

# THE FUTURE OF BROADBAND AFFORDABILITY

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## HEARING

BEFORE THE

SUBCOMMITTEE ON COMMUNICATIONS, MEDIA,  
AND BROADBAND

OF THE

COMMITTEE ON COMMERCE,  
SCIENCE, AND TRANSPORTATION  
UNITED STATES SENATE

ONE HUNDRED EIGHTEENTH CONGRESS

SECOND SESSION

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MAY 2, 2024

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Printed for the use of the Committee on Commerce, Science, and Transportation



Available online: <http://www.govinfo.gov>

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U.S. GOVERNMENT PUBLISHING OFFICE

61-850 PDF

WASHINGTON : 2025

SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED EIGHTEENTH CONGRESS

SECOND SESSION

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## CONTENTS

Hearing held on May 2, 2024 .....	Page 1
Statement of Senator Luján .....	1
Letter dated May 1, 2024 to Hon. Ben Ray Luján and Hon. John Thune from Jonathan Myles Laurier Cannon, Policy Counsel Tech and Innova- tion, R Street Institute .....	58
Prepared statements from various organizations supporting the extension of the Affordable Connectivity Program (ACP) .....	62
Statement of Senator Cruz .....	3
Statement of Senator Thune .....	5
Statement of Senator Vance .....	32
Statement of Senator Klobuchar .....	34
Statement of Senator Peters .....	38
Statement of Senator Welch .....	40
Statement of Senator Capito .....	41
Statement of Senator Warnock .....	43
Statement of Senator Tester .....	47
Statement of Senator Markey .....	49
Statement of Senator Rosen .....	51
Letter dated April 26, 2024 to Hon. Mike Johnson, Hon. Chuck Schumer, Hon. Hakeem Jeffries, Hon. Mitch McConnell, Hon. Tom Cole, Hon. Patty Murray, Hon. Rosa DeLauro and Hon. Susan Collins from Alli- ance of Community Health Plans, Association for Community Affiliated Plans, Blue Cross Blue Shield Association, Medicaid Health Plans of America, National MLTSS Health Plan Association, and Special Needs Plans Alliance .....	53
Statement of Senator Hickenlooper .....	56

### WITNESSES

Jennifer Case Nevarez, Director and Lead Educator, Community Learning Network (CLN) and Member, Broadband and Digital Equity Support Team, New Mexico and the Office of Broadband Access and Expansion (OBAE) .....	7
Prepared statement .....	9
Kathryn de Wit, Project Director, Broadband Access Initiative, The Pew Char- itable Trusts .....	12
Prepared statement .....	13
Blair Levin, Policy Advisor, New Street Research; Nonresident Senior Fellow, Brookings Metro .....	17
Prepared statement .....	19
Paul Winfree, Ph.D., President and CEO, Economic Policy Innovation Center ..	24
Prepared statement .....	25

### APPENDIX

Letter dated May 2, 2024 to Hon. Ben Ray Luján, Hon. John Thune, Hon. Maria Cantwell and Hon. Ted Cruz from Gary Bolton, President and CEO, Fiber Broadband Association .....	67
Response to written questions submitted to Kathryn de Wit by:	
Hon. Tammy Duckworth .....	68
Hon. Ted Cruz .....	69
Response to written questions submitted by Hon. Ted Cruz to:	
Blair Levin .....	71
Paul Winfree, Ph.D. ....	93



## **THE FUTURE OF BROADBAND AFFORDABILITY**

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**WEDNESDAY, MAY 2, 2024**

U.S. SENATE,  
SUBCOMMITTEE ON COMMUNICATIONS, MEDIA, AND BROADBAND,  
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,  
*Washington, DC.*

The Subcommittee met, pursuant to notice, at 10 a.m., in room SR-253, Russell Senate Office Building. Hon. Ben Ray Luján, presiding.

Present: Senators Luján [presiding], Klobuchar, Markey, Peters, Tester, Rosen, Hickenlooper, Warnock, Welch, Cruz, Thune, Young, Vance, and Capito.

### **OPENING STATEMENT OF HON. BEN RAY LUJÁN, U.S. SENATOR FROM NEW MEXICO**

Senator LUJÁN. And we'll come to order. Today this subcommittee is convening a hearing on the future of broadband affordability.

So I want to thank our Ranking Member, Mr. Thune, as well as Chair Cantwell and Ranking Member Cruz for working with me to schedule this hearing on such an important topic.

I want to start with a story from one of my constituents. Her name is Kelly, and she's from a small community by the name of Ranchos de Taos out in New Mexico. Now she reached out to my office last month about the importance of the Affordable Connectivity Program. And here's what she said, "In my capacity as program manager for New Mexico Veterans up bound—Upward Bound program at UNM Taos, my team and I serve veterans in eight northern New Mexico counties in some very rural areas. We are finding it more difficult to connect our Native veterans who may not even be aware of the benefits that they've earned, or are unable to apply for them since most communications is via the Internet. My team is working on that. Many live in extremely remote areas and only receive phone or Internet service when they go into the nearest town. That's not fair. They are no less deserving of veteran benefits than anyone else."

Now I want to emphasize that point, because it's why we're here today. The people who rely on the Affordable Connectivity Program to connect with health care providers, attend work or school, or access their benefits are no less deserving anywhere across America than anyone else.

There are so many areas across the country where families have no options for high-quality broadband service. That's why we

worked together to pass the Bipartisan Infrastructure Law, which included the Broadband Equity Access and Deployment, otherwise known as the BEAD Program, to build out broadband networks in regions of our country that have, until now, been left behind.

But building the network isn't the end of the story. We have to make sure that people can afford to access it. That is why we created the Affordable Connectivity Program in a bipartisan way, to help low-income families afford Internet service by contributing a \$30-per-month benefit. Right now there are over 23 million households participating in this program. That's more than 55 million people.

But it's not only benefiting these individuals and families, it's benefiting their local communities as well. A study from the Benton Institute for Broadband and Society published last month found that every dollar that is put into ACP returns nearly two dollars in impact for the recipient of the benefit. It gives families access to better-paying jobs, to training and education, to create economic mobility, to better deals on groceries and household goods. It means stimulating our local economies.

So the time is now to save this program. This last full month of funding for ACP, we saw the expiration just a few days ago.

Now each household will only receive a partial benefit if Congress fails to act. That will be the end of the Affordable Connectivity Program. And—and mind you, all of these customers across America received notices back in January as well that this program was going away. Congress had a little bit of time to be able to fix things, to get this correct.

But here's another one where Congress let the American people down. My colleagues and I have been working to find a solution to keep this program going. Thank you to Chair Cantwell, who has introduced legislation to restore the FCC's auction authority and use \$7 billion in auction proceeds to keep this program alive.

And thank you to Senator Welch and Senator Vance, who have introduced legislation to fund the program through the end of the year with appropriations. They're both strong proposals to temporarily fund the program and give Congress time to find a long-term solution so we don't face this cliff every 6 months or every year.

Now the Universal Service Fund Working Group that I've been proud to be a part of and lead with Ranking Member Thune has been working on a long-term solution.

Once we save this program in short term, I believe, I'm looking forward to bringing a solution to this committee that provides a permanent funding mechanism, modernizing programs, looking at what the out years will certainly look like here to earn bipartisan support in both chambers.

And I'm very proud that this working group has had participation from members of the Senate, members of the House, and members of leadership. It has really been incredible to see how these thoughts and these ideas, and embracing some of those differences, actually shows where we agree on how to get this achieved. So I very much appreciate that.

Now it would be a significant waste of government funds to let this program lapse. It would mean letting all the time and resources the Federal Government and our state and local partners

have put into standing up the program and enrolling 23 million households go to waste.

I'm looking forward to hearing from our panel of witnesses who will provide clear evidence that we are on the brink of wasting significant Federal investments and causing real harm to our constituents. Each will share their perspective on the role that the Affordable Connectivity Program plays in our economy and in the lives of low-income families across the country.

Now our panelists, we're going to hear from Ms. Jennifer Case Nevarez, who is the director and lead educator of Community Learning Network and member of the Broadband and Digital Equity Support Team for New Mexico and the Office of Broadband Access and Expansion. I'm proud that Ms. Nevarez has joined us this morning all the way from Santa Fe, New Mexico to share what she's seen on the ground, and the importance of ACP, and the consequences if we let it lapse.

Ms. Kathryn de Wit, Project Director of the Broadband Access Initiative at the Pew Charitable Trust, who will speak to the economic importance of ACP to families across this country.

Mr. Blair Levin, policy advisor at New Street Research and non-resident senior fellow at Brookings Metro, who will speak to the economic impact of a potential ACP lapse across our economy.

And Dr. Paul Winfree, President and CEO of the Economic Policy Innovation Center, who Ranking Member Thune will introduce. Now I look forward to hearing from each of you.

And I now want to recognize Ranking Member Thune for his opening statement.

We're going to hear first from the Ranking Member of the Full Committee, Senator Cruz of Texas. Senator Cruz.

**STATEMENT OF HON. TED CRUZ,  
U.S. SENATOR FROM TEXAS**

Senator CRUZ. Thank you, Mr. Chairman. Thank you to Ranking Member Thune, and thank you to our witnesses today.

The United States is the standard bearer for high-speed Internet connectivity. During the pandemic, American Internet providers significantly outperformed our more highly regulated European counterparts with faster and more competitive service.

Yet this highly functioning industry is under relentless attack by the Biden administration. Despite being handed a generational opportunity to connect all Americans, this administration has made it clear they would prefer to assert government control of the Internet.

This was epitomized by last week's FCC party-line vote to subject the broadband industry to an oppressive regulatory regime under the pretense of so-called net neutrality.

This follows the FCC's digital equity power grab late last year in which the agency asserted control over nearly every aspect of the broadband business, and opened providers to expansive, indeterminate, and crippling liability under a disparate impact standard.

The Biden administration claims that it wants to improve broadband affordability for American families. But the FCC is sabotaging these goals. What happens when companies need to divert significant resources to—towards complying with woke Biden prior-

ities over their customers? Prices go up, investment and innovation declines, and Americans suffer.

And we know this from experience. When the Obama FCC imposed Title II on broadband, their first iteration of net neutrality in early 2015, capital expenditures fell by \$500 million that year, and by another \$2.7 billion in 2016. That hurts American consumers across the country.

We see similar trends in the Biden administration's mismanagement of Congress's massive broadband investments—over \$125 billion in the last 4 years. The Biden NTIA has prioritized woke social policies, union mandates, tech biases, and price controls at the expense of delivering high-speed Internet to unserved Americans. The largest of these programs, a \$42 billion broadband infrastructure program, is already being waylaid.

Biden administration officials are withholding and delaying funding from states like Virginia, where Governor Youngkin's team is standing up to the coercive and lawless demands of the Biden administration.

Likewise, the Affordable Connectivity Program is not working as Congress intended. To assist those for whom cost was the barrier to gaining Internet access, ACP, which gives a \$30 monthly subsidy for Internet service and \$75 per month if you're on tribal lands, was given a record \$14 billion budget. This was anticipated to last several years.

But the FCC deliberately oversubscribed the program, blowing through the money in record time. We have heard from the White House and from Chairman Rosenworcel that this massive welfare program should be considered a success, because 23 million households enrolled in it. But it turns out the vast majority of these people already had high-speed Internet.

Here's an FCC survey showing that just 22 percent of the households receiving the taxpayer subsidy were previously unsubscribed to broadband. This means that for every household that didn't subscribe to premium Internet, the Federal Government is subsidizing four households that did.

Beyond this massive inefficiency and waste, reports have also found, unsurprisingly, that the ACP has had inflationary effects on the price of Internet. One of our witnesses, Dr. Paul Winfree, analyzed the data and found that in places where ACP enrollment is the highest, we see higher prices.

A less technical, but no less telling report from the National Review used archive records from the Internet to show that companies treat the \$30 subsidy now as the new price floor. Companies that used to offer broadband plans for \$10 or \$15 a month now charge \$30 for the same or marginally upgraded service.

History has shown that when the Federal Government starts subsidizing demand—in higher education and agriculture, the subsidy gets capitalized, and prices go up. After all, why would corporations ever leave free money on the table?

While those who receive the subsidy may realize an immediate cost reduction, the market prices rise for everybody else.

This rising price creates a call for more subsidies and higher taxes to fund those additional higher subsidies, and eventually a government takeover of the Internet to provide it for free.



To the extent there are truly indigent people who cannot afford connectivity, there is a program already designed for them. It's called Lifeline. If it's not working well, we should look to improve it, not to impose higher taxes on millions of hardworking Americans to cover the Internet bills of their neighbors who are already willing and able to pay for it themselves. I'm open to a discussion on these reforms.

The road to broadband as a publicly regulated utility is not one Americans can afford. To ensure that all Americans can access and benefit from high-speed connectivity, the administration should reverse course, abandon toxic regulatory mandates, remove unnecessary barriers to investment, and ensure Federal broadband subsidies are working as Congress intended. An innovative and affordable broadband future can only be achieved if the Federal Government puts Americans' prosperity over its urge to assert regulatory control.

Thank you.

Senator LUJÁN. Thank you, Senator Cruz.

I now recognize the Ranking Member of the Subcommittee, Mr. Thune, for his opening statement.

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

Senator THUNE. Thank you, Mr. Chairman, and I appreciate the opportunity to work with you on the working group. I think there are a number of areas in the Universal Service Fund programs that are—have been needed; oversight, and reform, and looking at ways that we can make those work more efficiently. And so I look forward to our continued efforts in that regard.

And thank you for the—having the hearing this morning. Thank you to all our witnesses for being here.

Let me start by saying that an Internet connection provides significant opportunities to run a business, provide health care, or do homework. And as a member who represents a rural state, I remain committed to the bipartisan principle of universal service and ensuring that Americans in all parts of the country have access to communication services comparable in quality and price to those in urban areas.

Today, we are here to examine the state of broadband—broadband affordability programs. The FCC has a long history with broadband affordability through its Lifeline program, as has been mentioned, which, despite existing for nearly 40 years, has not been a broad success story. A carefully designed, properly administered broadband affordability program to help those Americans who, without a subsidy, would be unable to afford reasonable level of connectivity, is an important part of universal service.

But unfortunately, the FCC's Lifeline program, which is currently part of the Universal Service Fund, has not lived up to this promise. The rampant waste, fraud, and abuse within the Lifeline program has been well documented over the years.

Unfortunately, much like the FCC's Lifeline program, the Affordable Connectivity Program, or ACP, seems to be plagued with similar inefficiencies.

ACP, what initially began as a program to help consumers stay connected during the pandemic, was expanded, as many government programs tend to be, into a much broader and much more expensive program. As it's currently designed, ACP does a poor job of directing support to those who truly need it, namely those who would not get service without a subsidy.

With overly broad eligibility criteria, ACP allows over 40 percent of American households to receive a subsidy. If all of the eligible households were enabled or I should say were enrolled into ACP, the program would cost the taxpayer over \$19 billion annually.

The inefficiencies in both Lifeline and ACP are in large part a direct result of the FCC's failure to set performance goals and address the fundamental question of whether or not either of these programs are an effective means of increasing adoption among low-income consumers. Without performance goals, we have no evidence to support that ACP or Lifeline are effective in connecting non-subscribers to the Internet.

The FCC's own survey, as Senator Cruz pointed out, indicates that at least—or I should say at best, about 22 percent of the current ACP subscribers did not have an Internet connection prior to ACP. It is imperative that the FCC conduct such an analysis so that we can make informed decisions on the future broadband affordability programs for truly low-income Americans. And simply saying 23 million households will lose broadband if ACP does not receive new funding is not undertaking a fundamental analysis.

The American people deserve better, and we need an honest assessment of how to best deliver services to those actually in need. To that end, I appreciate Senator Luján's work leading the USF Working Group with me and other members of this committee to address the needs and shortfalls of the USF programs.

We also must recognize the Federal Government will not solve the digital divide on its own.

The United States' light regulatory—or light-touch regulatory approach to broadband policy has resulted in telecommunications providers in South Dakota and the rest of the country making network reliability, affordability, and resiliency a priority. During the pandemic, when demand for reliable Internet soared, U.S. broadband providers were able to keep Americans connected, which was not the case in other countries.

And now as ACP winds down, I appreciate how the private sector is stepping up, turning to low-income programs they offered prior to ACP.

The White House and some in Congress have called on companies to continue offering free service to consumers despite ACP dollars running out. This, of course, is akin to rate regulation and demonstrates that Democrats—what Democrats have wanted all along.

The efforts to promote quality and affordable broadband are under attack by the Biden FCC. Just last week, the FCC once again asserted broad new government powers over the Internet, using rules that were designed for telephone monopolies back during the Great Depression. The last time these heavy-handed regulations were imposed, as Senator Cruz pointed out, broadband in-

vestment declined. And there's good reason to believe this will happen again.

These new rules would also imperil the United States' position at the forefront of Internet innovation. Biden's FCC should be focused on addressing real challenges, such as reducing regulatory burdens and thus the cost for broadband, not searching for a problem where one doesn't exist.

Before I close, I'd also like to add that I hope we can hear from the FCC directly about their broadband affordability programs and many other important issues. It's unacceptable that this committee has not held an oversight hearing of the FCC for over 1,400 days.

I appreciate each of our witnesses for being here today and I look forward to the discussion. Thank you, Mr. Chairman.

And Dr. Winfree is our fourth witness. He's President and CEO of Economic Policy Innovation Center. He's an economist, trusted policy—public policy advisor, and served in top management policy roles in the White House, the U.S. Senate, and in think tanks.

So it's great to have you here along with the rest of our panel of witnesses. We look forward to hearing from you all. Thank you.

Senator LUJÁN. Thank you very much, Mr. Thune. And before I recognize myself for five minutes of questions, I want to wish Peter Welch a happy birthday. So if everyone might be able to just give him a round of applause, please, and show our appreciation to Senator Welch.

[Applause.]

Senator WELCH. He's a pretty nice guy, but I appreciate the embarrassment.

Senator LUJÁN. Thank you, my friend.

Senator WELCH. Thank you, Ben Ray.

Senator LUJÁN. So before I recognize myself for questions, I want to make sure that we hear from our distinguished panel as well.

So Ms. Nevarez, you'll begin, and each of you will be recognized for five minutes as well. You'll be able to submit your full testimony into the record as well. Ms. Nevarez, you're recognized.

**STATEMENT OF JENNIFER CASE NEVAREZ, DIRECTOR AND LEAD EDUCATOR, COMMUNITY LEARNING NETWORK (CLN) AND MEMBER, BROADBAND AND DIGITAL EQUITY SUPPORT TEAM, NEW MEXICO AND THE OFFICE OF BROADBAND ACCESS AND EXPANSION (OBAAE)**

Ms. NEVAREZ. My name is Jennifer Nevarez. I live in Santa Fe, New Mexico.

As Director of Community Learning Network, an educational non-profit dedicated to building stronger communities through real-life learning, and a member of the Broadband and Digital Equity Support Team for the New Mexico Office of Broadband, I have traversed the state, met with hundreds of constituents—and I'm here today to share community concerns and to highlight the urgent need for Congress to act now to extend ACP before it lapses completely.

Though many think the Internet is all about technology, it is actually about connecting people. A Dine' Navajo elder I work with who lives on a fixed income on a farm in rural New Mexico, with the end of ACP and broadband access and affordability out of reach

for many rural residents, she and many others like her will go without Internet connectivity at home. And in her case, will do what she has done before to get online: drive 52 miles to check her e-mail at the public library.

With the end of ACP, more than 23 million households are now at risk of losing their Internet connectivity. Nearly half are military families. And 10 million are over the age of 50, with seniors reporting that they rely heavily on the Internet to coordinate and track medical services, overcome isolation, and deal with the fact that they may no longer be able to drive. 320,000 are households on tribal lands, where high-speed Internet is generally more expensive. In New Mexico, more than 184,000 households face losing their ability to pay bills, purchase goods, check health portals, run small businesses, and do work or schoolwork online.

In Congressional District 2, 28 percent of all households are enrolled in ACP, so one of every four households are now at risk of losing connectivity. This is a terrible blow to the local economy, and a terrible setback for local families and the counties where they live. With families facing hard decisions about what to cut, finding an affordable alternative is not easy, especially in rural areas where there may only be one provider, where costs can be much higher, and where low-cost options may be unreliable or inadequate for whole families working or learning from home.

As the fifth-largest state and the sixth-lowest in population density, deploying fiber in New Mexico is extra costly. Subscriber pools are smaller and more scattered, and networks are difficult to maintain.

For us in New Mexico, for our economy, for our health, for the well-being of our families, our communities, and our Internet service providers, every subscriber counts. Subscribers are especially critical for our small, tribal, and rural communities who have leveraged investments and built networks and companies to provide valuable Internet service in hard-to-reach areas where they are often the only option.

These local providers often run on tight margins with higher expenses to serve low-density areas with lower-income customers. They are at a higher risk of bankruptcy without a reliable and consistent pool of active subscribers.

Thanks to collaborative investment and ACP outreach, local networks and providers have been building relationships and trust while growing their customer base. The end of ACP now, after just over 2 years of getting going, and the loss of subscribers, puts the BEAD initiatives in jeopardy and some local networks at risk of failure, especially in areas that are most in need and serving some of the hardest-to-reach and traditionally undeserved, disconnected community members.

We cannot overlook the massive investment and administrative burden of standing up ACP and coordinating more than 1,500 Internet service providers and 23 million subscribers through enrollment. To let ACP die now feels wasteful and irresponsible. To let it lapse feels short-sighted and irreverent of both its current success, 23 million subscribers in just over 2 years, and the massive investment of time, energy, and money by everyone.

Right now, confusion abounds. Congress is losing credibility, and local service providers are losing customers and public trust.

So what now? Are we really going to let 23 million households drop out of the Internet economy and disappear from the digital world? Mayors and Governors, both Republicans and Democrats, have publicly prioritized ACP and made it a part of their plan to close the digital divide. Affordable, reliable Internet is more than a bipartisan issue. It is a people issue with a real-world impact on health and wealth for Americans.

Moreover, it is rare but inspiring when government, community, and industry align. So why align? As aptly noted by one of our leaders in the community, broadband is everybody's business. Broadband is an essential service for everyone.

ACP was established and to address the critical needs to connect everyone, and 23 million enrollment was a monumental feat, and a success we should not waste. Meanwhile, ACP use is widespread and directly impacts our constituents. Urban, suburban, and rural communities rely on ACP to pay for the high-speed Internet service they need for school, work, health care, essential services, and more.

Most importantly, we all lose when ACP ends. The end of ACP puts networks, local ISPs, and BEAD infrastructure investment at risk and erodes public trust. Since we just got started, quitting now would be a waste.

In closing, I echo the understanding that people and places thrive when everyone can participate. Economies thrive when everyone can participate.

So I ask everyone in this room, do you use a cell phone, computer, a laptop? Do you have Internet access right now? As we face the end of ACP, I would like you to join more than 23 million households in an experiment. Turn off your devices and go without using Internet for the next 5 minutes, 5 hours, or 5 days. Yes, give it a try while reflecting on how the rest of your day and life will be impacted.

Let's let this sink in and then let's not let more than 23 million households and families disappear from the digital economy. Congress has the power to act now to keep those constituents connected, and I am here to remind you today that the health and well-being of Americans, as well as the economic vitality and security of our nation, depend on it.

[The prepared statement of Ms. Nevarez follows:]

PREPARED STATEMENT OF JENNIFER CASE NEVAREZ, DIRECTOR AND LEAD EDUCATOR, COMMUNITY LEARNING NETWORK (CLN) AND MEMBER, BROADBAND AND DIGITAL EQUITY SUPPORT TEAM, NEW MEXICO AND THE OFFICE OF BROADBAND ACCESS AND EXPANSION (OB AE)

My name is Jennifer Case Nevarez. I live in Santa Fe, New Mexico, and serve as Director and Lead Educator for an educational nonprofit called the Community Learning Network (CLN), which is dedicated to "building stronger communities through real-life learning" and grounded in the words of our Dine' (Navajo) co-founder who noted that "well-being is nourished by being accountable to a people and a place." Over the years, CLN has supported powerful real-life learning experiences for thousands of community members of all ages and worked to build resiliency with communities and tribes throughout the state and nation. As a member of the Broadband and Digital Equity Support Team for New Mexico and the Office of Broadband Access and Expansion (OB AE), I have traversed the state, met with

hundreds of constituents, and been deeply involved in stakeholder engagement. I am here today to speak to broadband affordability, to share community concerns about the end of the Affordable Connectivity Program (ACP), and to highlight the need for Congress to take action now to extend ACP before it lapses completely and permanently.

First, I would like to start with the reminder that many think the Internet is all about technology, but it is actually about connecting people. A Dine' (Navajo) elder I worked with lives on fixed income on a farm in rural New Mexico. With the end of ACP and broadband access and affordability out of reach for many rural residents, she, and many others like her, will go without Internet connectivity at home, and in her case, will do what she has done before to get online . . . drive 52 miles to check her e-mail at the public library (but only once in a while, since gas is expensive, too).

As of April 30, 2024, just two days ago, more than 23 million households are now at risk of losing their Internet connectivity with the end of ACP. Nearly half are military families and 10 million are over the age of 50 (with Seniors reporting that they rely heavily on the Internet to coordinate and track medical services and overcome isolation). 320,000 are households on Tribal lands, where high-speed Internet is generally more expensive.

In New Mexico, more than 184,000 households enrolled in ACP face losing their Internet connectivity and their ability to pay bills, purchase goods, check health portals, access essential services, run small businesses, and do work or schoolwork online. In Congressional District 2, 28 percent of all households are enrolled in ACP, which means 1 out of every 4 households in the District are now at risk of losing connectivity. This is a terrible blow to the local economy and a terrible setback for local families and the counties where they live, already burdened by economic, community development, and infrastructure challenges and serving large numbers of residents struggling with higher household, transportation, utility, and healthcare expenses on fixed or lower incomes. With families facing hard decisions about what to cut, finding an affordable alternative is not easy, especially in rural areas where there may only be one provider, where costs can be much higher, and where low-cost options may be unreliable or inadequate for families working or learning from home.

As the 5th largest state (with 121, 298 square miles) and the 6th lowest in population density (with an average density of 17 people per square mile) (The District of Columbia has the highest population density with 11,131 people per square mile), deploying fiber in New Mexico is extra costly, subscriber pools are smaller and more scattered, and networks are difficult to maintain and sustain due to lower density, higher cost of deployment and maintenance, and the financial vulnerability of subscribers.

For us in New Mexico, . . . for our economy, for our health, and for the well-being of our families, our communities, and our Internet Service Providers, . . . every subscriber counts.

Subscribers are especially critical for our small tribal and rural communities who have leveraged investments and built networks and companies to provide valuable Internet services in hard to reach areas where they are often the only option. (There are 23 Tribal Nations in New Mexico and many have started and run their own networks). These local providers often run on tight margins with higher expenses to serve low-density areas with lower-income customers. They are at a higher risk of bankruptcy without a reliable and consistent pool of active subscribers. Thanks to collaborative federal, state, local, and non-profit investment in ACP outreach, local networks and providers have been building relationships and trust while growing their customer base. Amidst the massive investment in broadband infrastructure currently underway, the end of ACP now, after just over two years of getting it going, and the loss of ACP subscribers puts the BEAD initiatives in jeopardy and some local networks at risk of failure, especially in areas that are most in need and serving some of the hardest to reach and traditionally underserved, disconnected community members.

We cannot overlook the massive investment and administrative burden of standing up the ACP program and coordinating more than 1500 Internet Service Providers and 23 million subscribers through the application, documentation, approval, authorization, and enrollment process. To let ACP, and the systems in place to manage it, die now, in the wake of that investment and effort, feels wasteful and irresponsible. To let it lapse and have to build another system later feels short-sighted and irreverent of both its current success (23 million subscribers in just over 2 years) and the massive investment of time, energy, and money in ACP by everyone . . . including federal, state, and local agencies, as well as trusted community organizations.

Right now, confusion abounds, and Congress is losing credibility. Local service providers are losing customers and public trust. Providers and partners are now also burdened by the additional expense and effort of alerting ACP subscribers to the changes, navigating public confusion, and managing service down-grades and terminations.

So what now?

When connectivity is critical for progress and a matter of national security and economic vitality, are we really going to let ACP end? Are we really going to let 23 million households potentially drop out of the Internet economy and disappear from the digital world?

I urge Congress to act now and extend ACP. I urge congress to consider the creative funding possibilities currently proposed. Governors from across the country, both Republicans and Democrats, have publicly prioritized the Affordable Connectivity Program, and made it a part of their plans to close the digital divide. Affordable, reliable Internet is more than just a bi-partisan issue. It is a people issue with real world impacts on health and wealth for Americans. Moreover, it is rare but inspiring when you have government, community, and industry aligned. Numerous community and industry partners have stepped up to voice their concerns, and in January 2024, an initial 174 Mayors from around the U.S. signed a bipartisan letter calling for legislators to extend ACP.

Why?

As aptly noted by one of our local community leaders: Broadband is everybody's business. Broadband is an essential service for everyone and opens a world of possibilities.

The ACP was established to address the critical need to connect everyone. 23 million enrollment was a monumental feat and success we should not waste. Proving eligibility and enrolling was complicated and time-consuming. Terminating now would be wasteful, the robust eligibility verification and enrollment work would be lost, and starting over would demand so much more time, energy, and money.

Meanwhile, ACP use is widespread and directly impacts constituents. Community members in more than 23 million households across the nation, including urban, suburban, and rural communities rely on ACP to pay for the high-speed Internet service they need for school, work, health care, essential services, and more. As a matter of fact, four of the seven states with the highest ACP enrollment are represented by members of the Senate Committee on Commerce, Science and Transportation, to which this subcommittee reports (Source: USAC, Feb. 2024).

Most importantly, we all lose when ACP ends. Households and families lose. Students lose. Covered populations including seniors, veterans, low-income, and rural community members lose. Healthcare loses. Essential services lose. Local economies lose. Our national economy loses. Our national standing and global competitiveness loses, and we put the vitality and security of our Nation at risk. The end of ACP puts networks, local ISPs, and BEAD infrastructure investments at risk and erodes public trust. Since, we just got started. Quitting now would be a waste.

In closing, I echo the understanding that "People and places thrive when everyone can participate." Economies thrive when everyone can participate. So, I ask everyone in this room, Do you use a cell phone, computer or laptop? Do you have Internet access at home? Do you ever check e-mails from home? . . . correspond with staff or constituents online? . . . attend a group meeting online? . . . Review documents or do research online? . . . make payments or check accounts? . . . Purchase goods, food, or tickets online? . . . Access health information or make appointments online? The modern world is driving all of us online.

As we face the potential but untimely and short-sighted end of ACP, I ask you to join more than 23 million households in an experiment: turn off your devices and go without using the Internet for the next five minutes, five hours, and five days. Yes, give it a try while reflecting on how the rest of your day will be impacted. How will loss of Internet access affect your professional life and personal life? What would be different for you without the Internet? Let's let this sink in for a moment. AND, then acknowledge again that as of April 30, 2024, just two days ago, more than 23 million households are now at risk of losing their Internet connectivity with the end of ACP.

Let's not let more than 23 million households and families disappear from the digital economy. Congress has the power to act now to keep those 23 million households of constituents connected, and I am here to remind you today, that the health and well-being of Americans, as well as the economic vitality and security of our nation, depend on it.

**STATEMENT OF KATHRYN DE WIT, PROJECT DIRECTOR,  
BROADBAND ACCESS INITIATIVE, PEW CHARITABLE TRUSTS**

Ms. DE WIT. Ranking Member Cruz, Chairman Luján, and Ranking Member Thune, as well as members of the Subcommittee, thank you very much for inviting me to testify in today's hearing. Also, a very happy birthday to Senator Welch.

My name is Kathryn de Wit, and I am the Project Director for the Broadband Access Initiative at The Pew Charitable Trusts. Pew is a non-profit, non-partisan, evidence-based organization, and for more than 75 years we have used data to make a difference.

My team works directly with broadband offices from 36 states and territories to help them navigate this unprecedented moment: the largest Federal investment in affordable broadband access in our Nation's history. The Affordable Connectivity Program, also known as ACP, is essential to this work.

Achieving universal broadband requires two things. First are supply side solutions, steps that reduce the cost of building networks and delivering service to American homes. Second are demand-side interventions that reduce the cost of broadband for consumers, particularly low-income and vulnerable households.

We tried "If you build it, they will come," but COVID—but the COVID-19 pandemic demonstrated why that approach will not get us to the finish line. We witnessed in real time how tens of millions of Americans struggled—struggled to work, learn, and access health care because they did not have reliable or high-quality Internet.

Why? For some, it was too expensive. For others, it was simply unavailable. Congress took swift action to address this, including dedicating funding to immediately bring vulnerable households online, and it worked.

Twenty-three million households participate in the ACP today, including almost half—and almost half of those families are military families, and 19 percent are 65 and older. In Texas alone, 1.7 million households benefit from the program. In Michigan, more than 410,000 households are enrolled. These numbers are a remarkable testament to the response from Internet service providers, the public sector, and community partners across the country.

Second, Congress established two important deployment initiatives: the Capital Projects Fund, and the Broadband Equity Access and Deployment Program, also known as BEAD. But for the first time, Congress addressed those supply-and-demand barriers together, by conditioning eligibility for deployment grants on participation in an affordability program.

In other words, Congress took steps to ensure that \$52 billion in taxpayer funds would support networks that would be available and affordable to consumers, whether they were rural, veterans, or aging Americans living on a fixed income. ACP is currently the best tool we have to bridge the digital divide, because it alleviates cost burden on households and increases certainty for the providers that we need to connect every American. In fact, all 50 states have incorporated ACP into their deployment strategies for capital projects and BEAD.



States are actively administering these programs right now. But ACP's potential end is introducing risk to states, providers, and consumers at a critical moment in implementation.

We all know that broadband is complicated. States have expressed concerns about a range of challenges, from permitting to workforce shortages. But for more than a year, state broadband offices have raised alarms about the end of ACP, and providers of all types have expressed hesitation about participating in BEAD if ACP goes away.

That is why we ask Congress to act quickly and decisively to keep ACP funded. Ohio's digital equity plan notes that the end of ACP will abruptly disrupt access to affordable Internet that low-income Ohioans rely on for education, work, and health care.

That concern is echoed by other program recipients. A recent survey found that 68 percent of enrolled military families were concerned about missing out on job opportunities. Seventy-two percent of enrolled Americans over 65 are worried about losing access to health care. Ninety-five percent of all participants said they would struggle with other household costs, including groceries, utilities, housing, and health care.

ACP should be improved to better reach the households that need it and ensure that taxpayers are being protected from waste, fraud, and abuse. We must extend ACP at the next legislative opportunity if we want \$52 billion in taxpayer money to support broadband that Americans can use for access to education, health care, job opportunities, and more.

There is no time to waste. Thank you.

[The prepared statement of Ms. de Wit follows:]

PREPARED STATEMENT OF KATHRYN DE WIT, PROJECT DIRECTOR, BROADBAND ACCESS INITIATIVE, THE PEW CHARITABLE TRUSTS

Chairwoman Cantwell, Ranking Member Cruz, Chairman Luján, Ranking Member Thune, and other members of the Subcommittee on Communications, Media, and Broadband, thank you for inviting me to testify in today's hearing, "The Future of Broadband Affordability." My name is Kathryn de Wit, and I am the project director for the broadband access initiative at The Pew Charitable Trusts.

Pew is a nonprofit, nonpartisan, evidence-based organization. For more than 75 years, we have used data to make a difference—addressing the challenges of a changing world by illuminating issues, creating common ground, and advancing ambitious policies that lead to tangible progress. Pew's broadband access initiative was established in 2017, and we partner with state and Federal policymakers, researchers, industry, community organizations, and other stakeholders from across the broadband landscape to accelerate the Nation's progress toward universal, affordable high-speed Internet service. In addition to providing research, informing state and Federal policy, and educating stakeholders, my team is working directly with the broadband offices from 36 states and territories to help them navigate this unprecedented moment: the largest Federal investment in affordable broadband access in our Nation's history.

These investments may finally put affordable, high-speed Internet within reach of every American in this country. Research is clear that achieving universal access requires interventions to address the high capital costs of deployment and the long-term cost of network operations, and the cost of broadband for low-income households, aging Americans living on a fixed income, veterans, and others. Closing the digital divide requires addressing these supply and demand side barriers simultaneously, thus decreasing risk for private sector investment and increasing consumer confidence in the service. The Affordable Connectivity Program (ACP) is the best tool we have to make broadband more accessible and affordable to all Americans. A lapse in funding would harm the 23 million households currently enrolled in the program and threaten the Federal deployment programs currently underway that

will connect millions more unserved households and businesses. I implore Congress to act quickly and identify a short-term funding solution to save the ACP.

I am grateful for the opportunity to share insights and learnings from our years of work on affordable broadband access, including state broadband programs. Like others, including private sector Internet service providers, *we have concluded* that millions of people across the country still lack sufficient access to broadband service, largely because they live in rural communities, which are the most difficult and expensive to serve. The challenges of deploying broadband network infrastructure in rural locations, particularly those with low population density and difficult terrain, create high costs and low returns on investment that discourage providers from expanding into those areas. Moreover, broadband deployment in the U.S. has been market-driven, with *private-sector telephone and cable companies* investing in infrastructure in areas that provide higher rates of return. This means, as rational economic actors, private Internet service providers (ISPs) tend to focus on areas with denser and higher-income populations.

In addition to the economic challenges associated with broadband in rural areas, the cost of broadband negatively impacts the demand for broadband by low-income Americans. Last year, *Pew Research Center* found that, despite 87 percent of U.S. adults with annual household incomes of \$30,000 or less saying they used the internet, just 57 percent of that same cohort had broadband at home. Comparatively, 98 percent of U.S. adults with annual household incomes of over \$70,000 use the internet, 88 percent of which report having broadband at home. Further, although the research center found differences in broadband adoption by gender, race and ethnicity, and community type (urban, suburban, and rural), income is the only category for which this difference is statistically significant. Pew Research Center also found that 45 percent of U.S. adults cite the high monthly cost of a connection as the reason they do not have broadband, and researchers at *the R Street Institute* have argued increased availability of service does not necessarily result in increased adoption. Price matters.

Given the influence of cost on customer demand and the high capital costs of deploying broadband, *internet service providers have little reason* to upgrade existing networks or build new ones in low-income areas. That investment decision may also impact customers who can pay full price for a subscription. Although public funds such as loans or grants can help offset the cost of capital expenses, ISPs require additional funding to keep these high-cost communities online.

Additionally, the prevailing argument for lack of expansion has been that most non-adopters do not perceive the Internet to be “relevant” to their lives and therefore will not purchase service. Yet the data shows us that broadband is still too expensive for households, even though they report it being relevant to their lives.

#### **Broadband Affordability and Deployment Investment Go Hand-in-Hand**

Many combine the two challenges of making broadband more affordable for all consumers and cost as a barrier to adoption for low-income Americans into one conversation about broadband affordability. However, we conclude that these issues require different policy interventions.

Addressing affordability for all broadband consumers requires supply-side solutions—steps that reduce the cost of building networks and delivering service to American homes. It also requires more transparency to help customers understand the cost of the service they are purchasing. But these will not fully address the challenge of affordability as a barrier to adoption for low-income households. Doing so requires demand-side policy interventions that remove cost as a barrier, such as policies and programs that help cover the cost of both connections and devices, as well as efforts to help connect households with those programs.

Those realities are reflected in a series of programs Congress authorized in response to the COVID–19 pandemic and ongoing efforts to invest in our Nation’s infrastructure: the American Rescue Plan Act’s Capital Project Fund (CPF), the Investment Infrastructure and Jobs Act’s (IIJA), and the Broadband Equity Access and Deployment (BEAD) program. Specifically, these programs are designed to defray the capital costs of deployment to higher-cost areas like rural and low-income communities. However, unlike past grant programs, recipients must participate in a subsidy program targeted at vulnerable populations that may be unable to pay for regular service, including low-income households, veterans, and Pell Grant recipients. This requirement should expand the customer base for Internet service providers by increasing the number of customers who can afford and maintain subscriptions and decreasing turnover of those customers, *defraying the cost for ISPs*. The Affordable Connectivity Program currently helps ISPs meet this requirement.

### High Enrollment and Support for the ACP

The ACP has been a success, demonstrating high rates of enrollment, a positive effect on individuals and networks, and assumed impact on the Nation's GDP. More than 23 million households are currently enrolled, far exceeding participation in programs like Lifeline. Of these participating households, approximately half are Americans over 50 and military families or veterans. Enrollment is high across states. *For example*, 58 percent of eligible Ohioans are enrolled as are 48 percent of Wisconsinites, 52 percent of eligible North Carolinians, and 41 percent of Texans. Even in states with lower enrollment, South Dakota (19 percent) and Montana (29 percent), still had *significantly higher participation* in this program than they do in Lifeline, which is around 2 percent in each state. Data also show that ACP spending almost equally benefits districts represented by Republicans and Democrats. What's more, 62 percent of Republican, 78 percent of Independent, and 96 percent of Democratic voters all support continuing ACP, according to the *Digital Progress Institute*.

*In a November 2023 letter*, a bipartisan group of 26 governors including: Arizona Governor Katie Hobbs (D), Colorado Governor Jared Polis (D), Illinois Governor J.B. Pritzker (D), Kansas Governor Laura Kelly (D), Massachusetts Governor Maura Healey (D), Michigan Governor Gretchen Whitmer (D), North Carolina Governor Roy Cooper (D), New Mexico Governor Michelle Lujan Grisham (D), Nevada Governor Joe Lombardo (R), Vermont Governor Phil Scott (R), Wisconsin Governor Tony Evers (D), and Wyoming Governor Mark Gordon (R), among several others, implored Congress to preserve ACP. Additionally, Mississippi Governor Tate Reeves (R), Missouri Governor Mike Parson (R), Ohio Governor Mike DeWine (R), Tennessee Governor Bill Lee (R), and Texas Governor Greg Abbott (R), among others, have individually voiced their *support for the importance of ACP* and the continuation of the program.

A recent survey of participants from the Benenson Strategy Group in collaboration with Comcast allows me to add further clarification on who benefits from ACP:

- 49 percent of participating households are military families.
- 19 percent of participating households are 65 and older.
- 26 percent live in rural areas.
- 47 percent are white, 23 percent are Black, 23 percent are Latino, and 8 percent are Asian American Pacific Islander.
- 41 percent live in the South, from Texas to Virginia.

Researchers also asked the surveyed population how losing ACP could affect their lives and livelihoods. Responses included:

- 77 percent of military families and 73 percent of Americans 65 and older said they were concerned about losing contact with their communities and loved ones.
- 67 percent of rural residents were worried about losing their jobs or primary source of income and 68 percent of military families were concerned about missing out on job opportunities.
- 95 percent of surveyed participants said they would struggle with other household costs, including groceries, utilities, housing, and health care.

*Recent research from Cox Communications* found that newly connected residents in rural communities felt broadband service “has improved their lives,” with 70 percent of those under 30 surveyed reporting they are “more likely to remain in their communities when there’s a high-speed Internet connection at home.” This sentiment is echoed by many organizations that represent the interest of rural communities and agricultural producers—from the Farm Bureau to Land ‘O Lakes to the U.S. Soybean Association—note the critical relationship between affordable broadband and rural prosperity.

As former FCC Chair Michael O’Rielly noted in a February 2023 op-ed in *The Hill*, “there is bi-partisan agreement that access to broadband can be a key tool for citizen self-sufficiency and upward social mobility,” leading to greater access to services such as education and training that could ultimately lower participation in other social welfare programs. This is supported by research from other research institutions, such as the *American Consumer Institute*, that note the higher earning potential associated with digital skills. *George Zuo*, an economist at the University of Maryland, found that recipients of Comcast’s Internet Essentials benefits—a subsidy program similar to ACP—had higher rates of employment and earnings, as well as decreased probability for unemployment. John Horrigan, publishing Pew-supported research at *The Benton Institute*, applied Zuo’s methodology to ACP, con-

cluding, “every dollar of ACP subsidy returns nearly two dollars in impacts to those using the program.”

Similarly, *Sprintson and Oughton* concluded that ACP could have a greater effect on the economy than BEAD, specifically due to the downstream effects on sectors such as retail, health care, and social assistance, which are “more reliant on broadband as a production input.”

The rapid growth of ACP is attributable to several factors, including the participation of ISPs across the country. Research has reinforced this, concluding that adoption has steadily increased since 2020, due to both the increased availability of wired connections and pandemic relief efforts. This is observable in states such as Kentucky, New Mexico, and Ohio, where broadband access has steadily improved over the lifespan of ACP. All three states also exhibit high participation in ACP. In fact, a *study on a public-private partnership* between the Housing Authority of the City of Los Angeles (HACLA) and an Internet service provider, concluded that sufficient speeds and limited enrollment barriers can induce low-income customers to stay online after free service runs out. In this case, 2,071 residents—more than half of the residents in the 10 HACLA communities in the study—paid \$15 per month for service. Although ACP recipients pay a median of \$40 a month after the benefit is applied, positive trends in adoption and retention paired with increasing speeds are important lessons to consider for future policy efforts, including BEAD, CPF, and the ACP.

#### **Room for Improvement—ACP Reforms**

Even with this success, there is room for improvement. An *audit of the ACP* released in January 2024 found that the program could benefit from several changes, such as setting specific programmatic targets. Other recommendations centered on improving the oversight of the program through activities such as publishing reports on ISP compliance and enhancing quality controls for verifying eligibility of consumer applications and ISP claims.

Pew agrees that the ACP would benefit from such changes, adding needed transparency to this program. Additionally, it would enable policymakers, researchers, and other stakeholders to understand ACP’s effect on consumer behavior and ISP market dynamics. Examples of improving program oversight include tracking new subscribers, subscriber retention over time, and customers using ACP to upgrade service. Policymakers at every level of government are increasingly interested in understanding how consumers benefit from these subsidies. As such, Congress could direct the FCC, in partnership with other agencies, to establish a framework to analyze the immediate and long-term effects of ACP or a similar subsidy program on factors of social vulnerability and economic opportunity. Another analysis could focus on how programs focused on low-income households can save money through the provision of digital services.

Studying ACP, particularly paired with upcoming BEAD and the Digital Equity Act programs, will enable lawmakers to continue refining program requirements and estimating cost over time.

#### **Life Without the ACP—Threat to Federal Broadband Deployment Efforts**

ACP’s lapse will call these gains into question. Failure to fund the program would undercut the success of other significant Federal programs, including the \$14.2 billion previously spent on ACP and \$66 million in outreach grants to nonprofits, state, and local government, and other entities to establish trust in the program and encourage signups. Not to mention the approximately \$52 billion committed to CPF and BEAD, where providers of *different sizes*, service delivery, and *technologies* have expressed hesitation about participating in those programs if ACP goes away. These numbers do not account for the investments in marketing and outreach from non-profit organizations and for-profit companies inside and outside the telecommunications community. In fact, more than 400 organizations, representing a range of political, social, and industry interests, called on Congress to fund the ACP.

All 56 states and territories have incorporated ACP or a similar success program into their deployment strategies for BEAD and their plans for Digital Equity Act funding. In their BEAD Initial Proposal Volume II, every state has proposed how an awarded provider would make a low-cost service option available to ACP eligible households. The National Telecommunications and Information Administration (NTIA) is actively reviewing these proposals, but as of April 30, 2024, four states are approved to move forward. These states—Kansas, Louisiana, Nevada, and West Virginia—all designed their low-cost service options to be between \$30–\$65 to ensure ACP eligible households can afford service on a BEAD-funded network. Not only is the ACP subsidy critical to the success of BEAD, but states are also relying

on the administrative infrastructure of the National Verifier to determine which households are eligible for a low-cost service option.

Further, nearly every state detailed in their statewide digital equity plans how they planned to leverage ACP and utilize their Digital Equity State Capacity Grant allocation to promote enrollment. In Texas, the broadband office planned to utilize these funds to “increase the percentage of Texans who are aware of the Affordable Connectivity Program.” Similarly, in Ohio, the broadband office planned to “support ACP outreach and enrollment and other affordability efforts statewide” by leveraging regional networks to increase ACP awareness and convene the recipients of FCC ACP Outreach grants to share best practices. The Ohio plan directly notes that, “ACP has helped more than 1 million Ohioan households sign up for and maintain a home Internet subscription by offering a \$30 monthly subsidy. Unfortunately, the program’s funding is projected to run out by the spring of 2024. This would, in turn, abruptly disrupt access to affordable Internet that low-income Ohioans rely on for education, work, and healthcare.”

ACP’s dissolution is adding risk to these programs at a critical moment in project planning for state policymakers and private sector partners. Twenty-six states have launched their challenge processes to determine which areas will be eligible for BEAD and are preparing to begin the subgrantee selection process. As *providers* across the country have noted, the existence of ACP will factor into their decision to participate in the program.

### **Conclusion**

*Ambitious goals*—such as connecting every American to high-speed, affordable internet—require a combination of public and private sector partners working together. The central responsibility in the public sector is the providing of secure and reliable funding. With millions of people lacking access to a service that has become essential for quality of life and economic well-being, there is no time to waste. Pew asks that Congress act swiftly to ensure the future of ACP and prioritize long-term policies that promote access to high-speed affordable Internet for all Americans.

Senator LUJÁN. Thank you, Ms. de Wit.

Mr. Levin, you’re recognized for your opening statement.

### **STATEMENT OF BLAIR LEVIN, POLICY ADVISOR, NEW STREET RESEARCH; NONRESIDENT SENIOR FELLOW, BROOKINGS METRO**

Mr. LEVIN. Thank you very much, Chair Luján, Ranking Member Thune, Senator Welch, and other members of the Subcommittee, thank you for inviting me to today’s hearing. My name is Blair Levin. I’m an equity analyst with New Street Research and a non-resident fellow at Brookings, but I’m speaking solely for myself.

Today, I’d like to explain why ACP should be extended and then, as part of a larger Universal Service Fund reform, be maintained with whatever modifications Congress deems wise.

First, the cost of digital exclusion is already large and growing, with AI certain to magnify those costs. In 2010, the National Broadband Plan documented how the cost of digital exclusion was large and growing. In March 2020, the United States, in an overwhelmingly bipartisan manner, saw that cost, and agreed it was unacceptable. The pandemic has largely ended, but the shift to on-line delivery of essential services and the need for connectivity to participate in the economy has not; and the coming wave of AI will magnify those costs.

Second, despite that knowledge, our country is about to take the greatest step backward any country has ever taken to widen, not close, the digital divide.

Third, the cost of that disconnection will be extraordinarily painful to individuals and families. My fellow witnesses have already testified to how ACP recipients would be harmed by the program’s

demise. I will not repeat their powerful testimony. Instead, I will focus on the cost to all of us.

And that leads me to the fourth point. Digital disconnection will impose an immediate cost on our economy, shrinking economic growth. My written testimony cites studies demonstrating how the program increases earnings for low-income households and increases GDP. It is no surprise, therefore, that business groups overwhelmingly support the extension.

Fifth, the loss of the ACP will raise the cost of government-provided health care and worsen health care options—outcomes. Numerous studies demonstrate that telehealth can lower costs and improve outcomes in many circumstances including cancer, maternal mortality, opioid treatment, and emergency room visits. ACP opens the door to improving health care outcomes while lowering costs for Medicaid, Medicare, and the VA. Alternatively, the end of ACP is likely to cause increased health care costs and worse health outcomes. Why would we want to do that?

Sixth, the loss of ACP will raise the cost of government and diminish its performance in other areas as well. The story of broadband and health care is repeated in other areas where government is the key investor, including job training, job placement, education, and other social services.

This is not surprising. Broadband is a general-purpose technology. It enables innovations and efficiencies in multiple areas. In 2013, Google's chief economist estimated that the Internet already generated \$500 in consumer surplus per user annually, citing multiple different kinds of savings.

And it logically follows that because many low-income households are so dependent on government programs, the consumer surplus that ACP recipients obtain also creates a surplus for those—for the government through those programs. So again, why would we want our investments to be less effective and more expensive?

Seventh, the loss of ACP will particularly hurt rural areas and military families. As others have noted, rural areas in particular benefit from ACP. I cite several in my written testimony.

Let me illustrate with one more: rural areas are suffering from a growing epidemic of hospital closures, and that makes telehealth even more essential.

As Ms. de Wit noted, losing ACP would reduce the value of BEAD deployment dollars, meaning that communities that could have been connected to fiber will end up connected with fixed wireless or even satellites.

Eighth, every negative consequence I've mentioned will be made worse as AI becomes embedded in our economy and society.

Ninth, the administrative cost of shutting down and starting up again is high. It would be a huge waste to shut ACP down and incur, as we would inevitably do, the startup costs again.

In sum, losing ACP will result in slower economic growth, increases in the cost of health care, education, job training and placement, and other social services, while decreasing the effectiveness of those services.

I know I'm a Democratic witness, but let me just close by endorsing the letter 20 House Republicans sent Speaker Johnson asking for action on ACP, saying, "Bipartisan solutions are within reach

to ensure uninterrupted access to the ACP, while concurrently pursuing long-term funding strategies.”

I completely agree. Let’s adopt a clean extension, and then reform the entire Universal Service Fund to put it and ACP on a sustainable basis. Thank you.

[The prepared statement of Mr. Levin follows:]

PREPARED STATEMENT OF BLAIR LEVIN, POLICY ANALYST, NEW STREET RESEARCH

Chairwoman Cantwell, Ranking Member Cruz, Chair Luján, Ranking Member Thune, and other members of the Subcommittee on Communications, Media, and Broadband, thank you for inviting me to testify in today’s hearing, “The Future of Broadband Affordability.”

My name is Blair Levin. I am the policy analyst with New Street Research, an equity research firm, a Senior Non-Residential Fellow at the Metropolitan Policy Project of the Brookings Institution. In 2009–2010 I led the team that wrote the United States National Broadband Plan. From 1993–1997 I served as Chief of Staff to FCC Chairman Reed Hundt. I am here speaking on behalf of myself, and my views are not intended to represent the views of any organization with which I am affiliated.

Today, I would like to explain why the ACP should be extended and then, as part of a larger Universal Service Fund reform effort, be maintained with whatever modifications Congress deems wise.

**First, the cost of digital exclusion is already large and growing, with Artificial Intelligence (AI) certain to magnify the cost.**

In 2010, the National Broadband Plan documented how the cost of digital exclusion was large and growing. In March of 2020, the United States, in an overwhelming bi-partisan manner saw and understood that cost and agreed that the cost was unacceptable. In 2021, Congress found that “Access to affordable, reliable, high-speed broadband is essential to full participation in modern life in the United States;” and that “(t)he persistent ‘digital divide’ in the United States is a barrier to the economic competitiveness of the United States and equitable distribution of essential public services, including health care and education.” It then funded programs to close that divide.

The pandemic has largely ended but the shift to online delivery of essential services and need for connectivity to participate in the economy has not. And it will likely accelerate again. AI will not be as dramatic an evangelist for universal broadband as was COVID. It will not make the case in a single March weekend. Nonetheless, in the last part of this decade, we are going to discover that the cost of digital exclusion will be even greater than it was during COVID, as Artificial Intelligence magnifies those barriers and costs.<sup>1</sup>

In short, we already know the cost of disconnection is unacceptable and the cost will inevitably get much worse.

**Second, despite that knowledge, our country is about to take the greatest step backwards any country has ever taken to widen, not close, the digital divide.**

You all know the reason. Early this month, the Affordable Connectivity Program (ACP), which provides a monthly subsidy sufficient to purchase broadband for over 23 million households, nearly 60 million people, will run out of funds.

We can’t know how many persons will be disconnected as a result.

But we do know 53 percent rural survey respondents and 47 percent of all respondents reported having either zero Internet connectivity or relying solely on mobile Internet service prior to receiving their ACP benefit.<sup>2</sup> Nearly 70 percent of survey respondents reported they had inconsistent connectivity or zero connectivity at all before ACP.<sup>3</sup> More than three-quarters of respondents say losing their ACP benefit would disrupt their service by making them change their plan or drop Internet service entirely.<sup>4</sup>

So, the number of Americans disconnected from a permanent broadband connection if ACP disappears is likely to number in the tens of millions.

<sup>1</sup> As Bill Gates noted in his 2024 letter, “we are 18–24 months away from significant levels of AI use by the general population.” <https://www.gatesnotes.com/The-Year-Ahead-2024>

<sup>2</sup> <https://www.fcc.gov/sites/default/files/Measuring-Impact-ACP-Survey-Fact-Sheet.pdf>

<sup>3</sup> <https://www.fcc.gov/sites/default/files/Measuring-Impact-ACP-Survey-Fact-Sheet.pdf>

<sup>4</sup> <https://www.fcc.gov/sites/default/files/Measuring-Impact-ACP-Survey-Fact-Sheet.pdf>

**Third, the cost of that disconnection will be extraordinarily painful to individuals and families.**

A recent study<sup>5</sup> showed that

- 65 percent of ACP participants fear that losing broadband would result in losing their job or their household's primary source of income;
- 75 percent fear losing access to health care; and
- 81 percent of ACP parents worry about their children falling behind in school.

I would hope that we could agree that government should act to alleviate, not exacerbate, such fears.

**Fourth, that is not the only cost. Digital disconnection will also impose an immediate cost on our economy, shrinking economic growth.**

A 2021 study showed that in areas where discount Internet plans were available, there was a positive impact on employment rates and earnings of eligible households. With greater labor force participation and decreased probability of unemployment, low-income households saw a \$2,200 annual earning boost from subsidized Internet programs. As the study showed increased broadband affordability for low-income people leads to "increased employment rates and earnings of eligible individuals, driven by greater labor force participation and decreased probability of unemployment"—providing further savings to government unemployment insurance programs.<sup>6</sup>

Another study found that "every dollar of ACP subsidy returns nearly two dollars in impacts to those using the program" due to "employment effects that boost household income; and convenience effects, *e.g.*, time saved from shopping online as well as having access to a greater variety (or quality) of goods."<sup>7</sup>

Further, a recent economics working paper estimated that for every dollar spent on the ACP, the Nation's GDP increases by \$3.89—nearly twice the multiplier of the far larger Broadband Equity Access and Deployment (BEAD) Program, which builds new digital infrastructure in unserved locations.<sup>8</sup>

Thus, it is no surprise that business groups overwhelmingly support the extension. Not only is an ACP extension endorsed by enterprises in the communications market but also by Chambers of Commerce across the country.

**Fifth, and too often ignored, the loss of the ACP program will raise the cost of government provided health care services and diminish health care outcomes.**

It should not be surprising that as a 2021 medical paper found that "Digital literacies and Internet connectivity have been called the 'super social determinants of health' because they address all other social determinants of health (SDOH). For example, applications for employment, housing, and other assistance programs, each of which influences an individual's health, are increasingly, and sometimes exclusively, accessible online. The costs of equipping a person to use the Internet are substantially lower than treating health conditions and the benefits are persistent and significant, making the efforts to improve digital literacy skills and access valuable tools to reduce disparities."<sup>9</sup>

But it is not just good for the patient; it is also good for the patient's insurance company. As the largest health care insurer, the Federal government should want to take advantage of savings such as those seen in a recent study<sup>10</sup> finding the cost savings of using telehealth for patients with cancer ranged from \$147 to \$186 per visit, or the University of Pennsylvania study<sup>11</sup> showing that telemedicine was 23 percent less expensive than in-person visits. Similarly, a 2023 study<sup>12</sup> by the Department of Veterans Affairs found that "veterans who utilized a new tele-emergency service were nearly half as likely to visit an emergency department in-person

<sup>5</sup> <https://www.bsgco.com/acp-fact-sheet>

<sup>6</sup> <https://www.aeaweb.org/articles?id=10.1257/pol.20190648>

<sup>7</sup> <https://www.benton.org/publications/affordable-connectivity-program-benefits-outweigh-costs>

<sup>8</sup> <https://arxiv.org/ftp/arxiv/papers/2311/2311.02431.pdf>

<sup>9</sup> <https://www.nature.com/articles/s41746-021-00413-8>

<sup>10</sup> <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2800164>

<sup>11</sup> <https://www.pennmedicine.org/news/news-releases/2023/june/employee-telemed-visits-25-percent-less-costly-for-health-system>

<sup>12</sup> <https://www.va.gov/ann-arbor-health-care/stories/new-research-telehealth-emergency-care-leads-to-decreased-emergency-department-visits-hospitalizations-reduced-health/#~:text=Health%20Care%20Costs-.New%20Research.%20Telehealth%20Emergency%20Care%20Leads%20to%20Decreased%20Emergency%20Department,Hospitalizations%20C%20Reduced%20Health%20Care%20Costs>



and showed reduced short-term Veteran visits to emergency departments outside of VA.”

Another area where telehealth can improve both costs and outcomes is with maternal mortality rates. The United States has alarming trend lines in this arena, with an increase of 60 percent in maternal mortality between 2019 and 2021.<sup>13</sup> At the behest of Congress, the Federal Communications Commission mapped where maternal mortality is highest—and the maps of places where new mothers die at the highest rates look a lot like maps of where household Internet subscription rates are low.<sup>14</sup>

Of course, there are many factors that influence maternal mortality, but it is worth noting that there are promising ways to address maternal mortality that rely on home broadband for new mothers. In Louisiana, Ochsner Health has had success in using digital tools to monitor at-home blood pressure and other risk factors for pregnant women, resulting in fewer hospital admissions and caesarean section procedures. Such remote maternity online monitoring has reduced unexpected neonatal intensive-care unit admissions by 27 percent.<sup>15</sup>

The healthcare benefits of using digital tools extend beyond maternal mortality. Telehealth is associated with people maintaining their participation in opioid treatment programs<sup>16</sup> and telehealth can reduce the cost of healthcare service delivery with only marginal increases in in-person visits.<sup>17</sup> Given the amount the United States spends on Medicare and Medicaid, universal, sustainable broadband should be seen as a huge opportunity to improve health outcomes while lowering costs.

In short, the end of ACP is likely to cause increased health care costs and worse health outcomes. Why would we want to do that?

**Sixth, the loss of the ACP program will raise the cost of government and diminish its performance in other areas as well.**

One such area is job training. As noted above, access to broadband leads to “greater labor force participation and decreased probability of unemployment” in part because connections enable access to online job training courses that can be tailored to an individual’s background, geography, and ambitions. This reduces the costs of our unemployment system.

A similar story involves job placement. In 2016, the Dallas Fed found that already 60–70 percent of job opportunities were posted online.<sup>18</sup> By now that number has no doubt increased. So, if we want to reduce the financial costs of our unemployment system, we need everyone online.

Education offers a similar picture. Students without home Internet access have lower grades, complete homework less often and are less likely to attend college. They score about three points lower on a 64-point digital skills scale compared to those with home internet. There is also a significant “homework gap” with 64 percent of students with no home Internet often leaving homework unfinished, compared to 17 percent with home access.<sup>19</sup>

The same story—reduced costs and improved performance—can be found for other social services. ACP creates benefits for social service suppliers. Greater certainty in at-home service for clients makes it more attractive to invest in solutions in health care and job training. The ACP is helping to create and is now part of an emerging innovation system where the value of investing in social solutions is greater due, in part, to more consistent connectivity for low-income people. The ACP has brought stability to the last mile of service delivery for these new solutions.

**Seventh, the loss of the ACP program will particularly hurt rural areas and military families.**

As a starting point, nearly half (49 percent) of rural households qualify for ACP compared with 40 percent of non-rural households. This gap largely results from more lower income households in rural parts of the country. Some 36 percent of

<sup>13</sup> <https://healthcare.rti.org/insights/digital-health-maternal-outcomes>

<sup>14</sup> <https://www.fcc.gov/reports-research/maps/connect2health/maternal-health-map.html?bbSel=Broadband+Access&mhSel=Maternal+Deaths&bbThresh=90.25&mhThresh=1&md=2>

<sup>15</sup> <https://www.ama-assn.org/practice-management/digital/how-digitally-enabled-care-can-improve-postpartum-outcomes>

<sup>16</sup> <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2810828>

<sup>17</sup> <https://www.ajmc.com/view/economics-of-a-health-system-s-direct-to-consumer-telemedicine-for-its-employees>

<sup>18</sup> <https://www.dallasfed.org/-/media/Documents/cd/pubs/digitaldivide.pdf>

<sup>19</sup> <https://www.pewtrusts.org/en/research-and-analysis/articles/2020/12/08/what-covid-19-underscores-about-how-broadband-connectivity-affects-educational-attainment>

rural households have annual incomes at or below 200 percent of the Federal poverty level compared to 28 percent for households in non-rural areas.<sup>20</sup>

Further, as noted above, more rural than non-rural residents reported having either zero Internet connectivity or relying solely on mobile Internet service prior to receiving their ACP benefit.<sup>21</sup>

The statistics I cited earlier on the benefits of telehealth are even more important to rural areas, as they are suffering from an epidemic of hospital closures, an epidemic that is likely to get much worse, making telehealth even more essential.<sup>22</sup>

But the biggest problem may be the impact of losing ACP on BEAD and rural broadband deployment. As the consulting group BCG found, ACP reduces the subsidy needed to incentivize providers to build in rural areas by 25 percent per household, writing “the existence of ACP, which subsidizes subscriber service fees up to \$360 per year, reduces the per-household subsidy required to incentive ISP investment by \$500, generating benefit for the government and increasing the market attractiveness for new entrants and incumbent providers.”<sup>23</sup>

But of course, if ACP goes away, those savings will also go away and to put a fine point on it, it is a mathematical certainty that there will be communities in, for example, Texas that instead of getting fiber will end up with fixed wireless or even satellite.

As to military families, according to a White House study, they make up nearly half of the households that benefit from ACP.<sup>24</sup> The ACP provides veterans a cost-effective way to access Department of Veterans Affairs services, such as telemedicine, job training, and VA benefits.

**Eighth, every negative consequence that I have mentioned will be made worse, as AI becomes embedded in our economy and society.**

I have no doubt that later this decade we will view the implications of AI similarly to how we saw the implications of Covid in how both vividly demonstrate the unacceptability of digital exclusion.

Whether we are discussing the skill sets needed, the jobs we need to fill, education<sup>25</sup> and health care<sup>26</sup> trends in artificial intelligence will exacerbate the negative consequences of any remaining digital divide. And those consequences in turn will make the United States less competitive as AI defines the new parameters of competition.

But I would urge you to consider not just the downside but also the upside in terms of the problems we can address if we have both universal adoption and artificial intelligence.

For example, our young people remain behind in reading, a deficit that if not corrected, will cost our country billions in years to come due to such things as lost economic productivity<sup>27</sup> and increases in crime.<sup>28</sup> Recent data demonstrates that just 32 percent of fourth graders read at or above a fourth-grade level.<sup>29</sup>

<sup>20</sup> <https://www.benton.org/blog/affordable-connectivity-program-and-rural-america#:~:text=15%25%20of%20all%20rural%20households,have%20enrolled%20in%20the%20benefit>

<sup>21</sup> <https://www.fcc.gov/sites/default/files/Measuring-Impact-ACP-Survey-Fact-Sheet.pdf>

<sup>22</sup> <https://www.beckershospitalreview.com/finance/states-with-the-most-rural-hospital-closures.html>

<sup>23</sup> <https://www.commonssensemedia.org/sites/default/files/research/report/2022-cs-bcg-closing-digital-divide-final-release-3-for-web.pdf>

<sup>24</sup> <https://www.whitehouse.gov/briefing-room/statements-releases/2024/02/06/fact-sheet-as-affordable-connectivity-program-hits-milestone-of-providing-affordable-high-speed-internet-to-23-million-households-nationwide-biden-harris-administration-calls-on-congress-to/>

<sup>25</sup> [https://www.govtech.com/education/will-ai-in-schools-widen-the-digital-divide?utm\\_source=sendgrid&utm\\_medium=e-mail&utm\\_campaign=Newsletters](https://www.govtech.com/education/will-ai-in-schools-widen-the-digital-divide?utm_source=sendgrid&utm_medium=e-mail&utm_campaign=Newsletters)

<sup>26</sup> <https://a16z.com/how-to-democratize-healthcare-ai-gives-everyone-the-very-best-doctor/>

<sup>27</sup> A 2020 study evaluating literacy and numeracy in OECD countries found that many adults with low literacy can find jobs, but that higher literacy and skill levels give workers more opportunities for career and income growth. Cherry, G., & Vignoles, A. (2020). What is the economic value of literacy and numeracy? *IZA World of Labor* 229 <https://doi.org/10.15185/izawol.229.v2> Similarly, Research indicates that education quality—measured by test scores in international student surveys—predicts economic growth. <https://www.tandfonline.com/doi/full/10.1080/13504851.2023.2168604>. For example, the study cited above concludes “test scores appear to be a good measure of both cognitive and non-cognitive skills of importance for growth.”

<sup>28</sup> The data is clear that there is “a strong connection between early low literacy skills and our country’s exploding incarceration rates.” <https://www.literacymidsouth.org/news/the-relationship-between-incarceration-and-low-literacy>.

<sup>29</sup> In 2022, the percentage of fourth-grade public school students performing at or above the NAEP Proficient level in reading was 32 percent nationally. <https://www.nationsreportcard.gov/reading/states/achievement/?grade=4>.

We can, and we must, fix that. With the tools of technology, particularly AI,<sup>30</sup> we should make sure no future generations fall behind.<sup>31</sup> As Bill Gates noted in his most recent letter, AI can bring personalized tutors to every student. “The AI education tools being piloted today are mind-blowing because they are tailored to each individual learner. Some . . . are already remarkable, and they’ll only get better in the years ahead.”<sup>32</sup> We should make sure that no one is denied full use of these “mind-blowing” technologies, particularly those students who need it the most.

**Ninth, the administrative cost of shutting down and starting up again is high.**

The Federal government spent tens of millions to start up the program, as did the states, community groups and the Internet Service Providers (ISPs.) This includes \$66 million in outreach grants to nonprofits, state, and local government, and others to assist in the sign-up process, a process that would have to be repeated if the program were to end and then in the future be brought back.

To shut down will create massive confusion, a loss of trust, and other costs that are hard to pinpoint in terms of exact dollars.

And there are certain elements of the program, such as having a national verifier, that cannot be duplicated easily in a world of voluntary ISP programs.

And we can project that the biggest waste this program could have would be shutting it down now and then restarting in the future. For if there is one thing we should all be certain of it is that we will have to do this in the future, as connectivity becomes even more important for participating in the economy and society.

**In summary, losing the ACP will result in slower economic growth, increases in the cost of healthcare, education, job training and placement, and other social services, while decreasing the effectiveness of those services.**

Those trends are going to be felt even more in rural areas and in military families. And those trends will be exacerbated as AI becomes embedded in our economy and society.

**Let us not take the greatest step backwards any country has ever taken in terms of closing the digital divide.**

*Let’s adopt a clean ACP extension and then work hard to reform the entire Universal Service Program to put it on a sustainable basis.*<sup>33</sup> Let’s grab the opportunity broadband creates to improve our economy, our society, and our future by making sure, as Congress wrote, that all Americans have the broadband access they need to fully participate in the economy and the society.

Senator LUJÁN. I appreciate that, Mr. Levin. Thank you very much.

Dr. Winfree, you’re recognized for five minutes.

<sup>30</sup> There are numerous AI programs that claim to assist young people improve their reading skills. A small sample includes:

- *Khanmigo*. The Khan Academy AI tutor.
- *Amira*. An AI-powered reading tutor that provides personalized help for struggling readers. Amira listens to students read out loud, assesses their reading, and provides feedback and support when they struggle.
- *Giffie*. An AI-powered reading tutor that helps kids practice by chatting with them, helping them pronounce words, and read sentences.
- *Ello*. An AI reading coach that supports parents in creating the best learning environment for their child.

<sup>31</sup> Research shows that certain interventions—such as *frequent, small group tutoring* and extra learning time on school breaks—can produce significant gains. AI provides a tutor equivalent for families that cannot afford tutors, who make up a significant portion of the families with underperforming readers.

<sup>32</sup> <https://www.gatesnotes.com/The-Year-Ahead-2024>

<sup>33</sup> In this regard, I am in complete agreement with the 20 House Republicans who wrote to Speaker Johnson last month asking for action on ACP, writing that “We believe that bipartisan solutions are within reach to ensure uninterrupted access to the ACP while concurrently pursuing long-term funding strategies.” <https://brandonwilliams.house.gov/news/documentsingle.aspx?DocumentID=1787>

**STATEMENT OF PAUL WINFREE, PH.D., PRESIDENT AND CEO,  
ECONOMIC POLICY INNOVATION CENTER**

Dr. WINFREE. Thank you very much, Chairman Luján, Ranking Member Thune, members of the Committee. I was thinking about using my 5 minutes to sing “Happy Birthday” to Senator Welch, but I don’t think anybody wants that, so.

[Laughter.]

Dr. WINFREE. Like the development of canals and railroads in the 19th century and highways in the 20th century, access to affordable high-speed Internet will determine regional development, as well as America’s ability to continue to grow by leading the world in innovation.

Fortunately, policymakers have paid an incredible amount of attention to the issue of broadband affordability over the past decade. This has led to many new policies that we can use as guidance. These policies include deregulation, as well as subsidizing the demand for high-speed Internet and the supply of Internet service providers or ISPs.

We have learned that deregulation and competition have reduced prices. We have also learned that policies subsidizing demand can increase prices if they do not fundamentally change the demand for high-speed Internet or the supply of ISPs. Experience has demonstrated that deregulation can produce significant gains for consumers, especially when it enhances transparency by increasing the scale on which providers can compete on price and the quality of services.

One recent case of how deregulation reduced prices was in 2017, when Congress nullified a rule enacted by the FCC regarding consumer data sharing. Before the FCC’s 2016 rule, companies designed plans that allowed consumers to opt in or out of data sharing at different subscription rates. Those who chose to opt in paid lower rates than those who decided to opt out.

But in 2016, the FCC enacted a rule requiring consumers to opt in.

Congress nullified this rule using the Congressional Review Act process. The results created more options at different price points for consumers. The 2020 Economic Report of the President found that the CRA reduced wireless prices by more than 10 percent and wired prices by as much as 2 percent.

At the same time, subsidizing demand can increase prices, especially when the unemployment rate is high and the underlying inflation rate is high as well—or excuse me, unemployment rate is low and the interval—and inflation rate is high.

There are several ways that the Federal Government subsidizes the demand for broadband. One such program is the Affordable Connectivity Program, or ACP, which provides a monthly subsidy of \$30 to low-income households, as well as a \$100 one-time subsidy to buy a tablet, laptop, or desktop computer. Economic theory, as Senator Cruz mentioned earlier, would predict that a demand subsidy can act as a price floor, especially in a market where the demand and supply of a product remain relatively fixed. In this environment, the producer, in this case the ISPs, will capture a portion, if not all, of the subsidy.

In a recent paper, I found that there is a positive relationship between the percentage of households receiving ACP subsidies and the increase in the average total monthly price for broadband. Importantly, I do not find any statistically meaningful association between ACP subsidies and prices when the level of households receiving subsidies is under 7 percent, but today about 15 percent of households across the country receive an ACP subsidy. That corresponds with an average increase of about 7 percent in the total cost of a monthly broadband subscription.

These estimates do not change, even when factoring in the market concentration of ISPs. Based on the estimates in this paper, the average cost of broadband is about \$5.48 per month higher because of ACP, implying that ISPs are capturing about 18 percent of the total subsidy. If 40 percent of households were enrolled in ACP, as would be the case under the Biden administration's enrollment proposal, the average change in prices for plans would be about \$9.39.

We've seen how ISPs can offer choices to consumers and pass along savings through lower prices in a competitive market, when they are not heavily regulated.

The same could be true under a more competitive market post-ACP. Subsidizing demand through ACP also makes consumers less sensitive to prices and quality. This advantages large existing ISPs who are more likely to have had existing market share when the program was created.

If ACP funding were to become exhausted, companies would be encouraged to compete for consumers shopping for better plans. In fact, according to *Communications Daily*, most ISPs have already told their investors that when ACP ends, they don't plan to lose any money, because they will be competing on price and quality to attract consumers who are coming off of subsidized coverage. Just in the last week alone, we saw a major ISP offer a \$9.95 plan that wasn't being offered again, before the exhaustion of ACP funding was on the horizon. Ultimately, this will benefit everyone by creating a more sustainable, affordable marketplace for high-speed Internet.

Thank you very much, and I look forward to your questions.  
[The prepared statement of Dr. Winfree follows:]

PREPARED STATEMENT OF PAUL WINFREE, PH.D., PRESIDENT AND CEO, ECONOMIC  
POLICY INNOVATION CENTER

Chairman Luján, Ranking Member Thune, and Members of the Committee, thank you for inviting me to testify today.

The issue of broadband affordability is critical to the success of the American economy. Like the development of canals and railroads in the 19th century or highways in the 20th century, access to affordable high-speed Internet will determine regional development as well as America's ability to continue to grow by leading the world in innovation.

Fortunately, policymakers have paid an incredible amount of attention to the issue of broadband affordability over the past decade. This has led to many new policies that we can use as guidance on how to increase broadband affordability. These policies include deregulation, new regulations, as well as subsidizing demand for high-speed Internet and the supply of Internet service providers (ISPs).

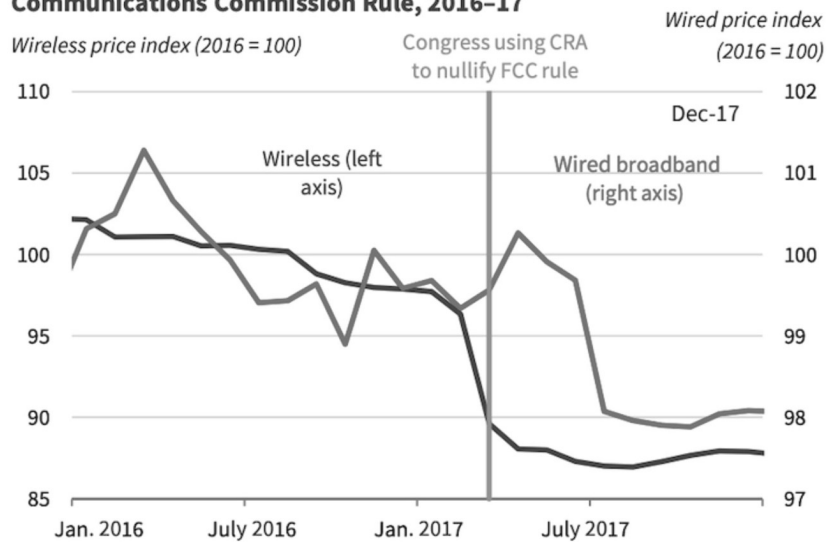
What we have learned from those different policies is that deregulation and competition have reduced prices. We have also learned that policies that subsidize demand, such as the Affordable Connectivity Program, tend to increase prices. This is especially true if they do not fundamentally change the demand for high-speed Internet or the supply of ISPs.

### Deregulation Reduces Prices of High-Speed Internet

Experience has demonstrated that deregulation can produce significant gains for consumers, especially when it enhances transparency, by increasing the scale on which providers can compete on the price and quality of services. One recent case of how deregulation reduced prices was in 2017 when Congress nullified a rule enacted by the Federal Communication Commission (FCC) regarding consumer data sharing.

Before the enactment of the FCC's 2016 rule, ISPs could share consumer data with companies unless the consumer "opted out" of the data-sharing arrangement. Companies designed plans that allowed consumers to opt in or out of data sharing at different subscription rates. In essence, those who chose to opt-in paid lower rates than those who decided to opt out of data sharing. This is because companies would sell that consumer data and use it to reduce the price of Internet service.

**Figure 3-4. Wireless and Wired Internet Service Provider Price Cuts Close to Congressional Review Act Nullification of Federal Communications Commission Rule, 2016–17**



Sources: Bureau of Labor Statistics; CEA calculations.

Note: CRA = Congressional Review Act; FCC = Federal Communications Commission.

The FCC enacted a rule in 2016 that required "opt-in" to a data-sharing model. However, Congress used the Congressional Review Act (CRA) process to cancel this rule in 2017. The 2020 *Economic Report of the President*, written by the White House's Council of Economic Advisers, found that the CRA overturning the FCC's rule requiring consumers to "opt-in" to data sharing reduced wireless prices by more than 10 percent and wired prices by as much as 2 percent (see Figure 3–4 above from the 2020 *ERP*).

### Subsidizing Demand Can Increase Prices for High-Speed Internet

In December 2020, Congress passed the Consolidated Appropriations Act of 2021 (P.L. 116–260) that established the Emergency Broadband Benefit Program (EBB). EBB was a temporary subsidy of up to \$50 per month. EBB was intended to help low-income households afford broadband Internet services amid the COVID–19 pandemic when most students were still engaged in remote learning. The initial appropriation for the program was \$3.2 billion.

In November 2021, the Infrastructure Investment and Jobs Act (IIJA or P.L. 117–58) made three significant changes to EBB. First, it eliminated the sunset of the program, which was set to coincide with the expiration of the COVID–19 pandemic. Second, it provided another \$14.2 billion for the program. Third, it renamed EBB as the Affordable Connectivity Program (ACP).

Like its predecessor, ACP provides a monthly subsidy of \$30 per month to low-income households that purchase services from participating ISPs. ACP also provides a \$100 one-time subsidy to buy a tablet, laptop, or desktop computer. There are currently 23.3 million households enrolled in ACP (based on data from February 2024).<sup>1</sup> In other words, about 15 percent of all households in the U.S. receive a subsidy.

#### *Why Might Have ACP Increased Prices?*

Economic theory would predict that a demand subsidy can act as a price floor, especially in a market where the demand and supply of a product remain relatively fixed. In this environment, the producer (in this case, ISPs) will capture a portion (or even all) of the subsidy.

The FCC has said that a goal of ACP is to close the digital divide for low-income consumers. However, most ACP subsidies are going to households who already have broadband. FCC surveys have found that around 80 percent of ACP recipients already had broadband before the subsidy.<sup>2</sup>

The FCC has also tried to study the effect of losing ACP on Internet service. In a survey conducted earlier this year, the FCC reports that “more than three-quarters (77 percent) of survey respondents say losing their ACP benefit would disrupt their service by making them change their plans or drop Internet service entirely.” However, this is an inaccurate reading of the survey.<sup>3</sup>

The 77 percent referenced by FCC is derived by adding two responses together including the 29.3 percent of respondents who said that they would choose a different service and the 47.6 percent who said that they would choose a lower cost service. Only 15.7 percent said that they would drop their service with no alternative. This 15.7 percent that would lose coverage in the absence of ACP is very similar to the rate of new take-up in Internet service after the adoption of ACP based on other FCC data.

One reason why it may not have increased demand is that the program is duplicative of other programs. For example, the FCC’s Universal Service Fund Lifeline Program already provided a subsidy to low-income consumers for broadband services (*i.e.*, the Lifeline subsidy is \$9.25 per month).

There has also not been a significant increase in the number of ISPs that are associated with the ACP subsidy.<sup>4</sup> This is not surprising given that ACP is a relatively small program, and providing Internet service requires significant fixed investments in capital and labor.

#### *The Potential Effect of ACP on Prices*

In a recent paper, I estimate the relationship between ACP enrollment in regional prices for high-speed internet.<sup>5</sup> I find that there is a positive relationship between the percentage of households receiving ACP subsidies and the increase in the average total monthly price for broadband since 2022.<sup>6</sup>

However, there is no statistically meaningful association between ACP subsidies and prices when the level of households receiving the subsidies is under 7 percent (see Figure 1). Today, about 15 percent of households across the country receive an ACP subsidy. That corresponds with an average increase of about 7 percent in the total cost of a monthly broadband subscription. These estimates do not change even when factoring in the market concentration of ISPs.

<sup>1</sup>Federal Communications Commission, “Affordable Connectivity Program Enrollment and Claims Tracker,” <https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/>, (accessed January 3, 2024).

<sup>2</sup>Federal Communications Commission reported to GAO that survey data showed “. . . approximately 16 percent of respondents indicated they had no Internet access prior to enrollment in the ACP”; see GAO, Affordable Broadband: FCC Could Improve Performance Goals and Measures, Consumer Outreach and Fraud Risk Management, GAO–23-105399, <https://www.gao.gov/assets/d23105399.pdf>. Also, see FCC’s 2024 survey data which shows that 21.8 percent said they had no Internet service, and the remaining 78 percent had either home, mobile, or both services before ACP; see FCC, Measuring The Impact of the ACP: Survey Results Question 1, published Feb. 29, 2024, <https://www.fcc.gov/sites/default/files/ACP-Survey-Results.pdf>.

<sup>3</sup>Federal Communications Commission, Measuring The Impact of the ACP: Survey Results Question 1, published Feb. 29, 2024, <https://www.fcc.gov/sites/default/files/ACP-Survey-Results.pdf>.

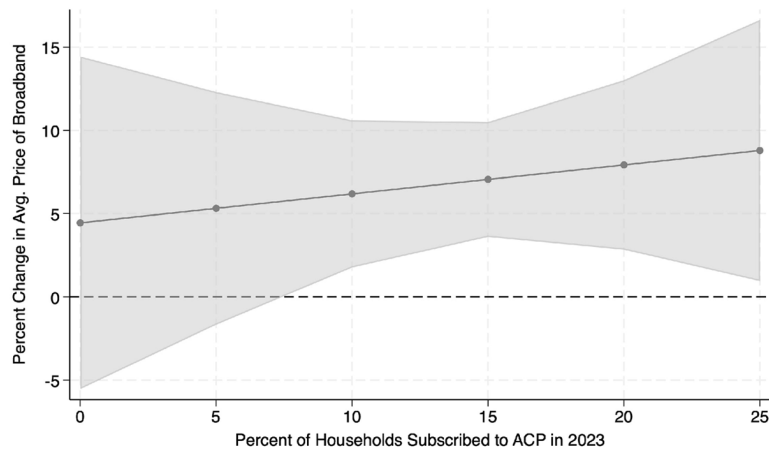
<sup>4</sup>According to IBIS data, the average growth rate in the number of ISPs has been relatively constant over the past several years.

<sup>5</sup>Paul Winfree, “Bidenomics Goes Online: Increasing the Costs of High-Speed Internet,” Economic Policy Innovation Center, January 8, 2024, <https://epicforamerica.org/publications/bidenomics-goes-online-increasing-the-costs-of-high-speed-internet/>.

<sup>6</sup>This is measured as the change in prices as a function of the percentage of households receiving an ACP subsidy.

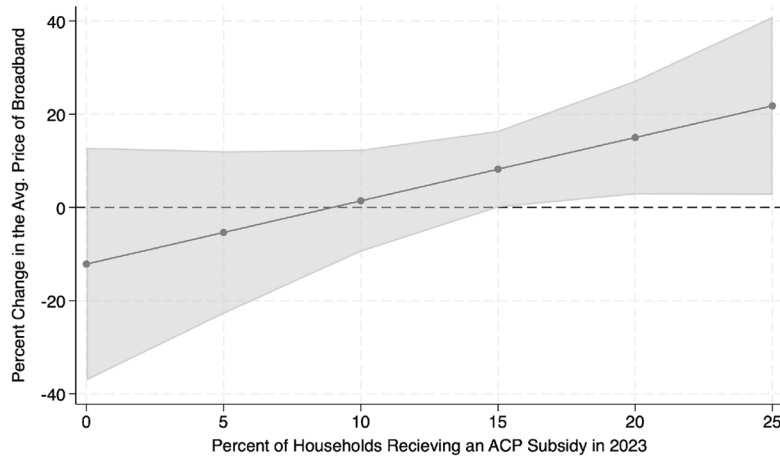
The FCC finds that there is a nonlinear relationship between broadband speed and the price paid for different speeds. Figure 2 shows the relationship between ACP subsidies and prices for lower broadband speeds (measured as less than 20 Mbps in download speed). Here you can see that the proportion of households receiving an ACP subsidy is positively associated with prices for lower-speed plans. The change in prices is higher in states with a greater percentage of households receiving ACP subsidies relative to the price change for all plans. One possible explanation is that broadband service providers are marketing their lower-speed plans to those eligible to receive the ACP subsidy while raising the cost of these basic plans to capture larger proportions of the subsidy.

**Figure 1. Households Receiving ACP Subsidies and Broadband Costs, All Broadband Plans**



Source: Author's calculation using data described in Winfree (2024).

**Figure 2. Households Receiving ACP Subsidies and Broadband Costs, Lower Speed Broadband Plans**



Source: Author's calculation using data described in Winfree (2024).

Table 1 shows the average change in price for broadband plans that is associated with a percent of households receiving an ACP subsidy. Based on estimates in



Winfree (2024), the average cost of broadband is about \$5.48 higher because of ACP while broadband service providers are capturing about 18 percent of the total subsidy. If 40 percent of households were enrolled in ACP, as would be the case under the Biden Administration's enrollment proposal, the average change in prices for plans would increase by about \$9.39 and 31 percent of the subsidy would be pocketed by broadband service providers.

**Table 1. Average Change in the Price of Broadband Associated with the ACP Subsidy at Different Levels of Household Saturation, All Plans**

	15% of Households	30% of Households	40% of Households
Price Change (\$)	\$5.48	\$7.56	\$9.39
% of ACP Subsidy	18%	25%	31%

Source: Author's calculation using data described in Winfree (2024).

Table 2 shows the same estimates for lower-speed plans. Under higher levels of ACP enrollment, lower-speed plans will become more expensive with the broadband service providers able to capture larger portions of the total subsidy. This makes sense given that the ACP subsidy essentially operates as a floor for the prices of broadband.

**Table 2. Average Change in the Price of Broadband Associated with the ACP Subsidy at Different Levels of Household Saturation Lower-Speed Plans (Under 20 Mbps)**

	15% of Households	30% of Households	40% of Households
Price Change (\$)	\$4.24	\$15.38	\$22.27
% of ACP Subsidy	14%	51%	75%

Source: Author's calculation using data described in Winfree (2024).

The Biden Administration has posited that ACP helps households save about \$500 million per month on Internet bills. However, that calculation does not include the effects of ACP on prices for broadband services. Based on the estimates provided in this report, ACP likely reduces the monthly net cost of broadband by about \$380 million for households who qualify for the subsidies after adjusting for the increase in prices. Once we factor in the price increase for all households (including ACP beneficiaries), ACP likely increases the net out-of-pocket cost of broadband that households pay by about \$185 million per month or \$2.2 billion per year.<sup>7</sup>

### Competition Will Make Broadband More Affordable

In the case study on deregulation referenced above, we saw that when providers can compete on prices and services, they offer choices to consumers and pass along savings through lower prices in a competitive market. The same could be true under a more competitive market post-ACP.

Today, a large portion of the ACP subsidies go to a fraction of the ISPs and are slightly more likely to serve urban areas. According to the FCC, for every rural household that receives an ACP subsidy, six urban households receive a subsidy.<sup>8</sup> In other words, urban consumers were disproportionately served by ACP given 16 percent of the subsidies are going to rural households who make up nearly 20 percent of the population.

Subsidizing demand through ACP also makes consumers less sensitive to prices and quality. This advantages large existing ISPs who are more likely to have had market share when EBB and ACP were created. If ACP funding were to become exhausted, many companies would be encouraged to compete for consumers who would be shopping for better plans (as the FCC survey data referenced above shows). Most ISPs have told their investors that when ACP ends, they don't plan to lose any money.<sup>9</sup> Other ISPs have reported to *Communications Daily* that they explicitly

<sup>7</sup>This is calculated using estimates from this report as well as data from the FCC and the U.S. Census Bureau.

<sup>8</sup>[https://www.fcc.gov/sites/default/files/%5b08-14-2023-39%5dFCC\\_ACP\\_Infographic\\_v10.pdf](https://www.fcc.gov/sites/default/files/%5b08-14-2023-39%5dFCC_ACP_Infographic_v10.pdf)

<sup>9</sup>Matt Daneman, "ACP's End Could Bring New Subscribers, Providers Tell Wall Street," *Communications Daily*, March 5, 2024.

plan to compete on price and quality to attract consumers who are coming off subsidized coverage.<sup>10</sup>

There are also much better ways to subsidize demand than to provide payments through ACP which go directly to ISPs. For example, subsidies could be provided directly to households to be used on Internet service or other household items. Also, policymakers could look to the tax code. Some provisions are scheduled to expire at the end of 2025. These expiring provisions reduce the cost of capital (and increase domestic investment) and allowing the expirations to take effect would raise the tax liability for the average household qualifying for ACP by more than three times the amount of the ACP subsidy.<sup>11</sup>

The results in this testimony, along with data on how ACP is failing to close the digital divide, suggest that governments at all levels should focus on increasing the supply of Internet services to provide consumers with more access to lower cost services. Focusing on deregulation and competition avoids the costs associated with ACP which can raise prices for all consumers without meaningfully closing the digital divide. Deregulation and competition can also avoid the hidden costs of subsidizing demand with additional inflation fueled by deficit spending.

Senator LUJÁN. Thank you, Dr. Winfree.

I'm now going to recognize myself for five minutes of questions, and Ms. Nevarez, I'm going to begin with you. Again, thank you for traveling from New Mexico to be with us today, and for your work over many years to connect every New Mexican to broadband.

Now Ms. Nevarez, yes or no, from what you have seen and who you have worked with on the ground, would students be negatively impacted by a lapse in the Affordable connectivity program?

Ms. NEVAREZ. Absolutely, yes. I'll add in all capital letters.

Senator LUJÁN. Would—

Ms. NEVAREZ. Being a teacher at heart.

Senator LUJÁN. Would veterans be negatively impacted?

Ms. NEVAREZ. Yes.

Senator LUJÁN. Would seniors be negatively impacted?

Ms. NEVAREZ. Yes.

Senator LUJÁN. Would those who live in our tribal communities be negatively impacted?

Ms. NEVAREZ. Yes.

Senator LUJÁN. Would those who live in rural areas be negatively impacted?

Ms. NEVAREZ. Yes.

Senator LUJÁN. I appreciate those responses.

Now Ms. de Wit, can you please briefly provide a perspective from your research on which populations will be the most affected?

Ms. DE WIT. At this point, the—at this point, we know that nearly one-fifth of ACP households include seniors age 65 and older. And based on the research that we can do, we know that any changes to the program will have an adverse effect on Americans over 50 as well as veterans.

What I would add is that we need better data and more transparency on enrollment, and about the trends in population, in order to fully understand how changes to the program would have a negative effect on the vulnerable households that it's attempting to serve.

Senator LUJÁN. Appreciate that.

<sup>10</sup> Ibid.

<sup>11</sup> Author's calculations based on population making less than 200 percent of the Federal poverty level using the Tax Foundation's 2026 Tax Reform Calculator, found here: <https://taxfoundation.org/data/all/federal/tax-calculator-tcja-expiration/>.

Mr. Levin, you noted in your testimony that the digital divide puts strain on our health care system. You also noted that the Affordable Connectivity Program not only helps people access their health care online, but also the increased use of telemedicine creates enormous cost savings for our health system.

You referenced a study by the University of Pennsylvania that telemedicine was 23 percent less expensive for health systems to deliver, compared to in-person visits. Many of the most vulnerable populations who utilize the Affordable Connectivity Program are also participants in Medicare or Medicaid, or are veterans who receive their health care through the VA. So that 23 percent savings is a significant cost savings for the government.

Mr. Levin, from your research, from what you've seen, is it possible that the economic benefit of the Affordable Connectivity Program to the health care system are greater than the cost of the government—of administering to the government, than administering the program?

Mr. LEVIN. I'm not a health care economist, but I believe the answer to be yes. And if it's not true today, it's going to be true sometime in the very near future.

What we saw immediately in the wake of the pandemic was that health care started accelerating its movement to telehealth. I believe in February 2020, one percent of Medicare care visits were over telehealth. In April, it was like 70 percent.

That was inevitable, but it started to accelerate, and then efficiencies grow in. So it's almost inevitable that if not today, at some time in the near future, Internet access can actually save money for those programs.

Senator LUJÁN. So on that same note, do you believe that between health care, employment, and education, investing in the Affordable Connectivity Program may actually result in a cost savings, a net cost savings to the government?

Mr. LEVIN. Yes. And for example, in the job training and job placement, we find that people who have Internet access get jobs faster, as you would expect. And then they spend less time on unemployment. Besides savings to the government.

Senator LUJÁN. I appreciate that.

Now, Ms. Nevarez, you noted in your testimony that without the reliable customer base that the Affordable Connectivity Program also provides, some of New Mexico's small local Internet service providers or ISPs are at risk of going bankrupt. When a small local provider in a rural area in New Mexico goes bankrupt, what happens to their customer base? And can—can they just find a new provider?

Ms. NEVAREZ. Actually, it depends, but generally, the customers lose service. And in rural New Mexico, finding an alternate provider is very difficult.

Actually, these networks didn't exist. If they were easy, we would have built them already. So when a small rural community builds a network, there's often no competition, or little to no competition. So for those small providers, if they go bankrupt or fail, those customers lose service. And oftentimes, the small government offices, the local regional government offices, and community anchor institutions that also use that network fail.

And I would add as well, in New Mexico, we have 22 tribes that are building their own networks. Not only do they build them, they are running them. And they have trained local community members.

So the local workforce also loses out. Because those community members who've been trained as fiber technicians, those jobs go away, and those community members either have to find an alternate job, and rural New Mexico, it's not always easy. They have to travel further or move to the city.

Just a shout-out, our state has been tenaciously working on that. And we're proud to report over 200 fiber optic technicians, with 80 percent of them being Native or Hispanic, have been trained in the last 2 years to run their own networks. 70 percent of those had some college but no college degree. It's very exciting.

Senator LUJÁN. I appreciate that.

Next, we will hear from Senator Vance. Senator Vance, you're recognized for five minutes for your questions.

**STATEMENT OF HON. J. D. VANCE,  
U.S. SENATOR FROM OHIO**

Senator VANCE. Great. Thank you, Mr. Acting Chair. I appreciate you.

And I appreciate all of you for being here. I wanted to sort of focus my questions on, you know, the—the sort of economic impacts from the consumer's perspective, but also from the government's, and also the sort of the businesses that are investing in broadband infrastructure.

And Mr. Levin, I'd like to direct my questions to you. So, you know, I—in your written testimony, you described the positive impact on employment rates from discount Internet plans. And you sort of explained how greater labor force participation and so forth comes from, you know, having access to high quality broadband.

And I know that's an issue, especially in our rural communities. But of course, it's—it's an issue in a lot of different communities as well. I'd like to sort of understand, how do you think about the cost savings? Right? The—one of the biggest challenges that we have when it comes to re-funding the ACP program and reauthorizing it, which I—I support, is, you know, of course, the pushback that we are in sort of tight budgetary times. We have to think about how to save money in this town, which is something we do far too little of.

Could you just help me think about the economic upsides of the ACP program, as you understand it? What—what do we gain from investing in this program?

[Technical issue.]

Mr. LEVIN. There are multiple different ways of thinking about it. I cited in my oral testimony a study by a Google economist who talked about consumer surpluses in 2013 being \$500 per user. That number undoubtedly has gone up. And if you look at the study, there are just all kinds of different ways in which savings of time. I think all of us have experienced the Internet is able to do certain things to speed up—able to shop, able to determine the most—the cheapest option for a product that we want. There are those kinds of savings that accrue directly to an individual.

But what we also see is, particularly in terms of the government, which is in a way sharing in those costs, in the—in the case of telehealth, there are very direct savings. Because if you save one emergency room visit by having the person come on broadband and talk to someone, and if—and if they turn out not to go to the emergency room because they don't really need to, I believe that's like a \$3,000 savings. And in terms of time.

I mentioned earlier, in terms of job training and placement, there's direct benefit to the government, not just to the person, but to the government.

I think if we look at education, and my God, what AI is going to do to education, I'm very excited about it, I think it's going to be great. But if the very people we most want to be able to use those tools to learn how to read, and reading scores in fourth grade are a great predictor of economic success later on in life, that's another version of those kinds of savings.

Senator VANCE. So Mr. Levin, have you ever done any sort of analysis of the—of the net benefit? So if you take, for example, a dollar spent on the ACP, you know, what is—what is the benefit in terms of government savings from things like, you know, Medicare, diverting people into telehealth, which saves a lot of money, but also consumer upside? Have you ever sort of tried to understand the net effect of, you know, the given amount that we spend on the ACP?

Mr. LEVIN. Yes. Others are much better than that, better—better than me at that. My—my friend and probably the leading expert on that kind of data is a guy named John Horrigan, who estimated that for every dollar spent, there's \$2 of gain to the individual.

There was a study that said for every dollar spent on ACP, we get a \$3.89 increase in GDP.

I have not done a comprehensive, nor do I believe there is a comprehensive study on—

Senator VANCE. Sure.

Mr. LEVIN.—health care. I sure wish there was.

Senator VANCE. Yes.

Mr. LEVIN. I think it's something which the government should do.

But it's really about a kind of a larger trend in which we take advantage of this incredible opportunity to rethink how we deliver services.

Senator VANCE. Yes.

Mr. LEVIN. And there's almost no doubt—

Senator VANCE. Yes.

Mr. LEVIN.—when—that particularly when we come to health care, you'd see a benefit.

Senator VANCE. Great. Yes, I'd—I'd of course be very interested in that too.

So—one just final question is, you know, when I talk to, you know, obviously we talked about the consumer side of this and the government side of this. When I've talked to a number of businesses who invest in rural broadband, and obviously it's, you know, very expensive to lay a mile of fiber—

Mr. LEVIN. Right.

Senator VANCE.—in southeastern Ohio—

Mr. LEVIN. Mm-hmm.

Senator VANCE.—compared to central Ohio, where it's a lot more densely populated, the terrain's a little bit, you know—

Mr. LEVIN. Mm-hmm.

Senator VANCE.—less tough and so forth. You know, one of the things that sort of justifies the very large capital expenditure of that infrastructure is knowing that there are going to be customers on the other end. And that's something that the ACP program ensures. Could you speak to sort of that economic benefit a little bit?

Mr. LEVIN. Yes. BCG did a study which suggests that the BEAD dollars go 25 percent further if you have ACP, for precisely the reason you just said. That if you have a guaranteed population that you know is going to pay, and they're going to pay on a regular basis, and one of the mistakes people make is they say only 22 percent had—didn't have broadband. Actually, there were a lot of people who were on broadband and off broadband. That's the largest group.

Senator VANCE. Sure.

Mr. LEVIN. But if you know you're going to have that population, you need less of a government subsidy to build out that network.

Senator VANCE. Yes, and I'm—I'm mindful of my time here, so—so I'll yield. But just one observation, you know, anecdotally, which is not always data, but I do think it's useful, is I talk to a number of folks who have invested a lot in rural broadband infrastructure in the state of Ohio who have told me straightforwardly they would not have made that investment if not for the existence of the ACP program. So I think something important for us to keep in mind as we think about how to build out the 21st century digital infrastructure for our country.

So thanks, Mr. Chair. I appreciate it.

Senator LUJÁN. Thank you very much.

Next, we'll hear from Senator Klobuchar. You're recognized for five minutes.

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

Senator KLOBUCHAR. Thank you very much, Chair, and thank you for the work.

Happy birthday to Senator Welch. Nice day for a birthday. I want to actually thank him and, to Senator Vance for their work on making sure that we continue getting funding for the Affordable Connectivity Program Extension Act. And we all know this is an ongoing problem right now, and that Chair Cantwell has been working to include this funding for ACP.

So I think it's really important to make the case that I know you have all been doing throughout this hearing about what this means. And I want to focus especially on some of the issues in rural America in my state right now.

So we know that rural communities are particularly in need of support to make broadband available at affordable prices. I've heard from first grade teachers, we had during the pandemic, some of the numbers were 20, 30, 40 percent in some of our counties that while some of the kids were able to access, including community college classes via the Internet, other ones just were given paper

and pencil and their, like, workbooks every single day. It was a complete disconnect.

Mr. Levin, do you agree that programs like ACP can help incentivize providers to serve high-cost areas?

[Technical issue.]

Mr. LEVIN. Five percent differential.

Senator KLOBUCHAR. And Ms. de Wit, you note that the challenge of building out broadband networks is distinct from making sure consumers can afford to access those networks. Can you discuss how the expiration of ACP could impact the investments that we're making in broadband infrastructure?

Ms. DE WIT. Absolutely. And what we know to be true is that right now, households that are unserved are currently the most expensive and difficult to serve. For example, the cost per passing in Minnesota using capital project dollars is \$7,300 per location.

Without ACP, our BEAD connections will be even more expensive, so we will see the increase of those costs per passing move up without that ACP support. Rural providers, particularly those in Minnesota who have been the backbone of ensuring robust and affordable connectivity throughout the state, simply may not be able to shoulder the cost, both of the capital deployment as well as the operations without that subsidy.

Senator KLOBUCHAR. Exactly. Thank you.

The—I mentioned education. There was one mom in Sibley County, Minnesota, who told us that she's worried her kids aren't going to be able to complete their homework if she can't get the access.

And Mr. Levin, you note that students without home Internet have lower grades and complete homework less often. Talk about why ACP is important to get at that?

Mr. LEVIN. That was a study that came to that conclusion, but it makes total intuitive sense that—my sister actually was a school teacher, and many years ago she kind of blamed me for the fact that half of her students had Internet and half of her students didn't, and it was a really big problem for her. And that's a problem we're going to see if ACP goes away.

It's just that as all of us do, when we are writing various things or trying to solve various problems, we now depend on the Internet to give us the information we need. It also helps in writing in a variety of ways. So the students are no different than the rest of us in that regard.

Senator KLOBUCHAR. Thank you.

Ms. Nevarez, can you discuss how you've seen affordable Internet open up educational opportunities in your work leading the community learning network?

Ms. NEVAREZ. I am actually a certificated teacher, so learning is important. In our state, when COVID hit, many students were struggling. We actually had students, like you mentioned, on—on paper and pen or trying to do homework with a cell phone.

In our case, many of—

Senator KLOBUCHAR. It sounds like a lot of the senators, but—

Ms. NEVAREZ. It's—

Senator KLOBUCHAR. —continue on.

Ms. NEVAREZ. Yes.

[Laughter.]

Ms. NEVAREZ. I think the—the best thing is to share the example, would you want your own children, whether they're in middle school, high school, college, to have to do their term papers with old-fashioned encyclopedias, or be able to compete by accessing information and participating online?

Every one of us use these tools daily. We're used to it, and we don't realize how difficult it is. In our state, without home access, and for many of our communities, without the income to afford it and to have reliable and affordable Internet, they can't do a class online. Zoom calls take broadband strength. And they're driving to the community anchor institutions to sit in a hot car, or a cold car if it's snowing, to try to compete with their fellow classmates and to complete assignments.

Senator KLOBUCHAR. OK. Thank you.

And thank you, Mr. Chair, for all your work in this area as well, and leadership.

Senator LUJÁN. Thank you, Senator Klobuchar.

Next, we're going to hear from the Ranking Member of the Full Committee, Senator Cruz.

Senator CRUZ. Thank you, Mr. Chairman.

Dr. Winfree, you note in your testimony that one proven way to promote broadband affordability is through competition. According to a recent study by Econ One, competition from 5G fixed wireless service and home broadband markets was shown to produce billions per year in consumer savings.

These are precisely the competitive benefits that the Spectrum Pipeline Act, which I introduced in partnership with Senators Thune and Blackburn, would provide. Unfortunately, instead of expanding access to mid-band spectrum and promoting competition from wireless services, the Biden administration has engaged in anti-competitive technology bias while stalling out on spectrum.

Dr. Winfree, in your judgment, how would my Spectrum Pipeline legislation compare to the ACP in promoting long-term broadband affordability?

Dr. WINFREE. Spectrum auctions would increase competition and bring more folks into the market. We would have more ISPs doing more cool things with them, which would ultimately reduce prices.

Senator CRUZ. And lower prices, in turn, benefits consumers.

Dr. WINFREE. That's right. Benefits everybody.

Senator CRUZ. And higher prices, which the ACP has produced, that's hurting consumers. Is that right?

Dr. WINFREE. That's right. I mean, one of the issues with ACP is that it's a one-size-fits-all policy. It's a \$30 monthly subsidy regardless of where that person sits.

And one of the things that we've seen is that ACP has predominantly covered folks living in urban areas relative to rural areas. So ACP is not a solution for rural areas, assuming that—that rural broadband connectivity is an issue, which I think that it is. And I think that there's a lot that we can ultimately do there.

Which begs the question, well, why don't we use this as an opportunity to reform ACP?

Senator CRUZ. Well, and I'll—millions of people across Texas and across the country are hurting from inflation. Inflation that has been galloping in the last three-and-a-half years, particularly when



Democrats had unified control of Congress and the White House, where they spent trillions of dollars we didn't have. They printed money we didn't have. They borrowed money from China we didn't have. They're producing inflation that is hurting working families across the country. And we now have Democrats coming back saying we want to spend billions more, even though it will fuel inflation and it will drive up the cost for consumers across the board. Is that right?

Dr. WINFREE. That's right. So there are two ways that ACP affects prices. The first way that it affects prices is by setting, essentially, a price floor for plans.

What my research shows is that that predominantly hits, again, urban areas. So what we saw before ACP is a bunch of plans that were, say, 20 up, 20 down, \$10 a month. Those went away during ACP. Right?

So the—the speed levels went up moderately, but the price level went from \$10 to \$30, because that's where the ACP benchmark is. So all those cheap plans went away.

And then the second way that ACP affects inflation is through government—through government spending. I mean, right now we've seen, you know, we're—we live in an economic environment where the Fed is having a really difficult time getting inflation under control. Interest rates on short-term debt are five-and-a-half percent. And so every dollar that is spent by the Federal Government is ultimately inflationary right now.

Senator CRUZ. So and are consumers better off at being able to get broadband at \$10 or \$30?

Dr. WINFREE. \$10.

Senator CRUZ. It's pretty remarkable. All right, let's shift to another topic.

Dr. Winfree, in your testimony, you raised that there are other low-income broadband subsidies in addition to ACP. In fact, as we've heard, there are multiple taxpayer subsidies for Internet connectivity. GAO recently identified over 130 of them.

The longest standing of these are the Universal Service Funds programs at the FCC.

Dr. WINFREE. Mm-hmm.

Senator CRUZ. I don't think we would be having this conversation about broadband affordability if the FCC were properly managing the Universal Service Fund programs.

Dr. Winfree, aren't some of these FCC programs demand-side subsidies? And—and what do these programs spend on a yearly basis?

Dr. WINFREE. Sure. They're both demand-side subsidies, and then they're also supply-side subsidies. So there are four main programs. There's Lifeline; the High Cost Program; Schools and Libraries, or—or E-Rate; and then Rural Health Care. And together, those four programs spend about \$9 billion a year.

Senator CRUZ. And yet, according to at least some members of this committee, the FCC needs yet another program. Why not fix the current programs and take the lessons the ACP has learned and apply them to making sure the funding we actually have works? This is what I proposed in my blueprint for Universal Service Fund reform.

In your view, Dr. Winfree, what changes should Congress consider making to ACP and the Universal Service Fund before adding additional funding to any of these programs?

Dr. WINFREE. Sure. I think there are a number of reforms that can be added. I mean, we can learn from the experience of the Affordable Care Act, Obamacare. Premium tax credits went to low-income individuals, and we learned that folks who were receiving those tax credits shouldn't have actually been receiving those tax credits.

And so one of the things that—that Congress can do is it can—can learn from that experience to actually recapture ACP funds that should be used for low-income populations. It's probably going to folks who are making much more than two times the Federal poverty line.

Another option that the FCC IG has explored is requiring Social Security numbers for the receipt of ACP benefits to make sure that, again, folks who are entitled to the program are actually receiving the benefit, and that the benefits are not going to folks who—who shouldn't—who shouldn't be receiving—receiving those benefits.

But, you know, as I mentioned before, ACP's—one of ACP's main problems is that it's this universal program. It's a one-size-fits-all issue. And if ACP funding should expire and Congress should begin thinking about how to reform some of these underlying programs, it needs to take those regional differences into account, right? The issues that we see in New Mexico versus Minnesota versus Texas are—are all different, and these one-size-approaches just don't work. We've learned that time and time again.

Senator CRUZ. Thank you.

Senator LUJÁN. Thanks, Senator Cruz.

Next, we'll hear from Senator Peters. You're recognized for questions.

**STATEMENT OF HON. GARY PETERS,  
U.S. SENATOR FROM MICHIGAN**

Senator PETERS. Well, first off, I just want to thank our witnesses. Thank you for being here today.

And I also want to thank Chair Luján. Thank you for holding this hearing.

And I think this hearing is extremely timely, because almost one million Michigan households are on the precipice of losing the Affordable Connectivity Program, which was passed by Congress two years ago, and as we all know, it helps eligible families afford the Internet.

And in today's world, the Internet is—is not a luxury, it's—it's a necessity. And it's one that should be affordable to all Americans. And I believe that Congress must do its job and fund this critical program as soon as possible, or 16 percent of American households are going to face Internet shutoff or rate hikes.

And as a supporter of the Affordable Connectivity Program Extension Act, I'm going to keep fighting for funding, and I challenge all my colleagues, including those on the other side of the aisle, to—to do the same.

Ms. de Wit, my first question is for you. In your testimony, you mentioned how the Affordable Connectivity Program is closely

linked to the state's ongoing plans for BEAD deployment. My state of Michigan received nearly \$1.6 billion in BEAD funding, the fourth-highest allocation in the nation, to close the digital divide and to bring high-speed Internet to every corner of Michigan, which is both urban, suburban, and vast tracts of rural areas as well.

Ms. de Wit, can you speak to how it would impact the BEAD's program ability to reach every underserved and unserved location if ACP is lapsed? And—and additionally, do you think that ACP's lapse could impact BEAD participants' decisions as to where to apply for funding, and how far they can reach with their proposed projects?

Ms. DE WIT. I'll answer your second question first, which is, yes. I do believe that ACP's lapse would affect an Internet service provider's decision to participate in BEAD, because they have said that. And that's why it's important to ensure that we provide Internet service providers with that certainty.

With respect to the BEAD program writ large, in short, we need every single dollar to connect unserved and underserved Americans across this country. As you outlined, Michigan is one of the states that has a complicated problem ahead of them. And thankfully, it has a very well-run broadband office and a strong strategy.

But I think that the important consideration is that BEAD and ACP were designed to work together. They are designed to work in tandem to defray the costs of building networks, whether we are looking at urban, rural, or suburban communities. And because Congress requires ACP to participate in—requires ISPs to participate in ACP to receive BEAD funding, this means that we are providing them with a surety of a guaranteed customer base, decreased churn, and long-term retention.

Senator PETERS. Very good. Ms. De Wit, as you well know, the Universal Service Fund has long been a tool for connecting Americans to voice service and to broadband access. However, the USF has not been modernized to account for today's needs related to universal broadband service.

And I'm a—I'm a proud member of the bipartisan USF working group, led by Senators Luján and Thune. And we have made progress toward a long-term bipartisan solution that will enable the USF to support broadband accessibility and affordability for all consumers.

And one of my top priorities as a member of this working group with Chair Luján is to find a long-term sustainable funding mechanism for ACP so Americans never have to face another program cliff like the one that we have right now. We have enough cliffs that we have to deal with. We don't need this one as well.

So my question for you is, can you speak to the importance of finding a way to sustainably fund ACP in the long term, such as through modernizing the Universal Service Fund?

Ms. DE WIT. Well, Pew does not have research on solutions for the modernization of the Universal Service Fund at this time. We do know that it is needed, and it is needed for all of the reasons that you just outlined, which is why we appreciate the work of you and others on that bipartisan and bicameral working group to identify one, including incorporating the ACP into that program.

However, Universal Service reform will take time. It will take time to come to agreement, and moreover, it will take time to implement. We don't have the luxury of time at this moment. ACP is running out of money, and BEAD—potential BEAD participants, states, ISPs, communities, we are putting their connectivity solutions at risk by delaying, which is why we ask that you provide the bridge to ACP today and continue work on USF in the future.

Senator PETERS. All right. Well, thank you for your answers.

Chair Luján, thank you so much.

Senator LUJÁN. Thank you very much, Senator Peters, and I want to thank Senator Capito as well.

Mr. Welch, you'll be recognized next for five minutes. Thanks for getting here early.

**STATEMENT OF HON. PETER WELCH,  
U.S. SENATOR FROM VERMONT**

Senator WELCH. Thank you very much.

You know, we have got an urgent, immediate situation that has to be addressed, and that's the expiration of the ACP. And there are two points that I want to make.

Number one, every witness here has acknowledged that the debate about whether everybody needs the Internet is over. It is over. And a lot of us, Ben Ray, you and I, were arguing pre-COVID for rural America to get Internet. Just like rural America got electricity in the 1930s.

That was not an economic decision that was made, because it didn't have business sense to have our companies extending electricity in rural areas where there wasn't a big return, but it was a social decision. And we made that, and a lot of us were pushing for it.

When COVID came, it made the case for us, because you couldn't go to work, your kids couldn't do homework, you couldn't get a medical appointment. And this Congress, on a bipartisan basis, really put enormous money into building it out.

That doesn't do any good for folks if they can't get connected to it. And I've listened to the—so that's number one. We've got to have it. We've got to have it, and we all know that. And that's a red state or blue state. It just doesn't matter. The citizens we represent need it.

Second, there are a lot of folks who are on the margin. And the ACP, if it goes out now, a lot of those folks are going to have to make very tough decisions. You know, example in Vermont, some woman making \$15,000 with two kids, single parent, she has got a hard job trying to figure out how to make ends meet, and has to make real sacrifices, sometimes in the food budget. But she'll do it, because she wants her kid to be able to do the homework.

Or a grandparent who wants to stay in touch with grandchildren or their kids. And we've heard very compelling arguments about some of the reforms that we should make. Senator Capito has been a big advocate of that. And I agree that those of us who advocate for a program have an obligation to kick the tires, check it out, make reforms, so that the intended purpose is what's being served, and it's not being gamed.

So I, for one, who am a strong proponent of the Affordable Connectivity Program, pledge to work with my colleagues, Republican and Democrat, to make it better.

But we're not there yet. And what we can't do, Mr. Chairman, as you so assertively state, is let this expire. Because there are four million veterans who depend on this, there are a lot of seniors who depend on it, and the economic arguments that we're having back and forth, they're real, we've got to deal with them, and some of those, Dr. Winfree, we can—I can accept. But we can't let this expire. And that's what's happening.

So my hope, Mr. Chairman, is that all of us work hard together to try to get at least the short-term fix, while the work you're doing, leading the universal—the—the working group, comes up with a longer-term solution.

So I just want to express my gratitude to the witnesses here. But I also want to express my enormous apprehension that this Congress may fail by letting this expire, rather than continue it while we work out the change—the long-term changes that are needed for sustainable access.

Thank you. I yield back.

Senator LUJÁN. Thank you, Senator Welch.

Senator Capito, you're recognized for your questions.

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

Senator CAPITO. Thank you. Thank you, Mr. Chair.

I—before I ask the questions, I would like to take a moment to express my disappointment with how the markup went, or should I say more accurately, did not go yesterday.

I have worked with my colleague, Senator Klobuchar, on my Rural Broadband Protection Act beginning last Congress. It's a common-sense bill that will help USF High Cost projects across our country. It has been sitting in this committee since the beginning of this Congress, and after working to improve the bill, my substitute amendment was cleared to be marked up both by the majority and the minority back in November.

I urge the Chair, through you, to schedule a legislative markup this work period so that my top broadband policy priority can be considered. I would appreciate you—we'll—we'll talk to the Chair and Ranking Member about that.

So moving to my questions, Ms. De Wit, I know that many states, and I think you've gone through this, and I caught the tail end of you mentioning it to Senator Peters. West Virginia was the second state that actually got their Part 2 BEAD plan Okayed, and we're very excited about that. But can you describe the impact on BEAD programs, because we have part of the Affordable Connectivity Plan as part of our deployment plan, how this will affect if the ACP does not get affected—or funded?

Ms. DE WIT. Yes, and thank you for the question, Senator Capito, and for your ongoing work to continue supporting the program, including for robust discussions about potential reforms.

Right now, let me just draw attention to the current costs per passing that were shared from West Virginia's Capital Projects funds, and that's \$4,200 per location. What research from the Bos-

ton Consulting Group has found that without the BEAD subsidy, we will see a \$500 per location differential on——

Mr. LEVIN. Without the ACP?

Ms. DE WIT. Sorry, yes. Without ACP. Sorry, excuse me.

So the Boston Consulting Group study found that without ACP, the cost per passing may increase by \$500 per location. So what we can assume from this is that the cost for deployment in West Virginia will increase without ACP available.

Senator CAPITO. Does the—is that—what did you say, \$4,200?

Ms. DE WIT. Yes, ma'am, that—but that's with the Capital Projects Fund, what the state has spent, and that includes significant matching funds from Internet service providers as well, so.

Senator CAPITO. Right. I've been told, and I can see, living in such a beautiful state with lovely mountains, but hard rocks in between, that that—that the cost to build in our state, obviously, for fiber is—is much greater. How does that \$4,200 stack up? I'm just curious to know. Is that high as High Cost?

Ms. DE WIT. I would need to get back to you to quote the specific numbers, but yes. That is—the numbers are high, and of course, the cost per location passing is going to depend on a number of factors, including the topography, as we are——

Senator CAPITO. Right.

Ms. DE WIT.—all familiar with West Virginia——

Senator CAPITO. Right.

Ms. DE WIT.—but also density of population.

Senator CAPITO. OK. Dr. Winfree, one of—I mean, I've been alluded to as the one who wants to be the reformer, and I—I couldn't be more passionate about this. I mean, just—I think it was this week, earlier this week, the president of a local Internet service provider said that he was informed that he's eligible for the \$30 a month because of the way it's—the school lunch program in our state makes everybody eligible.

I mean, it cannot possibly be true that 23 million people really need this. We've got to narrow it down to the need. I'm supportive of the program. Could you respond to that?

Dr. WINFREE. I think that's exactly right. I mean, as I mentioned earlier, ACP is fundamentally not a—not a program for rural areas. It is a program for urban areas. Most ACP recipients live in urban areas, even after you adjust for the fact that most people live in urban areas. And the challenges that people have in both urban versus rural areas are very different, as you are an expert on representing the great state of West Virginia.

That said, like other government programs as well, I mean, I referenced in my responses to Senator Cruz, we had a similar challenge with the Affordable Care Act. There are premium tax credits that people get to help them afford private health insurance, and we—we learned very quickly that there were millionaires who were receiving those premium tax credits——

Senator CAPITO. Right.

Dr. WINFREE.—for lots of different reasons.

And so there needs to be a reconciliation process to make sure that the—the funds are targeted in the best way and that both urban—there's an urban versus rural adjustment.

Senator CAPITO. Well, yes, I would be interested in the urban and rural adjustment. I just think that—I understand the urgency and the—and the expiration, and instead of \$30, I understand it's \$14. I don't know how long that's going to last. Does anybody know what the long—yes?

[Audience interruption.]

Senator CAPITO. One month. So, you know, ostensibly not long, not long at all. We've known this was coming. We've been talking about reform for a year. I don't know why we have to be pressed now to move forward to a way over-expansive program that is being, is going toward people that, some people that don't need it, so—because it just, it's not fair to the people that do need it. Because it calls into question what's going to happen with the entire program.

So I would—I would ask my colleagues to listen to experts on the panel here to figure out a way that we can do both of these things. And I think we can and meet the challenges. Obviously, I'm in a state that has economic challenges. We have some of the lowest broadband deployment in the entire country, you know, and I think it's—the digital divide, you can see it all over our state with economic development, education progress, health care outcomes.

And so I am very passionate about getting to the last house and to make sure that everybody has equal access, but that they can afford it at the same time. So I thank you all for what you're doing.

I appreciate, Mr. Chairman, the chance to address the panel. Thank you.

Senator LUJÁN. Thank you, Senator Capito.

Senator Warnock, you're recognized for questions.

**STATEMENT OF HON. RAPHAEL WARNOCK,  
U.S. SENATOR FROM GEORGIA**

Senator WARNOCK. Thank you so very much, Chairman Luján.

I'm extremely disappointed that politicians in Washington allowed the Affordable Connectivity Program to completely run out of funding this week. This program is critical for helping 720,000 Georgians afford the Internet, particularly rural Georgians and older Georgians often say that broadband is to the 21st century what electrification was to the 20th century. And as you watch Washington dally around something so important, one way of thinking about it is, it's as if we were wondering whether or not people need electricity. Is it that fundamental or is it something extra?

So hundreds of thousands of Georgians are about to start seeing their Internet bills shoot up this month because some of my colleagues refused to fund this important program.

But the Affordable Connectivity Program is not just a tool to close the digital divide, as important as that is, and increase our global connectivity. It's also a health care lifeline for hundreds of thousands of Georgians, particularly rural residents, veterans, service members, and seniors across the country. This is especially true in a state like Georgia. According to a recent study, military families make up nearly half of the households that benefit from the ACP.

Mr. Levin, does the ACP help veterans and military families access critical health care services?

Mr. LEVIN. There have been a number of studies to demonstrate that.

Senator WARNOCK. Absolutely. And in your testimony, Mr. Levin, you cite two studies, one from the Department of Veterans Affairs, showing that veterans who use telehealth emergency services were half as likely to make a costly trip to an emergency department. So—

Mr. LEVIN. That's right.

Senator WARNOCK.—as is often the case, the right thing to do here is also the smart thing to do. We know that veterans or anybody having to go to get emergency health care for routine care, something that could have been arrested earlier, is a problem not only for that person, but it's not a cost-effective way for us to manage our affairs.

The other study showed that telehealth access helps save patients and the Federal Government money, as I point out. It sounds like the ACP can help both increase access to health care, while reducing costs, and saving the government money. Is that correct?

Mr. LEVIN. That's correct.

Senator WARNOCK. And so, in that sense, it's a win-win. The right thing to do is a smart thing to do.

Mr. LEVIN. Absolutely.

Senator WARNOCK. That's why I've spent years fighting to expand access to health care and to reduce costs. And that's why I continue to fight to cap the cost of insulin at \$35 for everybody. And it's why I will continue to champion the ACP. All of these things are connected. When people can't stay connected, it impacts their health care, their overall quality of life.

Now Mr. Levin, your testimony also notes the similarities between where Internet subscription rates are low, and where maternal mortality rates are high. When Internet subscription rates are low and where maternal mortality rates are high—can you speak more about the connection between broadband affordability and maternal mortality? I think that's not something that people think about every day.

Mr. LEVIN. Yes.

Senator WARNOCK. Tell us about that.

Mr. LEVIN. So I think it's important to remember correlation does not imply causation. But the FCC mapping demonstrated, and if you look at the map of maternal mortality and you look at the map of where not as many people are connected, there does seem to be a correlation. But that's not necessarily, again, a causality.

But what's also true is you—and I put this in the testimony, what people have been able to do, and this is the innovation cycle we really want to encourage, they have been using that broadband connection to help pregnant women identify things before they're really a big problem, to engage in certain practices that make the birthing safer, and things like that.

Preventative—this goes to what you were saying earlier, preventative care is a win-win. But a lot of times people don't have time to go to the hospital, and therefore a broadband connection saves



them that time, and they're more able, and there's a greater incentive to do that preventative care.

Senator WARNOCK. Right, and I appreciate the care with which you approach this as a scientist that causation and correlation are not necessarily connected. But it's—but in a state like Georgia where, again, all these things are connected, there's connectivity in a whole—in a different way. In a state like Georgia where we're seeing hospitals close, some 10 hospitals in a decade, as we've refused to expand Medicaid, this access, it seems, for people's overall health care would be critically important.

Mr. LEVIN. Absolutely.

Senator WARNOCK. Thank you so very much, and I hope that we can get this program the funding that it needs to operate.

Mr. LEVIN. Thank you.

Senator LUJÁN. Thank you, Senator Warnock.

Next we'll hear from our Ranking Member, Mr. Thune, for questions.

Senator THUNE. Thank you, Mr. Chairman.

Dr. Winfree, in your testimony you discuss the impact that deregulation has on broadband prices. The current FCC seems intent on increasing its control and regulating every aspect of the Internet, most recently with its so-called net neutrality order. In your experience, what is the impact of highly regulated sectors of our economy, and what are the practical effects of the FCC's regulations on broadband prices?

[Technical issue.]

Dr. WINFREE. One instance where the Congress stepped in and nullified a FCC rule, and we saw prices for both wired and wireless drop pretty significantly. For wireless, dropped 10 percent and for wired, dropped 2 percent.

But, you know, taking a step back and asking what regulation generally does to prices, I mean, where we see highly regulated marketplaces, education, health care, transportation, we tend to see higher prices. So there is a direct connection between more regulation and higher prices. And there's a direct connection typically between more government involvement, even on the subsidy side, and higher prices.

Senator THUNE. So testimony before the Committee today references data that for every dollar invested in ACP, GDP sees an almost fourfold increase. How do you respond to the findings presented in that white paper?

Dr. WINFREE. I have looked at the white paper. The co-authors of the white paper were a geographer at George Mason University and a high school senior in Fairfax County. And as a—as an economist, I mean, quite frankly, it's a very impressive paper by a high school senior. I would love to have them as my student.

The problem with the analysis is that it relies on what's called input-output analysis, which assumes that there is no change in a policy response on behavior. This is something that economists have known has been a suboptimal way to model things since the late 1970s.

As a matter of fact, there was an economist at the University of Chicago, Bob Lucas, who won the Nobel Prize in 1995 for sug-

gesting and showing that this kind of analysis has major, major challenges.

So you know, I think that there are better ways to do this, but I would take the one-dollar-for-four-dollars with a grain of salt.

Senator THUNE. And that—they used a static model? Is that essentially what you’re saying?

Dr. WINFREE. It does use a static model, but the—again, sort of taking a step back, one of the main assumptions that it makes is that ACP doesn’t actually exist. And all we’re doing is adding ACP on top of an economy without modeling any of the behavioral impacts that ACP might have, including on prices, which is one of the main components of my research, looking at the effect that ACP has on prices.

The other thing that it doesn’t do that’s important, and I mentioned this earlier, is that for every dollar that we’re spending right now—so since the beginning of 2020, 76 percent of all new spending since the first quarter of 2020 has been funded by a debt. By new bonds, treasury bonds. Fourteen percent through money creation. Only 7 percent has been paid for with revenue.

That’s one of the reasons why we’re seeing interest payments on the debt skyrocket, and interest rates skyrocket. So for every dollar that you borrow to spend on something, you’re paying 5.5 percent interest that rolls over on a 3-month basis, just given how Treasury has had to manage its debt management over the last couple of years.

So that’s one of the reasons why we’re seeing inflation, and you need to take something like that into account if you’re projecting the impacts of any program, ACP or any program, on economic growth.

Senator THUNE. Right. And it is a dynamic economy, which is why there are a lot of interactions, and—

Dr. WINFREE. That’s right.

Senator THUNE.—those have to be mapped out as well. It seems like this was a fairly isolated study.

Similarly, Chair Rosenworcel has been pushing an ACP, quote, “Fact Sheet” that states that, and I quote, “More than three-quarters of respondents say losing their ACP benefit would disrupt their service by making them change their plan or drop Internet service entirely,” end quote. Is this actually what the FCC’s survey data reveals, in your view?

Dr. WINFREE. So I think there are two issues here. The first issue is, what does the survey data show?

And then the second issue is, is this survey something that we can rely upon? And this is actually following up on something that Ms. De Wit mentioned a few moments ago with in regards to making sure that we’re getting the right information out of FCC to make policy decisions.

So if you take the FCC’s data as gospel, then it shows that only 15.7 percent of folks will lose broadband coverage if ACP goes away. Now the problem is, is that the way the survey was conducted is they went out to 110 households, and only 5,300-and-some households responded to the survey.

Now OMB says that when your survey response rate is under 70 percent, which is much higher in this case than the 5,300-and-

some-odd households, you have to have a methodology, a new methodology, for addressing that non-response rate.

And so FCC didn't do that. And that's one of the challenges that I have as an economist and somebody who looks at government survey data on a regular basis. I don't even know how to read this survey. Like I—you know, it might be representative, it might not be representative.

The reality is that we just don't know, and we shouldn't be passing it along as if it is representative. Rather, we should ask FCC, and potentially fund them, to go collect more and better data on the program.

Senator THUNE. Thank you.

Mr. Chairman, my time has expired. Let me just close by saying there has been some discussion today, too, about the BEAD program. Our telecom producers—or telecom providers were in town this week, and this is the co-ops, the independents, those that serve the most rural areas of South Dakota.

And there isn't a single one of them that can use the BEAD program. And the reason is because of all the conditions and rules and regulations that the administration attaches to the program, many of which are completely unrealistic for the kind of service that these folks provide in rural areas of the country.

So sometimes getting more government involved in some of these issues ends up not being a good solution. It ends up making matters worse. Thank you.

Senator LUJÁN. Thank you, Mr. Thune.

Mr. Tester, you're recognized for your questions.

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

Senator TESTER. Thank you, Mr. Chairman.

I want to thank all the folks who testified for being here.

I'm going to start with you, Dr. Winfree. I believe in capitalism. I'm sure you do. I believe in competition in the marketplace. Broadband is kind of a little different situation in that, number one, if we—and maybe this is—you can disagree with me if you want.

I think the private sector doesn't necessarily interested in laying broadband into rural America and places like I live where the nearest neighbor's a mile away. And I live in a place that isn't the end of the earth, truthfully.

But the question is, is that so we put money into an infrastructure bill to help these companies lay broadband. We didn't want broadband to be laid over existing broadband because then that's a waste of money. So that competition, that competition issue goes away.

The question I have is it doesn't do any money to lay broadband if people can't afford it. Just doesn't do any good.

How do we make it affordable? If not with this program, how do we make it affordable when especially in rural areas where I still have folks that don't have any Internet service whatsoever, they don't have fiber, they ain't got nothing. They got a phone. That's it. And they probably like it that way, by the way.

But how do we make it affordable? If not with this program, how do we make it affordable, when in fact there isn't the competition in the marketplace that there normally would be to help drive down prices and give the consumer an honest value for their product?

Dr. WINFREE. I mean, that's a great question. I mean, as I mentioned earlier, given the state of the economy that we're in, I think that there are major problems with subsidizing demand. I don't think that those same problems exist in subsidizing supply.

And so take BEAD, right? So we've talked a little bit about BEAD today. You've got 20 states that have already come out and said that they want to use their BEAD funds for non-deployment, right?

Which tells me, given that broadband deployment was sort of central to the BEAD program, that those initial allocations might not have been exactly right. Right?

Senator TESTER. Yes.

Dr. WINFREE. So I think, you know, we need to think about like what to do on that side.

I would also encourage folks to go look at the State and Local Fiscal Recovery Funds. So in ARPA, there were \$350 billion in state and local funds. Of the \$350 billion, there's still \$70 billion remaining that has not been obligated by states and local governments. The Biden administration has been pushing this on states and locals. They've been pushing it on nonprofits to go try to encourage people to think outside the box.

One of the problems with the SLFRF money is that in order to spend it, you have to allocate it to one of seven categories. If one of those categories are infrastructure or broadband or housing or anything where you're actually building something—

Senator TESTER. Yup.

Dr. WINFREE.—you have to fill out more paperwork.

And so what the states and locals are doing, is that they're channeling it all into what's called revenue replacement, or negative economic impact. Right? Which I think has led to an overspending on those categories, and an underspending on critical infrastructure.

And so that's—I would think sort of creatively about how to get some of those capital investments involved.

Senator TESTER. OK. So we do a lot of things here. Military, for example, we give an increase for housing allowance. OK? BAH, they call it. And what happens many times when we announce we're giving an increase for housing allowance, guess what happens to people who are renting the hood? Yep, they jack it up before they even get it.

So it's a net zero, and sometimes even worse.

Is there any way—and I'll stick with you, Dr. Winfree, not that the other guys aren't a lot of fun because you are, but is there any way when we have a subsidy program, and I'm in agriculture so I know what subsidies are all about, is there any way when we have a subsidy program to hold—particularly the big companies. I really—I'm a rural guy, and I don't think the rural co-ops are doing this as much, but the big companies tend to get what you can get

out of the marketplace, and if that subsidy goes up, they'll jack their rates. Is there any way to stop that?

Dr. WINFREE. That's exactly what my research finds, right? And part of the reason why my research finds this is that ACP is, as I mentioned earlier, is predominantly a program that serves urban areas relative to rural areas, when rural areas have a completely different challenge.

Senator TESTER. Yes, they do.

Dr. WINFREE. Yes. And I mean, I'll just—I'll give sort of my own example. I have a—my sister lives in the Middle Peninsula in Virginia, which is a really rural farming community between the peninsula and the Northern Neck, and they don't have many options there. Mobile doesn't work very well because you're close to the Bay. Fixed wireless doesn't work very well. And they've received a lot of money from the state, that region, to build fixed wire, and it's—it's now there. And it's—it's actually fairly, fairly cheap, right?

But they have one option. And it's fairly cheap for the buy-in. At some point, those folks who have then bought into those plans are going to have their rates increased if there isn't competition.

And so I think what we need to do is ultimately focus on supply, ultimately focus on competition, and that's what will bring those rates down in a sustainable way at some point into the future.

Senator TESTER. I—and I'm over time, and excuse me if I might. I understand—

Dr. WINFREE. It was my fault.

Senator TESTER.—and I—no, no, no. I agree with you fundamentally, except it is so damn expensive to lay broadband, and in rural America, I don't know how you're ever going to get competition. I just don't know, unless we're willing to lay several lines or—God, I don't know, you guys probably make rules that force other companies to be able to use the lines or whatever. There are all sorts of stuff out there.

But I just don't know how we—in, you know, in a grocery store, yes, we get more food manufacturers. In energy, we'll get more people that are creating energy, whether it's, whether it's carbon-based or—or renewable. There are things we can do in those.

In this one, it's just a different marketplace that somewhat holds the consumer at a big disadvantage.

You don't have to say anything, but I had to get that off my chest. Thanks.

Senator LUJÁN. Thank you very much, Senator Tester.

Senator Markey, you're recognized for questions.

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

Senator MARKEY. Yep. Thank you, Mr. Chairman.

I agree with everything Senator Tester just said.

I also want to take a moment to celebrate the FCC's vote last week to reinstate critical net neutrality rules. The new rules are important to protect the free and open Internet, and the evidence shows clearly that the rules do have no impact on broadband investment in the country. So just congratulations to the FCC.

As everyone knows, we're at a crisis point for the Affordable Connectivity Program. May is the first month when ACP house-

holds will not receive the full \$30 discount on their monthly broadband bill. Instead, that discount will only be \$14, which is less than half of the subsidy. For households on tribal lands, the May benefit is just \$35, down from \$75 previously.

And I'm deeply concerned that faced with this cost increase, many ACP beneficiaries will drop their Internet service, and that would be a huge loss. That is why last week I led my colleagues in a letter to the trade associations of the major ACP corporations and urged them to cover the shortfall in the May benefit.

Given that the \$14 billion in ACP benefits ultimately returns to the corporations, who are the providers, this money is a small price to pay for ensuring that ACP households receive a full discount in May.

Mr. Levin, do you agree that providers should ensure that ACP households receive the full \$30 benefit in May?

Mr. LEVIN. I certainly hope that they follow your advice and do that.

I would only add to that that voluntary efforts are not a long-term solution. We need a long-term solution. I was very supportive, as you know, for issues—for initiatives like Comcast Internet Essentials and other kinds of things, very helpful. But it was not a solution to get everybody on, which is what we really need.

Senator MARKEY. Yes. So the corporations should help us to create a bridge here to combine a solution.

Mr. LEVIN. Bridges are good.

Senator MARKEY. They get the primary benefit financially out of this. And we just have a short window to get these—to get this solved, and we just don't want these households to lose their critical benefits.

And as we consider proposals to reform the Universal Service Fund, we must make sure to protect existing programs that have been instrumental in closing the digital divide.

At the top of that list is the Universal Service Program for Schools and Libraries, better known as E-Rate. So I was the Democratic author of the E-Rate program. I actually named it the E-Rate program. I was going to call it the Ed-Rate—

[Audience interruption.]

Senator MARKEY.—but then my staff said, “Nah”——

Mr. LEVIN. I remember that.

Senator MARKEY. —“We can't do that.”

OK, we'll just call it the “E-Rate,” for “education.” So I did that in 1996. Named it, created it.

And so the program has delivered over \$60 billion to connect schools and libraries to the Internet, including \$900 million for Massachusetts. And that money has primarily flowed to disadvantaged and low-income communities across the country.

So Mr. Levin, you were there in 1996——

Mr. LEVIN. As were you. Yes.

Senator MARKEY.—at the FCC to implement it. Do you agree that any changes to the Universal Service Fund must protect E-Rate?

Mr. LEVIN. I certainly agree that it should protect E-Rate and the mission of E-Rate. I would just note, because I think it's impor-

tant, you know, you and I have both aged a little bit. I think we may be the only people in this room who were there——

Senator MARKEY. Speak for yourself.

Mr. LEVIN.—in 1996.

[Laughter.]

Mr. LEVIN. I was going to say, you have aged much more gracefully and much more beautifully than I have. But the E-Rate program has also aged extremely well.

But we did have to do some reforms, and I think the FCC's reforms were in 2014. And those reforms were great. And if you look at the Education SuperHighway report in 2019, you can see that the reforms led to a number of tremendous improvements for the state.

So I—we should absolutely protect E-Rate. We should absolutely protect its mission. But I would be open to, you know, things that make it even better.

So that is the challenge.

Senator MARKEY. Right.

Mr. LEVIN. ACP is part of a broader mission to make sure that everybody is connected to the tools they need, as Congress said, to fully participate in the economy and society.

Senator MARKEY. Yes. So it's actually—it's not your age, it's the age of your ideas. So I like to think of myself as still the youngest guy in the room.

So E-Rate has stood the test of time. You know, if it can be improved, that's fine, but it's survived the test of time.

Mr. LEVIN. Yes.

Senator MARKEY. So any changes must be carefully calibrated to elicit a solution that actually improves it and doesn't undermine it.

And ACP is exactly the kind of program that does show how government and industry and community organizations can all work together.

Mr. LEVIN. Mm-hmm.

Senator MARKEY. And we just have to continue that tradition and ensure that as we move forward, we do so with a consensus. And we just want to keep this program going, because if it fails, it just will undermine public trust, because it will just be a failure on the part of the government and the private sector to come to a solution that helps community organizations provide that service.

And thank you, Mr. Chairman and Ranking Member, for all of your great work on this program. Thank you.

Senator LUJÁN. Thank you, Senator Markey.

Senator Rosen, you're recognized for questions.

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

Senator ROSEN. Well, thank you, Chairman Luján, of course, Ranking Member Thune. It's really important we hold this hearing today.

And I thank all the witnesses for being here.

Because earlier this week, we crossed a new threshold. The end of April marked the last month that households will see, of course, as everyone has stated, the full \$30 ACP benefit on their internet bills.

I was proud to help write and pass the broadband section of the Bipartisan Infrastructure Law, which created the Affordable Connectivity Program to lower Internet costs for Nevadans and people across the country.

But due to congressional inaction, there are people today already seeing higher costs because the program's funding has run out. I remain committed to finding a path forward to save ACP to ensure high speed Internet is not only accessible, but affordable to working families in Nevada. And the time has run out. And that means the time to act is now.

And so I want to talk a little bit on some of the impact for my Nevada seniors and my Nevada veterans. I want to hone in on one of the points Senator Vance made earlier. Losing access to Internet due to high costs can also raise costs, like I said, for seniors, for veterans, and even the Federal Government.

Federal agencies like the VA and Medicare use telehealth and online services to save taxpayer funds and provide more timely assistance to veterans and seniors.

Telehealth. I can't tell you how important it is to people in our rural communities in rural Nevada. It matters. It makes a difference. They're getting their care this way. It's saving lives.

But sometimes the nearest in-person service is hundreds of miles away.

So Mr. Levin, on my ACP lapsing, they get harder for veterans to access their benefits, and especially when they go through the VA.

Mr. LEVIN. It does it in a variety of ways. One of the interesting things that's been developing in the last few years is because of ACP, there are a lot of social service providers, both in the government but also in the non-profit communities, that are restructuring the way—they now have an incentive to restructure how they deliver those services to make it more effective, more efficient, to allow people to get help 24/7 instead of 9–5.

So it can affect veterans who depend on a variety of government services, not just with health care, though health care is probably the number one way.

But if they get cut off, if they can't afford Internet connectivity, then everything they do to try to make their lives better will become more difficult.

Senator ROSEN. Yes. I think the same thing would go for our seniors and for many of our social service agencies that work all around our state.

So Mr. Chairman, I'd like to enter into the record a letter from health plans across the U.S. in support of continuing to fund the ACP.

Senator LUJÁN. With no objection.

[The information referred to follows:]





The Honorable Mike Johnson  
Speaker of the House  
United States House of Representatives  
U.S. Capitol Building  
Washington, D.C. 20510

The Honorable Hakeem Jeffries  
Minority Leader  
United States House of Representatives  
2433 Rayburn House Office Building  
Washington, D.C. 20510

The Honorable Tom Cole  
Chairman, Appropriations Committee  
United States House of Representatives  
2207 Rayburn House Office Building  
Washington, D.C. 20515

The Honorable Rosa DeLauro  
Ranking Member, Appropriations Committee  
United States House of Representatives  
2413 Rayburn House Office Building  
Washington, D.C. 20515

The Honorable Chuck Schumer  
Majority Leader  
United States Senate  
322 Hart Senate Office Building  
Washington, D.C. 20510

The Honorable Mitch McConnell  
Minority Leader  
United States Senate  
317 Russell Senate Office Building  
Washington, D.C. 20510

The Honorable Patty Murray  
Chairwoman, Appropriations Committee  
United States Senate  
154 Russell Senate Office Building  
Washington, D.C. 20510

The Honorable Susan Collins  
Vice Chair, Appropriations Committee  
United States Senate  
413 Dirksen Senate Office Building  
Washington, D.C. 20510

April 26, 2024

Dear Congressional Leadership and Appropriations Committee Chairs and Ranking Members:

Alliance of Community Health Plans (ACHP), Association for Community Affiliated Plans (ACAP), Blue Cross Blue Shield Association (BCBSA), Medicaid Health Plans of America (MHPA), National MLTSS Health Plan Association (MLTSS Association), and Special Needs Plans Alliance (SNP Alliance) write to express our joint support for extended funding for the Affordable Connectivity Program (ACP). Our organizations represent health plans who serve the vast majority of the over 85 million Medicaid enrollees in the United States, including beneficiaries living in areas with broadband access issues, beneficiaries dually eligible for Medicare and Medicaid, and those receiving Home- and Community-Based Services (HCBS).

We applaud Congress' passing of the Bipartisan Infrastructure Law's ACP provisions. Through this program, Congress has addressed the indispensability of broadband access. Quality, affordable broadband has become essential to millions of Americans' ability to access health care providers, supports, and services.

As of February 8, 2024, over 23 million households have enrolled in the ACP across all 50 states and the territories. According to the Federal Communications Commission (FCC), nearly three-quarters of

subscribers reported that they use their ACP service to schedule or attend health care appointments. The FCC also noted that prior to the ACP, more than half of enrollees in rural communities reported having either zero internet connectivity or relying solely on mobile internet service.<sup>i</sup>

Due to the expiration of funding for the ACP, new applications for enrollment have been stopped, with this month (April 2024) as the last fully funded month of the program.

We urge Congress to pass a funding extension for the ACP to ensure continued access to broadband for eligible households, including those that can use the ACP for vital needs such as accessing health care providers and services.

Our organizations thank you for your previous work to expand broadband access and affordability, and we look forward to working with you to continue access to this vital program.

Sincerely,

Alliance of Community Health Plans  
Association for Community Affiliated Plans  
Blue Cross Blue Shield Association  
Medicaid Health Plans of America  
National MLTSS Health Plan Association  
Special Needs Plans Alliance

Cc:

The Honorable Peter Welch  
The Honorable JD Vance  
The Honorable Jacky Rosen  
The Honorable Kevin Cramer  
The Honorable Yvette Clarke  
The Honorable Brian Fitzpatrick

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<sup>i</sup> [Measuring-Impact-ACP-Survey-Fact-Sheet.pdf \(fcc.gov\)](#)

Senator ROSEN. Thank you. I'm going to move on and talk a little bit in the time left about broadband multipliers. So research has identified broadband adoption as a super multiplier.

What does that mean? Just like we talked about, it increases access to health care, creating more opportunities for tele-education and for jobs and—well, I would say in Nevada for tourism as well.

And so Mr. Levin, how can you talk about the downstream effects of broadband affordability? How is affordable access to the Internet connection as for better educational outcomes, health outcomes, better jobs, just increase all of our connections and our ability to move all around our state, particularly in our underserved and rural areas? And this lapse in ACP, how does it reverse those benefits?

Mr. LEVIN. Yes. I think you've hit upon a key point here, which is, as I mentioned in the oral testimony, broadband Internet access is really a general-purpose technology. It is like electricity, as Senator Tester was saying, in the sense that it doesn't enable one thing. It enables lots of things.

And so all of those things that you mentioned are improved. Earlier we were talking about job training and job placement. Now by the way, again, artificial intelligence is going to change the way people do jobs, change the way that they have to keep learning and learning.

You're not going to do that by, you know, going to community colleges live all the time. You're going to do it at home at night. You're going to keep upgrading your skills.

And then how do you find that job? The majority of jobs, the vast majority of jobs, are now posted only online.

Senator ROSEN. Mm-hmm.

Mr. LEVIN. So that's a benefit to everybody. But that's just one of a thousand examples we could use.

Senator ROSEN. Well, thank you. I have so much more to talk about our impact in rural communities and infrastructure investments that—how we're going to expand the digital divide if we don't fund ACP, and just create more and more inequities. I will submit those questions for the record. I see my time is up.

Thank you.

Senator LUJÁN. Thank you, Senator Rosen.

And before I close with no other speakers expected, I have a couple other questions. Ms. de Wit, in your work at Pew, you've assisted states in determining what constitutes reasonable prices for broadband for a middle class family, correct?

Ms. DE WIT. Yes, that is correct.

Senator LUJÁN. Now, it's my understanding that your work found that affordability can vary widely across regions, states, and counties. For example, the median affordability price for Texas is listed at \$92.80. In Dimmit County in South Texas, the affordable baseline was \$41.67. And in Rockwell County, located in the Dallas-Fort Worth Metroplex, affordability was \$185.99.

Ms. de Wit, what are some of the reasons for such wide pricing differences in different states and counties?

Ms. DE WIT. Simply put, more research is needed to confirm that. What we know at this point are that there are a range of factors

that do influence affordability, including the type of service that is available, as well as, simply put, what a customer can afford.

And further, that research, which I should point out, is based on a 2 percent valuation of middle income. And sorry, I won't go down on methodology. You don't need to hear about that.

But I think what's important to note is that what we found, even with those ranges, are that that middle, that 2 percent number of what could be affordable for a middle class, is still more expensive than what many families can afford.

But fundamentally, there are a range of economic, social, and educational factors that influence affordability for households.

Senator LUJÁN. Appreciate it.

Senator Hickenlooper, you are recognized for your questions.

**STATEMENT OF HON. JOHN HICKENLOOPER,  
U.S. SENATOR FROM COLORADO**

Senator HICKENLOOPER. Thank you, Mr. Chair.

Thanks to all of you. I've caught bits of this through the morning.

Let me start with a question for Ms. Case Nevarez. During the pandemic, students nationwide had to adapt to learning remotely. Many had limited experience beforehand. Students without any broadband connection, or a device, were disadvantaged, could not keep up with their peers. I think the digital divide is not just about broadband access, but about broadband adoption and use.

So can you describe how you've seen this relationship between broadband adoption and education evolve over the last couple of years?

Ms. NEVAREZ. Sure. In our state in particular, it has been a critical issue that the Nation is watching. Community members, particularly our tribal community members, Hispanic community members, some of our disabled community members, have actually gone to the state to address equality of education. And a tech order came out to note the importance of technology and the critical need for our students to actually have both connectivity and a device.

Our state is rallying now to address those needs, and it is not easy. The cost of devices, the cost of maintenance of devices, and of course, as we've mentioned here today, connecting many of our rural students—some of which actually in Navajo Nation, believe it or not, ride the bus 2 hours to get to school every day.

So as we've noted, in our state, getting fiber to a home that far away over canyons and mountains is expensive, and the cost, if there even is a choice, is expensive. We sit here in D.C., there's 11,000—more than 11,000 people per square mile. In the state of New Mexico, it's an average of 17.

So even if a family wants their student or wanted their student to be able to connect, it's often not an option, or it's an expense they can't handle.

It has cost our students, many of them returning to school post-pandemic, the challenge of catching up and the challenge of proceeding forward as we as a state look at how are we going to ensure all students, all the time, have technology and access as a tool for learning and advancing. It's a heavy lift for us, and a heavy lift for every state, but a lift we cannot delay and we cannot avoid.

Senator HICKENLOOPER. Right. Thank you. And I've got two more questions, so hopefully we'll get them. I'll be concise in asking and—because you can get concise answers.

Ms. de Wit, the E-Rate Program, the LifeLine Program, the Rural Health Care Program to support hospitals and clinics, the—what they call the High-Cost Program to help expand access in rural America, during the pandemic, Congress authorized these programs to get to the same goals as the Universal Service Fund through direct appropriations and unique appropriation rules.

How would you advise Congress to combine these pandemic-era programs with the Universal Service Fund to be sustainable long-term?

Ms. DE WIT. At this point, we don't have research on that issue to provide an informed answer. What we do know is that USF reform is needed. That's also a question that is worthy of debate and further research, and which we would be happy to participate in as time moves forward.

But I think the critical point for us is that ACP is the cornerstone of BEAD. And without ACP, without a bridge for funding ACP, we threaten billions in deployment grants across the country. So we hope that we find a short-term solution for ACP and a longer one for USF reform.

Senator HICKENLOOPER. We'll get you back to work. Full-time employment for researchers, this issue.

Mr. "L'vin"—or "Levvin," I missed the beginning introductions. It's like "Hickenlooper," "Hickenlopper," either way.

That same question. We're looking at—I mean, the issue of, as I grew up, everyone paid in a little bit into a fund to make sure that everybody had telephone coverage and was connected. We've introduced something called Reforming Broadband Connectivity with Senators Klobuchar and Thune, finally trying to get the FCC to take action, you know, by basically expanding the contribution base to make sure that we have sufficient resources.

So in your view, what is currently within the FCC's authority to expand the contribution base to, like broadband providers? And what is not within their authority without congressional legislation?

Mr. LEVIN. I think they could expand it to broadband providers. I don't think they could expand it to certain kinds of big tech operations, as has been proposed by a number of different people.

And I would be happy to also participate in any further discussions. I was involved in the 1990s. I was involved 10, 15 years ago in terms of various reforms. There's no question that there's a broader reform necessary.

But the single most important point that I think this hearing demonstrates is, we need to keep everybody on. The government actually saves money by keeping people on. So let's have a short-term extension, and let's get to the work. This is not the Middle East. We can solve this problem. And we can solve it in a reasonably short period of time. And we should look at a lot of different options for how to do it.

I might note there are some court cases pending that may affect those options.

Senator HICKENLOOPER. Sure.

Mr. LEVIN. But I think fundamentally, this is a congressional decision. And it should be a congressional decision. And let's make that decision. Let's move on. And then 15 years later, there'll be another hearing, and we'll have to reform it all over again. But that's fine. Because that's the truth of every program that's ever occurred.

Senator HICKENLOOPER. Well, I appreciate that. And I look forward to keeping you all busy in the years to come, because it is important. And it—I have not had a single citizen while the 8 years I was Governor of Colorado, who when explained the theory behind everyone paying a little bit more to make sure that everyone had some access, no one ever complained about that.

So it is befuddling, to say the least, that we can't seem to find out that that solution is sitting there right in front of our face.

Anyway, I yield back to the Chair.

Thank you all.

Senator LUJÁN. Thank you, Senator Hickenlooper.

And I'm asking the Committee to submit a statement for the record from R Street, which is a self-described "center-right think tank" that engages in policy research in support of free markets and limited effective government without objection.

[The information referred to follows:]

R STREET INSTITUTE  
May 1, 2024, Washington, DC.

Hon. BEN RAY LUJÁN,  
Chair

Subcommittee on Communications, Media and Broadband,  
Committee on Commerce, Science, and Transportation,  
United States Senate,  
Washington, DC.

Hon. JOHN THUNE,  
Ranking Member,  
Subcommittee on Communications, Media and Broadband,  
Committee on Commerce, Science, and Transportation,  
United States Senate,  
Washington, DC.

Dear Chair Luján, Ranking Member Thune, and members of the subcommittee:

Thank you for your decision to hold a hearing on May 2, 2024, titled "The Future of Broadband Affordability." My name is Jonathan Cannon, and I am Policy Counsel on the Technology and Innovation team at the R Street Institute. The R Street Institute is a non-partisan think tank dedicated to free markets and limited, effective government. One of our priorities is to seek solutions to address broadband challenges and to lower barriers to help Americans seize the opportunity of the digital economy. To that end, we would like to reiterate our support for the Affordable Connectivity Program and work with this subcommittee to find a long-term sustainable path for the extension of this important program.

Prior to joining the R Street Institute, I was an attorney advisor in the Office of Legislative Affairs at the Federal Communications Commission (FCC) in 2020 when the Emergency Broadband Benefit Program was started by the CARES Act.<sup>1</sup> I saw how quickly and effectively Congress and the FCC mobilized to implement this program and connect those left on the wrong side of the digital divide during the COVID-19 pandemic. The program's success was so evident that it was extended as the Affordable Connectivity Program (ACP). This has been a bipartisan program since its inception, and it should remain so moving forward.

The ACP is a light-touch, market-friendly broadband affordability program that has enabled 23 million households to connect and stay connected online. The program can be updated and modified by Congress to account for changes to both customer needs and market demands. Ultimately, the goal of the program is to help

<sup>1</sup>H.R. 133, 116th Cong.

families get off of ACP and become an integral part of our digital economy. So far, the data to that effect looks promising.

As R Street analysis has highlighted on several occasions, the ACP is “a model of success.”<sup>2</sup> The ACP addresses the affordability gap enabling existing customers to remain connected, while also helping customers connect to the digital economy for the first time. There are currently over 23,000,000 households in the U.S. enrolled in ACP.<sup>3</sup> These households are using the technology-neutral voucher to receive a \$30-per-month discount for either mobile, fixed, fixed wireless, or even satellite.<sup>4</sup>

Although we recognize that there are genuine concerns with the ACP, we do not see these as fatal flaws of the program. Instead, we see these concerns as an opportunity to further refine and improve it. Some have raised concerns about the ACP’s negative impact on the marketplace, but all evidence demonstrates the opposite. According to recent studies, the most popular broadband speed tier plan prices dropped by 18.1 percent during ACP implementation.<sup>5</sup> ACP is a bootstrap program that connects families to the digital economy and its results speak for itself.

A prevailing concern raised by critics of the ACP is that the program is subsidizing providers, and providing limited, if any, benefits to customers. Fortunately, studies disprove that notion. Recently-published research found that not only do Internet Service Providers (ISPs) pass cost savings on to their customers, but they also are “not inflating prices to appropriate government subsidies, and the ACP is successfully reducing the cost of Internet plans for eligible households.”<sup>6</sup>

The purpose of the study was to determine “if there is a statistically significant difference in the price of an Internet plan when the ISP offers enrollment into the Affordable Connectivity Program.”<sup>7</sup> The study revealed that the cost of an Internet plan when offering enrollment into the ACP decreased by \$3.27, not including the \$30/\$75 discount offered by the program.<sup>8</sup> Notably, the study concludes that providers “are passing on cost savings to their customers . . . and the prices are not being artificially raised to appropriate government subsidies.”<sup>9</sup>

Some have written critiques of the program that appear at first blush to contradict the results of this paper and study.<sup>10</sup> However, this analysis fails to compare the price of both fixed and wireless broadband services. With the majority of ACP recipients utilizing the benefit for mobile broadband, the data looks at only fixed broadband when making the determinations about costs. It further admits to using a small dataset and it is not clear whether the results hold as the percent of the population receiving ACP benefits increases. This critique does not examine the ACP program in comparison to alternative efforts to expand broadband access. The ACP program fares well by comparison and is less intrusive, and less likely to distort the broadband marketplace.

With the large variability of service price offerings and prices across the country, a small sample is hardly a good predictor of the cost of services. Another critique of the program in the paper is the lack of new subscribers. This further undercuts the argument. If the program were only supplementing existing customers with a neutral voucher, it is unlikely that would have any impact on the market or the cost of broadband services.

During the COVID-19 pandemic Internet demand exploded, and providers not only met that demand, but were able to reduce prices, offer faster speeds, and keep

<sup>2</sup>Jonathan Cannon, *The Affordable Connectivity Program: When Government Spending is Good*, R Street Institute (Apr 19, 2023), <https://www.rstreet.org/commentary/the-affordable-connectivity-program-when-government-spending-is-good/>

<sup>3</sup>Additional ACP Data, Universal Service Administrative Company, <https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/additional-acp-data/> (last visited Apr. 30, 2024)

<sup>4</sup>*Id.*

<sup>5</sup>Arthur Menko, *2023 Broadband Pricing Index Broadband Prices Continue to Decline*, USTelecom <https://ustelecom.org/wp-content/uploads/2023/10/USTelecom-2023-BPI-Report-final.pdf> (last visited Apr. 30, 2024).

<sup>6</sup>Schieberl, River and Ahmadi, Nikki, *Measuring the Success of the Affordable Connectivity Program* (July 31, 2023) <https://ssrn.com/abstract=458690> or <https://dx.doi.org/10.2139/ssrn.4528690>

<sup>7</sup>*Id.* at 4

<sup>8</sup>*Id.* at 5

<sup>9</sup>*Id.* at 7

<sup>10</sup>Bidenomics Goes Online: Increasing the Cost of High-Speed Internet, Paul Winfree, Economic Policy Innovation Center, <https://epicforamerica.org/publications/bidenomics-goes-online-increasing-the-costs-of-high-speed-internet/>

Americans connected.<sup>11</sup> Broadband prices have decreased by 42 percent since 2016, including by as much as 60 percent on the highest-speed plans. And that's to say nothing of the increase in speeds available to customers.<sup>12</sup> With the overall trend of broadband prices decreasing over time, as noted in several studies, there is stronger evidence to suggest that ACP has at least done little to manipulate the market broadband prices. If anything it has done little to effect the trend of faster speeds at lower price points.

Unfortunately, the ACP, like many Federal programs, has been the victim of arbitrage and subject to waste, fraud, and abuse.<sup>13</sup> However, the FCC's Office of Inspector General has readily identified and addressed these issues. For example, in September of last year, the IG completed an investigation that led to providers voluntarily repaying \$49.4 million that was improperly used.<sup>14</sup> As Congress looks to extend and reform the ACP program, they are well suited to continue to refine and strengthen it to reduce opportunities for waste, fraud, and abuse.

As we highlighted in comments submitted before the Universal Service Working Group, "Before any long-term solution is considered, Congress should at least ensure a short-term extension of the ACP," which would provide Congress an adequate opportunity "to examine the program's eligibility criteria to potentially lower the cost of the benefit and ensure that the ACP targets customers who depend on it to remain connected."<sup>15</sup> Congress is in the perfect position to "make meaningful changes to ensure [ACPs] longevity and sustainability."<sup>16</sup> As Congress looks to extend the ACP, Congress should consider rolling it into the future Universal Service Fund (USF) programs.

Senator Cruz, in a recent whitepaper, noted that ACP and Lifeline "should be streamlined and reformed to target subsidies to those who truly need them to get online."<sup>17</sup> As his paper highlighted, the Government Affairs Office has identified 133 broadband programs across 15 agencies.<sup>18</sup> There is an enormous mission creep across government agencies that needs to be addressed to ensure that we are maximizing every dollar spent on broadband and taking steps to close the digital divide. While both Republicans and Democrats are rightfully frustrated by the significant cost and duplicity of Federal broadband programs, they are in a perfect position to meet these challenges head-on, consolidate existing broadband programs, and prioritize ACP as "one broadband program to rule them all."<sup>19</sup>

Thank you again for holding this important hearing and for your consideration of my views. Should you have any questions or wish to have further discussion, please do not hesitate to contact me.

Sincerely,

/s/ JONATHAN MYLES LAURIER CANNON,  
Policy Counsel Tech and Innovation,  
R Street Institute.

Senator LUJÁN. The study also state something that I agree with, which is R Street states that the Affordable Connectivity Program

<sup>11</sup> COVID-19 Overview, NCTA, <https://www.ncta.com/covid-19-overview>, (last visited, apr. 30, 2023)

<sup>12</sup> New Study: U.S. Broadband Prices Fell 42 percent Since 2016, Roslyn Layton, Forbes (Feb 28, 2022), <https://www.forbes.com/sites/roslynlayton/2022/02/28/new-study-us-broadband-prices-fell-42-since-2016/>

<sup>13</sup> John Thune, Thune Cruz Statment on the FCC's Mismanagement of a Taxpayer Funded Broadband Subsidy Program (Jan 25, 2023), <https://thune.senate.gov/public/index.cfm/2023/1/thune-cruz-statement-on-the-fcc-s-mismanagement-of-a-taxpayer-funded-broadband-subsidy-program>

<sup>14</sup> FCC Inspector General Announces Major ACP Provider Voluntarily Repaid Nearly \$50 Million and Issues Advisory Regarding ACP Provider Compliance with Program Usage Rules, Federal Communications Commission (Sept. 28, 2023), <https://docs.fcc.gov/public/attachments/DOC-397332A1.pdf>

<sup>15</sup> Jonathan Cannon, Comments to the Senate Universal Service Working Group (Aug. 15, 2023) <https://www.rstreet.org/outreach/r-street-submits-comments-to-senate-universal-service-fund-working-group/>

<sup>16</sup> *Id.*

<sup>17</sup> Ranking Member Ted Cruz, Protecting Americans From Hidden FCC Tax Hikes, Blueprint for Universal Service Fund Reform <https://www.commerce.senate.gov/services/files/5CA218F4-384D-4DCA-8678-6885885209DC> (Last visited Apr. 30, 2024).

<sup>18</sup> Government Accountability Office, Broadband: A National Strategy Needed to Coordinate Fragmented, Overlapping Federal Programs, GAO-23-106818 (2023).

<sup>19</sup> Jonathan Cannon, The Conservative Case for the Affordable Connectivity Program, R Street (Sept. 2023) <https://www.rstreet.org/events/the-conservative-case-for-the-affordable-connectivity-program/>



is, quote, “a model of success,” and that, quote, has been a bright—pardon me, quote, “has been a bipartisan program since its inception, and it should remain so moving forward.”

I would also like to highlight research that R Street Institute statements mentions, which takes a look at the effect ACP has had on the price of broadband, by comparing broadband price offerings by companies who participate in ACP with similar offerings by companies who do not participate in ACP.

The study demonstrates that ACP is successfully reducing the cost of Internet plans for eligible households. The study also finds that ISPs are passing on cost savings to their customers.

Mr. Levin, yes or no, in any of your research, have you seen evidence that the ACP itself is driving broadband prices higher? I appreciate that very much.

Mr. LEVIN. On Wall Street right.

Senator LUJÁN. I appreciate that.

And look, I hope that these programs will eliminate slow speeds across America. I live in a rural community. I represent a very rural state. Most access to the Internet is still over twisted copper. I was a former utility commissioner before I came to the Congress.

So doing something about POTS, and that's not what everyone's trying to legalize now, that's Plain Old Telephone Service—

[Laughter.]

Mr. LEVIN. Right.

Senator LUJÁN.—which was delivered over twisted copper, and then some really smart engineers figured out, well, we can increase capacity on twisted copper. And then the world said, and all these corporations said, “Oh, that's how people living in rural America will get faster speeds.” You know, “We're going to boost them up from a dial-up tone,” and some of you in the room may remember it, but you don't have the same color of hair as I do.

But you used to go to download an e-mail, not all your e-mail, an e-mail, and you would log in to AOL or whatever account you had, and you would hit enter, and the phone would start, “buzz, buzz, buzz,” you know, and everything would start talking to one another, and you'd leave. For the day. And you would come home to watch it maybe finally downloading the one e-mail.

Unfortunately, that's how broadband providers across the world said, “Rural America, that's what they get.”

We're going to solve this problem. Building a bipartisan deployment plan to rural America said, “Well, not anymore.” In the same way that my colleagues asked about electricity, and roads, and this revolution across America to say that everyone matters, we're going to make sure that we get this done all across the country, we're finally doing the same thing with broadband.

Dr. Winfree, the one area that I disagree—well, there may be a few areas. The one area that I'll highlight, ACP does help rural America. Things in rural America are expensive too. I hope more programs look to rural America, where most of our food is grown.

There's an effort now to be smarter with the use of tractors, like the ones that my colleagues that farm on large acreage, to modernize them. You know, I still use the ones that you have to putter around in because it's small acreage. It doesn't make sense for me.

Rural electric co-ops are a present service to us across the country, because people believed that rural Americans deserved electricity too.

And I'm certainly hopeful that with these programs that we can eliminate slower speeds, that we can finally get higher speed connectivity to people living all across America.

And where competition doesn't exist, well, then what? I don't know if I'm hearing that we should overbuild. I'm surprised I used those terms, because I don't use those terms. I don't know what "overbuild" means.

In order to get competition for broadband, you need a few pipes, or you need a lot of fiber in a pipe, so that other people can be able to get that service to you.

Well, that's called overbuilding. They used to call it "gold plating" when I was on the Public Utility Commission. And it was all the rural telephone cooperatives who would get called out for gold plating.

And now we applaud them for being smart and innovative and making these investments. Where you had innovative boards, they had some of the fastest connections in America. We should model after them. We should look after what they've been able to achieve.

So I'm just going on and on here. I hope that we can find a way to work together as the bipartisan working group with USF has come up with really strong ideas. Democratic ideas, Republican ideas, thoughts that have come out of studies from the right and the left, from the center.

And it's a good methodology that I'm hoping that going forward programs will work better. That they touch the people that they are intended to reach out to. That whether we're in rural settings, urban settings, that where we have a hole and a flaw in American policy, that we can do something about that as well.

So thank you to each of the witnesses for being available today, for traveling, for the preparation it takes to be able to come together and have a good conversation.

I appreciate all my colleagues who participated today. There's a lot of interest in this particular space.

And before I wrap up, I want to enter a few more things into the record, and I ask unanimous consent to enter a statement from February 8, 2024 from the Wireless Infrastructure Association in support of extending ACP; a January 10, 2024 statement from NCTA, the Internet & Television Association in support of extending ACP; a January 10, 2024 statement from CTIA in support of extending ACP; a January 10, 2024 statement from NTCA, the Rural Broadband Association, in support of extending ACP; an April 15, 2024 statement from T-Mobile in support of extending the ACP; and a statement for the record from AARP in support of ACP and sharing research findings about the importance of the programs for older Americans.

[The information referred to follows:]

"On behalf of the undersigned organizations representing the United States' information and communications industry, we urge you to support S. Amdt. 2024 to the Securing Growth and Robust Leadership in American Aviation Act (H.R. 3935), offered by Senators Luján, Daines, Vance, Welch, Rosen, and Wicker, to fully fund the Secure and Trusted Communications Networks Reimbursement Program (Rip & Replace Program) and extend funding for the Affordable Connectivity Program (ACP)

at the Federal Communications Commission (FCC). This amendment will provide full and immediate funding for the Rip & Replace Program's current \$3.08 billion shortfall as well as \$6 billion to extend the ACP, which would be fully offset by future spectrum auction proceeds. Fully and immediately funding the removal, destruction, and replacement of untrusted network equipment via the Rip & Replace Program and sustaining the ACP are both critical for supporting and maintaining connectivity across the country, especially in rural areas and low-income communities."

Excerpt from letter undersigned by the following organizations:

*Competitive Carriers Association*

*CTIA*

*INCOMPAS*

*NATE: The Communications Infrastructure Contractors Association*

*NCTA—The Internet & Television Association*

*NTCA—The Rural Broadband Association*

*Rural Wireless Association*

*Telecommunications Industry Association*

*USTelecom—The Broadband Association*

*Wireless Infrastructure Association*

*WISPA—Broadband Without Boundaries*

*WTA—Advocates for Rural Broadband*

"In modern society, broadband is every bit as essential as food, water, electric, and housing. Without it, families will struggle to access school, work, healthcare, government benefits, the news, or even a social life. There simply isn't time to wait—without immediate action, more than 23 million households could find themselves disconnected from the Internet in just weeks. The ACLU is grateful for the efforts of the bipartisan group of Senators who are pushing to ensure American households stay connected."

*Jenna Leventoff, Senior Policy Counsel, ACLU*

"The Affordable Connectivity Program is essential for millions of families across the country. We wholeheartedly support this impactful bipartisan amendment and thank Senators Lujan, Vance, Welch, Wicker, Daines, and Rosen for their steadfast commitment to funding this critical program."

*Chip Pickering, CEO, Incompas*

"UCC Media Justice congratulates Senators Luján, Daines, Welch, Vance, Rosen and Wicker on their proposed amendment to extend funding for the critically important Affordable Connectivity Program through the end of 2024. If this amendment becomes law, the 23 million low-income families relying on the ACP will have their trust in the program vindicated. This critical bridge funding will pave the way for permanent ACP funding which would mean Congress' \$42 billion investment in broadband deployment will go farther and be more likely to achieve its goals. The bi-partisan proposal wisely relies on the auction of valuable spectrum by the Federal Communications Commission to support affordable access to high-speed internet—an equitable approach to digital inclusion long supported by the civil rights community."

*Cheryl A. Leanza, Policy advisor for the United Church of Christ Media Justice Ministry*

"OTI is grateful for the efforts of the bipartisan group of Senators who are pushing to ensure American households stay connected. Preserving the ACP will help the millions of low-income American households who without the program would risk being unable to pay their Internet bills. The Internet is essential to American life, and as we face persistent fears of inflation, the uncertainty of AI's impact on our workforce, and continuously rising levels of disinformation and polarization, we should not leave Americans behind."

*Lilian Coral, Head of OTI and Vice President for Technology and Democracy programs at New America*

"We at Connected Nation fully support this bipartisan amendment to preserve the Affordable Connectivity Program (ACP). Losing this benefit would impact the daily lives of the most vulnerable among us—the 23.3 million people who rely on Internet access for their jobs, healthcare, education, and so much more. Internet access isn't just a luxury; it's the lifeblood of our society. We ask Congress to preserve this benefit for those who have come to rely upon it."

*Tom Ferree, Chairman & CEO of Connected Nation*

"EducationSuperHighway thanks the bipartisan group of Senators for their work to preserve the Affordable Connectivity Program, which has helped more than 23 million households get online and stay connected to the digital economy, education, healthcare, the social safety net, and critical government services. This amendment provides critical bridge funding to support the millions of Americans who are unable to access vital online resources without affordable home broadband. We look forward to working with Congress to create a permanent broadband benefit that closes the broadband affordability gap, which accounts for two-thirds of our Nation's digital divide."

*Adeyinka Ogunlegan, Vice President, Government Affairs and Policy, EducationSuperHighway*

"The Affordable Connectivity Program has helped 23 million households stay connected to education, work, health care and opportunity. The National Consumer Law Center, on behalf of its low-income clients, urges the passage of this bi-partisan amendment to the FAA to ensure continuation of this essential program."

*Olivia Wein, Senior Attorney, National Consumer Law Center*

"Fully funding the Rip and Replace Program is critical to securing our Nation's networks, including those serving rural areas, military bases, airports, and other areas of strategic importance," said Tim Donovan, CCA's President and CEO. "Absent full funding, millions of Americans face complete loss of connectivity and jeopardized access to emergency services. Additionally, the ACP helps bridge the digital divide, benefiting 23 million households, including seniors and veterans, many in the same areas affected by the potential loss of service due to the Rip and Replace shortfall. Addressing both of these issues immediately is critical for supporting and maintaining connectivity across the country, especially in rural areas and low-income communities."

*Tim Donovan, CCA's President and CEO*

"The Affordable Connectivity Program is America's promise that opportunity will remain available, no matter a household's financial circumstance. This amendment is a \$6 billion bipartisan commitment to keep that promise. The Benton Institute for Broadband & Society urges its swift passage so that 23 million households do not experience disruptions in their essential connectivity."

*Drew Garner, Director of Policy Engagement, Benton Institute for Broadband & Society*

"Common Sense Media appreciates the steadfast support of this bipartisan group of Senators to ensure the continuation of the Affordable Connectivity Program. More than 23 million households rely on ACP to learn, work, and access healthcare. This amendment will ensure that our students will have consistent access to the Internet at home as they finish their end of term projects and study for finals."

*Amina Fazlullah, Head of Tech Policy Advocacy, Common Sense Media*

"The National Digital Inclusion Alliance and our community of 1700+ affiliates thanks the bipartisan group of Senators for their work to extend the Affordable Connectivity Program. This act and the ongoing work to find a permanent solution for funding a broadband benefit gets our country a step closer to students doing their homework at home rather than in parking lots, to veterans receiving health support online, and job seekers matching with employers."

*Angela Siefer, Executive Director of the National Digital Inclusion Alliance*

"The National Lifeline Association (NaLA) thanks Senators Luján, Welch, Vance, Wicker, Rosen, and Daines for their amendment to the FAA bill that would fund and reform the Affordable Connectivity Program (ACP). Internet access in our digital era is absolutely essential, particularly for seniors, rural communities, and veterans who participate in and depend on the ACP every day to connect to telehealth, education, jobs, and community. This is a critically important amendment and we urge Congress to include this amendment in the must-pass FAA reauthorization."

*David B. Dorwart, Chair, National Lifeline Association (NaLA)*

"We applaud the bipartisan amendment in the Senate to extend the ACP. We call on the Senate to move quickly to add this amendment to the FAA Reauthorization legislation to ensure that 23 million families don't lose Internet access. This amendment demonstrates that Congress can put politics aside. The Senate should move quickly so this extremely popular program can continue. By doing so, Congress would give themselves and the FCC time to start the process of reforming the Universal Service Fund so it can provide a permanent funding mechanism for low-income families to get and stay connected."

*Gigi Sohn, Spokesperson for the Affordable Broadband Campaign*

“Millions of low-income Americans are at risk of losing Internet access as the Affordable Connectivity Program runs out of funding. As we argued at our rally just last week, broadband is an essential communications network for all. The ACP is critical for providing access to broadband and the education, healthcare, and economic opportunities that it provides. Our ultimate goal then and now remains to save the program so we do not disrupt service for any enrollees—the families who need the ACP most. We support this compromise, bipartisan amendment for its ability to bridge the funding gap while Congress continues working on a long-term solution. Congress must pass this amendment immediately. After that vote, the work is not done until we have a sustainable long-term fund for broadband affordability and other solutions to the digital divide.”

*Chris Lewis, President and CEO of Public Knowledge*

“I am very pleased to see this bipartisan amendment submitted to the FAA Reauthorization Act. The amendment would provide much needed funding to ensure that American families and veterans stay connected, our networks remain safe and secure from foreign adversaries, and we continue to use every usable spectrum band to fuel our wireless networks. These measures are all necessary to promote the U.S.’s competitiveness and close the digital divide for good.”

*Joel Thayer, President of the Digital Progress Institute*

“Extending the Affordable Connectivity Program is critical to connecting every American to high-speed, affordable internet. It is currently the best tool we have to bridge the digital divide. Pew applauds Congress’ collaboration and encourages lawmakers to support this bipartisan amendment. With millions of people lacking access to a service that has become essential for quality of life and economic well-being, the time to act is now.”

*Kathryn de Wit | project director, The Pew Charitable Trusts’ broadband access initiative*

“CWA members strongly support the continuation of the Affordable Connectivity Program which enables critical Internet access for millions of American families and supports good jobs in our communities. We are encouraged that a bipartisan group of Senators is working to prevent the ACP from completely shutting down and on a permanent funding solution.”

*Shane Larson, Communications Workers of America Senior Director for Government Affairs and Policy*

“The SHLB Coalition strongly supports the Luján/Vance amendment to preserve funding for the Affordable Connectivity Program (ACP). The Senate should move quickly so this extremely popular program can continue. Broadband access is essential for education, healthcare, and economic opportunity. The ACP plays a crucial role in bridging the digital divide and ensuring that all Americans have a fair shot at success.”

*John Windhausen, Executive Director at SHLB*

“The R Street Institute is proud to support this important proposal to extend both Rip and Replace and the Affordable Connectivity Program (ACP) with an appropriate pay-for. This proposal makes meaningful reforms to target customers most in need and streamline eligibility requirements, which R Street has long supported achieving in a revenue-neutral way. While this will only temporarily extend the ACP, R Street hopes the efforts of the Universal Service Fund (USF) working group continues to find a solution and permanent home for this program within USF.”

*Jonathan Cannon, Policy Counsel Technology & Innovation at the R Street Institute*

“The Center for Civil Rights and Technology commends the amendment from Senators Luján, Daines, Welch, Vance, Rosen, and Wicker that provides \$6 billion in funding for the FCC’s Affordable Connectivity Program (ACP). Lack of high-speed Internet access among low-income people, communities of color, and other marginalized communities is concerning, especially at a time when millions need the Internet to further their education, earn a living, and access essential goods and services. The strength and continuation of the ACP is essential to our mission to ensure digital equity. With the number of days ticking down for ACP solvency, the Center believes this is the only viable path forward to ensuring more than 23 million families are not disconnected. The Center also urges lawmakers to secure permanent funding for this critical program.”

*Koustubh “K.J.” Bagchi, Vice President of the Center for Civil Rights and Technology*

“WIA is proud to join the collective support for S. Amdt. 2024 to the Securing Growth and Robust Leadership in American Aviation Act (H.R. 3935). This critical bipartisan amendment, offered by Senators Luján, Daines, Vance, Welch, Rosen,

and Wicker, seeks to address the urgent need for full funding of the Secure and Trusted Communications Networks Reimbursement Program, known as the Rip & Replace Program, which currently faces a significant shortfall of \$3.08 billion. In addition, the amendment extends funding for the Affordable Connectivity Program (ACP) by allocating \$6 billion, ensuring that crucial connectivity services remain accessible to underserved communities across the United States.

These measures are essential to safeguarding our Nation's communications infrastructure while promoting digital equity and inclusion. The Rip & Replace Program will enhance the security and resilience of our telecommunications networks, while the extension of ACP funding will enable millions of Americans to stay connected. WIA stands with our industry partners in urging support for this important amendment to bolster our communications networks and enhance connectivity for everyone."

*Wireless Industry Association*

Senator LUJÁN. I think we can get there. We can find a way to work together. We can address concerns to ensure that we're going to have real broadband connectivity across the country that's fast and that's affordable.

Now we know the stakes are simply too high, especially with our veterans and students, families, rural, and older Americans. So over the next week, I'm committed to continue working with my colleagues to extend this program, and once we do that, I look forward to bringing forth this long-term solution to permanently fund these programs with reforms with the work of the Universal Service Fund Working Group.

Now with that, I will close the hearing. Should members have additional questions for the witnesses for the record, I ask that they submit them to the Committee within two weeks, and witnesses will have an additional two weeks to respond.

So everyone, thank you so very much for your time. I thank the staff for helping us get this done. This hearing is closed.

[Whereupon, at 12:15 p.m., the hearing was adjourned.]

## A P P E N D I X

*From the Office of the President & CEO*

Fiber Broadband Association  
3050 K Street NW, Suite 400  
Washington, DC 20007, USA



May 2, 2024

The Honorable Ben Ray Lujan (NM)  
Chair, Communications, Media, and Broadband  
Subcommittee  
United States Senate  
Washington, D.C. 20515

The Honorable John Thune (SD)  
Ranking Member, Communications, Media, and  
Broadband Subcommittee  
United States Senate  
Washington, D.C. 20515

The Honorable Maria Cantwell (WA)  
Chair, Commerce Committee  
United States Senate  
Washington, D.C. 20515

The Honorable Ted Cruz (TX)  
Ranking Member, Commerce Committee  
United States Senate  
Washington, D.C. 20515

Re: Letter for the Record, May 2, 2024, Hearing on "The Future of Broadband Affordability"

Dear Chairman Lujan and Ranking Member Thune:

The Fiber Broadband Association (FBA) strongly supports efforts to continue funding the Affordable Connectivity Program (ACP) and identifying solutions that will enable low-income households to remain connected to the internet. Nearly 22 million households were subscribed to the ACP in order to access work, school, health care, and so many more everyday activities. The ACP has made it possible for Americans to get fiber broadband internet when they otherwise might not be able to afford their monthly bill. Absent further funding, many are at risk of losing affordable broadband access. For this reason, we express our gratitude to you and all members of the Senate Commerce Communications Subcommittee for holding a hearing to address "The Future of Broadband Affordability" and find solutions that will keep Americans connected to the internet.

FBA recognizes that we are at a critical and historical moment in history – through the bipartisan leadership of Congress, every state and community can now deploy and ultimately provide the most reliable, high-speed internet for all Americans.

FBA's mission is to accelerate the deployment of fiber broadband networks to close the digital divide and provide educational and economic opportunities to Americans through connectivity. FBA has approximately 500 members representing the entire fiberoptic ecosystem. The ACP has been a driver of affordable fiber broadband adoption to help ensure all Americans are able to participate in the

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[fiberbroadband.org](https://fiberbroadband.org)

*From the Office of the President & CEO*

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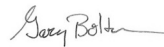
digital economy. Broad agreement exists across business, industry groups, and consumer advocates that the program is successfully impacting lower income Americans.

In addition, participation in the ACP is a requirement of Department of Treasury's Capital Fund Projects Grants and the Broadband Equity, Access, and Deployment (BEAD) program grants (or a low-cost offering). The ACP will extend every BEAD dollar further. Without it, grant programs could be in jeopardy as a robust subscriber base is imperative to sustainable networks. A study conducted by Common Sense Media found that the ACP could reduce the BEAD subsidy needed to incentivize providers to build in rural areas by up to 25 percent per year. According to the study, the ACP reduces the per-household subsidy required to incentivize ISP investment by \$500. Simply put, the ACP improves the economic case because it 1) effectively lowers the cost of service, 2) creates a customer base with less churn, and 3) makes subscribers easier to acquire because of the massive public and private investment in raising awareness for the program.

Unfortunately the ACP ended this week and will leave millions of Americans without internet connectivity. In response, the Affordable Connectivity Program Extension Act, introduced by Senators Welch, Vance, Rosen, Cramer, and Representatives Clarke and Fitzpatrick, would appropriate an additional \$7 billion to keep the ACP funded through 2024. FBA supports this legislation and strongly supports a bipartisan path forward to fund the ACP while longterm solutions are identified.

We look forward to collaborating with Congress to support the bipartisan goal of ensuring that all Americans have access to affordable high-speed fiber broadband service.

Sincerely,



Gary Bolton  
President and CEO  
Fiber Broadband Association  
(919) 349-1025  
[gbolton@fiberbroadband.org](mailto:gbolton@fiberbroadband.org)

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[fiberbroadband.org](http://fiberbroadband.org)




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RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TAMMY DUCKWORTH TO  
KATHRYN DE WIT

**Affordable Connective Program Impact on Military Families and Veterans**

In 2018, the Federal Communications Commission released a report on the state of broadband access and adoption by veterans in which it determined a key barrier to broadband adoption for veterans was due to the monthly cost of an Internet subscription. More recently, in an April CNET article, Department of Veterans Affairs Press Secretary Terrence Hayes commented about the Affordable Connectivity Program, "If the program ends, then some veterans will have to pay \$30 to \$75 more for access to the Internet every month—and others may lose access to the internet entirely. That's unacceptable, especially at a time when telehealth has become such an important tool."



*Question.* How has the digital divide uniquely impacted military families and veterans? What impact has the Affordable Connectivity Program had on our servicemember and our veterans? Why do you think nearly half of the households benefitting from the Affordable Connectivity Program are military families?

Reliable and affordable Internet connections are essential to U.S. military veterans accessing the benefits they have earned—from education and home loans to healthcare. However, *15 percent of all veterans* in the U.S. and *27 percent of rural veterans* do not have an Internet connection. ACP helps bridge that divide and connects veterans and active military with the critical resources they need.

Veterans can qualify for ACP *through a number of channels*—more than 1.1 million households are enrolled because they receive VA Veterans Pensions or Survivors Benefits, and 1.2 million veteran households qualify through SNAP.

It is abundantly clear that these families rely on the broadband benefits afforded by the program.<sup>1</sup> Access to health care through telehealth services is an essential resource for veterans. In 2018, just *13 percent of veterans* who received health care from the VA did so through VA telehealth programs. From January 2020 to January 2021, the number of telehealth appointments offered by the VA *increased by 1,831 percent*. In 2022, approximately *one million veterans* used telehealth services for mental health care. Veterans are not only *older on average* than other Americans (61 years old to 45 years old), but they are also twice as likely to be disabled, underscoring why access to digitally-enabled medical care—from telehealth to wearables—is necessary.

Veterans and active-duty members of the military are also using the Internet to break down barriers to education and employment opportunities, as the group is more likely to seek degrees online than their non-military peers. *Twenty-four percent* of veterans receiving education benefits are enrolled in an online program, compared to just 14 percent of all undergraduates. Remote work has also helped bridge the digital divide, as it has been shown to ease the transition for veterans suffering from post-traumatic stress disorder as they enter the workforce.

Allowing ACP to lapse could roll back the progress made for veterans and others and put additional financial pressure on millions of veterans' households, including the *4.4 million who live in rural areas*, of which 44 percent make \$35,000 or less annually. This could result in households having to choose Internet plans with lower speeds and capabilities or cancel their subscription. Millions of Veterans rely on this benefit to afford quality Internet plans that allow them to access healthcare resources, education, and employment opportunities, and they could struggle to maintain access if ACP ends.

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RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TED CRUZ TO  
KATHRYN DE WIT

### Technology Neutrality

You testified during the hearing about the difficulties and high costs associated with serving rural locations. One of the ways to reduce deployment is allowing subsidies, like the Broadband Equity Access and Deployment (BEAD) Program, to be technology neutral and not favor one broadband technology (*e.g.*, fiber) over others (*e.g.*, fixed wireless or satellite) that can deliver similar speeds at a much lower cost.

*Question 1.* Do you have concerns regarding the administration of the BEAD program with respect to technology bias?

Answer. Cornell University's research (2023) found that most states employed technology neutral policy in statute and state-funded grant programs. This included expanding applicant eligibility to incorporate non-traditional Internet service providers (*i.e.*, cooperatives) offering a multitude of technologies—including wireless. States scored applications using a range of tactics, including scalability and long-term capability. Of the 724 state grant program awards across 17 states, Cornell found that more than half (57 percent) went to fiber projects.

The BEAD program is designed to ensure unserved and underserved communities receive high-speed, reliable Internet access. While BEAD's authorizing statute and funding rules favor fiber and upgraded cable technology, past research from The Pew Charitable Trusts and Cornell's 2023 report indicate that states will pursue a range of technologies to meet congressional goals. Fiber deployments provide the most reliability, higher speeds, and can be more easily scaled to meet future speed

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<sup>1</sup>Pew has not explored in great detail why the percentage of households with veterans enrolled in ACP is high, or even higher than other covered populations. But it is an important question worth researching and would require additional time, resources, and collaboration with the Department of Veterans Affairs.

and capacity demands and keep pace with the evolving needs of the internet. Applications from providers proposing to use alternative technologies that offer less reliable or lower speeds will be considered by state broadband offices if the cost for a fiber deployment is unreasonably high, as determined by each state's high-cost threshold and the National Telecommunications and Information Administration (NTIA).

*Question 2.* Do you agree that a technology neutral approach for Federal broadband programs would reduce costs and increase deployment?

Answer. While deploying networks cost efficiently and without delay is important, so are considerations for the long-term return on investment. Different technologies may meet minimum requirements, such as speeds above 25/3 Mbps, and can be faster and cheaper to deploy, but may introduce other limitations that impact the quality or reliability of service for the user. Although fiber can be expensive to deploy, it is more future-proof than other technologies because of how easy it is to upgrade and scale to meet technologically driven demands of today's—and tomorrow's—economy. However, it is important to note that Pew is not in favor of fiber connecting every household. Rather, our research concluded that “setting a forward-looking goal focuses state investment on infrastructure that will continue to meet future needs.”

Our research shows that BEAD's approach to first consider fiber projects before evaluating alternative technologies strikes the right balance of delivering high-speed, reliable service while protecting taxpayer-funded investments. BEAD helps guarantee that an unserved community that is funded by BEAD will be served for generations to come.

#### **Affordable Connectivity Program**

*Question 3.* Your written testimony states “ACP recipients pay a median of \$40 a month after the benefit is applied.” Please provide the citation for this data point.

Answer. A January 2023 survey from the Benton Institute found that, “When asked what they pay for Internet service *after* the ACP subsidy, the median figure cited by households that had signed up for fixed service was \$40 per month.”

*Question 4.* Your written testimony cites statistics on who benefits from ACP from a recent Benenson Strategy Group survey in partnership with—i.e., paid for by—a telecommunications provider receiving ACP (Comcast). According to the methodology of that survey, the sample size was 1,600 people who “are eligible for ACP,” with an “over sampling” of people enrolled in ACP, reported as “801.” Does this methodology and sample fit the standards for surveys at Pew Charitable Trusts?

Answer. We appreciate your question regarding the veracity of the methodology used in this report. As documented in the testimony submitted to the Committee, there are shortcomings with the data available on ACP enrollment. Further, more research is needed to adequately understand the long-term effects of this program, including on competition in the marketplace.

Generally, Pew does not comment on the methodology of other studies unless we have full access to the underlying approach, design, and goals of the research. However, upon review, the Benenson Strategy Group methodology follows best practices for survey research, as reported by the American Association of Public Opinion Research (AAPOR). Additionally, BSG follows many of the transparency guidelines outlined by AAPOR, including a listing of the data collection strategy, the sponsor of the research, and the population under study.

Finally, it is Pew's view that oversampling for the population of ACP participants was appropriate given the nature of the population in question for the survey. Oversampling can be a useful tool for analyzing smaller groups of a given population. In this case, the smaller group was ACP recipients. Furthermore, the methodology section makes clear that “ACP Participants” in the report “reflect American adults who are aware that their household participates in the Affordable Connectivity Program.” Oversampling, in this case, provides for more reliable estimates of the impact of ACP on those benefiting from the program.

*Question 5.* Your written testimony cites another telecommunications provider survey (Cox). This survey states it had 551 respondents in six states of approximately 6,000 customers. There is no indication in the methodology section as to whether this population received ACP.

a. What does this survey tell us about the impact of ACP on rural broadband as opposed to simply reporting general benefits of having broadband?

Answer. This survey was not designed to show the impact of ACP on rural broadband.

b. What evidence has Cox provided that there has been an increase in rural access as a result of ACP?

Answer. This report does not evaluate the impact of ACP on rural access.

At this time and with the available data, it is unclear what percentage of this funding has gone specifically to rural areas. More data is needed to assess this question and to ascertain the impact of ACP on rural customers.

*Question 6.* Before ACP, broadband companies would compete for customers by offering lower prices and/or better service. With ACP's \$30 subsidy, there is no competitive benefit to offering a service for less than \$30 a month. Consequently, ACP discourages competition on price.

c. Please provide the Committee with evidence of broadband offerings at less than \$30 per month since the program began and before it was announced that it was ending.

Answer. The National Digital Inclusion Alliance maintains a list of free and low-cost Internet plans for consumers, several of which were available before ACP existed, including Comcast's Internet Essentials for less than \$10 per month.

d. Please provide the Committee with evidence of changes in the frequency of customers switching broadband providers before and after ACP.

Answer. We are not aware that any such dataset exists.

*Question 7.* You stated in your testimony that ACP is essential to the success of the BEAD program. Does Pew view ACP as a substitute for the high-cost program at FCC, which provides subsidies to telecom providers in exchange for providing service to rural consumers at rates that are reasonably comparable to those charged in urban areas?

Answer. The ACP and Universal Service Fund (USF) high-cost programs are not substitutes but should work in harmony, playing vital and complementary roles in achieving broadband access. Specifically, USF will play a role in addressing supply-side barriers to network deployment and operations, while affordability subsidies, such as ACP, address demand-side cost considerations for customers and Internet service providers.

More specifically, the ACP ensures that broadband is affordable to consumers in low return-on-investment areas, thereby translating deployment into actual adoption. The high-cost program, on the other hand, provides financial support to ISPs, empowering them to expand broadband networks in rural areas facing geographic and economic challenges. Both programs are essential in fulfilling the congressionally mandated goal of universal broadband service.

*Question 8.* How much BEAD funding is anticipated to go to the urban consumers that make up the vast majority of current ACP recipients?

Answer. At this time, we cannot quantify precisely how much BEAD funding will go directly to rural or urban areas as states must first complete the adjudication of their challenge processes to determine a final list of BEAD-eligible locations.

State officials will determine where this funding is directed, and we do have recent evidence from the U.S. Treasury Department's Capital Projects Fund (CPF) suggesting states will tailor solutions to fit their specific needs. For example, multiple states prioritized rural broadband expansion through CPF-funded projects or created multiple grant programs focused on both urban and rural areas. We anticipate that states will develop policies and programs similar to BEAD funding, but it is too early to definitively assess what those will be.

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RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TED CRUZ TO  
BLAIR LEVIN

**Affordable Connectivity Program**

*Question 1.* In your opening statement, you write: "But we do know 53 percent rural survey respondents and 47 percent of all respondents reported having either zero Internet connectivity or relying solely on mobile Internet service prior to receiving their ACP benefit."

a. What is your reason for counting households with only mobile service in the same bucket as households with no service at all? Do you consider these types of households to be similarly situated?

Answer. The key points to my answer are briefly summarized immediately below, with a more complete answer provided thereafter.

- As the FCC and Congress have correctly found, mobile services and in-home broadband are not perfect substitutes, with each serving functions that should be universally accessible.
- Part of the difference relates to the functionalities inherent in different screen and key board sizes, while other differences relate to market-based realities such as data caps.

- A key strength of the current ACP program is its flexibility in giving customers choice over the selected service they opt into.
- The program in the future should maintain that strength so that the recipients can choose the best service or services for their needs as technologies and markets evolve.

Thank you for the opportunity to clarify my thinking behind that statement. It is a good question, though the answer is complicated, requiring both a look back at history but also an understanding of potential changes in the market in the future.

My basic answer is that today, there is an important distinction between mobile services on a smart phone and broadband services provided in the home to a computing device with a larger screen. In that sense, the homes in the question are not similarly situated.

The history here is important. In 1985, during the Reagan Administration, the FCC created the Lifeline program, designed to assure that all Americans had access to a minimum level of voice services to communicate with emergency services, jobs, and family. During the George W. Bush Administration, the FCC allowed the Lifeline subsidy to be used for mobile services.

Both decisions by Republican FCCs stand up well in the light of history. The Reagan era Lifeline program served its purposes well. But so did the adjustment to market changes done under the George W. Bush FCC. Today, more than 90 percent of the Lifeline funds go to mobile services.<sup>1</sup> This makes sense, particularly as to emergency services, where emergencies often happen outside the home, and voice services, which are now largely done on mobile devices.

But just as the George W. Bush FCC recognized, the world does not stay static. After the 2010 National Broadband plan, the FCC, under both Democrats and Republicans, recognized that universal service funds should no longer be allocated to voice only networks but should be restructured to reflect that communications are now dependent on broadband networks, and that we should analyze and acknowledge how different networks serve different purposes. Under both the Obama and Trump administration, changes were made to the universal service program generally and further changes were made to the Lifeline program.<sup>2</sup>

Further, in 2021 Congress, on a bipartisan basis, came to a similar and important conclusion, finding that “Access to affordable, reliable, high-speed broadband is essential to full participation in modern life in the United States;” and that “(t)he persistent ‘digital divide’ in the United States is a barrier to the economic competitiveness of the United States and equitable distribution of essential public services, including health care and education.”

Congress was right to do so. And we should recognize that there are many uses of broadband services that we want people to be able to do that require a larger screen, different functionalities, and different kinds of keyboards than mobile phones offer. These include performing jobs that require document production, job training, job placement activities, doing homework and associated research, many (though not all) telehealth services, and interactions with government social services, among others.

The difference between mobile and fixed is not just a function of screen sizes. There is also a market difference in that low-end mobile services often include a data cap that makes certain uses, such as homework, job training, and telehealth, problematic from the point of view of the user. My point is not that such data caps should be regulated; after all, such data caps reflect the reality that spectrum through the air is a scarcer resource than spectrum in a wire. My point is that that policy makers should understand that while mobile services for low-income users carries with it restrictions on how much they can use the service, fixed services for low-income households generally do not have those restrictions.

An example of how these factors demonstrate the difference between the common mobile plan and in-home broadband can be seen in a study by the Quello Center which noted that “contrary to some expectations that students can get by through the use of a cell phone as a substitute for high-speed home Internet access, those who rely on a cell phone only for Internet access outside of school experience as large, or larger, gaps in performance than those with no home Internet. Unlike their peers, students who are dependent on a cell phone for Internet access outside of

<sup>1</sup>[https://www.benton.org/sites/default/files/reimagininglifeline\\_final1\\_0.pdf](https://www.benton.org/sites/default/files/reimagininglifeline_final1_0.pdf)

<sup>2</sup>The specific changes to Lifeline are not relevant here except to reflect that problems in the program do not justify ending them but rather should cause analysis and course corrections, as the FCC has done.

school rely on smaller screens with slower devices, have access to content with fewer features, and need to monitor data caps and recharge pre-paid phone plans.”<sup>3</sup>

Considering that history and the practical consumer realities, I see mobile and fixed broadband as related but not perfect substitutes. That is, while there are functions that can be done on both, there are other functions, critical to public policy goals, that as a practical matter can only be done on one or the other.

That is why, at least for now, I would count households with only mobile service in the same bucket as households with no service at all.

Having said that, we should be conscious that technologies and functionalities evolve. It could be that mobile networks provide the necessary bandwidth—some would argue they already do—to accomplish the public policy goals, provided the recipient has the computing devices necessary for activities related to public purposes, such as education, job training and placement, and health care.

In this regard, I think one strength of the current ACP program is its flexibility in giving customers choice over the selected service they opt into. Going forward, I would hope that the FCC and Congress evaluate current practices and continue to structure the program to optimize for flexibility and consumer choice for program recipients.

b. Given that, per the FCC’s data, the majority of ACP recipients (55.9 percent) choose to apply ACP to their mobile phone subscriptions, do you believe that ACP has not been successful for this cohort of recipients?

Answer. The key points to my answer are briefly summarized immediately below, with a more complete answer provided thereafter.

- The ACP has largely been a successful program.
- Every new program has flaws that require study and adjustment.
- The data cited, which is likely out of date, ignores how the predecessor program, the EBB, was a mobile program and how the percentage using the funds for mobile has gone down and is likely to go further down.
- The key, as noted in the answer to 1a, is for the government to structure the program so that recipients have practical access to all the essential services that are now offered online.

As a preliminary matter, let me repeat what I said in my testimony. I am in complete agreement with the 20 House Republicans who wrote to Speaker Johnson last month asking for action on ACP, who wrote that “We believe that bipartisan solutions are within reach to ensure uninterrupted access to the ACP while concurrently pursuing long-term funding strategies.” That is, I hope Congress would provide an ACP extension and then, as part of a larger and necessary Universal Service Fund reform effort, design a more efficient and sustainable program that moves us toward universal adoption.

So here, while I believe Congress should provide funding to extend the current ACP program, I also would support reforms to all universal service programs that achieve the goals but in more through a more efficient and sustainable framework.

Specifically, to your question, I would hope that the FCC and others would provide the information necessary for Congress to evaluate why those ACP recipients chose to apply ACP to mobile, as opposed to in-home, subscriptions. Such an analysis should look at other barriers to adoption, such as the availability of the service and/or devices, different pricing strategies, and the role of digital literacy, among other potential reasons that might be relevant to how the program is structured in the future.

Having said that, I want to be clear that I would not challenge the good faith of the recipients, who are in a far better position than I to evaluate what is in their best interest. But such an analysis would be helpful in considering how to structure the program going forward.

Further, I would guess that a significant percentage of the wireless usage was driven by the history of the program in which the Emergency Broadband Benefit (EBB) that preceded the ACP was primarily a mobile program. Based on conversations I have had in the context of my Wall Street work as well as data I have seen,<sup>4</sup>

<sup>3</sup> [https://quello.msu.edu/wp-content/uploads/2020/03/Broadband\\_Gap\\_Quello\\_Report\\_MSU.pdf#page=5](https://quello.msu.edu/wp-content/uploads/2020/03/Broadband_Gap_Quello_Report_MSU.pdf#page=5)

<sup>4</sup> On 12/31/2021 (end of EBB) enrollment was 67 percent mobile, 33 percent fixed. <https://www.usac.org/about/emergency-broadband-benefit-program/emergency-broadband-benefit-program-enrollments-and-claims-tracker/additional-ebb-program-data/> By 02/08/2024 (end of ACP), enrollment was 56 percent mobile, 43 percent fixed. <https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/additional-acp-data/> Also, the data

I believe that the percentage of the use of ACP for mobile has, in fact, declined from its early days. The data therefore suggests that the FCC data you cite may be out of date and more up to date studies would show that a higher percentage of ACP recipients chose to use the subsidy for a wireline service.

But as noted in my answer to your question 1a, I am of the view that for purposes of adequately responding to the Congressional finding noted above regarding how “access to affordable, reliable, high-speed broadband is essential to full participation in modern life in the United States” and to the “equitable distribution of essential public services, including health care and education,” we should seek to structure a permanent program that achieves universal access to both mobility and to in-home broadband services.

There are multiple ways to do so. One could have two separate funds, one solely for mobility and one solely for in-home broadband. However, given the current trends toward convergence—a key trend that communications investors see as one of the most important indicators of where they should be investing—in which some traditional fixed providers (cable) are offering mobile services and traditional mobile providers (such as AT&T, Verizon, T-Mobile) are offering fixed services as well, I would urge policy makers to structure the ultimate long-term program to enable the private sector to develop different options that accomplish the same goal: universal mobility and in-home broadband. Again, the key here is the flexibility to enable the program recipients to respond to both their own needs and changes in the market, as well as driving ISPs to compete for their business.

Finally, the question implies that the results to date challenge the success of the ACP program. I have been involved in public policy debates, as a participant or an observer for over 30 years. It always amazes me the way inside some inside the belt-way have the view that any problem in a program, particularly a new program, justifies a failing grade. That is not the way the world works. Every organization—private, public, or non-profit—will try things, study the results, and then adjust the program to improve its effectiveness.

The FCC’s spectrum auction program is the most successful telecommunications policy innovation of all time, both in the United States and abroad, where countries around the world followed the model established in the United States in the mid-1990s. Spectrum auctions succeeded, where other methods like comparative hearings and lotteries failed, in efficiently allocating and reallocating spectrum to higher and better uses.

But having been present at the creation, I am acutely aware of mistakes we made early on in some of the early auctions, mistakes for which I bear some responsibility. But the important thing was that—and here the FCC staff and leadership deserve the credit—the institution learned from those mistakes and quickly pivoted to changes that made the program one that has been replicated around the world.<sup>5</sup>

I would further argue that the ACP program has been, in the grand scheme of things, very effective. While there are legitimate criticisms, there have also been significant accomplishments. For example, a Georgetown McDonough School of Business examination of the program in October, 2023 found that based on the data so far, “(1) the ACP has successfully transitioned from the stop-gap EBB program to a low-income assistance program that is more stable, and which in less than two years has enrolled over 20.6 million households; (2) the program has acted to provide standardized vehicles for efficient enrollment;<sup>6</sup> (3) the ACP includes multiple paths to establish eligibility, which eases impediments to eligible household participation; (4) while large population states have naturally seen the largest subscriptions to the ACP, the greatest percentage changes in subscriptions have been in

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show a huge spike in Lifeline-pathway enrollment right at the beginning of EBB, which makes sense given Lifeline providers were well positioned to move fast. Presumably most of those were mobile users.

<sup>5</sup> From a perspective of 2024, spectrum auctions may seem obvious and simple. From the perspective of 1993, when Congress authorized the FCC to allocate spectrum through auctions, it was not. But the FCC consulted the best minds for creating the auctions and decided to use an innovative simultaneous multi-round ascending auction design. That design worked, as indicated by, among other things, the success of nearly all the auctions, the use of theory that won the 1994 Nobel Prize for economics, and the FCC auctions being cited in awarding the 2020 Nobel prize for economics. But there were hiccups and problems along the way.

<sup>6</sup> In a way that is unusual for government programs, particularly in the early days, more than 80 percent of enrollees were satisfied with the enrollment process. [https://connectednation.org/static\\_assets/5a34b1a7-fb9e-4a72-98be-1524f8db1d9/23\\_ATT\\_Mind\\_The\\_Gap\\_9.5\\_hi.pdf#page=7](https://connectednation.org/static_assets/5a34b1a7-fb9e-4a72-98be-1524f8db1d9/23_ATT_Mind_The_Gap_9.5_hi.pdf#page=7)

more rural, low-population states;<sup>7</sup> and (5) the program appears to have stimulated enrollment within certain high populated Native American counties.”<sup>8</sup>

In short, your question raises a good point. But the answer lies in understanding our goals and then adjusting as necessary to achieve those goals. The key, as noted in the answer to 1a, is for the government to structure the program so that recipients have access to all the essential services that are now offered online. I believe the FCC and Congress are up to that challenge, but the path forward to success lies in study, constructive debate, and then better solutions, not simply criticisms, followed by inaction.

*Question 2.* In response to a question from Sen. Luján during the hearing, you emphasized that you were not a health care economist. Yet, you claimed the economic benefit of ACP to the health care system would be greater than cost of administering “sometime in the near future.”

a. What evidence do you have to support this claim?

Answer. The key points to my answer are briefly summarized immediately below, with a more complete answer provided thereafter.

- My written testimony cites many studies indicating significant cost savings and additional studies are included here.
- Broadband is a general-purpose technology that produces productivity gains throughout different sectors of the economy. The cost of providing it to those who cannot currently afford it is relatively small compared to the economic gains that such access would provide, in healthcare and other areas.
- Two House committees recently unanimously passed extensions to telehealth reforms initially adopted to enable telehealth during Covid, implicitly confirming the value of telehealth to improve outcomes and lower costs.
- While I am confident that I am directionally correct, there are many ways to run the numbers. It would be helpful in the context of not just the ACP debate, but also for the future of Medicare, Medicaid, and the Veterans Administration for the Administration and/or Congress to seek an authoritative study on how best to utilize telehealth to improve the outcomes and lower the costs of those programs.
- In doing that study, it is important to “skate where the puck is going,” which includes improvements to and increases in the utilization of telehealth.

My written testimony points to numerous studies that point to savings through telehealth. Specifically, I wrote that “It should not be surprising that as a 2021 medical paper found that ‘Digital literacies and Internet connectivity have been called the ‘super social determinants of health’ because they address all other social determinants of health (SDOH). For example, applications for employment, housing, and other assistance programs, each of which influences an individual’s health, are increasingly, and sometimes exclusively, accessible online. The costs of equipping a person to use the Internet are substantially lower than treating health conditions and the benefits are persistent and significant, making the efforts to improve digital literacy skills and access valuable tools to reduce disparities.”<sup>9</sup>

Similarly, a 2018 a Georgetown Business School paper looking at multiple studies found that as to telehealth (referred to in this paper as eHealth) the “deployment of the Internet creates the possibility that consumers can access information at significantly lower costs than heretofore possible. But does this access to online health-related information (i.e., eHealth) improve healthcare behaviors and outcomes? We find that eHealth use promotes precautionary and acute healthcare consumption and improves health outcomes.”<sup>10</sup>

But it is not just good for the patient; it is also good for the patient’s insurance company. As the largest health care insurer, the Federal government should want to take advantage of savings such as those seen in a recent study<sup>11</sup> finding the cost

<sup>7</sup>This is also consistent with the Dr. Horrigan’s research which has also found that, as a percentage of total households, ACP enrollment in rural areas outpaced urban areas <https://www.benton.org/blog/affordable-connectivity-program-and-rural-america>

<sup>8</sup>DeStefano, Tim and John W. Mayo “What do the Early Data Indicate about the Affordable Connectivity Program,” Georgetown University, McDonough School of Business, Center for Business and Public Policy, October 2023. Available here <https://georgetown.app.box.com/s/dgidkcv02uo0b70asay69l65syem39h>

<sup>9</sup><https://www.nature.com/articles/s41746-021-00413-8>

<sup>10</sup>Macher, Jeffrey T., John W. Mayo and Olga Ukhaneva “Does the Internet Improve Consumer Healthcare Behaviors, Georgetown University working paper, October 29, 2018.

<sup>11</sup><https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2800164>

savings of using telehealth for patients with cancer ranged from \$147 to \$186 per visit, or the University of Pennsylvania study<sup>12</sup> showing that telemedicine was 23 percent less expensive than in-person visits. Cigna found that “average cost of a non-urgent virtual care visit is \$93 less than the average cost of an in-person visit. Seeing a specialist averages \$120 less for a virtual visit than an in-person visit, while a virtual urgent-care visit averages \$141 less than being seen in an urgent care clinic.”<sup>13</sup> Similarly, a 2023 study<sup>14</sup> by the Department of Veterans Affairs found that “veterans who utilized a new tele-emergency service were nearly half as likely to visit an emergency department in-person and showed reduced short-term Veteran visits to emergency departments outside of VA.”

Another area where telehealth can improve both costs and outcomes is with maternal mortality rates. The United States has an alarming trend line in this arena, with an increase of 60 percent in maternal mortality between 2019 and 2021.<sup>15</sup> At the behest of Congress, the Federal Communications Commission mapped where maternal mortality is highest—and the maps of places where new mothers die at the highest rates look a lot like maps of where household Internet subscription rates are low,<sup>16</sup> both being consequences of low household income.

It is worth noting that there are promising ways to address maternal mortality that rely on home broadband for new mothers. In Louisiana, Ochsner Health has had success in using digital tools to monitor at-home blood pressure and other risk factors for pregnant women, resulting in fewer hospital admissions and cesarean section procedures. Such remote maternity online monitoring has reduced unexpected neonatal intensive-care unit admissions by 27 percent.<sup>17</sup>

The healthcare benefits of using digital tools extend beyond maternal mortality. Telehealth is associated with people maintaining their participation in opioid treatment programs<sup>18</sup> and telehealth can reduce the cost of healthcare service delivery with only marginal increases in in-person visits.<sup>19</sup>

These citations are not exhaustive. For example, as a recent article noted “a significant portion of telehealth visits in 2021—44 percent to be precise—were related to chronic conditions, which are more prevalent in lower-income areas. Research has shown that the use of telehealth services can potentially reduce mortality rates and hospital stays among lower-income patients.”<sup>20</sup> In this regard, let me also point to a study cited in the 2010 National Broadband Plan that found that remote monitoring could generate net savings of \$197 billion over 25 years from just four chronic conditions.<sup>21</sup> Further, as the 2010 National Broadband Plan also found “video consultations could lead to \$1.2 billion in annual savings through avoiding costs from moving patients from correctional facilities and nursing homes to emergency departments and physician offices.”<sup>22</sup> The Plan pointed to even greater savings through the use of telehealth for the Veterans Health Administration (VHA) where a Care Coordination/Home Telehealth (CCHT) program “led to a 25 percent reduction in bed days of care and a 19 percent drop in hospital admissions. At \$1,600 per patient per year (the cost of the CCHT program), it costs far less than the VHA’s home-

<sup>12</sup> <https://www.pennmedicine.org/news/news-releases/2023/june/employee-telemed-visits-25-percent-less-costly-for-health-system>

<sup>13</sup> <https://newsroom.cigna.com/convenient-cost-effective-and-high-quality-virtual-care-is-here-to-stay>

<sup>14</sup> <https://www.va.gov/ann-arbor-health-care/stories/new-research-telehealth-emergency-care-leads-to-decreased-emergency-department-visits-hospitalizations-reduced-health/#:~:text=Health%20Care%20Costs-New%20Research,%20Telehealth%20Emergency%20Care%20Leads%20to%20Decreased%20Emergency%20Department,Hospitalizations%2C%20Reduced%20Health%20Care%20Costs>

<sup>15</sup> <https://healthcare.rti.org/insights/digital-health-maternal-outcomes>

<sup>16</sup> <https://www.fcc.gov/reports-research/maps/connect2health/maternal-health-map.html?bbSel=Broadband+Access&mhSel=Maternal+Deaths&bbThresh=90.25&mhThresh=1&md=2>

<sup>17</sup> <https://www.ama-assn.org/practice-management/digital/how-digitally-enabled-care-can-improve-postpartum-outcomes>

<sup>18</sup> <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2810828>

<sup>19</sup> <https://www.ajmc.com/view/economics-of-a-health-system-s-direct-to-consumer-telemedicine-for-its-employees>

<sup>20</sup> <https://www.statnews.com/2023/07/20/acp-internet-access-health-care/>

<sup>21</sup> Robert Litan, Better Health Care Together Coalition, Vital Signs Via Broadband: Remote Health Monitoring Transmits Savings, Enhances Lives (2008), available at <http://www.betterhealthcaretogether.org/Library/Documents/VITAL%20SIGNS%20via%20BROADBAND%20FINAL%20with%20FOREWORD%20and%20TITLE%20pp%2010%2022.pdf>

<sup>22</sup> CITL, The Value of Provider-to-Provider Telehealth Technologies. CITL modeled pre-and post-telehealth costs based on national baseline number of transports, transport cost, and number of avoided transports. Annual savings were calculated by subtracting post telehealth costs from pre-telehealth costs for each provider-to-provider setting. These savings sum to \$1.2 billion.



based primary care services (\$13,121 per year) and nursing home care rates (\$77,745 on average per patient per year.)”<sup>23</sup>

This savings should not be surprising. As the Georgetown study noted “online health-related information appears to shift some proportion of healthcare consumption from acute to precautionary care (e.g., via increased doctor visits) and to improve health outcomes (e.g., via reduced hospital stays). As hospital stays are orders of magnitude more costly than typical doctor visits, it would seem that providers (i.e., hospitals) and insurance companies have vested interests in (1) increasing the deployment of broadband technologies, and (2) insuring the health information available online is timely and accurate.”<sup>24</sup>

It is also important to consider how telehealth is becoming more important for certain geographic areas. In 2010, the Plan noted that “Video consultation is especially beneficial for extending the reach of under-staffed specialties to patients residing in rural areas, Tribal lands and health professional shortage areas (HPSAs)” and that at that time sixty-five million people reside in such HPSAs.<sup>25</sup> The number of Americans living in HPSAs is, as of March, now 74,383,347, with rural areas representing nearly 67 percent of such areas.<sup>26</sup> This is a problem that is likely to get worse. Since 2005, 104 rural hospitals have closed and more than 600 additional rural hospitals—30 percent of all rural hospitals in the U.S.—are at risk of closing in the near future, according to the Center for Healthcare Quality and Payment Reform.<sup>27</sup> There is also a problem with rural hospitals losing services. For example, Texas has seen the greatest number of rural hospital closures, at 25, but also the greatest number of rural hospitals losing services, at 101.<sup>28</sup>

In short, there are many ways that telehealth can reduce costs and improve outcomes. This is not really a debatable point. As a recent witness<sup>29</sup> testified at a House hearing on telehealth, there is now substantial research demonstrating improved outcomes and access across numerous specialties and a vast array of healthcare services published in recent years.<sup>30</sup>

Another way to consider potential cost savings is through McKinsey’s finding that “evidence prior to COVID-19 shows that telehealth solutions deployed for chronic populations can improve total cost of care by 2 to 3 percent.”<sup>31</sup> Medicaid spending in FY 2022 was \$804 billion.<sup>32</sup> As to the portion attributable to chronic conditions, a study on the prevalence and medical costs of chronic diseases among the adult Medicaid population noted that “The high prevalence of chronic diseases is a key driver of total U.S. healthcare costs; in 2010, 86 percent of healthcare spending was for patients with at least one chronic condition, and 71 percent of spending was for patients with multiple conditions.” The study further noted that “Medicaid has primarily covered low-income children and parents, pregnant women, and the disabled. This population is vulnerable to higher rates of chronic diseases than are seen in the U.S. as a whole or even in the low-income population overall.”<sup>33</sup> Assuring that

<sup>23</sup> Adam Darkins *et al.*, Care Coordination/Home Telehealth: The Systematic Implementation of Health Informatics, Home Telehealth, and Disease Management to Support the Care of Veteran Patients with Chronic Conditions, 10 *Telemed. & e-Health* 1118, 1118 (2008), available at <http://www.liebertonline.com/doi/pdf/10.1089/tmj.2008.0021?cookieSet=1>

<sup>24</sup> Macher, Jeffrey T., John W. Mayo and Olga Ukhaneva “Does the Internet Improve Consumer Healthcare Behaviors, Georgetown University working paper, October 29, 2018.

<sup>25</sup> <https://transition.fcc.gov/national-broadband-plan/national-broadband-plan.pdf> Section 10.1

<sup>26</sup> Bureau of Health Workforce Health Resources and Services Administration (HRSA) U.S. Department of Health & Human Services. BCD\_HPSA\_SCR50\_Qtr\_Smry.pdf

<sup>27</sup> <https://www.beckershospitalreview.com/finance/states-with-the-most-rural-hospital-closures.html>

<sup>28</sup> *Ibid.*

<sup>29</sup> The witness was Lee Schwamm, MD, FAHA, the Associate Dean of Digital Strategy & Transformation at the Yale School of Medicine and the Senior Vice President and Chief Digital Health Officer for the Yale New Haven Health System. The witness is also a professor of Neurology and Biomedical Informatics & Data Sciences.

<sup>30</sup> The testimony can be found at [https://democrats-energycommerce.house.gov/sites/evo-sub/sites/democrats-energycommerce.house.gov/files/evo-media\\_document/Lee%20Schwamm%20Testimony\\_04.10.2024.pdf](https://democrats-energycommerce.house.gov/sites/evo-sub/sites/democrats-energycommerce.house.gov/files/evo-media_document/Lee%20Schwamm%20Testimony_04.10.2024.pdf). The testimony cited referred to a recent study that can be found at Kevin K Wiley, Johnson J, Coleman C, Olson C, Chuo J, McSwain SD. Translating Value Across Telehealth Stakeholders: A Rapid Review of Telehealth Measurement Evidence and a New Policy Framework to Guide Telehealth Researchers. *Telemedicine and e-Health*. April 2, 2024. <https://doi.org/10.1089/tmj.2023.0211>

<sup>31</sup> <https://www.mckinsey.com/industries/healthcare/our-insights/telehealth-a-quarter-trillion-dollar-post-covid-19-reality>

<sup>32</sup> <https://www.kff.org/medicaid/state-indicator/total-medicaid-spending/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D>

<sup>33</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5798200/>

all Medicaid recipients had access to broadband could, under that analysis, save Medicaid billions.

One could also add savings to the government related to the Veterans Administration. Military families make up nearly half of all ACP recipients.<sup>34</sup> The Veterans Administration budget is about \$302 billion with 42 percent, or \$126 billion, allocated to healthcare.<sup>35</sup> Redesigning the system to assure that all veterans can take advantage of telehealth could add additional savings.

None of these studies are ACP focused. But it is reasonable to extrapolate savings on chronic conditions, mortality, hospital stays, emergency room visits, transport, and many other healthcare services. After all, no demographic group is immune from the need for such services. And indeed, as noted above, there are certain savings likely to be greater on a per capita basis for the ACP population than for the general public, such as with monitoring chronic conditions.

Having said that, you are correct in quoting me to the extent that I am not a health economist. The studies cited above suggest that I am directionally correct, but I recognize that there are ways to refine those numbers to provide a more complete and accurate assessment of the potential improvement of outcomes and lower costs of government insured health care if all were connected.

What I hope we could all agree on is that it would be helpful in the context of not just the ACP debate—but also for the future of Medicare, Medicaid, and the Veterans Administration—for the Administration and/or Congress to seek an authoritative study on the issue. I think it should be framed in terms of what COVID has taught us about the future of healthcare delivery. That episode accelerated the movement to online healthcare, and it would serve many public policy purposes to have such a study.

In doing that study, we should incorporate the wisdom of Wayne Gretzky, who famously said that the key is to skate to where the puck is going. So here, there is a movement by multiple stakeholders to use telehealth generally to improve outcomes and lower costs. We should not only understand that movement, but we should restructure our government's healthcare insurance policies (Medicare, Medicaid, and medical services provided by the Veterans' Administration) to take advantage of the opportunities created by modern communications technology. After all, as discussed in my testimony, broadband is a general-purpose technology that produces productivity gains throughout different sectors of the economy. The cost of providing it to those who cannot currently afford it is relatively small compared to the economic gains that such access would provide, in healthcare and other areas.

In this regard, let me point to and praise the House Ways and Means Committee for its recent passage of the Preserving Telehealth, Hospital, and Ambulance Access Act by a vote of 41–0 and the House Health Subcommittee of the Energy and Commerce Committee for its unanimous vote supporting the Telehealth Modernization Act of 2024. I hope the House and then the Senate follow. These Acts extend numerous provisions adopted to address healthcare needs clearly demonstrated during the COVID crisis.

Two points about it are particularly notable for our discussion of the ACP. First, the legislation recognizes that while the COVID emergency is over, the movement to online delivery of essential services is not. Second, it did not make the changes permanent. It created extensions, so that legitimate issues raised in the debate could be studied before adopting more permanent rules. There is wisdom in both that applies to the ACP; a recognition of the importance of telehealth for healthcare delivery and the willingness to keep the status quo while studying the details before adopting longer-term rules.

But perhaps the most important message from the unanimous votes in the Committees is this. While the House has many issues on which there is huge canyons separating the views of the members, it is apparently in agreement that increased access to telehealth will result in improved outcomes and/or lower costs. If not, why would they have voted to provide increased access to telehealth? And if so, don't we want all lower income American families whose health insurance is provided by the government to take advantage of the efficiencies that the House Committees clearly saw in their unanimous actions to extend the telehealth provisions?

In short, given the amount the United States spends on Medicare and Medicaid, universal, sustainable broadband should be seen as a huge opportunity to improve health outcomes while lowering costs. We should seize that opportunity.

b. Please specify what you mean by "sometime in the near future."

<sup>34</sup> <https://www.whitehouse.gov/briefing-room/statements-releases/2024/02/06/fact-sheet-as-affordable-connectivity-program-hits-milestone-of-providing-affordable-high-speed-internet-to-23-million-households-nationwide-biden-harris-administration-calls-on-congress-t/>

<sup>35</sup> <https://www.pgpf.org/blog/2024/04/spending-on-veterans-in-the-budget>

Answer. There are many variables that can affect the timing of any technology trend, including government policies. But given the trends that I see in communications, artificial intelligence, and healthcare delivery, I think in 3–5 years it should be clear that just as being online is, in Congress’ words, “essential to full participation in modern life in the United States” and the affordability barrier to adoption is a barrier to the “equitable distribution of essential public services, including health care,” it will be clear that every provider of health insurance will want to make sure all the persons they cover have in home access to telehealth.

*Question 3.* You testified that investing in ACP “may actually result in a . . . net cost savings to the government.”

a. What evidence do you have to support this claim?

Answer. Please see the answer to question 2a for some of the evidence. As noted, the savings from reductions in the cost of Medicaid alone could result in a net gain to the government. And that does not incorporate savings from Medicare, the Veterans Administration, and other government-funded healthcare programs.

Further, there are other savings related to other government programs. For example, as noted in my written testimony, for lower-income individuals, adopting in-home broadband increases their likelihood of employment by 14 percent, with 62 percent of those newly connected households citing the connection as having helped them or a family member successfully find employment.<sup>36</sup> This trend, applied across all ACP recipients, would reduce the cost of unemployment insurance.

Another set of savings would be found in the administration of government services. The U.K. government, for example, estimated that it could save up to several billions by shifting 80 percent of public services online, with savings likely to come from four key areas: the reduced staff time involved in processing digital transactions compared to offline alternatives; estates and accommodation; postage, packaging, and materials; and the costs of supporting IT systems. Among the more dramatic findings were that the cost of digital transactions was 20 times lower than by phone and 50 times lower than face to face.<sup>37</sup> As a study from the consulting group BCG pointed out, online government services can also spur job creation and economic growth. For example, when new businesses have a simple path for filing documents and obtaining licenses, barriers to entry are lowered and growth increases.<sup>38</sup>

b. Would the net cost saving be immediate? Or would it be down the road?

Answer. It would, if administered properly, be immediate. In particular, I would expect savings in healthcare, job training and placement, and government services to be immediate upon effective adoption.

Savings related to education are more long term.<sup>39</sup> For example, an analysis from Common Sense Media extrapolated from the previously mentioned study from Michigan State University showing the effect of connectivity and devices on student performance to show a GDP loss of \$22b–\$33b attributable to bad student connectivity.<sup>40</sup>

But the key point policy makers should understand that whatever the savings there are today, those savings are likely to grow down the road.

Let me add that in answering your questions two and three, I recognize that we should all be humble in understanding that many factors, some unknowable today, can affect future outcomes. But while we cannot know for future what the future holds, we nonetheless must move forward by making reasonable predictions. For the

<sup>36</sup> <https://www.aeaweb.org/articles?id=10.1257/pol.20190648>

<sup>37</sup> <https://www.gov.uk/government/publications/digital-efficiency-report/digital-efficiency-report>

<sup>38</sup> Awad, N., Brice, J., Ferrer, S., Kim, H. & Stuart, T. (2022). Delivering government services like a digital native. Boston Consulting Group. <https://www.bcg.com/publications/2022/delivering-customer-centric-digital-government-services>.

<sup>39</sup> In my oral testimony I mentioned how in the early 2000s, my sister, a public-school teacher pointed out my work at the FCC resulted in difficulties for her in that many of her students were using Internet access to do their homework while others did not have access. That problem continues. As Common Sense Media has pointed out “Over 40 percent of Title I teachers do not assign work that requires Internet access because they fear that doing so would exacerbate inequalities, and nearly 60 percent report that a lack of home Internet and computers limits student learning.” Fazlullah, A. & Ong, S. (2019). The homework gap: Teacher perspectives on closing the digital divide. Common Sense Media. <https://www.common Sense Media.org/sites/default/files/featured-content/files/homework-gap-report-2019.pdf>. My point for raising it here is to note that while I would hope we could all agree that those fears and the failure to assign certain kinds of homework will be negative for our economy down the road, it is difficult to be precise about the timing and scope of those costs.

<sup>40</sup> [https://www.common Sense Media.org/sites/default/files/research/report/final\\_-\\_what\\_it\\_will\\_take\\_to\\_permanently\\_close\\_the\\_k-12\\_digital\\_divide\\_vfeb3.pdf#page=7](https://www.common Sense Media.org/sites/default/files/research/report/final_-_what_it_will_take_to_permanently_close_the_k-12_digital_divide_vfeb3.pdf#page=7)

last quarter century, most of my work has been with institutional investors who every day make investments based on their predictions of the future. Some turn out to be true; others don't. But those in that business don't have the luxury of throwing up their hands and simply saying "who knows?"

Neither does the Congress. I think Congress was right to invest \$42.5 billion in rural broadband deployment, but one could argue that it should have waited until we were sure wireless would not offer the same functionality. Waiting, however, carries its own costs, particularly when the evidence is strong that fiber is far more future proof. As for the adoption side, as discussed above, I am for more through study. But as of now, the data is very clear that directionally there are significant savings to be had today from getting all Americans online and there will be more savings in the future. Ecclesiastes suggested that the race is not always to the swift nor the battle to the strong.<sup>41</sup> Still, as Damon Runyon noted, "but that's the way to bet." So here, we as a country should be betting on savings from online services growing over time.

*Question 4.* During the hearing, you claimed there was a study by John Horrigan which estimated that for "every dollar spent on ACP, we get a \$3.89 increase in GDP."

a. Is there a John Horrigan paper that finds this conclusion? If yes, please provide a citation for this study.

Answer. In my written testimony I cited Dr. Horrigan's paper as saying, "Another study found that 'every dollar of ACP subsidy returns nearly two dollars in impacts to those using the program' due to 'employment effects that boost household income; and convenience effects, e.g., time saved from shopping online as well as having access to a greater variety (or quality) of goods.'" The title of that study is "The Affordable Connectivity Program Creates Benefits that Far Outweigh the Program's Costs."<sup>42</sup>

In that written testimony I cited a different paper related to the finding on the increase in the GDP.

To the extent that my oral testimony implied something different than my written testimony, that is my error for which I apologize.

I would note, however, that there are other studies that come to similar findings about how universal broadband access and adoption can increase the GDP. For example, a 2021 paper published by the National Bureau of Economic Research found that "moving to high-quality, fully reliable home Internet service for all Americans ('universal access') would raise earnings-weighted labor productivity by an estimated 1.1 percent in the coming years. The implied output gains are \$160 billion per year, or \$4 trillion when capitalized at a 4 percent rate."<sup>43</sup>

b. John Horrigan has published a "brief," in which he provides an "exploration" of existing data to develop a benefit-cost analysis. According to this brief, "This exploration finds that every dollar of ACP subsidy returns nearly two dollars in impacts to those using the program." Is this the paper you meant to discuss during your testimony?

Answer. As noted above, that is the brief to which my written testimony refers, and it is the brief to which I meant to refer to in my oral testimony.

c. In this brief, Mr. Horrigan states that the FCC's survey finds that only 22 percent of the ACP recipients did not have Internet prior to ACP. Do you also agree that this is the finding of the FCC survey?

Answer. I believe that the single data point misrepresents Dr. Horrigan's analysis and the historical record.

A fair reading of Dr. Horrigan's work would start by adopting his insight that ACP is part of a three-legged stool that during the pandemic helped increase broadband adoption and sustain it for low-income households. Philanthropic and private sector initiatives were important, but the EBB and then the ACP were crucial in making these efforts have an impact on a national scale.

It is then important to consider how Dr. Horrigan describes that ACP's predecessor EBB is an important historical antecedent that, if, taken into account, would increase that number of households that were not connected prior to a government subsidy program. As he writes, "It is hard to escape the fact that pandemic era initiatives (such as stimulus checks, the EBB, private-sector marketing initiatives, and philanthropic efforts) were responsible for getting a large number of low-income households online. The ACP not only sustained this, but helped low-income house-

<sup>41</sup> Ecclesiastes 9:11.

<sup>42</sup> <https://www.benton.org/publications/affordable-connectivity-program-benefits-outweigh-costs>.

<sup>43</sup> <https://www.nber.org/papers/w29102>

holds weather a 2022 that saw a growth in inflation, the end of the child tax credit, and other economic headwinds. It is worth noting that the data only takes us through 2022 and it is likely that 2023 ACP signups included significant numbers of wireline customers.”<sup>44</sup>

Further, Dr. Horrigan writes that based on his analysis of American Community Survey data from 2019–2022, 56 percent of the growth in home wireline broadband subscriptions in that time was among households whose annual incomes were \$50K or less. And 38 percent of the growth was from “under \$25K households” (that make up about 16 percent of all households).<sup>45</sup> ACP and EBB were partly responsible for this.<sup>46</sup>

Dr. Horrigan also urges policy makers to understand that a high percentage of ACP recipients are returning and intermittent users, writing for example “Many low-income households have at one time had their Internet subscription lapse. Estimating just how many low-income households are likely to cycle on and off home connectivity in a given year is a crucial step in determining the overall benefit of the program.”<sup>47</sup>

He then suggests that policymakers ask, “How many more consistent broadband subscribers did ACP create?” He answers that question by writing:

- Surveys conducted during the pandemic showed that 29 percent of Internet users with annual incomes below \$30,000 (or nearly 5 million households) lost service due to the economic challenges the pandemic imposed upon them.
- That survey looked not just at those who lost service but also at the past subscription patterns of those currently lacking service. Some 31 percent of those without a home wireline subscription had had service in the past.
- Another view of the comings-and-goings of connectivity comes via data from surveys that ask people without service if they had had a home subscription previously. The National Telecommunications and Information Administration’s (NTIA) 2021 Internet Use surveys found that 23.5 percent of households without Internet subscriptions had household members who had previously been home Internet users. •
- If 30 percent of wireline ACP enrollees restore service they once had, this comes to about 2.4 million “returning user” households—30 percent of the 8 million wireline ACP enrollees who are not new broadband households due to the benefit.<sup>48</sup>

In short, the 22 percent number is a snapshot in time that ignores critical data from both before and after the snapshot was taken.

*Question 5.* Your written testimony cites a 2021 article from the American Economic Journal: Economic Policy. That study is not based on ACP but instead is based on information from a Comcast program from 2012–2018.

a. Given that private low-income plans like Internet Essentials and Spectrum Internet Assist were available in the majority of the country prior to ACP, doesn’t that suggest that a \$30 nationwide subsidy isn’t universally necessary, and that ACP should be better tailored to account for local offerings and the presence of competition?

Answer. I applaud private efforts to address low-income adoption, particularly Comcast’s Internet Essentials, which is the oldest and most extensive program. To reiterate a point that I made in my answer to question 1b, Comcast started the program in 2011 and has continually studied and changed the program to improve its outcomes. That is the path the FCC and Congress should follow with the ACP.

But the question ignores how the ACP, by focusing on improving the demand side of the equation, improved the supply side of low-income offerings. ACP caused the private sector to improve the quality of their offerings to lower income Americans—both in terms of the price actually paid by the consumer and the quality of the service—in response to greater aggregate demand from lower-income households.

Moreover, I don’t think that private efforts alone will solve the problem of universal broadband, in the same way that the admirable private efforts providing meals for the hungry would not eliminate the need for SNAP or the commendable charitable efforts related to healthcare would not eliminate the need for Medicaid.

<sup>44</sup> [https://www.benton.org/sites/default/files/ACP-Cost-Benefit\\_0.pdf](https://www.benton.org/sites/default/files/ACP-Cost-Benefit_0.pdf)

<sup>45</sup> A 2023 USC survey of California made similar findings. <https://broadbandforall.cdt.ca.gov/wp-content/uploads/sites/19/2023/12/2023-Statewide-Digital-Equity-Survey-Final-Remediated-Report.pdf#page=19>

<sup>46</sup> [https://www.benton.org/sites/default/files/ACP-Cost-Benefit\\_0.pdf](https://www.benton.org/sites/default/files/ACP-Cost-Benefit_0.pdf)

<sup>47</sup> [https://www.benton.org/sites/default/files/ACP-Cost-Benefit\\_0.pdf](https://www.benton.org/sites/default/files/ACP-Cost-Benefit_0.pdf)

<sup>48</sup> [https://www.benton.org/sites/default/files/ACP-Cost-Benefit\\_0.pdf](https://www.benton.org/sites/default/files/ACP-Cost-Benefit_0.pdf)

As to the dollar amount that the government subsidy should provide, I would hope that the FCC economists, who are capable of great work, would take the data from the EBB and ACP programs and provide an analysis to Congress about the two variables of the eligibility criteria and price point.<sup>49</sup> I would further hope that the analysis would evaluate the trade-offs for different combinations.<sup>50</sup> I would also hope that the FCC could evaluate and determine if there are various ways to lower the cost structure for providers and benefit from that in terms of lowering the price point and structure its programs and advise Congress accordingly.<sup>51</sup>

As to tailoring the program for local offerings, I am not sure what the question is implying. But if it should be read to imply that we should have a different program for areas served by different ISPs, I would be opposed. I don't see why we would subsidize Comcast subscribers differently than Charter, AT&T or Verizon subscribers. I think such a program would be administratively chaotic and lead to problematic and inefficient incentives.

As to focusing on competition, I support improved market-based competition. Indeed, we are seeing significant market-based efforts to upgrade copper networks to fiber that I believe will improve broadband prices and offerings for tens of millions of Americans.

But no one should be under the illusion that the increased fiber competition to cable will result in entry level prices sufficient to result in low-income Americans increasing their levels of adoption. Noted telecom economist Dr. Scott Wallsten of the Technology Policy Institute analyzed the data relating to fiber-cable competition and in a 2021 paper demonstrated that additional cable-fiber competition does not bring the unconnected online.<sup>52</sup>

Again, as I said in my written and oral testimony, I am in complete agreement with the 20 House Republicans who wrote Speaker Johnson last month asking for action on ACP, saying "We believe that bipartisan solutions are within reach to ensure uninterrupted access to the ACP while concurrently pursuing long-term funding strategies." That is, I would hope Congress would provide an ACP extension and then, as part of a larger and necessary Universal Service Fund reform effort, design a more efficient and sustainable program that moves us toward universal adoption.

*Question 6.* Your written testimony cites several studies regarding telemedicine. Most of these studies are based on information that predates ACP, and none of the studies cite ACP as a benefit. Telemedicine may be a great benefit to Americans, but the studies cited indicate that it would have been a great benefit without ACP.

a. What evidence exists that households, who were not previously purchasing Internet and are now doing so through ACP, have used the Internet to access telemedicine?

Answer. First, the record shows that ACP recipients regard using access to broadband as critical to their healthcare. A recent study found that 75 percent of ACP participants fear that losing access to ACP will result in losing access to healthcare.<sup>53</sup> This is consistent with another large-scale survey found that 45 percent of adults believe that inadequate access to technology, including broadband and computers, is a barrier to telehealth, and this was especially prominent among rural residents and adults over the age of 65.<sup>54</sup> That is, ACP recipients and the public

<sup>49</sup> Some have suggested a different variable of eligibility being based on not previously being on broadband. I would hope those advocating that position would acknowledge that the current law does not make that requirement. I would also hope they would have the decency to articulate how they think it would be administered. I think such a requirement would be an administrative nightmare for the ISPs and the recipients.

<sup>50</sup> On this point, the Committee might review Dr. Horrigan's 2021 affordability study which supports the "one size does not fit all" finding on the price point, as different people in the same income bracket had very different views as to what they would be willing to pay to obtain a broadband service. <https://static1.squarespace.com/static/5aa8af1fc3c16a54bcb0415/t/61ad7722de56262d89e76c94/1638758180025/EveryoneOn+Report+on+Affordability+%26+the+Digital+Divide+2021.pdf>

<sup>51</sup> In this regard, I might reference the current debate occurring at the FCC over "bulk billing" practices in which various parties are arguing that bulk billing enables lower prices while some are arguing the opposite. My point is not to weigh in on the merits of that debate but to suggest the debate appears to show evidence that there may be ways, through the aggregation of demand, to lower prices.

<sup>52</sup> <https://techpolicyinstitute.org/wp-content/uploads/2021/05/Does-Competition-Between-Cable-and-Fiber-Increase-Adoption.pdf>.

<sup>53</sup> <https://www.bsgco.com/acp-fact-sheet>

<sup>54</sup> Bailey, V. (2021). Limited broadband poses a significant barrier to telehealth access. MHealthIntelligence. <https://mhealthintelligence.com/news/limited-broadband-poses-a-significant-barrier-to-telehealth-access>.

generally understand that today broadband access is critical to obtaining healthcare services.

Second, there are numerous media reports of ACP recipients using and depending on Internet access for healthcare.<sup>55</sup> While I am aware that anecdotes are not the same as data, there should not be any doubt as to the impact of ACP on the use of telehealth.

Third, there is evidence that when lower income persons have broadband access, they tend to use it for healthcare more than the general population. For example, the Georgetown study noted above found that “consumers who face greater financial constraints (*e.g.*, those with high deductible healthcare plans or who delay healthcare to save money) are more likely to use eHealth. This finding suggests that eHealth provides a tool for altering and potentially improving consumer healthcare decision-making—especially for those who most acutely bear healthcare costs.”<sup>56</sup>

Fourth, while I agree with the comment that “Telemedicine may be a great benefit to Americans, but the studies cited indicate that it would have been a great benefit without ACP,” we should not be blind to the fact that the United States government, through Medicare, Medicaid, and the Veterans Administration, is the largest provider of health insurance in the country. If the general public and private insurers benefit from telehealth, then the government, as a provider of health insurance, would benefit as well, particularly given the overlap of those depending on ACP and those depending on Medicaid and Veterans Administration services.

Fifth, the question implies that ACP recipients might regard the value of telehealth differently than other broadband subscribers. There is no evidence that this is true. To the contrary, there is evidence that among those connected, telehealth is quite popular. For example, a study showed that among patients who recently used telehealth, 73 percent reported they would continue to use telehealth services in the future, while 41 percent reported they would have chosen telehealth over an in-person appointment, even if both required a co-pay.<sup>57</sup> Again, there is no reason to believe that ACP recipients would view the benefits of telehealth differently.

Sixth, with respect, I think the question ignores the wisdom, cited before, of skating to where the puck is going. Not only do we need ACP for telehealth, but we should also be looking for ways in which we can use telehealth for all Americans to improve outcomes and reduce costs. At the recent House hearing on telehealth cited above, the expert on telehealth correctly noted that “Congress should focus on facilitating improved access to high-quality, integrated telehealth services by strengthening broadband access for disadvantaged and rural populations, establishing digital health literacy programs, conducting research to demonstrate the value of telehealth services (particularly hybrid telehealth modalities), and promoting payment models that increase adoption of well-integrated telehealth services focused on chronic disease management, longitudinal care, and service for disadvantaged populations.”<sup>58</sup>

The bottom line is that we should think of ACP as an essential piece of the puzzle for addressing healthcare needs in our country in an effective and efficient manner. And we should not neglect the fact that we also must put together the entire puzzle.

*Question 7.* Your written testimony states: “But of course, if ACP goes away, those savings will also go away and to put a fine point on it, it is a mathematical certainty that there will be communities in, for example, Texas that instead of getting fiber will end up with fixed wireless or even satellite.”

a. Please provide specific numbers and equations that support the “mathematical certainty” portion of your statement.

Answer. The key points to my answer are briefly summarized immediately below, with a more complete answer provided thereafter.

- The BEAD program does not fund the cost of deployment broadband to an unserved or underserved area; rather it funds the difference between the cost of deployment and what a provider would be willing to invest to serve that area.

<sup>55</sup> See, for example, <https://kffhealthnews.org/news/article/internet-subsidy-ending-affordable-connectivity-program-telehealth/> or <https://www.cnet.com/home/internet/americans-are-facing-a-mental-health-crisis-losing-the-internet-wont-help/>

<sup>56</sup> Macher, Jeffrey T., John W. Mayo and Olga Ukhaneva “Does the Internet Improve Consumer Healthcare Behaviors, Georgetown University working paper, October 29, 2018.

<sup>57</sup> <https://www.ama-assn.org/practice-management/digital/patients-doctors-telehealth-here-s-what-should-come-next>

<sup>58</sup> [https://democrats-energycommerce.house.gov/sites/evo-subsites/democrats-energycommerce.house.gov/files/evo-media-document/Lee%20Schwamm\\_Witness%20Testimony\\_04.10.2024.pdf](https://democrats-energycommerce.house.gov/sites/evo-subsites/democrats-energycommerce.house.gov/files/evo-media-document/Lee%20Schwamm_Witness%20Testimony_04.10.2024.pdf)

- ACP increases the revenue for any such area, those closing the gap described above and decreasing the amount of BEAD funding necessary for that specific area, making the funds available for other areas.
- BCG found that ACP reduces the amount needed to incentivize ISP investment by about 25 percent per location or \$500.
- A conservative projection indicates that the number of locations that will miss out on the opportunity to obtain fiber due to the end of the ACP program will be at least 47,705, though the actual number is likely to be larger.

As I noted in my written testimony, the consulting group BCG found that ACP reduces the subsidy needed to incentivize providers to build in rural areas by 25 percent per household, writing “the existence of ACP, which subsidizes subscriber service fees up to \$360 per year, reduces the per-household subsidy required to incentive ISP investment by \$500, generating benefit for the government and increasing the market attractiveness for new entrants and incumbent providers.”<sup>59</sup>

This makes sense from a capital markets perspective. After all, BEAD is not designed to fund 100 percent of the cost of any deployment. It will fund the difference between the cost of the deployment and what the private market would have paid to deploy a network to serve a designated geographic area. The greater the revenue, and hence likely profit, that the area would provide, the greater the private market’s willingness to invest, reducing the amount of BEAD funding necessary for the specific project.<sup>60</sup>

So, let’s apply this to the situation in Texas, using numbers provided in a January 2024 report by Cartesian, a consulting group, and ACA, a trade association representing small cable providers.<sup>61</sup>

Texas, under the Infrastructure Bill’s BEAD formula, will receive \$3.3 billion, with an obligation to use the funds to connect all unserved locations and, if there are additional funds, to connect all underserved locations.

Cartesian finds that Texas has 364,700 unserved locations and 199,100 underserved locations. The current number is higher,<sup>62</sup> but the FCC’s RDOF and EACAM programs are currently set to serve 322,434 unserved and underserved Texas locations.<sup>63</sup> Thus, that leaves approximately 563,800 locations as the responsibility of BEAD funds.

Cartesian estimates that the ISPs bidding for BEAD funds will provide \$1.6 billion for the projects,<sup>64</sup> bringing the total to be utilized for the capital expenditures of deployment to \$4.9 billion. That would average out to about \$8,675 per location, though in reality there is a wide variation in the actual cost to serve different locations. Cartesian estimates that the average private sector contribution would be \$2,903.<sup>65</sup>

However, it costs more than \$8,675 to connect the average location to a fiber connection. Cartesian estimates that it will cost, on average, \$12,399 to connect an unserved location to fiber and an average of \$10,468 to connect an underserved location to fiber.<sup>66</sup> Therefore the BEAD contribution necessary for unserved locations would need to be \$9,562<sup>67</sup> and the BEAD contribution for underserved locations would need to be \$7,631.<sup>68</sup>

<sup>59</sup><https://www.commonsensemedia.org/sites/default/files/research/report/2022-cs-bcg-closing-digital-divide-final-release-3-for-web.pdf>

<sup>60</sup>There may be areas where the revenue prospects are so low that there are no bidders willing to put in any of their own capital and BEAD does have to fund 100 percent of the capital costs. But those are likely to be relatively rare and are not important to the answer to this question.

<sup>61</sup>The report can be found at [https://www.cartesian.com/wp-content/uploads/2023/02/Texas\\_BEAD\\_Funding\\_Cartesian\\_ACA\\_Jan\\_2024\\_v4.0.pdf](https://www.cartesian.com/wp-content/uploads/2023/02/Texas_BEAD_Funding_Cartesian_ACA_Jan_2024_v4.0.pdf)

<sup>62</sup>Slide 2.

<sup>63</sup>This number was provided to me from Mike Conlow, whose Substack on BEAD has been a valuable source of information for those involved in the BEAD process.

<sup>64</sup>Slides 2 and 4.

<sup>65</sup>Slide 4. I am not sure how Cartesian arrived at that number. When I ran the numbers, I assumed the \$1.6 billion in the private sector contribution, if distributed equally among the 563,800 unserved and underserved locations, would be \$2,837. Cartesian likely weighed the unserved and underserved in a manner that is slightly more accurate so I will use their number for the average private sector contribution.

<sup>66</sup>Slide 5.

<sup>67</sup>That number is derived by subtracting the average private sector contribution (\$2,903) from the average cost of the connecting an unserved location (\$12,399.)

<sup>68</sup>That number is derived by subtracting the average private sector contribution (\$2,903) from the average cost of the connecting an underserved location (\$10,468.)



Again, according to BCG, reduces the per-household subsidy required to incentive ISP investment by \$500.<sup>69</sup> Assuming the Cartesian study assumed a continuation of ACP,<sup>70</sup> the BEAD contribution must be increased by \$500, so the amount necessary for unserved locations would be \$10,062,<sup>71</sup> and the amount for underserved locations would be \$8,131.<sup>72</sup>

This then leaves us with four relevant numbers:

- The average BEAD subsidy with ACP needed for a fiber connection to an unserved location at \$9,562.
- The average BEAD subsidy without ACP needed for a fiber connection to an unserved location at \$10,062.
- The average BEAD subsidy with ACP needed for a fiber connection to an underserved location at \$7,631.
- The average BEAD subsidy without ACP needed for a fiber connection to an underserved location at \$8,131.

There is an interesting question as to whether Texas will prioritize connecting the unserved or the underserved to fiber. The state will likely try to optimize for both, with some percentage of both being forced to rely on fixed wireless or satellite. While that optimization will affect the math, it will not affect the conclusion that thousands of locations that would have been connected to fiber if ACP were to continue would have to be connected to an alternative.

For purposes of answering the question, let us assume that Texas will prioritize connecting all the unserved locations to fiber and use any remaining amount to connect as many underserved locations as possible to fiber. To connect all the unserved locations with fiber with ACP continuing would cost \$3.487 billion.<sup>73</sup> Subtracting that amount from the total available capital funds of \$4.9 billion would leave \$1.413 billion. Using that to connect unserved locations would enable Texas to connect 185,165 such locations, leaving only 13,935 underserved locations unconnected with fiber.<sup>74</sup>

Now let's compare that to the result if ACP goes away. To connect all the unserved locations to fiber would cost \$3.669 billion,<sup>75</sup> leaving only \$1.231 billion to connect underserved locations.<sup>76</sup> That sum would only be enough to connect 151,395 underserved locations.<sup>77</sup>

In short, ACP going away would result in at least 47,705 underserved locations not receiving fiber but being connected with another type of network, such as fixed wireless or satellite.<sup>78</sup>

The actual number of underserved locations that will end up with wireless rather than fiber is likely to be materially larger. Under the terms of the BEAD program, Texas must connect all unserved and underserved locations. So, if ACP were to continue, the 13,935 underserved locations would still have to be connected. The cost of those connections to either fixed wireless or satellite would then reduce further the number of locations who would obtain a fiber connection.

As Cartesian does not estimate the cost for a fixed wireless connection, I did not do that math here of incorporating those costs, which would be necessary to connect all the remaining underserved locations.<sup>79</sup> But whatever the cost of connecting 13,935 underserved locations to fixed wireless (or satellite), the cost of connecting 47,705 underserved locations would be more than triple, meaning that even more

<sup>69</sup>I could have also used the 25 percent factor but after consulting with the authors of the study, I decided to use the more conservative number.

<sup>70</sup>The Cartesian study does not discuss its assumption on ACP, but I contacted the co-authors at ACA who told me that while the study didn't directly address ACP in the cost modelling, one could argue that it assumes that ACP—or a successor program—remains in place.

<sup>71</sup>This number represents the sum of \$9,562 plus \$500.

<sup>72</sup>This number represents the sum of \$7,631 plus \$500.

<sup>73</sup>That number is derived by multiplying the 364,700 unserved locations by \$9,562.

<sup>74</sup>That number is derived by dividing the \$1.413 billion by the average \$7,631 for each underserved location.

<sup>75</sup>That amount is derived by multiplying the 364,000 unserved locations by \$10,062.

<sup>76</sup>That number is derived by subtracting the amount necessary to connect all the unserved homes (\$3.671 billion) from the total capital Cartesian projects will be available (\$4.9 billion.)

<sup>77</sup>That number is derived by dividing the available \$1.228 billion by the average cost of connecting an underserved location to fiber of \$8,136.

<sup>78</sup>That number is derived by subtracting the number of underserved homes that can be reached by fiber under the scenario without ACP from the total number of underserved homes that could be connected to fiber if ACP were to continue (184,782 minus 33,779.)

<sup>79</sup>The math is complicated as comparing fixed wired deployments to fixed wireless deployments do not yield an apples-to-apples cost comparison. Further, while fixed wireless is cheaper to deploy, its operating costs are more expensive.

underserved locations would be forced to settle for fixed wireless rather than fiber if ACP funding ends.

Further, using the 25 percent figure would have resulted in a significantly higher number of homes that Texas would be forced to connect with fixed wireless or satellite.

The bottom line is that while there can be some uncertainty about the number of homes that will lose out on fiber if ACP, there can be no uncertainty that tens of thousands of underserved Texas locations will be forced to connect with a wireless or satellite provider, instead of fiber, due to the end of the ACP program.

b. The *Wall Street Journal*, in an article titled “The \$53,000 Connection: The High Cost of High-Speed Internet for Everyone,” reported that the government is financing fiber-line buildouts that are higher per location than the value of the home getting the hookup. Why would it be the case that expensive fiber buildout financed entirely by the government would need continued cash payments to run a low-maintenance fiber line?

Answer. The key points to my answer are briefly summarized immediately below, with a more complete answer provided thereafter.

- Congress should be interested in the question of whether certain subsidies per location are beyond an acceptable limit, something the National Broadband Plan and the recent NTIA reauthorization addressed.
- In the most low-density areas of the country, there simply aren’t enough customers to generate enough revenue to pay for the ongoing operating expenses.
- The shortfall in operating expenses is likely to only affect about 2 percent of the locations in the U.S.
- That, however, has nothing to do with the ACP. ACP does not change the cost to deploy; rather it changes the incentives to deploy.

As to the logic of financing fiber deployments that are more expensive than the value of the house the deployment is connecting, I offer two thoughts.

First, the 2010 National Broadband Plan recommended a limit on the per-house subsidy for deployment, a recommendation I strongly supported and which the FCC subsequently adopted.<sup>80</sup> That was aggressively opposed by rural telephone companies, although in practice the rather generous limit adopted by the FCC only impacted a very small number of companies.

Moreover, as the *Wall Street Journal* article you cite documents, the FCC subsidy dollars per location served (\$1,753) is considerably lower than other Federal programs, such as the Department of Agriculture’s Reconnect program (which averages \$9,014 per location).<sup>81</sup> While there are differences in the program that make a simple dollar to dollar comparison misleading, the differences suggest that the Senate should follow the wisdom of the recent action by the House in passing an NTIA reauthorization that included a mandate to develop a digital divide strategy.<sup>82</sup> Within that mandate, the House legislation would require NTIA’s proposed strategy to support better management of Federal broadband programs to deliver on the goal of providing high-speed, affordable broadband Internet access service to all individuals in the United States; and synchronize interagency coordination among covered agencies for Federal broadband programs. I support the House’s proposal and think it would be useful to address the problem you correctly raise. (I discuss the House’s proposal further in answering part c below.)

Whatever I personally think today about limits on per location support mechanisms, however, is irrelevant as the BEAD program is now the primary mechanism for connecting unserved and underserved locations. That program does not have an ex-ante limit to the amount of capex that may be provided to connect locations. The program, however, wisely incorporates the concept of the “Extremely High Cost Per Location Threshold.” As described by telecommunications expert Carol Matthey, that concept involves “a BEAD subsidy cost per location that determines when states may select a less expensive technology over fiber. Essentially, the threshold determines where awardees will be able to use fixed wireless and potentially other technologies. Setting the threshold lower reduces the opportunity for fiber applicants to automatically win over non-fiber applicants, which allows finite BEAD dollars to go

<sup>80</sup> For a visual representation of the cost curve for currently unserved and underserved homes, see the Cartesian slide deck noted above at slide 3.

<sup>81</sup> <https://www.wsj.com/us-news/the-53-000-connection-the-high-cost-of-high-speed-internet-for-everyone-c903163f>

<sup>82</sup> <https://www.congress.gov/bills/118/congress/house-bills/4510>

further.”<sup>83</sup> That is, NTIA’s administration of the BEAD program is addressing the concern you appropriately raise.

Second, I don’t see what that issue of extremely high cost per location thresholds has to do with the ACP’s impact on the incentives to deploy. ACP does not change the cost to deploy; rather it changes the incentives to deploy. Reasonable minds can differ on whether there should be a limit on public subsidies to deploy where private market incentives are not sufficient and if so, what that limit, if any, should be. On the other hand, it would be axiomatic to anyone who understands capital markets that continuing the ACP would reduce the capital gap between what the private sector would be willing to pay to deploy to an unserved or underserved area and what the cost of the deployment would be, as discussed in the answer to 7a, immediately above. In other words, as the BCG study and the mathematical explanation detailed above demonstrates, whatever is the government subsidy necessary to deploy to an unserved or underserved location, the ACP reduces that amount.<sup>84</sup>

As to the specific question of whether the ACP subsidy would affect the ongoing shortfalls in the operating expenses of an ISP deploying to an unserved or underserved area, a lot depends on the specific deployment. But policy makers should keep in mind that in the most low-density areas of the country, there simply aren’t enough customers to generate enough revenue to pay for the ongoing operating expenses. Maintenance expenses in this context is something of a red herring; the network operator in the most remote areas must pay backhaul to someone else to get the traffic to the nearest Internet exchange point. Those backhaul expenses are operating expenses, not capital expenses. Other operating expenses that are higher on a per customer basis include such things as customer care and repairs, as the economies of scale available in denser areas are lower in less dense areas.

As to data related to how many locations would be affected, a good source is the 2017 FCC study on the costs of deploying fiber to locations lacking reliable service using fiber or cable, which at the time were estimated to be 14 percent of U.S. homes and business locations. The study found that for the vast majority of these locations (12 percent out of the 14 percent) the initial subsidy should be sufficient, noting that “we do not expect these first 12 percent of locations will require material ongoing support once the network has been built, as subscriber revenues should be sufficient to pay for ongoing network costs.” The study continued, however, that for the last 2 percent—representing the costliest locations making up the difference between 98 percent and 100 percent deployment across the nation—“there is not enough addressable revenue to cover ongoing costs, so—in addition to the initial capex—an annual subsidy of about \$2b would be required to keep the networks operating.”<sup>85</sup>

In short, while it is correct that the operating costs for fiber are lower than for copper, there still are likely to be low-density areas where operating subsidies for the rural ISPs are necessary to maintain economic viability.

c. Indeed, you are quoted in this same article as having said “The problem is money is not infinite.” Are you aware that the Biden administration has made it clear that it seeks to enroll 40 percent of Americans in ACP, which could cost American taxpayers \$20 billion annually, just \$5 billion less than the annual NASA budget?

Answer. I stand by my observation that money is not infinite.

I would also extend that observation to note that the statement is as true for the companies my equity research firm covers for institutional investors as it is for government.

As to the cost of the ACP program, I also stand by my comment at the hearing and earlier in this document that while I favor an extension, I would hope that the FCC provides data to Congress so that Congress, in considering the costs and benefits of the different Universal Service Fund programs and the trade-offs inherent in different program designs, can design a more efficient and sustainable program that moves us toward universal adoption.

As to the benefits and comparisons with NASA, I would just note that all of us can find programs and expenditures that we believe are not justified. For example, in 2023, the GAO found that the Federal government lost an estimated \$247 billion in payment errors during the most recently completed Fiscal Year (FY 2022). According to the report, “these errors include overpayments or payments that should

<sup>83</sup> <https://www.benton.org/blog/setting-extremely-high-cost-location-threshold-bead>

<sup>84</sup> There is an interesting question, as government seeks to accomplish both deployment and adoption, as to what would be the right ratio of spending on each goal. I have not seen any studies that evaluate that question but if the government ever decides to again make new investments in deployment, I hope some evaluation of the right ratio is undertaken.

<sup>85</sup> <https://docs.fcc.gov/public/attachments/DOC-343135A1.pdf>

not have been made—for example, payments to deceased individuals or those no longer eligible for government programs.”<sup>86</sup> That is an amount more than 10 times larger than the amount spent on NASA. I am sure everyone in the Congress could come up with their own list of problematic expenditures that exceed NASA’s budget.

But, with respect, that is not the right way to look at the issue. It is perfectly fair to ask whether our economy and society is achieving a benefit that is commensurate with the cost to the public. It is, however, confusing, rather than helpful, to compare one program to another without a reference to the benefits.

What would be helpful is for the Senate to follow the wisdom of the House, which, as noted above, recently passed an NTIA reauthorization that included a mandate to develop a digital divide strategy.<sup>87</sup> As further noted above, within that mandate, the House language would instruct NTIA to support better management of Federal broadband programs to deliver on the goal of providing high-speed, affordable broadband Internet access service to all individuals in the United States; and synchronize interagency coordination among covered agencies for Federal broadband programs.

This is an admirable and important goal. As the GAO found in 2023, “Federal broadband efforts are fragmented and overlapping, with more than 133 funding programs administered by 15 agencies. Among these programs, 25 have broadband as their main purpose, and 13 of those programs overlap because they can each be used for the purpose of broadband deployment. Having numerous broadband programs can be helpful to address a multifaceted issue like broadband access, but this fragmentation and overlap can lead to the risk of duplicative support. However, determining whether program overlap results in duplicative support can be challenging.”<sup>88</sup> For purposes of evaluating the ACP, we should consider how to better coordinate and administer all Federal (and to extent practical, state and local) efforts to improve broadband access, adoption, and utilization, rather than comparing ACP to unrelated programs.

As NTIA hopefully conducts its analysis and as Congress responds, I would again urge Congress to adopt the wisdom of skating to where the puck is going. Getting the unconnected or the intermittently sustainably has significant value to our economy and society. Whatever value it has today is likely to be increased as Artificial Intelligence and other technology trends accelerate the movement of the delivery of goods and services to online sources. I am in favor of continually studying and evaluating both the costs and the benefits. Simple comparisons to other programs, without any reference to the costs and benefits does not advance a thoughtful public policy debate.

*Question 8.* Your written testimony states: “Recent data demonstrates that just 32 percent of fourth graders read at or above a fourth-grade level.” But your citation to [nationsreportcard.gov](https://nationsreportcard.gov) provides data over several decades, all of which show that no more than 40 percent of fourth graders in public schools in any year were at fourth-grade level.

a. Are there problems with our education system that exist beyond ACP?

Answer. I do not consider myself an expert in education but feel comfortable in opining that I am 100 percent confident that there are problems with our education system that exist beyond ACP.

Further, again acknowledging my limited expertise in education, I feel comfortable opining that there is no single cause for 100 percent of our problems with our education system.

I am also confident in opining that the lack of broadband in homes of children attending school will make the problems in our educational system worse, not better. The fact that the problem of reading scores pre-dates ACP does not make it less of a problem. Nor does it address the question of whether ACP can be helpful in addressing low reading scores, particularly as artificial intelligence develops personalized ways to assist young readers in overcoming specific decoding problems that serve as barriers to their learning to read.

Again, I would urge Congress to skate where the puck is going, not where it is or where it was in the past.

<sup>86</sup> <https://www.gao.gov/blog/federal-payment-errors-known-improper-payments-are-continuing-concern>

<sup>87</sup> <https://www.congress.gov/bills/118/congress/house/bills/4510>

<sup>88</sup> [https://www.gao.gov/products/gao-23-106818#:~:text=What%20GAO%20Found,deployment%20\(see%20fig.\).](https://www.gao.gov/products/gao-23-106818#:~:text=What%20GAO%20Found,deployment%20(see%20fig.).) I might add that a report by the National Urban League, with which I assisted, made a similar point about the need to coordinate Federal broadband programs. <https://nul.org/program/lewis-latimer-plan>

b. A recent report from the National Library of Medicine examines the harmful effects of too much screen time for children. Do you agree there are harmful effects of too much screen time?

Answer. I am also not an expert on the impact of too much screen time for children but based on reading I have done, such as Dr. Haidt's recent book,<sup>89</sup> I would agree that there is evidence that should cause parents and public policy officials to investigate and adopt appropriate policies. Indeed, I gave a speech that touched on the subject in February 2023, advocating for a more active role for government to both study, and depending on the outcome of the study, address those concerns.<sup>90</sup>

But I admit to being completely perplexed by the logic of the question in the context of the discussion of the ACP. The seems to imply that if any kind of screen time can be a problem, we should not seek to use the tools of technology that use screens in ways that improve a child's education.

Of course, all technologies have negative consequences. Last year, 40,990 Americans died in car related accidents<sup>91</sup> but that is not an argument for banning cars. It is an argument for developing safety guidelines, such as requiring seat belts and having appropriate rules of the road to limit such fatalities.

Certain drugs, that can save and improve lives, can also be used in ways that cause harm. But that is not an argument for banning medically approved drugs. It is an argument for developing procedures and safeguards for the distribution of such drugs.

I could cite many similar examples relating to technology but let me focus on one perhaps closer to the point of the hearing and my testimony on ACP. Recently Florida adopted a law that bans children under 14 in the state from having social media accounts and requiring minors aged 14 and 15 to have parental consent to hold one.<sup>92</sup> Similarly, Utah adopted a law that tries to address the harm by, among other things, requires social media companies to verify users' ages and implement age assurance systems to determine if account holders are minors and to disable certain features on accounts owned by Utah minors, including direct messages, sharing features, autopay, push notifications, and search engine indexing of account profiles.<sup>93</sup> Ohio just enacted legislation that limits the use of cell phones in schools.<sup>94</sup>

My point is not to endorse any specific legislation but to highlight that while these states, to their credit, are taking the concerns about screen time seriously and developing different solutions, they are, at the same time, recognizing that communications technology can play an important role in education. Indeed, those states spend hundreds of millions on technology related to education, suggesting a balanced approach to addressing both the opportunity and the potential problems screens can present for school children.<sup>95</sup>

And we should recognize the importance of in-home connectivity for students to be able to do their best in their educational pursuits.<sup>96</sup> For example, even before the pandemic, numerous surveys and studies demonstrated that students without access to the Internet at home were at an educational disadvantage.<sup>97</sup> A different

<sup>89</sup> <https://jonathanhaidt.com/anxious-generation/>. This should not be seen as an endorsement of the book or its conclusion. I simply cite it as a serious work addressing what I believe is likely to be a set of serious issues.

<sup>90</sup> <https://www.benton.org/blog/talking-about-things-we-dont-talk-about>

<sup>91</sup> <https://www.nhtsa.gov/press-releases/2022-traffic-deaths-2023-early-estimates#:~:text=The%20agency%20estimates%20that%2040%2C990,the%20second%20quarter%20of%202022>. As the NHTSA notes, that number represents a decline over the previous year. The release goes on to discuss various policies designed to continue the trend toward lowering the number of fatalities.

<sup>92</sup> <https://www.flgov.com/2024/03/25/governor-desantis-signs-legislation-to-protect-children-and-uphold-parental-rights/>

<sup>93</sup> <https://governor.utah.gov/2023/03/23/gov-cox-signs-bills-focused-on-social-media-in-utah/>

<sup>94</sup> <https://education.ohio.gov/Media/Ed-Connection/May-20-2024/Governor-DeWine-signs-bill-requiring-Ohio-schools#:~:text=Last%20week%2C%20Ohio%20Governor%20Mike,phones%20in520K%2D12%20schools>.

<sup>95</sup> A more comprehensive answer to concerns about screen time and the relationship between those concerns and the educational potential of technology in the classroom can be found in a letter from The Schools, Health & Libraries Broadband (SHLB) Coalition, the American Library Association (ALA), and the Consortium for School Networking (CoSN) to the FCC relating to the E-Rate program. [https://assets.noviams.com/novi-file-uploads/shlbc/PDFs\\_and\\_Documents/E-rate\\_and\\_ecf/SHLB-COSN-ALA\\_Response\\_to\\_Heritage\\_on\\_Hot\\_Spots-FINAL.pdf](https://assets.noviams.com/novi-file-uploads/shlbc/PDFs_and_Documents/E-rate_and_ecf/SHLB-COSN-ALA_Response_to_Heritage_on_Hot_Spots-FINAL.pdf)

<sup>96</sup> As a Brookings report from 2020 detailed (<https://www.brookings.edu/articles/realizing-the-promise-how-can-education-technology-improve-learning-for-all/>) educational technology has the potential to positively impact student outcomes, particularly in core reading and numeracy skills.

<sup>97</sup> See, e.g., Monica Anderson & Andrew Perrin, PEW RESEARCH CENTER, (Oct. 26, 2018), <https://www.pewresearch.org/fact-tank/2018/10/26/nearly-one-in-five-teens-cant-always-finish->

study using Census Bureau data estimated that individuals with greater access to a computer and the Internet at home spent 28 percent more hours learning than those without such access.<sup>98</sup>

In short, I believe the United States is capable of both using technology to improve educational outcomes for school children, while also protecting children from potential harms from the use of technology. I would hope that we could all agree with those goals and develop policies accordingly.

*Question 9.* You cite a study based on an input-output model by Sprintson and Oughton.<sup>99</sup>

a. Are you aware that the authors relied on an Input-Output model that is unrelated to ACP, and that uses no empirical evidence from ACP?

Answer. Yes. As the authors make clear, they are using models “to explore the potential macroeconomic impacts of broadband spending to Gross Domestic Product (GDP) and supply chain linkages.” It is common for economic papers to use existing data to create models that estimate the likely outcome of various policies. Some prove to be more accurate than others, but we should acknowledge that in developing public policies, much as the private sector does in evaluating large capital allocations, we don’t have the luxury of waiting for perfect data to evaluate the precise outcome. Hindsight can be 20/20 but it is also true that waiting can prove counterproductive.

b. Are you aware that the authors relied on an Input-Output model that shows that any increased spending on the information sector would increase GDP disproportionately?

Answer. This was brought to my attention at the hearing.

c. In evaluating ACP, should the Committee rely on studies, such as Sprintson and Oughton, that offer no empirical evidence of the effects of ACP?

Answer. I think that is a fair question and I appreciated some of the comments and questions at the hearing. I will say for myself that the questions made me more reluctant to cite the study in the future.

But if I can add two other points, the problems with the Sprintson/Oughton study should not be used to disregard the many other studies I cited, including the Horrigan study, the telehealth studies, the education studies, the job training and placement studies, and others. Many of them do not have specific data on ACP but that does not mean they should be disregarded in terms of projecting where the puck is going in terms of the impact of connectivity on the cost and outcomes of various healthcare, educational, job training and job placement services, among other services now online.

Second, the question raises a good point about the need to dig deeper into the studies all sides in good faith bring to the debate.

In that regard, I would note that one of the witnesses produced a study (the EPIC study) that concluded that ACP led to inflation in broadband services.<sup>100</sup> In addressing your question of which studies Congress should rely on, I think the EPIC study demonstrates the very problem you raise. While I am not an economist, my over two decades of working with institutional investors in communications causes me to immediately see several material problems with the study.

First, it is empirically wrong. As a filing to the Committee from a conservative think tank, R Street, noted “According to recent studies, the most popular broadband speed tier plan prices dropped by 18.1 percent during ACP implementation.”<sup>101</sup> The letter further noted that “recently-published research found that not only do Internet Service Providers (ISPs) pass cost savings on to their customers,

*their-homework-because-of-the-digital-divide/* (finding that “17 percent of teens say they are often or sometimes unable to complete homework assignments because they do not have reliable access to a computer or Internet connection”).

<sup>98</sup> Kolawole Ogundari, Student access to technology at home and learning hours during COVID-19 in the U.S, Educational Research for Policy and Practice (May 2023), [https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10176282/pdf/10671\\_2023\\_Article\\_9342.pdf](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10176282/pdf/10671_2023_Article_9342.pdf).

<sup>99</sup> 2-10-24 Unlinked. Sprintson, M. and Oughton, E.J. 2023. The contribution of U.S. broadband infrastructure subsidy and investment programs to GDP using input-output modeling (arxiv.org)

<sup>100</sup> <https://epicforamerica.org/publications/bidenomics-goes-online-increasing-the-costs-of-high-speed-internet/>

<sup>101</sup> The letter cited Arthur Menko, 2023 Broadband Pricing Index Broadband Prices Continue to Decline, USTelecom <https://ustelecom.org/wp-content/uploads/2023/10/USTelecom-2023-BPI-Report-final.pdf> (last visited Apr. 30, 2024).

but they also are ‘not inflating prices to appropriate government subsidies, and the ACP is successfully reducing the cost of Internet plans for eligible households.’”<sup>102</sup>

The Bureau of Labor statistics offers data consistent with the R Street observation. Its Consumer Price Index for “internet services and electronic information providers in U.S. city average, all urban customers, comparing January 2021 to January 2024,” found that prices had dropped 7.8 percent, which compares quite favorably to another network business, electricity, for which prices rose 9 percent.<sup>103</sup> The index for all prices in those three years show an increase of 17.9 percent.<sup>104</sup>

Further, even the FCC Urban Rate Survey on which the EPIC study relies demonstrates exactly the opposite of what the EPIC model would predict. That survey concludes that prices for lower speed offers rose 5.4 percent between 2020 and 2023, well below the general rate of inflation in those years. So, the price differences EPIC uses to make its claims took place in speed and price tiers not likely to be relevant for ACP-eligible households.<sup>105</sup>

The key error made by the EPIC study errors is that it relies on pricing data that doesn’t reflect the experiences of ACP subscribers. The FCC’s Urban Rate Survey tells us the prices ISPs offer in the marketplace. It tells us nothing about what we want to know about ACP subscribers: what they pay for the services they subscribe to using the ACP benefit. In addition, the Urban Rate Survey data doesn’t include mobile, but a significant portion of ACP enrollment is mobile (as discussed earlier). So EPIC is comparing the price of fixed to trends in a mixed fixed/mobile program. This raises significant questions about whether the resulting correlations are meaningless. In other words, the data that is the foundation of the EPIC study does not have a sufficiently clear link to the pricing relevant for ACP subscribers.

Further, any analysis of price and ACP uptake needs to happen at “apples-to-apples” levels of geographic granularity. The EPIC study does not do this. It aggregates ACP enrollment to the state level (when zip code level ACP enrollment data is available) and compares it to statewide ACP enrollment and statewide pricing data. That’s like saying ACP enrollment rates in the Bronx somehow have something to do with prices of service offerings in Westchester County NY. As I believe any person working for ISPs on pricing strategy would tell you, they don’t.

Second, the EPIC study is theoretically wrong. Anyone who understands communications networks would incorporate into their analysis that communications networks are a shared resource for which the greater the number of customers using the network, the lower the per user cost structure for the provider. That is, the networks involve high capital expenditures but low incremental costs, so the greater the number of customers, the lower the per user cost. While we can argue about how many new customers ACP created or how many intermittent customers were kept on by virtue of the ACP, there should be no argument that the per user cost to the ISP would go down, not up, by virtue of the ACP. We can also argue about the competitive intensity of the broadband services market, but we should all agree that if there is a competitive dynamic and the cost structure per user goes down, the price should also go down. That understanding, however, is absent in the analysis of the EPIC study.

Third, it is logically wrong. Think of it this way. There are two kinds of broadband customers; those relying on ACP and those who don’t.

As to the first group, whether they previously purchased broadband or not, ACP meant that as a practical matter, they were paying less for broadband. So as to that group, ACP is clearly deflationary.

As to the second group, they would be unaffected by ACP. That is, they are not eligible to receive it. But as noted above, as the ACP lowers the cost structure for the ISPs, if anything, it should reduce prices. As further noted above, it is illogical to think that ACP enrollment rates in the Bronx somehow have something to do with prices of service offerings in Westchester County NY.

Further, to believe that ACP would cause ISPs to increase prices for those who don’t receive ACP requires the belief that the ISPs have been charging non-ACP recipients less than what would be the profit-maximizing price. I do not mean this

<sup>102</sup> Here, the letter cited Schieberl, River and Ahmadi, Nikki, Measuring the Success of the Affordable Connectivity Program (July 31, 2023) <https://ssrn.com/abstract=458690> or <https://dx.doi.org/10.2139/ssrn.4528690>

<sup>103</sup> <https://www.ncta.com/broadband-affordability>. This does not include an adjustment for increases in speed, which would, if added, show a decrease of 80 percent. But for purposes of this analysis, we are using the standard BLS CPI data.

<sup>104</sup> <https://www.bls.gov/opub/ted/2024/consumer-prices-up-3-1-percent-from-january-2023-to-january-2024.htm>. The data set provides the data for 22–23 (an increase of 6.4 percent) and 21–22 (an increase of 7.5 percent).

<sup>105</sup> <https://www.fcc.gov/economics-analytics/industry-analysis-division/urban-rate-survey-data-resources>

as any criticism of the ISPs, who are, and should be, profit maximizing enterprises. But having spent most of the last two plus decades advising institutional investors who invest in ISPs, I believe that my clients would be, at a minimum, highly skeptical of any study dependent on an assumption that the ISPs charged less than what they could to maximize profits.

In addition, there are also a number of technical problems with the study. For example, the study's time-frame doesn't hold up, as it looks at price changes from 2021 to 2022. (It uses the 2023 FCC Urban Rate Survey which is 2022 data). That is probably not the right time-frame for an ACP analysis.<sup>106</sup>

Further, it ignores the predecessor program, the EBB.<sup>107</sup> In addition, the study does not control for quality changes in broadband (*e.g.*, higher speeds). Also, the Urban Rate Survey data on which the study relies doesn't consider promotions or bundles; it's basically the rack rate for broadband. As anyone who knows the industry understands, a significant number of subscribers pay an amount less than the rack rate.

So, your question about how to weigh various studies is appropriate. Again, I appreciate being directed to areas where one study I cited might have a deficiency. I would hope, however, that in fairness and in a good faith effort to develop policy that serves the public interest, even when we lack perfect information, that all sides consider the validity of studies they have cited.

*Question 10.* Your written testimony noted various affiliations. Which companies that receive ACP have you or your employers received funding from since the program's inception?

Answer. As noted in my testimony, my views are my personal views and do not represent any institution in which I am affiliated. In terms of employment, I am an equity analyst with New Street Research, a global equity research firm focused on telecommunications, tech, and media. All my work at New Street Research is paid for by institutional investors, none of whom receive any ACP funding. Over 96 percent of New Street Research revenues are from institutional investors. While checking to make sure I was correct in my assumption that none of New Street's compensation comes from entities receiving ACP funding, I discovered that New Street has done a consulting project for an entity that does receive ACP dollars. The project was not related to ACP, and I did not work on the project, nor was I aware of it. The project involved a sum that was approximately 0.11 percent of the firm's revenues.

Let me also note that the question—perhaps unintentionally—carries the subtle suggestion that the only enterprises that care about the ACP are the ones who have received funding from the program since the program's inception. While it is true that telecommunications providers support continuing the program, so do many organizations outside of telecommunications. For example—and in support of what I wrote in the several questions related to healthcare, the American Hospital Association wrote a letter to the several Senators in support of extending the ACP program.<sup>108</sup> While they are not directly compensated through the ACP program, it wrote that ACP “can support patients’ access to certain services like telehealth visits, hospital at home, patient portals and electronic patient records, virtual scheduling, and remote patient monitoring—which are not possible without reliable internet.” It further noted that the ACP is “also critical in continuing efforts to reduce disparities and advance health equity by giving patients in rural and underserved areas the necessary resources to utilize various forms of telehealth, as well as other digital health services.” Similarly, the United States Chamber of Commerce (along with many local Chambers of Commerce) endorsed the ACP extension, writing that the “program's focus on Internet affordability serves as a critical tool to help connect

<sup>106</sup>The EPIC study's methodology notes are too sparse for me to be certain but based on the limited citations the study does provide, it appears the study is comparing ACP enrollment rates from 2022 to 2023 to FCC Urban Rate Survey data for 2021 to 2022 (*i.e.*, the 2022 and 2023 Urban Rate Survey datasets). As a result, its entire analysis may attribute 2022 trends in broadband prices to 2023 trends in ACP enrollment, which would be, to put it mildly, problematic. Again, while I am not an economist, I am fairly certain that future activities cannot be seen as causing actions in the past. Except, of course, in the Terminator movie series.

<sup>107</sup>In this regard, there is also an interesting historical error. While the study notes the ACP predecessor, the Emergency Broadband Benefit (EBB), it does not incorporate the subsidy, 67 percent larger than the ACP subsidy, into its model. If the study's model were correct, the EBB should have caused a greater level of inflation than the smaller ACP subsidy. Further, and curiously, the paper says the benefits were “similar.” I have never read a study in which an economist refers to a benefit 67 percent greater than another as “similar.” Again, while I am not an economist, I don't believe the numbers, in this context, are similar.

<sup>108</sup><https://www.aha.org/2024-05-07-aha-letter-support-affordable-connectivity-program-extension-act-2024>.



all Americans, empower full participation in the 21st Century economy and broaden access to critical services such as education, healthcare and banking.”<sup>109</sup>

In short, no one should be under the impression that the only companies who benefit from the ACP are telecommunications providers. As my testimony and answers to these questions, I hope, make clear, at this point, everyone benefits from universal adoption of broadband.

Let me close by again thanking the Committee for the opportunity to share my views on this important topic and thanking the Senator for the opportunity to answer specific questions that my initial testimony raised. I hope the answers are helpful in leading to an efficient and sustainable policy for enabling all to afford broadband on a continuing basis.

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RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TED CRUZ TO  
PAUL WINFREE, PH.D.

Affordable Connectivity Program

*Question 1.* During the hearing you cited a report by the National Review showing that companies treat the \$30 ACP subsidy as the new price floor. Are there any other interesting conclusions from the report?

*Answer.* The *National Review* used Internet archives to document how companies were offering low prices—as low as \$10—for broadband services prior to the ACP. After ACP, these same offerings, or similar ones were offered at the ACP subsidy amount: \$30.

Quote from the February 15, 2024 National Review:

A \$30 subsidy for low-income households means AT&T could raise prices by up to \$20 per month, and low-income households would still get Internet service at no cost to them. And sure enough, the price now advertised on AT&T's website for a faster “low-cost Internet service for eligible households” is \$30 *per month*. (See *this page from the Wayback Machine* with the same URL in 2021 advertising service for \$10 per month.) In a February 2022 *press release*, AT&T straightforwardly advertised its new low-cost plans as being “the best monthly rate possible—\$0” with enrollment in the ACP. “New ‘Access from AT&T’ Plan + New Federal Benefit = Free Internet,” the release was titled.

It is also worth noting that many Internet companies are now advertising high-speed Internet plans for \$30 per month or less with no fees or data caps, according to a May 31st White House *statement*.




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<sup>109</sup> <https://www.uschamber.com/technology/broadband/u-s-chamber-comments-in-support-of-the-affordable-connectivity-program-extension-act>