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EMPOWERING AND CONNECTING COMMUNITIES THROUGH DIGITAL EQUITY AND INTERNET ADOPTION

WEDNESDAY, JANUARY 29, 2020

House of Representatives

Subcommittee on Communications and Technology

Committee on Energy and Commerce

Washington, D.C.

The subcommittee met, pursuant to call, at 10:30 a.m., in Room 2123 Rayburn House Office Building, Hon. Mike Doyle [chairman of the subcommittee] presiding.

Members present: Representatives Doyle, McNerney, Loebsack, Veasey, Soto, O'Halleran, Matsui, Cardenas, Dingell, Latta, Shimkus, Olson, Long, Brooks, Walberg, and Walden (ex officio).

*Staff present: AJ Brown, Counsel; Parul Desai, FCC Detailee; Jennifer Epperson, Counsel; Waverly Gordon, Deputy

Chief Counsel; Alex Hoehn-Saric, Chief Counsel, C&T; Jerry Leverich, Senior Counsel; Dan Miller, Senior Policy Analyst; Phil Murphy, Policy Coordinator; Alivia Roberts, Press Assistant; Jennifer Barblan, Minority Chief Counsel, O&I; William Clutterbuck, Minority Staff Assistant; Michael Engel, Minority Detailee, C&T; Peter Kielty, Minority General Counsel; Kate O'Connor, Minority Chief Counsel, C&T; Brannon Rains, Minority Legislative Clerk; and Evan Viau, Minority Professional Staff, C&T.

Mr. Doyle. Well, good morning, everyone.

The chair now recognizes himself for five minutes.

Yes, you bang that gavel and everybody gets quiet. That's pretty neat. The chair will now recognize himself for five minutes for an opening statement.

Good morning, and welcome to the Subcommittee on Communication and Technology's hearing on "Empowering and Connecting Communities Through Digital Equity and Internet Adoption."

I want to thank our witnesses for appearing before us today to discuss this very important topic. Today, we will hear about the challenges of internet adoption that go beyond the lack of access.

All too often, we talk about how many Americans don't have access to broadband and discuss the resources necessary to close that gap.

But the far more insidious threats are those who have broadband available to them but don't sign up or those that don't have the basic skills to use digital technologies.

Our witnesses today will discuss the range of challenges these folks face, the risks we face by leaving millions of people behind, and a range of potential solutions.

Among the principal barriers faced by these communities are affordability, digital literacy, and access to devices.

First off, internet access is expensive, and when cost-

constrained consumers are forced to choose between mobile and home internet, they often go mobile only. Millions of them, though, forgo both.

Internet and mobile service can cost hundreds of dollars a month. That is the equivalent of a car payment. In effect, many of us are essentially buying our ISP a new car every five years.

This a very serious challenge to adoption, particularly in households making less than $35,000 a year. Adoption numbers are even lower in low-income rural communities. So finding ways to close the affordability gap is just one part of closing the digital divide.

Another key piece to this puzzle is digital literacy and training, and ensuring that people have the skills, understanding, and confidence to use technology and get connected.

Organizations like the National Digital Inclusion Alliance and their partners like Computer Reach, based in Pittsburgh, have long worked to provide digital literacy training and provide access to low cost-devices and technology.

These programs help engage communities and provide folks with pathways not just to get connected but to leverage that connectivity to educate and empower themselves and their family members.

So whether it's being able to apply for jobs, enabling kids to do homework, connecting seniors to telehealth services or veterans to support communities, these digital inclusion programs are often essential for opening people's eyes to the importance of, and the opportunities presented by, getting online.

Increasingly, digital literacy isn't just the ability to use a computer but it's a fluency in technology, and as we look at manufacturing sectors, jobs that used to be based entirely on manual tasks are being supplanted by interacting with digital tools and systems.

And employment in those sectors require a level of basic fluency just to get your foot in the door. The same is true for many other industries that are evolving as technology changes the way people work.

In rural communities, where the adoption is low, these programs are particularly important. They can help up-skill the workforce with the basic tools to use digital technologies.

We see this in factories in Pittsburgh with robotics, but we also see it in rural America with precision agriculture.

While the nature of these industries hasn't changed, the tools people are using have and we need to ensure that folks in our communities have the basic skills to use them.

I am not talking about high schooners. I am talking about people who have done these jobs most of their lives but haven't needed to use or interact with these new technologies.

The same is true with telehealth services. For seniors who are homebound or who want to remain in their homes, these services are a lifeline.

But for many of them, digital literacy and access to affordable devices remains a barrier to adoption of these new technologies.

We also see this problem manifest itself in schools with the homework gap. Our educators are working to integrate technology into the curriculum. But many students lack access to home internet.

When your teacher is assigning you homework that you -- and you need to go online just to see what the assignment is or to complete it, lack of internet access is a cruel stumbling block.

We have all heard stories about children sitting in cars outside of fast food restaurants and libraries to get on wifi or parked in overlooks that can get a trickle of broadband.

We can't afford to let this generation fall behind. These children are our nation's future and we need to find ways to close the homework gap for them and for ourselves.

It is my hope that we can have a productive discussion

about the challenges faced by all of our communities and come to some consensus on solutions that can help close the digital divide.

As I have said before, I stand ready to work with my colleagues on both sides of the aisle to come up with real solutions to address these challenges.

I thank you all for being here today I really look forward to the testimony of our witnesses.

And with that, it gives me great pleasure to recognize my good friend, Mr. Latta, the ranking member of the subcommittee, for his five-minute opening statement.

Mr. Latta. Well, thank you very much, Mr. Chairman, and thank you very much for holding today's hearing and thanks to our witnesses for appearing before us today. We really appreciate your time for being here.

One of the great stories that is a success out there that has provided a building block for internet adoption and its widespread deployment is the success of wifi.

As co-chair of the Wifi Caucus, I understand the role wifi has played in bringing internet connectivity into millions of homes across the country.

Under a light touch approach, the first set of flexible rules put in place in the early 2000s paved the way for an explosion of broadband expansion. This deregulatory framework helped democratize the internet so that millions

can enjoy the benefit it brings.

Since then, hundreds of billions of dollars of investment has poured in and new networks have been built across the country. Many companies have made great strides over the last decade to connect millions of low-income households to high-speed broadband.

While this committee's efforts have, largely, focused on promoting broadband deployment, the private sector has recognized that there is a great value in connecting the unconnected not only for its own business interests but for the communities they serve.

Yet, some Americans remain unconnected. Over the last decade, we have focused on closing the remaining gaps in broadband deployment so that every American, no matter where they live, can have access to the internet.

While, unfortunately, too many remain without an option at all, some who have access to the internet still do not subscribe.

As I am sure we will hear today, there are a variety of reasons why some people choose not to adopt broadband service. We can debate these reasons and my hope is that the data and research can shed some light on that today.

But as we consider the potential for new federal programs and legislation I urge caution that we are not focusing on a one-size-fits-all solution with the heavy hand

from Washington.

Our focus should be on putting consumers first by allowing them the flexibility to choose an internet plan that meets their needs, if any plan at all.

I also ask that we carefully consider whether there is a need for an expanded federal role at a time when state and local governments continue to make strides providing willing consumers with the tools to connect to the internet.

As we will hear today, many states are working hard to serve their communities in ways that the federal government could never do from Washington.

To the extent more action is needed, it would be helpful to hear what state programs have been successful providing options to consumers.

While everyone operates in a resource-constrained environment, we should better understand the existing problems and solutions operating today before simply throwing more money at a problem that we might not fully understand.

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

Mr. Doyle. The gentleman yields back.

The chair is now going to recognize Mr. McNerney before Mr. Pallone's five minutes. We will yield to you.

Mr. McNerney. I thank the chair for this.

This is truly a bipartisan issue and I am looking

forward to working with members on both sides of the aisle to make some progress here.

My district is close to Silicon Valley. But the economic opportunities are starkly different between my district and Silicon Valley, which is 40 miles away.

However, the seeds of opportunity are already being planted. For example, I recently visited a coding school and the startup incubator to see adults learning skills that are going to be able to provide them tremendous economic opportunity.

It was truly amazing to see a darkened classroom with people working hard. The big shots walked in and they didn't even notice us. They didn't care we were there. They were interested in learning their coding skills. So that was impressive.

Also, the largest city in my district -- Stockton, California -- has developed an AI strategy. So there are the seeds for improvement.

But the reality is that many of my constituents still lack the digital skills to get ahead or even to get by in today's economy.

Many don't even have broadband at home even though they often live in an area that has broadband deployed nearby. As a result, there is a wealth of opportunity for my constituents that remains, largely, untapped.

And this is the case for many communities across the country, rural and urban. That is why I introduced H.R. 4486, the Digital Equity Act -- legislation that would create a federal grant program to close gaps in broadband adoption and digital literacy. We are long overdue for closing these gaps.

So I ask my colleagues on both sides of the aisle, both rural and urban districts, do you have constituents that are being left behind the digital divide.

If so, work with me to pass this legislation and open up economic opportunity and prosperity for every American.

With that, I am going to yield to the gentleman from New Mexico, Mr. Lujan.

Mr. Lujan. Thank you, Mr. McNerney, and I want to thank the witnesses for testifying, to Chairman Pallone and Doyle, Ranking Members Walden and Latta, for today's hearing on digital equity.

I want to focus on what FCC Commissioner Jessica Rosenworcel has called the cruelest part of the digital divide -- the homework gap.

We know that seven in ten teachers assign homework that requires access to broadband. Unfortunately, we also know that millions of students lack access at home or in their communities.

As Mr. McNerney laid out, even if broadband is able to

be connected to, it's unaffordable. It's unaffordable. It's out of reach. More students, though, who don't have any connectivity they find themselves in parking lots, at fast food restaurants or high schools across the country, sometimes sitting on the sidewalk in the dark of night because that's the only place they can get access to free internet. Keep up with the homework.

If air travelers can have internet access at 30,000 feet flying across the world, why in the hell can't we connect on the ground to these rural communities? Nobody's been able to answer that question.

Let's close the gap. Let's find some answers and let's find a way to work together in a bipartisan way.

I yield back.

Mr. Doyle. The gentleman yields back.

It's now my pleasure to recognize Mr. Walden, the ranking member of the full committee, for five minutes for his opening statement.

Mr. Walden. Good morning, Mr. Chairman. Thank you for doing this hearing. I think it's really an important one. We are going to hear some interesting testimony from our witnesses. We all appreciate you being here and sharing your wisdom with us, how we can connect America better.

We all know that the internet has truly transformed the lives of people throughout the world. It plays a central

role in how Americans conduct business, how we interact, how we make daily decisions. Under a light touch regulatory framework, the internet has really thrived, providing Americans access to numerous services, serving as the single most important driver of economic growth and job creation.

While the internet has been, largely, adopted in a relatively short span of time if you think about human history and the enormous revolution the internet has brought, there are still millions of Americans who do not have access to the internet in their homes, as you're hearing from all of us, and especially those of us who represent these big sweeping wide open rural districts. But it's also an issue in urban cities as well.

In some cases, it's because high-speed broadband had not been deployed, an issue this committee has focused on in a bipartisan way for many years.

And while we have made progress in promoting broadband deployment, particularly in rural areas, we all know there are many Americans who remain unconnected, even if they do have access to broadband service options.

Recognizing this issue, some companies have made important strides over the last decade to connect millions of low-income households to high-speed broadband.

For example, the Internet Essentials Program, developed by one service provider, offers high-speed broadband at an

affordable price and they've seen great success. It has connected 8 million people in over 2 million households, more than, I dare say, a federal program would likely achieve in the same period of time. It provides opportunity and access for low-income individuals.

We must make sure that our policies allow for continued experimentation in the marketplace with ways to promote broadband adoption as well.

It should be noted that where there are gaps in adoption state and local governments have also been a big part of the team and have provided good work to support and reach out to their communities.

They have firsthand knowledge of the challenges that their communities face and we work with their resources. They have to find creative solutions.

I am excited to have witnesses here today that can talk about some of the innovative work that's being done at the local level to address the adoption issue. I think it's an important one.

Let us not put the cart before the horse. In many parts of the country, especially frontier communities like those in eastern Oregon, broadband availability remains elusive.

Recently, we were in John Day, my staff and I, doing some meetings and it's in the really central part of my district in a pretty isolated area. I think the nearest

stoplight is five hours away or something.

I am not making that up, by the way. They had really limited internet service and intermittent internet service, and just to put it in perspective, when we finished our meetings we decided we better gas up before we left town and we had to pay with cash because the internet was down and they wouldn't process credit cards.

More of an inconvenience, yes. Good thing we had cash. But it's no way to do business, and we have been working with USDA and others to get some money in there and figure out various problems.

It's only been a decade since broadband deployment has exploded into an everyday necessity, and without first addressing the lack of broadband availability any federal resources put forward for broadband adoption could further enlarge the digital divide if not done carefully.

Obviously, we still have issues with mapping that various FCCs have wrangled with for decades and we are all trying to get it right.

To be sure, today's hearing will hopefully bring data to the discussion so we can get a better understand of barriers to broadband adoption. I am happy we are following regular order and holding a hearing to examine the breadth of the issues on such an important topic.

So with that, Mr. Chairman, thanks for doing this. We

look forward to working with you on this and other communications issues, going forward, and again, thanks to our witnesses and I yield back a full minute.

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

The chair would like to remind members that pursuant to committee rules all members' written opening statements shall be made part of the record.

Now it gives me great pleasure to introduce our witnesses for today's hearing.

Ms. Angela Siefer, executive director, National Digital Inclusion Alliance -- welcome.

Mr. Joshua Edmonds, director of Digital Inclusion, city of Detroit, Michigan. Welcome, sir.

Ms. Rosalyn Layton, visiting scholar, American Enterprise Institute -- welcome.

Ms. Gigi Sohn, a regular here on our panels. Gigi, it's good to have you here. She is a distinguished fellow with Georgetown Law Institute for technology, law, and policy. Welcome.

And last but certainly not least, Mr. Jeffrey Sural, director of Broadband Infrastructure Office, North Carolina Department of Information Technology.

We want to thank all of you for joining us here today. We look forward to your testimony. I will be recognizing

each of you for five minutes to provide your opening statements.

Before we begin, we have a -- is the lighting system there to be seen. We have this lighting system that I want to tell you about. When you first start you'll notice a green light and you can continue speaking and you'll see the light turn yellow.

That means you have one minute to wrap up your opening statement, and when that light turns red your chair falls down through a chute.

[Laughter.]

Mr. Doyle. No, when your light turns red you should -- you should stop talking.

Anyway, so we are going to get started. So thank you very much and Ms. Siefer, you are now recognized for five minutes for your opening statement.

Your microphone.

STATEMENTS OF ANGELA SIEFER, EXECUTIVE DIRECTOR, NATIONAL DIGITAL INCLUSION ALLIANCE; JOSHUA EDMONDS, DIRECTOR OF DIGITAL INCLUSION, CITY OF DETROIT, MI; ROSALYN LAYTON, VISITING SCHOLAR, AMERICAN ENTERPRISE INSTITUTE; GIGI SOHN, DISTINGUISHED FELLOW, GEORGETOWN LAW INSTITUTE FOR TECHNOLOGY LAW AND POLICY; JEFFREY R. SURAL, DIRECTOR, BROADBAND INFRASTRUCTURE OFFICE, NORTH CAROLINA DEPARTMENT OF INFORMATION TECHNOLOGY

STATEMENT OF ANGELA SIEFER

Ms. Siefer. You have to press the button. That wasn't part of the instructions.

[Laughter.]

Ms. Siefer. Chairman Doyle, Ranking Member Latta, Ranking Member Walden, esteemed members of the committee, my name is Angela Siefer.

I am the executive director of the National Digital Inclusion Alliance. I am here representing NDIA and our affiliates, and Computer Reach in Pittsburgh also thanks you for us being here.

Twenty some years ago, I was in -- I was a grad student in Toledo, Ohio, and we were -- I was setting up computer labs. I was teaching people how to use Word. I was organizing meetings.

We thought of our work as bridging the digital divide.

Our focus was on computers and computer training. In 1996, we were not concerned with internet access. If we had just two computers in the lab that were connected to the internet, we thought we were cutting edge.

Today, folks on the ground who are bridging the digital divide are facilitating access to home internet service, devices, and digital literacy training. They are nonprofit organizations, libraries, governments, housing authorities, and more. They are the heroes.

NDIA represents over 400 of these affiliated organizations in 41 states, the District of Columbia, and the U.S. Virgin Islands.

NDIA's positions are based on our affiliates' on-the-ground experience and research. I would like to address a few myths today.

Myth number one -- there's a misstatement that's often repeated that the digital divide would be bridged if we just filled the rural broadband infrastructure gaps in the U.S.

According to the Census' latest American Community Survey, about 14 million urban households in major metro areas as well as smaller cities and towns and 4 million rural households still lack broadband subscriptions of any kind including mobile data plan.

What did 60 percent of the unconnected urban households, have in common with more than half of the unconnected rural

households? They all had household incomes below $35,000. Households with incomes less than $35,000 make up 28 percent of U.S. households but they account for 60 percent of those without any broadband internet service.

We do need to address the lack of broadband infrastructure in rural areas. But it's just one barrier to individuals and communities being able to fully participate in society today.

The other common barriers, no matter where one lives, are the cost of internet service and devices, plus digital literacy skills.

Simplistically equating the digital divide with just one of these barriers increases the division in our country.

Myth number two -- no worries, the excitement around 5G says that we will just -- it will solve the digital divide. 5G will not solve the digital divide.

Current broadband technologies were not deployed to all neighborhoods unless local governments mandated such. There's no reason to think 5G will be any different.

Additionally, 5G as a broadband service requires 5G-capable devices. Low-income households struggling to pay for internet service will certainly not rush out to purchase a 5G-enabled device.

Myth number three -- well-intentioned individuals have stated that if we can convince non-adopters of the value of

the internet they would certainly subscribe. Anyone who has resisted using the internet quickly realizes that the internet cannot be avoided when you apply for a job, register for classes, or even to find out what your Social Security benefits are.

The greatest barrier to broadband adoption is not relevance. It is cost in digital literacy. Residential internet service in the U.S. is expensive.

On the low end, internet service generally runs $65 to $70 per month. That's a lot of money. Unfortunately, I can't provide more detail as to the cost of internet service because the data doesn't exist.

We need the FCC to begin collecting data on the cost of home internet service and make it publicly available.

In the U.S., digital literacy training is undervalued and underfunded. One-third of manufacturing workers lack proficient digital skills.

Half of all construction, transportation, and storage workers lack proficient digital skills. There is no funding dedicated to digital literacy training in the U.S.

It has been left up to local governments, libraries, and nonprofits to piece together resources to address the basic digital skills training that millions of Americans need to cross that digital divide.

Piecing together funding is the wrong strategy for

strong workforce. Now let me share some good news.

Digital inclusion solutions in the U.S. have been crafted from the ground up. NDIA's affiliates are providing guidance to low-income parents, connecting to their children's teachers, teaching seniors how to use their electronic health records, helping veterans learn digital skills to acquire a job, and enabling disabled adults to participate more fully in their communities.

We know that trust is an important factor. Technology can be quite intimidating. The most successful digital inclusion programs are rooted in the communities being served. What is missing?

Digital equity planning at the state level and financial support for that planning plus the implementation. A good first start would be to pass the Digital Equity Act.

We are also in need of increased awareness of the problem and the solutions. So thank you. This hearing is increasing awareness. You are increasing awareness.

[The prepared statement of Ms. Siefer follows:]

**********INSERT 1**********

Mr. Doyle. Thank you very much.

We now recognize Mr. Edmonds for five minutes for your opening statement.

STATEMENT OF JOSHUA EDMONDS

Mr. Edmonds. Honorable Chairman, Ranking Member, and committee members, my name is Joshua Edmonds and on behalf of the city of Detroit, I would like to express a sincere thanks for the opportunity to discuss digital equity and internet adoption, two issues that are critical for the residents that I serve.

These issues transcend specific geographies and demographics and have a far-reaching impact on our great nations. Digital equity is a commitment for the least of us. It requires an honest assessment of what diverse populations need to achieve meaningful participation in a digital society.

At the core of any digital equity initiative is the understanding of the plight of older adults, veterans, low-income families, disabled residents, small business owners, and unemployed Americans, all seeking to engage in an increasingly digital world.

As the city of Detroit's director of digital inclusion and as a digital inclusion policy fellow within the Poverty Solutions Initiative at the University of Michigan, I am responsible for developing a digital equity strategy that will sustainably increase internet subscribers while placing emphasis on digital skill training and resident device

acquisition.

I play a vital role in implementing digital equity initiatives for a city where one in four residents still do not have broadband access of any kind.

Every American city has digital inequity of some type. Yet, none of us receive any federal funding beyond infrastructure to address the issue.

On the topic of digital protection, over 200,000 residents utilize Detroit public libraries' wifi networks, oftentimes in parking lots and after hours.

This example is not specific to Detroit. Many residents in under served communities are unaware of how to protect themselves online. This is a problem with implications tied to our national security.

For Americans with disabilities, this year marks the 30th anniversary of the passing of the Americans with Disabilities Act.

Unfortunately, Americans with disabilities are less likely to have home broadband and technical devices. With more than 56 million Americans living with a disability, investments in digital equity would ensure Americans with disabilities are afforded the same opportunity to digitally engage in today's economy regardless of their geographic location.

On the topic of the census, due to our broadband

challenges, the Associated Press listed Detroit as the toughest community to count in America. U.S. cities are at an increased risk of missing out on our share of the $1.5 trillion in federal resources.

If the federal government is using the internet as a vehicle to determine population sizes to ultimate allocate funding, that same federal government should also provide resource for communities to boost broadband adoptions and to ensure an accurate count that's fair.

Strategic partnerships can really help reduce the digital divide. At the city I also work directly with directly with internet service providers in varying capacities.

While my role can be very challenging, most of the providers have been great partners. When the city recognized digital inclusion week this past October, Comcast was one of our first sponsors with additional support from Verizon and AT&T.

This past holiday season when working with Los Angeles-based social enterprise human IT and the Detroit Housing Commission, we were able to provide 75 families with three computers.

I made one phone call to Comcast asking for them to provide those same 75 families with six months of free internet. They obliged.

These are small examples of how local leadership has called on industry to fill in where the federal government is silent.

In Detroit, we have developed public-private partnerships without any government funding. But it is an unsustainable model. We need federal resources to continue our work.

If we were to receive federal funding we could do more robust outreach and incentivize more localized funding from philanthropic organizations.

In conclusion, the city of Detroit has stories that are familiar to thousands of cities and towns across the United States that are starving for digital opportunities.

Thank you for the opportunity to be heard on a national level. I hope my testimony serves as a launch pad that will spur digital equity investment that gives American communities the footing needed to compete in the digital economy.

The digital divide is an indiscriminate issue that, ironically, connects all of us. We need leaders at all levels within all sectors to really work together on this issue.

I realize I have 40 seconds left so I can return that.

[Laughter.]

[The prepared statement of Mr. Edmonds follows:]

626 **********INSERT 2**********

Mr. Doyle. You're to be commended, Mr. Edmonds. That's going to get you a long way in this committee.

[Laughter.]

Dr. Layton, you're recognized for five minutes.

STATEMENT OF ROSALYN LAYTON

Ms. Layton. Thank you, Mr. Doyle.

I wanted to say I am a native of Pittsburgh and I would like to make a shout out to my friends and family in Da Burgh and I also want to say what I love seeing is a representative from Pittsburgh sitting next to the representative from Ohio.

Normally, never the twain shall meet, but it's after football season and it's wonderful to be here and present to the committee.

Mr. Doyle. I didn't know you were from Pittsburgh. You can take all the time you like.

Ms. Layton. Thank you. Thank you.

[Laughter.]

Ms. Layton. Thank you. So let me begin by responding to some important points already made, and Mr. Edmonds, who -- he highlights this problem of cyber crimes perpetuated against those he serves in Detroit, and this demonstrates the danger of policy focusing solely on price and not other important factors such as security.

Now, consider the predicament of the European Union today. To meet regulators' low price requirements, broadband providers had to cost cut so severely that they ended up buying cheap unsafe Huawei equipment, and this effort to deliver low prices had put Europeans' privacy and security at

risk.

Now, fortunately, in the U.S. the FCC recently adopted rules restricting subsidies for equipment that's deemed a security risk. Nevertheless, there's at least another $20 billion annually in federal broadband funds which is not scrutinized for security purposes, not to mention additional grants at the state and local level.

Now, it's not only our network equipment that is vulnerable. Our national vulnerability database lists such commonplace items such as Lexmark printers and Lenovo laptops as products which can compromise a user's security.

Now, that information may be listed in some federal database. But it's never communicated to the end retailer or consumer, which itself is a policy failing.

Now, security is worth paying for and it matters to all of us. Another casualty of the European policy is network investment. In the last two decades, the level of private network investment in Europe has been cut in half. It was once one-third of the world's total. But today, it's 15 percent.

Regulators have removed the incentive to invest and, unsurprisingly, the region is two years behind on 5G.

Now, thankfully, the U.S. has maintained a high level of private investment which has generally increased year over year. Americans are less than 5 percent of the world's

population but they enjoy more than 25 percent of the world's privately provisioned network resources.

It's an amount that is approaching $90 billion annually, almost $2 trillion since 1996. This is a staggering success and it reflects a bipartisan consensus to focus on facilities-based competition.

Now, a myopic focus on low prices is not only misguided, it's also unsafe. Moreover, it does not address complex problems we are talking about today, which require multi disciplinary approaches.

However, there is one maxim which can help us. People adopt services, not networks. The demand for broadband is what economists call derived demand.

Consumers adopt broadband for the services they get from the networks, not from the networks themselves. This is important because you can't fix with supply solutions what are inherently demand problems.

Now, in the testimony today we are referencing many organizations such as NDIA, Pew, John Horgan from the Technology Policy Institute, who note that the gaps in broadband adoption can be attributed to age, income, and education.

Now, closing these gaps is largely about empowering individuals, not favoring any one firm or technology.

Now, the single best thing we can do for internet

adoption and inclusion is to support our current growing economy. It continues to deliver increased wages, employment, and opportunity.

When people have more money in their pockets, they can buy more of all goods and services including broadband. Now, I am thrilled that we are in the midst of a blue-collar boom where wages are rising fastest for the poorest and youngest among us.

Moreover, we have a record level of employment for women and people of color. With historic tax cuts and deregulation, thousands of new opportunities have sprouted across the country. These empower people to seek new skills, better jobs, and ownership of a home, all of which are factors which increase the likelihood of adopting broadband.

Now, I lament that 6 million households are not online today because of cost. But the good news is that things are changing quickly for the better and the FCC has taken actions which have increased the availability of broadband and reduced deployment costs under the fantastic work of Chairman Ajit Pai.

These include $1.5 billion in Connect American funds to 700 rural homes and businesses in 45 states, an additional $5 billion for over 300,000 households, $1 billion to Puerto Rico and the U.S. Virgin Islands, and my favorite accomplishment of all is cutting $1 billion in costs by

ending the reports that the FCC no longer uses.

In closing, I encourage the committee to allow the flourishing of the exciting bottom-up solutions we've heard today and it's important that this committee would also focus on the issues of national importance, notably, spectrum and security, which are intertwined with our global race to 5G.

And so I remind you to think about what needs to be done at the state and local level and not have an urge that every problem needs to be fixed by the federal government.

Thank you for this time today.

[The prepared statement of Ms. Layton follows:]

**********INSERT 3**********

Mr. Doyle. The gentlelady yields back.

It's now my pleasure to recognize Ms. Sohn for five minutes for your opening statement.

STATEMENT OF GIGI SOHN

Ms. Sohn. Chairman Doyle, Ranking Member Latta, members of the subcommittee, thank you for inviting me to testify on two crucial issues -- digital equity and broadband adoption.

It's indisputable that broadband internet is an essential tool for participation in our society, our economy, and our culture. Many job applications and government services are only available online.

Seventy percent of teachers assign homework that must be submitted online. Numerous TV shows and movies are exclusively online.

Broadband internet access has fundamentally changed the nature of commerce, education, and health care. It enables unprecedented flexibility for Americans to choose where they live, how they work, and how they care for their families.

However, 141 million people in the U.S. don't have fixed home internet at the FCC's outdated 25 down three up broadband definition. That's nearly 43 percent of Americans.

What's more alarming is that home broadband adoption rates aren't increasing. It's remained stable for the past three years. That makes this hearing even more important.

The digital divide affects every region of our country, although communities of color and low-income Americans are far more likely not to have broadband.

A recent study by the Pew Research Center showed 79 percent of white U.S. adults have home broadband while the same is true of only 66 percent of black adults and 61 percent of Hispanics.

The study showed that 92 percent of Americans making $75,000 or more annually have home broadband. Only 56 percent making less than $30,000 annually do.

The racial component of the digital divide is a byproduct not only of income inequality but of structural inequality like discriminatory housing and lending practices.

This divide persists because of the high cost of broadband and computers in the U.S. Study after study shows this.

Current research suggests that low-income people can only afford to pay about $10 monthly for broadband. Anything more competes with other utility bills and the cost of food.

Meeting the goal of universal connectivity and providing fixed broadband about $10 per month requires a multi-pronged strategy, what my Benton colleague Jonathan Sallet calls and affordability agenda.

It includes, one, price transparency. Carriers should be required to submit nonpromotional pricing information including equipment and other fees to the FCC, which should make that information public.

The FCC or Congress should also restore the fixed

broadband consumer disclosure label. Both will help consumers make informed choices about the price, quality, and value of their broadband service.

Two, more competition. More competition means lower broadband prices. Even under the FCC's overly optimistic data, nearly 30 percent of the country has access to no more than two providers at 25/3 speeds and 95 percent has access to no more than two at speeds of 110.

If we really want communities to lead, Congress should prohibit states from blocking communities that wish to build their own broadband networks and also give a bidding preference to open access networks when allocating deployment subsidies.

These networks allow any broadband provider to provide last mile service. An open access network in Utah gives residents of 15 cities a choice of 10 ISPs. Most Americans can't imagine that.

Three, a strong Lifeline program. Congress should strengthen Lifeline and make it easier for the most vulnerable in society to access the program.

It should make clear that Lifeline can support broadband service, restore the broadband provider designation to bring new competition to the program, and give USAC the resources it needs to expedite the hard launch of the national eligibility verifier. It will make eligibility

determinations automatic for many applicants.

Policymakers should also consider providing an additional subsidies so Lifeline recipients can purchase fixed broadband. The $9.25 subsidy doesn't go very far for broadband needed to do research papers, apply for jobs, and access telehealth services.

Four, low-cost broadband for federally subsidized networks. The FCC disburses billions of dollars annually to mobile and fixed providers to build out their networks. It should require those carriers to provide a $10 a month high-speed broadband plan to low-income Americans.

Five, support for access to and through community anchor institutions. Some community anchor institutions have adopted programs that extend learning beyond their walls. Libraries have been experimenting with mobile wireless hotspot programs which allow people to check out broadband hot spots for home use.

Schools have been providing buses equipped with wifi for students to use after hours. Congress or the FCC should clarify that these programs are eligible for e-rate funds.

Finally, last but not least, Congress and the FCC should assist local communities' digital inclusion efforts. Local advocates are doing the hard work of educating residents about low-cost broadband options, providing digital literacy and jobs skills training, and distributing low-cost

computers. Congress should pass the Digital Equity Act, which establishes grant programs to support state and local digital equity efforts.

These funds will incentivize more states and localities to develop digital inclusion plans and will provide sorely needed funds to the small nonprofits doing the hard work of connecting their communities.

Thank you. I look forward to your questions.

[The prepared statement of Ms. Sohn follows:]

**********INSERT 4**********

Mr. Doyle. Thank you.

Mr. Sural, you are now recognized for five minutes.

STATEMENT OF JEFFREY SURAL

Mr. Sural. Good morning, Mr. Chairman. Thank you, and thank you to Ranking Member Latta and the subcommittee members for holding this hearing.

My name is Jeff Sural. I am director of the Broadband Infrastructure Office at the North Carolina Department of Information Technology.

Our office leads state initiatives to ensure all North Carolinians can access affordable reliable high-speed internet service.

On behalf of Governor Roy Cooper and State Chief Information Officer Eric Boyette, I would like to thank you for the opportunity to share North Carolina's approach to ensure all individuals and communities have the capacity and tools needed to fully participate in a 21st century society and economy. The governor has made closing the digital divide one of his top priorities.

My oral statement will focus on four key points.

One, this is a problem. Two, its root causes have been identified. Three, it is solvable. And four, governments at all levels can and should lead.

Policy, better data, grants, subsidies, and partnerships all work. In North Carolina, much like the rest of the country, not having the internet in your home makes it harder

to see a doctor or nurse without leaving your house, harder to do homework outside the classroom, harder to start a small business, and in many cases harder to interact with your state and local government.

In North Carolina, we recognize that adoption was a problem several years ago. In 2015, before writing the state's broadband plan, we surveyed 3,500 local leaders.

When asked what their concerns were regarding the lack of broadband in their communities, the number-one response was the homework app.

We wrote our state plan with equal attention paid to availability and adoption, focussing on the homework app. Our findings are validated by data collected nationally. The FCC estimates that 94.8 percent of North Carolina's households have access to broadband. Alarmingly, only 59 percent of those with access are adopting.

The most recent report from the American Community Survey puts North Carolina's household adoption rate for all internet speeds at 78 percent.

The survey also found that more than 726,000 North Carolina households do not have access to a meaningful device, meaning a laptop, a desktop, or tablet.

Based on our own research, we estimate that between one-quarter to half a million students fall into the homework gap. We recognized there was a problem and so we first

worked to identify the root causes.

We found that broadband coverage is a key determinant of adoption. Of course, individuals can only adopt broadband in areas where it is available.

But subscription costs is the main barrier to adoption for those with access, followed by digital literacy, access to devices, and relevancy.

But why this is a serious problem is still misunderstood or under appreciated. Research shows that sheer availability of or access to broadband isn't enough to positively impact a local economy.

Rather, it is the adoption of it. When people have it in their homes and use it in ways that positively impact their economic outlook, we begin to see a positive relationship between broadband and a community's economic health.

In North Carolina, we are focused on tackling the barriers to adoption even as we invest in expansion of broadband infrastructure.

In 2017, we formed the Digital Equity and Inclusion Collaborative to gather and learn from nonprofit, universities, and state agencies who are working to close the digital divide.

Our office in the State Library of North Carolina won a $250,00 two-year grant from the Institute of Museum and

Library Services to launch a pilot program at local libraries that provides equipment and digital literacy training to families of K through 12 students in need.

We also partner with the state librarian and nine library systems to make equipment such as wifi hot spots or computers available to students.

In early 2019, our office partnered with the North Carolina Department of Human and Health Services Office of Rural Health to secure a grant from the Appalachian Regional Commission to identify the broadband and telehealth challenges and opportunities in 20 western counties.

This partnership also funded an expansion of East Carolina University's successful tele-psychiatry program to four rural counties in eastern North Carolina.

Our larger municipalities have been leading the effort to close the digital divide for many years. For example, in Durham a group of volunteers from various nonprofits and city agencies formed Digital Durham to close the homework gap in east Durham.

And, of course, in Charlotte, the nationally-recognized Charlotte Digital Inclusion Alliance is working aggressively and innovatively to close the region's digital divide.

North Carolina also boasts several nonprofits such as Cramden and RTP and E2D in Charlotte, both of whom refurbish used computers and distribute them to those in need as well

as provide digital literacy training.

Governments, particularly state governments, can play important leadership roles while pursuing evidence-based policymaking, convening stakeholders and educating the public.

Competition drives affordability and innovation. We should continue to work on policies that incentivize competition. But where market forces are not working, successful evidence-based solutions include grants, subsidies, partnerships between local governments, nonprofit, and internet service providers.

Thank you for the opportunity to speak today about North Carolina's comprehensive approach to closing the digital divide and I look forward to answering any questions.

[The prepared statement of Mr. Sural follows:]

**********INSERT 5**********

Mr. Doyle. Thank you.

So we have now concluded our openings and we are going to move to member questions. Each member will have five minutes to ask questions of our witnesses. I will start by recognizing myself for five minutes.

Mr. Sural and Mr. Edmonds, when we talk about the challenges that our nation faces in deploying broadband nationally, I think everyone here can acknowledge that there are not sufficient private sector incentives to bring broadband to everyone and that the federal government has a necessary role to play.

But when it comes to digital equity, your respective governments are working to close the digital divide. But do you see those efforts succeeding in the long term if the federal government doesn't play any role in that to help you address that challenge and what kinds of long-term harms do you see if we continue to let this problem fester?

I will maybe start with Mr. Sural and then Mr. Edmonds, you can go next.

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

Great question, and, you know, I think the way that we incentivize the internet service providers and incentivize good corporate citizenship is through the purse strings, frankly.

I mean, we have federal programs that fund deployment

and those are -- and we like those. We like money at the state level.

But if they were tied or conducted in concert with some adoption programs I think that would be the way to really drive this issue home and make sure that there are digital literacy or other programs that would be available to those where these deployment dollars are going.

For example, in North Carolina we do have a state rural broadband grant program and we have advocated that we tie in a scoring for those applicants and they can increase their score if they create some sort of adoption program.

And it could be partnering with a nonprofit. Doesn't necessarily mean they have to run it. But something, and I think that's probably the first thing that we need to do.

Mr. Doyle. Mr. Edmonds?

Mr. Edmonds. Thank you, Mr. Chairman, for the question.

And locally, I would say that while we are able to essentially galvanize people around this issue, namely, the internet service providers and the private sector.

One thing that we have to be cognizant of -- really what we are actually partnering on, so while Comcast and, you know, our local internet service providers have really stepped up in a major way. We don't want to get into the position to exhaust their generosity and I don't think that's actually a sustainable play.

When I had mentioned earlier in my testimony that we want to be able to be in the position to further incentivize. If we actually had some funding outside of good will I think that we would actually be able to do much more.

So I don't believe in the long term what we are doing is sustainable. I think that it's commendable for all the partners at the table, and I do think that we will have an immediate impact, as we already are.

However, from a sustainable way, as technology continues to evolve, we need to have something that we can look to from a long-term strategy that's actually going to make sense.

Mr. Doyle. Thank you.

Ms. Siefer, you talked about the skills gap for digital literacy in our workforce in your testimony, and for industries like manufacturing and agriculture, tell us what are the risks to employees that lack these skills as these industries change and are older workers missing out on opportunities?

How is this dynamic playing out in urban and rural communities?

Ms. Siefer. Right. So we know that the jobs are out there. We know there are IT jobs or even the jobs that aren't necessarily defined as technical.

They are called, like, middle skill tech jobs where you need to understand how to use spreadsheets. You can flip

back and forth between applications. You can feel confident that if you don't understand one app, it is okay, because you will figure it out.

So that's what we are missing. So those are the -- it is a basic digital literacy skills but it's a continuum of skills. And so in order to help people be ready for those other jobs, which are out there, we know the jobs are there.

That is one of the things that is so frustrating. We have the jobs. But our folks don't have the skills, is that we have to help them where they are because it is intimidating.

Mr. Doyle. Thank you.

Ms. Sohn, you have said that deployment or some people have said that the deployment of 5G services will reduce the price of broadband and that it will connect rural communities and help close the digital divide in low-income communities.

Do you really think those things are going to happen and, if not, why?

Ms. Sohn. I certainly didn't say that. I think it's really important to emphasize that there is so much that is still unknown and untested about 5G.

You know, the companies are not sure whether there is even a case for consumers to really benefit or whether this is an enterprise technology that allows for drones and self-

driving cars and smart cities.

So we don't know that. What we also don't know is what the price is going to be. You know, Angela Siefer talked about the price of devices, which we do know are going to be expensive. Samsung just introduced a $1,300 5G phone. But we have no idea what the monthly cost is going to be.

But what we absolutely do know and what the executives -- what both Verizon and T-Mobile executives have admitted is that in rural areas, 5G is probably not going to be a whole lot better than 4G. That's about the best they are going to get.

Mr. Doyle. Thank you.

I would note to my colleagues that I am stopped with three seconds left and I hope that sets an example for the rest of you.

[Laughter.]

Mr. Doyle. I will now recognize my good friend, Mr. Latta.

Mr. Latta. Well, thank you. I hope you're not talking to me about that.

[Laughter.]

Mr. Latta. But thank you, Mr. Chairman, and again, thanks to our witnesses.

Dr. Layton, if I could start my questions with you. This committee has spent much time focussing on how to

connect all Americans to accept broadband speeds.

In my district of northwest west central Ohio, we still have areas that are completely unserved. So encouraging broadband deployment in rural America is one of my top priorities.

In your testimony, you mentioned that regulatory discrimination costs our economy about $30 to $40 billion annually, money that could otherwise be spent on deploying broadband to our rural areas.

Will you expand on this particularly about how money alone won't solve this issue and what actions should Congress be taking?

Ms. Layton. Thank you for that question.

I would like to follow up quickly on the 5G issue as it relates to rural areas.

What we can see with 5G now that which is in cities is it's largely what's called broadband substitution. People are cutting the cord. They cancelled their cable subscription and are getting their broadband connection now through wireless.

So this is going on in cities today, and when we look at rural areas one of the fastest ways that we can bring high-speed broadband to the rural area is through the mid-band spectrum and there's an issue in front of the FCC right now on a C band auction, which will be the fastest way to bring

high-speed broadband to rural areas.

With regard to this issue of regulatory discrimination, as an economist what I like to encourage policy makers is to think about broadband as a multi-sited market and ensuring that all of the participants are able to be involved in the broadband market.

So, historically, we've had a policy which would minimize the participation of the large content providers.

So, for example, in Netflix, which accounts for a large share of the traffic, they're not participating in the last mile infrastructure cost. So that's quite significant because that means the cost has to be recovered in another way.

So it falls on the end consumer and part of the challenge today is, you know, when we talked about if it's too high, well, we are forcing end consumers to pay too much when large content providers are not participating.

So in a free market you would have more participation of the largest content providers and that would help defray some of the costs for the poorest users.

Mr. Latta. Thank you.

Mr. Sural, if I could ask you the next question here. I also found in your testimony when you were talking about the adoption problem out there that you said that, you know, it's two sides of a coin -- the access side and then the adoption

side -- and then also about, you know, the pros and cons out there about why we really have to be out there talking about broadband and getting it there.

On the pro side, you're talking about those who adopt the broadband are more likely to find jobs, learn new skills, successfully navigate social services, and those who do not -- than those who do not adopt them.

Then on the con side, low adoption results in loss of opportunity, education, or economic income, civic, and cultural.

And then when you summed up your testimony at the very end you also -- I thought it was interesting you had said that, you know, competition drives that affordability and innovation.

And so looking at the -- your state and what you have done on leveraging existing resources and creating partnerships, how does North Carolina State Broadband Office connect with communities that need internet access?

Mr. Sural. Well, we have a technical assistance team. So I have four members in our office that actually live in the areas where they work and they work and they work closely with local leaders to develop -- planning all sorts of aspects of broadband on the deployment side and on the adoption side.

And our office has really just started to tackle this

adoption issue. We rely a lot on the research that's done nationally and the studies that have been published nationally. We did our own study, however, a few years ago called NC Light Up that's on our website and we did a controlled study with 179 families.

At the end and the conclusion of that study showed that even three months afterwards the families that were receiving a subsidy for the service, 89 percent of them kept the internet service.

And so we are still looking at diving into the benefits for those types of families. But we -- but our outreach is mostly with the local levels through either our technical assistance team or our homework gap report that we published.

Mr. Latta. In my last 25 seconds, now, do you also have workshops then for folks out there?

Mr. Sural. We just completed a round of workshops we called Broadband 101 and we went to all areas of the state and we had our councils of governments coordinate the local leaders and we taught about what they can do to enhance deployment and some adoption issues, and we have a collaborative, too.

Mr. Latta. Well, thank you very much.

Mr. Chairman, I am ending on three seconds so I yield back.

[Laughter.]

Mr. Doyle. Good job.

The chair now recognizes Mr. McNerney for five minutes.

Mr. McNerney. I thank the chair.

Mr. Sural, do you believe more people should wear bow ties?

[Laughter.]

Mr. Sural. Yes.

Mr. McNerney. Thank you. Thank you.

So I really appreciate your testimony concerning adoption as well as deployment. I think that's a key issue along with the cost of equipment and that's been raised several times. Is there any more you want to add to that -- the adoption issue?

Mr. Sural. On the issue of whether we -- competition helps.

Mr. McNerney. Well, whether deployment should precede adoption.

Mr. Sural. I think that they can be done in concert. I mean, in our state at least we've been doing a lot on the deployment side of things.

We even have, for example, in one county they received BTOP money. They have 90 percent of the households connected to fiber but only 59 percent subscription rate. So, obviously, there's something there and it depends. We are finding county by county it's different.

Mr. McNerney. Well, thank you.

In your written testimony you discussed the economic impact of gaps in the broadband adoption and digital literacy. Can you expand on that and discuss the economic impacts that you have seen on the ground?

Mr. Sural. So we have seen primarily, especially in our rural communities, more entrepreneurship. For example, the city of Wilson has done a lot and it's allowed them to say, hey, we are a connected city. They've attracted some smaller companies.

So what we are seeing is on the individual level particularly an opportunity for income enhancement and then we have some small businesses that are really starting to connect.

There's a woman in southern Beaufort County who runs a agro-tourism business. Seventy-five percent of her marketing and ticket sales are over the internet. So when the internet is down, you know, she struggles. But it gives her an opportunity run a business in a very, very rural area of North Carolina.

Mr. McNerney. Thank you for that.

Ms. Siefer, would you like to comment about the returns that we are likely to see from targeted federal investment in broadband adoption and digital literacy?

Ms. Siefer. So the returns we are going to see are in

every industry and in every aspect of our lives because I think one can think about how you use the internet and that impacts then everything you do, right.

So education and health, work. It is in everything. So the impacts are going to just be astounding if we had everybody participating and think it's also important for us to think about how -- that the internet is more valuable because so many people are on it, right.

So that thing that you're using is more valuable if there's more people there. So if we have more of our low-income citizens participating and the disabled and the seniors and the youth, then what does that do to how the rest of us then interact online.

Mr. McNerney. Yeah. Well, in my district there's about 64,000 individuals employed in the construction and transportation and storage workers. Why would federal investments in digital training help that group or how would it help that group?

Ms. Siefer. It gives them more opportunities for jobs, right, because then they're not limited to that field. Yes, if they'd like to stay there, awesome. But their possibilities for advancement go up when they have more digital skills.

Mr. McNerney. Yes, Ms. Sohn?

Ms. Sohn. Could I just add thank you for the

opportunity? A lot of skills that we, you know, consider to be sort of, you know, technical skills or some more mid-level skills, service skills, require internet skills.

So, for example, when I take my car to Midas in Bethesda they're constantly complaining because they can't get enough people to work as auto workers to repair cars and those folks need digital skills.

Okay. It's not just a matter of, you know, fixing the engine anymore. You have to be able to use computers.

Mr. McNerney. Thank you.

Mr. Edmonds, why do you think that the model of public partner -- private partnerships is unsustainable in Detroit?

Mr. Edmonds. I don't think it's sustainable because I think we might be motivated by different things. You know, when -- the public sector we, obviously, aren't necessarily looking every single time at our residents as commodities, if you will.

And I am not saying that that's what the private sector is doing but what I am saying is we have different responsibilities.

And so when I am talking to my residents and wanting to get them online, I am not necessarily doing that about in a profit-driven way.

I am looking at this because these residents essentially matter to the future of our city and, ultimately, our

country. And when we are engaging with the private sector it might be they have a -- they have different objectives.

We might fall in line under, you know, maybe someone wants to essentially highlight a partnership model that might be deemed innovative. But I am not really looking for innovation. I am looking for what's effective.

Mr. McNerney. Thank you.

Mr. Chairman, I am going to ask for another five minutes.

[Laughter.]

Mr. Doyle. I have great affection for the gentleman but that request is denied.

The chair now recognizes Mr. Shimkus for five minutes.

Mr. Shimkus. Thank you, Mr. Chairman.

Thank you for being here. It's a great debate. We have been struggling with broadband deployment, especially in the areas that have been mentioned, for years.

I think we are making a lot of success in the broadband portion through a couple different agencies. We've got the USDA rural development program, which has been -- I mean, I have just gotten an announcement this morning of coming to Hamilton County to help roll out more.

We have the FCC in the last cycle with legislation to help. The state of Illinois has gotten on board now to talk about connecting. So all that is -- you know, so this is

kind of a natural extension to, okay, if you connect will they come or are they trained to come or do they have the connectivity.

We do accept the premise that some people who get fiber run to their house will not want to be online, do we? I mean, I am from rural America and I am just here to tell you there are some people who don't want to be on the worldwide web.

They don't want to be connected. They're worried about their privacy. They're worried about all this other stuff. So it's kind of like in the economist's point of view, 3.5 percent unemployment is de facto full employment if you take in economics and -- because there are people always in transition.

So we are never going to get 100 percent and we are not going to get 100 percent full deployment.

But I was interested in this debate about with all these grant programs that we have, maybe -- and I think, Mr. Sural, you mentioned it -- why not in the application process kind of make a determination of well, tell us what you have done in the past to help this portion or tell us what your plan is to help educate and connect people as part of these application processes. That way you have another variable by which the decision makers can use to see how effective it was.

When we did the stimulus bill years ago, one of the problems was it gave money but it just overlayed pipes without a business model. So this is kind of the other flip side. This is giving money without really a business plan for connecting or educating.

Mr. Sural, back to you, too. I wrote down you're doing Broadband 101. We could probably use that class even though we've been on the committee for a long time.

Mr. Sural. Happy to. Happy to.

Mr. Shimkus. Yes. Because it is curious, and I am going to a little -- Ms. Sohn, I saw you roll your eyes. I love watching people's faces during testimony.

I am a recent -- I am getting ready to retire. This is my last year here, and as a member of Congress I've been able to survive on my iPhone and my iPad without a laptop.

So now I got to go to the real world and I am thinking, well, that might not be enough, you know, if I have to start doing spreadsheets and connecting. I might need -- actually need to figure out how to turn a laptop on and do stuff.

But that brings up this 4G/5G debate and whether 5G does actually represent some competition. Dr. Layton says yes. You rolled your eyes, saying, oh, I don't think so.

So why the eye roll?

Ms. Sohn. So my concern is that we don't make policy prematurely. Okay. 5G is a marathon and not a sprint. I

know there's a lot of talk about the race to 5G.

But if you even ask the companies themselves they will say we are not 100 percent sure what the business model is for this. So that is my concern.

I am not anti 5G. 5G is coming. But I think it would be unwise to make policy -- broadband adoption equity policy based on what 5G might be.

Mr. Shimkus. Yes, thank you. And I certainly want to give Dr. Layton a chance. But I do know that -- and I caveated the question with -- I mean, I am not on my laptop, right. I am on email, texting, searching the web to get information. So I am not full bore into the issue.

But I do know that sometimes I have bad wifi connection or a slow wifi connection and I will go to 4G and get and I will turn off my wifi signal.

So Dr. Layton?

Mic.

Ms. Layton. Well, this whole hearing was worth for me today to hear Gigi say she doesn't want to make policy prematurely. I think that's great.

[Laughter.]

Ms. Layton. So I think to your whole point here, this is the whole point of view of why it's great that people should have more money in their own pockets, why we should allow enterprises to keep more of their own profits. Because

every community has different needs and the more that you have your own resources you can decide how you want to spend it. You can decide how you want to invest it.

So when you talk about, as you opened your question on the big question of the federal funding, there's money sprinkled across the whole place. If we looked at the whole thing, we could probably do it a lot more efficiently and a lot more effectively by the different agencies -- USTA, Department of Transportation, FCC -- working together in a more cooperative way.

Mr. Doyle. Thank you. Time has expired.

The chair now recognizes Mr. Loebsack for five minutes.

Mr. Loebsack. Thank you, Chairman Doyle and Ranking Member Latta, for convening this hearing this today and I thank all of our witnesses for their attendance as well.

I do appreciate that we are having this hearing today. I've worked throughout my time on this committee to advance internet adoption and connect Iowa communities. I also have a rural district as you might imagine in southeast Iowa.

I partnered with my friend, Bob Latta, and that we got this very, very bipartisan bill through the Broadband Data Act last year and it passed the committee pretty overwhelmingly, as you know.

But, clearly, there still are many challenges to ensure that all Americans are able to access and use the internet

because in today's economy, as already has been mentioned, if you don't have reliable internet access you're probably going to be shut out of the digital economy.

Whether your child is trying to do his or her homework or you're searching for a job or accessing telemedicine, trying to operate a small business, it's truly never been more important -- I think we can all agree on that -- to be able to connect to the internet and the outside world.

I just had a couple of quick questions. Both of these are for Ms. Siefer and Ms. Sohn. The FCC doesn't currently collect data about the costs of broadband service.

The Broadband Data Act included some qualify of service metrics to be collected. But I would like to ask you how you think the collection of additional quality of service metrics like price data would impact if at all access to broadband.

Let's start with Ms. Siefer at this time.

Ms. Siefer. Having data on the cost of home broadband would draw attention and be able to create solutions specifically around those geographic areas that don't have affordable broadband.

Right now if you try to go figure out how much broadband costs in any area it takes actually quite a bit of research. It seems crazy. It seems like we could just look it up on the internet.

But you can't just look it up on the internet. What you

will find are the introductory rates. You won't find what it actually costs. And so solutions that can then be created for particular neighborhoods, for particular regions, for particular counties that are struggling with the cost in that area.

Mr. Loebsack. And I am going to get to that in my second question, too.

Yes, Ms. Sohn?

Ms. Sohn. So we've actually seen in the e-rate context the group Education Superhighway did a study that showed that once the FCC required price transparency prices for building networks to schools and libraries went down.

So it would cause competitive pressure, plus consumers should know what they're paying for when they buy broadband, and if they do -- if they're lucky enough to have competitive choices, then can compare and contrast.

Mr. Loebsack. So my second question has to do with an article that was in the Wall Street Journal in December. It found that, quote, "Americans in low-income neighborhoods and rural areas get slower broadband speeds even though they generally pay similar monthly prices as their counterparts in wealthy and urban areas."

And to both of you, again, the question is do you think that rural and low-income areas are receiving a different quality of service as a result of technical challenges or do

you think there are other factors at play?

And let's start with you this time, Ms. Sohn.

Ms. Sohn. Look, those are not attractive communities to serve. So you get one provider. There's no competitive pressure. They can higher prices. I mean, you know, basically, if you're low-income or middle class or live in a community of color you get screwed.

Mr. Loebsack. Yes?

Ms. Siefer. I think the other important point to always keep in mind is that in the U.S. internet service is a commodity, right. You're going to get the highest price for it as you can and none of us should be surprised. We are, like, yes, of course. This is a free market.

But if that result is that we don't have enough competition and then we end up with particular individuals and families who can't afford it because the only option is an expensive option, and we as a society have to say that's not okay.

Mr. Loebsack. And I might add that this actually happens not just in rural areas versus urban areas but even in Iowa City, where I live, if you're in a new subdivision, for example, you have limited options because not everybody wants to go into that subdivision until there are enough homes actually created and that's actually, you know, a fairly wealthy area, too.

Ms. Sohn. That raises another question, if you don't mind, and that's the problem of exclusives in multi-tenant environments or condominium environments where a cable operator or a tel-co will basically have an exclusive and you're at the mercy of those providers.

And I know the FCC is looking at this but they can't get rid -- they can't ban those exclusives fast enough for me.

Mr. Loebsack. Right. Okay.

Well, I was going to yield the rest of my time to Mr. McNerney but there's not enough time for a question and answer. But thanks, everybody. I really appreciate it.

And I yield back. Thank you.

Mr. Doyle. The gentleman yields back his time.

The chair now recognizes my buddy, Mr. Olson, five minutes. Not a second more.

[Laughter.]

Mr. Olson. I thank the chair, and welcome to our five witnesses.

Mr. Sural, I have to start out with an apology. My wife is a Duke Blue Devil and that means that I have to inform you that on February 8th of this year her Devils will go down to your Dean Dome and put a whooping on your Tarheels, to be repeated next month on March 7th at Duke Cameron Stadium.

Sorry.

[Laughter.]

Mr. Olson. Just the way it is.

Mr. Sural. Willing to wager a barbecue.

Mr. Olson. And that's why I'm in my twenty-seventh year of marriage and my sixth term in Congress, Texas 22 is a booming suburb of Houston, Texas. We are the most diverse county in America ethnically.

We have the richest population per capita of 254 counties in Texas. That means you would think we are preparing for 5G, looking forward to 10G in the future. Access to internet is for everybody in Fort Bend County. If you thought that you'd be wrong.

This past Thursday I was out in Deanville, Texas. Deanville is all about cotton, milo, livestock, and Deanville High School Blue Jays. I went by to see the Chamber of Commerce's small business awardee, a place that's called All We Need Farm.

It's run by a woman -- small business -- named Stacy Roussel. She makes ice cream popsicles with goat milk from Nubian and Angora goats. She quit her job as a CPA in 2000 to pursue her dream of making these popsicles. She bought her first herd eight years later in 2008.

She and her husband were so good in 2017 they won the American Dairy Goat Association product competition. The best goat milk popsicles in the entire country came from Deanville, Texas.

Stacy's problem is she has no real access to the internet. On her street her neighbors were there a long time before she was. They have cable access to internet.

She has none of that cable. She can't convince somebody to come out and put that cable down. Satellites are too expensive and maybe there's a problem with latency issues.

So my question, Dr. Layton, is how can Stacy break through and have internet access so she can thrive and grow her business? Any thoughts? Ideas? Barricades D.C.?

Ms. Layton. This is in her location where she's in this part of --

Mr. Olson. Yes. Yeah. Yeah. On a rural road. There, again, the neighbors have -- because they were there, like, 10 years, 20 years before her. They got cables laid. She can't get somebody to help her out. Again, satellites are too expensive for right now. She has to grow her business. She can't do that until she gets that access.

Ms. Layton. Right. Well, I am not familiar with the requirements for deployment in this particular part of Texas. I would have to look into it.

What I am encouraged to see is that, for example, I am very excited about the new high through-put satellites which are 100 megabits per seconds. They are online -- to come online I think in less than a year.

The FCC has approved over a dozen new satellite

programs, low earth orbit. These should not be laughed at. They are very serious. They are being used around the world. I think that's a big deal. I would just come back to what regulatory barriers are there. I mean, and hats off to this woman for pursuing her dream.

Mr. Olson. Yes, ma'am? Ms. Sohn, do you want to add to that?

Ms. Sohn. Yes. This would be the perfect place for communities to build their own broadband and, unfortunately, in Texas is one of 19 states that prohibits their local communities from building broadband.

I have cousins who live in Dallas. I often visit Austin, and I get similar complaints about the lack of broadband in places where you think it would be, and that's why community builds are so critically important and why Congress should prohibit those kind of -- prohibit states from stopping communities from deciding whether or not to serve people like your friend.

Mr. Olson. Mr. Sural?

Mr. Sural. And small business adoption and programs and also grants to small businesses. We had a program in North Carolina that allowed some manufacturing facilities to hook up to fiber. Provided a grant and they've expanded their operations and communicate with customers in China. So we need that, too.

Mr. Olson. Final question for you, Dr. Layton. This is on NFL neutrality. January 6th of 1980, Houston Oiler Mike Renfro scored a touchdown in Three Rivers Stadium that was denied.

Would you break from Chairman Doyle and admit the refs blew the call?

Ms. Layton. On this one, I am forever a Pittsburgh Steelers fan. So I am sorry, I am not going to come over to that side on that question.

[Laughter.]

Mr. Olson. It was a touchdown.

I yield back.

Mr. Doyle. I thank the gentleman. I would just like to say, Mr. Sural, it was mighty kind of you not to mention the Houston Astros in retaliation for his Duke statements.

But the gentleman's time has expired.

The chair now recognizes the gentleman from Texas, Mr. Veasey, five minutes.

Mr. Veasey. Thank you, Mr. Chairman, for recognizing me for a magic five minutes.

Mr. Olson, thank you. Roger Williams and I appreciate you mentioning Mike Renfro, who's a fellow Arlington Heights High School graduate out of Fort Worth, Texas. So thank you very much.

Mr. Olson. Touchdown.

[Laughter.]

Mr. Veasey. It definitely was. Every time I see Mike out and about in Fort Worth we joke around about that, about how it definitely was a touchdown.

Mr. Edmonds, in your testimony you discuss the difference between the availability of broadband and usage. You set out in a table in your testimony displaying in the district that I represent that there is 100 percent availability of broadband which, according to your table, is higher than 27 of my fellow subcommittee members. But usage is 35 percent, which is twentieth out of 31 members.

Can you explain how availability is so high but usage is so low?

Mr. Edmonds. So, really, what -- and to explain the context of that data as well, so that data was gathered by Microsoft where they actually began looking at the software updates.

So anyone who was having a software update by way of Microsoft the area would have determined the speed. So it wasn't a survey. It was actually automatically pulling that data.

The one thing that they did not include in that data piece was mobile broadband, so anyone who was doing updates over cellular networks.

Now, the good thing is we have the data by way of the

American Community Survey where we can -- where we can reference that. But the disparity is still going to be pronounced.

And so when we began looking at the availability and the usage, like, to summarize the sentiment that, you know, some other people have already covered today, just because you build a network doesn't mean people will come.

And so when you begin looking at the availability we can have that all day. But, however, if we don't have the necessary means to get people online and to keep them online, I think that's what we are seeing in that.

And so, for example, in the city of Detroit, if we were to look at poverty rates, and Detroit has, obviously, a pronounced poverty rate, we are seeing the role that cost plays and people having perpetual meaningful broadband adoption. You having it for one month is fine.

But, again, for a year, day in and day out costs, some can afford that monthly. That's something where we are still struggling to get, especially when we begin looking at broadband packages in America.

Now, cost being a big barrier but, again, we don't really have the necessary digital skills training as well. You know, one thing that I am going to echo Angela's sentiment where she expresses that people aren't willing to pay for things that they might not necessarily fully grasp.

And so when we don't have any funding for digital literacy training, I don't see ways that we can essentially insulate people and put them into a pipeline of meaningful broadband adoption as well.

So there's really an amalgamation of issues that are keeping people from getting online. But, again, there's not really any funding for us to address this.

Mr. Veasey. Yes. That's really interesting, which brings me to my next question that I wanted to ask you. Have you -- have you had a chance to look very closely at texting and calling versus actual internet usage in urban areas?

And the reason why I say that is, like, if you were to drive through certain areas in my district, you know, most of -- most major retail concepts -- new retail concepts -- will skip over lower-income areas like some of the places that I represent in Fort Worth and Dallas. But the one new store that you will always see if you can drive through the community outside of a fast food place will be a cell phone place. The cell phone companies are well represented in these areas because they see them as opportunities for big business.

Do you think that it makes sense to start looking at whether it's unlimited data plans or what have you as a more viable way for communities to be connected -- to be able to do things like homework and what have you, if it can be

offered at a more affordable price?

Mr. Edmonds. No. I always caution people about the tales of smart phones. You know, when I tell people that, you know, children just having smart phones they're missing out on the ability to type.

Typing is a workforce skill. And so I see the value in cell phones and I really do. I think that's something that's great to be able to communicate. It's great for emergency response.

But at the end of the day, we don't want to stymie our workforce by going with the solution that I think is, in many cases, misguided. When we begin also looking at cell phones, while, yes, there are a lot of cell phone stores, we also have the data that nearly 40 percent of Detroit residents are actually struggling with affording a perpetual data plan cost.

And so while people might procure a cell phone device that's useful, wifi is where they are essentially going. So applications that allow people to be able to send texts or send messages over wifi are becoming much more popular. So someone can procure a device.

But at the end of the day, those wifi networks are -- that is where the real value is. So you see people get those devices at those cell phone stores. But then they'll go to where they find those free wifi locations such as McDonald's

or a library.

Mr. Veasey. Thank you. I have a lot more actually but my magic five minutes have elapsed.

Thank you, Mr. Chairman.

Mr. Doyle. The gentleman's time has expired. The chair now recognizes Mr. Long for five minutes.

Mr. Long. Thank you, Mr. Chairman, and if I start asking health care questions you will know that I am in the wrong committee because we've got two committees going on here today. Running back and forth between them.

But, Dr. Layton, in your testimony you talk about consumer choice and how a flexible market can allow consumers to adopt the services they need.

While America may have slightly higher broadband prices than other countries, what has this approach done for the quality of networks that we do have?

Ms. Layton. So I think the main reason is that we have a higher quality. I mean, we are -- we have many ways we are leading in a lot of network technologies of all kinds, wireless and wireline, and part of that relates to the investment incentives and the ability to have broadband at different prices. That's an important thing if you want next-generation networks.

Mr. Long. Okay. Thank you.

And do you -- again, for you, Dr. Layton -- do voluntary

efforts to promote broadband adoption strike the right balance between preventing over regulation and bridging the affordability gap?

Ms. Layton. So I, personally, would like to see more flexibility in the marketplace. I think that hitherto we have -- the regulators have defined the parameters. We haven't focused enough on security and that's very important to consumers.

The regulators have overfocused on speed. I think the point was made today that, you know, you may -- your house may have a -- be passed by a gigabit network but you don't use the full the speed on that network.

That was the Wall Street Journal article that was referenced before. Because depending on the application, you may not need the fastest speed.

So there are different applications, different needs, and different prices. So that's why one single price doesn't reflect -- it doesn't address the actual needs in the marketplace.

Mr. Long. Okay. And do they also help promote broadband deployment?

Ms. Layton. Absolutely, because when a -- when an operator is thinking about deploying, they are going to try to serve different needs. There may be enterprise needs. There's individual needs, families, single persons.

They're not all going to have the same needs and they have to have different price points to meet those different needs. They need different packages. And so that part is why the flexibility needs to be there.

We have overly relied on the FCC defining what the features should be. But that limits the ability of the consumers to define what's important for them.

Mr. Long. Okay. Thank you.

I was an auctioneer for 30 years before I came to Congress so I talk faster than most people. So I am going to yield back two and a half minutes of my five.

[Laughter.]

Mr. Doyle. Well done, Mr. Long.

The chair now recognizes Mr. O'Halleran for five minutes.

Mr. O'Halleran. Thank you, Chairman Doyle and Ranking Member Latta.

I am part of our recent work to secure funds for broadband development and ensuring the FCC's maps are accurate. The digital divide is more than just accurate maps and laying fiber in the ground.

It's about access, affordability, Americans feeling empowered online with computer skills. And in my district and in rural America I believe that the competition of speeds in rural areas to be able to compete with the rest of the

nation and the rest of the world should not be at the FCC's minimum. We shouldn't just be happy with getting some internet to people. It has to be competitive internet to people.

According to a recent Pew Research Survey 10 percent of the U.S.'s adults do not use the internet. The survey found that the majority of these adults were either seniors -- 27 percent -- I have a very large population of seniors in the district -- had less than a high school education, 29 percent.

I believe that higher speeds would help with that, being able to have people stay in high school and get a better education in rural areas. And were low-income earners, $33,000 or less -- 18 percent -- and lived in rural areas, 22 percent. And I also happen to have the largest Native American population in the lower 48 states.

Closing the digital divide is a complex problem that impacts many constituents in my district. I look forward to finding bipartisan solutions to address these problems.

The Arizona students recycling used technology program is a great example of increasing access to internet capability devices. Industry partners donate used hardware to local universities for students to refurbish their laptops and computers.

Local libraries will then pair this equipment up with

wifi hot spots to help connect their communities. Hopefully, we can stop them having to go to McDonald's to do that in the parking lot.

One testimonial from the Page Public Library describes this program as a fantastic service for the community and help many compete online job applications.

Mr. Edmonds, you discussed the importance of public-private partnerships in the community to increase broadband access. Can FCC or NDIA programs do more with states to develop similar inclusion programs?

Mr. Edmonds. Short answer, yes. I believe all --

[Laughter.]

Mr. O'Halleran. Give me your long answer.

[Laughter.]

Mr. Edmonds. I believe all of us can do more and one thing that I always want to I guess keep at the forefront, the value of local leadership but also recognizing how diverse we are as America.

So, you know, within your respective district you have different cities that maybe some of the solutions that I would propose in Detroit would be different and, you know, that's okay.

But at the end of the day, we see that there is, you know, the private sector has a role. The public sector has a role. Federal government has a role.

We all have different roles here, and I think that what we are seeing locally is that, you know, we are in our capacity doing the best that we can but we really aren't getting that leadership oversight that we need to say that it would, essentially, legitimize our cause more than what we are already doing.

Mr. O'Halleran. So what can we do?

Mr. Edmonds. Well, I would say at the onset, one, I think that it's great to recognizing this issue. Whenever we look at the digital inclusion three-legged stool, advocacy and awareness is oftentimes left out of that equation. And so just being great advocates, for one.

But two, even making, like, digital readiness recommendations and kind of attaching funding to that. I think that's where we are a little anaemic on. Again, we could come to the -- if we were able to come to the table and essentially go to the private sector and say hey, these are the resources that are made available to us; what would you be interested in supporting as well.

That doesn't happen at this point. Right now we are just going to them directly and saying, hey, glad that you're here. We don't have any money but this is our issue. And so if there was any type of funding that was attached to this we could actually do some real damage here.

Mr. O'Halleran. Thank you.

Ms. Siefer, Arizona has a plan and a broadband office focused on digital inclusion efforts statewide. However, some states still do not have this type of plan.

Would you discuss the importance of every states appointing a trusted official or a program to support broadband expansion in digital literacy in 10 seconds?

[Laughter.]

Ms. Siefer. In 10 seconds.

So most states don't have a plan. Everything that Jeff has described to you today everyone should know that that is not the norm. Jeff gets asked to speak, his staff get asked to speak because they are leading -- they are leading it all, right. And yes, Arizona has -- they have a staff member at the state library whose title includes the term digital inclusion.

Mr. O'Halleran. Thank you, and I yield.

Ms. Siefer. So, runs around the country, runs around Arizona helping folks. We should have that everywhere.

Mr. O'Halleran. Thank you.

Mr. Doyle. Gentleman's time has expired.

The chair now recognizes Mrs. Brooks for five minutes.

Mrs. Brooks. Thank you, Mr. Chairman.

This hearing is incredibly timely. I just recently, when we were in the district last week, visited a number of communities because we had a mayor's election in November and

so I have a number of new mayors in small communities and visited both large cities like the city of Indianapolis that I represent up to smaller communities, little communities like Gas City, Hartford City -- very small, under 5,000 people, and actually the issue of availability of broadband and availability of connection to the internet is something that is critically important to every community regardless of its size because it will determine -- and I want to thank each of you for your testimony.

It was all very, very helpful to learn and I hope that the mayors that I have recently visited with, you know, have learned that we do have, you know, positions like yours, Mr. Edmonds, in Detroit, positions like yours, Mr. Sural, in North Carolina, because I do think the leadership -- and while Indiana is investing in -- our Governor Holcomb is investing $100 million in next-level broadband to try to help communities, some of these new mayors weren't aware of that and weren't aware that our state legislature has decided to invest in trying to make it available.

But I think one -- we called -- one of my staffers called a small telecom to talk about a small internet provider and to get to the second. He actually said, and this is something we've all heard, you can offer the horse all the water you want but if he ain't thirsty he's not going to drink it. I happen to ride and I know what he's talking

about.

And so the challenge that we do have as a country is trying to educate in many ways people I think, particularly senior citizens, more so than the younger people. They are growing up with it. It is something they are so accustomed to.

But I want to, you know, spend a little bit more time on how can we focus on including the seniors. I went into one of the mayor's offices and there was a senior citizen sitting at a public access computer outside of his office and I thought that was great.

I have been to my public libraries and have seen a number of people going. But yet, I was also at our state's community college system when people were getting laid off from their jobs.

We were teaching them during the recession what a mouse was and how to use a computer, and I think people don't appreciate that that divide still exists in our country.

So I want to focus with my limited time left how can we educate and do a better job of educating people. I really think it is more of an age issue than we all want to admit. Our young kids, it's second nature to them, more so than maybe it is using a pencil or a pen.

And so how can we reach -- what would be your one idea to help us? And I want to do kind of a lightning round.

What would be your idea? I am sorry we are going to get to you last, Mr. Sural, but I want to get everyone's quick idea of how do we expand the literacy.

Ms. Siefer. So the digital inclusion programs that are out there now are on the ground, created locally. They know what works, right.

They work with those senior centers. They work with seniors and they know that it's whatever matters to that senior. What matters to that senior? Is it talking to their kids via Facebook? Then that's -- then that's what you do it.

Mrs. Brooks. Right. That's when my mother got on Facebook. Right.

Ms. Siefer. That's right.

Mrs. Brooks. And to Dr. Layton's point, it was what is the -- what is the service they're trying to access, not the network.

Ms. Siefer. Right. Well, in the state of Indiana -- and I want to applaud you because you have been -- Indiana has been really amazing around the supply side of things, making the way for the 5G networks and so on and understanding all of that.

But you could also look at the state government digitizing the state services. In some respects the government itself becoming more efficient can provide a pull

to the industries and consumers that they have to just become digital as a result.

Mrs. Brooks. I agree.

Ms. Siefer. That has -- that has one outcome side of it.

Mrs. Brooks. Thank you.

Mr. Edmonds?

Mr. Edmonds. So I actually engage seniors semi-regularly and we actually had a group of seniors where their library closed in their community, and they found my phone number and called me and said, hey, you know, our library closed -- what can we do to connect.

You know, we can't compete with the other kids who are just there all day. They take all the stuff. But what can we do, and I think so place-based recommendations are going to be huge here.

Mrs. Brooks. Okay.

Mr. Edmonds. Finding a place where seniors really feel comfortable.

Mrs. Brooks. Thank you. Thanks. I want to keep -- Mr. Sural?

Mr. Sural. So my father is 78. He does not consider himself a senior citizen but he takes computer classes up at the library. So community anchor institutions are key.

Mrs. Brooks. That's excellent.

Ms. Sohn?

Ms. Sohn. Community anchor institutions are excellent and passage of the Digital Equity Act so that the folks that Angela represents have the resources to educate everybody including seniors.

Mrs. Brooks. Thank you. I yield back. Thank you all for your work.

Mr. Doyle. Gentlelady yields back.

The chair recognizes Ms. Clarke for five minutes.

Ms. Clarke. I thank you, Mr. Chairman, and I thank our Ranking Member Latta. I thank our panellists for lending their expertise to us today. The American people deserve access to broadband devices and the internet. They deserve affordable services and they deserve today's hearing.

Congressman McNerney, Lujan, and I recently introduced H.R. 4486, the Digital Equity Act, to ensure every person is provided access to digital literacy they deserve in 2020 and beyond.

Information is power and someone's income level or zip code should have zero impact on their access to broadband internet.

They should not have to depend on smart phones as their only means to participate in today's economy. And so I thank you once again for being here to address the critical issue of the digital divide.

I wanted to start with the issue of the census, because we've talked about access and everything else, and I see everyone nodding. Being a member of the Congressional Black Caucus's 2020 Census Task Force, I believe that every person should be counted. I also represent a historically hard-to-count district.

Let me start with you, Ms. Siefer. In your testimony, you discussed the U.S. Census Bureau's online data collection and digital inequity across the United States.

Can you please expand on your suggestion that the federal government should do -- should boost broadband adoption to ensure an accurate count?

Ms. Siefer. Right. So we know that the census is going to be conducted it online. We know that they are going to be encouraging folks to fill it out online. And so how does that actually play out? It means that libraries are going to end up places that folks go.

It means that those who don't have digital skills might just decide not to fill it out at all, right, that the -- there's lots of ways that the community itself can respond but if they don't have the resources to respond then those individuals just won't -- they won't get counted.

Mr. Edmonds. Yes, and I would like to follow up with that a bit and just -- kind of how I've been summarizing it and telling to people, well, if you don't essentially have

the internet then essentially you don't count, and if you don't count then you don't matter.

And we don't want to, obviously, send that message and it's a really, really bleak and hardhitting message. But that's what needs to be said.

And so when -- even locally on the ground we are looking to galvanize every resource possible. It's working with rappers just as much as we are working with our local grocery stores, actually putting in kiosks any and everywhere. But one thing that -- it's a bit bleak as well but maybe morbid optimism -- America has two options with the census.

Either you prioritize digital equity at the onset and you do a good job in the census, or you don't, and then you're penalized for it. So, therefore, you would have to prioritize digital equity, moving forward.

Ms. Clarke. Okay. Did you want to respond, Dr. Layton?

Okay. Ms. Sohn?

Ms. Sohn. Yes. I would just say, look, the reason that racial minorities are already way behind in broadband adoption is because of structural discrimination, because of discriminatory lending practices and housing practices. We don't want to exacerbate that by having them not be counted.

Ms. Clarke. Mr. Sural?

Mr. Sural. So a lot of scrutiny has been applied to the FCC's data collection and their mapping. But one of the

things that's overlooked is that they rely on the 2010 census numbers to determine the number of households that are either served or unserved in the census bloc. So having accurate census numbers are key to determining where that funding from the FCC will go.

Ms. Clarke. So we may be creating even -- digging an even deeper hole in terms of mapping if those who don't have access right now are unable to participate in the 2020 census.

Mr. Sural. Correct.

Ms. Clarke. Very well.

My final question is to you, Mr. Edmonds. A lot of the conversation about bridging the digital divide is focused on rural areas. But I am curious about how this conversation plays out in low-income urban areas.

Can you share more information about how many people in Detroit lack access to broadband and how -- and share why they are unconnected?

Mr. Edmonds. Sure. So over 40 percent of our residents don't have broadband. Twenty-seven percent of our residents don't have broadband of any kind and approximately 20 percent of our residents are only cell phone only households.

And, really, you're seeing just -- people are essentially getting in where they fit in and when you're looking at why people essentially aren't adopting, you know,

cost is, obviously, the biggest barrier.

Again, I am going to keep going back to how perpetual billing really disenfranchises people. Across America from 2012 to 2017 approximately 1,600 banks closed in rural and urban areas. Oftentimes those areas were low income, the residents had less years of education and they were predominantly African American.

And when we begin looking at the role that banking institutions have played and for them to be going to online banking what role does that have to play with financial literacy and what role does that have to play pairing it with digital literacy training?

I think that when we begin unpacking these issues and looking at it from a very, very nuanced perspective, we are seeing, again, there are so many factors that are keeping people online and they're essentially tied to other industries where we might not necessarily have the focus on at the moment.

Mr. Doyle. Gentlelady's time has expired.

Ms. Clarke. Thank you, Mr. Chair.

Mr. Doyle. The chair recognizes Mr. Walberg for five minutes.

Mr. Walberg. I thank you, Mr. Chair.

Also, my colleague, Mrs. Brooks, wanted me to make sure that we do understand that the census can be done on paper,

too. I don't want to -- don't want to forget that. We want to use it all sorts of ways as best as possible and I thank the panel for being here. I think it's an outstanding panel because of Go Blue involvement.

Mr. Edmonds -- Mr. Edmonds, you are a -- you're doing a great job. I think -- I think you will help a lot of people come to understand and use it just because of the smile on your face and your energy that's there.

Mr. Edmonds. Well, thank you.

Mr. Walberg. Mr. Sural, am I understand you have some Go Blue background as well?

Mr. Sural. I do. Go Blue. I was born in Ann Arbor.

Mr. Walberg. And western Michigan, too?

Mr. Sural. Western Michigan? In law school. Yes, sir.

Mr. Walberg. Yes. Well, we can see the value of this panel here.

[Laughter.]

Mr. Walberg. Like many others on this dais, my district is very rural, a lot of it, and including myself. I have a smart TV. It tells me that every time I turned it on. But I can't use it as a smart TV.

You can imagine the excitement of last week when I had Chairman Pai in my district with me and talking about key issues and then going out to the field and seeing broadband being stretched right near my Harley Davidson dealership and

out in the country as well and a matter of a few miles from my house.

So I am hopeful that soon I will be part of the real world and my hot spot and my myfi won't be the only options that I have to connect.

And those are issues we've been talking about, but another bipartisan issue that I want to address here and take note of is something that I've worked with Representative Clarke. I see she's not there right now.

But a key issue called a tower act and I think it goes to the issue of being able now to see more broadband and fiber being stretched and pulled because of the good economy, because of good policies I think we are developing together and moving forward.

But we need to have people who will be a high-skilled workforce able to put up the internet for us and understand that these can be excellent jobs -- lifetime jobs -- that have expandable opportunities to deploy fiber, 5G, et cetera, and that our HBCU and minority populations need to understand that clearly.

Mr. Edmonds, you can help us with that extensively because we are talking about jobs that will be high paying but require in many cases less than a four-year education and allows for expanded four-year education if you want to do that by putting up those resources -- those towers, et

cetera.

Dr. Layton, as you noted in your testimony, some research has shown that low-income Americans or Americans with lower education levels who had access to the internet thanks to a temporary subsidy often choose to remain connected at its conclusion. I think, Mr. Sural, you pointed that out as well.

Dr. Layton, do you think that principle would translate if we are able to increase the number of people in the workforce for deployment in these areas as well simply by providing them exposure to broadband conceptually as well as higher incomes?

Ms. Layton. The question is what is it -- the subsidy or the training?

Mr. Walberg. The subside and, ultimately, the ability to hear and see and be involved and understanding that it's now available to me.

Ms. Layton. So I agree with what you're saying. I mean, I think you're absolutely right. You have the workforce issue.

We have described that for some people that it is an economic issue and that we need targeted subsidies for those individuals and we also have a skills gap to address. So I support those things.

Mr. Walberg. So in that line, Mr. Edmonds, I would also

ask, I would assume that if we get people to understand that this is for me now and if we are going to put these in and they see the technology -- the towers, et cetera -- going into a neighborhood that that's an opportunity for employment as well.

Mr. Edmonds. It absolutely is an opportunity for employment and one thing that I would like to, you know, highlight with these, these are Americans who are really willing and ready to work and to participate in the economy. If they were extended a fair hand they would excel in that.

Mr. Walberg. Of course, that's what we want to see.

My time has expired. I yield back.

Mr. Doyle. I thank the gentleman.

The chair recognizes Mr. Johnson for five minutes.

Mr. Johnson. Thank you, Mr. Chairman.

Mr. Sural, of the various programs your office carries out, can you talk about what your state -- how your state plays in digital literacy activities? Is that something primarily carried out at the state level or the local level?

Mr. Sural. Thank you. It's carried out mostly at the local level. We have larger municipalities who have created digital inclusion working groups or collaborative.

But at the state level we saw that work being done in some of our larger municipalities and through some of our universities. HBCUs was recently mentioned.

North Carolina Central has an active program that helps and serves Durham. And so what we did at the state level was we decided to get all those folks together for lunch one day and we ended up creating the statewide collaborative to learn from them, and then to take what they've done successfully and try to what we call R&D -- rip off and duplicate -- in other areas of the state, either in municipalities or the rural areas.

Rural areas are particularly challenging with this issue because they just don't have those underlying resources or advocates like they do in the urban areas.

Mr. Johnson. Okay. All right.

Well, in your testimony you talk about how North Carolina is piloting innovative ideas to create sustainable solutions for broadband adoption. Can you give us a few more specific examples of what those pilots may entail that other states aren't doing?

Mr. Sural. Sure. Sure. And we received a grant from IMLS that I mentioned in my opening and it's $250,000. So that's important because we just didn't have the resources.

I mean, we had smart people who were very charming and good at what they do. But without funding we couldn't implement some of the ideas that we had. So thank you to IMLS for that grant.

It's a two-year grant program and what we are going to

do, the objective of that grant program is to create a play book for librarians; basically, something that we think we can scale not only across the state but across the nation.

And so what we did was we set up digital literacy training and equipment and provide equipment to K through 12 students and families at the local library. We partnered with the school that had a one-on-one program so the student had a device but maybe not connectivity at home.

We provided them with a wifi hot spot or a cellular hot spot and then they came in for six training sessions with their parents and they sat down and we did digital literacy training at the library with the computers there.

The issue is sustainability after the grant ends and how we allow that librarian, who is strapped for resources in the poorest of the poor counties in North Carolina to continue this program, and we are going to take lessons learned from that and we'll wrap it in and we'll have it in our report and, hopefully, we'll have that play book out for everyone. So that's just one of the --

Mr. Johnson. Okay. Well, how important is sharing information on various broadband adoption initiatives through other state government channels? How important is that in improving broadband adoption -- the broadband adoption rate nationwide?

Mr. Sural. It's critical. It's what we have now. The

network that we have now is important. In 2015 when I started this job we had 12 states that were part of what we called the State Broadband Leaders Network that works with NDIA to coordinate some of our meetings and monthly phone calls.

Today, there are 48 states involved. This is how active states have gotten just over in that short period of time and how they see the need and how they can -- and they know now that they can lead and so they're doing that.

Mr. Johnson. Well, I imagine using the breadth of different community centers and state offices provides a good platform to spread awareness of the different resources out there. So I commend you for what you're doing. Keep it up.

Mr. Chairman, I don't talk nearly as fast as my colleague, Billy Long, does. But I will yield back the balance of my time, too.

Mr. Doyle. I thank the gentleman.

Seeing no one else looking for time, the chair requests unanimous consent to enter the following into the record: a letter from Silicon Harlem, a letter from Seattle Mayor Jenny Durkan, a letter from Chattanooga Mayor Andy Burke, a letter from Digital Equity.

Without objection, so ordered.

[The information follows:]

2302 **********COMMITTEE INSERT**********

Mr. Doyle. I want to thank the witnesses for their participation in today's hearing. I would remind members that pursuant to committee rules they have 10 business days to submit additional questions for the record to be answered by the witnesses who have appeared and I would ask each witness to respond promptly to any questions that you may receive.

At this time, the committee is adjourned.

[Whereupon, at 12:24 p.m., the committee was adjourned.]