question?

Mr. ADELSTEIN. Yes.

Mr. BILIRAKIS. I would appreciate it. Thank you.
Mr. Adelstein. Yes, I had heard about that incident, and, you know, 5G—

Mr. Doyle. [Inaudible] with your answer as your time is expired, but go ahead and finish out, Mr. Adelstein.

Mr. Adelstein. So, real quick, 5G presents great opportunities to improve network security, and so we need to build out 5G. My industry is committed to spending $270 billion to do it. We need to also educate cybersecurity professionals that are specifically trained in 5G, because there are unique characteristics and technical details. 5G is not your father's Oldsmobile, so to speak, but it does create some great opportunities to increase network security. But we need to maximize them by also investing in human capital to make sure we can program those networks to protect against attacks like those.

Mr. Bilirakis. Right. Thank you very much, Mr. Chairman. I appreciate it.

Mr. Doyle. OK. Thank you. The Chair now recognizes Ms. Clarke for 5 minutes.

Ms. Clarke. Thank you, Mr. Chairman. And I thank the ranking member, Mr. Latta, for convening this timely hearing today.

I would first like to applaud the Energy and Commerce Committee for passing our bold proposals out of committee last week, which included $7.6 billion to ensure students and their teachers had access to the internet. This was a much-needed step to help rescue the American people.

Since the start of the pandemic, I have repeatedly stated the exacerbating inequities COVID–19 has displayed in low-income communities and communities of color. These inequities span from public health disparities to economic pressures that are compounded in our most vulnerable communities. But today, we must discuss the access and affordability of issues of broadband.

Dr. Nicol Turner Lee, director of the Brookings Center for Technology Innovations, stated, “We are running up against a roadblock of digital access—and in particular, digital access for disproportionately low-income people of color, older Americans, and those in rural areas.” I wholeheartedly agree with Dr. Lee and go further to add that urban America faces unique challenges in this conversation.

I do recognize that there have been good-faith efforts to address the digital divide inflamed by this pandemic. Longer-standing programs, like Lifeline, that help provide affordable service for qualifying low-income consumers should be protected and maintained. And newer programs, like the temporary EBB program, should continue to thrive and provide connectivity support for those in need.

There have been more good-faith efforts like the donation of connected devices to families who need them, but this is a Band-Aid solution to a much larger access and affordability issue. More can be and needs to be done to undergird vulnerable communities.

So my first question is to Matt Wood. Mr. Wood, in your testimony, you stated that broadband is an essential utility for learning and livelihoods, and I couldn’t agree more. Could you expound on the statement and weigh in on how agencies, like the FCC, could further protect this essential utility by going further than efforts
brought forth by former Chairman Pai’s Keep Americans Connected pledge?

Mr. Wood. Certainly, Representative Clarke. Thank you for the question. I think it is just beyond doubt at this point that this is an essential utility. Anybody who wants to say otherwise I think is running up against the facts and will not be—get a lot of head nodding to agree with them because people need it now and during the pandemic and before it as well, and certainly well after too.

The problem with the pledge we filed, it wasn’t a bad thing in a vacuum, but it was basically a request to the internet service providers not to cut people off for nonpayment during the pandemic. And the FCC could and should be able to require that, not simply ask companies to provide just and reasonable service during a pandemic but to say, “Hey, this is a special situation. You can’t do that now. You can’t throw people off just because of the economic downturn they are facing.” So that is the kind of thing that we think a revived FCC could do, take a little more serious role in requiring that service be available, not just asking that it be made available.

Ms. Clarke. Very well.

And, Mr. Shelton, would you—is there something that you would like to add? OK.

So for my next question is to Dr. Tiffany Anderson. Dr. Anderson, in your testimony, you explain that there are additional E-rate expansions necessary to ensure that E-rate is meeting the 21st century needs of both rural and urban students and families during and beyond the pandemic. What would the program we just funded in the committee’s $7.6 billion appropriated through the E-rate authorities in the Communications Act mean for school systems nationwide desperate for much-needed tools and resources for equitable educational opportunity?

Dr. Anderson. Thank you so much for that question, Representative Clarke. It means a great deal. It gives us flexibility. The less flexibility you have as a school system, the less that you can really serve the needs of all the most vulnerable.

You know, as examples, as you talked about all that happened last week and the approval of being able to provide eligible equipment, you know, hot spots and modems and all of those things, internet services in homes and being able to extend those services just allows us to reach beyond where we currently are. You talked about urban school districts, and so we are talking about districts that have everything from a transiency population and a mobility rate that is very high, to a homeless population that is very high.

Here is what we can do even right now. This new access in this proposal, we actually will be able to take you to meet families where they are. How beautiful is that? Which means, if you are someone that is moving from house to house, we can give you a phone as opposed to giving you a hot spot for that space. If you are someone that has a need for Cox and you have a stable place to live, and we can provide you that.

So flexibility, Representative Clarke, is what it allows us—what it will allow us to do on the proposal, what has been passed. And certainly the expanded E-rate, the more that you can expand that level of flexibility of meeting families where they are, the more you help families move out of poverty.
Mr. DOYLE. The gentlelady’s time is expired.
Ms. CLARKE. And I yield back, Mr. Chairman. Thank you very much.
Mr. DOYLE. Thank you, Ms. Clarke.
The Chair now recognizes Mr. Johnson for 5 minutes.
Mr. JOHNSON. Well, thank you, Mr. Chairman. You know, the COVID–19 pandemic did not create the urban/rural digital divide, but it has certainly exposed and highlighted it. Students on the wrong side of this digital divide can’t attend virtual classes, and workers aren’t able to work remotely at their jobs. The divide is creating winners and losers in our country right now. In a Nation as prosperous and innovative as ours, this lack of access here in the 21st century, when virtually everything is dependent on the digital economy, is more than unfair. It is immoral. It is wrong.
The lack of broadband in rural America is not a new problem. It is one that has been talked about for decades. Furthermore, while I acknowledge that affordability may play a factor in the availability of broadband for some in urban and rural locations, the lack of infrastructure and accessibility in rural America means that broadband simply is not an option, period. That is especially true in many of the places I represent.
You can’t pay for a service that doesn’t exist. You don’t even have the option. And while I wholeheartedly agree that the digital divide is an issue we must address, I am disappointed that this hearing on connecting America pays little attention to the primary reason why those residing in rural America are left behind. The reason is because access, the infrastructure, is simply not available.
I was pleased to join my Republican colleagues in introducing legislation earlier this week to boost broadband connectivity. My bill, H.R. 1056, the Wireless Broadband Competition and Efficient Deployment Act, would be a step in the right direction. It would remove the requirement to prepare an environmental or a historic preservation review in order to add new or upgrade wireless facilities on existing infrastructure. These burdensome reviews that are often repetitive unnecessarily slow down broadband expansion. So I am pleased to introduce this commonsense legislation to help streamline the process.
Lastly, I acknowledge and commend the many internet service providers who have stepped up to the connectivity challenge during this pandemic, including those who voluntarily committed to Chairman Pai’s Keep America Connected pledge to ensure Americans would not lose their broadband or telephone service, despite financial constraints stemming from COVID–19.
I am also aware that several ISPs are offering reduced rates or even free broadband access for low-income families, particularly for students who otherwise couldn’t afford to connect to their virtual classrooms. Broadband has proven to be a necessity regardless of where you live, and the continued investments into broadband creative solutions and flexibility of ISPs to provide reliable broadband access wherever possible is important.
So, Mr. Adelstein, can you talk about how helping providers quickly upgrade existing infrastructure and reduce the environmental footprint of networks would help lower consumer prices? Is
facilitating competition and consumer choice a good thing for low-income consumers?

Mr. ADELSTEIN. Absolutely. I think competition is critical, and the way you get competition is putting more equipment up more quickly. And so, you know, your bill, for example, would exempt colocation from NEPA and NHPA. It would, as I read it, codify the national programmatic agreement that was arrived at on a bipartisan basis. This is, you know, common sense. We are talking about colocations here.

Again, on existing equipment, why shouldn't we be able to invest more? Why should we be held up for a year on a NEPA or NHPA review spending time and money when that could be facilitated by legislation like yours, or by the good work that the FCC did to amend the programmatic agreement under leadership of Commissioner Carr?

So there is, really, a lot to be said for this kind of work. You know, we work in partnership with municipalities, but this kind of approach is important to facilitate. I mean, the kind of investment we are making, a record in the last 4 years, $29 billion in wireless infrastructure investments in 2019, these are unparalleled.

Mr. JOHNSON. Good.

Mr. ADELSTEIN. And that is why we have what we have.

Mr. JOHNSON. Well, good. 5G promises to help us realize higher broadband speeds across the Nation, especially for people that live in the most rural parts of our country. In practice, however, promised speeds won’t be realized without a significant investment in backhaul. As you know, there is a significant shortage of trained telecommunication workers to build out these 5G fiber networks.

So do you believe Congress should both support the workforce needs of 5G and fiber network deployments?

Mr. ADELSTEIN. Absolutely. Fiber and 5G fit together hand in glove. They are all part of the network. Every 5G antenna has to have fiber, and, you know, we need more people trained to do this. There are a lot of good workers out there that do it today, but we could re-skill workers, we could diversify the workforce, and this is a traditional area where government works with the private sector.

If we are willing to lead, you know, develop apprenticeship programs, we would like some support for training to expedite it. And the reason is, our industry is critical for the entire economy. Virtually every industry in the country is going to rely on 5G networks, and so we need those technicians to boost jobs not just in our industry but throughout the economy, 4.5 million jobs in virtually every sector. So I applaud your efforts, and I think we could work together on that.

Mr. JOHNSON. All right.

Mr. VEASEY. Mr. Chairman, thank you very much. And I want to thank all the witnesses today to come and talk about, again, this Emergency Broadband Benefit. Again, this is a program that can be very instrumental in keeping vulnerable communities connected
during the time that we are in right now, especially the time that we are going through right now in Texas.

Right now, our goals should be to help make the process of accessing this benefit as easy as possible for consumers. People are dealing with a lot right now. Things are very difficult. And, again, we will try to make life as easy for these vulnerable communities as we possibly can during this time period, because now things, especially here, have just been compounded.

According to a January 2021 GAO report on how the FCC has implemented the Lifeline National Verifier program, we know that many eligible people will abandon their applications when they can't successfully navigate the system or it is too cumbersome. I don't know that this happened in the Emergency Broadband Benefit program. I have a lot of confidence that the new Chairwoman of the FCC is going to be thoughtful about this program, and I know that they had a great roundtable put together last week so that they can build on that.

Mr. Wood, what else should the FCC be thinking about to make sure it is as easy as possible for people and families who qualify to access the Emergency Broadband Benefit?

Mr. WOOD. Thank you, Congressman Veasey, and thank you for your leadership on that bill that was passed by the House first last May and then finally was passed by the Senate as well at the end of the year.

We definitely need low barriers to application and verification, and, as you said, there are some concerns about that, even though we think that there are ways to speed that up. And hopefully, you know, most people that go through the automated process have a relatively quick and accurate eligibility determination, but what you are talking about is people who have to provide additional documentation, sometimes they can't do it. If you are not online, it is very hard to upload something online to prove that you should be able to get online. So we have to think about those barriers and make sure that the process is both centralized and localized, I would say.

The FCC should be collecting a lot of data and making information available to people, but then we also need local supports and community organizers, local governments, digital inclusion specialists to aid people in that application process so that nobody falls through the cracks.

Mr. VEASEY. Right, exactly. And I think that is so key for a lot of these communities. I think that we saw that, you know, even with COVID–19 with some of the business assistance programs like PPP, some of these smaller businesses being able to access things when they are poor, working day to day is much more difficult, and you can make the process more cumbersome.

Following up on that, we need to make sure that we have robust provider participation in this program. The more providers that participate, the farther this program can reach consumers all across the Nation. What are some things that we in Congress or the FCC should consider to ensure there is a high participation—that there is high participation on the provider side?

Mr. WOOD. Yes, thank you. I mean, I think you have already done a lot of the work there. The flexibility to us at Free Press Ac-
tion was a key part of this bill, and thanks to your leadership and the committee staff as well and Chairman Doyle's staff, because we wanted to get people as much aid as we could as quickly as possible for the plans available to them today.

So rather than have people either shunted into low-income plans that might not meet their needs, or the opposite extreme, forced to pay more than they can afford, even if they get some discount off of that, we thought those would both be bad outcomes. And so giving people the flexibility to pick which plan they want should be good not only for the individuals but also for the ISPs who can take that discount and get that reimbursement for basically any plan they offer.

Mr. VEASEY. Thank you.

Mr. Chairman, thank you very much. I yield back the balance of my time.

Mr. DOYLE. OK. The gentleman yields back. Let's see, I think next is Markwayne Mullin. Mark, are you here? Markwayne, you need to unmute if you are here.

OK. What about, let's try Mr. Walberg, are you here?

Well, I see Billy Long there, so, Billy, I am going to recognize you because you are the only one I can see on my screen so far. So you are recognized for 5 minutes.

Mr. LONG. I appreciate that. I—yes, I had a Snowmageddon here today. We had 13 below yesterday, and so I was late for the gavel, but I appreciate you letting me in. I took the daughter over to run around at the hospital today, and the battery died and all that good stuff, but I am here, so I will join in.

Mr. Adelstein, President Biden told Senators last week that he wants Congress to move fast on a big infrastructure plan to keep up with China. And one of the biggest ways to do that is to reduce the barriers to deployment so public and private investment can be deployed as quickly as possible to connect more Americans. How important are these streamlining reforms to winning the technological race to 5G with China?

Mr. ADELSTEIN. Well, it is essential to winning the race to 5G. As I said, you know, they are basically using government fiat to try to shove it through and try to win on the global basis by stealing IP, by using inappropriate means, and by just shoveling it down the throats of people as they do so many things in China.

The United States has the private sector leading, and we talked today about the need to fill some gaps. You know, I think it is a great opportunity for bipartisan agreement. For rural broadband, I used to work, you know, Louisiana, across the country on—the rural utility service to get broadband out to rural America, and working with you and this committee to find the resources on a bipartisan basis to get that done in an infrastructure bill would be most welcome.

And, you know, that requires many different steps. If you are going to do that efficiently, you need to have, you know, the processes to get that infrastructure in place efficiently. You need the people trained to build it efficiently and safely. You need to have really a public/private partnership with educational institutions, with companies that are going to invest, because primarily this is going to be driven by private investment.
We spend $30 billion a year investing in wireless networks and much more if you combine it with wireline networks. That is what has delivered the greatest network in the world here in the United States that responded to this pandemic in an unparalleled fashion. So I think all of these elements are necessary to beat China in the race to 5G and create 4.5 million jobs in virtually every sector of the economy.

Mr. Long. I am kind of like my buddy, Bill Johnson, and we called each other to see how to dress today, and—but I have a lot of rural area just like he does, and I have been on this 5G and rural broadband hunt for a long time. So I appreciate anything we can do to—I don’t think a student should be limited. You know, their internet access shouldn’t be limited by geography. They shouldn’t have to go over to Starbucks or drive up 20 miles to McDonald’s or wherever to get a signal, and so I appreciate all of that.

Also, I would like to point out that in—a recent report shows that investment in 5G will result in the creation of 4.5 million jobs and contribute $1.5 trillion to the gross domestic product from 2020 to 2030. So doing this sooner rather than later matters quite a bit.

Also, Mr. Adelstein, Chairman Pai’s Keeping Americans Connected pledge asked internet providers to take many actions before Congress could pass the large-scale relief that we got through last year. On top of the essential aspects of the pledge, such as keeping the internet on regardless of payment, waiving late fees, overage fees and data caps, many companies went above and beyond by opening their Wi-Fi hot spots for the public for anyone to use and worked closely with schools, libraries, and hospitals to ensure connection. How important was the light-touch regulatory approach in this place as a result of longstanding, bipartisan policies facilitating this industry-led response?

Mr. Adelstein. Well, light-touch regulatory approach has led to the world’s greatest broadband networks, including our leadership in 4G, which we need to maintain 4G. And it was, you know, a sacrifice for everybody, the pledge—no terminations, inability to pay, we waived late fees, we opened millions of Wi-Fi hot spots to those in need—and the industry worked overtime to try to address this, realizing that it was a lifeline for people.

So, you know, you are exactly right. And to answer your other question even further, you know, as we are thinking about a broad infrastructure package, you want to make that as efficient as possible so you can stretch taxpayer dollars. I mean, you can encourage colocation on existing infrastructure, as your legislation does. You can make sure it is technology neutral, so that wireless as well as wireline solutions are eligible. If you allow for OPEX as well as CAPEX, that also helps stretch taxpayer dollars.

So, you know, you are exactly right. And to answer your other question even further, you know, as we are thinking about a broad infrastructure package, you want to make that as efficient as possible so you can stretch taxpayer dollars. I mean, you can encourage colocation on existing infrastructure, as your legislation does. You can make sure it is technology neutral, so that wireless as well as wireline solutions are eligible. If you allow for OPEX as well as CAPEX, that also helps stretch taxpayer dollars.

Mr. Long. I appreciate it. And I would like to add right here at the end that, with a daughter that is a pediatrician—and she has been staying at our house the last few days so Dad could drive her in the snow to get to work and get to the hospital to make her rounds to see the new babies—her phone started ringing early this morning. All of her nurses and everyone could not get to work, and so now she is doing all her visits over the internet today, so that just—to prove the point how important all this is.
And, Mr. Chairman, thanks for letting me in. I yield back.

Mr. DOYLE. The gentleman yields back.

The Chair now recognizes, let's see, I don't see Don.

Darren Soto. Darren, are you there? Darren, you need to unmute if you are here.

OK. Let's try Mr. O'Halleran. Is Mr. O'Halleran here?

OK. Let's go to Miss Rice.

Miss RICE. Thank you so much, Mr. Chairman.

Mr. Wood, as you pointed out in your testimony, this pandemic has exacerbated the adoption gap, you know, that is people who have access to broadband but can't afford to purchase it or in some instances choose not to adopt it. In my district, this adoption gap has resulted in students having extremely different outcomes with at-home learning who live just blocks away from one another, because one student can get online while the other can't. Now, this could be because they simply don't have access or because the whole family is utilizing one hot spot.

So can you just expound a little more on how the Emergency Broadband Benefit program could help close this adoption gap, because once these kids get behind, it is very, very difficult for them to catch up.

Mr. WOOD. Yes, thank you, Congresswoman. I think that is the key is that it is really about the whole household. So a lot of the E-rate program, rightly and crucially, is aimed at connecting students, but of course they are a part of family situations, and if the family isn't connected, then the student can't get online.

I think, you know, luckily for many of us, we couldn't imagine having to share a single device for an entire family, and that is why this—you know, we have to think about efficiency. We can't have a ton of duplication in these programs. But, frankly, I am not concerned or worried that a student might have a device and their parent might be able to get online affordably and reliably for the first time in too long.

So, it really is, as you said, it is key to having the whole family be part of that educational system, I am sure Dr. Anderson could attest to.

Miss RICE. Mr. Wood, so I know that my colleague Mr. Veasey kind of touched on this: Do you agree that encouraging broad participation in this program by ISP providers will help maximize both consumer choice and increased enrollment? We have seen the problems with the Lifeline programs, so we are trying to avoid that. Do you agree that encouraging broad participation would help maximize both consumer choice and increase enrollment?

Mr. WOOD. Yes, definitely. And, as I said, we were happy to see that kind of flexibility that I think will allow more ISPs to come in, not to say we are picking and choosing for them a particular plan. The Lifeline benefit is crucial. We should never discount it or say that it is not something we must preserve, but it is only $9.25 a month and it tends to be a wireless plan only.

So, you know, 26 percent participation rate at the end of the pandemic perhaps for a Lifeline, that is pretty low. And we think that is for a myriad of reasons, but one of them being some people will pay for the service, even if they would qualify for Lifeline, because
that Lifeline phone is just not enough to meet their needs, either as an individual or as a family.

Miss Rice. So, Mr. Wood, we have talked about different communities that are more likely than others to lack broadband service at home, but one group that really hasn't received as much attention is older Americans. There was a report that was issued earlier this year that estimates that as many as 22 million older Americans lack home broadband service. There may be many reasons for this, including affordability and digital literacy, but this is so troubling, especially now as the pandemic has severely impacted older Americans.

So lack of home broadband makes it harder to get critical health information, to make—I can't tell you how many complaints I have gotten from constituents who said “I can't make an appointment to save my life to get a vaccine,” to say nothing of, you know, meeting the requirements for their telehealth services.

So what more can we do to increase broadband adoption by older Americans? I mean, this is not just in my district. I am sure every single one of my colleagues on both sides of the aisle have older Americans in their—as their constituents who are facing this problem.

Mr. Wood. Yes, it is definitely a problem. And I think that the numbers are probably moving in the right direction as we have all gotten more used to the technology. More and more older people are online, and the percentages aren't quite as low as they were, say, 5 or 10 years ago. But it is not getting better fast enough, and especially in a pandemic but really anytime. People need access to telehealth and all sorts of other things to conduct their lives and stay safe.

So what we can do more, I think, is it is obviously about affordability and price. It is about access, as many Members have talked about today as well. And it is about literacy as well and making sure that people have the tools they need. The only reason I hesitate to say it is all about digital literacy is I do think we shouldn't stereotype. Many older Americans are very aware of the internet and what benefits it would bring to them, so we can't assume that people just don't realize what they are missing. I think it really is that unhealthy cocktail of factors of people not being able to afford it, not having good access, and then sometimes just not having the tools they need to really make use of it.

Miss Rice. To your point, Mr. Wood, I have a 95-year-old aunt who is better at using her iPad than I am, so point well taken. Thank you so much to all of our witnesses, and I yield back now, Mr. Chairman. Thank you.

Mr. Doyle. I thank the gentlelady.

Now the Chair moves to Mr. Mullin. Mr. Mullin, are you here?

Mr. Mullin. Yes, sir. Thank you, Mr. Chairman.

Mr. Doyle. You are recognized for 5 minutes.

Mr. Mullin. Thank you, Mr. Chairman.

And, you know, guys, we have been talking about broadband for rural parts, and I just want to point out, I live it every day. I live in the middle of nowhere, and then you turn and you go another mile to get to my house. The nearest town to me is maybe a 15-minute drive. With weather like we are having today, it's a 30-
minute drive. When my kids go to school, it is a 30-minute drive. I am on that last mile to which we talk about.

And, in less than 50 percent—literally, less than 50 percent of my district has broadband coverage. And yet almost my entire district is out of school and have been out of school for a week—not because of COVID, because of the winter weather. I have six kids, as we speak, that’s upstairs, around our kitchen table, around our kitchen bar, that—not a drinking bar, but one you eat at—that’s doing their homework as we speak.

And it wasn’t until last year, December of last year, that our electric co-op actually brought us broadband down here. Until then, we used a hot spot, and a hot spot is not reliable. A hot spot is not something you can rely on and not something you can do your work on. And, especially if you are live streaming your classes, it is nearly impossible.

But we have an issue. We have an issue in the rural parts of the country. We have an issue with our small internet providers, our ISPs that are having to make a hard decision, because we have, you know, companies like Netflix and Amazon that pay literally nothing to live stream their videos, and to bring them that last mile and especially the middle mile to us.

And when you start dealing with this, you know, what—when you are dealing about wireless or fixed wireless in rural parts of the country, I guess, Mr. Adelstein, do you see a role that our rural broadband providers play in this? Because a lot of them are having to make a decision to either upgrade their system or get farther out there because they can’t keep up the live stream demand from Netflix and Amazon that pays nothing to deliver their product to customers’ homes, but yet customers pay for it.

Mr. ADELSTEIN. I couldn’t agree with you more. I mean, these companies, look where the profits are going, look where the market cap has gone up. It is not in, you know, the carrier, the wireless carriers. It is the companies that don’t pay anything for infrastructure.

Mr. MULLIN. Right.

Mr. ADELSTEIN. They don’t invest $30 billion a year like we do, but reap far outsize profits. And meanwhile, we are competing. You don’t see any ads for Google to use us, not DuckDuckGo on the Super Bowl, but you see all of the wireless carriers fighting and offering consumers, you know, more megabits for less down, you know, 90 percent increase in price per megabits since 2011.

I mean, this is—we have invested enormous amounts. And there is a lot of talk today about, you know, ISPs and pricing, and in fact consumers are getting a great deal. And our rural Americans, it is a tougher business model out there. And things like RDOF matter, when the FCC puts out $20 billion to help, you know, fill that gap and universal service needs to be targeted to help build out in rural America. An infrastructure bill that would help, you know, that business case to get us to that last mile in rural America is really essential. I hope we can get bipartisan support for the infrastructure package that will close that gap in rural America and get access out there.
Mr. MULLIN. Can you speak of the major impact that the permitting reforms laid out in the Republican package would have in this cost?

Mr. ADELSTEIN. Well, you know, every bit of cost is sort of, you know, essential to reduce, because there isn’t enough capital to go around. I mean, this is what we are talking about here. Thirty billion dollars is a massive investment we make——

Mr. MULLIN. Right.

Mr. ADELSTEIN [continuing]. Virtually every year, but yet it is not enough, and we are talking about the need and the shortfall in rural America. So every dime that goes to expensive and costly delays is one dime less going to a worker from CWA, or one dime less going to, you know, getting broadband out to actually investing it in the network so we can get further into rural America.

So we very much appreciate the thoughtful consideration. I think, you know, most rural areas, frankly, are a little bit better about being reasonable. They recognize they need the investment. We sometimes have tougher—much tougher time in urban and suburban districts, frankly, getting, you know, permitting done. But some rural areas are tough too. And, you know, like I say, every dime that is saved in a suburban area on needless, you know, fees, et cetera, why would you tax broadband when it is saving people’s lives every day——

Mr. MULLIN. Right.

Mr. ADELSTEIN [continuing]. Connecting people to telehealth? So——

Mr. MULLIN. Right, I agree. So let me ask you, would you support adding like an FCC study to the Affordable Internet Act, H.R. 7302, which you spoke about in your testimony?

Mr. ADELSTEIN. Yes, you know, absolutely. I mean, the more data we can get on this, the better, so I think that would be a useful tool.

Mr. MULLIN. Yes. Well, with that, I am out of time. Chairman, I yield back. Thank you, sir.

Mr. DOYLE. The gentleman yields back, and we thank him.

Let’s see, next is Mr. O’Halloran. Are you there, Tom? Tom, you need to unmute if you are there.

Mr. O’HALLERAN. I am here.

Mr. DOYLE. OK. You are recognized for 5 minutes.

Mr. O’HALLERAN. Thank you, Mr. Chairman Doyle and Ranking Member Latta, for holding the hearing, and for our panelists. It has been a great discussion.

I greatly appreciate this committee’s continued focus on closing the digital divide, which still impacts far too many Americans in rural America, Indian country, and throughout urban America too. In rural Arizona, only 66 percent of population has access to broadband at the FCC’s minimum speed standard. It is far worse than that in my district.

I am thankful that last Congress, this committee bipartisanly had efforts that resulted in an omnibus package that—with programs to help the underserved, such as the Emergency Broadband Benefit program, to address broadband affordability, nearly $1.3 billion in dedicated funding to expand broadband on the Tribal lands at Tribal colleges, universities, and minority institutions, and
new Federal offices to better coordinate multiple broadband programs and more.

There is clearly more work to be done to expand broadband access nationwide. We must continue working together across the aisle to help implement these new programs and improve existing programs as well. I guess my biggest issue is that, if we don’t do that working across the aisle, we are going to continue to see, as was mentioned earlier, issues raised in 2006 and still not recognized as being accomplished by now.

We are still going to get to the point that we are today, that rural America was—has basically been forgotten for a couple of decades, to get us to where we are competitive for our towns, our cities, our economic development, our hospitals, and our children’s education.

Mr. Shelton, in your testimony, you discussed how the FCC’s Universal Service Fund is relying on a declining contribution base, which supports many critical programs. Could you highlight the importance of funding a bipartisan and consensus-based path forward to provide stability to the USF contribution methodology in a way that preserves the success of its programs helping underserved Americans?

Mr. Shelton. The Universal Service Fund only takes into consideration voice, taxes on voice, and voice keeps going down. And we have to figure out ways to make sure that that Universal Service Fund is actually applied to broadband, because broadband is the future here, as everybody said, and that there are places in this country, rural places, not mostly, but a lot of rural places that companies are not willing to go in and put in broadband because it is too expensive.

Well, we have to figure out a way to have those companies, by private and public partnerships, to get access in rural places, because people in rural places need broadband just like anybody in an urban environment needs broadband. And my members are willing to go to wherever they can to put it in.

The other thing that I have to say here is there has been some talk about a shortage of telecommunications technicians to do this work. Well, I can tell you that the big companies have laid off tens of thousands of my members who are absolutely trained and ready to go anywhere they need to go tomorrow morning or this afternoon, to put in broadband and maintain broadband.

So, you know, the Universal Service Fund is just one of the ways to do this, but without public and private partnerships, we are never going to get this done, and we have got to get it done because this country cannot go on like this.

Mr. O’Halloran. Thank you, Mr. Shelton.

Dr. Anderson, thank you for everything you do to help our students during this pandemic. My wife is a former educator.

Could you briefly discuss the specific needs Tribal students are facing in your community to distance learn due to lack of access to connected devices or fixed services?

Dr. Anderson. I want to speak to, really complement to what Mr. Shelton shared, it is infrastructure. And so we have Tribal students that they don’t have the infrastructure in place, much like our rural students as well, but they don’t have the infrastructure
in place. So there really can be almost extreme isolation in terms of access and ability.

The kinds of things that we might provide other students right in the city of Topeka is not as accessible, because those students in those families, the manner of where they live, even the libraries and the buildings that they have, doesn’t have any infrastructure in those Tribal organizations to be able to serve those students as well as we should.

I do want to mention, although I know this wasn’t part of the question, our rural America piece, when we gave out that map, what we learned really quickly is, much like our Tribal students, they didn’t have access to the store for Wi-Fi. They didn’t have access to a McDonald’s for Wi-Fi. They didn’t have access to any of the places that inner-city Topeka had access to.

So, again, that infrastructure is the issue. And so, even with the items that we began to provide, if there is no infrastructure in place, we are just putting a Band-Aid on items.

Mr. O’HALLERAN. OK. I am way over my time, and I yield. Thank you, Mr. Chairman.

Mr. DOYLE. OK. Let’s see, next I think we can ask to go to Mr. Curtis. Mr. Curtis, are you here? Ah, I see you.

Mr. CURTIS. Yes.

Mr. DOYLE. You are recognized for 5 minutes.

Mr. CURTIS. Thank you, Mr. Chairman and Mr. Ranking Member.

I got to tell you, as I have listened to this hearing, I kind of regret it that we don’t have more of our internet providers here today. I feel like they need to defend themselves. And it is not my job to speak for them, but it feels like we have searched the country over for some bad examples during COVID, and I would like to know that most, if not all, of our providers lifted caps or offered free service for limited periods during the start of COVID. I think over 800 of them took the Keep America Connected Pledge.

I don’t know, it just feels like that some in this hearing would focus on punitive measures rather than see these as partners and people who can actually help us solve our problems.

The committee might be interested to know that, before I came to Congress, we all brought very different backgrounds. I served as the mayor of a city, and we were actually able to work with the private sector, and for the last 7 years the residents of my city have had free internet. And that wouldn’t happen without partnering with these good partners. And I can tell you from this experience, there is more to the challenge than just getting free internet to everybody. We struggle with devices and even getting people to take free internet.

Through this experience, I also learned, because I inherited a broadband network, just how difficult it is for government to run a broadband network. And I wish we could have a whole hearing just on that. I would love to share more thoughts.

But let me pivot just quickly. And I would like to give a shout-out to my colleagues, Mr. Duncan and Armstrong, who have worked on this issue and introduced some legislation.

Mr. Adelstein, in my rural Utah, we received quite a few public dollars, but our bottleneck is the Federal bureaucracy and remov-
ing barriers. We have heard today how we have removed too many barriers. How do we streamline our Federal permitting process so that we can get to these areas where that is the bottleneck?

Mr. ADELSTEIN. You are absolutely right. I mean, trying to site on Federal lands is such a nightmare that a lot of my members that want to make private investments can’t do it or shy away because it just takes—it can take a decade to get sited on Federal lands, and a lot of those are in rural areas where we talk about rural shortage.

And administration after administration has tried, going back to the Clinton administration, to Bush, to you know, Obama, to Trump. Everybody has tried to get this thing done. I think we need real Federal leadership, whether it takes legislation or getting President Biden to focus a working group, to get these agencies together to make sure that they are permitting leases in an expedited fashion, not putting, you know, undue burdens on private-sector investors that want to build a tower or a network on Federal lands but are stymied.

I mean, it is incredible how difficult it is to get through that. But I know that you have talked about a bill that allows the Department of Interior to use FCC maps that you have introduced and would help siting process on Federal lands.

I was the chairman of a working group that the FCC had in the so-called BDAC on Federal lands. We had a unanimous report we laid out. I would like to submit for the record that report, if that is OK. It outlines in great detail all of the steps the Federal Government could take to facilitate siting on Federal lands.

Mr. CURTIS. Great.

Mr. Chairman, I would like to ask that we submit that report for the record.

And you point out very well, these lands that I have in my district—most people don’t understand this—they are 90 percent Federal lands, and it can take a decade to permit across these.

Also, thank you for giving my bill a shout-out, the Federal Broadband Deployment in Underserved Areas Act. What it is trying to, like, get these Federal agencies to coordinate better, and one of my questions to you is, do we need more collaboration with State and local partners.

It is clear from this hearing that we all have very, very different districts, and if we are trying to legislate one way from the Federal Government, it is near impossible. What is your thought on getting local and State governments more involved?

Mr. ADELSTEIN. Well, I think so, and Tribal governance as well. You know, Tribal areas you talked about. I worked in the—I used to run the RUS and worked with the Gila River Nation. And there are major roadblocks on Tribal lands, which are the most underserved in the United States. I come from Indian Country myself in South Dakota.

And it is just kind of tragic, because nobody needs it more and has worse conditions, and yet no place is it harder to get siting done. So I think working with Tribal lands, working with State governments together cooperatively, because there is a lot of State land as well where it is very difficult to get sited.
We all agree on the goal. It is just getting the bureaucracy to let us invest and serve those populations.

Mr. CURTIS. Thank you. I am regretfully out of time, but in my district I have this trifecta of public lands, Native American issues, and rural. And, boy, that is a tough combination. Thank you, and to our other witnesses for being with us today.

Mr. DOYLE. The gentleman yields back. I thank the gentleman.

The Chair now recognizes Mr. Welch for 5 minutes.

Peter, are you here? Unmute if you are.

Mr. WELCH. Thank you very much, Mr. Chairman.

I am going to pick up where my colleague, Mr. Curtis, left off. Because I think what he showed, and also Markwayne Mullin, is how when we talk about broadband, ultimately, we get down to the very particular circumstances in a very particular location. And it is not a one-size-fits-all deal.

And my sense on our committee is that, number one, there is total support to get affordable and accessible broadband throughout America. Number two, there is a dispute, maybe just an emphasis, about how best to do it.

There is a point of view that more deregulation, more consolidation will get that done. In some places that actually might work, but in the case of Vermont, deregulation and consolidation has led to less access and higher costs.

So it may be that we have to be particular and not general about when the various tools can help us achieve the shared goal.

I want to ask Mr. Adelstein—and this sort of exemplifies our dilemma here—we have a town in Vermont, Peacham, Vermont, 732 people live there. If you are on one side of Macks Mountain Road—and there are about 15 families there—they can’t get high-speed internet. And they have got Charter Spectrum, that is the company that does it. When they call, there is no answer. They just won’t do it.

Now, I understand that economically they may not want to, but they have a territory where, unless they do it, it is not going to be available. Can you explain to me what we do about that, Mr. Adelstein?

Mr. ADELSTEIN. Yes. You know, I think there needs to be a public-private partnership to get these out to rural areas. I have spoken to——

Mr. WELCH. No. Be specific. I want to—like, I am on the phone wanting to get Charter Spectrum to do it, so I am the person that needs the internet. How do I get it when they won’t answer the phone, they won’t do the job? You say public-private partnership. And, you know, in all candor, it sounds like the rhetoric, not a solution.

Mr. ADELSTEIN. Well, I am talking about Federal investment——

Mr. WELCH. Does the company have some obligation in the service territory?

Mr. ADELSTEIN. I mean, they are not a member of mine, so I can’t speak to that particular, you know, company because I don’t represent the cable industry. The wireless, you know——
Mr. WELCH. All right. I am going to interrupt. The point I am trying to make here is that, if it is not profitable for a company, whether it is this company or another one, they are not going to invest. So there has to be some Federal role here.

I am going to ask Mr. Wood. The problem I just outlined, is that a common problem throughout the country, not just in parts of Vermont?

Mr. WOOD. Yes, Congressman, I think it is definitely a problem, and it is a very localized business, even though there are these nationwide players that are working in so many different territories.

And the mapping issues that you have led on, that Mr. Loebsack and Mr. McEachin did, Mr. Latta and Long also, across the aisle, helped to get that bill passed last year, and the FCC is still working on it. But here we are, what, almost 12 months later, and we still don't have much better data.

Mr. WELCH. All right. So we had fairy tale maps. But how do we address the situation in Peacham, Vermont, or Markwayne Mullin's road or other places all around the country where we just don't have companies that are willing to make the investment because there is not the return on the investment?

Mr. WOOD. Yes. I think it has to be about the Federal investment or State-level or local too. There are lots of ways to get taxpayer dollars into both commercial and cooperative and municipal providers.

And we have to be smart about it. So if we don't know where we are lacking service—we see in things like the FCC's Rural Digital Opportunity Fund, or RDOF, a lot of that money is going to flow to places that need it, and some of it seems to have been misdirected.

And so we just need to get better about taking those precious Federal dollars we have, realizing there is an acute need, and making sure they go to the right place.

Mr. WELCH. All right. OK. So whether you come at this from the perspective—I am talking about Mr. Johnson, where he does advocate for deregulation, for instance—we have to have that information, whether it is in Mr. Johnson's district or my district, in order to deploy the money that we do have effectively. Is that correct?

Mr. WOOD. Yes. And I think, as you said, Congressman, you know, it is about profit too. So I want to be clear, ISPs do invest tens of billions of dollars around the country. What we are seeing now, though, is that their investment has been going down for the last few years. Their profits and their subscriber numbers and their revenues are going up, and people are paying higher prices.

Mr. WELCH. By the way, I have total concerns, we all do, for low-income folks. I also have concern for middle-class folks who are trying to pay their bills on limited incomes. So there has to be public policy here where we get our rates down, and we shouldn't be paying the highest rate compared to all of the European market competitors. And we do, is that not correct, Mr. Wood?

Mr. WOOD. Yes. I think there are different ways to look at the international comparisons. I am focused on the U.S. figures and the fact that we are seeing broadband prices go up at four times the rate of inflation—again, as investment levels stay high but trend downward over these last few years.
Mr. DOYLE. The gentleman's time is expired.
Mr. WELCH. I yield back. Thank you.
Mr. DOYLE. I thank the gentleman.
I think I see Buddy Carter in his mobile office. Buddy, are you ready for your 5 minutes?
Mr. CARTER. I am. Thank you, Mr. Chairman. I appreciate the opportunity. I especially appreciate this hearing, which is so very important, and appreciate all the people [inaudible].
Mr. DOYLE. Well, Buddy, I think you are frozen there.
Mr. CARTER. Am I frozen?
Mr. DOYLE. OK. I think we can hear you again. Try it again.
Mr. CARTER. OK. Mr. Adelstein, I wanted to ask you. A lot of your testimony has focused really on permitting and siting reforms and how any funding should go hand in hand with those efforts. I just wanted to ask you, could you tell me some of the top issues that are facing the wireless industry now when it comes to expediting build-out?
Mr. ADELSTEIN. Well, you know, the top issue really is just having enough capital to build to the entire country. I think that, you know, it is very important in terms of a bipartisan infrastructure bill that we get a substantial investment, be able to get to that last mile in rural America. We talked about it with Congressman Welch.
You know, the business case gets tougher as you get out there, and having, you know, costly burdens makes it more difficult to make that happen. I mean, for example, you introduced a bill, I saw, in a package that takes section 6409 and makes it so they are not subject to NEPA, which is something that, you know, the FCC has worked on. I think, you know, these kind of legislation to codify the good work the FCC has done would be helpful, particularly for colocation. Again, you know, it should be the easiest thing to do if you are going to collocate, if you are going to upgrade so you can get service out to more people, that should be the last place you have regulatory hurdles. And we appreciate your thoughts on that.
Mr. CARTER. Well, and appreciate you bringing up my bill and mentioning it. It is called the Proportional Reviews for Broadband Development Act. It is really just common sense, and it really just says that, you know, the changes, unless they are significant, but these minor changes that don't really impact the footprint of a tower, of a wireless tower, that those won't have to go through the environmental or the historical review, and that this could speed things up, which would expedite this and help everyone, and obviously save us a lot of money.
Can you think of any—give us any examples where this has happened before?
Mr. ADELSTEIN. Absolutely. I mean, regularly we are trying to collocate an existing tower, and there can be an environmental and historical review. What has changed in the history since you put a tower up there, and you are trying to put more equipment on a tower that has already been sitting there, and you have already done an historic review [inaudible]. Again sometime [inaudible].
I mean, this is just—it could take a year. It could take, you know, quite a bit of time, and there is no environmental impact,
there is no historic impact. There is a tower sitting there. So, you
know, it is just common sense. And this is something that the Fed-
eral Government has its own authority [inaudible] Federal rule for
something that is so nonsensical on an area where the Federal
Government is trying to get broadband out there. I think that kind
of reasonable step, you know, the municipalities won't be upset
about it because it applies to the Federal Government, they are not
municipalities. And it makes perfect sense.

Mr. CARTER. And not—yes, obviously, it has a monetary impact,
but the time factor too. I mean, you know, if a child misses a year,
has got to wait a year in order to get high-speed internet, I mean,
that is a year behind that they are.

Mr. ADELSTEIN. You are exactly right. We are talking about 5G,
which will allow schoolchildren to do all kinds of things they can't
do with multidimensional learning, 3D, very exciting for schoolkids.
We see how important distance learning is now, with the pan-
demic. Let's get that 5G equipment up there and not have to wait
a year in order for an historic or environmental review when there
is already a perfect wireless facility sitting there.

Get that piece of equipment up there more quickly, and this sup-
ports the efforts that the FCC has done to the treatment of existing
facilities under section 6409.

Mr. CARTER. I was at the Georgia State legislature today and,
you know, they were making a big push. You know, you have al-
ways heard Georgia—there are two Georgias. There is Atlanta, and
everywhere else. We have a large rural community in Georgia, and
one of the things that they are talking about is cell reception map-
ing, and especially during the pandemic.

How are your members addressing the mapping issue?

Mr. ADELSTEIN. Well, I am very pleased that this committee sup-
ported funding for mapping. It was approved by Congress. Because
we do need to mark the maps. If you are going to target where you
have uncertain areas, you need to know where they are, and it has
been an issue we worked on for many years trying to [inaudible]
those maps.

And the FCC needed those funds provided late last year in the
bill, so we are grateful for that. I think that whole plan enabled
us to get more accurate maps and target relief where it is needed.

Mr. CARTER. OK. Thank you very much.

Mr. Chairman, I appreciate it and I yield back.

Mr. DOYLE. OK. Thank you, Buddy.

Let's see, the Chair now recognizes Mr. Cárdenas for 5 minutes.

Tony, are you there?

Mr. CÁRDENAS. Yes. Can you hear me?

Mr. DOYLE. You are recognized.

Mr. CÁRDENAS. OK. Thank you.

Thank you, Mr. Chairman and also ranking member Latta.

Thank you for having this important hearing.

I just want to point out that, once again, that at the end of De-

cember of last year, Congress passed a $3.2 billion Emergency
Broadband Benefit program, which would provide eligible folks
across America with a discount of up to $50 per month towards
their internet bills. In addition, eligible households can receive a
one-time discount of up to $100 to purchase a device or a tablet or
laptop or desktop, et cetera. This benefit will be critical for those who are desperately in need of being able to be connected.

And we all know that when you are not connected, you have issues of not being able to get your telehealth appointment, not being able to get the opportunity to get back to work by filling out those employment contracts, and also when it comes to children missing school. It has now been over a year, and many of our children around the country are falling behind, way behind, and it is really important that we get this right.

And also, Mr. Wood and Mr. Shelton, you provided concerning testimony about how communities of color are most likely to be caught on the wrong side of the digital divide, and this is something that existed before this pandemic.

Mr. Wood, how can we make sure that people that most desperately need the help will know about the Emergency Broadband Benefit program and how to access it? And how do we capture people who are not currently in the Lifeline program today but are still eligible for the broadband benefit?

Mr. WOOD. Thank you, Congressman. We definitely need to make sure we do that. Obviously, the higher dollar amounts available and the more robust plans people can get will hopefully help with that, but it can't just be a, you know, set-it-and-forget-it kind of approach.

We need to make sure that there is outreach in local communities, that there is advertising, that it is in the dominant languages in different communities and not just in English or even just in Spanish. It has to be in any language that a community is populated with.

And it has to be a support. So, as I said earlier, I think we need centralized information from the FCC but also localized information and efforts on the ground to make sure that however well the program is designed, people know about it and they can take advantage of it.

Mr. CÁRDENAS. And that awareness is definitely an opportunity for public-private partnership, right?

Mr. WOOD. For sure. I mean, the ISPs are a big part of this. They have been good partners in this thus far. We don't have the FCC's rules yet, but the companies have a self-interest here. They will get this money back in terms of reimbursement, hopefully for people paying more for a plan but having the taxpayers help them out with that in this crucial time to make sure everybody is connected.

Mr. CÁRDENAS. And also, when people are uplifted economically, then they can afford long term these opportunities to keep these kinds of services once they graduate from being out of being low income and unemployed.

Similarly, Mr. Wood, many multifamily resident rentals are multidwelling units, such as senior and student living, mobile home parks. They have bulk billing agreements with internet service providers. Because these residents are not directly billed for services but instead pay a monthly fee for broadband services to their landlords, these households would otherwise be eligible, and they would also be likely to receive the Emergency Broadband Benefit to help pay their internet bills.
Again, how do we ensure that residents of these multifamily rental properties, including those in public housing, are eligible and able to receive this incredibly important benefit?

Mr. Wood. For sure, that is a key, and that is why the statute is written as it is, and the Lifeline program operates in this way too. We talk about households, and so that means a family unit or other group of people who decide to live together and make a household together. It is not just about a single physical address.

As you said, sometimes many different people share the same physical address, and sometimes people don’t have a permanent physical address, for the unhoused populations or those who are moving from place to place. So, clearly, we need to focus on the household and not just the physical address in that case.

Mr. Cárdenas. Excellent. Thank you, Mr. Wood. I would also like to share that my colleagues and I are planning on sending a letter to the FCC asking them to expand eligibility for this program to be as inclusive as possible. We must eliminate potential barriers and maximize the number of households that are able to receive this incredibly important monthly broadband benefit so that we can help families across America stay online and connected.

I have a question for Mr. Shelton: How long does it take for somebody to be trained to become one of your members? Do they have to go out there and get a Ph.D.? Is it 7 years of training, or about how long does it take?

Mr. Shelton. It is all done on the job, and it is—I would say, to be fully trained, it probably takes a couple of years, but, you know, the folks that——

Mr. Cárdenas. But you could be on the job training within weeks or months, right?

Mr. Shelton. Yes.

Mr. Cárdenas. OK. So you could actually start feeding your family while you are being trained?

Mr. Shelton. Yes. And we would love to have you start feeding your family while you are being trained. The problem is that we are losing members in the tens of thousands that could be putting all these broadband connections in, that are fully trained already.

Mr. Cárdenas. OK. Thank you very much.

Mr. Doyle. The gentleman’s time is expired.

Mr. Cárdenas. I yield back.

Mr. Doyle. I thank the gentleman.

Let’s see, I see Jeff Duncan sitting there patiently. You are recognized for 5 minutes.

Mr. Duncan. Thank you, Mr. Chairman.

Before I get started, I would like to enter into the record the Walberg workforce letter, dated January 27, from Mr. Adelstein and others. I think staff has that.

Mr. Doyle. Sure. Without objection, so ordered.

[The information appears at the conclusion of the hearing.]

Mr. Duncan. Thank you.

This is my first hearing on the telecom subcommittee, so let me take a moment to say it is a privilege to be here. I look forward to working with you and my colleagues on both sides of the aisle to address the issues that have come before the subcommittee.
And I would be remiss if I didn’t mention a giant in the communication realm passed away today. That was Rush Limbaugh and—70-year-old, died of cancer, and he is going to be missed within the communication realm.

You know, in the 1930s, after dual disasters of the Civil War and Reconstruction had left the rural South nearly a century behind the industrialized North in terms of technology, President Roosevelt made a decision to work to electrify the South with hydro-power, and Universal Service Fund was born. And out of that also came rural electric cooperatives, who have been providing these important services to my constituents for about eight decades now.

I believe that, after electricity and telephone services, broadband internet is the third wave of infrastructure investments needed to keep rural America competitive with our urban compatriots.

And I will say, I live on that last mile as well. I am served by a rural telephone cooperative and a rural electric cooperative.

So with any of these infrastructure build-outs, I believe the Federal taxpayer deserves the maximum return of investment for every dollar they spend. That doesn’t just mean lower costs up front. It means those investments need to be in infrastructure that lasts and stands the test of time.

For the purposes of this conversation, I believe that that means fiber optic cable in the ground. More expensive up front, I get that, but with a much longer service life and much greater reliability down the road.

This also means, as Mr. Adelstein has testified today, that we need to reform the permitting process in ways that will allow installation of these assets more quickly and more cost effectively than has been done to date.

Another way we can maximize our ROI is not to try to reinvent the wheel. The electric cooperatives are in a unique position to take advantage of existing and new Federal programs with the greatest impact at the least amount of cost to the taxpayer. I believe this means, whenever possible, partnering and creating synergy with the cooperatives to ensure that the power lines and fiber optic cable move together to provide the services necessary to close the homework gap and rural broadband gap.

And, finally, I believe it is absolutely necessary to have the right data before we make these decisions. If we are going to invest billions of taxpayer dollars in these assets, we must simply ensure that we are not duplicating our efforts and wasting those dollars. That can be achieved by making sure we are using data that maps to the rooftop, not just to a Census block, and we need to have that level of precise detail before we spend to add broadband services.

So I thank you for having this hearing today. You know, the government doesn’t set the pricing for telephone, satellite, TV, water, or electricity, and I don’t think the government should set the pricing for rural broadband as well.

And so I want to ask Mr. Adelstein. Mr. Adelstein, some witnesses have expressed concerns about broadband prices in the United States. Do you think the competitive marketplace or the government should determine the price of communication services?

Mr. ADELSTEIN. Well, the private sector is doing a fantastic job. I don’t know where some of these numbers come from. I mean, the
cost per megabit has gone down 98 percent in the last 10 years. Ninety-eight percent. You know, you can look at the price 9 years ago for a plan. $114 for one line unlimited. Now that plan costs $64.95, a decline of 52 percent, inflation adjusted.

I mean, these are—that means the subscribers save $576 a year compared to 2010 prices. So if now is to go back to, you know, a 2015, 2014 plan, we will sell you one. You won’t get nearly the same deal. The market is working very well. It is highly competitive.

I mean, you can see that the ads on television trying to get those prices down is working. The competitive marketplace in wireless has reduced costs dramatically per megabit, and people are getting much better service at lower prices.

As a matter of fact, wireless drove down the overall CPI for the first time, you know, in 7 years in 2017. We reduced the CPI. So I am not sure where some of these numbers are coming from, because wireless, actually prices have been going down, lowering the overall CPI for the United States to the point where actually it declined as a result of wireless in 2017, and it has been lowering inflation consistently. And we have the stats, I could submit for the record, to prove that.

Mr. DUNCAN. There is no doubt about that. And, you know, I hear you saying that the marketplace competition—we are in our infancy in broadband services and even cellular realistically compared to telecommunications, and so competition will drive the price down. When companies compete, I save money. Do you think it is a market failure that suggests that government should set the broadband prices? I don’t hear you saying that. It is not a market failure.

Mr. ADELSTEIN. The market is working. I think a 98 percent reduce in the price per megabit is pretty effective in the marketplace.

Mr. DUNCAN. Yep.

Mr. DOYLE. The gentleman’s time has expired.

Mr. DUNCAN. I am out of time. I appreciate you being here.

I yield back.

Mr. DOYLE. The gentleman yields back.

Let’s see, next I believe we have Robin Kelly. Robin, are you there? Yes, I see you.

Ms. KELLY. Yes, I am.

Mr. DOYLE. You are recognized for 5 minutes.

Ms. KELLY. Thank you, Mr. Chair. And it is an honor for me to be on your committee. And thank you to the witnesses for being here.

The pandemic continues to shine a light on the broadband problem, but the digital divide has been an issue in this country for such a long time. In my district, which is urban, suburban, and rural, there are still areas that lack connectivity.

As of 2017, I worked with local government officials and industry to bring Wi-Fi to Pembroke Township, one of my rural areas in Kankakee County in Illinois. It was the first time that the town was connected to high-speed wireless internet.

Pembroke shows what we can accomplish if we all work together. We can close the digital divide, but it is going to take all of us working together—government, industry, and consumers.
More liberal-leaning organizations and large companies like Verizon have put out ideas to close the digital divide. This shows me that we can come together on commonsense ideas to address a digital divide, even on topics like affordability and municipal broadband.

I encourage other companies to join in taking a long-term view and come forward with their ideas for closing the digital divide, so we can drive real solutions to these problems.

Mr. Wood, the Emergency Broadband Benefit is likely the fastest way that we can get more people connected without having to create unique tiers or plans. How do you think the program should evolve to ensure customers are getting a good product and ISPs are holding up their end?

Mr. WOOD. Thank you, Congresswoman. I think it really is about that choice and making sure people can apply that up to $50—it would be less than that if they can get a plan for less than that—to whatever service tier they would like. And so giving people that kind of choice and that kind of robust investment in their own ability to connect is what we see as the key to making sure that program succeeds.

Ms. KELLY. OK. And, Mr. Adelstein, do you have anything to add?

Mr. ADELSTEIN. Yes. You know, I think you are right. My wife is from Chicago. I appreciate the work that you have done to get Wi-Fi out there. She is from the northern part, you from the southern. But, yes, I mean, you know, there is a lot of progress we need to make. I think this committee is making the right investments in the Emergency Broadband Fund and making sure that people can afford it.

You know, that is a real issue, and we need to work together with you to help people afford it. And you know, the prices, as I have said, are—the service is going up, prices are going down. But it is still not affordable to some people. And, because this is so essential, it is really something that we need to work together, and I think this committee is doing a great job on that front.

Ms. KELLY. And even in Chicago, where they had the connectivity program, some parents still did not take advantage of that, because I guess they were afraid because they owed Comcast or whoever they have, they owed them money, so they were afraid to get back on to connect, even though it was for e-learning.

As chair of the CBC Health Braintrust, I have witnessed COVID–19 devastate communities of color, and the relief efforts that benefited others often never reach minority communities. In particular, I am concerned by the lack of transparency in the FCC’s COVID–19 Telehealth Program. Congress just appropriated another $250 million for this program in December.

Dr. Anderson, in your testimony, you talked about the lack of telehealth services available to Native populations in your State. How can the FCC better use this new pot of money to ensure that communities of color, including Native populations, benefit from the Telehealth Program?

Dr. ANDERSON. Well—and just so that we are all on the same page in terms of even that impact, and thank you for asking that question—I want to speak to just Kansas. As we know, the FCC
has over 600,000 Native households that lack standard broadband access. It is truly an issue. That is four times higher than the general population.

And so, you know, as we think about what can be done and we talk about—I know it sounds like rhetoric—private-public partnerships, but I think there are some accountability measures that we certainly need to put in place and ask for. I think transparency is definitely an issue, and I think what you shared in that regard is also an issue. And in collecting data to make sure that we hold people accountable.

You know, at this point, in Kansas, you know, we have several Tribal areas that do not have any access. And so, even though we have reduced cost of broadband services in some areas, that is not accessible to our communities of color and to our Tribal groups.

And so I would suggest many of the things that have already been shared, that that [inaudible] transparency data collection and holding of accountability.

Right now, that 600,000 Native households lacking access, it is unacceptable.

Ms. KELLY. No, I definitely agree. It is unacceptable anywhere.

Dr. ANDERSON. Absolutely.

Ms. KELLY. Mr. Chair, I will yield back my 3 seconds.

Mr. DOYLE. I thank the gentlewoman for yielding back.

Let's see, I don't see any Republicans right now. We are going to go to Angie Craig. Angie, you are recognized for 5 minutes.

Ms. CRAIG. Well, thank you so much, Mr. Chairman, and thank you for running a very efficient meeting. I am really grateful that the committee has taken the time here today to tackle this issue of dependable and affordable broadband.

At the end of the last Congress, I was proud to support the Broadband DATA Act, to make sure that the FCC produces accurate, reliable, and granular maps of broadband coverage. Additionally, in the omnibus package at the end of the year, Congress again came together to provide the funds necessary for the agency to begin developing the maps.

I know my colleague Buddy Carter brought this up, but even with the funding that Congress provided, it is going to be, we all know, a Herculean task for the FCC to coordinate the numerous efforts throughout the FCC and the Federal Government to improve broadband mapping.

That is why earlier this week I introduced the Broadband Measuring Availability and Aligning Policies Task Force Act, Broadband MAPS Act. This bill directs the Chair of the FCC to create an intraagency task force to ensure that all of the appropriate parts of the agency are working in the same direction to produce these accurate maps.

Just this morning, the Acting Chairwoman announced she will be implementing my bill administratively. I thank the Acting Chairwoman for her partnership.

In wake of COVID–19, the Congress has put substantial investment into broadband. We have got to make sure that these maps are accurate to ensure Federal dollars get to the most underserved communities.
Mr. Wood, could you please discuss the importance of accurate mapping and also speak to the importance of mapping when planning broadband build-out? And also, just as someone who is brand new to this subcommittee, talk a little bit about the barriers that have existed to make sure that these maps are accurate.

Mr. WOOD. Yes, Congresswoman. It is not a very pleasant story. I mean, it doesn’t seem like it should take this long, but there is finally some movement. Thank you for that bill and for the FCC’s willingness to take it on.

I think it was last March, as I mentioned earlier, that the mapping act passed, and the FCC also has had a proceeding underway to try and implement that. They call it the Digital Opportunity Data Collection. And only an administrative lawyer like me could love this. They are on something like their third order to consider how to do that.

So, you know, we are moving in the right direction, as you said, but sometimes it takes a lot of nudges or even shoves in that direction to get things done. And I think there was $65 million set aside for the FCC in December to fund that mapping program, and industry is ready to go and to get there.

So, as we have seen, you know, without the maps and even the well-intentioned Rural Digital Opportunity Fund Auction that just concluded, we can send money to places that are actually served today. Sometimes those maps actually understate coverage. As often if not more often, they overstate coverage. And until we get that right, we are going to be putting money in places that it doesn’t need to go and leaving other places unfunded, even though they desperately need that kind of Federal investment.

Ms. CRAIG. Well, as someone who is new to understanding all this, I look forward to trying to understand why this is so difficult and what those barriers are and how we can either help eliminate those barriers or get out of the way, depending on the issue.

I would like to just switch slightly now to broadband’s impact on our educators. As the wife of an educator and the mother to a son who is in the basement here today doing distance learning and who is moving back to hybrid learning here in the next couple of weeks, I know the stress this has put on our parents, our educators, and our students.

Dr. ANDERSON. Absolutely. And thank you for that question. And when we talk about the financial burden, let me take make sure that I speak about specifics. So, if you are not in a school—and I love it that your son is in the basement, but if you don’t have a son in the basement and you don’t know—reality is, if your child is on free or reduced lunch and you are someone on reduced lunch, that is about 70 cents for breakfast and lunch.

In Topeka, if you wanted service, internet services, we do have a partnership, you could pay $10. I literally had a parent that
emailed one of our principals at Jardine Middle School to let them know that they actually had to give up lunch to pay for service unless something else happened.

And so we were able, with a grant, to be able to help in that case, but that is a burden for families, even the reduced cost. So right now, those costs are really being shifted to families that have to literally pick “Am I going to eat or am I going to actually be able to provide service?” So that is one piece in terms of connectivity and just that continued burden.

Now, the other piece is a burden financially, and I will talk about E-rate. Eighty percent of our internet services is through E-rate for Topeka Public Schools. Eighty percent. And so we rely heavily on that within the school system.

Now, I will tell you that it is not just infrastructure. I know my time is out, but let me tell you this: Fifty percent of our families in Topeka right now, while they may have internet—and this is not unusual for free-lunch families—they don’t have quality internet. They can’t get the video, they can’t access, they don’t have the speed. And so that, again, puts the burden on families, or they just do without, and we are seeing more and more doing without.

Ms. CRAIG. Thank you so much, Dr. Anderson.

And as I am way out of time, Chairman, I will yield back.

Mr. DOYLE. The gentlelady yields back.

Let’s see. Mr. Butterfield, I believe you are next, and you are recognized for 5 minutes.

Oh, wait, I see Mr. Walberg just come on the screen, and he is their last speaker. Tim, are you able to hear me?

Yes. I will recognize you for 5 minutes.

You need to unmute, Tim.

Tim, you are still muted. Can you hear me? If you can, you need to unmute.

Well—Tim, maybe we will go to Mr. Butterfield and try to come back to you. Are you unmuted?

Mr. WALBERG. Did that work now?

Mr. DOYLE. Yes, yes. OK. There you are. You got 5 minutes.

Mr. WALBERG. OK. The fingers are too big to get the job done there, so I appreciate you taking the time with me on this. And I appreciate the fact that this issue has been brought up today. It is an important topic that we would do well to spend significant time on.

If I can bring up my—why don’t you go on to Mr. Butterfield, if I could ask that. I am having trouble getting my questions up.

Mr. DOYLE. OK. We will do that. Thanks, Tim. We will come back to you.

OK, Mr. Butterfield, you are recognized for 5 minutes.

Mr. BUTTERFIELD. Thank you very much, Mr. Chairman, and thank you for your leadership. We have been working on this for a very long time, and it is time to get something done in the 117th Congress. Thank you very much. And to our witnesses, thank you as well for your testimony.

Let me start with Mr. Wood. Mr. Wood, could you just talk, please, a little bit more about the EBB program, the Emergency Broadband Benefit program, specifically the benefits of consumers
being able to choose from a wide variety of broadband providers and service offerings? Help me a little bit with that.

Mr. Wood. Certainly, Congressman, happy to. It is a much larger available amount of money which will help with that flexibility. And so the current Lifeline program, as I mentioned, is usually limited to $9.25 for a subscriber just to go up to $50 or $75 on Tribal lands, and that will allow people to get a more robust plan, wired or wireless, frankly.

We found that to our organization it was important not to try and pick and choose for people what they should pick for themselves, and that they should be able to take that money and apply it to any of those services that they might find best suits their needs in this very unusual and extraordinary crisis we find ourselves in, and perhaps going forward. I mean, we need to think about making this permanent and doing other things to lower prices people are paying, but this was a great start, in our view, to get people that injection of cash they need now.

Mr. Butterfield. So are you a strong proponent—you are a strong proponent on flexibility in the EBB program? Are you supportive of flexibility, and do you think that would be important to making the program successful?

Mr. Wood. Yes, definitely. And I think I should say, you know, I feel like there is a little talking past each other today. We have talked a lot about competition at our organization and about this program as well, and so not trying to remake the broadband market or how we set prices or anything like that with this program or frankly any other. We just want to make sure people have what they need to get those services even as, despite what we have heard, prices are going up at the bottom end and especially recently.

I think the problem with Commissioner Adelstein’s testimony versus mine is he was talking about 2017. I am talking about 2020. We saw wireless CPI spike last year, even though wireless has been more competitive for a while, for sure, but once the T-Mobile/Sprint merger went through, prices started to shoot back up. And that is what we have to be concerned about, is that people not be left behind as they are putting more out of their pocket, whatever is happening with the quality adjusted prices for people like me who can already afford the service.

Mr. Butterfield. Let me switch over very briefly to Commissioner Adelstein. It is good to see you again, sir. I wish I could be there with you in person, but thank you for all that you do for the Wireless Infrastructure Association.

In your testimony, you discussed the need for apprenticeship programs to ensure a diversity pipeline of job-ready workers who would then be instrumental in delivering broadband to those who need it the most. We have talked about that, and I know how strongly you feel about this. How might these apprenticeship programs help us close the digital divide?

Mr. Adelstein. Well, you know, our industry is committed to diversity, and I appreciate all your leadership over the years to do that. I think that, you know, we want our workforce to look like the people that we serve, which is as diverse as the United States is.
And apprenticeships are a great way to get people of color, veterans, disadvantaged communities, women involved in our industry, to diversify the workforce and to give them skills where they can have jobs that continue to grow as our industry grows.

You know, apprenticeships are perfect for wireless. That is why Secretary of Labor Walsh has lauded the efforts that we are doing now. We started the first diverse program in the industry, but we need a lot more work. And I think one way we could work together with you, we talked about, is to go to HBCUs and Tribal colleges, to have them teach programs that don’t exist in almost any school today about 5G to really get kids——

Mr. BUTTERFIELD. What about community colleges?

Mr. ADELSTEIN. Absolutely.

Mr. BUTTERFIELD. I know we talked about that, yes.

Mr. ADELSTEIN. Yes. Community colleges can do the field tech work and get people into—you know, whether they go to CWA or they go to one of the other companies that are doing this kind of work, they could come out fully trained, ready to go, and start, you know, in 5G.

This is the most complex technology yet, the most complex generation. And I think at, you know, HBCUs, you have got Carnegie Mellon cranking out great EEs, but we need a lot more of them. We can’t just do it at MIT and Carnegie Mellon. We need them at HBCUs. This would be a great place to get higher-skilled workers, more diversified engineers, you know, RF engineers.

Mr. BUTTERFIELD. You mentioned Communication Workers of America. Let me next go to Mr. Shelton. Thank you for all that your union does. We are great friends, and just want to encourage you to keep doing what you guys have been doing over the years.

In your testimony, Mr. Shelton, you say that strengthening the Lifeline program is key to promoting digital equity among communities that have been left behind. My question is, what reforms could we make to the Lifeline program that will address the digital divide?

Mr. SHELTON. Well, you know, the Lifeline program needs to be strengthened, and I think we need to talk about how it gets strengthened. But I think one of the things that would probably destroy the Lifeline program is supported—being funded by a yearly congressional appropriations, which, you know, would leave it to the vagaries of Congress, sorry to say. I think that the Lifeline program is too important to do that, and I think that we would really hurt it or destroy it if that happened. So——

Mr. BUTTERFIELD. Lifeline has a lot of support on this committee, I believe, on both sides of the aisle. So thank you so much for your words.

Mr. Chairman, I yield back.

Mr. DOYLE. The gentleman’s time is expired. I thank the gentleman.

Tim, are you ready?

Mr. WALBERG. I hope so. You can tell me. Can you hear me?

Mr. DOYLE. We can hear you fine. You are recognized for 5 minutes.

Mr. WALBERG. Good. I am glad I can make technology work the second time. Thank you, Mr. Chairman.
All of us here have recognized the importance of staying connected during the COVID–19 pandemic, and we should take pride in the fact that our networks here in the U.S. were able to withstand the stress test of increased capacity.

I am told that in other parts of the world—Europe and Australia, for example—regulators were forced to take extraordinary measures, such as reducing video quality and speeds and even urging consumers to ration their internet usage.

There is no doubt about it, the light-touch regulatory framework that has governed the internet for most of its existence has enabled us to build resilient networks. But there is much more to be done, and the digital divide is more prominent than ever.

Recently, Jennifer, a constituent of mine from Manchester, Michigan, wrote to me that she has to drive her kids to a nearby business parking lot so the children can complete their school assignments. This is unacceptable, and we must continue to work towards permanent broadband solutions that meet the needs of rural and urban America.

As part of the solution, I am pleased to introduce, with my colleagues, commonsense permitting reforms that will remove red tape, will lower deployment costs, and allow companies to put resources towards skilled workforce training and apprenticeship programs to meet the needs of next-generation broadband technology.

In fact, in my district alone, it is estimated that the 5G economy will create over 6.6 thousand new jobs and almost 90,000 jobs in the State of Michigan over the next 10 years. This is why I am pleased to introduce, with my Democrat colleague Representative Clarke, the Telecommunications Skilled Force Act, H.R. 1032.

This bill will help foster greater collaboration between the Federal Government, State workforce boards, higher education, and industry, to accomplish the ultimate goal of reducing unemployment and developing a pipeline of skilled technicians that our country sorely needs to meet our broadband and 5G deployment goals.

Mr. Adelstein, yesterday I spoke with Dr. Kojo Quartey, president of the Monroe County Community College, about workforce training initiatives. Many players in the telecom industry are collaborating with institutions like Monroe County Community College to address the significant shortage of skilled workers to build out 5G and fiber networks.

Could you elaborate on the role that community and technical colleges can play in helping to deploy advanced wireless and wired broadband services?

Mr. Adelstein. Absolutely. We appreciate the bipartisan leadership of you and Congresswoman Clarke, and we just heard from Congressman Butterfield about apprenticeships and the role that they can play in making sure that we have, you know, really the latest skills to our workforce. And Monroe County Community College is leading the way.

As a matter of fact, at Monroe County Community College, we are, together with our partners at PCCA, creating the first small-cell technician program at any school in the country. So Michigan is leading the way.

I mean, small cell is our whole new technology. We are going to put as many as a million of these things up. And it gets very com-
plicated, because you are putting more antennas closer to end users, which leads to a congested RF environment, and most field techs never had a course in radio-frequency engineering, you know. Just a one on one, someone out there in the field, they know when they are doing.

So we need to, you know, give them—and these are new people coming into the industry. We talked to Congressman Butterfield about diversity. You know, we could get diverse people in there, we could get veterans in, women, you know, minorities, and bring them in. People that have been displaced because of the pandemic, train them in wireless technology, especially 5G, because 5G is the most complex G yet, and yet schools across the country aren’t teaching it.

We have come up really fast. People don’t think about, you know, 10 years ago before the iPhone, it was pretty simple. You put up an antenna and you were done. Now you are talking about small cells. You are talking about very complicated equipment at the top of the tower. You are talking about a lot of software engineering, and earlier we talked about cybersecurity.

I mean, this is a new world of educational needs. And so we need the academic world to keep up with the fast pace of the wireless industry so that we can get people coming out of our schools that are ready to do the job safely, efficiently.

If taxpayers are going to invest money in building it out, let’s have people from Monroe County Community College be the ones to build that out with this new degree in small cell engineering.

Mr. WALBERG. Super. Amazing stuff.

Do you agree that permitting reforms, such as the proposals recently introduced by Republican members of this subcommittee, will help lower deployment costs for providers so they can focus on dedicated resources toward resource workforce development and apprenticeship programs?

Mr. ADELSTEIN. Yes, we—you know, it is all part of the deal. If we are going to do an infrastructure package, I think, you know, major investments are in order to get it out to rural America, as you noted. I mean, there is a need for that. We realize now that broadband is essential.

So if we get all of the elements in place, we get the right siting regime—which you have talked about, you have introduced legislation on that—we get the right spectrum policies, we get the right workforce policies, all three legs of the stool are covered, and we can win the race to 5G.

I think we are positioned to do it. I think we have the smartest workforce, the smartest engineers. We have, you know, some great cooperation with Congress, with the FCC. We have won the race to 4G. Through some partnership and cooperation, I think we can win the race to 5G, and we can make sure that it gets to rural America so that our entire economy can grow with as much as 4.5 million new jobs.

Mr. DOYLE. OK. The gentleman’s time is expired.

Mr. WALBERG. Thank you. I yield back.

Mr. DOYLE. OK. Thank you, Tim.
Now, we have saved the best Member for last. It is my pleasure to yield 5 minutes to my good friend and colleague from California, Doris Matsui.

Ms. MATSUI. Thank you so much, Mr. Chairman. And you are the best chairman too. I will give that to you also. And thank you to the witnesses for being here today. And this is such an important subject.

First of all, I want to talk about cybersecurity, K to 12. While the shift to distance learning has helped keep students safe and engaged, it has also highlighted a growing threat. Cyber attacks targeting schools are increasing in regularity and sophistication.

In December, the FBI Cybersecurity and Infrastructure Security Agency and the Multi-State Information Sharing and Analysis Center issued a joint cybersecurity advisory noting that the significant risk of cyber attacks is expected to continue during the current academic year.

Dr. Anderson, have you heard concerns about this disruption to distance learning that a cyber attack could cause?

Dr. ANDERSON. Trying to get this unmuted. Here we go.

First of all, thank you for that question. You know, one of the things Topeka has done most recently is to have a full audit of our security systems. And I would encourage that, again, if we have the appropriate resources to free up, instead of directing them to other matters that could be addressed by E-rate and other items. If we have those resources available, everyone could actually do that.

From our own audit that we had, we really began doing some other matters to further protect our students and our staff as it relates to ensuring that we are not open to the kinds of threats that we would otherwise be open to.

Ms. MATSUI. OK.

Dr. ANDERSON. That is going to be an ongoing audit as well.

Ms. MATSUI. OK. Thank you.

Last Congress, I introduced the Enhancing K–12 Cybersecurity Act with Congressman Langevin, to help increase school cybersecurity during this pandemic and beyond. And just like roads and bridges, cybersecurity staff and technology are an important part of modernizing American infrastructure. And that is why this bill would authorize $400 million in new funding.

And, while this public health crisis has revealed preexisting vulnerabilities, this underlying cyber threat facing K–12 schools remains even after we crush the coronavirus.

I want to now talk about workforce. In order for the United States to remain the global leader in communications technologies, we need to ensure that there is a skilled workforce ready to install the fiber towers and antennas that power them. However, there is still a significant shortage of qualified workers that is limiting our progress in closing the digital divide and deploying next-generation communications networks. That is why I am working on legislation to boost apprenticeships and job training to meet this demand.

Mr. Adelstein, how has limited telecommunication sector workforce funding affected the climate, and what would an additional, let’s say, $75 million in apprenticeship grants allow us to accomplish? Mr. Adelstein?
Mr. ADELSTEIN. It would make a huge difference. Thank you so much. Yes, I can see, you know, why you are our congressional wireless workforce champion. We gave you an award about a year ago because you have been so committed to workforce development and to funding it properly.

And apprenticeships are the right way to go, as Congressman Walberg was mentioning. You know, even in cybersecurity, it doesn’t have to be just traditional jobs of building out in the field, but you can have a cybersecurity apprenticeship. And we can get kids coming out of technical schools and colleges and HBCUs that are learning cybersecurity specifically for 5G. Because, again, it is different.

I mean, this 5G is a whole new world, and if we want to win that race, we have a lot of good people who do the work as, you know, has been noted in testimony here, that know how to do it, but 5G, we want to make sure that the skills keep up with the development of the technology and they grow from the technology.

So if Congress is going to invest, you know, along the lines of Congressman Clyburn’s bill, a hundred billion dollars, that will create hundreds of thousands of new jobs to fill. And hopefully, you know, there will be good union jobs, there will be good other companies that are doing that work. Make sure that we have people ready to do that, and spend those congressional dollars efficiently and effectively, and give people from diverse backgrounds careers in our industry that is going to keep on growing. I mean, our industry isn’t going away. We are going to keep growing, and these are really good, well-paying jobs that people can grow in their careers. You know, they can go from being a field tech to being an RF engineer. Your leadership on this has been absolutely essential.

Ms. MATSUI. Well, thank you very much for that.

I just want to—I have a few seconds here. I was joined with Congressman Guthrie in sending a letter to the Department of Labor requesting Secretary Acosta—that is the last Congress—to write us with details on steps the Department is taking to support the development of a qualified telecommunications workforce.

Looking to the future, I believe as an initial step that a 5G and fiber workforce plan must be a foundational strategy for addressing this workforce challenge.

Mr. Adelstein, a quick answer: Do you believe a 5G and fiber workforce plan could help coordinate the disparate Federal agencies involved in our telecommunications workforce?

Mr. ADELSTEIN. Absolutely. We need to plan ahead for this because it is going to be a big, growing demand, especially if you have a big infrastructure package. I am pleased to say that Secretary Walsh had very positive comments about the importance of wireless apprenticeships in his confirmation hearing and what WIA has been doing through TIRAP. So I think we have all the great pieces together, the great people here in the room right now have done.

Ms. MATSUI. OK. Thank you.

Mr. DOYLE. The gentlelady’s time is expired.

Ms. MATSUI. Thank you very much. I yield back.

Mr. DOYLE. OK. Now, let’s see, I want to request unanimous consent to enter the following into the record: a letter from the Fiber Broadband Association to Chairman Doyle; a letter from
USTelecom in support of the Emergency Broadband Benefit program; a statement from the Wireless Internet Providers Association; a statement from Filemon Vela; a letter from Ranking Member Latta to Chairmen Pallone and Doyle; a January 27th industry association letter; a study from George S. Ford, the Phoenix Center for Advanced Legal & Economic Public Policy; letter from Utilities Technology Council in support of broadband deployment; a January 2018 report from the FCC’s Broadband Deployment Advisory Committee. Without objection, so ordered.

[The information appears at the conclusion of the hearing.]

Mr. DOYLE. I want to thank the witnesses for their participation in today’s hearing. I want to remind Members that, pursuant to committee rules, that they have 10 business days to submit additional questions for the record to be answered by the witnesses who have appeared. And I would ask the witnesses to respond promptly to any such questions you may receive.

I want to thank everybody that have participated in this hearing. And, at this time, the committee is adjourned.

[Whereupon, at 2:04 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]
February 12, 2021

The Honorable Mike Doyle
Chairman, Subcommittee on Communications and Technology
205 Cannon Building
Washington, DC 20515.

Dear Chairman Doyle:

The Fiber Broadband Association commends the Subcommittee on Communications and Technology for the upcoming hearing to examine the progress made to close the digital divide and what remains undone to bring fast, reliable, internet service to all Americans regardless of geography or income level. The Fiber Broadband Association represents more than 250 members, including telecommunications, computing, networking, system integration, engineering, and content-provider companies, as well as traditional service providers, utilities, and municipalities. FBA’s mission is to accelerate deployment of all-fiber access networks by demonstrating how fiber-enabled applications and solutions create value for service providers and their customers, promote economic development and enhance quality of life.

As the Subcommittee considers next steps to address the digital divide and connect all Americans with high-speed broadband, FBA urges you to keep the following priorities in mind:

1) Accelerated deployment of fiber broadband infrastructure is essential to close the digital divide and build resilience against existential threats such as pandemics. Fiber broadband is a superior technology that provides much greater bandwidth and speeds for more robust video, internet, and voice services. Once fiber is deployed in a community, it not only connects homes, schools, businesses, and anchor institutions to the internet, but also provides necessary critical infrastructure for 5G, towers, wireless networks, the Internet of Things, and smart city applications.

2) 5G depends on fiber networks to deliver fast speeds and expanded services. Areas without fiber infrastructure will not have access to 5G and will fall on the wrong side of the digital divide.

3) Meeting today’s connectivity demands requires investment in sustainable networks. Sustainable networks are those that can meet not only the demands of users today but into the future. As the pandemic has required more people to go online for education, working, and health care, broadband use has become more symmetrical. Today’s pandemic uses, such as video conferencing, require networks that provide better upload speeds.

FBA applauds the Subcommittee’s leadership in closing the digital divide and asks for your continued support for fiber broadband infrastructure. We stand ready to work with you on policies that support the continued rollout of fiber broadband networks. Please reach out to us anytime.

Sincerely,

Gary Bolton
President & CEO
Fiber Broadband Association
919-349-1025
gbolton@fiberbroadband.org

Fiber Broadband Association www.fiberbroadband.org 3050 K Street NW, Suite 420 Washington, DC 20007, USA
February 12, 2021

The Honorable Frank Pallone  
Chairman, Committee on Energy and Commerce  
2125 Rayburn Building  
Washington, DC 20515

Dear Chairman Pallone:

The Fiber Broadband Association commends the Subcommittee on Communications and Technology for the upcoming hearing to examine the progress made to close the digital divide and what remains undone to bring fast, reliable, internet service to all Americans regardless of geography or income level. The Fiber Broadband Association represents more than 250 members, including telecommunications, computing, networking, system integration, engineering, and content-provider companies, as well as traditional service providers, utilities, and municipalities. FBA’s mission is to accelerate deployment of all-fiber access networks by demonstrating how fiber-enabled applications and solutions create value for service providers and their customers, promote economic development and enhance quality of life.

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Sincerely,

Gary Bolton  
President & CEO  
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Fiber Broadband Association  www.fiberbroadband.org  3050 K Street NW, Suite 420  
Washington, DC 20007, USA
February 17, 2021

The Honorable Michael F. Doyle
Chairman
Subcommittee on Communications & Technology
2323 Rayburn House Office Building
Washington, D.C. 20515

The Honorable Robert E. Latta
Ranking Member
Subcommittee on Communications & Technology
2323 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Doyle and Ranking Member Latta:

On behalf of USTelecom members, the broadband providers and innovators keeping Americans connected during our nearly full year of remote work and distance learning, thank you for holding today’s hearing, “Connecting America: Broadband Solutions to Pandemic Problems.”

I am pleased to provide the committee the following information about steps our members have taken to enable connectivity during the pandemic and respectfully share observations that might help inform the committee’s future legislative work related to broadband.

Our broadband networks have been resilient and fully capable of carrying the surge in high bandwidth traffic during the pandemic, and unlike the cost of most consumer goods and services, broadband prices are actually decreasing.

These facts mean little to the millions who lack broadband access or simply cannot afford service in the first place. As a nation, we need to recognize the digital divide is not solely an issue of access, but of affordability and adoption as well.

This inequality is particularly acute for school age children. Pandemic or not, no child in America should have to sit in a fast-food parking lot to learn. Our members have stepped up in bold and creative ways to ensure learning does not become another casualty of this terrible past year.

In 2020, USTelecom and EducationSuperHighway partnered to connect low-income students to remote and hybrid learning through the K-12 Bridge to Broadband Initiative. Our members work directly with school districts to identify unconnected student households and offer service...
to students at home. As of December, the initiative helped more than 800 school districts in 41 states identify and connect students without a home broadband connection.

Across the country, US Telecom members including Consolidated Communications, Alaska Communications, Texas-based BBF, Montana-based Blackfoot, South Carolina-based Hargray Communications, Washington State-based Rainier Connect, North Carolina-based RiverStreet Networks, New Mexico-based WNM Communications and many others have led the way in their own communities, offering free Wi-Fi, discounted service and various grants to support remote learning.

Other members like AT&T have connected nearly 460,000 students and teachers across 44 states with mobile connectivity while teachers across the country can access free service to support virtual classrooms. Verizon’s Innovative Learning is expanding its program to provide broadband access and devices to 111 new Title I schools across the country for a total of 284 schools. The program is available for 38 million students across 40 states and the District of Columbia.

Meeting the challenge of connecting all families and students working and learning remotely requires a strong partnership between government and industry. Our companies are stepping up, but they cannot do it alone. We appreciate the efforts of Congress, the FCC and other agencies who are doing their part as well.

Last March, US Telecom suggested the FCC open a new funding window precisely to allow E-Rate funds for remote learning as a result of our public health emergency. Yesterday, US Telecom was pleased to file comments at the FCC endorsing the limited use of the E-Rate program during the 2020-2021 Funding Year to connect students at home through E-Rate supported services.

To that end, we appreciate this committee’s bipartisan support of significant additional funding for that purpose as part of COVID relief. Provided such funding is limited to the duration of the pandemic and explicitly used for educational purposes, it can make a meaningful difference in the educational opportunities of unconnected students across the country.

We were also pleased to file separate comments at the FCC yesterday providing guidance to the Commission as it works to implement the $3.2 billion Emergency Broadband Benefit (EBB) Program established by Congress in December. Our goal—support the agency in establishing a program that will incentivize the broadest possible participation among providers by using existing resources, ensure active consumer participation, and ensure program integrity.

The emergency benefit is both a necessary and welcome start, but to achieve our shared and fundamental goal of universal connectivity, Congress should consider a long-term solution. The emergency benefit can and should serve as a helpful pilot for establishing a sustainable program over the long-term.

In short, your hearing could not be more timely.

Whatever the challenge—COVID-19, economic recovery, racial equity, climate change, healthcare, education, job creation, or national security—broadband must play an essential role in any plan to lift Americans up and move our nation forward.
Throughout this last 12 months, when our citizens have needed them most, America's broadband networks have delivered because of billions of dollars of investments and strong partnerships with government.

You have our commitment to sustain this progress together to finally and fully finish the job of connecting our country, no matter where, no matter what.

Sincerely,

Jonathan Spalter
President and CEO
USTelecom – The Broadband Association

Cc: The Honorable Frank Pallone, Chairman
    The Honorable Cathy McMorris Rodgers, Ranking Member
We thank the Members and staff of the House Energy and Commerce Committee and the Subcommittee on Communications and Technology for the opportunity to submit this statement for the record on behalf of the Wireless Internet Service Providers Association (WISPA). WISPA represents the interests of the evolving wireless internet service provider (WISP) ecosystem: small, innovative entrepreneurs who provide fixed wireless and other broadband solutions to consumers, businesses, first responders and community anchor institutions. The nation’s approximately 2,800 WISPs bring critical internet access to more than six million Americans in underserved and unserved rural, suburban and urban areas of the country, quickly and affordably, offering cost-effective, competitive and innovative service options where they did not previously exist.

WISPA’s members have been on the frontlines of combating COVID-19, helping individuals and companies in the toughest to serve communities across America stay safe and connected through the pandemic. In the early days of the pandemic, they were the first ISPs on the ground, connecting underserved communities to high-speed internet virtually overnight. And since then, they have been working overtime to help students learn virtually, parents work from home, and grandparents access telehealth services. They are proud to serve on the frontlines of this pandemic because one thing remains clear: Americans without access need broadband connectivity and they need it now, not a decade from now.

Here’s their story.

With most of us locked down during the pandemic, Americans used the fullest extent of their internet access to teach our kids at home, telework, communicate with loved ones and friends, and generally keep their heads above the water during those trying times. Needless to say, all networks were pushed to their capacity, including those operated by WISPs.

As with others in the broadband ecosystem, WISP networks got hit hard by the new use dynamics brought about by the lockdown orders. They saw an average change of download traffic at peak from pre to present COVID of 43%, and an average change of upload traffic at peak from pre to present COVID of 70%, causing nearly 83% of WISPs to quickly upgrade their delivery networks to meet these challenges.

Not surprisingly for WISPs, the top five uses during COVID were (in order): virtual meetings/webinars, distance learning, HD movie streaming, telemedicine, and web browsing. To accommodate these uses, the top five “speed” packages chosen by consumers during COVID were (in order): 25/5Mbps, 10/1 Mbps, 50/5 Mbps, 100/20 Mbps, and 100/100 Mbps. Interestingly, though “Zoom” became its own verb, networks remained highly asymmetric in use—e.g., 7-to-1, download to upload—even in light of increased upload demands via telehealth, distance learning and telework use dynamics.

As WISPs worked to accommodate the new traffic patterns, they also went into their communities to ensure that those who did not have, or could not afford, internet access had it. A significant majority of WISPA’s members provided some sort of free connectivity or publicly available Wi-Fi to their communities at their own cost, averaging about $4,500 apiece. Many also signed the FCC’s Keep
Americans Connected pledge, which kept those most affected by the pandemic – such as individuals who lost jobs or saw lower wages – connected and safe.

The 5.9 GHz band – an underutilized slice of spectrum dedicated to the auto industry for the past twenty years – was a critical asset that helped WISPs meet the dramatic surge in demand during COVID, too.

WISPA has long advocated that the FCC put the 75-megahertz in this band to better use by allocating a portion of it for unlicensed uses. When the pandemic hit, the Commission found new impetus to see this through. In March 2020, in order to help WISPs satisfy surging network demand, the FCC began granting applications from WISPA members for Special Temporary Authority (STA) for unlicensed use of 45-megahertz of spectrum in the lower portion of the band.

Some examples of this were:

MetaLINK Technologies, Inc. in Defiance, OH, used the additional frequency to complement its unlicensed offerings, making it able to provide a better internet experience to its customers by expanding the throughput, reducing latency, and providing better modulation.

Nextlink, based in Hudson Oaks, TX, found tremendous success moving a portion of its gear to the 5.9 GHz band where it could operate with less interference. As a result of the higher signal-to-noise ratio utilizing the 5.9 GHz band, over 2,000 of Nextlink’s subscribers were able to upgrade their speed plans to higher levels than possible before. The change had interesting ancillary benefits, too. Nextlink notes that its departure from the usual unlicensed frequencies in the lower portion of the 5 GHz band provided a similar boost for other WISPs in the marketplace by allowing them to operate with less frequency congestion and interference.

ZIRKEL Wireless, operating in Steamboat Springs, CO, says that when the state’s stay-at-home orders were imposed, many of its access points (APs) were suddenly saturated at 100% utilization since everyone was now at home working and schooling, among other uses. With the new 5.9 GHz spectrum, ZIRKEL was able to mitigate that strain, bringing utilization back down to the 80% range by increasing capacity and thus helping all of its customers remain connected with fast speeds. The STA also enabled the company to give other adjacent APs larger channel states, alleviating pressure network-wide.

The success of the STA grants demonstrated how critical it was for the FCC to proceed with its proposal to allocate more unlicensed spectrum in the 5.9 GHz band. Subsequent to these events, late in 2020 the FCC opened up the lower 45-megahertz of the band to indoor unlicensed use, and is in the process to determine the permanent rules for full power outdoor use akin to what was achieved by WISPs with the STAs.

WISPs that received an FCC STA certainly made the effects of COVID-19 on their networks less devastating for their communities. This provides a vital lesson to policymakers – the rapid application of the new spectrum to help combat the effects of COVID also showed off the strengths of the WISP model of deployment, revealing important implications for bridging the digital divide.

WISPs, through their flexible network architecture, are meeting the needs of the markets they serve. Sometimes that means using primarily unlicensed spectrum to reach customers. Other times, it may mean rolling fiber to the home. The market – its geography, terrain, access to infrastructure, etc. – is the primary factor that determines network design, not a preference for any given technology. Such flexibility has greatly fostered WISP deployment into the digital divide.
This technologically agnostic approach makes sense. Yet, many today are calling for billions in federal and private support for primarily wired/fiber connectivity to close the divide. Indeed, a significant number of WISPs operate these fiber facilities. The speeds are fast. The service is robust. The pipes are capacious. But building fiber networks is fraught with a number of practical challenges that do not make it an automatic choice to bridge the digital divide.

The first of which is time. Through wireless technology, WISPs can extend robust and evolving broadband networks in a matter of days, not months or years. Deployment is not hampered by time-consuming placement of fiber, permitting for rights-of-way, utility poles or aerials, or the sheer physical complexity of establishing a working fiber network. Consequently, fiber-only networks are inapt to meet the immediate challenges presented by COVID. Expansive geography, tough terrain and low population densities, among other matters, also mean that even beyond COVID, it could take years before internet access could be extended through fiber to all unserved Americans.

Cost is another challenge to fiber deployment. WISP networks can bring broadband to customers at about 15% of that of fiber. Running or trenching fiber can cost up to $30,000 per mile to install. In contrast, unlicensed spectrum – such as the 5.9 GHz band, and licensed-by-rule spectrum, such as Citizens Broadband Radio Service spectrum in the 3.55 to 3.70 GHz band – offers dramatically lower-cost ways to provide internet service. On the equipment side, too, fixed wireless hardware is relatively inexpensive compared to wired/fiber solutions, the latter of which can incur extensive capital costs for installation, maintenance, and repairs.

Finally, the investment might be overkill – sort of like buying a Ferrari to drive on your neighborhood streets when a Ford will do. Yes, consumers are perennially sold the notion that they need more speed/capacity for their data-hungry activities. But for the foreseeable future, they’ll likely never be able to use all that fiber has to offer, if at all. Current adoption statistics underscore this. During the height of the COVID lockdowns, WISP customers primarily chose or modified their access packages to 25/3 Mbps services, even where they could purchase broadband service with Gigabit per second download speeds. Recent FCC analysis seemingly confirms similar adoption preferences, too, showing that in an era with Netflix HD streaming, gaming and telework being popular uses of network technology, only 9% of Americans chose packages of 250/25 Mbps, a speed which is significantly less than what can be achieved by Gigabit fiber.

Marketers are wont to inflate the need for speed to justify their pricey packages, but actual use statistics suggest most of America is doing fine with what they have right now. That may change. But, fixed wireless networks have proven that they can be deployed faster, at lower costs, and can evolve more rapidly. These characteristics should obviate policies such as “fiber favoritism” which distort broad investment and lock in an expensive technological “solution” that is not universally warranted.

Avoiding this “favoritism” via policies which are more ecumenical and technologically neutral in focus is a more effective way to serve those who do not have broadband in this time of crisis.

Focusing on user affordability is another way to get and keep Americans online. Late last Congress, the $3.2 billion Emergency Broadband Benefit Program (EBB) was signed into law. This program, which the FCC is currently developing, will provide reimbursement to participating broadband providers for qualifying individuals and families and Tribal entities for internet access, as well as the IT needed to hook up to the internet if offered by a participating provider.

Optimizing broad participation will be key for the EBB. Because it is a reimbursement program – not a subsidy program – it is important that the FCC structure the rules and implement procedures which invite
the widest array of participants, especially small providers. In considering Congressional intent and the record, WISPA asked the FCC to keep the following principles top of mind:

- Keep the application and reimbursement processes simple and straightforward;
- Ensure prompt processing and payment of reimbursement requests;
- Make sure the Program does not favor eligible telecommunications carriers over other participating providers; and
- Compliance and accountability must be safeguarded through FCC and USAC audit and enforcement authority.

If the FCC’s rules reflect these objectives, WISPA believes the Program will be successful in encouraging wide participation from broadband providers for the benefit of consumers affected by the pandemic.

Conclusion

The WISP model of deployment has been proven to bring broadband home to unserved and underserved communities by focusing on employing the right tools for the right job. Though WISPs predominantly utilize unlicensed spectrum to connect their customers to broadband, a growing array of WISPs, have employed all tools at their disposal, including fiber. Just as the communities in which WISPs operate are diverse, so too are the terrain and deployment strategies needed to connect them. Operators need to remain nimble and be allowed the flexibility to pick the right tool for the job — a hallmark of any technologically neutral broadband policy that Congress may consider. COVID-19 certainly has caused a global calamity and greatly altered the way many of us use technology, but as STA access to the 5.9 GHz band reveals, WISP deployments can be exceedingly responsive, cost-effective, flexible, and evolutionary. And for these reasons, this technology should remain a tool in the connectivity toolbox. This quick and affordable access, coupled with key programs like the EBB, can ensure all Americans, regardless of income or location, get connected to high-speed internet today—not ten years from now. We appreciate Congressional attention to these matters and WISPs across the country stand ready to not only continue to meet the challenges of this pandemic but play a critical role in the nation’s longstanding efforts to eradicate the digital divide once and for all.
Statement for the Record by Congressman Filemon Vela

The Subcommittee on Communications and Technology of the Committee on Energy and Commerce’s hearing,

"Connecting America: Broadband Solutions to Pandemic Problems."

February 17, 2021

Mr. Chairman,

As your Committee meets today on steps to address the digital divide, I write to highlight the severe and ongoing need for connectivity in urban minority communities and urge your members’ full consideration of support for municipal owned networks.

My district is home to successful small businesses, cutting-edge universities, and a strong workforce poised to benefit from fast and reliable internet. However, many of my constituents have been left behind by the broadband market. According to the National Digital Inclusion Alliance (NDIA), the 34th Congressional District of Texas is home to the first, second, and fifth worst connected cities in America. Broadband connectivity is a crucial need for the Rio Grande Valley, and we must work to ensure every home has affordable and accessible internet connectivity.

Unfortunately, many urban areas, especially those with persistent poverty and significant minority populations, continue to be underserved. With the lack of federal funding programs that target underserved urban areas, cities in my district are turning to municipal owned networks. Broadband is no longer a luxury, it is a vital tool for students, hospitals and patients, veterans, and our small businesses. Broadband must be treated as a utility. We must prioritize funding for urban areas, including municipal owned networks, and remove unnecessary barriers that prevent local governments from providing this critical utility to their communities.

While the Consolidated Appropriations Act, 2021, took important steps by establishing the Emergency Broadband Benefit, the Office of Minority Broadband Initiatives, and the Connecting Minority Communities pilot project, we must do more to bring targeted assistance to areas overlooked thus far.

I welcome this chance to participate with the Committee and thank the Chair for your continued commitment to solving this crisis. I look forward to ending the digital divide together.

Sincerely,

Filemon Vela
Member of Congress
Dear Chairman Pallone and Chairman Doyle:

We write to urge you to hold a hearing to examine ways to close the digital divide so that all Americans may experience the economic, educational, and health care benefits that access to broadband service provides. The COVID-19 pandemic has amplified the need for connectivity, as millions of Americans transition to working remotely. Children need broadband to be able to do their schoolwork from home. Some Americans who do not have access to reliable broadband connections travel to the nearest parking lot to be able to connect to the Internet. It is our duty to examine these issues and work in a bipartisan manner to close the digital divide.

Earlier this year, the Subcommittee on Communications and Technology held a hearing titled “Empowering and Connecting Communities through Digital Equity and Internet Adoption,” and heard from knowledgeable witnesses about barriers to broadband adoption, including digital literacy, affordability, and access to devices. In response to the COVID-19 pandemic, communications companies have stepped up to address these barriers, and many have responded by offering free or reduced services, continuing services for those unable to pay, and offering additional data to make sure Americans remained connected during this time. Other companies have donated devices to make sure children are able to do their homework.

1 See, “The FCC should send Wi-Fi hotspots to schools to close the homework gap,” The Verge, March 17, 2020. Available at: https://www.theverge.com/2020/3/17/21183899/fcc-commissioner-jessica-noem-wi-fi-hotspots-homework
Unfortunately, this pandemic has brought to light the consequences for the millions of Americans who did not have access to broadband in their communities before the current crisis. It is critical to examine potential solutions to close the homework gap and simultaneously take steps to reduce regulatory barriers to close the digital divide. These actions will promote competition and broadband infrastructure deployment that will long outlast the current crisis.

Given the pressing nature of this matter, we request that you hold a hearing as soon as possible to discuss these important issues. We are committed to working with you in a bipartisan manner to address these issues, but we must have a hearing to find out where the problems persist. By taking these steps, we can make sure that all Americans are connected.

Thank you for your attention to this matter. If you have any questions, please contact Kate O’Connor with the Minority Committee Staff at (202) 225-3641.

Sincerely,

Greg Walden
Republican Leader
Committee on Energy and Commerce

Robert E. Latta
Republican Leader
Subcommittee on Communications and Technology
January 27, 2021

The Honorable Nancy Pelosi
Speaker of the House of Representatives
H-232, The Capitol
Washington, D.C. 20515

The Honorable Kevin McCarthy
House Republican Leader
H-204, The Capitol
Washington, D.C. 20515

Dear Madam Speaker and Leader McCarthy:

As Congress considers investments in broadband infrastructure, it should also consider the opportunity to develop high-wage telecommunications jobs to speed the rollout, while also supporting pathways toward greater diversity, safety, and quality for many Americans. The U.S. currently faces a shortfall of skilled workers needed to deploy broadband across the country, to win the race to 5G, and to ensure robust fiber, mobile, and fixed wireless networks. Needed investments in broadband infrastructure will increase demand on a labor force already in short supply. To improve the efficiency of federal funding, a corresponding initiative is needed to develop a workforce properly trained with the skills to deploy next generation wired and wireless networks.

5G alone is projected to create three million direct and indirect jobs by 2025 and contribute $500 billion annually to the U.S. economy. Current 5G design and buildout has already created over 106,000 direct jobs in installation and engineering. Overall, the U.S. telecommunications industry employs 672,000 workers, with average annual wages that exceed $77,500. At the current rate of deployment, there will be 850,000 more new direct broadband and 5G jobs through 2025, which federal support would accelerate. While the jobs are there, our American workforce is not currently ready to fill them.

Apprenticeship, as Congress has long recognized, is a time-tested, industry-driven, career pathway through which employers can develop and prepare their future workforce, and workers can obtain paid work experience, classroom instruction, and a nationally recognized credential. We therefore urge broadband infrastructure legislation to provide support for employers to expand registered apprenticeships and associated technical instruction and certification costs. This legislation should also prepare many diverse and qualified candidates for apprenticeships —
including through pre-apprenticeships and other evidence and work-based learning and support programs.

The telecommunications industry is ideally suited for apprenticeship, which is a new but growing solution in our industry. Apprenticeships are proven to help employers recruit and retain workers, including underserved and underrepresented populations, provide case management, support services, and on-the-job and classroom training to completion.

Congress should also bolster the capabilities of institutions of higher education and other institutions, which have not kept pace with the rapid growth of our industry and the need for curricula necessary to ensure a diverse workforce capable of deploying fiber and 5G infrastructure for commercial mobile and fixed wireless networks. A critical need remains for programs of study in broadband and network engineering, network deployment and field activities, and cybersecurity. There is also a need to modernize existing programs, including hands-on field activities for broadband deployment and better data to inform program design and measure success. To ensure funds target actual needs, employers should drive public-private partnerships with community colleges, universities, and other institutions to develop degrees and programs of study on broadband deployment and 5G training. The telecommunications industry is committed to developing partnerships with institutions of higher education to help translate job requirements from employers during the curriculum development process. Targeted institutions should include Historically Black Colleges and Universities (HBCUs) and Tribal Colleges and Universities (TCUs).

Workforce development and apprenticeships can require long lead times. To jumpstart the process, Congress, and the Administration, working through the U.S. Departments of Labor, Commerce, and Education need to support partnerships with industry to speed development of the broadband workforce. The stakes are high. Without a properly trained 5G workforce, China can use centralized authority to quickly focus labor resources to beat us to the finish line. We cannot build advanced networks to serve tomorrow's needs without a properly skilled and diverse workforce today.

Thank you for your consideration.

Sincerely,

Jonathan Adelstein
President and CEO
Wireless Infrastructure Association

Claude Aiken
President and CEO
WISPA

Steven K. Berry
President and CEO
Competitive Carriers Association

Shirley Bloomfield
CEO
NTCA-The Rural Broadband Association
Gary Bolton  
President and CEO  
Fiber Broadband Association

Chip Pickering  
CEO  
INCOMPAS

Todd Schleker  
President and CEO  
NATE: The Communications Infrastructure Contractors Association

Jonathan Spalter  
President and CEO  
USTelecom – The Broadband Association

David Stehiin  
CEO  
Telecommunications Industry Association

Timothy Wagner  
President and CEO  
Power & Communication Contractors Association

Meredith Attwell Baker  
President and CEO  
CTIA

CC:  Chairman Frank Pallone, Energy and Commerce Committee  
Chairman Bobby Scott, Education and Labor Committee  
Ranking Member Cathy McMorris Rodgers, Energy and Commerce Committee  
Ranking Member Virginia Foxx, Education and Labor Committee
Are Broadband Prices Declining?
A Look at the FCC’s Price Survey Data

George S. Ford, PhD

October 26, 2020

Introduction

In a recent study released by USTelecom entitled 2020 Broadband Pricing Index, Arthur Menko uses data from the Federal Communications Commission’s Urban Rate Survey to compare average broadband prices between 2015 and 2020 (hereinafter the Menko BPI Study). Menko’s comparison is based on a sample of the largest broadband providers’ most popular broadband speed tiers and on these providers’ fastest speed tiers in the two years. The Menko BPI Study reports major declines in broadband prices: in real (2015) dollars, broadband prices for the most popular speed tiers fell by 28.1% and for the fastest speed tiers by 43.9%. These are, obviously, sizable declines.

Broadband speeds rise over time, which leads to questions about how to compare prices from different periods. The Menko BPI Study compares prices for the most popular broadband services in each period. While the comparison involves broadband services of unequal quality, the Menko BPI Study still finds sizable price reductions. While this comparison is useful for comparing prices of the services that were actually available to—and widely consumed by—subscribers in those years, in this PERSPECTIVE I follow standard methods for constructing a price index and use the FCC’s Urban Rate Survey data to compare prices over time for services of equal quality. Hedonic methods are used to construct a broadband price index for years 2015 through 2020.

As in the Menko BPI Study, I find large price declines across a wide range of broadband speeds. Even though I use different methods and more of the survey data, my results are quite comparable to those reported in Menko BPI Study for the most popularly purchased speed tiers for the same time periods (BPI-Consumer Choice). In all, the FCC’s price survey data reveal large, statistically-significant price declines over time for broadband services, holding quality constant.

I follow standard methods for constructing a price index and use the FCC’s Urban Rate Survey data to compare prices over time for services of equal quality. In all, the FCC’s price survey data reveal large, statistically-significant price declines over time for broadband services, holding quality constant.

Methodology

Each year we observe changes in the download speeds of broadband services. Let the speed at time \( t \) be \( S_t \) and the average price for that speed be \( P_t \). For each period we have \( (P_t, S_t) \), where \( P_t \) correlates positively to \( S_t \) or \( \Delta P_t / \Delta S_t > 0 \). Typically, we expect \( S_t \) to increase over time.

How do we compare average prices when speeds differ over time and higher speeds sell for higher
prices? Two polar comparisons are commonly used in economic literature:
\[ \Delta P(S_t) = P(S_t) - P_{cut}(S_t), \quad (1) \]
and,
\[ \Delta P(S_h) = P(S_h) - P_{cut}(S_h). \quad (2) \]
Say, for instance, that we wish to compare prices in 2015 to those in 2020. Assume that the average speed in 2015 is 50 Mbps and in 2020 is 200 Mbps. Equation (1) measures the difference in 2020 prices versus 2015 prices for a 50 Mbps service, while Equation (2) measures this price difference for a 200 Mbps service. Statistical tests may be conducted to test whether \( \Delta P = 0 \) under each of these speed assumptions. Borrowing from the terminology of price index construction, Equation (1) is a Laspeyres-type price index and Equation (2) is a Paasche-type index.

The FCC's survey collects a sample of broadband plans covering a range of speeds. An average of download speeds in the FCC's survey do not, therefore, reflect the average speeds used by customers. Instead, I measure average download speeds in each year with means computed from large samples of speed tests. Ookla conducts millions of speed tests in the U.S. annually, so its data is a useful proxy for average download speeds.\(^3\)

### Table I. Average Download Speed (Ookla)

<table>
<thead>
<tr>
<th>Year</th>
<th>Avg. Download Mbps</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>24.73</td>
</tr>
<tr>
<td>2016</td>
<td>54.97</td>
</tr>
<tr>
<td>2017</td>
<td>64.17</td>
</tr>
<tr>
<td>2018</td>
<td>94.25</td>
</tr>
<tr>
<td>2019</td>
<td>120.00</td>
</tr>
<tr>
<td>2020</td>
<td>156.63</td>
</tr>
</tbody>
</table>

Average download speeds by year are summarized in Table I. As expected, download speeds rise annually. In 2015, the average download speed was nearly 39 Mbps, rising to near 100 Mbps by 2018. In 2020, the final year of the sample, speeds just exceeded 150 Mbps.

### Estimating the Prices

Following the standard procedure for hedonic quality adjustments for constructing a price index, average prices for various speeds are calculated using regression analysis:
\[ P_i = f(S_t, S_h, D_t, X_t) + u_t. \quad (3) \]

where \( S_t \) is speed at time \( t \) for service offering \( i \), \( X_t \) is a technology fixed effect, \( D_t \) is a yearly dummy variable, and \( u_t \) is the econometric disturbance term.\(^4\) The speed measures are interacted with the time fixed effects creating a unique intercept and slope (for speed and speed squared) for each year. Predictions from Equation (3) may be obtained for any chosen year-speed pair.

### According to the Fisher-ideal index, in 2020 average price was 36% less than in 2015.

For the Laspeyres-type price index, as in Equation (1), predictions are based on the 2015 average speed values in any year-to-year comparison. Alternately, for the Paasche-type index (as in Equation 2), predictions from Equation (3) are based on the 2020 average speed levels. The geometric mean of the Laspeyres and Paasche index is the Fisher-ideal price index. This index measures price changes that occur over the 2015-2020 period, while accounting for the changing nature of broadband quality over this period.

### Data

Data are obtained from the FCC's Urban Rate Survey for years 2015 through 2020.\(^5\) All prices are converted to 2020 dollars using the Consumer Price Index.\(^4\) As in the Market Exp Study, I limit the sample to the fifteen largest RSPs.\(^6\) A few restrictions are placed on the sample. First, with only two observations for fixed wireless service,
I exclude these from the sample. Second, the “other” category for broadband delivery technology appears only in years 2015 and 2016 (244 observations total). These are excluded as well. Third, very few observations have speeds above 1 Gbps, and these are excluded. The final sample includes cable, DSL, and FTTH delivery technologies, which are the primary broadband modalities. Annual samples are large and range from 880 observations (2016) to 2,605 observations (2019). There are 8,657 observations in the final sample. Sample details are provided in Table 2.1

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Cable</th>
<th>DSL</th>
<th>FTTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>1,140</td>
<td>491</td>
<td>649</td>
<td>191</td>
</tr>
<tr>
<td>2016</td>
<td>880</td>
<td>501</td>
<td>379</td>
<td>100</td>
</tr>
<tr>
<td>2017</td>
<td>929</td>
<td>400</td>
<td>425</td>
<td>98</td>
</tr>
<tr>
<td>2018</td>
<td>1,380</td>
<td>599</td>
<td>420</td>
<td>221</td>
</tr>
<tr>
<td>2019</td>
<td>2,605</td>
<td>1,135</td>
<td>966</td>
<td>504</td>
</tr>
<tr>
<td>2020</td>
<td>1,289</td>
<td>786</td>
<td>419</td>
<td>285</td>
</tr>
</tbody>
</table>

Along with the way I compare prices over time, my treatment of the data also differs somewhat from the Menko BPI Study. First, the Menko BPI Study for its BPI-Consumer Choice index uses only the most popular speed plans offered by each provider when computing prices. I use all the data and account for speed differences using regression analysis. Second, I use average speed data from Ookla, where the Menko BPI Study determines speeds for the most popular plans based on FCC Form 477 reports. Third, the Menko BPI Study converts nominal prices to real prices in terms of 2015 dollars, whereas I convert to 2020 dollars. Fourth, the Menko BPI Study uses national provider subscriber shares as weights, while sampling weights are not used in my analysis since the speed data are obtained outside the FCC survey and regression analysis is used.

Based on these differences in index construction, statistical methods, and data handling, the price levels and price changes computed here may differ than those reported in the Menko BPI Study. That I find comparable results despite such differences, however, lends credence to the findings of both studies.

Year-Pair Price Comparisons

To begin, I compare mean prices using Equation (1), where prices are constructed to reflect the average speed level in 2015 (S_0). These mean prices are computed using estimates from Equation (3) and the results are summarized in Table 3.17

<table>
<thead>
<tr>
<th>Year</th>
<th>Speed</th>
<th>Price</th>
<th>%Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>38.71</td>
<td>71.48</td>
<td>24.7%</td>
</tr>
<tr>
<td>2016</td>
<td>38.71</td>
<td>71.48</td>
<td>24.7%</td>
</tr>
<tr>
<td>2017</td>
<td>38.71</td>
<td>71.48</td>
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<tr>
<td>2019</td>
<td>38.71</td>
<td>71.48</td>
<td>24.7%</td>
</tr>
<tr>
<td>2020</td>
<td>38.71</td>
<td>71.48</td>
<td>24.7%</td>
</tr>
</tbody>
</table>

In all years, the price is less in that year than it was in 2015 for the same level of service. In every year but 2017, the average price for a broadband service with a speed of 38.7 Mbps is declining (i.e., quality constant). And, in all cases, the price change is statistically different from zero at the 5% level. The price change between 2015 and 2020 for a 38.7 Mbps connection is -24.23%.

These data show that the price for both low- and high-speed broadband are falling over time, but the price for high-speed broadband is falling faster.

As an alternative comparison, I use Equation (1) to compute the average price of broadband service in period t at the average speed in period t - 1. These computations represent annual price changes holding quality constant from year-to-year rather than holding speed constant at its 2015 level. Mean prices are summarized in Table 4. Again, the average price declines each
year (though the small change between 2016 and 2017 is not statistically different from zero). Between 2019 and 2020, the average broadband price fell by 5.38 or 7.1%. The largest observed change in between 2017 and 2018 at -14.33%. On average, real prices fall by 7.4% annually.

### Table 4. Results, Equation (1)

<table>
<thead>
<tr>
<th>Year</th>
<th>S_1</th>
<th>P_1</th>
<th>P</th>
<th>ΔP</th>
<th>%ΔP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>38.70</td>
<td>71.48</td>
<td>67.72</td>
<td>-3.70</td>
<td>-5.26%</td>
</tr>
<tr>
<td>2016</td>
<td>30.00</td>
<td>77.55</td>
<td>77.72</td>
<td>6.68</td>
<td>0.11%</td>
</tr>
<tr>
<td>2017</td>
<td>44.17</td>
<td>89.08</td>
<td>69.93</td>
<td>-11.15</td>
<td>-14.05%</td>
</tr>
<tr>
<td>2018</td>
<td>90.35</td>
<td>79.79</td>
<td>71.12</td>
<td>-7.62</td>
<td>-9.04%</td>
</tr>
<tr>
<td>2019</td>
<td>125.00</td>
<td>75.88</td>
<td>70.5</td>
<td>-5.36</td>
<td>-7.00%</td>
</tr>
</tbody>
</table>

*Statistically significant at 5% level.

Table 5 summarizes the results from Equation (2), where prices are computed at the 2000 average speed (S_0 = 156.61 Mbps). Again, for every year in the sample, the average price in 2020 is below the average prices in earlier years for the same quality of service. For the 156.6 Mbps service, the price in 2020 is $46.26 less than in 2000—a decrease of about 46% (nearly half). And, between 2019 and 2020, there is a statistically-significant price decline of $5.22 (or 6.3%). As before, all the price differences are statistically different from zero at the 5% level.

### Table 5. Results, Equation (2)

<table>
<thead>
<tr>
<th>Year</th>
<th>S_1</th>
<th>P_1</th>
<th>P</th>
<th>ΔP</th>
<th>%ΔP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>156.61</td>
<td>145.24</td>
<td>115.94</td>
<td>-66.36</td>
<td>-46.39%</td>
</tr>
<tr>
<td>2016</td>
<td>156.61</td>
<td>131.52</td>
<td>111.18</td>
<td>-34.33</td>
<td>-41.32%</td>
</tr>
<tr>
<td>2017</td>
<td>156.61</td>
<td>121.94</td>
<td>111.18</td>
<td>-44.36</td>
<td>-35.71%</td>
</tr>
<tr>
<td>2018</td>
<td>156.61</td>
<td>96.96</td>
<td>77.18</td>
<td>-19.99</td>
<td>-25.68%</td>
</tr>
<tr>
<td>2019</td>
<td>156.61</td>
<td>82.40</td>
<td>77.18</td>
<td>-5.22</td>
<td>-6.31%</td>
</tr>
<tr>
<td>2020</td>
<td>156.61</td>
<td>77.18</td>
<td>77.18</td>
<td>-5.22</td>
<td>-6.31%</td>
</tr>
</tbody>
</table>

*Statistically significant at 5% level.

Average prices across download speeds and years as predicted by Equation (3) are illustrated in Figure 1. Predictions are made at all analyzed speeds for each year in the sample. The figure shows that the price-speed relationship is generally getting flatter over time, so these data show that the price for both low- and high-speed broadband are falling over time, but the price for high-speed broadband is falling faster. And, the figure shows that prices at each speed level are falling over time.

While my approach differs from the Menlo BPI Study in several ways, the broad conclusions are the same: the price of broadband services has declined over time. My analysis shows that average prices for broadband services, with rare exceptions at lower speeds, are falling annually, and these changes are statistically-significant and not mere reflections of sampling variability.

**My analysis shows that average prices for broadband services, with rare exceptions at lower speeds, are falling annually, and these changes are statistically-significant and not mere reflections of sampling variability.***

### Broadband Price Index

The data and procedures described here may be used to construct a Fisher-ideal broadband price index, which is a geometric mean of the Laspeyres and Paasche indexes. To account for changes in average quality, as measured in download speeds, the hedonic method is used. This procedure employs exponentiated predictions from Equation (3) to account for product differences over time. Nominal prices...
are used for consistency with the standard price index methodology.

Table 6 summarizes the price indexes. Base speeds are 38.71 Mbps for the Laspeyres-type and 135.61 Mbps for the Paasche-type index. The percentage change in the price index between two periods may be computed as \((P_t/P_{t-1}) - 1\).

<table>
<thead>
<tr>
<th>Year</th>
<th>Laspeyres Index</th>
<th>Paasche Index</th>
<th>Fisher Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
<tr>
<td>2016</td>
<td>94.74</td>
<td>91.09</td>
<td>93.32</td>
</tr>
<tr>
<td>2017</td>
<td>96.89</td>
<td>85.01</td>
<td>90.77</td>
</tr>
<tr>
<td>2018</td>
<td>86.54</td>
<td>66.99</td>
<td>76.14</td>
</tr>
<tr>
<td>2019</td>
<td>83.43</td>
<td>57.45</td>
<td>69.30</td>
</tr>
<tr>
<td>2020</td>
<td>75.77</td>
<td>53.81</td>
<td>63.85</td>
</tr>
</tbody>
</table>

In this PERSPECTIVE, I construct average broadband prices and a broadband price index over time using hedonic methods so that quality is held constant, where quality is measured by download speed. My findings are comparable to the Menko BPI Study even though the methods materially differ. Between 2015 and 2020, for example, I find that the average decline in prices is about 36% when using a Fisher-ideal price index. Broadband prices across a wide range of speeds have fallen over time, and the price reductions are, in most cases, sizable.

All the price indexes constructed here are falling over time revealing large and consistent price reductions when holding quality constant. According to the Fisher-ideal index, in 2020 average price was 36% less than in 2015. Between 2019 and 2020, the Fisher price index falls by 8%. The largest change in the Fisher index is between 2017 and 2018 where the index falls by 16%. On average, prices fall by about 8.5% annually. Based on the FCC’s price survey data, it appears that broadband prices—quality held constant—are falling each year by a sizable amount.

On average, prices fall by about 8.5% annually. Based on the FCC’s price survey data, it appears that broadband prices—quality held constant—are falling each year by a sizable amount.

Conclusion

In recent years, the FCC has collected a sample of broadband prices and reported the data in its Urban Rate Survey. The Menko BPI Study used these data to compare broadband prices between 2015 and 2020, reporting large price decreases in real prices between 28.1% and for the fastest speed tiers by 43.9%.
NOTES:

1. Dr. George S. Ford is the Chief Economist of the Phoenix Center for Advanced Legal and Economic Public Policy Studies. The views expressed in this PERSPECTIVE do not represent the views of the Phoenix Center or its staff. Dr. Ford may be contacted at gford@phoenix-center.org.

2. In additional analysis, the Monke Study uses price-per-megabit as a price measure, but for several reasons price-per-megabit is a deeply flawed measure of price, primarily because consumers do not pay for broadband by the megabit of download speed. On the problems with price-per-megabit, see G. S. Ford, The Open Technology Institute’s Cost of Connectivity 2020 Report: A Critical Review, PHOENIX CENTER PERSPECTIVE No. 20-06 (July 21, 2020) at pp. 7-8 (available at: https://www.phoenix-center.org/perspectives/Perspective20-06Final.pdf).


4. Because my study employs data from all of the speed tiers reported in the FCC Urban Rate Survey, these results should be compared against those developed in the Monke Study for the most popular speed tier (100/100 Consumer Choice) and not those developed for just the fastest speed tier (1G/1G Speed). Note also that this study examines the differences in prices that are available to subscribers, while the Monke Study examines the differences in the price paid for the most popularly-purchased broadband speed. To the extent that broadband customers are slower to adopt faster services than providers are in rolling out the availability of such services, it is completely understandable why the price reductions that I find are slightly larger than those found in the Monke Study.

5. Information on Ookla’s Speedtest data is available at: www.speedtest.net.

6. Specification analysis indicated that a linear specification of price quadratic in speed best fit the data. A log-log model provides similar results.


8. January data is used. https://federaldata.spedo.org/servlet/CUR160000S4A0.

9. Firms included are: Charter, AT&T, Comcast, Mediacom, WOW, Cable One and Cox, AT&T, Verizon, CenturyLink, Frontier, Windstream, Consolidated and TDS.

10. For about 8,600 observations, only 2 observations had speeds exceeding 1 Gbps. The results are little affected by the exclusion, but a 2 Gbps circuit is not typically considered a consumer product.

11. By using speeds obtained outside the survey data and relying on regression analysis, I do not use the weights provided in the FCC survey. Because the FCC developed the Urban Rate Survey data to be able to verify that urban prices are comparable to rural ones, the weights employed by the FCC are quite complex. Further, they vary somewhat from year to year to keep up with evolving service qualities. See the 2014-2020 Broadband Methodology documents presented on https://www.fcc.gov/economics-analyses/industry-analysis-division/urban-rate-survey-data-resource.

12. Equation (5) is estimated using 8,600 observations, has an R² of 0.30, and an F-statistic of 808.8 (significant at better than the 1% level).

13. In nominal prices, the price difference between 2019 and 2020 is $2.8, so inflation accounts for less than 20% of the price difference between those two years.

14. The Laspeyres price index is $P_0(P_0/P_0S_0)$ and the Paasche price index is $P_0(P_0S_0/P_0S_0)$.
Feb 17, 2021

The Honorable Michael F. Doyle
Chairman, House Energy and Commerce Committee Subcommittee on Communications and Technology

The Honorable Robert E. Latta
Ranking Member, House Energy and Commerce Committee Subcommittee on Communications and Technology

Re: House Energy and Commerce Committee Subcommittee on Communications and Technology
Hearing on "Connecting America: Broadband Solutions to Pandemic Problems"

Statement for the Record of the Utilities Technology Council

Dear Chairman Doyle, Ranking Member Latta, and Members of the Subcommittee on Communications and Technology:

Thank you for the opportunity to submit this statement for the record regarding today's hearing on Connecting America: Broadband Solutions to Pandemic Problems. This is a timely hearing as broadband is fast becoming an essential service for all Americans. Indeed, broadband is as important today for a community's economic survival as electricity was in the early to mid-1900s. The difference between a thriving community and a failing one can often come down to access to broadband. This is why electric utilities of all kinds are empowering broadband deployment in numerous ways.

Established in 1948, UTC is the global association for energy and water utilities' information and communication technology (ICT) interests. Energy and water utilities use ICT networks as the backbone for the infrastructure that delivers safe, reliable, and secure energy and water services. Utilities are also using ICT networks to deploy creative broadband solutions and services. The decision for many electric utilities to provide broadband is a natural progression, because in most cases, those utilities have already built, and are upgrading, communications networks to modernize the electric grid, and to enhance electric reliability and resiliency.

Unfortunately, but not surprisingly, the COVID-19 pandemic has laid bare that not enough Americans have access to broadband connectivity. This lack of connectivity is a result of economic and market failure. It is universally agreed that the high cost of deployment of broadband infrastructure and low population density are the main reasons that many areas of the country lack broadband access. In response, many utilities have either deployed their own broadband networks or partnered with commercial service providers to offer broadband to areas that previously lacked access.

Electric utilities of all kinds—from large, multi-state investor-owned utilities to smaller, non-profit electric cooperatives and public power utilities—are helping to bring broadband to all Americans. Approximately 100 electric cooperatives in several states provide broadband service directly to their customers. Many of these utilities have created standalone subsidiaries to provide broadband services. As an example, Mid-Carolina Electric Cooperative, based outside Columbia, S.C., has established

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CarolinaConnect to provide broadband service to customers in the utility’s service territory. United Electric Cooperative in Missouri created United Fiber for its customers.

In addition, numerous public-power utilities also provide broadband services to the communities that they serve with electricity. For example, Cedar Falls Utilities in Iowa, BrightRidge (formerly Johnson City Power Board) in Tennessee and Huntsville Utilities in Alabama have deployed broadband networks to provide robust, reliable and affordable broadband services in underserved areas. These utilities provide some of the fastest broadband available anywhere in the country. Moreover, studies have shown that broadband has created billions of dollars in economic benefits to their communities.\(^2\)

Several investor-owned utilities are also deploying middle-mile broadband networks by partnering with communications service providers, that are in turn offering broadband services in unserved areas. Under this arrangement, a utility will build out its communications network and connect it to a local ISP’s system to reduce the costs of stringing lines and fiber in difficult-to-serve areas. Utilities in Virginia, West Virginia, Alabama and elsewhere are pursuing these kinds of arrangements.\(^3\) In Mississippi, the state’s largest utility reached a deal with a regional ISP to deploy smart meters to homes and businesses in unserved parts of its electric service territory.\(^4\)

Because these utilities are already providing electric service in areas that lack broadband access and they have the resources and staff engineering expertise to build and operate communications networks, providing broadband service is a natural extension of their commitment to serve their customers. Moreover, they understand that access to broadband promotes economic growth to the communities they serve, and provides better jobs, healthcare and education. Broadband has helped stem population declines in rural areas by attracting new businesses and improving the overall quality of life, while allowing residents in those areas opportunities they would not otherwise have without broadband access.

UTC once again thanks the Committee for holding this important hearing and appreciates the opportunity to submit this statement. Electric utilities, more than most industries, understand the importance of broadband connectivity. Access to reliable broadband means more jobs and more businesses, which in turn means economic growth. Utilities empower broadband deployment and are natural partners in bringing internet connectivity across the country. We look forward to working with the Committee in ensuring that all Americans have access to robust, affordable and reliable broadband networks and services.

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\(^2\) Benito J. Lebo, “Ten Years of Fiber Optic and Smart Grid Infrastructure in Hamilton County, Tennessee” (Aug. 31, 2020) available at https://store.fpl.com/media/fplpdf/2ec-
%20Ten%20Year%20Smart%20Grid%20Infrastructure%20in%20Hamilton%20County.pdf

\(^3\) https://utc.org/utility-broadband-deployment

BROADBAND DEPLOYMENT ADVISORY COMMITTEE: STREAMLINING FEDERAL SITING WORKING GROUP
FINAL REPORT, Jan. 23-24, 2018

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SUMMARY OF CHALLENGES AND SOLUTIONS

1. **Challenge:** Varying and unpredictable fees and rates.
   **Solution:** Standardize and publish fee schedules, and utilize revenue in a way that promotes expediting federal siting processes.

2. **Challenge:** Lengthy application review times.
   **Solution:** Require all federal landholding or managing agencies to prioritize broadband permitting. Implement a 60-day shot clock for application review with a deemed approved remedy and a 30-day shot clock for notification of additional materials request.

3. **Challenge:** Unharmonized application forms and unpredictable processes across agencies.
   **Solution:** Require all federal landholding or managing agencies to use one standardized application form. Harmonize permitting processes across agencies to extent feasible and ensure the process is uniformly applied across regional and state offices. Recognize and accept existing completed studies in previously disturbed areas.

4. **Challenge:** Cumbersome historic and environmental review processes including environmental studies and Geographic Information System studies.
   **Solution:** Harmonize environmental assessments across federal landholding or managing agencies, further streamline National Environmental Protection Act and National Historic Preservation Act exclusions, and eliminate duplicative environmental studies. Make current environmental and historic review streamlining mechanisms mandatory for all agencies.

5. **Challenge:** Lease and renewal terms that do not incentivize investment.
   **Solution:** All leases and easements should have typical commercial lease terms with expectancy of renewal to better incentivize investment.

6. **Challenge:** Unclear points of contact for local, state, and federal leads for agencies.
   **Solution:** Every project should have a single, clear point of contact for application review and follow-up.

7. **Challenge:** Difficulty getting updates on status of applications and lack of transparency in agency-deployment application process history.
   **Solution:** There should be a single, easily accessible online-tracking mechanism at each federal agency for the permitting process. All agencies should regularly report on permit status and the number of permitting applications they have processed.
8. **Challenge:** Lack of re-evaluation of processes and fees as technologies evolve.
   **Solution:** The common application form should accommodate changes to existing installations and applicable leases and easements. Agencies should accommodate and incorporate new broadband infrastructure technologies into their review processes.

9. **Challenge:** Department of Defense Siting Process is costly and time-consuming.
   **Solution:** Permitting consistent with all necessary measures to protect national security, Department of Defense (DoD) agencies should incorporate streamlining efforts utilized and recommended for other federal agencies and examine their military base broadband deployment permitting practices on DoD real estate. DoD agencies should streamline their spectrum clearance processes.

10. **Challenge:** Siting barriers caused by federal funding clauses.
    **Solution:** Deploying broadband is not within the meaning of prohibiting commercial use of land developments funded by federal grants.

**INTRODUCTION**

The Federal Communications Commission (FCC or Commission) Broadband Deployment Advisory Committee, Streamlining Federal Siting Working Group (Working Group) applauds the Commission’s interests in removing regulatory barriers to broadband deployment on federal lands and property, which amounts to nearly 30 percent of the U.S. landsmass. As Chairman Pai correctly noted, “[broadband is] becoming the 21st-century gateway to jobs, health care, education, information, and economic development everywhere, from the smallest town to the largest city.”

The Trump Administration has also emphasized the importance of broadband deployment, especially in rural America. In a recent Presidential Memorandum, the Administration reiterated that the executive branch will “use all viable tools to accelerate the development and adoption of affordable, reliable, modern high-speed broadband connectivity in rural America. . . . [In particular], the executive branch will seek to make Federal assets more available for rural broadband deployment,” subject to national security concerns. Developing recommendations to improve the process of siting on federal lands and federally managed properties, as this Working Group has been tasked, will incentivize investment in the deployment of next-generation broadband that will enhance public safety and enable smart solutions in communities across the country.

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3 By the direction of FCC staff, the Streamlining Federal Siting Working Group was instructed not to include Tribal lands in the Working Group’s deliberations and recommendations.
The Working Group recommends that the FCC evaluate the solutions herein presented to determine which government entity(ies) should effectuate and implement the proposed action. The Working Group encourages the FCC to continue in its advisory capacity to the Broadband Interagency Working Group (formerly the Broadband Opportunity Council) to provide broadband infrastructure policy expertise and ensure that the recommendations herein contained are implemented effectively.

Through its deliberations, the Working Group found that the fundamental concerns regarding the streamlining of federal siting are 1.) predictability and complexity of the application process and accompanying requirements and 2.) the application review time.

Finally, the Working Group took great pains to ensure that the recommendations contained herein are entirely “technology-neutral”; in other words, that they address barriers to broadband infrastructure deployment faced by both wireline and wireless service providers. Entities seeking to deploy, for example, broadband infrastructure such as wireless towers or fiber facilities used for wireline and wireless broadband service face the “challenges” identified by this report on an equal basis. Adoption of the “solutions” identified in this report will ensure that next-generation wireline and wireless broadband infrastructure can be brought to millions of American consumers in a more expeditious manner while also respecting federal agencies’ statutory duties as stewards of federal land. For further clarity, it must be noted that references to “siting” in this report are at all times intended to refer to the installation of both wireless (e.g., tower) and wireline facilities.

RECOMMENDED SOLUTIONS TO ADDRESS FEDERAL SITING CHALLENGES

1. Varying and unpredictable fees and rates

The Working Group recommends that all administrative fees associated with federal siting applications should be set at a national level. Additionally, all federal agencies should publish a public fee schedule outlining the costs associated with granting property interests to providers to deploy broadband communications facilities on federal lands. Such guidance would give broadband providers greater predictability and knowledge of the cost of a potential build. Further, the publication of an agency fee schedule would remove months of time spent by both sides negotiating what could otherwise be a standard rate that incorporates an escalation clause accounting for inflation.

Security deposit requirements also vary and are unpredictable. Working Group members agree that requirements for a security deposit are misplaced prior to the lease or easement negotiation stage. While an application fee is reasonably required with the proposed form, it would be highly unusual and burdensome to require a security deposit prior to negotiation and execution of a lease or easement. As a practice, security deposits are generally collected from credit poor, unknown tenants, in contrast to the broadband providers who have decades of experience across the country with federal civilian and military sites. Therefore, there should be no need for security deposits. Artificially increasing the cost of deploying broadband infrastructure is contrary to the national policy of accelerating broadband availability. However, should a deposit be required, deposits should be refunded if an agreement is not executed due to no fault of the applicant.
Additionally, the Working Group recommends that federal agencies utilize predictable measures for rent increases such as an annual Consumer Price Index or fixed percent increases. Fair market appraisal updates should be conducted every ten years instead of every five years. Also, an agency should not require a provider to share with the agency the revenue it obtains from subsequent colocators. Where a military installation is the sole or primary beneficiary of the infrastructure, agencies should allow for rent elimination or in-kind rent reduction.

Because many federal agencies express that staff constraints are a cause of delay in reviewing siting applications, the Working Group recommends that all federal agencies should retain more of the fees they collect from broadband deployment. Agencies can use the fees retained to hire more staff to focus on their communications site programs to improve response times and enable other efficiencies. Similarly, there should be reasonable sharing of fees between agency headquarters and field offices for broadband infrastructure siting. Field offices retaining more of the fees from the applications they process may provide incentives to streamline the application process and review more applications. The Working Group also recommends that, where the opportunity exists, Congress should harmonize what fees are retained across all federal agencies.

The Working Group discovered that not all equipment deployed on federal lands and property receive the same review scrutiny as broadband infrastructure. Agencies should ensure that broadband service receives the same faster approvals at lower costs as utilities receive when deploying on federal lands.

2. **Lengthy application review times**

In keeping with the national goal of ensuring that “all people of the United State have access to broadband capability,” and whereas there is national agreement to eliminate barriers to broadband infrastructure deployment, Congress should mandate that all federal agencies prioritize broadband permitting and implement funding and application review changes that reflect the prioritization of broadband deployment.

Infrastructure providers report delays in broadband permitting application processing across federal agencies. For example, InterConnect Towers (ICT), a wireless infrastructure provider that has been providing wireless coverage on federal land since 1998, provided data to the Working Group that ICT alone has 30 serialized Bureau of Land Management applications across California, Nevada, and Arizona that have been pending since 2013.6

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6 See, Comments of Interconnect Towers LLC, DOI Docket No. 2017-0800-0191, at 2, 13 (filed Oct. 10, 2017) (noting “ICT alone, for example, has 30 serialized applications across California, Nevada, and Arizona that have been pending since 2013 (See Attachment A)”).
The Department of Interior (DOI) is working to streamline its infrastructure project review processes as evidenced by the recent release of its Order “Streamlining NEPA and Implementation of Executive Order 12807 Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects,” which creates a target for each DOI bureau to “complete each Final [Environmental Impact Statement] for which it is the lead agency within 1 year from the issuance of a Notice of Intent (NOI) to prepare and EIS.” However, Working Group members agree that all federal landholding and managing agencies can do more to reduce review times in all of their broadband permitting steps.

Consequently, the Working Group urges the FCC to emphasize that timely responses to broadband siting applications are mandatory. Consistent with GSA Bulletin FMR 2007-B2, agencies should be required to process and respond to each application within a specified time period - no more than 60 days. Additionally, applications should be “deemed approved” upon passage of time. Expanding broadband is a very important national policy objective, and wireline and wireless broadband are dynamic technologies. Accordingly, federal agencies should apply the FCC’s deemed approved policy whereby applications that are neither formally approved nor rejected within 180 days of submission for initial installation requests (or 90 days in the case of relocations or modifications) should be deemed approved (subject to relevant agency-specific statutory authority to provide a deemed approved remedy). Agencies seeking an extension of the shot clock should submit a written explanation articulating why a timely response is not possible and/or why adherence to the shot clock is otherwise not possible. The timeframe included herein are the same intervals that the FCC established for municipalities in land use approvals in order to expedite broadband infrastructure deployment. Without this safeguard, applications may languish for years at executive agencies, which is contrary to the national policy promoting broadband throughout all federal properties.

The Working Group recommends that if requested or needed, a walk-out of the property with the requesting provider and responsible personnel of the agency should occur within 30 days of the filing of an application, and the provider may file a revised, more detailed application, reflecting the input and discussion with the responsible agency personnel during the property walk-out. If an application is revised, it should be approved within 60 days of the submission of the revised application. The federal agency should notify the applicant within ten days of receipt of the application if the agency believes the application is not materially complete and it needs to be amended or modified. The agency should

10 The FCC is currently reviewing comments about expanding the applicability of “deemed approved” proposals. Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment, Notice of Proposed Rulemaking, Notice of Inquiry, and Request for Comment, FCC 17-78 (rel. Apr. 21, 2017) ¶ 8-9. Any “deemed approved” remedy adopted by the FCC should be the standard applied by all federal agencies.
identify the specific form for incompleteness. The applicant should submit the revised application within 60 days of being notified of the error. If an application is rejected, the decision should list in writing all factual, policy, and legal grounds for rejection as well as a contact person for escalation. Sites sometimes go into holdover status after completion of a lease term but before renewal. Therefore, the Working Group also recommends that application review priority be given to site permit agreements that are expired or soon to expire.

Additionally, efficiencies would be gained if federal agencies are able to use the applicant’s diligence to shorten approval times and reduce costs. For instance, rather than perform all portions of the application review itself, a federal agency could use recent site inspection photos to supplement its own inspection process. The reviewing agency could also use National Environmental Policy Act (NEPA) reviews and other regulatory studies completed recently by the applicant. There should be a formalized process for agencies to utilize past NEPA review materials regardless of which agency conducted the review.

Similarly, the Working Group recommends the development of formalized guidance on scenarios in which a project is likely to involve multiple agencies. The lead agency reviewing the application should highlight and coordinate with the other agencies that should be involved.

To further expedite the application process, agencies should automatically accept document revision requests to correct obvious clerical errors within an application. A common clerical error requiring application correction is an incorrect/incomplete entity name in the preamble, body, and/or signature block of an application. Additionally, document preparers should have flexibility in cases where applicants are reasonably unable to comply with specific provisions. The most common example involves the insurance provisions. Often, the federal insurance requirements are not commercially available, but the agencies are unable to revise the requirements for them in the application. Specifically, the government unrealistically requires “per occurrence” insurance coverage amounts in lieu of adequate coverage in the aggregate.

The Working Group also recommends that federal agencies presume broadband siting applications to be consistent with each agency’s mission and property use. Consistent with Section 704 of the Telecommunications Act, applications to place communications facilities should be approved unless they are determined, on the basis of all relevant evidence, to be in direct and complete conflict with an agency’s mission. The existence of other providers’ wireline and/or wireless facilities at the application site provides a strong presumption that similar installations are consistent with the agency’s mission and use of its property. If the executive agency rejects an application because it is in direct conflict with the agency’s mission or use of its property, the executive agency should provide in writing all factual bases proving that the application is in direct and complete conflict with the agency’s mission or use of its property. Those factual bases should be provided to the provider in writing, concurrently with the rejection.

Having pre-approved installation types with the ability to make minor pre-approved changes would lessen the burden on the agency for approval and will result in faster installation for the service provider. The Working Group encourages agencies to use Program Comments, Programmatic Environmental
Assessments, or other vehicles to identify categories of facilities to apply streamlined approval.\textsuperscript{11} Pre-approved installation types could vary based on the type of agency and the nature of the siting region or specific location. These pre-approved installation types could be listed on the agencies' website or documentation. This would also allow the agency to promote certain types of installations they prefer by making the approval and permitting process for those particular types of installations streamlined.

3. Unharmonized application forms and unpredictable processes across agencies

Unharmonized application forms

The Working Group recommends that there be one required, standardized siting permit application form for agencies to use with elements that apply to specific agencies. Agencies should work with industry to create standard templates to be applied across all agencies and within the different offices within each agency.

In 2015, the General Service Administration released its Wireless Telecommunications Company Application (GSA Common Form Application) to serve as a common application "for use by all landholding executive agencies, streamlining the collection of business information that will be used by the Federal Government to negotiate specific antenna installation contracts and to obtain a point of contact for each applicant."\textsuperscript{12} Being over two years out from release, agencies and industry should evaluate the effectiveness of the GSA Common Form Application. The Working Group is pleased that the President issued an Executive Order on January 8, 2018 (Rural Broadband Streamlining Executive Order) requiring GSA, "in coordination with the heads of Federal property managing agencies, shall evaluate the effectiveness of the GSA Common Form Application for use in streamlining and expediting the processing and review of requests to locate broadband facilities on Federal real property."\textsuperscript{13} The Working Group strongly encourages GSA to work with other federal agencies to ensure usefulness of the Common Form Application and to better encourage adoption of the application across all federal agencies.

The Working Group proposes that GSA revise its Common Form Application as follows:

- GSA should revise the form so that it is "technology-neutral," applicable to wireline and wireless technologies. As stated in the Introduction, entities seeking to deploy wireline and wireless broadband service face the "challenges" identified by this report on an equal basis. That certainly applies to the lack of harmonization or consistency in the process of


applying to construct broadband infrastructure on federal lands. The current GSA
Common Form Application applies only to wireless providers as instructed by Congress
in Section 6409 of the Spectrum Act. The GSA should broaden its scope so that it is
applicable to all forms of broadband infrastructure without regard to technology and
should consult with providers to ensure that its scope and language is sufficiently broad.14
• GSA should require each agency to provide a contact person for handling applications
related to each property. Under the Section “Potential Antenna Lessee Document Check
List,” the form states that a provider may contact the “Contracting Officer or the
Contracting Officer Representative listed on the application.” GSA should clarify that
all executive agencies must provide and maintain a current online listing of the name and
contact information for a contracting officer or representative for each federal property
for industry members to contact with questions related to the application form or wireless
installation process.
• A single online tracking mechanism should be utilized. The GSA application should
require documentation of an online application tracking mechanism for each agency so
that the agency(ies) and applicant can efficiently track the progress and status of an
application request. This will facilitate efficient handling and processing of applications.
This mechanism can also help applicants stay on track to meet required timelines and
serve as a useful tool to communicate about application progress and status. The tracking
mechanism will identify the appropriate offices responsible for each broadband siting
application, along with point of contact information.
• RFI certification report requirement should be clarified. A Radio Frequency
Identification (RFI) certification report is listed as a potential document that may be
required under the common application Document Check List. This section should be
clarified to state that RFI reports are not required outside of military installations. Such
reports have not been necessary over decades of industry experience, and there is no need
to add an additional report that has not been required previously.
• The application form should not implicate a JSC review for commercial providers of
unlicensed wireless services. An FCC license is typically not required to operate
unlicensed wireless services for operations that meet certain FCC requirements for
unlicensed use of spectrum, such as non-interference and power limits. Therefore,
unlicensed use that meets this standard should not be subjected to additional spectrum
reviews, such as the Joint Spectrum Center (JSC) review. The Defense Information
Systems Agency operates JSC as a required process by GSA and the Department of
Defense to identify and mitigate electromagnetic interference to base electronics and
spectrum-dependent systems before approving a commercial wireless system installation.
The actions GSA takes with the common application in proposing a common application
form for siting wireless facilities on federal land or buildings should not trigger a JSC
review for commercial providers of unlicensed wireless services.
• “Federal, state and local statutory recording requirements” should be clarified or
deleted. This section should be clarified to either describe exactly what is being required,
or it should be omitted. Recording requirements may be a protection or benefit to the
applicant. However, to the extent this type of document has not been required previously,
it should not impose a new requirement on providers.

14 For instance, GSA can update its “Potential Antenna Lessee Document Check List” to account for items necessary
beyond antenna siting.
For the reasons discussed in the fees and rates section above, all requirements for a security deposit should be eliminated at the application stage.

Requirements for a performance bond should be eliminated. The requirement for a performance bond has not been a common practice in federal wireline or wireless siting, and adding this new requirement at the application stage is both unnecessary and contrary to the policy objective of removing obstacles to accelerated broadband investment and availability. This is especially true when a national wireless provider is the applicant, and there has been no showing that a performance bond is necessary for these providers or any others at the application stage.

Certain information requested is too broad. The requested fields of “Name of Officers, Members, or Owners of Concern, Partnership, etc.,” “Federal EIN / State Tax ID,” and “D&B Rating,” lie outside of normal business purposes. The requested “FCC License” information field would not apply to certain applicants, namely, neutral-host wireless providers. The “Person Authorized to Sign Contracts” information is too detailed; there is no reason to provide detailed contact information for someone who will not be handling the day-to-day issues at the site. Moreover, most companies have multiple potential signing parties, but this form only allows for one. Finally, more feedback on what numbers 1 and 7 are meant to reference on the “Potential Document Check List” would be helpful to applicants.

GSA should clarify the title of the proposed common form application. In its request for public comments, GSA referred to the proposed application as the “Wireless Telecommunications Industry Application”; however, the application form is titled “Wireless Telecommunications Company Application.” For clarity and consistency, GSA should clarify the title of the common form application.

Application forms should be utilized in initiating amendments to existing installations and the applicable lease, easement or right-of-way. Given the continually changing technology and rapid growth of broadband, it is common practice that broadband installations will be modified one or more times over the course of the multi-year arrangement, and some site augmentations may involve an amendment to the controlling legal arrangement, whether a lease, easement, right-of-way or otherwise. Common form applications are a convenient and logical mechanism for triggering, tracking and managing such amendments. Thus, GSA should clarify that all executive agencies shall utilize the GSA application form for new wireless infrastructure requests, and for amendments to existing wireless infrastructure.

In addition to adopting a common application, agencies should adopt a standard, streamlined process for access to assets for broadband siting. For instance, the President recently directed the Secretary of the Interior to:

a. “Develop a plan to support rural broadband development and adoption by increasing access to tower facilities and other infrastructure assets managed by the Department of the Interior (DOI),” including the drafting of “model terms and conditions for use in securing tower facilities and other infrastructure assets for broadband deployment.”

13 Presidential Memorandum for DOI at Sec. 2(a).
b. Issue a report within 180 days to the Director of the Office of Science and Technology Policy “Identifying the assets that can be used to support rural broadband deployment and adoption.”

Unpredictable processes across agencies

The Working Group urges that broadband infrastructure siting processes should be harmonized across agencies to the extent possible. Also, there should be consistency in how files are processed by the various offices within each agency. Each agency should create a uniform process within each of its regional, state, and field offices.

To ease the burden of the applicant communicating with multiple agencies involved with a site with their varying processes, the Working Group recommends a standardized approach to mapping out which agencies will be involved with a project early on in the application process. There should be a process to ensure that relevant information is shared with the federal agencies involved. Such a system can be executed through the GSA Common Form Application or a similar common application if there is a field on the application to check a box for potentially involved agencies. GSA should mandate standard template contract(s) that apply across all federal agencies. These contracts should be executable in 30-60 days.

Additionally, the Working Group suggests that agencies measure the number of contracts they sign for new sites and new carriers on existing sites. This is consistent with the Rural Broadband Streamlining Executive Order, which requires federal property managing agencies to report to GSA their “required use of the Common Form Application, the number of Common Form Applications received, the percentage approved, the percentage rejected, the basis for any rejection, and the number of working days each application was pending before being approved or rejected.”

The Executive Order also requires that “each report shall include the number of applications received, approved, and rejected within the preceding quarter.”

The Rural Broadband Streamlining Executive Order also requires that on a quarterly basis, “the GSA Administrator shall prepare and provide to the Director of the Office of Management and Budget an aggregated summary report detailing results from the reports submitted.” Tracking executed contracts will help measure whether broadband deployment is in fact increasing on federal lands and property. There should be incentives for agencies approving applications. One such incentive could be that agencies receive partial fee retention through, for example, retaining initial rents.

All federal agencies with land management authority should update and harmonize their rights-of-way rules. For example, Department of Interior agencies should update its rights-of-way rules to align to the Bureau of Indian Affairs updated rights-of-way rules with respect to application timelines, effective in 2016. Each agency should conduct a thorough evaluation of their siting rules and processes and streamline them to reduce burdens and encourage investment in broadband deployment. Certain federal land management agencies follow regulations that require infrastructure providers to hold FCC licenses or

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16 Id. at Sec. 2(b).
17 Rural Broadband Streamlining Executive Order at Sec. 2(d).
18 Id.
19 Id. at Sec. 2(e).
utilize agreements with the same requirement. These provisions are holdovers from when licensed carriers constructed their own infrastructure.

Policy changes such as allowing applicants to opt in to the rates, terms, and conditions of other providers located at the federal property would encourage investment. Once a federal property is opened for any telecommunications provider, then the property should be open to any and all other providers, without delay, on a non-discriminatory basis to the extent feasible by engineering standards. For example, if one provider’s equipment is located on a water tank, then a subsequent provider should be permitted to collocate, as engineering permits, on that same water tank in a substantially similar, but not necessarily identical fashion, opting into the rates, terms and conditions of the initial provider’s lease or easement or other legal arrangement. This procedure is consistent with, and may be required by, the anti-discrimination requirement in Section 704(e) of the Telecommunications Act.

Additionally, access to federal lands sites for wireless infrastructure development should be available to tower owners, operators, managers, and other authorized personnel, where applicable. Obvious exceptions for security reasons aside, infrastructure providers need to be able to access the sites quickly, especially in the case of emergencies. Federal agencies should be directed to recognize tower operator sublease and management interests. Some agencies do not consider that tower operators lease or manage a significant number of towers that are still owned by the carriers.

Another siting process improvement that can further spur broadband deployment is applying “dig once” policies. “Dig once” requirements refer to "requirements designed to reduce the number and scale of repeated excavations for the installation and maintenance of broadband facilities in rights of way." Dig once policies are important to broadband deployment because coordinating highway construction projects with the installation of broadband infrastructure could reduce costs incurred by repeated excavation. Dig once also reduces deployment time by eliminating the need to acquire duplicative reviews and permits for work done at the same location.

It is important, however, that dig once policies do not disadvantage providers with facilities already placed in the right-of-way adjacent to such highway construction projects. Providers with facilities already in the right-of-way should not be required to incur new costs to accommodate the installation of new facilities installed as part of a dig once construction project. In addition, such existing providers

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should be able to avail themselves voluntarily of any rates, terms, or conditions made available to
providers granted access to the right-of-way as part of a dig once project.

Since being required to do so in 2012, some federal agencies and state and local governments have
enacted dig once policies or coordination strategies. In 2015, members of Congress introduced dig once
legislation, but they have not been enacted. Dig once is included in the MOBILE NOW Act, which passed
the Senate by unanimous consent on August 3, 2017 but has not been enacted. Despite movement on the
issue, dig once policies have not been widely adopted. The Working Group encourages the Department of
Transportation and other relevant agencies to continue their work to adopt dig once policies and to
provide guidance to states and encourage their implementation of a dig once policy.

4. Cumbersome historic and environmental review processes

The Working Group recommends that environmental assessments be harmonized across agencies to
reduce confusion and redundancy. Environmental impact studies should be valid for a reasonable amount
of time so they do not have to be redone. Where surveys or other studies are completed as part of the
environmental review, those findings should be available to federal agencies and applicants to use during
the reasonable time period.

All federal agencies should ease permitting requirements in previously disturbed areas. All federal
agencies should streamline their National Historic Preservation Act (NHPA) historic preservation review
process by finalizing a list of broadband activities exempted from Section 106 consultation. The Working
Group recommends that the FCC expand E106 & FCC Tower Construction Notification System program.
All federal agencies should also finalize NEPA categorical exclusions that will exempt broadband
projects from Environmental Assessments for sites that involve, for example, cell site compounds, aerial
cable, and previously disturbed grounds.

The Advisory Council on Historic Preservation (ACHP) should clarify applicability of its new Program
Comment for Communications Projects on Federal Lands and Property to all federal agencies, revising
the introduction, “Federal LMA/PMAs may elect to follow this Program Comment in lieu of the
procedures in 36 CFR §§800.3 through 800.7 for individual undertakings falling within its scope.” To
avoid confusion, “may elect” should be stricken and ACHP should affirmatively require the use of the
Program Comment by all federal agencies. The Working Group recommends the following additional
changes to the Program Comment:

1. The Program Comment should be revised to apply to all Federal Land Managing Agencies
   (LMAs) and Federal Property Managing Agencies (PMAs). As currently drafted, elective
   utilization of the Program Comment process does not ensure the expedited and efficient siting
   procedures necessary to better serve the exponentially growing data demands on networks
   and the underlying infrastructure.

2. Agencies should be required to process and respond to each application within a specified
time period—no more than 60 days.

32 Id.
33 ACHP Program Comment.
3. If requested or needed, a walk-out of the property with the requesting provider and responsible personnel of the agency should occur within 30 days of the filing of an application, and the provider may file a revised, more detailed application, reflecting the input and discussion with the responsible agency personnel during the property walk-out. If an application is revised, it should be approved within 60 days of the submission of the revised application. The agency should notify the applicant within 10 days of receipt if the agency believes the application is not materially complete and needs to be amended or modified. If an application is rejected, the decision should list in writing all factual, policy, and legal grounds for rejection as well as a contact person for escalation. Applicants should have a right to cure their application by making corrections based on written grounds for rejection received.

4. Throughout the application process, Federal LMAs and PMAs should be required to provide application status updates at the request of applicants. Greater transparency during and after the application process has completed will improve the application submission process and will provide documentation for applicants to use with other historic preservation review processes such as the FCC’s NEPA review process.

5. Applications that are neither formally approved nor rejected within 180 days of submission for initial installation requests (or 90 days in the case of collocations or modifications) should be deemed approved. These timeframes are similar timeframes to what the FCC established for municipalities in land use approvals to expedite broadband infrastructure deployment. Without this safeguard, applications may languish for years with no action taken by the federal agency, which is contrary to the national policy promoting broadband throughout all federal properties.

Lastly, the Working Group recommends a thorough evaluation of the August 15, 2017 Executive Order 13807 Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects. The Order incorporates “broadband internet” projects in its efforts to “ensure that the Federal environmental review and permitting process for infrastructure projects is coordinated, predictable, and transparent.” Agencies should be held accountable to implement the order’s directives within a specified time period. 24

5. Lease and renewal terms that do not incentivize investment

The Working Group recommends that executive agencies utilize easements or leases with 30 or more-year terms with expectancy of renewal for wireline or wireless siting requests. The Telecommunications Act and 10 U.S.C. §§ 2667 & 2668 contemplate that executive agencies may permit telecommunications facilities installations on federal property through the use of easements or leases. Executive agencies should be notified that leases are not required for wireline or wireless installations, but that easements are an acceptable legal transaction for the placement of wireline and wireless facilities on federal property.

Agencies should also be notified that to minimize the cost—on both the agency and the provider—of future siting applications, and given the extensive capital investment of long-lived assets required for the installation of wireline and wireless infrastructure, it is in the public interest for applications to lead to leases or easements with terms at least 30 years long, or consistent with typical commercial lease terms for similar broadband facilities, and with renewal expectancy.

The Working Group urges the standardization of lease terms within each type of technology. To avoid holdover leases, agencies should begin the lease renewal process five years in advance of expiration of the lease. Site agreements often expire without a clear path to renewal. Agency rights to terminate leases should be limited to reasons of national security.

6. Unclear points of contact for local, state, and federal leads for agencies

The Working Group recommends that Congress or the Administration (through GSA or other designated agency) should require each agency to provide a contact person for handling applications related to each property. Under GSA’s Common Form Application Section “Potential Antenna Lessee Document Check List,” the form states that a provider may contact the “Contracting Officer or the Contracting Officer Representative listed on the application.” GSA should clarify that all executive agencies must provide and maintain a current online listing of the name and contact information for a contracting officer or representative for each federal property for industry members to contact with questions related to the application form or wireless installation process. This process should also apply to wireline broadband installations.

Each federal agency should designate a state contact that covers each state to ensure consistency across field offices, forests, and national parks. Additionally, each federal agency should have a specific page on its website for all “dedicated points of contact,” along with each agency’s “time to permit” information. One government entity, such as NTIA, should consistently compile this information on one online portal.

The Working Group encourages each federal agency to implement an escalation or appeal process when broadband facility requests are delayed or denied. Furthermore, each agency should have an ombudsman to resolve permitting problems. Formalizing this process will ensure more consistent treatment of applications.

7. Difficulty getting updates on status of applications and lack of transparency in agency-deployment application process history

As discussed above, agencies should employ a single online permitting application tracking mechanism. Each federal agency should be required to create a single online application tracking mechanism so that the agency(ies) and applicants can efficiently track the progress and status of an application request. This will facilitate efficient handling and processing of applications. This mechanism can also help applications stay on track to meet required timelines and serve as a useful tool to communicate about application progress and status. The tracking mechanism will identify the appropriate agency responsible, along with contact information, for a specific application. The Working Group encourages the FCC and other federal agencies to review the Administration’s Federal Infrastructure Permitting Dashboard,\(^{26}\) which includes infrastructure projects identified as Covered Projects under Title 41 of the Fixing America’s Surface Transportation (FAST) Act, Department of Transportation projects, and other tracked projects. This dashboard is not currently used to track broadband infrastructure projects across federal agencies; however, agencies may find it efficient to track their projects in this manner.

All agencies should provide the applicant with information regarding the standard processing time for permitting at the agency (within the established shot clock) so that providers can schedule construction projects in a timely manner.

The Working Group also urges the FCC or Congress to set executive-level quantifiable goals for broadband deployments such as collecting aggregate, industry-level commitment counts to deploy broadband sites on federal lands, and agencies should publish performance against the goals. Each agency should have an identified direct-reporting lead responsible for implementation by achieving actual deployments. Federal agencies should focus on deployment results, beyond intermediary process changes. Each agency should also create deployment transparency mechanism such as a monthly web post of the number of contracts signed, new deployments, and new carriers deployed on existing sites. And as now required by the Rural Broadband Streamlining Executive Order, every quarter federal agencies should transparently report the number of permitting applications they have processed.

Such regular reporting will get our nation closer to identifying coverage gaps and deficiencies with respect to the current status of broadband deployment on federal lands. Regular publication of information about areas designated by agencies as “telecom areas” would also be helpful. These are areas where the necessary studies and reviews have been successfully completed and where siting may, therefore, be easier.\(^{27}\) Agencies can call for public input in identifying these areas. Such reporting will enable agencies to better access broadband deployment and set quantifiable goals for broadband deployment on federal lands. Information sharing can also reveal the challenges to providing service on federal lands at an economically feasible cost and afford a platform to discuss solutions to these challenges.


\(^{27}\) This recommendation is consistent with the Presidential Memorandum for DOI requiring the Secretary of the Interior to issue a report within 180 days to the Director of the Office of Science and Technology Policy “identifying the assets that can be used to support rural broadband deployment and adoption.” Presidential Memorandum for DOI at Sec. 2(b).
8. Lack of re-evaluation of processes and fees as technologies evolve

The Working Group recommends that application forms be utilized to initiate amendments to existing installations and the applicable lease, easement or right-of-way. Given the continually changing technology and rapid growth of broadband, it is common practice that broadband installations will be modified one or more times over the course of the multi-year arrangement, and some site augmentations may involve an amendment to the controlling legal arrangement, whether a lease, easement, right of way or otherwise. Common form applications are a convenient and logical mechanism for triggering, tracking and managing such amendments. Thus, GSA should clarify that all executive agencies shall utilize the GSA Common Form Application for new broadband infrastructure requests, and for amendments to existing broadband infrastructure.

The Working Group also urges federal agencies to incorporate small cells, distributed antenna systems (DAS), and indoor coverage into their streamlining processes. There is often a lag between the introduction or increased use of a technology and when federal agencies adopt procedures to process the siting requests. Federal agencies should create a system for how to evaluate new technologies and determine how they should be reviewed for permitting.

9. DoD siting process costly and time-consuming

The Working Group found that siting broadband facilities on Department of Defense (DoD) property presents unique challenges. Consistent with all necessary measures to protect national security, DoD agencies should streamline deployment as indicated in the above recommendations but in keeping with national security interests.

The DoD should reexamine rules and policies regarding the permitting and deployment of broadband within bases and on all DoD real estate, including separate authorizations required for services offered over the same facilities. In some cases, cable operators have been prohibited from deploying Wi-Fi facilities for use by Americans living on military bases.

The Department of the Navy (DoN) is a good example of a DoD agency that completed a thorough example of its permitting processes and executed a path towards streamlining broadband deployment on its property. Industry successfully collaborated with the DoN for two years on the development and release of its memorandum titled “Streamlined Process for Commercial Broadband Deployment,” (Navy Memo) which was signed by the Deputy Under Secretary of the Navy (DUSN) for Management on June 30, 2016.26 The new guidelines “set a goal for DON installation to meet or exceed national averages for

broadband coverage and capacity," according to the official memorandum. According to the Wireless Infrastructure Association, which coordinated industry participation, "the new wireless facility siting procedures cut down a project coordination and siting deployment process that could take up to five or more years to complete to less than one year."29

The DoN is now evaluating an update to its memo to incorporate small cells, DAS, and indoor deployments into its streamlining processes. Other DoD agencies should evaluate the effectiveness of the Navy Memo process and implementation as they develop their own broadband infrastructure siting review process.

The Working Group urges DoD agencies to employ shorter and parallel process steps, particularly making JSC review concurrent with the RFP process. Agencies should accelerate the JSC pre-work, application-to-bid mechanism to less than 30 days. Agencies should also streamline the RFP process by moving it online, reducing processing to 30 days, and allowing multiple carriers "to win" per each RFP.

Military agencies should also streamline their RF spectrum clearance process by eliminating duplicate spectrum interference reviews where one has already been completed for a similar installation. RF clearance should be valid for an extended period of time. Additionally, agencies should incorporate all possible spectrum bands for operation into the initial RF study so that providers do not have to repeatedly conduct studies for new deployments or new carriers being added to the neutral host.

10. **Siting barriers caused by federal funding clauses**

The Working Group found that some states impose restrictions on broadband infrastructure deployment in local parks developed with federal funds. For example, Virginia has a restriction that:

property acquired or developed with LWCF [Land & Water Conservation Fund Act of 1965] assistance shall be retained and used for public outdoor recreation in perpetuity. Any property so acquired and/or developed shall not be wholly or partly converted to other than public outdoor recreation uses without the approval of NPS pursuant to Section 6(f)(3) of the LWCF Act.30

Site reviewers in Virginia are interpreting this law as prohibiting wireless infrastructure deployment, labeling such deployment as a prohibited commercial endeavor. It is not likely that the provision of broadband services is the type of activity the Land and Water Conservation Fund Act of 1965 was trying to protect against. Therefore, the Working Group recommends that land-grant clauses precluding commercial activity from taking place on the land provided for by grant should not be interpreted to preclude broadband infrastructure deployment and provision of broadband services. All agencies, states,  

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and localities should be advised that deploying broadband is not within the meaning of prohibiting commercial use of land developments funded by federal grants.
The Honorable Mike Doyle (D-PA)

1. Mr. Wood, you testified that the digital divide is based not only on income, but on race, ethnicity, and other factors. Persistent gaps continue to exist between different demographic groups’ adoption of essential high-speed internet connections.

Can you provide more detail regarding how these factors influence the digital divide, the causes for them, and some of the solutions Congress could pursue?

RESPONSE:

Thank you for the question, Chairman Doyle. My testimony provided some of our top-level findings and research regarding the persistent gaps in broadband adoption between people who identify in different racial and ethnic categories in response to Census questions. These results show beyond a doubt that differences in income level contribute greatly to the digital divide, but also show that income disparities alone are not enough to explain why so many Black, Latinx, and Indigenous people in the United States do not have high-speed internet access at home.

As I noted, some 77 million people in the U.S. lack adequate home internet, meaning they have no home connection at all or are solely reliant on mobile. Those without adequate home broadband are disproportionately people of color. For instance, while 26 percent of Census-identified “non-Hispanic whites” lack wired broadband at home, that figure jumps to 34 percent of Black people, 35 percent of Latinx people, and 41 percent of Indigenous people without wired connections.

While those figures are accurate, unfortunately there was an error in my original testimony, where we omitted a decimal point when translating those percentages into the number of people without wired access or some other form of fixed internet access at home. There are in fact 13 million Black people, 18 million Latinx people, and 1.3 million Indigenous Americans (not thirteen million Indigenous Americans, as we suggested with that typographical error) who do not have the essential telecommunications services they need.
Our 2016 report *Digital Denied* suggested that there are a wide variety of factors tied to race and ethnicity that apparently play a role in perpetuating this unacceptable divide.

In the first place, income inequality is itself created in large part by systemic racism and racial bias, and the resulting economic disparity is a significant contributor to the digital divide. Thus, far from being unrelated, economic disparities and racial discrimination reinforce one another today in the United States just as they have for centuries. As *Digital Denied* explained, using 2015 Census data, the median household income for white households at the time was well above $62,000 – which was 39 percent higher than the median income for Latínax households and 71 percent higher than the median income for Black households. Those income disparities stem from a host of factors, including but not limited to race and ethnicity-based differences in earning levels, employment levels, and labor force participation.

But as *Digital Denied* and our subsequent research also found, there are adoption and deployment gaps beyond those attributable merely to differences in income, education, or employment for people in different racial and ethnic groups. As we reported in our 2016 report, if income disparities (and therefore the relative affordability of various internet access services) were the only explanation, we would expect more Black, Latína, and Indigenous people to report having and using the internet at home.

Yet after controlling for income level, education level, job, age, and a host of other explanatory variables, people identifying as members of these communities of color were more likely to be disconnected than an accounting for all of these variables would suggest. Put another way, a poor white person in a particular age group with a particular type of job, educational background, a particular type of housing, and a specific household size is still more likely to have adequate home internet service than a poor Black or Latína person with those same characteristics and credentials.

While our report was substantial and comprehensive, we did not fully examine all of the potential compounding impacts on broadband adoption from discrimination in the educational system, the workplace, the credit and financial industries, the real estate market, and the broadband market itself. However, we did suggest that:

- Historical and present racial discrimination in credit rating likely dampens broadband adoption by people of color, because broadband providers typically require credit checks for wired service and for many peer-paid wireless plans.¹

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² See id. at 42-44 & Fig. 21. More recent Census data for 2019 indicates unsurprisingly that these racial and ethnic income gaps remain, even as median incomes across all three demographic groups have risen. By 2019, the median household income for white households was above $76,000 – which was 56 percent higher than the median income for Latínax households and 67 percent higher than the median income for Black households.

³ See, e.g., id. at 8.
• Even when people of different racial and ethnic backgrounds have the same jobs, white people more often reported using the internet at work than their Black and Latinx colleagues did. It’s not just the case that people of color are shunted into different jobs and shut out of opportunities in that respect; they may also be less often assigned to and expected to use the internet than a white counterpart in the exact same job category. And that matters greatly, because use of the internet at work (and at school too) is one of the most important factors associated with home internet adoption.4

• There can be a vicious cycle of this same sort when it comes to housing discrimination, income inequality, credit score discrimination, and broadband deployment. People of color disproportionately live in lower-wealth communities, due to private lenders’ redlining, government discrimination, and related public policy failures. Poorer areas predominantly populated by people of color are thus less lucrative to serve for broadband providers, and as a result the people living there have poorer service options offered on worse terms than people in surrounding neighborhoods. That in turn limits the educational and economic opportunities that residents in those communities can access, and the cycle repeats itself.

Those three factors are just a few of the dozens we could name, and further investigate, among heretofore intractable and overlapping problems that have almost certainly contributed to this persistent and pernicious racial and ethnic digital divide.

That is why Free Press Action has focused to such a great degree on adoption support programs and subsidies. The FCC’s Lifeline program, modernized to support broadband in 2016, was weakened by a series of unfounded attacks undermining its authority and its capabilities during the Trump administration. Restoring Lifeline’s vitality and ending these attacks is absolutely essential to promote not just universal deployment but universal adoption too.

As my testimony explained, the $3.2 billion Emergency Broadband Benefit passed in the December 2020 spending and stimulus bill (thanks in large part to this subcommittee’s leadership and members), was a landmark bipartisan achievement. And the Affordable, Accessible Internet for All Act (“AAIA”) reintroduced in both the House and Senate on March 11, 2021 would build on that affordability support so crucial at all times, but especially during this pandemic and economic downturn. The AAIA would add another $6 billion to extend this benefit to more eligible households and help keep them connected for more than just a few months after the FCC program launches later this Spring.

The AAIA also contains other measures essential to combating the affordability crisis. As our testimony explained, Bureau of Labor Statistics Data suggests that the average U.S. Internet customer’s monthly broadband bill in “real” terms (i.e., adjusted for inflation) increased 19 percent from 2017 through the end of 2019. That means the nominal increase in the average bill was more than four times the rate of inflation during those years.

4 See id. at 35-36, 121-22.
The AAIA recognizes that policy-makers still do not have granular and comprehensive data on what ISPs actually charge people for broadband each month and what people are actually paying. It directs the FCC to collect that kind of data, which will be so crucial to understanding the affordability gap, to recognizing the geographic regions and communities it most impacts, and to formulating additional solutions for it.

Yet the AAIA goes further than seeking to merely understand and then subsidize the prices paid by internet consumers today: it also encourages competition that could lower those prices over time. It promotes the deployment of more robust networks in unserved and under-served areas too, removes barriers to municipal and cooperative broadband providers, and incentivizes (though does not require) the construction of open access networks with federal deployment dollars.

Congress and the FCC should do even more on that last point to correct the market failures we see today especially in the wired broadband market, where resale options are almost non-existent. Those market failures deprive people in communities of color not only of likely more affordable wired broadband options, but wired services less likely tied to discriminatory credit checks.

Last but certainly not least, the new FCC (or the new Congress too) can and must return to classifying broadband as an essential telecommunications service, in order to restore the FCC’s authority to promote competition and protect people from unjust and unreasonable practices. The restoration of Title II authority by the agency would allow the FCC to move on its own to prevent broadband shutoffs and unreasonable data caps during this public health crisis (rather than merely “exhorting” providers to take voluntary pledges against such unreasonable practices).

Title II also would give the FCC the power to promote competitive entry by ensuring new broadband providers have access to rights-of-way and other infrastructure necessary to deploy their networks. As noted by the DC Circuit Court of Appeals’ remand order of the prior FCC’s 2017 repeal and reclassification decision, the Commission has no sound footing to prevent discriminatory and exclusionary conduct by incumbent broadband providers and other infrastructure owners. That can only hurt the chances for deployment of better and better-priced options in communities of color and elsewhere.

In sum, while the FCC in the Trump administration paid lip service to the issue of the digital divide, it all but ignored that divide’s racial and income aspects, and completely ignored the impact that a lack of adequate competition has on broadband prices and adoption. Working together, Congress and the new leadership at the Federal Communications Commission (which this subcommittee oversees) can reverse course and enact policies designed to address these longstanding gaps is broadband adoption.
Attachment—Additional Questions for the Record

Subcommittee on Communications and Technology
Hearing on
“Connecting America: Broadband Solutions to Pandemic Problems”
February 17, 2021

Jonathan Adelstein, President and CEO, Wireless Infrastructure Association

The Honorable Robert E. Latta (R-OH)

1. Mr. Adelstein, do you have any information about how much money and time carriers spend on complying with all the regulations necessary to deploy broadband in both cities and rural communities? How will permitting reforms allow for flexibility to make investments needed to meet consumers’ needs?

RESPONSE: Wireless industry investments during the 4G era totaled $261 billion—a 43 percent increase from the decade prior. The U.S. wireless industry is now poised to invest another $275 billion to build 5G networks, which will create 4.6 million direct and indirect jobs and contribute $1.7 trillion to the U.S. GDP in the next decade. For this investment to be most effective, permitting policy at all levels of government needs to be streamlined and flexible so that the limited private capital can be used most efficiently. Many municipalities have recognized the value of robust broadband and work closely with industry. However, there are still some local governments that needlessly slow down wireless deployment in their communities by erecting unnecessary barriers to build out. While the exact cost is difficult to pinpoint because it is spread so widely among communities and private businesses who are affected, they are substantial and slow broadband deployment. WIA members work closely with local governments to ensure that all communities benefit from wireless broadband and have found those with the lowest barriers to deployment tend to attract more investment.

The Honorable Richard Hudson (R-NC)

1. Mr. Adelstein, thank you for being here today as we examine this critical issue. My constituents in North Carolina and Americans across the nation are facing a digital crisis. The COVID-19 pandemic has exposed how important it is to have access to broadband and without it, Americans have found themselves unable to access lifesaving telehealth services, our students unable to continue their education while schools remain closed and adults struggling to work remote. It is imperative we come together as Republicans and Democrats to work together to
bridge the digital divide and close the homework gap.

Congress has allocated billions in COVID-19 relief packages to increase broadband connectivity, worked on broadband mapping legislation to best understand where resources are needed, and the FCC recently released the results of the RDOF Auction which is critical funding for last mile service which will connect that rural North Carolinian who was left behind. We are doing incredible things to ensure our constituents can access the internet. However, the government cannot do it alone. Throughout the pandemic our ISPs have offered low-cost internet access and have not shut off service for missed payments. I applaud them for their efforts. These companies know and can respond to these communities like mine because their employees are members of the same communities they serve.

Recently, Energy and Commerce Republicans have released a package of bills which will help streamline the cumbersome permitting process, increase broadband deployment and quickly get access to those who don’t have it. With a large swath of my district a national forest, I was proud to introduce The Federal Broadband Deployment Tracking Act, which would require NTIA to submit a plan to Congress on tracking the acceptance, processing, and disposal of requests for communications use authorizations on Federal property.

Currently, there is a massive bureaucratic backlog of requests which is holding back deployment of broadband on federal lands where mine and a lot of members constituents live.

We are all aware of the large amount of traffic that hit our communications network with the onset of the pandemic. Your testimony notes that our networks held up and responded to these new burdens more effectively than some parts of Europe, China, and others. This in addition to the many voluntary efforts providers have made to provide increased access for low-income Americans, students, and others.

a Could you explain the difficulties experienced by other countries, and why our networks were able to keep functioning as normal?

RESPONSE: COVID-19 brought forth new challenges and new opportunities for broadband deployment. The wireless industry’s network investments enabled the entire economy to sustain itself during the pandemic. Work-from-home, remote learning, and telehealth have all generated an unprecedented demand for wireless connectivity anchored by the need for wireless infrastructure. And the wireless industry is meeting the challenge.

In fact, U.S. networks’ performance during the pandemic continues to demonstrate why our networks are the envy of the world. COVID drove mobile traffic up 20 percent, essentially overnight. Yet, mobile data speeds kept pace. This was not
the case in other countries. According to an Ookla report, China’s mobile
download speeds saw speed decreases of up to 40 percent during their peak
COVID restrictions, while Italy saw decreases of up to 23 percent, and Spain saw
decreases up to 15 percent. Over two-thirds of European countries experienced
mobile speed decreases of up to 30 percent in late March 2020, according to
OpenSignal.

U.S. wireless success is not accidental. The U.S. wireless industry invests nearly
$30 billion every year; combined with a timely supply of spectrum, due to the
leadership by of this Subcommittee and the FCC, a regulatory framework that
promotes investment in responsible wireless infrastructure, and U.S. wireless
industry innovation, this is a recipe for success that put the U.S. in a better position
than Europe during the pandemic.