

THE NATIONAL BROADBAND PLAN: PROMOTING BROADBAND ADOPTION

HEARING BEFORE THE SUBCOMMITTEE ON COMMUNICATIONS, TECHNOLOGY, AND THE INTERNET OF THE COMMITTEE ON ENERGY AND COMMERCE HOUSE OF REPRESENTATIVES ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

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THE NATIONAL BROADBAND PLAN: PROMOTING BROADBAND ADOPTION

THURSDAY, MAY 13, 2010

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COMMUNICATIONS, TECHNOLOGY,
AND THE INTERNET,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The Subcommittee met, pursuant to call, at 10:02 a.m., in Room 2123 of the Rayburn House Office Building, Hon. Rick Boucher [Chairman of the Subcommittee] presiding.

Members present: Representatives Boucher, Eshoo, DeGette, Butterfield, Matsui, Space, Welch, Waxman (ex officio), Stearns, Shimkus, Shadegg, Terry, Blackburn, Griffith, Latta, and Barton (ex officio).

Staff present: Roger Sherman, Chief Counsel; Tim Powderly, Senior Counsel; Amy Levine, Counsel; Shawn Chang, Counsel; Greg Guice, Counsel; Bruce Wolpe, Senior Advisor; Pat Delgado, Chief of Staff (Waxman); Sarah Fisher, Special Assistant; Mitch Smiley, Special Assistant; Will Carty, Professional Staff Member, CTCP; and Neil Fried, Telecommunications Counsel.

OPENING STATEMENT OF HON. RICK BOUCHER, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF VIRGINIA

Mr. BOUCHER. The hearing will come to order. Good morning to everyone. Today is the fourth in the series of hearings that we are conducting on the FCC's recently released National Broadband Plan. Last month, the subcommittee considered how best to deploy broadband in areas that are unserved and underserved so that all Americans, particularly those in the rural stretches of our Nation, will have access to this vital and critical infrastructure, which broadband in this century has become.

Our hearing today is a corollary to our hearing on broadband deployment. Once Americans have access to quality broadband services, what steps should be taken in order to encourage them to subscribe to it? According to the National Broadband Plan, about 35 percent of Americans or about 80 million adults do not use broadband at home even though they have access to the service. This number includes high percentages of low-income households, minorities, seniors, individuals with low levels of education, residents in rural areas and individuals with disabilities.

The National Broadband Plan identifies several barriers to broadband adoption, including cost, digital literacy, including a

general level of discomfort with computers, concerns about Internet safety and security, and, in the minds of some, a perceived lack of relevance of broadband in people's lives. One proposal to make broadband more affordable for low-income households is to expand the Lifeline and Linkup programs contained within the Federal Universal Service Fund. And I want to commend our committee colleague, Ms. Matsui from California, for her leadership in this area including the introduction of legislation pertaining to the matter.

It is my hope that soon we will be prepared in the subcommittee to mark up the Universal Service Reform Measure that I put forward in partnership with Mr. Terry, and I very much look forward to working with the gentlelady from California at that time in order to assure that her goals are reflected in the legislation.

We will welcome the testimony of our witnesses this morning on ways that broadband adoption can be expanded, and I want to thank each of them for taking the time to join us and share their thoughts.

Anticipating that some members of our subcommittee may take the occasion of today's broadband hearing to comment on the FCC's decision to apply selected sections of Title II to broadband, I will also offer a few comments on that subject this morning.

The D.C. Circuit's decision in the Comcast case has cast doubt on the FCC's authority to implement many elements of the National Broadband Plan and to enforce the four principles of network neutrality that were adopted under the guidance of former FCC Chairman Michael Powell. Those four principles adopted during his tenure were consensus based. They were noncontroversial, and the FCC now has a rule-making underway that would add to those four principles, principles of nondiscrimination and transparency.

The Comcast decision has placed in doubt the FCC's ability to go forward with that rule-making as well as to enforce the existing four network neutrality principles. In order to address these concerns, Chairman Jenachowski has decided to proceed with a light regulatory touch that fits with the commission's settled deregulatory policy framework for broadband services.

The FCC will classify the transmission component of broadband access services as telecommunications services under Title II of the Communications Act and will forebear from applying all but six of Title II 48 provisions. Essentially, the commission will apply the broadband prohibitions on unreasonable denials of service and other unjust and unreasonable practices. The commission will also apply universal service principles that will assure the provision of advanced network services, will protect the confidentiality of customer call records, and will assure the accessibility of telecommunication services to people who have disabilities.

The commission has adopted, in my view, a very limited approach to assuring network openness. But another path also exists for achieving these goals. If broadband providers differ with the approach that the FCC has taken in applying six of a total of 48 sections of Title II to broadband, our door is open. We would be pleased to discuss with broadband providers and with the proponents of network neutrality the creation of a targeted set of principles to assure network openness. If those discussions produce con-

sensus, Congress could enact legislation adopting the agreed-upon principles as a means of providing regulatory certainty. That is the path I hope we can follow.

If broadband providers are of the view that targeted legislation is now preferable to the selected application of Title II to broadband, I invite them to engage in discussions with us on what those targeted provisions should be. I am ready to work with members of this subcommittee on both sides of the aisle and with interested members of the full committee as we discuss with an array of stakeholders the best way to proceed in this matter.

By acting in a bipartisan, consensus-based manner, we can provide certainty for network operators, for edge providers, and also for consumers that the Internet will remain the innovative engine for economic growth in a minimally regulated environment that it is today.

That concludes my opening statement. I am pleased now to recognize the gentleman from Florida, ranking Republican member of our subcommittee, Mr. Stearns.

[The prepared statement of Mr. Boucher follows:]

STATEMENT OF CONGRESSMAN RICK BOUCHER

**Subcommittee on Communications, Technology and the Internet Hearing
The National Broadband Plan: Promoting Broadband Adoption**

May 13, 2010

This morning we conduct the fourth in a series of hearings focusing on the National Broadband Plan.

Last month, the Subcommittee considered how best to deploy broadband to areas that are unserved and underserved, so that all Americans, particularly those in rural areas, may benefit from this essential infrastructure.

Our hearing today is a corollary to our hearing on broadband deployment: Once Americans have access to quality broadband services, what steps should be taken to encourage them to subscribe to it?

According to the National Broadband Plan, about 35 percent of Americans, or about 80 million adults, do not use broadband at home. This number includes high percentages of low-income households, minorities, seniors, individuals with low levels of education, residents of rural areas and people with disabilities.

The National Broadband Plan identifies several barriers to broadband adoption: cost; digital literacy, including discomfort with computers; concerns about Internet safety and security; and a perceived lack of relevance of broadband to peoples' lives.

One proposal to make broadband more affordable for low-income households is to expand the Lifeline and Link-Up programs of the Universal Service Fund to cover broadband services. I want to commend my colleague, Ms. Matsui, for her leadership in this area, including the introduction of legislation regarding this matter. It is my hope that we will soon be prepared to mark up the Universal Service Reform measure which Mr. Terry and I have put forward, and I look forward to working with the gentlelady from California to assure that her goals are reflected in that legislation.

We will welcome the testimony of our witnesses this morning on ways that broadband adoption can be expanded, and I thank each of them for their presence here.

Anticipating that some members may take the occasion of today's broadband hearing to comment on the FCC's decision to apply selected sections of Title II to broadband, I will offer several comments on that subject as well.

The D.C. Circuit's decision in the Comcast case has cast doubt on the FCC's authority to implement many elements of the National Broadband Plan, to enforce the four principles of network neutrality adopted under FCC Chairman Powell's guidance, which were consensus based and non-controversial, and to proceed with the rulemaking that would add principles on non-discrimination and transparency to the four preexisting network neutrality principles.

To address these concerns, Chairman Genachowski decided to proceed with a light regulatory touch that fits with the Commission's settled, deregulatory policy framework for broadband services. The FCC will classify the transmission component of broadband access services as "telecommunications services" subject to Title II of the Communications Act and will forbear from applying all but six of Title II's 48 provisions.

Essentially the Commission will apply to broadband prohibitions on unreasonable denials of service and other unjust and unreasonable practices.

The Commission will also apply Universal Service principles that will assure the provision of advanced network services will protect the confidentiality of customer call records and will assure the accessibility of telecommunications services to people with disabilities.

The Commission has adopted a limited approach to assuring network openness.

Another path also exists for achieving these goals.

If broadband providers differ with the approach of the FCC in applying six of 48 sections of Title II to broadband, our door is open.

We would be pleased to discuss with broadband providers and the proponents of network neutrality the creation of a targeted set of principles to assure network openness.

If those discussions produce consensus, Congress could enact legislation adopting the agreed upon principles as a means of providing regulatory certainty.

That is the path I hope we can follow.

If broadband providers are of the view that targeted legislation is now preferable to the selected application of Title II to broadband, I invite them to engage in discussions with us on what those targeted provisions should be.

I am ready to work with members on both sides of the aisle and with the array of stakeholders with interests in this matter. By acting in a bipartisan, consensus-based manner, we can provide certainty for network operators, edge providers and consumers that the Internet will remain the innovative engine for economic growth in a minimally regulated environment that it is today.

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OPENING STATEMENT OF HON. CLIFF STEARNS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF FLORIDA

Mr. STEARNS. Good morning, and thank you, Mr. Chairman. And let me compliment you on your opening statement. I totally agree that if the FCC intends to—your words or their words—take a light regulatory touch, that they should come up here before they start this “light regulatory touch.” We have seen the government regulations in the past, and they are anything but light.

In light of the fact that 95 percent of the households, 65 percent of Americans using broadband at home and the number of adult residential users are up to 200 million, we don’t have a deployment or adoption problem. The Internet seems to be working pretty good. I am not sure Mr. Jenachowski, the chairman of the FCC, needs to do a regulatory touch at this time. And he has touched upon some of the things that he would like to do in terms of transparency, nondiscrimination. He has also touched upon universal service reform.

Now you have a bill, Mr. Chairman, dealing with universal service fund. I don’t think the FCC should reach out into Title II and to start to regulate dealing with the Universal Service Fund. We should allow your bill to become the law of the land and certainly have the members of this committee, full committee, and Congress, the people of the United States, to have some input on this.

Net neutrality is a term which has various meaning to many people. Certainly to me, it means net regulation, so I applaud you and your outline this morning of what they intend to do and how you are willing to reach out to the FCC and say you intend to do these principles. We think, if you will sit down with us, we can come up through the subcommittee, mark it up, and try to move forward with the bill.

So under that opening statement and what you said, I think, Mr. Chairman, the next step is to have a hearing exactly on this comment period about net neutrality and to go through some of the principles that the FCC chairman has outlined in the press. And we should discuss them with him, and, as you pointed out, we can come up with some principles together and move forward so that this committee, one, retains jurisdiction over the Internet and not let the FCC move into Title II and take over with their “light regulatory touch” which we all know what that means.

We know that during the campaign, the President promised net neutrality, and so, you know, this appears to be moving in a political direction in my opinion. I only say this because we saw that Mr. Jenachowski at one point said that he was not going to do anything and he was going to leave it to our committee. And then suddenly he flipped in one week and now says he is. And so I assume that there has been a lot of pressure on him from the executive branch, and now he wants to move out and do this himself.

You know Congress did not intend for broadband services to be subject to common carrier regulations. The FCC’s attempt to do so could rebuke—was rebuked by the courts, which you pointed out earlier, which mean that the FCC will be wasting a lot of valuable time because people are going to go out and sue the FCC when they come up with their net neutralities. Whereas if they did it through our committee, Mr. Chairman, I think we would have a bi-

partisan consensus, which we normally do out of this subcommittee, and we could pass something that I think would fulfill some of these objectives, certainly in the idea of transparency.

When you go to get an Internet speed from a provider, you want to make sure it is five megabytes or whether it is four megabytes. You don't want to get on your downloading, uploading, and find out it is less than one megabyte. So that is important, and some of the anti-discriminatory is civil rights and for disabilities. And some of that, I think, is good. But I think the point you have made this morning is that we are willing to reach out and develop the consensus principles from industry and through the FCC and to move forward together in this.

Towards that end, I introduced a bill, Mr. Chairman, H.R. 5257, which basically is a way for us to say to the FCC prove there is market failure that you need these things. I ask the FCC in my bill to conduct a rigorous market and cost/benefit analysis before imposing any network neutrality rules. They should have to evaluate whether any provider has market power, taking into consideration the cross-platform competition among wireline, wireless, and satellite providers. The FCC should also have to consider whether, as a market failure, whether such failure harms consumer and whether regulations are necessary to ameliorate the harm to consumers.

I hope my colleagues on this side of the aisle certainly would cosponsor my bill, and I think if we could do that, I think we could move forward. And again, Mr. Chairman, I applaud you for your opening statement. I am 100 percent behind you, and I hope you can convince Mr. Waxman to have a hearing on this so that we can have the jurisdiction of the subcommittee and the full committee in play before the FCC moves out unilaterally. Thank you, Mr. Chairman.

Mr. BOUCHER. Thank you very much, Mr. Stearns, and let me say that I will look forward to working with you and all interested parties. To clarify, nothing that I said was critical of any step taken by the FCC to this point in time. I simply want to point out that there is another path open, and if broadband providers in particular believe that it is more desirable now for Congress to act, our door is open for conversations.

The gentleman from California, Mr. Waxman, chairman of the full committee, is recognized for 5 minutes.

OPENING STATEMENT OF HON. HENRY A. WAXMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. WAXMAN. Thank you very much, Mr. Chairman, for calling this hearing so that we could have an opportunity to talk about all the things on our minds in the area of telecommunications. Our committee is interested in this hearing and other hearings. We are open for business, and we will be happy to review different ideas.

But the idea for today is the question of a National Broadband Plan for greater broadband adoption. And I would like to first welcome two Californians on our panel. Rachelle Chong is here on behalf of California's Chief Information Office, and Rivkah Sass is here on behalf of Sacramento Public Library System. Thank you both for being here.

At our last hearing, I mentioned the importance of broadband deployment to America's future. Today we will hear testimony about efforts and proposals designed to address the other side of the broadband equation, broadband adoption. To put a number on just how important broadband adoption is, according to the Broadband Plan, 62 percent of American workers rely on the Internet to perform their jobs. The Bureau of Labor Statistics predicts that jobs dependent on broadband will grow by 25 percent over the next eight years or two and a half times faster than the average growth across all occupations and industries.

So when we talk about addressing adoption barriers, we are talking about addressing barriers to future economic growth and job growth. The largest barrier identified by the broadband plan is cost. The plan recommends addressing the cost barrier in part by expanding the Universal Service Fund's Lifeline and Linkup Program for low-income consumers.

Congresswoman Matsui has long recognized that expanding Lifeline and Linkup is an important common sense approach to encourage broadband adoption. To that end, in September of last year, she introduced H.R. 3646, The Broadband Affordability Act, and I support her legislation and commend her for her leadership on this issue.

In addition to costs, the plan identified a lack of digital literacy as a barrier to adoption. The plan recommends promoting digital literacy through volunteer and other efforts to train those who need and want help. These proposals are worth pursuing. If we are going to take full advantage of the benefits that broadband offers for the country, we will have to closely examine these two major issues for consumers: cost and digital literacy.

And I want to thank you again, Mr. Chairman, for holding this hearing and our witnesses who are here today for being prepared to give us the benefit of their views.

[The prepared statement of Mr. Waxman follows:]

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**Opening Statement of Rep. Henry A. Waxman
 Chairman, Committee on Energy and Commerce
 National Broadband Plan: Promoting Broadband Adoption
 Subcommittee on Communications, Technology, and the Internet
 May 13, 2010**

Thank you, Mr. Chairman, for holding this hearing on the National Broadband Plan's recommendations for greater broadband adoption.

I would first like to extend a welcome to the two Californians on today's panel. Rachelle Chong is here on behalf of California's Chief Information Officer. And Rivkah Sass is here on behalf of the Sacramento Public Library System. Thank you both for being here.

At our last hearing I mentioned the importance of broadband deployment to America's future. Today, we will hear testimony about efforts and proposals designed to address the other side of the broadband equation: broadband adoption. To put a number on just how important broadband adoption is, according to the Broadband Plan, 62 percent of American workers rely on the Internet to perform their jobs. The Bureau of Labor Statistics predicts that jobs dependent on broadband will grow by 25 percent over the next 8 years, or 2 ½ times faster than the average growth across all occupations and industries. So when we talk about addressing adoption barriers, we are talking about addressing barriers to future economic growth and job growth.

The largest barrier identified by the Broadband Plan is cost. The Plan recommends addressing the cost barrier, in part, by expanding the Universal Service Fund's Lifeline and Link-Up program for low-income consumers. Congresswoman Matsui has long recognized that expanding Lifeline and Link-Up is an important, common-sense approach to encourage broadband adoption. Toward that end, in September of last year, she introduced H.R. 3646, the Broadband Affordability Act. I support her legislation and commend her for her leadership on this issue.

In addition to cost, the Plan identified a lack of digital literacy as a barrier to adoption. The Plan recommends promoting digital literacy through volunteer and other efforts to train those who need and want help. These proposals are worth pursuing.

If we are going to take full advantage of the benefits that broadband offers to the country, we will have to closely examine these two major issues for consumers: costs and digital literacy. I want to thank you again, Mr. Chairman, for holding this hearing and our witnesses for being here.

Mr. BOUCHER. Thank you very much, Chairman Waxman. The gentleman from Texas, Mr. Barton, the ranking Republican member of the full committee, is recognized for five minutes.

OPENING STATEMENT OF HON. JOE BARTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. BARTON. Thank you, Mr. Chairman. I am going to submit my statement for the record. I will just say that I am troubled by what the FCC put out last week. I don't think we need to regulate the Internet, and with all due respect to my friends on the majority side, I don't think we need a government program to get more broadband deployment.

Ninety-five percent of American households have access to it, and you can question that 5 percent that don't are generally people that live in very rural areas. My guess is they live in rural areas because they want to, and it is at least possible that they don't really want all the encumbrances and accoutrements of the modern Internet age. So even if we force it on them, they probably wouldn't take it.

Now, obviously there are some that would if it were available, but we have a situation where the number of people that have Internet capability in their homes have gone from 8 million to 200 million people. It is similar to what we went through in the '50s. You know televisions weren't mandated by federal television policy, and yet there were more televisions in people's homes by the 1970s than there were telephones where we had a regulated system for telephone service and spent lots and lots of money.

The broadband plan that the FCC put out by itself, Mr. Chairman, apparently costs \$20 million. That is \$20 million that could have gone to some other purpose. You know the only saying in rural Virginia, Mr. Chairman, is the same as it is in Texas. If it is not broke, don't fix it. We have a broadband deployment plan right now. It is called free enterprise.

So I appreciate our witnesses being here. I am sure you all are bright, young people and going to give us the benefit of wisdom which we don't have. But this is one problem that—it is a solution, Mr. Chairman, looking for a problem that I don't believe exists. So put me down as skeptical.

Mr. BOUCHER. Thank you very much, Mr. Barton. So noted. The gentlelady from California, Ms. Matsui, has put forward a proposal to expand the Lifeline and Linkup programs in order to assist broadband adoption, and I join with Chairman Waxman in commending her for her leadership on that matter, and she is now recognized for five minutes—for two minutes.

OPENING STATEMENT OF HON. DORIS O. MATSUI, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. MATSUI. Thank you, Chairman Boucher. Thank you for calling today's hearing. I would like to also welcome our witnesses. I would especially like to welcome Rivkhah Sass who also is one of my constituents and director of the Sacramento Public Library Authority. She has done an outstanding job modernizing the Sacramento Public Library system and has been a leading advocate for

expanding fast speed broadband access to anchor institutions in our committee. I would also like to welcome another Californian, Rachelle Chong.

Although there is a lot of talk today about the FCC, I believe there is broad agreement on both sides of the aisle on this committee that broadband adoption is critical to our future economic well-being and security. In today's economy, the Internet has become a necessity, not a luxury. If you don't have it, you are simply at a competitive disadvantage.

Unfortunately millions of Americans, particularly in these tough economic times, simply cannot afford the high cost of in-home broadband service and are on the wrong side of a digital divide. Several prominent studies by PEW, PPI California, and the FCC have strongly suggested that broadband adoption rates are largely associated with income levels and the high costs of broadband services.

In fact, the FCC found that 28 million Americans do not subscribe because of affordability barriers. Last September I did introduce The Broadband Affordability Act that would expand the Universal Service Fund Lifeline Assistance program for universal broadband adoption.

And I certainly appreciate Chairman Waxman and Chairman Boucher's supportive views along with many colleagues on this subcommittee who cosponsored my proposal. It will ensure that all Americans living in urban and rural areas will have access to affordable broadband services. I applaud the FCC for including as a central recommendation in the National Broadband Plan. And it is my hope that any reforms to USF address broadband affordability barriers.

I also believe, as Rivkah has stated in her written testimony, that anchor institutions play a critical role in providing access to broadband services. Last September, I along with Representatives Eshoo and Markey urged NTIA to prioritize second round recovery act funding for anchor institutions broadband adoption projects.

I do look forward to working with my colleagues on ways to continue to increase broadband adoption rates in this country, and I yield back the balance of my time.

Mr. BOUCHER. Thank you very much, Ms. Matsui. The gentleman from Illinois, Mr. Shimkus, is recognized for 2 minutes.

OPENING STATEMENT OF HON. JOHN SHIMKUS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Mr. SHIMKUS. Thank you, Mr. Chairman. Also put me down as skeptical about the FCC engaging in regulating the Internet. I venture that it will also go into taxation, and we all have gotten the emails about taxing the Internet. And they are not favorable, and I think that is where we will be heading if we allow the FCC to move in that direction.

I appreciate Ms. Chong being here. She has testified before the committee before, and I use her testimony and her comments and to paraphrase—and you can correct me when you get a chance—was basically you need the map before you send money. And that is the most efficient way. I have used that numerous times. It shows how testimony is important. And that is one part of our frus-

tration with the billions of dollars that have gone out and may not be appropriate if you are not—if we don't identify the real need.

And we have had this argument. You know I don't think it was settled from the last hearing. I don't think we have a definition of what is underserved. I don't think we are really effectively appreciating the unserved areas. And with all due respect to those people who run anchor institutions, they may have three different choices of high-speed Internet connectivity, and there are areas of the country that are left out.

And I will give an example. We also have Ms. Taylor here from the connect issue, and here is a map of southern Illinois. You all can't see it, but it is all colorful, and it highlights all these things. And the real problematic areas are the yellow ones or the tan ones here. No service, nothing, nada, zip. And we are worried about providing high-speed access to libraries in the city of Chicago? And our taxpayer dollars are going there versus just ensuring that some areas in our country have some high-speed Internet service. And that is the frustrating thing.

The second frustrating thing is we also are incentivizing broadband deployment in competition with services that have already been deployed. I also want to—and I will stop on this, Mr. Chairman. Time has gone quick. Is encourage people to look at Congressional Quarterly's last publication, and the author is Keith Parent. I don't know if he is over there, but in June 2000, 34 percent of people had dial-up, 3 percent had broadband. April 2009, 7 percent had dialup, 63 percent had broadband.

The market works. We need to incentivize the market to reach the unserved. Anything else we are doing is wasting money and wasting time. Thank you, Mr. Chairman. I yield back.

Mr. BOUCHER. Thank you, Mr. Shimkus. The gentleman from North Carolina, Mr. Butterfield, is recognized for 2 minutes.

OPENING STATEMENT OF HON. G.K. BUTTERFIELD, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NORTH CAROLINA

Mr. BUTTERFIELD. Thank you very much, Mr. Chairman, for holding this hearing and thank the witnesses for their testimony today. Mr. Chairman, put me down as supportive of this initiative. I think it is very appropriate. While we can all understand the benefit and value of broadband cost, literacy and relevance, particularly in poor and minority communities, there are barriers that have often been too great to overcome.

In fact, more than 66 percent of the so-called non-adopters are those individuals that have access to broadband but decline to subscribe have cited the cost of it. And so I am somewhat disappointed that the ranking member believes that there are some in rural communities who do not want to subscribe to broadband, and that may be so. But there are some in urban communities as well.

A recent study found that 22 percent of minorities lack the requisite knowledge and skills necessary to use the Internet. Nearly 50 percent of those are African-Americans, and they said that they do not believe that the content available on the Internet is relevant to them.

I represent the fourth poorest district in America, one-half of which is African-American. Many of my constituents are struggling to find work and pay for prescription drugs and utility bills and the like. And the notion of purchasing a computer, setting it up, and paying the monthly fee simply would not cross their mind. And that is why I was particularly excited to learn about the BET Network's collaborative, whose goals are to address and overcome the barriers that prevent minority communities from experiencing the full benefits of broadband.

BET will support community-based centers that provide free access to people who need them, provide community outreach and training programs, and create interactive programming and online life portal that will provide topical, relevant information specifically for minority communities. BET, Mr. Chairman, and their partners have submitted a round two application for B top funds, and I sincerely hope that NTIA sees its potential for addressing the needs of unserved and underserved communities.

Minority groups, perhaps more than any other, have the most to gain from universal broadband adoption. If the barriers remain in place, the digital divide will only widen, and more people will be left forever behind.

Finally, I must also mention that I am deeply concerned about reclassifying broadband from Title I to Title II. In doing so, the FCC risk adding more barriers to adoption by discouraging private network deployment and expansion. If the FCC moves any further in this direction, I believe Congress must act, and I know many of my colleagues share the same concern.

Thank you, Mr. Chairman, for allowing me to go over. This concludes my remarks.

Mr. BOUCHER. Thank you very much, Mr. Butterfield. The gentleman from Ohio, Mr. Latta, is recognized for 2 minutes.

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

Mr. LATTA. Thank you very much, Mr. Chairman, Ranking Member Stearns. Thank you for holding this subcommittee hearing on the National Broadband Plan and the adoption. Today broadband, as has been stated a little earlier, is available in 95 percent of those households with just 67 percent of those household subscribing. According to the Connected Nation's 2009 research, the number is slightly lower in my home state of Ohio as well as there is in Tennessee with only 60 percent of household in these two states adopting service in their homes.

The number of resident users is up to 200 million from 8 million just 10 years ago as has also been pointed out. Under the NBP, the survey found that 36 percent of the nonadopters cite cost as the primary barrier to the adoption at home.

The government's nonregulatory approach has helped the private sector make broadband available in 95 percent of the country. Many industry stakeholders have programs available to assist with adoption, and private industry has invested billions of their own capital to expand services and assist with that adoption.

Additionally, the federal government needs to exercise fiscal restraint, and there should be no further tax dollars spent on any

new government program for adoption when there already has been funding allocated for these purposes. Through the tools already available to the FCC for adoption through the NBP, private partnerships will be part of the equation. Groups such as Connected Nation have made important strides in improving broadband education and adoption.

As in many parts of Ohio, as in my district, which is rural in parts, there are many individuals who lack broadband adoption. As the Connected Nation policy brief shows, rural residents and businesses lag behind that of their non-rural counterparts.

In order to ensure that these residents and businesses reduce the barriers to adoption, the tools already accessible to the government should be used for building awareness about the benefits of broadband services and the benefits that it brings to the residents and businesses.

In Ohio, Connected Nation has been a key component of raising awareness at the grass roots level employing public and private partnerships across the state. Adoption is the report in issue. I will look forward to working with the subcommittee on these issues. I have looked through the funds that have already been allocated through these efforts and through public and private partnerships. There will be sufficient progress made to really improve adoption.

However while the FCC is focusing on these issues relating to adoption which will bring jobs and economic development to rural areas, I believe it is counterproductive for it to focus on the policy areas where the FCC has questionable authority.

I have very serious concerns with the recent announcement of the FCC to reclassify broadband services as a phone service under Title II of the Communications Act. This will have a detrimental effect on the economy and free market principles of our Nation's economy. I urge the FCC to immediately stop this action.

And with that, Mr. Chairman, I thank you very much and yield back.

[The prepared statement of Mr. Latta follows:]

Congressman Robert E. Latta
The Committee on Energy & Commerce
Subcommittee on Communications, Technology & the Internet
Opening Statement – For the Record
May 13, 2010

MR. CHAIRMAN; RANKING MEMBER STEARNS: Thank you for holding this subcommittee hearing on the National Broadband Plan and plan adoption. Today broadband is available to 95% of households, with just 67% of those households subscribing. According to Connected Nation's 2009 research, that number is slightly lower in my home state of Ohio, as well as in Tennessee, with only 60% of households in these 2 states adopting service in their homes. The number of residential users is up to 200 million, from 8 million users just 10 years ago. Under the NBP, the survey found that 36% of non-adopters cite cost as the primary barrier to the adoption at home.

The government's non-regulatory approach has helped the private sector make broadband available to 95% of the country. Many industry stakeholders have programs available to assist with adoption, and private industry has invested billions of their own capital to expand services and assist with adoption. Additionally, the federal government needs to exercise fiscal restraint, and there should be no further tax dollars spent on any new government programs for adoption when there has already been funding allocated for these purposes.

Through the tools already available to the FCC for adoption through the NBP, public-private partnerships must be a part of the equation. Groups such as

Connected Nation, have made important strides in improving broadband education and adoption. As in many parts of Ohio, my District is very rural and there are many individuals that lack broadband adoption. As the Connected Nation policy brief shows, rural residents and businesses lag behind that of their non-rural counterparts. In order to ensure that these residents and businesses reduce the barriers to adoption, the tools already accessible to the government should be used for building awareness about the benefits of broadband services and the benefits it brings to residents and businesses. In Ohio, Connected Nation has been a key component of raising awareness at the grassroots level and forming public-private partnerships across the state. I look forward to hearing Ms. Taylor's testimony that discusses the positive difference Connected Nation has made in Ohio and across the country.

Adoption is a very important issue, and I look forward to working with the Subcommittee on these issues. I believe through the funds that have already been allocated for these efforts, and through public-private partnerships, there will be significant progress made to greatly improve adoption. However, while the FCC is focusing on these issues relating to adoption which will bring jobs and economic development to rural areas, I believe it is counterproductive for it to focus on policy areas where the FCC has questionable authority. I have very serious concerns with the recent announcement by the FCC to reclassify broadband service

as a phone service under Title II of the Communications Act. This will have detrimental effects on the economy and the free market principles of our nation's economy. I urge the FCC to immediately stop this action.

Mr. Chairman, thank you, and I look forward to hearing the testimony from the witnesses on the panel today. [Yield Back]

Mr. BOUCHER. Thank you very much, Mr. Latta. The gentleman from Nebraska—Mr. Griffith has returned. Mr. Griffith, are you prepared for your statement? You are recognized for 2 minutes.

OPENING STATEMENT OF HON. PARKER GRIFFITH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ALABAMA

Mr. GRIFFITH. Thank you, Mr. Chairman. I would like to thank the chairman and ranking member for calling this hearing today and also thank all the witnesses for your willingness to testify before this committee.

The National Broadband Plan suggests that roughly 80 million Americans do not have access at home. Broadband access is vitally important to our democracy and to public safety. It is becoming the main gateway for Americans to apply for jobs, apply to colleges, and more and more people are using it as their main source of information and news throughout the day.

The FCC's broadband plan also cites that some segments of the population, mainly low-income households, minorities, seniors, rural residents, and others are being left behind. I recognize the importance of broadband, and over the last two decades, we have seen a spike in access to now over 200 million.

With respect to this hearing, I believe we need to ask ourselves what can policymakers do to actually promote broadband adoption. Policies in the National Broadband Plan such as reforming the USF and pushing spectrum out to those who are delivering broadband consumers are areas we can work on. However, I was concerned to learn of Chairman Genachowski's recent intention regarding the reclassification. This third way being proposed will suppress investment and the very innovation that has brought us to the point where we are today.

I know and I feel certain with the suggestions of the chairman and ranking member that we will be able to reach an agreement, and a good bill could be developed and presented to the Congress.

I know this hearing is on adoption and not net neutrality or reclassification. Nonetheless, adoption is certainly an important issue, and I am glad we are holding this hearing today. Again I thank you for your time today, and I will look forward to hearing your testimony and return the balance of my time. Thank you.

Mr. BOUCHER. Thank you, Mr. Griffith. The gentleman from Vermont, Mr. Welch, is recognized for two minutes.

Mr. WELCH. I just want to thank you for calling the hearing. I look forward to the testimony. Incredibly important issue. Got to work out the balance between making access available to everyone, but also having the wherewithal to invest so that we can build up the network. I yield back the balance of my time.

Mr. BOUCHER. Thank you very much, Mr. Welch. The gentleman from Nebraska, Mr. Terry, is recognized for 2 minutes.

OPENING STATEMENT OF HON. LEE TERRY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEBRASKA

Mr. TERRY. Thank you, Mr. Chairman, and thank you for your comments stating the necessity to move our bill. It was just a month ago when the FCC was admonished by the D.C. Circuit for

attempting to exceed the authority provided to them by this Congress.

It is beyond disturbing to me that rather than learn from that ruling, the FCC is now apparently about to embark on an even more egregious abuse of its statutory authority which will no doubt only result in years of litigation while also preventing future investment in this private sector. They have definitely encroached into our legislative arena.

I would like to thank our ranking member Mr. Stearns for introducing his bill to block the FCC from regulating basic aspects of broadband Internet services unless the agency first reports to us that there is a market failure. I am the cosponsor of that bill.

As we all know, Congress specifically differentiated between information services and telecommunication services in the Communications Act because Congress intended for information services to be widely regulated and for telecommunications services to be subject to greater scrutiny. This is because there was a presumption in 1996 that telecommunications services were provided largely in a monopoly environment.

It concerns me that broadband is now going to be regulated by the FCC, and whether it is a heavy touch or light touch, I am not sure we know the difference. We do know that this will allow or under the FCC's power grab and their intended use of that power that the Internet will be regulated by them. Congress needs to stand up, take back its power from the FCC, and deal with this issue. I yield back our time.

Mr. BOUCHER. Thank you, Mr. Terry. The gentlelady from California, Ms. Eshoo, is recognized for 2 minutes.

OPENING STATEMENT OF HON. ANNA G. ESHOO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Ms. ESHOO. Thank you, Mr. Chairman, for continuing what I think is this essential review of the FCC's National Broadband Plan. We are examining today the impediments to full deployment and the issues that are preventing some Americans from using broadband while others seem to reap all of its benefits.

We know that the primary reason for the digital divide is—guess what—what is usually at the base of almost anything—money. Those who have it also have the access. And those that don't are left behind. So that is why I am cosponsoring Representative Matsui's bill to extend the Universal Service Fund's Lifeline and Link-up programs to broadband users. We need to move ahead to ensure that our neediest Americans receive this essential service.

There are some concepts and ideas for closing the digital divide that are barely touched upon in the National Broadband Plan. The state of California, for instance, is a proponent of smart housing broadband deployment to give people in public housing equal Internet access, and I expect that Rachele Chong, who has done so much to improve access in California, is going to talk about this in her testimony.

I think we also need to focus on two other parts of the entry problem: education and the perceived lack of potential users—lack of relevance to potential users which are actually interconnected.

And I am very pleased that the director of Sacramento's public library system is here to talk to us about anchor institutions.

So all in all, Mr. Chairman, I don't think that we can allow anything to stand in the way of bringing all of our citizens into the broadband world. Our economic, educational, and social future really depends upon our success in this effort. So I look forward to hearing from the distinguished panelists today, and I yield back.

Mr. BOUCHER. Thank you, Ms. Eshoo. The gentlelady from Tennessee, Ms. Blackburn, is recognized for 2 minutes.

OPENING STATEMENT OF HON. MARSHA BLACKBURN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TENNESSEE

Mrs. BLACKBURN. Thank you, Mr. Chairman, and welcome to our witnesses. We are looking forward to hearing from you. I will have to say with 95 percent deployment and 67 percent adoption rates, I think that any rational observer would agree that we do not have a significant deployment or adoption problem in this country.

That being said, I am glad we are always looking for ways to improve the progress. I think that the debate is going to continue around does the government need to be patrolling that, or is it best left to the private sector?

Now I will say that I am pleased that the adoption—increased adoption rate over the past three years in Tennessee has outpaced the national average by 2 percentage points, and we continue to see great gains. And innovation and job creation are a big part of this, and we would like to make certain that that remains. It is important that we look at issues such as cost and digital literacy, but we must keep focused on what is really important, and that would be maintaining a system and an infrastructure that is free from government overregulation.

I do have my legislation, H.R. 3924, that would block the FCC from implementing their version of net neutrality, or as I like to term it fairness doctrine for the Internet. We must continue to promote job innovation and job creation in the telecommunications industry. For this reason, I am excited to explore a little deeper what exactly the FCC could possibly be thinking and how they rationalize this ill-conceived notion of reclassifying the Internet under Title II of the Telecommunications Act.

I don't understand why we want to disincentivize Internet service providers from creating those jobs and from maintaining those networks at a time when they are spending \$60 billion annually investing in it. And we are talking about the loss of jobs, and unemployment is at 9.9 percent. This is so counterintuitive it makes one wonder what the real motive is.

Thank you for the hearing. Welcome the witnesses.

Mr. BOUCHER. Thank you, Ms. Blackburn. The gentleman from Ohio, Mr. Space, is recognized for two minutes.

OPENING STATEMENT OF HON. ZACHARY T. SPACE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OHIO

Mr. SPACE. Thank you, Mr. Chairman, for holding this hearing, and I would like to thank our witnesses and welcome you to the hearing today.

One of the cruel ironies about broadband adoption is that those folks who are most in need of everything that the Internet and broadband offer are the least likely to appreciate that need. And we see that problem as especially glaring in rural Ohio, rural America. And certainly educating the general public on the benefits of access is a big part of what we need to do, I think, as a Congress and driving policy and certainly as an administration in driving policy.

But for us, the people back in southeastern Ohio, the problem, the primary problem remains excess. And recognize that awareness is important. Affordability is important. Maintaining good quality is important. But none of that matters if we don't have access. And access for us means not just creating a stronger economic environment, which it will do, but it means bridging these gaps that exist between our access not just to technology but to health care and education, that the role of broadband really is still in its infancy in how it integrates with those fields but will, without question, become much more predominant.

I want to thank Connect Ohio and Connected Nation for the great work they have done in really overcoming the first hurdle, and that is mapping. We need to figure out where we have broadband access and where we don't, and Connect Ohio has done a terrific job in pinpointing that. And I am proud to say that they have been one of the Nation's leaders, and I certainly want to thank Ms. Taylor for her reference in her testimony to some of the local solutions that are happening in counties like Coshocton County where they face some significant challenges.

I look forward to your testimony, and again thank you for your hard work on these issues.

Mr. BOUCHER. Thank you very much, Mr. Space. The members of the subcommittee have had an opportunity to share their views with you. Now, we would like to hear your views expressed to us. We have five outstanding witnesses this morning, and I will simply say a brief word of introduction about each.

Ms. Carol Matthey is the deputy chief of the Wireline Competition Bureau for the Federal Communications Commission and participated in the formulation of the National Broadband Plan. Ms. Rachelle Chong is the special counsel in the office of the chief information officer for the state of California. We know her on this subcommittee from her previous tenure as a distinguished member of the Federal Communications Commission. Ms. Rivkah Sass is the director of the Sacramento Public Library System and is also testifying today on behalf of the American Library Association, an organization for which I have great affection. Mr. Howie Hodges is the senior vice president of government affairs at One Economy, and Ms. Laura Taylor is the chief policy officer of Connected Nation, which played a major role in constructing broadband maps across the United States.

We welcome each of you, and without objection, your prepared written statements will be incorporated in our record. We would welcome your oral summaries and ask that you keep those to approximately five minutes. Ms. Matthey, we will be happy to begin with you.

Hold that microphone as close as you can, and be sure to turn it on. I think it is off. Very good.

STATEMENTS OF CAROL MATTEY, DEPUTY CHIEF, WIRELINE COMPETITION BUREAU, FEDERAL COMMUNICATIONS COMMISSION; RACHELLE CHONG, SPECIAL COUNSEL, CALIFORNIA OFFICE OF THE CHIEF INFORMATION OFFICER; RIVKAH SASS, DIRECTOR, SACRAMENTO PUBLIC LIBRARY SYSTEM; C. HOWIE HODGES II, SENIOR VICE PRESIDENT, GOVERNMENT AFFAIRS, ONE ECONOMY; AND LAURA TAYLOR, CHIEF POLICY OFFICER, CONNECTED NATION

STATEMENT OF CAROL MATTEY

Ms. MATTEY. Chairman Boucher, Ranking Member Stearns, members of the subcommittee, thank you for the opportunity to testify today about the National Broadband Plan's recommendations to promote broadband adoption and utilization. Through the Recovery Act, Congress called on the FCC to develop a plan that would ensure that all people in the United States have access to broadband capability and establish benchmarks for meeting that goal, include a detailed strategy for achieving affordability and maximum utilization of broadband infrastructure and services, and include a plan for the use of broadband in advancing consumer welfare, civic participation, education, health care, public safety, job training, economic growth, and other national purposes.

In response, the plan includes a goal that every American should have affordable access to robust broadband service and the means and the skills to subscribe if they choose. The plan outlines a pathway to increase home broadband adoption rates from 65 percent today to higher than 90 percent by 2020, and to narrow significantly the differences among demographic groups.

This is an important and ambitious goal. It took us 30 years to get from roughly 60 percent to 90 percent adoption for telephony. We are proposing to cover just as much ground in a third of the time. The plan sets forth a number of recommendations on how to achieve this goal guided by several overarching principles.

First we must focus on broadband adoption in the home. Public access, though essential, is not a substitute for home access, and the Nation will not realize the full benefits of broadband unless policies focus on increasing adoption in the home.

Second, adoption alone is not the end game. Getting people online is a critical first step, but ultimately the value of broadband to an individual depends on how fully it is utilized.

And finally, adoption programs should be targeted, local, measurable, able to evolve as technology evolves, and collaborative. Targeted solutions address specific barriers to adoption and direct resources at populations less likely to be online. To address the cost barrier, the plan recommends expanding the FCC's existing low income universal service program known as Lifeline and Linkup to support broadband. To address digital literacy barriers, the plan calls for creation of a digital literacy core, bolstering the capacity of libraries and community centers, and the creation of an online skills portal.

And to address relevance, the plan recommends partnerships between the public, private, nonprofit, and philanthropic sectors which can help provide comprehensive solutions and who can provide targeted outreach and awareness campaigns.

The plan also includes several recommendations to address the unique difficulties for people with disabilities and in recognition of the sovereign status of tribes, which are described further in my written testimony. Local solutions are essential because tribal, state, and local governments can and should develop and implement specific programs to meet their unique needs.

The decision to subscribe is an individual one, but the path to full adoption unfolds in homes, libraries, schools, and community organizations in neighborhoods around the country. Public access sites are essential to building the social infrastructure needed to promote adoption and utilization in the home. To encourage local solutions, the plan recommends continuing federal support for state and local broadband initiatives under the Broadband Data Improvement Act.

To ensure sustainable adoption, program outcomes and policies should be measured and should evolve as technology evolves. Unfortunately, despite over a decade of effort focused on bridging the digital divide, data of what works best to stimulate adoption and utilization are scarce. The plan suggests that future appropriations for broadband adoption include specific requirements and funding for third-party evaluations and assessment.

Finally, to catalyze additional collaboration, the plan recommends establishment of a national best practices clearinghouse, which can help all stakeholders learn from current investments and from each other to inform future policies. The FCC has already started implementing those recommendations within its jurisdiction.

Just last week, the FCC adopted an order asking the federal-state joint board on universal service to prepare recommendations regarding the commission's eligibility, verification and outreach rules for both the Lifeline and Linkup program. We also plan to host a roundtable discussion to discuss potential pilot programs to identify the most efficient and effective long term broadband support mechanism for low-income Americans.

Many significant adoption recommendations will require action by Congress and other governmental and nongovernmental stakeholders. I and others at the FCC look forward to providing additional assistance. Thank you.

[The prepared statement of Ms. Matthey follows:]

**Written Statement of
Carol Matthey
Deputy Chief, Wireline Competition Bureau
Federal Communications Commission**

“The National Broadband Plan: Promoting Broadband Adoption”

**Hearing before the
Subcommittee on Communications, Technology, and the Internet
United States House of Representatives
May 13, 2010**

Chairman Boucher, Ranking Member Stearns, Members of the Subcommittee, thank you for the opportunity to testify today about recommendations in the National Broadband Plan aimed at promoting broadband adoption and utilization.

Through the Recovery Act, Congress called on the FCC to develop a broadband plan that would “ensure that all people of the United States have access to broadband capability and establish benchmarks for meeting that goal. . . include a detailed strategy for achieving affordability of such service and maximum utilization of broadband infrastructure and service by the public . . . and include a plan for the use of broadband infrastructure and services in advancing consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes.”

In response to the congressional mandate, the National Broadband Plan includes a goal that every American should have affordable access to robust broadband service, and the means and skills to subscribe if they choose. The Plan outlines a pathway to increase home broadband adoption rates from 65% today to higher than 90% by 2020 and to narrow significantly differences among demographic groups. This is an important and ambitious goal -- for instance,

it took 30 years to get from roughly 60% to 90% adoption for telephone. We are proposing to cover just as much ground in a third of the time.

The Plan sets forth a number of recommendations for how to achieve this goal, guided by several overarching principles. First, we must focus on increasing broadband adoption in the home. Public access, while essential, is not a substitute for home access, and the nation will not realize the full benefits of broadband unless public policies focus on increasing adoption in the home. Second, adoption alone is not the end game. Getting people online is the critical first step, but ultimately the value of broadband to an individual depends on how fully it is utilized. And finally, adoption programs and policies should be targeted, local, measurable, able to evolve as technology evolves, and collaborative.

Targeted solutions address specific barriers to adoption and direct resources at populations less likely to be online. While the Plan refers to the three main categories of barriers – cost, digital literacy and relevance – it is important to note that each category encompasses several discrete barriers. For example, “cost” may refer to the cost of monthly service, the cost of hardware (such as a computer or mobile phone), or other barriers associated with an individual’s inability to enter into a long-term contract. To address the cost barrier, the Plan recommends expanding the FCC’s existing low income Universal Service program, known as Lifeline and Link Up, to support broadband. To address digital literacy barriers, the Plan calls for a three-part National Digital Literacy Program, which would include: creation of a Digital Literacy Corps, increasing the capacity of libraries and community centers to provide public access points, and creation of an Online Skills portal for free basic digital skills training. And, to address relevance, the Plan recommends partnerships between the public, private, non-profit and philanthropic sectors, which can help provide comprehensive solutions that combine

hardware, service, training and content, and by conducting outreach and awareness campaigns that target underserved communities.

People with disabilities face the same barriers to adoption and utilization as the rest of the population, but also face additional impediments. For example, devices often are not designed to be accessible for people with disabilities, assistive technologies like Braille displays are expensive, Internet-based video programming often does not have captions or video descriptions offering an account of what is on the screen, and some services, including emergency services, are not directly accessible. To address the unique difficulties faced by people with disabilities, the Plan recommends that the Executive branch convene a Broadband Accessibility Working Group to coordinate federal efforts to maximize accessibility. The Plan also recommends that to make government a model for accessibility, the FCC should establish an Accessibility and Innovation Forum, and that Congress, the FCC and the Department of Justice should modernize accessibility laws and rules to ensure that services, equipment and content are accessible and affordable for people with disabilities.

American Indian Tribes and Alaska Native Villages face significant barriers to adoption. Given the unique sovereign status of Tribal Nations and the disparity in existing infrastructure and available data, the Plan makes additional recommendations to increase broadband adoption, as well as broadband deployment, on Tribal lands. The Plan also recognizes the similar needs of Native Hawaiian Homelands. The Plan emphasizes the need to improve coordination and consultation between Tribes and federal government through a series of recommendations, including the formation of a FCC-Native Nations Broadband Task Force, the creation of an FCC Office of Native American Affairs, and the establishment of a Tribal seat on the USAC Board of Directors and on the Federal-State Joint Board on Universal Service. The Plan also includes

other recommendations, such as improving the quality of data relating to broadband on Tribal lands and technical training for Tribes.

Local solutions are essential because Tribal, state and local governments can and should develop and implement specific programs to meet their unique needs and promote connectivity across entire communities. The decision to subscribe to broadband service is an individual one, but the path to full adoption and utilization is social. It unfolds in homes, libraries, schools and community organizations in neighborhoods around the country.

Public access sites are essential to building the social infrastructure needed to promote adoption and utilization in the home. Local solutions that promote community connectivity also help promote a culture of use that can help make broadband more relevant to a community and give people an opportunity to learn an unfamiliar technology, in the right environment and with the content, technology and teachers that can bring it all together *for them*. To encourage state and local action, the Plan recommends continuing federal support for state and local broadband initiatives, as envisioned by Section 106 of the Broadband Data Improvement Act. This support will allow state and local governments to develop more targeted plans to address the unique barriers their citizens face. The Plan suggests this funding come from existing appropriations, but should additional appropriations be made available, the Plan also recommends expanding eligibility to ensure that Tribal Nations are eligible to apply for grants.

To ensure sustainable adoption, program outcomes and policies should constantly be measured and evolve as technology evolves. Success cannot be determined without investing in on-going, effective measurement and evaluation from the beginning. Unfortunately, despite more than a decade of efforts focused on bridging the digital divide, data on what works best to stimulate adoption and utilization are scarce. The Plan suggests that future federal appropriations

for broadband adoption include specific requirements and funding for third-party evaluations and assessment. Each grant should include funding for program evaluation, with additional funding to conduct in-depth assessments and longitudinal program assessment.

The federal government clearly has a role to play in promoting broadband adoption, but federal efforts alone are not enough, which is why the Plan's recommendations build around the principle of collaboration. To catalyze additional collaboration and knowledge sharing, the Plan recommends the establishment of a National Best Practices Clearinghouse. A National Best Practices Clearinghouse would help all stakeholders take advantage of the current momentum in this area to learn from current investments and from each other to inform future policy and programmatic decisions.

The FCC has already started implementing those recommendations within its jurisdiction. Just last week, the FCC adopted an order asking the Federal-State Joint Board on Universal Service to review and prepare recommendations regarding the Commission's eligibility, verification and outreach rules for the Lifeline and Link-Up programs. We also plan to host a roundtable discussion to discuss potential pilot programs to identify the most efficient and effective long-term broadband support mechanism for low-income Americans.

Many significant adoption recommendations are outside the jurisdiction of the FCC, however, and will require action by Congress, executive branch agencies, state and local governments, and other non-governmental stakeholders. I, and others at the FCC, look forward to providing additional assistance where we can be helpful.

Thank you again for the opportunity to testify this morning.

Mr. BOUCHER. Thank you, Ms. Matthey. Ms. Chong.

STATEMENT OF RACHELLE CHONG

Ms. CHONG. Good morning. It is a great pleasure to be back here in Washington, my old stomping grounds. It is even more of a pleasure that today your topic is broadband adoption, one that is very pivotal to bridging the digital divide.

The digital divide cannot be closed without California. We have 44,000 square miles of unserved area, the size of Kentucky. We have 1.4 million rural residents without access, the population of Maine. We have 12.9 million urban residents not connected, the population of Illinois. We have 1.9 million people with disabilities not connected, the population of New Mexico. We have 68,000 Native Americans not connected, the population of Alaska. So the number of unconnected Californians on the other side of the digital divide is the equivalent of having five other states within our boundaries.

And this is why California has been working with great focus and with great effort on broadband adoption since 2006. We were very early to develop a cohesive policy to spur broadband investment in our state. Beginning in 2006, our governor issued a broadband executive order and formed a taskforce. We first performed broadband mapping, which was important to find out where broadband was and where it wasn't. We then had a legislature who passed a digital infrastructure and video competition act. They let telephone companies offer video. They allowed cable companies to have a statewide video franchise license.

The PUC then attacked the access problem. We formed a—excuse me. We allowed our telephone companies to have updated rules so that they could compete with their competitors, which are now cable, satellite, and wireless.

So in summary, California set the table for our state's broadband hunger. So we attacked two problems. We started with access, and then we went to adoption and awareness. I won't talk much about infrastructure today, but I will say that we had a state infrastructure program to fill in unserved and underserved areas.

Further we went after a FCC rural pilot program for health care. We got a \$22 million grant. We have matched it with \$8 million of nonfederal funding, and we now are beginning construction this summer on a statewide broadband telehealth network. We have 863 sites already authorized to push broadband out into our most rural areas.

Now, if you build it, they will come. It might be true in baseball, but it sure isn't true in adoption. We know that even though we can get broadband access to our residents, that some of them won't use it. We formed a nonprofit organization in 2006, the California Emerging Technology Fund. And I brought copies of their annual report, which is very instructive, and I urge you to pick up a copy. They have been focusing on broadband adoption. They figured out who is on the wrong side in my state, Latinos, African-Americans, low-income families, seniors, people with disabilities, people who live in rural and remote counties. And then we focused precisely on those unconnected groups using a number of strategies.

One, we got our civic leaders engaged. They have been going out and talking to our chambers of commerce, our local mayors, the librarian, anyone who is a leader. And we formed consortiums in the rural regions and the urban regions to aggregate demand, to encourage broadband deployment in their areas, and to support important applications that push broadband out, telemedicine, tele-education, e-government.

Second, we gave money out using what we call venture philosophy engagement. We chose 52 governmental—I am sorry, non-profit and community-based organizations who already had expertise in technology. And we asked them to reach in to those vulnerable communities and grow their programs. We hold these groups to very rigorous measurement and evaluation standards. They meet once a year with CETF, and we told them every program they had must be accessible to people with disabilities.

Our third strategy is public awareness. We have been using a big public awareness campaign to enhance awareness of broadband. In short, why broadband makes your life better. Our major effort here is a get connected campaign. It increases adoption among low-income persons.

Our fourth strategy was public policy initiatives. Our major initiative was school to home. We have launched this program, which is a statewide program to close the achievement gap in the digital divide. We are going to take the worst performing 500 middle schools in California. We will provide a small laptop computer to every child who cannot afford a computer. They are encouraged to take it home so that they will teach their parents how to use and connect to the Internet. They are going to also train the parents, six hours mandatory, so that they understand cybersecurity issues and how to connect to the parents and the principal of the school.

We will be supporting the teachers by 24 hours of training on how to integrate the computer into education, and we will also be training the principals on how to access a content-rich Web site with educational materials. This is a very ambitious program, but we have two pilots already running in California, in Los Angeles and Riverside. We hope to start 20 more schools in the fall and eventually reach all 500 low performing schools.

I wanted to also quickly mention smart housing. We think this is an area that unfortunately was left out of the FCC national plan. What we mean by smart housing is a publicly-funded housing development project that possesses an independent, advanced-communications network which will drive economies of scale to bring the residents in those small houses broadband at a reduced cost.

We have developed in California a model policy, and we hope that this will be available to the federal agencies. Thank you for inviting me.

[The prepared statement of Ms. Chong follows:]

Testimony of Rachelle Chong

Special Counsel, Advanced Information and Communications Technology,

Office of the Chief Information Officer, State of California

Before Congress of the United States, House of Representatives, Committee on Energy and Commerce

May 13, 2010 - 10 AM

It is a great honor and pleasure to be back in Washington D.C. It is even more of a pleasure that your topic today is broadband adoption and awareness, a vitally important area that is pivotal to bridging the Digital Divide.

The Digital Divide cannot be closed without California. We have 44,000 square miles of unserved area, the size of Kentucky. We have 1.4 million rural residents without access, the population of Maine. We have 12.9 million urban residents not connected, the population of Illinois. We have 1.9 million people with disabilities not connected, the population of New Mexico. We have 68,000 Native Americans not connected, the population of Alaska. So the number of "unconnected" Californians on the other side of the Digital Divide is the equivalent to having five other states inside our boundaries. This is why California has been working with great focus and effort on broadband adoption since 2006.

California was early to develop a cohesive policy to spur broadband innovation in our state. Beginning in 2006, Governor Schwarzenegger issued a Broadband Executive Order and formed a Broadband Task Force on which I was honored to serve. The Task Force performed broadband mapping to identify where broadband was -- and where it wasn't -- in our geographically large state. Our Legislature passed a Digital Infrastructure and Video Competition Act of 2006 to allow telephone companies to offer video for the first time, and for cable providers to obtain a statewide video franchise and relieve them from burdensome local franchise obligations. The California Public Utilities Commission (PUC) updated outdated telephone rules to allow our largest incumbent phone companies to compete on a level playing field with its new competitors, the cable, satellite and wireless companies. In summary, California set the table for broadband providers to come to dinner and feed our State's broadband hunger.

California attacked two main problems: (1) lack of broadband infrastructure and (2) broadband adoption and awareness. I won't talk about infrastructure much today, but the California PUC established a state infrastructure grant program to fill in unserved and underserved areas. This fund has been successful in filling in some of our infrastructure gaps, and the Broadband ARRA funds are very welcome to assist us in that effort. Further, California received an FCC Rural Health Care Pilot Program grant of \$22 million, matched it with another \$8 million from non federal sources, and is now beginning construction this summer on a statewide broadband tele-health network. We believe this 863 site tele-health network will push broadband infrastructure into many of our neediest rural areas and help bring access to more Californians.

"If you build it, they will come" may apply in baseball's field of dreams, but it does not apply to broadband. Once we get broadband access to our residents and businesses, California realized that it

did not mean our people would use it. Who had access to broadband but wasn't using it? Why weren't they using it? In 2006, the California PUC formed a non-profit organization, the California Emerging Technology Fund (CETF), to assist us in broadband adoption and awareness work. After research, we identified the following groups that were on the wrong side of the Digital Divide: Latino families, low income families, people with disabilities, and rural and remote communities with no access or very little access. We made these groups the focus of our broadband adoption and awareness efforts.

There are five overarching strategic actions that we have used to bridge the Digital Divide in California. They are:

- **Civic Leader Engagement**
- **Venture Philosophy Engagement**
- **Public Policy Initiatives**
- **Public Awareness**
- **Strategic Partnerships**

Civic Leader Engagement

First, we have engaged civic leaders and elected officials to urge residents to "Get Connected". For our rural and remote communities, we found community leaders from seven rural regional consortia covering 35 counties. We have helped these rural groups to aggregate demand, encourage broadband deployment in their area, and to support applications like telemedicine and eGovernment. Similarly in our urban underserved areas, we located community leaders to form an urban collaborative to help them develop strategies and programs to bring broadband to their neediest residents.

Venture Philosophy Engagement

Second, we have used Venture Philosophy Grantmaking, meaning we choose 52 non profit and community-based organizations with experience in technology related programs area to reach into our most vulnerable communities and perform broadband awareness and adoption work. We hold these groups to rigorous measures of performance and support them with a matching grant and annual best practices meetings.

Public Policy Initiatives

Third, we used public policy initiatives to quicken broadband adoption. One of our most significant is the California Telehealth Network, which I previously mentioned. We believe the California Telehealth Network will transform health care in our state, particularly in rural areas. Major issues that need to be addressed to make telehealth successful include changing reimbursement policies for doctor services via telemedicine, immediate FCC reform of the existing Internet Access Fund with a new Health Care Broadband Access fund as set forth in Chapter 10 of the FCC National Broadband Plan, and ensuring customer privacy of medical records through secure and interoperable systems.

A. School2Home

Another major initiative launched by CETF and The Children's Partnership has been our School2Home program. School2Home is an innovative statewide program to close both the Achievement Gap and the Digital Divide by integrating the use of laptop computers and broadband technology into teaching and

learning at 539 low performing middle schools throughout California. These low performing schools serve high percentages of students of color from low income households, the two demographic groups most at risk of low achievement and failure to graduate from high school. By focusing on these schools, School2Home targets students who are statistically less likely to perform well in school and more likely to lack access to home digital tools than their peers in high performing schools.

The program has three goals: (1) Increase digital literacy and educational performance among targeted low performing middle schools; (2) Improve their 21st Century skills so they can contribute to a more competitive workforce upon graduation; and (3) Get parents involved in by home-based digital technologies and in turn expand broadband adoption.

Computer programs have been done before and some computers ended up in closets because teachers would not integrate them into schoolwork or the PC style computers had to be shared. In School2Home, portable laptop computers are used and home broadband connectivity is emphasized. We want the laptops to go home with the child, so that homework can be done and Internet research performed. Further, the low income family gains computer access for other urgent needs like healthcare information, the ability to apply for a job on the Web, and using Voice Over Internet Protocol to stay connected to loved ones abroad. School2Home emphasizes parental involvement, including six hours of required parental training so that the parent can use the computer to interact with their child's teachers and school to check on progress. Teachers are also trained to engage their students in interactive lessons using the computers.

School2Home Program components:

- School leaders assess technology needs and develop their plan.
- All students receive a computer device for classroom and home use.
- Classroom technology like SMART boards, digital projectors, printers/scanners and document cameras enhance the functionality of the computing devices used by teachers and students.
- All teachers receive 24 hours of professional development focused on incorporating technology into classroom instruction and communication with parents.
- Technology coaches at each school site provide real time embedded professional development and teacher support.
- A student technology program allows students to earn digital literacy certificates and help provide basic school site tech support to their families, teachers and fellow students.

We have two schools beta testing all program components now, and 25 schools preparing for participation next school year. We have a seven year timeframe to try and reach all 539 middle schools. We will reach 52,000 students, 78,000 parents, 3,100 teachers, and 250 principals and other school executives in the first 3 years.

B. Smart Housing

Another public policy initiative we are working on is Smart Housing. For some reason, the FCC inadvertently left this out of the National Broadband Plan recommendations. Smart Housing is defined

as a publicly funded housing development project that possesses an independent Advanced Communications Network to drive economies of scale that can result in a significantly reduced cost basis for residents. This Advanced Communications Network is in addition to standard cable and infrastructure used for power, television and telephone service. A model policy has been developed, and CETF and the California Department of Housing and Community Development jointly requested that the US Department of Housing and Urban Development (HUD) amend federal policies and regulations to support Smart Housing.

C. Smart Communities

We have also been promoting “smart communities.” An example of this is our work with our State Librarian to promote libraries as hubs for digital literacy and wireless “hot spots” – both inside and outside the library – for its users. Another example is CETF’s summary and analysis of government led wireless projects, to help communities who are thinking of setting up community WiFi initiatives. Work has also been done looking at forward looking local government policies relating to broadband and promulgating a comprehensive sample policy as a resource for local and regional government leaders.

Public Awareness

Fourth, we use Public Awareness and Education campaigns to enhance our Broadband Awareness. Our major effort here is our “Get Connected” Campaign. CETF launched this “Get Connected” campaign to increase adoption among low income and Latino households by 10 percentage points. A website in several languages – English, Spanish, Chinese, Korean, and Vietnamese – help non users learn the basics about computers and broadband. Public service announcements in several languages were developed and are aired in ethnic media and at Community Connect Fairs in target neighborhoods. The message is simple: Broadband makes your life easier.

Strategic Partnerships

Fifth, all of this broadband awareness work has been done with \$60 million of seed money for CETF. This could only be done with strategic partnerships with government, foundations, universities, broadband providers, Internet companies, and employers to joint venture on major projects like the California Telehealth Network, Smart Housing, School2Home, and “Get Connected.”

Finally, how do we know these broadband adoption programs work? We partner with Public Policy Institute of California and ZeroDivide to measure and track our broadband adoption statistics to measure progress. So far, looking at our 2008 to 2009 date, we are very encouraged by the trends we see.

Thank you for this opportunity to provide information to the Committee. I look forward to answering any questions you may have.

Mr. BOUCHER. Thank you very much, Ms. Chong. Ms. Sass.

STATEMENT OF RIVKAH SASS

Ms. SASS. Good morning, Chairman Boucher, Ranking Member Stearns and—

Mr. BOUCHER. Please pull that microphone just a little bit closer. There we go.

Ms. SASS. Thank you for the opportunity to testify on behalf of the American Library Association, the oldest and largest library association in the world with more than 65,000 members. Public libraries serve every age group and every skill level in our source of life-long learning. In 70 percent of our communities nationwide, we are the only provider of no-fee Internet access. In rural areas, that number is closer to 80 percent.

In California last year alone, there were 38 million Internet sessions in public libraries on 18,000 computers. That is one session for every resident in the state. School, public, and academic libraries across the country really serve as first responders in providing Internet access. Even with a 10-megabit connection, sometimes the Sacramento Public Library demands surpass our capacity. Without sufficient broadband connectivity, it is difficult for us to serve our patrons. Without a healthy broadband ecosystem and sufficient connectivity, libraries and other anchor institutions would not be able to continue our work to improve broadband adoption.

I want to acknowledge the critical role that the Erate program has played for libraries. I thank the members of the subcommittee for your support of the Erate program, which is essential to school and public libraries. Without the discounts that we receive, I honestly do not know how Sacramento Public Library would cope. We really depend on this program.

Information is useless unless one knows how to access and apply it. Access to high-speed broadband alone does not guarantee that our Nation would be equipped to thrive in a global information society. The FCC plan acknowledges this principle, noting the importance of digital literacy as a necessary life skill, much like the ability to read and write.

We know that access to broadband is a basic requirement for social and economic inclusion in our democratic society. Improving broadband adoption requires the development of basic digital literacy skills, something central to the mission of public libraries. We are viewed as trust intermediaries in our communities, whether rural, suburban, or urban, and we are ideally situated to help shape and lead national efforts to foster and increase digital literacy.

Public librarians play a key role in shrinking the digital divide by providing digital literacy training. We offer no-fee Internet classes ranging from email basics to job searching skills, and genealogy. In these tough economic times, the most powerful example of what motivates individuals to come to the library seeking digital literacy skills has been the search for employment.

Library staff at our Rancho Cordova branch library recently helped a job seeker by helping him update his resume, upload it to an employer's Web site. When he called to verify that they had received his application, they offered him a job on the spot. And he

started the next day doing electrical construction. He told us he could not have done it without our help, and I know our colleagues in libraries across the country could tell you the same story about helping teach these digital literacy skills and about providing no-fee access to the Internet.

The truth is librarians are perfectly positioned in our communities to shape and implement local, state, and national efforts to improve broadband adoption.

I would like to thank Congresswoman Matsui who introduced the Broadband Affordability Act of 2009. Addressing the issue of affordability as a barrier to adoption, the bill would complement the work that libraries do in teaching digital literacy skills.

I would also like to note that the American Library Association supports the recommendations in the National Broadband Plan that all Americans develop basic digital literacy skills, and we support the development of the digital literacy core. We respectfully suggest the subcommittee introduce and consider legislation that would authorize and support the creation of such a core as recommended in the FCC plan. This is something that librarians can really sink our teeth into because we want to be leaders in the effort of working collaboratively with others to develop the program.

As a Nation, we must be prepared to compete in work in which digital literacy is essential and not a luxury. The digital literacy core would infuse in our communities the needed resources to increase those skills and improve broadband adoption rates in the home. Libraries are already well aware of the benefits of having access to the Internet and online resources. A digitally literate citizenry will result in a workforce that is prepared to meet the challenges of the 21st Century global marketplace.

My colleagues and I thank you for your leadership and support. Libraries would not be able to do what we do without you.

[The prepared statement of Ms. Sass follows:]

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Testimony of

Rivkah Sass

Director, Sacramento Public Library System

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

The National Broadband Plan and Promoting Broadband Adoption

May 13, 2010

On Behalf of the
American Library Association

Chairman Boucher, Ranking Member Stearns and Members of the Subcommittee, thank you for your invitation to testify on behalf of the American Library Association (ALA) on recommendations in the National Broadband Plan for increasing broadband adoption. My name is Rivkah Sass, and I am the Director of the Sacramento Public Library System. I am also a member of the American Library Association, the oldest and largest library association in the world with more than 65,000 members. Our members are primarily school, public and academic librarians and some special librarians, as well as trustees and friends of libraries.

My testimony draws upon my experiences as a professional librarian for more than thirty years and on my current position as director of the fourth largest library system in California serving the public in the city of Sacramento and Sacramento County, as well as the cities of Citrus Heights, Elk Grove, Galt, Isleton and Rancho Cordova. The Sacramento Public Library System operates 27 libraries, has over 200 staff members, houses a collection of more than two million volumes and has an annual budget of \$35 million. More than 600,000 residents have a library card, and over seven million items are circulated each year. The most recent addition to our system is the new North Natomas Library facility, which opened in January 2010. Featuring more than 120 public-access computer stations, a robust collection of books, periodicals, DVDs and CDs containing more than 100,000 items focused on community and student users, our new branch has something to offer everyone in the community.

Libraries, as community anchor institutions, are at the forefront of efforts in our country to improve broadband adoption in the home. The critical role of libraries in helping drive adoption in our communities is demonstrated by the fact that the first sustainable broadband adoption grant awarded through the American Recovery and Reinvestment Act (ARRA) of 2009 was to the New Mexico State Library. Specifically, the New Mexico State Library was awarded \$1.5 million by

the National Telecommunication and Information Administration (NTIA) Broadband Technology Opportunity Program (BTOP) to increase broadband adoption and promote computer literacy and Internet use among vulnerable populations, Hispanic and Native American users, small businesses and entrepreneurs through training and outreach statewide. The award will support the “Fast Forward New Mexico” initiative, which includes training programs at public and tribal libraries to increase the skills of New Mexico citizens¹.

In addition, some libraries and their communities have also received stimulus funding through BTOP’s Public Computing Center (PCC) program. For example, the Arizona State Library, Archives and Public Records was awarded a \$1.3 million grant to enhance public computing facilities in more than 80 public libraries throughout the state. More than 1,000 computers will be added in a state where more than 90 percent of public libraries reported they do not have enough public computers to meet demand some or all of the time.² Another example is the city of Boston, which will use stimulus funding to expand computer and Internet capacity at the Boston Public Library and its 26 branches.³ Both of these grant awardees will devote a significant portion of their grant funds to training individuals to use computers and the Internet. Once these individuals become more comfortable using computers to access the Internet at the library, they are more likely to subscribe to broadband service at home.

Such examples of one-time infusions of funding will undoubtedly have a significant, positive impact on improving broadband adoption in grant-winning communities. It is important to note that libraries have also sought other collaborative ways to help improve broadband adoption, beyond seeking stimulus funds. For example, state libraries are teaming with other state agencies

¹ The “Fast Forward New Mexico” grant application is available at http://www.nmstatelibrary.org/docs/btop/FFNM_application.pdf

² A Perfect Storm Brewing: Budget Cuts Threaten Public Library Services at Time of Increased Demand. (2010). Available: <http://www.ala.org/ala/research/initiatives/plftas/issuesbriefs/issuesbrief-perfectstorm.pdf>

³ *Ibid.*

to cost-effectively train librarians to assist newly unemployed residents. For example, in North Carolina, which has one of the highest unemployment rates in the country, the state library collaborated with the Unemployment Security Commission and the Department of Commerce to train librarians, create an online job search toolkit and expand job-related library collections.⁴

However, more must be done to help shrink the digital divide by improving broadband adoption rates in all of our communities. The Federal Communication Commission's National Broadband Plan outlines specific recommendations as next steps. There are many recommendations I believe libraries are well positioned to be at the forefront in shaping and implementing, in particular the recommendation to create a Digital Literacy Corps. I will return to this idea later, but first would like to outline the central role of libraries in improving broadband adoption rates in our communities.

Libraries and the Broadband Ecosystem

While our library system in Sacramento is fortunate to have a supportive city government and library board of directors, as well as vibrant community support, we too are dealing with the challenges facing most libraries across the country today. Without a healthy broadband ecosystem, libraries and other anchor institutions along with our colleagues in community-based organizations, K-12 schools and colleges, universities and community colleges will not be able to continue our work in supporting and improving broadband adoption.

A community's broadband ecosystem is comprised of many components – including but not limited to libraries and other anchor institutions such as educational institutions, community-based organizations, state and local agencies, and the members of the community – all dependent upon sufficient broadband connectivity. To increase broadband adoption rates in our communities, these

⁴ *ibid.*

members must coordinate their efforts to offer services and technology in the most efficient manner possible.

As any librarian will attest, information is useless unless one knows how to access and apply it. Likewise, access to high-speed broadband, by itself, would not guarantee our nation will be equipped to thrive in a global information society. The Federal Communications Commission acknowledged this principle in its National Broadband Plan's chapter on adoption and utilization, noting the importance of digital literacy as "a necessary life skill, much like the ability to read and write." We know that the access to broadband is a basic requirement for social and economic inclusion in our democratic society. The "costs" for those who do not utilize the Internet have increased exponentially by the shift of critical services and life tasks (e.g., filing for unemployment benefits, completing job applications, filing state and federal taxes, receiving information from your child's teacher, etc.) requiring Internet access.

Improving broadband adoption requires the development of basic digital literacy skills – which is central to the mission of libraries. And libraries – school, academic and public – are already present in communities across America. We are viewed as the trusted intermediaries in our communities – whether rural, urban or suburban – and are ideally situated to help shape and lead comprehensive national efforts to foster and increase digital literacy, thus improving adoption.

This mission to develop information literacy, including digital literacy skills, begins in K-12 schools, where school librarians, as instructional leaders in their schools, teach computer technology skills, emphasizing collaboration skills as tools to communicate more effectively, conduct research more efficiently, and increase productivity.⁵ School librarians know the school's

⁵ The term "digital literacy" describes a subset of the larger concept of "information literacy." Information literacy encompasses a full range of capabilities required to successfully navigate analog as well as Internet resources.

curriculum and effective techniques for crossing disciplines, collaborating with teachers and integrating information and technology literacy into core curriculum.

In our more than 3,800 colleges and universities, including community colleges, academic librarians work with students every day to help them develop technical and cognitive skills needed to be information and digitally literate. They also work closely with faculty from all disciplines to develop pedagogies to enhance teaching, learning and research on their campuses. In addition, librarians in academe teach students the importance of creating and caring for their own digital identities and respecting the intellectual property of others.

Beyond the classroom, public libraries serve learners of every age and skill level and are a source for lifelong learning. There are currently 16,543 public library outlets in communities across the nation, and libraries are found in virtually every community in the United States.⁶ Nationwide, 71 percent of all public libraries report they are the only provider of no-fee Internet access in their communities. In rural areas, 79 percent of libraries are the only no-fee Internet access provider.⁷ State library usage statistics for California last year indicates that more than 38 million Internet sessions were conducted on a mere 18,600 public access computers statewide; that literally equates to an Internet session for every resident of the state of California.

Public librarians, in particular, play a key role in shrinking the digital divide by providing formal and informal digital literacy training one-on-one or by offering formal classes – from helping patrons open their first e-mail accounts to teaching Internet search skills and computer applications. The ability of public libraries to reach a large proportion of the nation’s population is commensurate with the goals of the National Broadband Plan to increase individual broadband

⁶ Henderson, E., et al. (2009). *Public Libraries Survey: Fiscal Year 2007* (IMLS-2009-PLS-02). Institute of Museum and Library Services. Washington, DC. Available: http://harvester.census.gov/ims/pubs/Publications/fy2007_pls_report.pdf

⁷ Davis, et al. (2009). *Libraries Connect Communities 3: Public Library Funding & Technology Access Study*. Chicago: American Library Association. Available: http://ala.org/ala/research/initiatives/plftas/2008_2009/index.cfm

adoption rates. In fact, over half of all public libraries provide informal, point-of-need instruction and training. Also, about half of urban libraries and libraries in high poverty communities report they consider offering formal training in computer and Internet skills a critical library service.⁸ However, rural public libraries, in comparison to suburban and urban libraries, face greater challenges offering formal training classes. Only 24 percent of rural libraries offer such classes, compared with 42 percent of suburban and 52 percent of urban libraries.⁹ In Sacramento, for example, our libraries offer regularly scheduled no-fee computer classes open to all members of the community including communication basics (sending e-mails, writing letters, making shopping lists, attaching photos or other documents, etc.), introduction to the Internet, job search workshops, genealogy research online, and how to conduct online research, to name a few.

In addition, some libraries are going beyond formal classes and providing patrons with specialized, highly targeted consulting services. In Omaha, Neb., the Omaha Public Library's Swanson branch has created two programs targeted at teaching digital literacy skills – the “rent-a-librarian” and “rent-a-geek” programs. Both programs are no-fee and available to the public; patrons can sign up for a one-hour session with a librarian or library staff member. The rent-a-librarian program is also marketed to the local business community. The rent-a-geek program has capitalized on the otherwise untapped computer and technology skills of library aides, typically high school students and young adults, to assist patrons with elderly patrons being the biggest population to take advantage of these services. The library branch manager at the Swanson Library explained that these services are very popular. She credits this free, targeted, non-judgmental help as one creative solution to devote the time needed (and required) to provide very basic digital

⁸ Davis, et al. (2009). *Libraries Connect Communities 3: Public Library Funding & Technology Access Study*. Chicago: American Library Association. Available: http://ala.org/ala/research/initiatives/plftas/2008_2009/index.cfm

⁹ Ibid.

literacy instruction when helping an individual take the first steps to becoming a broadband adopter.

Broadband Connectivity

In my community of Sacramento we have made a real commitment to technology. However, notwithstanding that strong commitment, our current levels of broadband connectivity are being tested by very real-world demands, which are only increasing. For example, our Valley Hi-North Laguna Library opened on August 29, 2009. It serves a diverse community with a portion of the population living below the poverty line. This library receives heavy usage by children and teens and is located across the street from a community college with many students. Because the library offers wireless Internet access, it is not uncommon to have 30 or more people in the building with their own laptops, using the wireless connection. We consider many of these patrons to be “power users” – using the Internet to access media, music, and other high-bandwidth demanding applications. A mere four months after opening the library branch with a 10 megabit connection, at peak times, utilization reached well beyond capacity. Without sufficient broadband connectivity, it is difficult for our staff to provide basic services to our patrons including teaching basic digital literacy.

Unfortunately, our experience in Sacramento is not atypical. Demand already has or will very quickly outpace many libraries’ current broadband capacity. While both urban and rural libraries report increases in connection speeds, they also continue to report that the connection speeds are insufficient to meet patron needs all or some of the time.¹⁰ Without adequate connectivity, a library’s ability to help improve broadband adoption rates is significantly hampered. Data from a recent 2008-2009 ALA study found that more than 80 percent of libraries enforce time limits on computer use and 45 percent of libraries enforce time limits ranging from 31 to 60

¹⁰ Ibid.

minutes.¹¹ Such limited windows of time greatly hinder both a librarian's ability to provide digital literacy instruction and an individual's ability to complete a job application or participate in distance learning courses, for example.

E-rate

I would be remiss if I did not acknowledge and recognize the critical role that the E-rate program has played in supporting telecommunications and other services for libraries and schools, in many instances helping sustain broadband connectivity. I would like to thank the members of this subcommittee for the creation of and continuing support for the E-rate program. Over the last several years, the E-rate program has provided discounts to public libraries and public and private schools for access to advanced telecommunications and information services. Without such discounts to support ongoing costs associated with telecommunications connectivity, our libraries and schools would be hard-pressed to provide the services they do today.

Libraries and schools depend upon an efficient E-rate program to help them meet their ever-increasing broadband needs, especially in this economic climate. The ALA is on record with the FCC in support of improvements to the E-rate program such as raising the circa-1998 funding cap of \$2.25 billion to meet current needs and identifying ways to simplify the application so that all libraries – big and small – can successfully obtain this critical financial support.¹²

Relevance

Access to broadband alone does not constitute adoption. Several factors come into play – including an individual's comfort with technology, ease of use, and experiencing success at finding, using and creating relevant content. Studies show that it is not having a computer at home, or the

¹¹ *Ibid.*

¹² Submission of the ALA to the FCC Concerning NBP Public Notice #15, November 20, 2009. Available: <http://www.wo.ala.org/districtdispatch/wp-content/uploads/2009/11/E-Rate-comments.pdf>

ability to have one, that motivates an individual to go online.¹³ There needs to be a culture of adoption through which an individual can internalize the personal and societal benefit to going online. The ALA maintains that for those individuals who have not yet adopted broadband at home (non-adopters), for those whose Internet connection is inadequate for some applications, or for those who at one time subscribed to broadband at home but no longer do so (un-adopters), the public library is the logical space where patrons can realize the benefits of going online. In such a setting, patrons can receive technological support at the point-of-need and are more likely to find the information they seek, be it educational content, a job application, federal assistance forms, or an e-mail from a family member serving in the military overseas. In addition, even those with sufficient broadband at home (adopters) turn to the library for additional technology and advanced digital literacy training and access to information resources, such as databases.

In these tough economic times, perhaps the most powerful examples of what motivates individuals to come to the library seeking digital literacy skills has been to search for employment. I would like to like to share with you two real-life stories of how librarians and library staff are helping patron in this way. While these examples are from libraries in the Sacramento area, I can assure you that my colleagues across the country can recount similar stories.

- Library staff at the Rancho Cordova Library were delighted to help a job seeker on April 28 of this year. Staff helped the patron update his resume to reflect a new home address, assisted him with using the Internet to go online and locate the correct job application site and assisted him with uploading his resume to the website. Upon calling the prospective employer to share he had successfully submitted his resume online, he was hired on the spot over the phone and directed to report to work doing electrical construction in the city of Folsom the next day. The

¹³ Pew Internet & American Life Project, *Home Broadband Adoption 2009*, at 3-4 (2009). Available: <http://www.pewinternet.org/~media/Files/Reports/2009/Home-Broadband-Adoption-2009.pdf> and Strover, Sharon, Chapman, Gary, Waters, Jody. "Beyond Community Networking and CTCs: Access, Development, and Public Policy." *Telecommunications Policy* 28, no. 7/8 (2004): 465-85.

patron explained that he was very grateful for the library staff's help and said he could not have completed the steps necessary to obtain the job without it.

- Another story from the branch supervisor of the South Natomas Library – a young female patron came in to the library to thank the library staff profusely. The patron explained that because the library provided access to computers, she used them to create a resume, apply for a job and was happy to announce she had just been hired. She expressed sincere gratitude to the staff for their help and for the library having computers for her to use.

Our library staff shares a sense of great pride when recounting such stories because they are tangible examples of how their work on the front lines every day with patrons has had a direct, positive impact on individuals' lives, not to mention the economic health of our community.

These employment-related examples demonstrate the importance of people recognizing how using the Internet is relevant to them. My years of professional library experience can attest to the fact that individuals are more likely to be motivated to learn, in this case digital literacy skills, if they have what we librarians call "point-of-need." In addition, new adopters also motivate non-adopters by helping demonstrate to their friends and family how going online is relevant to them. One such example, one of my favorites, is that of a 94-year-old patron who brought her 87-year-old sister in to demonstrate how to access a popular photo website to show her pictures of her grand-nephew. Our desire to stay connected with friends and loved ones, and using broadband and the Internet to do so, is a great motivator for non-adopters.

Cost

The benefits of broadband adoption are undeniable. However, the cost of digital exclusion for non-adopters is increasing and even exacerbated as more and more essential services are available only online. Libraries are experiencing first-hand the impact of federal and state programs switching to online applications for services, job applications, and more students taking

online courses. Regarding government services provided online, 81 percent of libraries report they offer assistance with government forms and more than half provide specific help in accessing E-government services. About one quarter of libraries report they staff one specialist in E-government resources.¹⁴

The stakes for not being online in our society only continue to rise and are highlighted in data relevant to non-adopters:¹⁵

- 54 percent of Americans who sent a letter to the editor, contacted a government agency or official, or signed a petition did so online;¹⁶
- The unemployment rate nationwide continues to hover at nearly 10 percent, with April 2010's rate at 9.9 percent;¹⁷ and
- 62 percent of those currently employed use the Internet as part of work.¹⁸

In addition, the National Broadband Plan reports that 35 percent of Americans (roughly 80 million adults) do not use broadband at home. Also, 22 percent of non-adopters cite digital literacy as the main barrier to broadband adoption.

A recent Social Science Research Council (SSRC) study was commissioned by the FCC to analyze the factors shaping low rates of adoption of home broadband services in low-income and other marginalized communities.¹⁹ Study findings identified that of non-adopters, 22 percent were actually un-adopters. The study also found that libraries and other community organizations fill the gap between low home adoption and high community demand and provide a number of other

¹⁴ U.S. Public Libraries and E-Government Services. (2009). Available:

<http://www.ala.org/ala/research/initiatives/plftas/issuesbriefs/IssuesBrief-Egov.pdf>

¹⁵ Submission of the ALA to the FCC Concerning NBP Public Notice #16, Decemer 2, 2010. Available:

<http://www.wo.ala.org/districtdispatch/wp-content/uploads/2009/12/ALA-NBP-Public-Notice-16-12-2-09.pdf>

¹⁶ Pew Internet & American Life Project, Home Broadband Adoption 2009, at 3-4 (2009). Available:

<http://www.pewinternet.org/~media/Files/Reports/2009/Home-Broadband-Adoption-2009.pdf>

¹⁷ Bureau of Labor Statistics <http://www.bls.gov/>

¹⁸ Pew Internet & American Life Project, Home Broadband Adoption 2009, at 3-4 (2009). Available:

<http://www.pewinternet.org/~media/Files/Reports/2009/Home-Broadband-Adoption-2009.pdf>

¹⁹ Broadband Adoption in Low-Income Communities. (2010). Available:

http://webarchive.ssrc.org/pdfs/Broadband_Adoption_v1.1.pdf

critical services, such as training and support. Further, library staff assistance was critical to individuals' gaining the skills that lead to confident, sustainable home broadband adoption.

The SSRC study concludes that librarians are viewed as the trusted intermediaries in our communities. Combined with our expertise in teaching digital literacy skills and providing no-fee access to the Internet, libraries and librarians are perfectly positioned in our communities – whether rural, urban or suburban – to actively help shape and implement local, state and national efforts to improve broadband adoption rates.

Supporting Broadband Adoption

I am pleased to highlight one example of a legislative solution introduced by my congressional representative in California, Congresswoman Matsui. Rep. Matsui introduced a bill last fall, the Broadband Affordability Act of 2009 (H.R. 3646), addressing the very issue of affordability as a barrier to adoption. Her bill would, “establish a broadband lifeline program that enables qualifying low-income customers residing in urban and rural areas to purchase broadband service at reduced charges by reimbursing providers for each such customer served.” Such a bill would complement our work in libraries teaching digital literacy skills by assisting individuals with adopting broadband in the home. The bill would also go a long way to assist un-adopters becoming adopters again.

The National Broadband Plan – Digital Literacy and Looking Ahead

The library community is pleased that the National Broadband Plan recognizes the essential role of libraries in promoting digital literacy and broadband adoption. The ALA supports the recommendations that all Americans develop basic digital literacy skills including launching a National Digital Literacy Program, which creates a Digital Literacy Corps; increasing the capacity

of digital literacy partners with the Institution of Museum and Library Services (IMLS) acting as a lead; and creating an Online Digital Literacy Portal.

The ALA respectfully suggests that this subcommittee introduce and consider legislation that would authorize and support the creation of the Digital Literacy Corps as recommended by the FCC's National Broadband Plan. Libraries are committed to achieving the goals of digital literacy for all Americans; we can really "sink our teeth into" the creation of a Digital Literacy Corps. We could provide invaluable insight and would like to lead the effort collaboratively working with others to help shape and implement such a program. However, the plan rightly identifies that funding will be needed to increase our capacity to carry out the initiative.

Our suggestion comes at a time when libraries, schools and social and support services are experiencing severe cuts in funding. How are we as a nation going to compete in a world in which digital inclusion is essential and being digitally literate is no longer a luxury? The creation of a Digital Literacy Corps would infuse into our communities the much needed resources targeted specifically at developing and improving basic digital literacy skills, thus improving broadband adoption rates. A coordinated initiative at the national level under the NTIA has that potential. Libraries are already well aware of the benefits -- and necessity -- of being able to access online materials. Developing a digitally literate citizenry will produce 21st century learners and result in a workforce prepared for the challenges of the 21st century market place.

Mr. Chairman, Ranking Member Stearns, and Members of the Subcommittee, thank you for the opportunity to testify. Also, on behalf of the American Library Association, my library colleagues and the people we serve, thank you for your leadership and support. Libraries would not be able to provide the services we do today without it.

Mr. BOUCHER. Thank you very much, Ms. Sass. Mr. Hodges.

STATEMENT OF C. HOWIE HODGES, II

Mr. HODGES. Good morning, Chairman Boucher, Ranking Member Stearns, and members of the committee. Our interim president and CEO Mustafa Maran sends his apologies for not being able to join us today as he is in Haiti on a business mission.

I want to first thank you for this opportunity to speak on behalf of One Economy. We are a global nonprofit that leverages the power of information and technology to bring low-income people into the economic mainstream. I also want to take this opportunity to thank the FCC for its bold steps in creating a blueprint for broadband adoption within the United States, the first Nation Broadband Plan. The FCC should also be applauded for one of the most open, transparent and participatory processes in creating this plan.

I also want to applaud Congress and specifically Congressman Markey for their vision and leadership in mandating that the FCC create the National Broadband Plan. This is a critical first step in bridging the digital divide and ensuring inclusion for every person in the United States.

It is a vital step in ensuring the company's economic recovery, stability, and broadband and technology are essential to economic development today. It is really about the self-sufficiency of the person.

For the past 10 years, One Economy has been the leader in bringing broadband and more importantly keeping underserved communities and unserved communities online. Broadband adoption requires a comprehensive approach that mitigates the barriers to broadband adoption and maximizes broadband opportunities. It requires an investment and a commitment from the community, regional and federal government and national as well as local corporations.

At One Economy, we work hand in hand with communities and all of the local stakeholders that I mentioned to ensure that we are taking action to breaking down these broadband technology and adoption barriers in working to bring that into place.

Again, since our inception, we have led the effort, and we have connected over 350,000 families. Through our digital connectors program, we have engaged youth all across the country to be digital ambassadors for technology, and we applaud the FCC for expanding that concept in the national plan.

Let me just talk about barriers to adoption. We heard a little bit about it this morning, but I want to take a deeper dive to talk about some of these barriers. If we are going to increase broadband adoption, we have to really recognize that the barriers, there are many. One is access. The Internet is a powerful 24/7 tool, and it is important for people to have the Internet in the home. At One Economy, we work with affordable housing developers to bring broadband into the homes of some of the country's poorest communities.

Another barrier is affordability. According to the most recent Census Bureau, 76 percent of households earning more than \$50,000 a year are connected. Only 35 of those homes with annual

incomes of less than \$50,000 have adopted broadband in their homes. Through our work, we have given free Internet for two years. Low-income residents are willing to invest in broadband at a reduced rate.

The other barrier is digital literacy. Many people do not know how to access or to find that information they need once they get connected, which segues into another broadband hurdle, which is relevant and easy to navigate online tools. The Pew Research Center, an Internet in American Life Project states that 50 percent of those without in-home broadband believe that Internet is relevant to their daily lives.

We at One Economy have demonstrated the value proposition for those currently unconnected, and the platform that the proposition includes language preference, literacy comprehension, and connection speed, all of which are the principle barriers to adoption. Therefore to get people online, we not only have to provide affordable access, but we also have to provide digital literacy training. And again that is what our youth engagement program, Digital Connectors, is all about.

Finally we must address another major barrier to broadband adoption, and that is ensuring that there is 21st Century technology to underserved communities. With the recent VTOP award, One Economy in partnership with the historic Broadband Opportunity Coalition, which is a historic alliance of the leading civil rights and policy organizations. They are the American Justice Center, the Joint Center for Political and Economic Studies, the League of Latin American Citizens, the Minority Media and Telecommunications Counsel, the NAACP, and the National Council of La Raza, and the Urban League.

I see my time is about to expire, and so in conclusion, the role that the federal government should establish national goals and interim benchmarks setting the north star for a U.S. progress board. We recommend a creation of a five-year plan with clear benchmarks and annual performance assessments. Thank you for giving me the time to make my remarks.

[The prepared statement of Mr. Hodges follows:]

**National Broadband Plan Hearing in House Communications, Technology and Internet Subcommittee
of Energy and Commerce**

Testimony of Howie Hodges, Senior Vice President Government Affairs, One Economy

May 13, 2010

My name is Howie Hodges and I am the Senior Vice President of Government Affairs at One Economy Corporation (www.one-economy.com). Our Interim President and CEO, Moustafa Mourad sends his apologies for not being able to join us today as he is in Haiti on business for One Economy.

I want to first thank you for this opportunity to speak on behalf of One Economy, a global nonprofit that leverages the power of technology and information to bring low-income people into the economic mainstream. I also want to take this opportunity to thank the FCC for its bold steps in creating a blueprint for broadband adoption with the United States' first National Broadband Plan. The FCC should also be applauded for one of the most open, transparent and participatory processes in creating this plan.

I also want to applaud Congress and Congressman Markey for their vision and leadership in mandating that the FCC create the National Broadband Plan. This is a critical first step in bridging the digital divide and ensuring digital inclusion for every person in the United States. It is also a vital step in ensuring this country's economic recovery and stability as broadband and technology are essential to economic development today.

ONE ECONOMY'S HISTORY AND EXPERIENCE

For the past ten years, One Economy has been a leader in bringing, and more importantly, *keeping* underserved communities online. Broadband adoption requires a comprehensive approach that mitigates the barriers to broadband adoption and maximizes broadband opportunities. In the 21st century, broadband must be thought of as a 24/7 interface comprised of the home, school, workplace and community through the added feature of mobility.

Working hand in hand with community and political leaders, major telecommunications and cable companies, Internet Service Providers, and affordable housing developers, One Economy with these key stakeholders creates sustainable information ecosystems that are the foundation of broadband adoption. From bringing high-speed Internet access to affordable housing and infusing communities with digital literacy skills, to creating engaging, localized online content, our goal is to facilitate each step for low-income individuals **to enter into the 21st century economy.**

BARRIERS TO BROADBAND ADOPTION

According to the 2010 National Telecommunications and Information Administration (NTIA) report, 40% of Americans do not use high-speed Internet, and those without high-speed Internet are disproportionately people of color. According to studies, one of the major barriers is access. One Economy works with affordable housing communities to bring high-speed access into the home. To

date, we have brought broadband access to more than 375,000 low-income people in 42 states nationally (urban, rural and tribal communities) and globally.

Another barrier to sustained broadband use is affordability. According to the most recent Census Bureau data, while 76% of households earning more than \$50,000 per year are connected, only 35% of homes with annual income less than \$50,000 have adopted broadband in their homes. Low income families are also less likely to have the money for broadband subscriptions and adequate hardware to connect to the Internet. Working with Internet service providers and cable companies, One Economy provides free multi-year service contracts with the option to renew at a reduced rate. Once residents understand the benefits of the Internet, the majority are willing to make an investment in high-speed Internet. In a low-income housing complex in Atlanta, 65% of the residents who received two years of Internet service opted to pay for services at a reduced rate in the third year.

Digital literacy is yet another barrier to broadband adoption. Many people do not know how to access or find the information that they need once they are connected. Digital Connectors is One Economy's youth technology, leadership and mentoring program that provides high-risk youth, ages 14 to 21 with certified technology training, builds leadership skills and prepares students to enter the 21st century work force. Participants in the Digital Connectors program then give back to their community by training family members and residents on how to use technology effectively. To date, 3,000 at-risk young people from diverse backgrounds have been trained as One Economy Digital Connectors and these youth have contributed more than 77,000 hours of service to their communities, spreading digital literacy as technology ambassadors. Many corporations, including Comcast and AT&T, have sponsored Digital Connectors programs and their staff volunteer at Digital Connectors sites providing mentoring and workforce development training for enrolled youth.

The Pew Research Center's Internet and American Life Project states that 50% of those without in-home broadband believe the Internet is not relevant to their lives. One Economy demonstrates the value proposition for those currently unconnected and the platform of that proposition includes language preference, literacy comprehension, and connection speed, all of which are principal barriers to adoption. Therefore to get people online, we not only have to provide affordable access and digital literacy training, but we also need to connect people to the information that matters most.

One Economy uses a participatory process in creating easy to use online programming, resources and tools that meet the special needs of local communities. We call this online programming **public purpose media**. Our public purpose media network includes the Public Internet Channel (pic.tv), which has engaging and award winning online programming and series designed to help people take action to improve their lives.

One of the features of pic.tv is the **MAKE IT EASY TOOLBOX**, which connects audiences with dynamic, relevant, local resources related to the featured programming. Additionally, we create multi-lingual community web portals referred to as Beehives. The Beehives offer local resources on filing taxes, finding doctors, jobs, and other vital information throughout the United States and globally. To date, One Economy has reached more than 18 million visitors with our multi-lingual web properties. In 2009

alone, low-income households received \$12.5 million in refunds after filing taxes via One Economy's free online resource at the beehive (www.thebeehive.org). Two million Americans applied for unemployment benefits and 1 million people worldwide received help in writing their résumé in Arabic.

BRINGING BROADBAND TO MOST UNDERSERVED COMMUNITIES

Finally we must address another major barrier to broadband adoption, ensuring that we are bringing 21st century technology to underserved communities. Those without high-speed Internet in-home are disproportionately people of color. Fifty-four percent of African Americans and 60% of Latinos do not have in-home broadband. One Economy formed a partnership with the Broadband Opportunity Coalition (BBOC), a historic alliance of the leading civil rights and policy organizations in the United States. These organizations have joined together to overcome barriers to adoption of technology in communities of color. The BBOC members include:

- Asian American Justice Center (AAJC)
- Joint Center for Political & Economic Studies
- League of United Latin American Citizens (LULAC)
- Minority Media & Telecommunications Council
- The National Association of the Advancement of Colored People (NAACP)
- National Council of La Raza (NCLR)
- The National Urban League

The BBOC brings these organizations together for the first time to advance broadband opportunities in unserved and underserved communities. This collation will leverage One Economy's history in implementing broadband adoption to low-income communities to bring the wide and diverse constituents of the BBOC online. Recently, One Economy and the BBOC were selected by the U.S. Department of Commerce, National and Telecommunications and Information Administration (NTIA) for a \$28.5 million grant through the Broadband Technology Opportunities Program (BTOP). This grant was provided through the American Reinvestment and Recovery Act. Additionally, One Economy facilitated an almost one-to-one match through public-private partnerships (\$23 million). The public-private partnerships include AT&T, Comcast, National Association of Broadcasters, Cisco, Google and CTIA—the Wireless Association with members including AT&T, Sprint, T-Mobile, and Verizon.

Additionally, One Economy is in a partnership with an unprecedented group of Internet service providers, computer technology companies and nonprofits to help bring broadband to low-income homes throughout the United States. The Digital Broadband Adoption Coalition would work with the U.S. Department of Housing and Urban Development to improve broadband access, services and technology in approximately 250,000 low-income households nationwide. One Economy filed an application on behalf of the coalition through BTOP on March 15.

DEFINING ADOPTION

One Economy is thankful that the FCC and the United States government recognize the importance in investing in our poorest and most underserved communities: the people who are not aware of the importance of using 21st century technology in entering the economic mainstream.

It is because of our firsthand, on-the-ground experience in breaking down the barriers to broadband adoption, One Economy urges the FCC to fully commit to a comprehensive approach to broadband adoption and measuring broadband adoption and a proactive approach to ensuring its success. Just as there is a comprehensive approach to breaking down the barriers to broadband adoption, there must be a comprehensive approach to defining and measuring adoption. Subscribership is important, however it is equally as important to understand how people are using broadband and the impact that broadband is having on the quality of their lives.

True adoption occurs when people, regardless of income level are using 21st century technology to improve their lives. We can measure its success by looking at Ubiquity, Usage and Utility.

Ubiquity focuses on how many individuals are served by broadband and what is the average cost per person. Usage refers to what people are connecting to online, what type of information they are able to access, and utility refers to the action that users take once they connect to these online resources. Are users building resumes and getting jobs online? Are seniors finding health care information? Are schools providing 24/7 access to education?

Importantly, the home must be at the center of this ecosystem. For a small business owner or a 21st Century employee with school-age children, working from home is no longer merely an option; it is often a necessity, and broadband transforms that necessity into a reality. For a student, parental interaction and involvement is vital to a healthy education. Broadband in schools, community centers, and libraries is also key to this ecosystem and to creating a culture of positive broadband use by enabling the next generation of in-class technology and applications.

Too often, those who can least afford are asked to make the greatest sacrifices. America must make an affirmative and proactive decision to put the poor first in line for broadband when it thinks of creating a 21st Century ecosystem. Emphasizing alternative means of broadband access instead of home usage will have the unintended consequence of depriving low-income Americans of the benefits of broadband where they need it the most – in the home. With the home at the center, important services such as telemedicine, job training, distance learning, and basic education will benefit those most in need.

RECOMMENDATIONS

The first role of the government should be to establish national goals and interim benchmarks, setting the North Star for U.S. progress in broadband. We recommend the creation of a five-year plan with clear benchmarks and annual performance measurements. In addition to addressing speed, affordability, availability, and adoption, these benchmarks should also include demand principles, as outlined above, and national priorities such as:

- Healthcare: Tele-Health, Health record Management, and Aging in Place
- Education: E-Learning, Education in the Classroom, After-School, and in the Home
- Economic Development and Employment: Job Training and Re-Training, Career Coaching, and Job Growth
- Rural Economic Development
- Home-based Access to Broadband
- Digital Literacy

The government should also create a National Emergency Network, a meet you-where-you-are digital framework and delivery system for natural and man-made emergencies. This Network must have an intentional focus on the poor, as they are most often deprived of information and resources that are critical in coping with an emergency, most evident in the events leading up to and in the aftermath of Hurricane Katrina.

The National Plan should fully consider the needs and opinions of unserved and underserved people and regularly gather their feedback through community assessment surveys and field hearings. This requires intentional government action so that individuals and communities left behind in the first wave of broadband deployment receive the attention and services that will catalyze adoption in their communities.

Policies and initiatives should enable individuals and communities to maximize the benefits of the Internet so that everyone can receive a social dividend. Broadband availability, affordability and training are requisites for adoption. In turn, the capacity to use broadband and its tools will enhance civic engagement since so much public dialogue has shifted to online forums. Internet media platforms engage users and provide them with the opportunity to learn about their government, get involved at a local level, and make their community a better place for them and their families to live.

Providing communities with technology does not guarantee success on its own; people must feel a sense of ownership over that technology to maximize the benefits that they receive from it. With this philosophy in mind, One Economy has produced public-purpose media projects around the world with intensive stakeholder engagement process aimed at building consensus in the target communities, developing relationships with local NGO's and other partners, and identifying the key developmental issues that technology solutions should address.

To encourage community participation, we recommend that the FCC continue to take a grassroots, bottom-up assessment that facilitates a participatory process, including community meetings, focus-groups, and household surveys to ensure the maximum participation among a wide cross-section of the United States.

Through community assessment surveys and regular field hearings, the government can assess several questions: What is important to the local community? How will they use technology? What do the people of this community care about? How much are they spending? How can this national plan be

implemented to meet the needs of the local community? At what price point do low-income individuals find sufficient utility in broadband to adopt it in their homes?

As stated earlier, broadband efforts should focus on both removing barriers to adoption and maximizing unique opportunities. Broadband adoption programs should include the following:

- **Affordable broadband connections** – Broadband Internet access must be made available at affordable price points for low-income populations. The price in-and-of-itself is a limiting statistic because it does not accurately reflect a person's ability to pay, while conversely, affordability takes into account a person's socioeconomic standing.
- **Affordable hardware choices** – Computer, mobile phones, and other broadband-related hardware options must also be made available at affordable price points. In some instances, rebates or reductions will bring the price of that hardware into the affordable range. In other instances, the knowledge of affordable options will be sufficient, especially as the price for hardware, with the advent of netbooks and other light-weight options, has decreased. When given the proper information and an affordable option, low-income populations, as is the case with other sectors of the population, will act in their own best interests and save in order to make the hardware purchase.
- **Awareness of broadband options and benefits** – Awareness outreach should be directly connected to increasing utilization of broadband by targeted populations. Non-adopters need to understand the benefits of broadband and the resources that are available. This awareness outreach should include online education and skill development programs provided by local governments, communities and the private sector.
- **Promotion of digital literacy** – Enhancing or developing the necessary and vital digital literacy skills is key for the target population to use broadband technology effectively for beneficial, enriching purposes. Digital literacy programs include: development of technology skills, training in how to obtain and use technology, excelling in academic arenas, and preparation for 21st century work place.
- **Relevant content** – Content should be relevant to specific user populations. For instance, low-income populations may require targeted, local information on education, jobs and entrepreneurship, while Native Americans may require specific content relevant to Indian nations. Included among the many valuable and enjoyable aspects of broadband should be the provision of informative content that serves a public purpose.

The role of a National Broadband Plan should be to incentivize private corporations and non-profit organizations to deliver the 3As (Access, Affordability, Adoption) and develop a regulatory framework that protects capital investment, encourages competition, and rewards innovation.

CONCLUSION

The mission of One Economy is to bring people and information together through the most powerful tool available, the Internet. The impact of this mission has been profound. While One Economy has laid a foundation for broadband adoption, we know firsthand that it will take the commitment and investment of a wide range of community, government and corporate leaders. When One Economy started in a basement 10 years ago, many people – even corporate and political leaders – viewed technology and the Internet as a luxury. Today, it has become evident, with a general consensus amongst the private and public sectors that the United States cannot afford to lag behind the rest of the world in broadband adoption. An investment in broadband adoption, the implementation of a US National Broadband Plan is critical to the economic strength and growth of this country.

Thank you for giving me this time.

Mr. BOUCHER. Thank you, Mr. Hodges. Ms. Taylor.

STATEMENT OF LAURA TAYLOR

Ms. TAYLOR. Chairman Boucher—

Mr. BOUCHER. And, yes, please pull that as close as you can. Thank you.

Ms. TAYLOR. Chairman Boucher, Ranking Members Stearns, and members of the committee, it is an honor to be here. Thank you for the opportunity to discuss broadband adoption within the context of the National Broadband Plan.

Connected Nation is a nonprofit organization that has worked for nearly 10 years on the ground with states, local communities, consumers, and technology providers to build pragmatic public/private partnerships for increased broadband adoption and digital literacy for all Americans, both urban and rural.

Our experience and the data that goes along with it shows that the Nation's demand gap is significantly larger than the supply gap, with supply outstripping demand by between 30 and 35 percentage points. One striking example of the depth of this adoption gap falls in Congressman Gordon's district, Clay County, Tennessee, where 94 percent of residents have broadband available, yet only 38 subscribe. Connected Nation is currently delivering to NTIA broadband data and maps for 13 states and territories. And while identifying and fulfilling those supply-side gaps is essential, our experience in hundreds of American communities across the country has taught us that broadband adoption stimulation is the key to the ultimate success of any effort to fully address the broadband challenge.

Successful adoption programs in Ohio and in Tennessee and in other states demonstrate the need for federal support for public/private partnership programs to increase broadband adoption as recommended by the National Broadband Plan. In our experience, proven programs that drive broadband adoption and stimulate private investment are a highly efficient use of taxpayer funds, and data show that once someone begins to use broadband, they tend to keep it which in turn drives economic stimulus across a community.

Coshocton County, Ohio, in the heart of Appalachia, and in Congressman Space's district, is a prime example of effective leadership working together for sustainable broadband adoption and expansion. In 2008, home broadband adoption in Coshocton County was 32 percent, significantly below the state average. Connect Ohio's local research revealed that the top barriers to broadband adoption in Coshocton County were a lack of interest in broadband and a lack of broadband availability.

To overcome these barriers, county leaders working in partnership with Congressman Space and Connect Ohio developed a model for broadband expansion using public safety towers and a local provider to create jobs and to drive new broadband deployment into a large portion of this county.

In coordination with this effort, the local broadband team is developing a countywide awareness and adoption plan centered on libraries and community colleges. Connect Ohio has now implemented this same model across a number of counties, resulting in

RFPs for broadband expansion in seven communities in the last three months.

A bit further south, excuse me, in Tennessee, recent data show that the public/private efforts of the statewide Connected Tennessee program are paying off. In the past three years, the growth of home broadband adoption in Tennessee has outpaced national growth, as Congresswoman Blackburn mentioned, and targeted populations have seen even greater gains. Minorities in Tennessee have now surpassed Caucasians in terms of Internet use with 84 percent of minority adults in Tennessee reporting that they use the Internet. This well exceeds the FCC reported national average of 78 percent. Connected Tennessee has proven that the key to encouraging adoption is the coordinated development of locally relevant broadband applications that target the specific needs of each community.

This is important because converting nonadopters requires that intervention go well beyond broadband cheerleading. We must demonstrate that a broadband-connected computer provides value that will improve the value of life and provide wealth-creating opportunities.

Perhaps one of the most powerful case studies comes from Congresswoman Blackburn's district in Perry County, Tennessee, where the unemployment rate is one of the highest in the country. Through the Connected Tennessee Computers-For-Kids program and a donation from the AT&T Foundation, Intel-based computers and printers were placed in a summer youth program to create jobs of high school students, students who work to improve web-based tourism and economic development for the city of Lyndon.

After the summer program ended, the computers were transformed into a digital factory creating permanent technology job in Perry County. Broadband adoption in Perry County has grown by 175 percent since 2007.

We look forward to continuing to work with Congress, the federal government, states, and thousands of local champions across the country who understand and share our mission for universal digital inclusion across America. Thank you for the opportunity to testify today, and I look forward to answering any questions that the committee members have.

[The prepared statement of Ms. Taylor follows:]

**PREPARED TESTIMONY OF CONNECTED NATION CHIEF POLICY OFFICER
LAURA TAYLOR
UNITED STATES HOUSE OF REPRESENTATIVES COMMITTEE ON ENERGY AND
COMMERCE,
SUBCOMMITTEE ON COMMUNICATIONS, TECHNOLOGY, AND THE INTERNET
“THE NATIONAL BROADBAND PLAN: PROMOTING BROADBAND ADOPTION”
THURSDAY, MAY 13, 2010**

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Chairman Boucher, Ranking Member Stearns, and Members of the Committee – thank you for the invitation to discuss broadband adoption within the context of the National Broadband Plan (“NBP” and “Plan”) released recently by the FCC.

Connected Nation is a nonprofit organization that works with states, local communities, and technology providers to increase broadband adoption and digital literacy for all Americans – both urban and rural. For nearly 10 years, Connected Nation has worked directly with states, local leaders, consumers, and broadband providers to build public-private partnerships to identify gaps in broadband service; understand broadband and computer adoption barriers in communities; develop grassroots technology planning teams in every county across a state for improved broadband adoption, and provide computers along with technology literacy programs for low-income and disenfranchised people. We work on behalf of American consumers, and we continue to find, time and again, in communities across our nation, that unserved and underserved people can and will overcome broadband challenges when the public and private sectors work together toward meaningful solutions.

II. NEED FOR ADOPTION STIMULATION EFFORTS

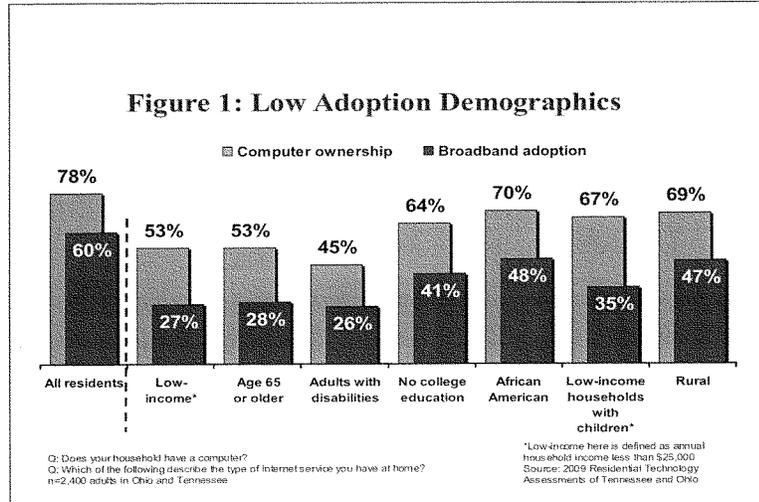
When we examine the state of U.S. broadband through the prism of supply (infrastructure) and demand (adoption), it is clear that the nation’s “demand gap” is significantly larger than the “supply gap.” As such, to the degree that policy makers desire to generate the impacts oft-associated with broadband use, it is imperative that the balance of energy and attention be dedicated to closing the broadband adoption divide.

Connected Nation is currently delivering to NTIA data and broadband inventory maps for 13 states or territories (Alaska, Florida, Illinois, Iowa, Michigan, Minnesota, Nevada, Ohio, Puerto Rico, South Carolina, Tennessee, and Texas). While identifying and filling those supply side gaps is essential, in concurrence with the National Broadband Plan, Connected Nation’s experience in hundreds of American communities has taught us that broadband adoption stimulation is the key to the ultimate success of any effort to fully address the broadband challenge.

Connected Nation’s 2009 research in Ohio and Tennessee estimates household broadband availability¹ between 92% and 95%. However, only 60% of households in these states adopt the service at the home, indicating a significant gap in adoption that must be addressed (see Figure 1). The rates of adoption among certain demographic groups are even lower. These data are consistent with the FCC’s recent report on broadband adoption barriers stating that², among other key points: only 65% of adults are home broadband adopters; 50% of rural American adults adopt broadband, compared to 68% among non-rural American adults; and 6% of Americans use dial-up Internet connections as their main form of home access.

¹ State Broadband Data and Development Grant Program Notice of Funding Availability defines broadband as “Data transmission technology that provides two-way data transmission to and from the Internet with advertised speeds of at least 768 kilobits per second (kbps) downstream and at least 200 kbps upstream to end users...”
http://www.ntia.doc.gov/f/ntia/2009/FR_BroadbandMappingNOFA_090708.pdf

² Broadband Adoption and Use in America: OBI Working Paper Series No. 1, February 2010, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296442A1.pdf



Connected Nation data is consistent with the FCC's recent report on broadband (Broadband Adoption and Use in America: OBI Working Paper Series No. 1, February 2010, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296442A1.pdf) projecting that 78% of adults are Internet users, whether that means broadband, dial-up, access from home or access from someplace other than home. The FCC reports 65% of adults are home broadband adopters. The FCC data demonstrates a rural gap in broadband adoption, reporting that 50% of rural American adults adopt broadband, compared to 68% among non-rural American adults. Further, there is an adoption gap among African-Americans, 59% of whom currently adopt broadband, and among Hispanics, whose adoption rate is only 49%. Only 42% of people with disabilities and 35% of Seniors currently adopt broadband, according to the FCC.

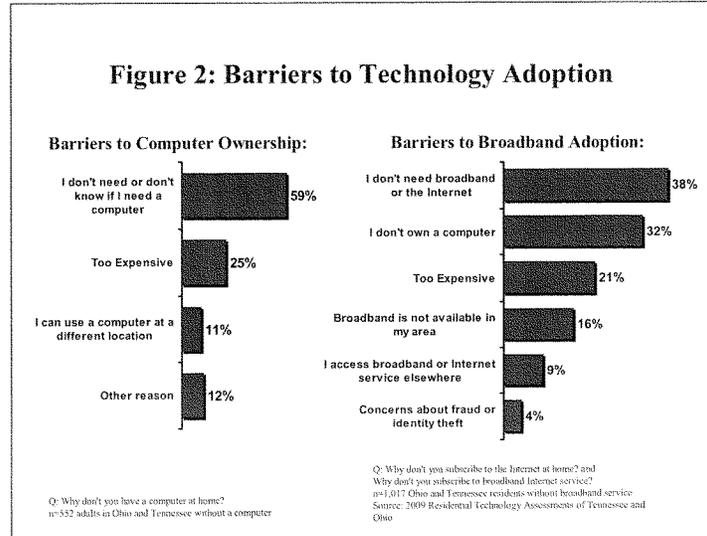
Similarly, the FCC also recently released a report detailing the state of broadband availability in the US, estimating broadband penetration at 95% (at speeds of 4 Mbps download and 1 Mbps upstream).³ In our experience, through public-private partnerships, the market can be harnessed with local consumer research and granular broadband maps to drive targeted broadband deployment to where it does not currently exist. Examining the state of U.S. broadband today, we quickly recognize that supply of broadband outstrips demand by between 30 and 35 percentage points.

³ The Broadband Availability Gap: OBI Technical Paper No.1, April 2010, available at <http://download.broadband.gov/plan/the-broadband-availability-gap-obi-technical-paper-no-1.pdf>

These state level trends are also measured at the local level. In areas where the recession has hit the hardest, broadband adoption is much lower, even in areas where broadband is already universally available. One of the more striking examples falls in Congressman Gordon's district – Clay County, Tennessee, where 94% of residents have broadband available, yet only 38% subscribe (and that already accounts for a significant adoption increase of 15 percentage points since 2007). In communities across our country, Americans are not taking advantage of the benefits of broadband, even when it is available. This does not diminish the need for deploying broadband to areas that are unserved and underserved via stimulus funding and other programs as suggested in the National Broadband Plan. Broadband is a tool, and like any other it must be used to produce results – this is the measure by which we will gauge the true success or failure of our efforts.

Connected Nation's community-driven research demonstrates alarming broadband adoption gaps among at-risk populations. Figure 1 above illustrates computer ownership and broadband adoption rates across various vulnerable demographics in Tennessee and Ohio. Consistent with NBP findings on broadband adoption trends, these results show that while statewide broadband adoption rates in Tennessee and Ohio were estimated at 60% in 2009, only 26% of adults with disabilities, 27% of households earning less than \$25,000 per year, 28% of citizens over the age of 65, 35% of low-income households with children, 41% of adults with no college education, 47% of rural households, and 48% of African-American households subscribe to home broadband service.

The largest barrier to broadband adoption among adults who do not subscribe to broadband service in the home is relevancy, or a lack of awareness about the technology's benefits and associated value. 38% of those with no home broadband connection say "I don't need broadband or the Internet." 32% of respondents claim lack of computer ownership as the barrier to broadband adoption. Likewise, the top barrier to computer ownership is also a perceived lack of need. 59% of those who do not own a computer say, "I don't need a computer," and 25% of those who do not own a computer cite the up-front cost as a barrier. Similarly, 21% of those without a home broadband connection say broadband is too expensive (Figure 2).



Last year, Connected Nation provided to this Committee a policy brief titled “The Call to Connect Minority Americans.” In it we highlighted some of the more severe broadband adoption gaps that exist in the U.S. today, including data showing that in 2007-2008 only 20% of low-income minority households adopt broadband, compared to 50% adoption rates among all Americans.⁴ Similarly, Connected Nation’s research shows a gap in adoption rates across rural (47%) and non-rural households (64%).⁵

These disparities demonstrate the need for federal support for public-private partnership driven efforts to increase broadband adoption. Innovation and demand will drive updates to both hardware and software that will require the support of faster and more robust networks, which means that broadband infrastructure investment is likely to continue increasing without significant intervention. In Connected Nation’s experience, however, programs that can drive broadband adoption represent a highly efficient use of taxpayer funds because data show that once someone begins using broadband, they tend to keep it, thus driving economic impact for their community. An April 2009 survey by the Pew Foundation’s Internet Project reported that people are twice as likely to sacrifice cell-phone service or cable television service than Internet service, with 22% of adults reporting that they had cancelled or cut back cable TV service in the previous 12 months, 22% of adults reporting that they have cancelled or cut back cell-phone

⁴ The Call to Connect Minority Americans: A Connected Nation Policy Brief, 2009, available at http://www.connectednation.org/documents/cn_minority_policybrief_final_031609.pdf

⁵ A Call to Connect Rural America: An American Farm Bureau Federation and Connected Nation Policy Brief, filed at the National Broadband Plan Public Notice # 18, available at http://www.connectednation.org/documents/AFBFCNresponseNBP18EconomicOppFINAL12_2009.pdf

service in the previous 12 months, compared to only 9% of Internet users reporting cancelling or cutting back on broadband.⁶

Connected Nation filed extensive comments, as part of the FCC's proceeding to craft a National Broadband Plan, on the model it has implemented with and on behalf of several states, which has been honed over the past five years to be scalable and replicable.⁷ For a review of this model and the experience in various states, please see "Connected Nation, Inc. Comments On A National Broadband Plan of Our Future, G.N. Docket 09-51 at

http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520220269

Further, Connected Nation has included as an appendix to this testimony a filing that summarizes Connected Nation's filings on several issue areas in the National Broadband Plan, which can also be found at <http://fjallfoss.fcc.gov/ecfs/document/view?id=7020384086>. Further, a Connected Nation filing specifically regarding broadband adoption can be found here:

http://connectednation.org/documents/ConnectedNationresponseNBPNo16BroadbandAdoptionFINAL11_2009.pdf.

III. STIMULATING BROADBAND ADOPTION: WHAT HAS WORKED?

Connected Nation and its programs have been most successful at stimulating broadband adoption by inspiring and empowering communities to lead local initiatives that both reach out to disadvantaged populations and non-adopters AND also spur the creation of local applications, which create a higher level of relevancy that in turn spurs adoption.

We must note for the Committee, however, that these adoption programs do not and are not designed to function alone and should be part of a comprehensive and larger statewide or regional broadband initiative for maximum effectiveness and sustainability. Successful adoption stimulation programs implemented by Connected Nation combine:

- 1) Broadband mapping at a household and business level to identify infrastructure gaps as well as adoption barriers and other demand-side dynamics;
- 2) County level research to identify specific barriers to broadband adoption in each community;
- 3) County level technology planning teams, which will use the broadband maps and local research to develop tactical and community specific business plans for technology expansion;

⁶ (<http://www.pewinternet.org/Press-Releases/2009/Home-broadband-adoption-increases-sharply-in-2009.aspx>)

⁷ Connected Nation's NBP Comments –

Telework- <http://fjallfoss.fcc.gov/ecfs/document/view?id=7020039177>

Disabilities-

<http://connectednation.org/documents/ConnectedNationPolicyBriefTheCalltoConnectAmericanswithDisabilities.pdf>

Libraries- <http://fjallfoss.fcc.gov/ecfs/document/view?id=7020243836>

E-Gov- <http://fjallfoss.fcc.gov/ecfs/document/view?id=7020347166>

Adoption- http://connectednation.org/documents/ConnectedNationresponseNBPNo16BroadbandAdoptionFINAL11_2009.pdf

Healthcare- http://connectednation.org/documents/ConnectedNationresponseNBPNo17Healthcare12_2009.pdf

Rural America- http://connectednation.org/documents/AFBF-CNresponseNBPNo18EconomicOppFINAL12_2009.pdf

USF & IC- <http://connectednation.org/documents/ConnectedNationCommentsNo.19USFCCombined.pdf>

Economy- http://connectednation.org/documents/CNReplyCommentsNBPNo18EconOpportunity12_2009.pdf

Education- http://connectednation.org/documents/CN-NCBCP-BWRresponseNBPNo.15-Education12_2009.pdf

- 4) Computer connectivity programs for low-income and underserved populations; and
- 5) Thematic collaboration and cooperation between the public and private sectors across all program elements.

These five elements are consistent with the Broadband Data Improvement Act's Congressional mandate, which outlines a strategy to effectively address the national broadband challenge⁸. All five programmatic elements of the Broadband Data Improvement Act are critical for success in ultimately increasing broadband adoption and economic prosperity.

Public-private partnerships, such as those that Connected Nation works to foster, have proven themselves as the most effective vehicle for improving broadband availability and adoption. A key to encouraging adoption is to demonstrate how technology can impact the quality of life locally across all relevant sectors of the local economy. Central to this objective is the coordinated development of locally-relevant broadband applications that target the specific needs of each community through civic engagement (e-government), education, healthcare, and economic development. This is important because converting non-adopters requires intervention that goes well beyond "broadband cheerleading" or awareness raising campaigns; we must demonstrate that a broadband-connected computer provides value that will improve quality of life and provide wealth-creating opportunities. Such improvements tend to be local applications: job opportunities, access to school information and education services; access to health services; connection to family; and so on.

The strategy developed by Connected Nation to tackle this problem through grassroots involvement includes the creation of Local Broadband Task Forces. These volunteer teams become the point of engagement between broadband service providers, technology solutions providers, and local communities. Connected Nation empowers these local champions with essential information about the current state of technology in their community and provides pragmatic tactical plans to implement strategies at the local level for local online content and usage expansion. Importantly, each community determines how it can best benefit from broadband and technology expansion, creating a sense of local pride in ownership.

Community leaders come from key sectors, starting with local government and including other sectors such as healthcare, education, and the local private sectors, all of whom volunteer to develop and implement technology promotion plans within their communities. In this manner, the Connected Nation model fosters a sustainable, grassroots coalition of community leaders representing local government, education, healthcare, telecommunications, organized labor representatives, businesses, libraries, agriculture, tourism, and community-based organizations.

Community-level plans include detailed analysis of the best means of deploying new and available technology across each of the aforementioned sectors. The overarching purpose of these Local Broadband Task Forces is to create and aggregate demand for broadband, identify locally relevant applications or solutions, foster cooperation across both private and public sectors to ensure that the community's needs are fully addressed, and create local awareness of the opportunities of broadband.

⁸ For more information regarding the Broadband Data Improve Act mandate see the final Section of this testimony as well as the testimony of Brian Mefford, CEO of Connected Nation at: http://connectednation.com/in_the_news/testimonies_and_presentations/Mefford,%20Brian_Testimony%20and%20Appendix_House%20Sub_04022009.pdf

These teams are the heart of the success of Connected Nation's comprehensive strategy to promote broadband demand and stimulate private investment. Through these teams, communities are engaged in their digital futures and take charge of practical, viable, and sustainable solutions that address the particular barriers to broadband availability and adoption in those communities.

Below, results from Tennessee's local-level research and technology planning are explored in detail, but this type of work is also happening in every county across the state of Ohio.

Coshocton County, Ohio, in the heart of Appalachia, is a prime example of effective leadership working together for sustainable broadband expansion and adoption. In 2008, broadband adoption in Coshocton County, Ohio, was measured at only 32%, falling more than 40% below the state average. Local level research revealed Coshocton County's top barriers to broadband adoption as a lack of interest in broadband and lack of broadband availability. To overcome these barriers, the leaders of Coshocton County, Ohio, working in partnership with Congressman Zack Space and Connect Ohio, developed a model for broadband expansion using public safety towers and a local provider to create jobs and new broadband deployment into a large portion of the county. Meanwhile, the Coshocton County local technology team is developing a county-wide awareness and adoption plan centered on libraries and community colleges.

This Coshocton County effort is a public-private partnership involving many state and local agencies, local providers, and the entire community. This model has been adopted by Connect Ohio and shared across counties in Appalachian Ohio to produce seven community RFPs for broadband expansion in the past three months. These communities are proving that broadband expansion can and does occur when the public and private sectors work together, on the ground, to identify the true broadband challenges that are specific to each community, map the broadband gaps, and demonstrate an effective business case for expansion while simultaneously driving technology growth from the ground up, by addressing local needs and leveraging local resources.

TENNESSEE: A CASE STUDY FOR DRAMATICALLY IMPROVING BROADBAND ADOPTION

Connected Tennessee, a subsidiary of Connected Nation, has been working since 2007 to improve broadband adoption and availability in every Tennessee county. Connected Tennessee has partnered with local leaders in each of the 95 counties in the state to develop and implement county-level broadband strategic plans that address the key barriers measured in each community and develop pragmatic solutions that work. The results of such efforts speak for themselves. Home broadband adoption in Tennessee in 2007 was 43%. In January 2010, that rate increased to 58% accounting for 334,935 new home broadband subscribers in the state.^{9, 10} The Pew Internet and American Life Project estimates national household adoption rates at 47% in 2007 and 60% in 2010, demonstrating that efforts in Tennessee are effectively closing the divide.¹¹

Attesting to the success of the broadband adoption stimulation efforts undertaken across Tennessee, these data demonstrate faster growth in adoption of broadband service in Tennessee

⁹ July 2007 and January 2010 Connected Tennessee® Residential Technology Assessments.

¹⁰ Household estimate based on Census Bureau 2000 estimate of Tennessee household of 2,232,905.

¹¹ Pew Internet and American Life Project (surveys conducted in March 2007 and January 2010).

than in the rest of the country. In the three-year period between 2007 and 2010, the growth rate in broadband adoption in Tennessee was 35% compared to a national growth rate of 28%. Thanks to this faster growth, the lag in adoption rates in the state of Tennessee relative to the national average went from 4 percentage points in 2007 (47%-43%) to a two-point gap (60%-58%).

While Broadband adoption and Internet usage grew statewide in Tennessee between 2007 and 2010, there was notably significant growth among demographic groups who have historically been on the wrong side of the “digital divide.” For example, at the inception of Connected Tennessee, 72% of minority adults reported that they used the Internet either from home or some other location, compared to 78% of Caucasian respondents. By January 2010, though, 84% of minority adults report that they use the Internet, compared to 83% of Caucasians. Similarly, between 2007 and 2010, Tennessee cut the gap in Internet usage between rural and non-rural adults in half, from 6% to 3%. This growth is in part due to Connected Tennessee’s efforts that promoted demand stimulation among every community across the state, with a focus on vulnerable populations and low adopting groups such as minorities and rural residents.

Significantly, “take rates” in Tennessee have also increased markedly during this period. “Take rates” are defined as the percentage of households that have broadband available and also subscribe to broadband service. Measured take rates in Tennessee in 2007 were 50% and increased to 63% by 2010. In other words, while in 2007 only half of those households served chose to subscribe to broadband service, in 2010 close to two-thirds of households that have broadband available subscribe to the service.

This is an important trend, since in a market economy the demand is often the driver of investment. Higher take rates translate into higher demand, which provides a greater incentive for providers to continue providing quality service and expanding the network into unserved areas. This basic economic principle, which is at the core of Connected Nation’s model for broadband stimulation, appears to be working. Analyzing county-level data of broadband availability and adoption rates, Connected Nation has measured a positive significant correlation between county level take rates in 2007 and subsequent expansion of broadband availability at the county level.¹² This suggests that providers have responded to increasing demand by expanding their available service, whether into rural or non-rural counties.

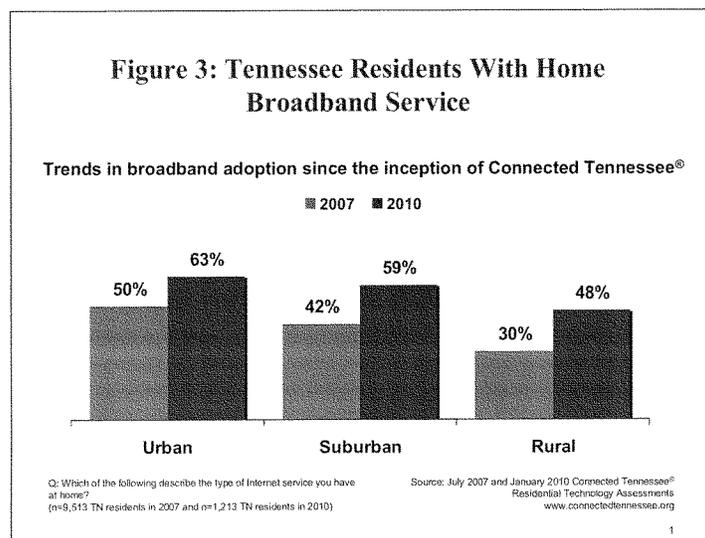
In fact, a significant portion of this growth in broadband availability and adoption is measured in rural areas. As measured in other states and consistent with FCC national findings, rural adoption rates in Tennessee lag behind urban and suburban rates. In 2007 broadband adoption rates in Tennessee among urban, suburban, and rural households was 50%, 42%, and 30%, respectively.¹³ In 2010 adoption rates across these demographics were 63%, 59%, and 48%, respectively.¹⁴ This implies that the rate of growth of broadband adoption during this period was significantly higher in rural areas than in urban areas. Between 2007 and 2010, household broadband adoption grew by 60% in rural areas of Tennessee, compared to 26% among urban households and 40% among suburban households. The strategies implemented across the state

¹² Correlation between 2007 take rates (measured as broadband adoption rates/broadband availability rates) and subsequent availability growth (increases in broadband availability between 2007 and 2010) is $r=.32972$.

¹³ 2007 Connected Tennessee® Residential Technology Assessment.

¹⁴ 2010 Connected Tennessee® Residential Technology Assessment.

of Tennessee to stimulate broadband adoption are proving particularly effective among rural communities.



Tennessee efforts to increase adoption rates among minorities in the state are also demonstrating results. In 2007 estimates for household broadband adoption among Caucasians, African Americans, and other minorities was 46%, 37%, and 37%, respectively. In 2010 home adoption rates among these same demographic groups was 61%, 47%, and 53%.¹⁵

These community programs are successful because they build sustainable, grassroots support for broadband adoption and deployment, and because they incorporate the knowledge, needs, and expertise of each local community and local government representatives. Broadband providers will invest in networks in areas where they know that demand for their service is present and sustainable — and the Local Broadband Task Forces, built at their core with state and local government assistance, provide that demand stimulation and stability.

Specific examples of the successes of the Local Broadband Task Force process include:

1. Bledsoe County, TN, where local leadership, led by Connected Tennessee, is working to expand technology outreach at the local library and offering computer training programs and experienced adoption growth rates of 400% (10% in 2007 to 41% in 2010).
2. Sequatchie County, TN, whose local leaders and the local Chamber of Commerce have actively worked with Connected Tennessee to increase broadband adoption rates by over 185%, increasing from 13% in 2007 to 37% in 2010.

¹⁵ 2007 and 2010 Connected Tennessee® Residential Technology Assessment.

3. Van Buren County, TN, whose adoption rate was only 16% in 2007. The local media aggressively supported Connected Tennessee's broadband stimulation process and adoption today stands at 42%, experiencing a growth rate of 163%.
4. Bedford County, TN, where there is strong community engagement in the Connected Tennessee local broadband task force team, adoption rates grew by 115% from 26% in 2007 to 56% 2010.
5. Warren County, TN, where the local Chamber of Commerce and library conducted IT training classes for the public and for business, emphasizing growth opportunities via e-commerce, and which experienced a doubling of home adoption rates between 2007 and 2010 (from 29% to 63%).
6. Anderson County, TN, a technology-savvy county that supports progress in education and e-government to promote the green benefits afforded by the technology, and where recreation and tourism sectors work with Connected Tennessee to increase broadband availability at river locations to support growth of water competitive sports. The county experienced adoption growth rates of 91% between 2007 (33%) and 2010 (63%).
7. Grainger County, TN, where community champions have been actively working with broadband providers to help drive improvements to broadband infrastructure and has partnered with Morgan County on a distance learning grant program, and where broadband adoption increased by 92% from 26% in 2007 to 50% in 2010.
8. Putnam County, TN, the home of Tennessee Technological University, where the Connected Tennessee public-private partnership drew significant engagement by local broadband providers and where broadband adoption rates grew by 88% from 32% in 2007 to 60% in 2010.
9. Marshall County, TN, whose leaders used the Connected Tennessee eCS process to assist in their economic development efforts, and where adoption rates increased by 87% from 31% in 2007 to 58% in 2010.
10. Rutherford County, TN, home of Middle Tennessee State University, which in 2007 experienced broadband adoption across 50% of households, and today boasts 73% adoption rate, above the national average.
11. Overton County, TN, where the local broadband task forces have been highly active, enjoyed strong community leadership and an engaged local broadband provider, and where the adoption rate increased by 81%, from 26% to 47% between 2007 and 2010.
12. Weakley County, TN, is home to E.T. Reavis and Son, established in 1890, which thanks to the successful business plan based on online sales, has grown its business beyond the local customer base of 2,800 to a become a business still located on the town square that brings in 90% of its revenue from online sales across the nation. Weakley County had a relatively high household broadband adoption rate of 51% in 2007. In 2010 adoption rates are above the national average at 68%.

Finally, Haywood County, TN, merits special consideration. Adoption rates in Haywood increased by 100% between 2007 and 2010, going from 17% to 34%. Connected Tennessee has actively worked with local elected officials and leaders to expand broadband resources. In

Stanton, Connected Tennessee's Computers 4 Kids® program last year donated 20 new Intel-based computers to the Saint John Baptist Church's After-School Program in Haywood County, a program that is serving as a hub of connectivity to a community with limited access to broadband technology. Currently, the program has 31 children signed up to participate, but hopes to eventually be able to open its doors to at least 200 – 300 children. The program also plans to ultimately welcome the entire community to use the computers at designated hours throughout the week.

State Representative Jonny Shaw serves as the pastor of Saint John Church and remarked that the impact of the computers on his rural county is especially significant since Saint John is currently one of the only locations in Stanton where the citizens can access broadband Internet. The church is utilizing technology in various ways to expand its mission and foster economic development throughout the rural community of Stanton. They currently have a website in production and are also equipped with surveillance cameras that utilize a broadband connection to allow Pastor Shaw to view all angles of the church from the comforts of his home. Pastor Shaw hopes to continue to build upon this foundation to keep his church and community on the forefront of technology.

This church-based public computing center is one of its kind in this rural community of Stanton and today provides essential high-speed access resources as well as educational and training programs to this otherwise unconnected community.

The Committee can see this vibrant example via a testimonial by Pastor and Representative Shaw and other members of his rural community of Stanton, TN, who have leveraged state, local, and donated private resources to work with Connected Tennessee's Computers 4 Kids® program to expand a public computing center catering to children and the elderly in their community, available at this link:
http://www.connectedtn.org/multimedia/one_community_at_a_time/.

Each of these examples of the success of the Connected Nation Local Broadband Task Force process shares common trends of local engagement and communities driving their technology solutions. Equally as important, these county-level stories illustrate the importance of local consumer research in a successful broadband initiative. For each of the counties above, Connected Nation and Connected Tennessee have gathered county-specific research on the barriers to broadband adoption, broadband availability, reasons for broadband adoption, and other data necessary to craft the best broadband strategy for each community.

This granular and regularly updated research allows each local leadership team to understand better the technology benchmarks in their community, and it also allows for granular measurement of what works, what doesn't, what progress has been made, and how far we still need to go.

COMPUTER DISTRIBUTION PROGRAMS AMONG LOW INCOME COMMUNITIES IS AN ESSENTIAL TOOL TO OVERCOME KEY BARRIERS TO ADOPTION

According to 2009 research conducted by Connect Ohio, 52% of households who do not have access to Internet services at home (broadband or dialup) reported lack of a computer as the primary reason for the lack of connectivity.¹⁶ Research conducted in Tennessee and Kentucky shows similar results.¹⁷ This data is supported by academic research that shows that education and income inequality are important factors that explain low broadband adoption rates.¹⁸

Faced with this challenge to technology and broadband adoption, Connected Nation works with state and local leaders to recognize that a critical part of an effective program to address the digital divide challenge had to focus on computer distributions for the poor and disconnected.

Since its origins, Connected Nation has had the pleasure to help deliver on behalf of state government and private donors thousands of computers to low income kids and centers that serve them through our No Child Left Offline®/Every Citizen Online®/Computers 4 Kids® digital inclusion programs. These programs bring together public and private partners to promote digital inclusion by placing computers in the hands of disadvantaged children and their families. The private sector promotes the program through generous donations. In fact, the vast majority of Connected Nation's funding support from the private sector is funneled to these philanthropic programs. State government brings to the program financial support as well as the resources of multiple state agencies to help implement the program and identify and locate candidates to receive computers.

Computers 4 Kids® has already delivered more than 3,200 Internet-ready computers to disadvantaged individuals and families across the state of Kentucky, and the program is also operating in Ohio. A similar program is tackling this challenge in Tennessee where, in partnership with the state's Department of Human Services and the Department of Children's Services, Connected Tennessee and Computers 4 Kids® is scheduled to deliver 3,000 computers to underprivileged children and their families in the next three years and has delivered over 2,100 computers since 2007. Since 2006, Connected Nation has distributed nearly 6,000 computers to children and community centers in need.¹⁹

One of the more powerful success stories from this program comes from Congresswoman Blackburn's district in Perry County, TN, where the unemployment rate is one of the highest in the country. Through the Connected Tennessee Computers 4 Kids® program and a donation from the ATT Foundation, 20 computers and six printers were placed in a summer youth program, creating jobs for high school students who gained experience helping improve web-

¹⁶ Connect Ohio 2009 Residential Technology Assessment. Available at: http://connectoh.org/documents/Res_OH_06192009_FINAL.pdf

¹⁷ ConnectKentucky, 2007 Kentucky Technology Trends: Results of the 2007 ConnectKentucky Residential Survey. Available at http://www.connectkentucky.org/documents/2007KentuckyTechnologyTrends_residential_3-28-08_001.pdf

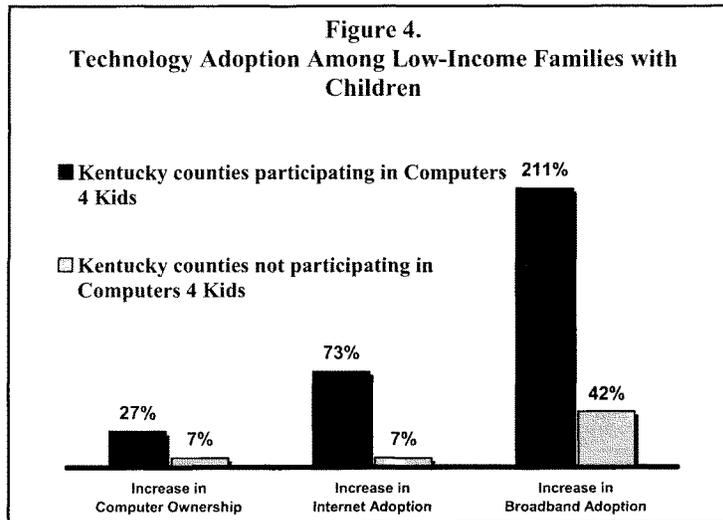
¹⁸ See G. S. Ford, T. M. Koutsky and L. J. Spiwak, The Demographic and Economic Drivers of Broadband Adoption in the United States, PHOENIX CENTER POLICY PAPER No. 31 (Nov. 2007). According to the Phoenix Center, "broadband adoption is intimately tied to demand-side factors like income inequality and education, and policies directed at those factors may be more cost effective than supply-side subsidies and regulation." Id. at 5.

¹⁹ <http://www.youtube.com/watch?v=138Pa6hNUk>

based tourism and economic development for the city of Linden. After this summer program ended, the computers were transformed into a digital factory, creating permanent technology jobs for young adults in Perry County.

Computers 4 Kids® and its sister programs have had a dramatic impact on the lives of thousands of families, and these distributions have a positive effect on broadband adoption rates that goes beyond the recipient households. According to the ConnectKentucky 2005 and 2007 Residential Technology Assessments, computer ownership among low-income families in Computers 4 Kids® counties grew nearly four times faster over the last two years than among low-income families in other counties. During the same two-year period, Internet adoption among low-income families in Computers 4 Kids® counties grew more than ten times faster relative to these families in other areas of the state. Broadband adoption among low-income families grew five times faster in counties that received computers through Computers 4 Kids®.

Indeed, in the last two years, home broadband adoption among low-income families has grown by over 200% in these participating counties (Figure 4).²⁰



It is quite clear that programs like Computers 4 Kids® have a substantial impact upon broadband adoption rates. And adoption rates are the key to ensuring that communities continue to receive next-generation broadband investment

²⁰ Counties participating in Computers 4 Kids include the Kentucky counties of Johnson, Clay, Wolfe, McCreary, Owsley, Carter, Lawrence, and Morgan. Low-income is defined as annual household income below \$25,000. See *2007 Kentucky Technology Trends*, *supra* n. 10, at 27.

IV. THE NATIONAL BROADBAND PLAN MAKES SEVERAL GOOD RECOMMENDATIONS

In the National Broadband Plan, the FCC makes several recommendations that Connected Nation believes should be supported by both the Legislative and Executive Branches. Connected Nation applauds the FCC's emphasis on state and local efforts to increase broadband adoption. The FCC states in the NBP that keeping people online through sustainable efforts that help end-users derive value from the Internet "in his or her own way" are critical and Connected Nation wholeheartedly agrees. In our experience, the "value proposition" of broadband is found from the creation of locally-relevant content and applications that end-users can use to improve their quality of life.

As stated earlier, outreach and awareness campaigns are important elements of Connected Nation programs, but these functions are designed to go further than highlight and leverage the actions of local volunteer leadership teams. They do these things but also go beyond general broadband cheerleading to design meaningful local interventions that meet the threshold for end user relevance and value that demonstrate not only how the technology will have a positive impact on individuals but also how broadband's relevance can help users save and make money.

The FCC recommends that the NTIA "explore the potential for public-private partnerships to improve broadband adoption by working with other federal agencies." Connected Nation applauds the FCC's recognition in the Plan of the fact that "tribal, state and local governments are often in the best position to identify barriers and circumstances unique to their communities," and agrees with the FCC that "local leaders can play an important role by building on existing social programs and partnering with community organizations that non-adopters already rely on as trusted sources of information. They can tailor adoption efforts to address language barriers, lack of credit, low basic literacy levels and other issues faced by non-adopters." These principles are the foundation of Connected Nation's demand aggregation philosophy and have a proven record of success.

By recognizing "that there is no 'one-size-fits-all' answer," and that "local action, coupled with federal support, ... can connect people with technology to improve their lives," the FCC reaffirms recommendations made to this Committee by Connected Nation while Congress was crafting the legislation that became the Broadband Data Improvement Act (BDIA).

The FCC recommends, and Connected Nation agrees, that we:

- "Focus on the barriers to adoption. Successful efforts address multiple barriers to adoption simultaneously. They combine financial support with applications and training that make broadband connectivity more relevant for non-adopters. Relevance, in turn, boosts the technology's perceived value and affordability."
- "Focus on broadband in the home. While libraries and other public places are important points of free access that help people use online applications, home access is critical to maximizing utilization. Broadband home access can also help rural, low-income, minority and other communities overcome other persistent socioeconomic or geographic disparities." The importance of this point, especially for rural America and rural broadband, cannot be overstated. According to our 2009 Ohio residential broadband survey, fully 75% of broadband users access the Internet from home.²¹

²¹ Connect Ohio 2009 Residential Technology Assessment at: http://connectoh.org/_documents/Res_OH_06192009_FINAL.pdf

- “Promote connectivity across an entire community. New users adopt broadband to stay in touch with others. In addition, people are more likely to adopt and use broadband if the people they care about are online and if they see how broadband can improve their quality of life in key areas such as education, health care and employment.”
- “Promote broadband utilization. Promoting access and adoption are necessary steps, but utilization is the goal. People must be able to use broadband to efficiently find information or use applications to improve their lives. A connection is just the beginning.”
- “Plan for changes in technology. Adoption programs have to evolve with technology. Both the trainers and the equipment they use to serve non-adopters must employ up-to-date technology and applications.”
- “*Measure and adjust.* Measurement and evaluation are critical to success because they allow programs to make adjustments on an ongoing basis.” Connected Nation already does this through regular and recurring research and the local level and regularly updated broadband maps.
- “Form partnerships across stakeholder groups. Promoting adoption requires federal commitment, state, local and Tribal action, industry partnership and support from nonprofits and philanthropic organizations. Sustainable broadband adoption and use will require efforts from all partners.” This recommendation embodies the state and local grassroots team aspect of Connected Nation programs.

The FCC recommends, and Connected Nation agrees, that “the federal government should support the public-private partnership model to implement ... programs at the local level; private, non-profit and community-based entities should work together to draw people online, particularly those that under adopt.”

Connected Nation would particularly urge the NTIA, and Congress, to support the NBP recommendation 9.4 and explore “the potential for public-private partnerships to improve broadband adoption by working with other federal agencies. NTIA should consider supporting public-private partnerships of hardware manufacturers, software companies, broadband service providers and digital literacy training partners to improve broadband adoption and utilization by working with federal agencies already serving non-adopting communities. Congress should consider providing additional public funds, or NTIA should use existing funds to support these partnerships.” Connected Nation is proud to be partnering with One Economy, Intel, Microsoft, AT&T, BendBroadband, Bresnan Communications, Bright House Networks, Cablevision Systems Corp., Charter Communications, Comcast, Cox Communications, Eagle Communications, Inc., Dell, Mediacom Communications Corp., Midcontinent Communications, the National Cable & Telecommunications Association (NCTA), Sjoberg’s Cable TV, Suddenlink Communications, Time Warner Cable, US Cable Group, and USTelecom, to create the Digital Adoption Coalition which represents a direct response to this FCC recommendation.

Finally, Connected Nation strongly supports section 9.6 of the National Broadband Plan, which focuses on expanding federal support for regional broadband capacity building, program evaluation and sharing of best practices.

The National Broadband Plan recognizes that not all states are able to consistently fund state-level broadband programs, such as those in Ohio and Tennessee, and that federal support for state and local initiatives is recommended in Recommendation 9.11.

The Plan states that the Broadband Data Improvement Act recognized the value of these initiatives, and recommends that NTIA “provide additional funding to support ongoing grants aligned with Section 106 of BDIA. The Recovery Act made \$350 million available to NTIA to fund the state data-gathering and development goals set in BDIA. NTIA has currently assigned only a portion of these funds; the remainder should be obligated to state-level organizations in 2010.” Connected Nation strongly agrees, both to fully fund the five-year mapping activities already underway, of which NTIA has only funded through Year Two, and to expand these grants to their full scope of activities. The NBP states, “Each of the following is consistent with the uses outlined by BDIA. These state-level organizations should:

- Complete strategic planning based on gap analysis of broadband availability, adoption and the existing capacity of local support organizations.
- Establish programs to improve computer ownership and Internet access in unserved and underserved areas.
- Provide technical expertise to local institutions, non-profits and governments to develop deployment and adoption related initiatives.
- Work with the private sector to create public-private partnerships to access infrastructure, technical expertise, training and program funding.
- Accelerate broadband application usage in key areas like government, education and health care.
- Gather state and local benchmark data to determine program success over time.
- Coordinate and enhance volunteer and non-profit programs that provide digital literacy and small business broadband training.”

In short, after several hearings and much work and deliberation, Congress outlined the most effective method to overcome broadband adoption barriers in the Broadband Data Improvement Act. In addition to bipartisan and widespread support on Capitol Hill, the Broadband Data Improvement Act attracted support from a diverse group of organizations, nonprofits, and companies.

Because the NTIA has yet to define how to use the remainder of funds available for BDIA implementation, it is important to remember, at this juncture, that mapping is just one piece of the larger grant program within the Broadband Data Improvement Act.

The clear intent of Congress, in authorizing the State Broadband Data and Development Grant Program, Sec. 106 of P.L. 110-385 and then providing up to \$350 million for that program in the American Recovery and Reinvestment Act, was to have this grant program work in concert with the other programs authorized and funded as the Broadband Technology Opportunities Program. The statutory language of the BDIA included many complementary activities. Broadband mapping was to be a starting point of support for a statewide and grassroots demand-stimulation program, with local consumer research on technology trends designed to support efforts to drive deployment and increase adoption. Finally, digital inclusion programs to provide computers to

disadvantaged populations were also included as part of the State Broadband Data and Development Grant program in order to tackle one of the documented greatest barriers to adoption: lack of a computer in the home.

Furthermore, in the Broadband Data Improvement Act, Congress states:

“The Federal Government should also recognize and encourage complementary State efforts to improve the quality and usefulness of broadband data and should encourage and support the partnership of the public and private sectors in the continued growth of broadband services and information technology for the residents and businesses of the Nation.”²²

Taken together, the BDIA and the ARRA contained a comprehensive broadband policy laid out by the U.S. Congress that will do much to improve broadband deployment and adoption in the United States.

The NTIA has worked swiftly to ensure that it is positioned to deliver a national broadband inventory map to Congress by February 2011, and is also providing grants from the Broadband Technology Opportunities Program (BTOP) for infrastructure, sustainable adoption programs, and to expand the capacity of public computing centers. Funding and authorization for BTOP, however, is mandated by the ARRA to cease by the end of Fiscal Year 2010. Authorization will still exist for the State Broadband Data and Development Grant Program, and the Federal government should use the Broadband Data Improvement Act to ensure that state government initiatives, including those funded under the BTOP sustainable adoption program, can continue or adapt to become comprehensive and statewide efforts.

This role of enabling initiatives that are driven by the public sector at the state and local government level, with information aggregated upward, is consistent with National Broadband Plan recommendations for stimulation of broadband adoption and will allow the Federal government the greatest efficiency from its allocated resources. The State Broadband Data and Development Grant Program can (and was intended to) be utilized well beyond the current Fiscal Year to fund statewide efforts that map broadband inventory, aggregate demand and grow adoption rates, drive broadband deployment into unserved and underserved areas, and conduct extensive consumer research concerning the use and demand for broadband service and related information technology services.²³

V. CONCLUSION

Through the BDIA, the ARRA and the National Broadband Plan, Congress and the FCC have laid out a clear path to address the challenge and opportunity that America faces today. Today there is a complex intersection of broadband policy issues under revision. It is important to keep an eye on the key challenges that we face as a nation.

Filling in the broadband gaps is essential to ensure that *all* Americans can participate in the twenty-first century economy. These efforts are essential to ensure that rural America remains a vibrant part of our economy and society.

²² P.L. 110-385, Sec. 102 (4)

²³ See P.L. 110-385, Section 106.

The job, however, is not complete unless we ensure that all Americans who have access to this technology are in fact using it in ever more productive ways to improve their lives and livelihoods. Congress recognized the need for federal enabling of efforts to stimulate broadband adoption across vulnerable populations that remain disconnected. The FCC, through the National Broadband Plan, has examined the challenge and proposed a series of recommendations to address them. It is imperative that as a nation we focus on programs that have a proven record of success working with local communities to identify and address the challenges that each community is experiencing.

As we embark on this extensive and complex review of our national broadband policy, addressing such complex issues as Universal Service reform, Intercarrier compensation, or net neutrality, it is important that we do not lose sight of the most important challenge – and opportunity – that we face. A debate over legal frameworks about network management means little to millions of Americans who don't have access to high-speed Internet services or who, while having access, are not able to use this technology because they are unaware of its benefits, are digitally illiterate, do not own the equipment needed to access it, or cannot afford the service. At Connected Nation, we have had the privilege to see firsthand the positive outcomes of collaboration and public-private partnerships in this arena, and never cease to be amazed at what is possible when a community and individuals have the desire and opportunity to connect and access transformative broadband technology.

Through our experience, Connected Nation has found that nonprofit organizations such as our own have an important role to play working with both public and private sector stakeholders to foster and facilitate localized strategies for broadband expansion. We look forward to continue working with Congress, the Federal government, states, and thousands of local champions who understand and share our mission for universal digital inclusion across America.

Thank you again, Chairman Boucher, Ranking Member Stearns, and Members of the Subcommittee for this opportunity to testify today, and I would be pleased to respond to any questions you might have.



Consumer Insights into America's Broadband Challenge and Opportunity:

A Policy Brief by
Connected Nation

Winter 2010

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I. Introduction

During the comment cycle opened by the FCC in connection with the National Broadband Plan proceeding ("NBP"), Connected Nation filed 10 comments offering insights stemming from our archive of state-specific survey research on consumer trends in broadband adoption¹. These comments address a myriad of issues regarding what drives and prevents adoption of broadband services across different demographic groups, including people with disabilities, minorities, families with children, library patrons, and among rural residents and businesses. Connected Nation's comments are based on our years of experience working with communities and states to address the challenges of expanding broadband to all citizens, particularly those who are currently disconnected. Connected Nation is a not-for-profit organization working to build public-private partnerships to ensure that broadband access is available to and increasingly used by all Americans.

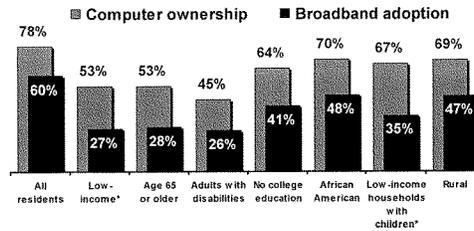
Our work starts with business and residential survey research to help us understand which residents and businesses are adopting broadband services, which are not, and how this technology is already affecting people's lives and businesses. Our goal in these filings is to share key findings of this research with policy makers and others in the hope that this rich data will help inform our national broadband policy. In this briefing we present an overview of some of the key insights that stem from these filings.

A. Who is Lagging Behind Digital Adoption and Why?

Connected Nation's data collected across several states offers a general understanding of who is adopting broadband technologies and who is not, and what are the key barriers to adoption experienced by this latter group. Consistent with other data sources on broadband adoption trends, Connected Nation's 2009 data from the states of Ohio and Tennessee systematically reflects that the digital divide is particularly problematic among certain demographic groups. While state-wide broadband adoption rates in Tennessee and Ohio were estimated at 60% in 2009, only 26% of adults with disabilities, 27% of households earning less than \$25,000 per year, 28% of citizens over the age of 65, 35% of low-income households with children, 41% of adults with no college education, 47% of rural households, and 48% of African-American households subscribe to home broadband service (Figure 1).²

¹Connected Nation's NBP Comments –
 Telework- <http://fjallfoss.fcc.gov/ecls/document/view?id=7020039177>
 Disabilities- http://www.connectednation.org/_documents/ConnectedNationPolicyBrief-TheCalltoConnectAmericanswithDisabilities.pdf
 Libraries- <http://fjallfoss.fcc.gov/ecls/document/view?id=7020243636>
 E-Gov- <http://fjallfoss.fcc.gov/ecls/document/view?id=7020347166>
 Adoption- http://connectednation.org/_documents/ConnectedNationresponseNBPNo.16BroadbandAdoptionFINAL11_2009.pdf
 Healthcare- http://connectednation.org/_documents/ConnectedNationresponseNBPNo.17Healthcare12_2009.pdf
 Rural America- http://connectednation.org/_documents/AFBF-CNresponseNBPNo.18EconomicOppFINAL12_2009.pdf
 USF & IC- http://connectednation.org/_documents/ConnectedNationCommentsNo.19USFCombined.pdf
 Economy- http://connectednation.org/_documents/CNReplyCommentsNBPNo.18EconOpportunity12_2009.pdf
 Education- http://connectednation.org/_documents/CN-NCBCP-BWRresponseNBPNo.15-Education12_2009.pdf
²*Connected Nation, 2009 Residential Technology Assessments of Tennessee and Ohio.*

Figure 1: Low Adoption Demographics



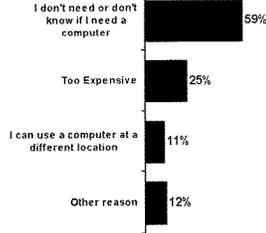
Q: Does your household have a computer?
 Q: Which of the following describe the type of Internet service you have at home?
 n=2,400 adults in Ohio and Tennessee

*Low-income here is defined as annual household income less than \$25,000
 Source: 2009 Residential Technology Assessments of Tennessee and Ohio

The largest barrier to broadband adoption among adults who do not subscribe to broadband service in the home is a lack of awareness about the technology's benefits. 38% of those with no home broadband connection say "I don't need broadband or the Internet." 32% of respondents claim lack of computer ownership as the barrier to broadband adoption. Likewise, the top barrier to computer ownership is also a perceived lack of need. 59% of those who do not own a computer say, "I don't need a computer," and 25% of those who do not own a computer cite the up-front cost as a barrier. Similarly, 21% of those without a home broadband connection say broadband is too expensive (Figure 2).³

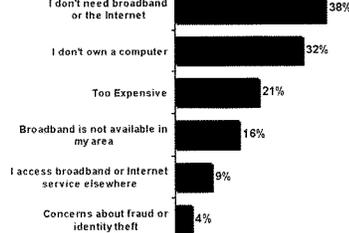
Figure 2: Barriers to Technology

Barriers to Computer Ownership:



Q: Why don't you have a computer at home?
 n=552 adults in Ohio and Tennessee without a computer

Barriers to Broadband Adoption:



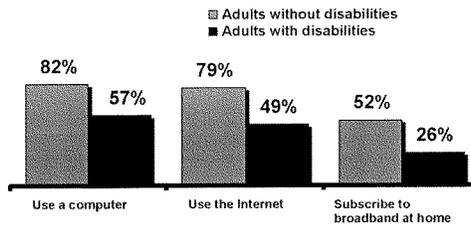
Q: Why don't you subscribe to the Internet at home? and Why don't you subscribe to broadband Internet service?

Barriers to adoption of broadband service across different demographic groups follow a similar pattern. Across several filings contributing to the NBP debate, Connected Nation was able to drill down further into patterns of adoption and use by these demographic groups.

B. Broadband Technology Among Americans with Disabilities

Connected Nation's October 5, 2009, filing regarding broadband as it affects people with disabilities indicates that adults with disabilities are falling behind the general population in the adoption of broadband technology. Despite the opportunities that a computer and broadband Internet access can provide adults with disabilities, only 57% of respondents with disabilities in Kentucky, Tennessee, and Ohio use a computer compared to 82% for the overall population, and only 26% subscribe to broadband compared to a rate of 52% across the three states under research (Figure 3).⁴

Figure 3: Technology Adoption



Source: 2007-2008 Residential Technology Assessments of KY, TN, and OH
n=2,810 KY, TN, and OH adults without disabilities and n=195 KY, TN, and OH adults with disabilities

Extrapolating this pattern to the national population, this translates into 23.4 million Americans with disabilities who lack broadband service at the home. Lack of computer ownership and perceived value of the service are the key barriers to broadband adoption for this demographic, suggesting that this group would be most impacted by policies aimed to address these demand-side barriers to broadband adoption.⁵

Broadband is an important tool that is starting to revolutionize healthcare delivery and, as such, broadband presents a particular opportunity to affect the lives and livelihood of people with disabilities. In 2009, 72% of broadband subscribers who obtain healthcare information online in Ohio and Tennessee claim that it has empowered them to be healthier (Figure 4). Forty-seven percent of broadband subscribers who obtain healthcare information online report that obtaining this information online has prevented trips to the doctor, a hospital, or a medical center (Figure 5).⁶ Such healthcare-related benefits

⁴Connected Nation's NBP Comments – Adults with Disabilities, page 1.

⁵Ibid.

⁶Connected Nation's NBP Comments – Healthcare.

stemming from broadband are particularly relevant to people with disabilities. Policies that specifically target the millions of Americans with disabilities that remain disconnected should be a key outcome of our National Broadband Policy.

Figure 4: “Obtaining healthcare information online has empowered me to be healthier”

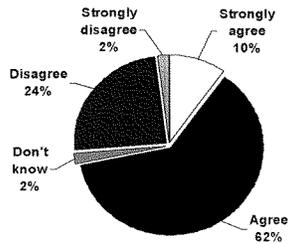
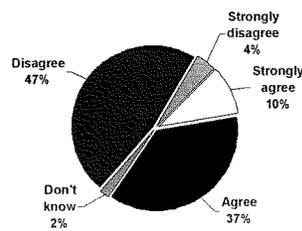


Figure 5: “Obtaining healthcare information online has prevented trips to my healthcare provider”



n=191 respondents with broadband service at home who obtain healthcare information online or communicate with healthcare providers

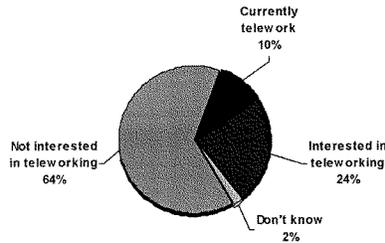
C. Telework in America

Broadband is critical infrastructure, necessary to maintain economic stability and encourage economic growth. Several studies have shown that with a solid broadband foundation, America's opportunities for economic growth will quickly improve. Connected Nation's October 22, 2009, filing demonstrates that as the United States becomes ever more reliant on broadband, a key economic opportunity for our nation is emerging – Americans working from home through a broadband connection, commonly known as teleworking.

Residential surveys conducted by Connected Nation in Kentucky, Tennessee, and Ohio from 2007- 2008 show that while 10% of employed adults currently telework, an additional 24% of employed adults who do not currently telework would be interested in doing so if they were empowered to telework (Figure 6).⁷ Nationally, this would equate to nearly 35 million potential teleworkers, for a total of 49.5 million or 34% of the employed adult population.⁸

⁷Connected Nation's NBP Comments – Telework, page 9.
⁸Ibid.

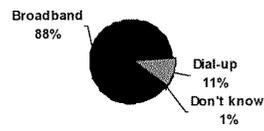
Figure 6: Interest in Teleworking Among Employed Adults



Based on employed civilian labor force of 145.5 million, reported by the US Bureau of Labor Statistics for Q3, 2008 (www.bls.gov)

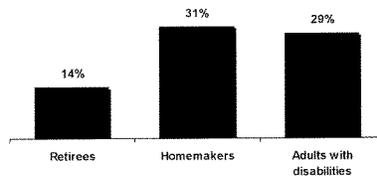
While it is impossible to reduce the entire teleworking population down to a "typical" teleworker, Connected Nation's survey research enable us to create a profile of the current teleworking population. The vast majority of teleworkers rely on their home broadband connection to work from home (Figure 7),⁹ once again showing how important broadband adoption is to the growth in teleworking.

Figure 7: Teleworkers by Internet Connection



Telework becomes an enabler for non-working Americans by transforming employment into something that is compatible with the realities in their lives. Fourteen percent of retirees, 31% of homemakers, and 29% of adults with disabilities said they would be willing to join the workforce if they could telework through a broadband connection (Figure 8).¹⁰

Figure 8: Likely to Telework Via Broadband



⁹ibid, page 11.
¹⁰ibid, page 17.

If we assume that new teleworkers earn the national average income, these new teleworkers would create an additional \$739 billion income earnings annually.¹¹ That includes over \$163 billion for retirees, \$103 billion for homemakers, and \$166 billion that would be earned by adults with disabilities each year.

In order to benefit from this growth in teleworking, though, America needs to place a high priority on increasing both the availability and the adoption of home broadband service. Nearly nine out of ten teleworkers rely on a broadband connection to work from home, and the broadband connection speeds of teleworkers are significantly higher than the average broadband user.¹² Because of the benefits that accompany ubiquitous broadband availability and adoption, highlighting the benefits of teleworking has rightfully been recognized as a key component of the Commission's National Broadband Plan. The first step is for the Commission to strive for a fast, reliable, secure broadband infrastructure by addressing both supply and demand barriers to provide broadband for every American community. Connected Nation's research has shown that teleworking can provide new opportunities for the American workforce, but to do so, home broadband availability and adoption must both increase in order to realize the full potential growth.

D. Impact of Broadband Among Low Income, Minority and Rural Households with Children and its Implications for e-Education Policy

As Figure 1 above reports, low income households and minority households with children present in the home are statistically less likely to use broadband services, despite the fact that the presence of children in the home is shown to be a driver for adoption of computer and broadband services.¹³ Figure 9 below reports broadband technology adoption in Tennessee and Ohio during 2009 among households with children in the home from different demographic groups. While 72% of all households with children subscribe to home broadband service – a figure much higher than the national average across all households – our data suggest that only 35% of low-income households with children living at home say they subscribe to broadband. Further, 49% of minority households with children, and only 55% of single-parent households, report that they subscribe to home broadband service.¹⁴

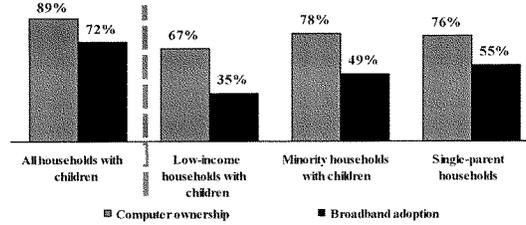
¹¹Based on the 2008 mean annual income of \$42,270, as reported by the United States Bureau of Labor Statistics (http://www.bls.gov/oes/current/oes_nat.htm).

¹²*Ibid*, page 11.

¹³*Consumer Insights into American Broadband Challenges: A Connected Nation Policy Brief*, page 6.

¹⁴*Connected Nation's NBP Comments – Education*, page 7.

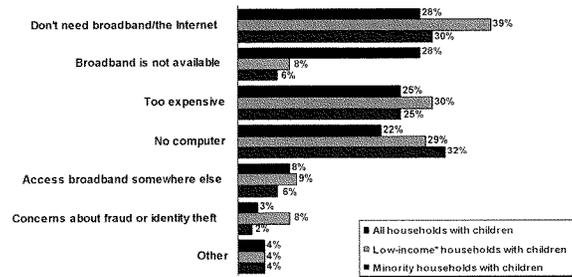
Figure 9: Technology adoption among households with children



n=244 Tennessee and Ohio residents with children living at home who do not subscribe to home broadband service.

A comparison across reported barriers to broadband adoption in Tennessee and Ohio among low-income and minority households with children and the average household with children reveals differences that have policy implications. Figure 10 reports that while the key barriers to broadband usage among all households with children is a lack of perceived need and lack of broadband availability (among 28% of all household with children respondents), the top barriers to adoption of broadband service among low-income and minority households with children are a perceived lack of need, a lack of home computer ownership, and affordability of the service (Figure 10).¹⁵ These data suggest that key policy strategies affecting these demographic groups are those focused on ameliorating the barriers to computer and broadband adoption, as well as addressing the affordability of the service.

Figure 10: Barriers to Broadband Adoption



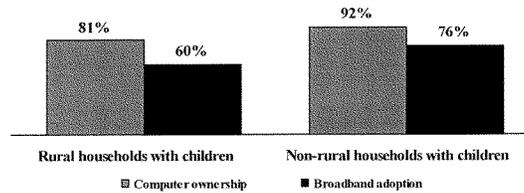
*Low-income=households with annual incomes less than \$25,000
 n=244 Tennessee and Ohio residents with children living at home who do not subscribe to home broadband service, 77 of whom are low-income and 63 of whom are minority.

Source: 2009 Residential Technology Assessments in Tennessee and Ohio

¹⁵Ibid, pages 8 and 9.

Rural households with children also lag behind non-rural counterparts in computer and broadband adoption (Figure 11). Rural households with children are less likely to own a computer (81% of rural households, compared to 92% of non-rural households) and only 60% of rural households with children subscribe to home broadband service, compared to 76% of their non-rural counterparts.¹⁶

Figure 11: Technology adoption among rural households with children



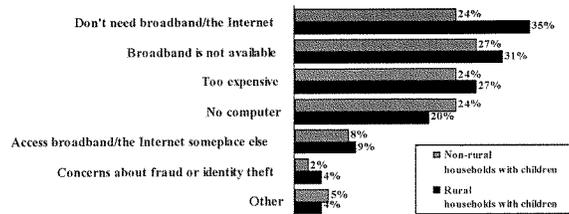
See Corey Murray, Translation Tool Tackles Language Barrier: Grant Program Uses IBM Technology to Help Schools Translate E-Mails, Web Sites, eSchools News (March 29, 2007), available at <http://www.eschoolnews.com/news/top-news/index.cfm?n=45768&CID=244512&CFTOKEN=46694510> (last visited September 1, 2009) ([this technology program is being used to] "teach members of the Hispanic community about computers, show English-language learners how to conduct online research, better engage parents in their children's education, and encourage ESL students to share their language—and their heritage—with their English-speaking friends.")

A comparison of barriers to broadband adoption across rural and non-rural households with children who do not subscribe to broadband indicates, as one might expect, that not having broadband available at the point of residence is a barrier among rural dwellers (31% of rural households with children who do not subscribe to broadband indicate that broadband availability is a factor, compared to 27% of non-rural households with children who do not subscribe to broadband). Less predictably, data reveals that lack of perceived need and affordability of the service present greater barriers to adoption of broadband service for rural households with children than their counterpart in non-rural areas. This suggests that while policies that address network infrastructure expansion in unserved areas will have an impact among this demographic group, policies that promote awareness of the value proposition of the service, affordability, and other barriers to adoption will also have an important impact among rural households with children (Figure 12).¹⁷ In other words, many rural children need to have broadband made available where they live. However, rural children, like many of their non-rural counterparts, will also benefit from policies that directly address endemic barriers to broadband adoption, such as awareness of the value proposition, computer ownership, and affordability of the service.

¹⁶Ibid, page 11.

¹⁷Ibid, page 12.

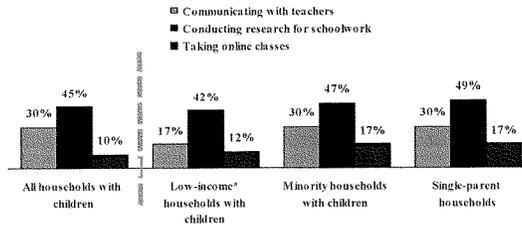
Figure 12: Barriers to broadband adoption among rural households with children



2009 Residential Technology Assessments of Ohio and Tennessee. n=658 OH and TN residents who have children living at home.

These data have important repercussions for the national discussion of how broadband access is affecting the education of children today in America. In particular, the data reveals that today some American children do not have the means to enjoy the online educational tools that other American children have readily available in their homes. As online educational applications continue to take hold among children across our nation it is imperative that policy makers address this imbalance. Failure to do so will imply lesser opportunities for development and economic potential for those children who are experiencing digital exclusion, including those in low-income, minority, and rural households and others, who are often unaware of what it is they are missing. Figures 13 and 14 below report different online educational applications used by households with children across different demographics. The data suggests that low-income and rural households with children are lagging behind other households with children in their use of educational online tools.¹⁶

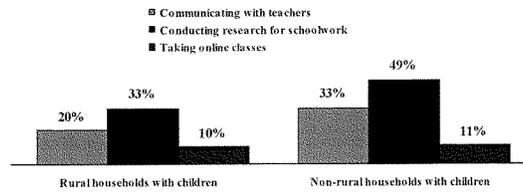
Figure 13: Use of various online educational applications among households with children



2009 Residential Technology Assessments of Ohio and Tennessee. n=658 OH and TN residents who have children living at home.

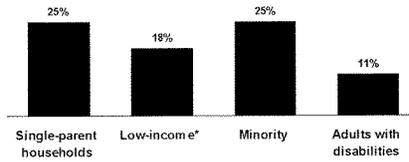
¹⁶Ibid, page 14.

Figure 14: Use of various online educational applications among rural households with children



2009 Residential Technology Assessments of Ohio and Tennessee. n=658 OH and TN residents who have children living at home.

Figure 15: Percent of each demographic group using the Internet at their library



n=2,400 residents of Tennessee and Ohio

*Low-income=annual household incomes below \$25,000

Source: 2009 Residential Technology Assessments in TN and OH

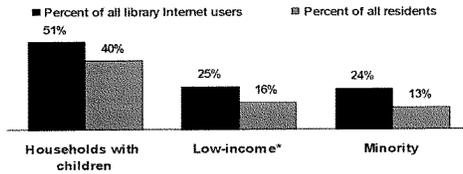
E. The Role of Libraries as Community Broadband Centers

Connected Nation's filing of October 29, 2009, contributed a discussion about the role of libraries as important – sometimes the only – means of high-speed access to the Internet among citizens who do not have the benefit of a broadband connection in the home or place of work. In 2009, Connected Nation conducted surveys to better understand the role of libraries as community technology hubs.¹⁹ The findings indicate that libraries are vital in filling an access void in local communities where the library is most often the only source of free Internet availability. Significant percentages of those who normally don't subscribe to broadband – specifically single parents, minorities, and low-income residents – are relying on the local library as their sole or primary Internet resource: 25% of single parents, 25% of minorities, 18% of low income residents, and 11% of people with disabilities depend on libraries for Internet connections (Figure 15).²⁰

¹⁹Connected Nation's NBP Comments – Libraries, page 2.

²⁰Ibid, page 2.

Figure 16: Percent of library Internet users compared to all residents, by demographic



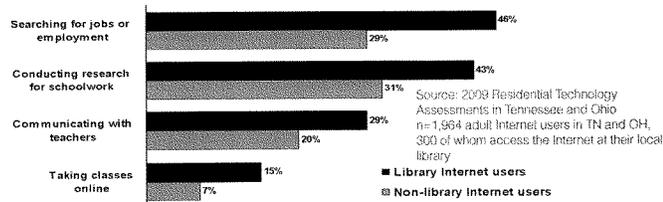
n=2,400 TN and OH residents, 300 of whom access the Internet at their local library *Low-income=annual household incomes below \$25,000

Source: 2009 Residential Technology Assessments in Tennessee and Ohio

Upon examining the demographic make-up of library Internet users, three demographic groups stand out with significantly higher representation than average. The share of Internet library users who are minority, have annual household incomes below \$25,000, or who have children living at home, is each significantly larger than in the population as a whole. More than one-half (51%) of library Internet users have children at home, suggesting that a significant portion of those who use the Internet at their library are children. Further, 25% of library Internet users are low-income, and 24% represent minority populations. In all three groups, these percentages are significantly higher than in the population as a whole, suggesting that Internet access at the local library is especially important for parents and children, low-income residents, and minorities (Figure 16).²¹

Connected Nation's surveys also found that library Internet users are statistically more likely than other Internet users to employ broadband for education, workforce development, civic engagement, and communicating with healthcare professionals. The surveys found that library Internet users are more likely than other Internet users to use the Internet for improving their education and finding employment. Forty-six percent of library Internet users search for jobs online, compared to 29% of other Internet users. Library Internet users take online classes more than twice as often as other Internet users, and library Internet connections are also used frequently for completing homework and communicating with teachers (Figure 17).²²

Figure 17: Internet users who conduct educational and workforce development activities online

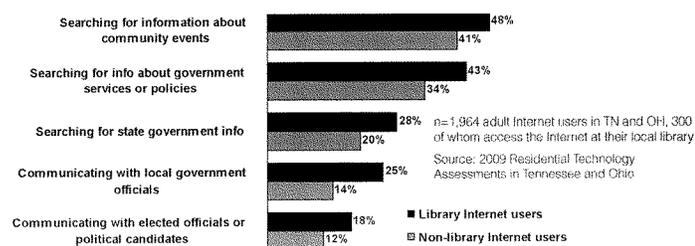


Source: 2009 Residential Technology Assessments in Tennessee and Ohio n=1,964 adult Internet users in TN and OH, 300 of whom access the Internet at their local library

²¹Ibid.
²²Ibid, page 4.

Libraries are meeting an essential community need by helping community residents find work, as well as improve their job skills to increase their productivity and help provide job security. Further, library Internet users are more likely to depend on the Internet as an enabler and resource for civic engagement and information. Of particular note, library Internet users are nearly twice as likely as other Internet users to communicate online with local government officials (Figure 18).²³

Figure 18: Internet users who engage in civic activities online



F. E-Government Services: A Vital Tool for All Citizens

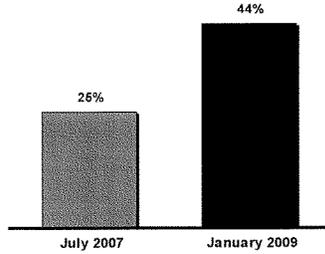
Connected Nation's filing on November 6, 2009, provided input and examples of successful state and local government initiatives, programs, and participation that have positively impacted available knowledge on broadband/technology data, broadband deployment, and the rate of household broadband adoption. In many states, including those in which Connected Nation has been an active player, state, local, and tribal governments have been a key driver in broadband improvement to date. E-government services, or the use of the Internet to access government information and services, is a vital online tool for many Americans, and one that is growing in importance as more government agencies at the local, state, and federal level provide a greater variety of online services to clients, businesses, and other governmental agencies.

Connected Nation research shows that a growing share of both residents and businesses rely on their home broadband connection to stay in touch with local, state, and federal government agencies. Research from 2009 in Tennessee showed that 44% of all Tennessee adults use their home broadband connection to conduct e-government activities (Figure 19).²⁴ This represents a 76% growth rate in the adoption of e-government from July 2007 when only 25% of adults used their home broadband services to access to e-government services.

²³Ibid, page 5.

²⁴Connected Nation's *NBP Comments - E-Gov*, page 11.

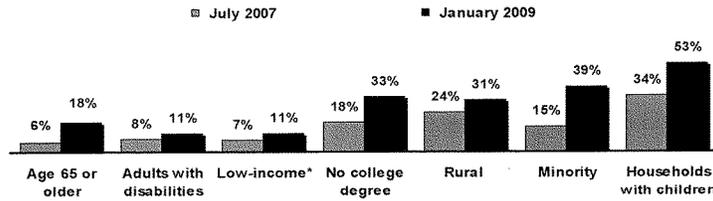
Figure 19: Tennessee adults who use broadband for e-government services



Source: July 2007 and January 2009 Tennessee Residential Technology Assessments. n=9,513 TN residents in 2007 and 1,200 TN residents in 2009. e-Government activities include contacting government officials, searching for government service and policy information, interacting with state or local government, and making online transactions with the government. January 2009 survey results were used due to a change in methodology in the way that application questions were asked in the July 2009 Connected Tennessee Residential Technology Assessment.

Additionally, a growing number of different demographic groups rely on their home broadband service to connect with their local, state, and federal government offices (Figure 20).²⁵

Figure 20: Percent of all Tennessee residents who use home broadband service to access e-government services

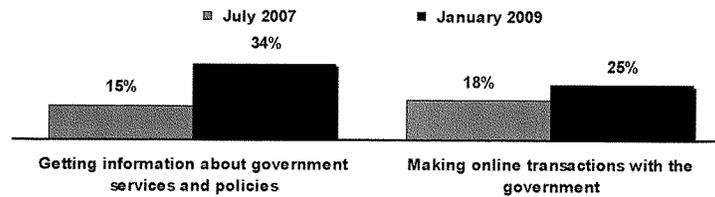


Source: July 2007 and January 2009 Tennessee Residential Technology Assessments. n=9,513 TN residents in 2007 and 1,200 TN residents in 2009. *Low-income=households where the annual household income is less than \$25,000.

Consumers who access e-government services through their home broadband connection reported that they do so for a number of reasons, most of which fall into two distinct categories: using the Internet to learn about government services and policies, and conducting online transactions with government offices (Figure 21).²⁶

²⁵Ibid, page 12.
²⁶Ibid, page 13.

Figure 21: Type of e-government applications accessed by Tennessee adults using a home broadband connection



Source: July 2007 and January 2009 Tennessee Residential Technology Assessments. n=9,513 TN residents in 2007 and 1,200 TN residents in 2009.

Connected Nation research shows that online access to e-government services has been growing steadily in recent years, rapidly becoming a "killer application" for broadband services: an application providing tangible value, and hence a key reason to adopt and continue using broadband access, to both citizens and the private sector. This trend should continue and be strengthened through the promotion and investment by government in these services. It is important that all levels of government continue expanding the array of e-government services provided online, as well as the effectiveness of online e-government platforms. Such investments will trigger greater growth in e-government services, resulting in government savings and benefits for the private sector.

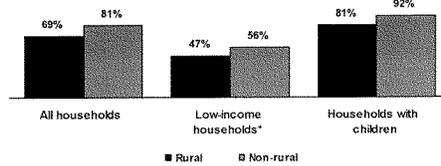
G. Understanding the Rural versus Non-Rural Gap

In their joint filing in the NPB debate of December 4, 2009, the American Farm Bureau Federation and Connected Nation measured differences in adoption and usage of broadband service across rural and non-rural areas for both businesses and residential consumers.²⁷ Data from Connected Nation's 2009 surveys in Tennessee and Ohio show a gap across rural and non-rural households in adoption of computers and broadband. While 81% of all households in non-rural areas report owning a home computer, only 69% of rural respondents do. Similarly, 47% of rural low-income households (earning less than \$25,000 annually) report owning a computer, compared to 56% of low-income non-rural households. Among households with children, computer ownership rates go up, but the rural-non-rural gap is still measurable: 81% of rural households with children report having a computer at home, compared to 92% among non-rural respondents (Figure 22).²⁸

²⁷ Connected Nation's NBP Comments - Rural.

²⁸ Ibid, page 3.

Figure 22: Computer Ownership Among Rural and Non-Rural Residents by Demographic



Q: Does your household have a computer?
 (n=2,400 adults in Tennessee and Ohio, 683 of whom are rural, 449 of whom are low-income, and 856 of whom have children under the age of 18 living at home)

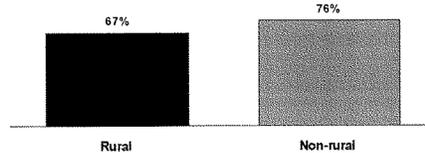
*Low-income=households with annual household incomes below \$25,000

Source: 2009 Residential Technology Assessments of Tennessee and Ohio

Broadband adoption trends show a similar pattern. While 64% of non-rural households report subscribing to broadband in the home, only 47% of rural households adopt the service. While 28% of low-income, non-rural households subscribe to the service, only 24% of rural, low-income homes do so. Similarly, while 76% of non-rural households with children report subscribing to broadband, only 60% of households with children in rural areas have broadband at the home.³⁸

Importantly, this adoption lag in rural areas cannot be explained in full by a supply-side or network infrastructure gap. Figure 23 compares “take rates,” or the percentage of broadband subscribers relative to all households that have broadband available to them (including those that report subscribing to broadband and those who do not subscribe but report having broadband available at their homes), across rural and non-rural areas in Ohio and Tennessee. The data show that while 76% of non-rural dwellers with broadband access choose to subscribe to the service, only 67% of rural dwellers that have broadband access subscribe. This represents a significant gap that illustrates the demand-side challenge facing rural America.³⁹

Figure 23: Broadband “Take Rates” Among Rural and Non-rural Residents Who Report Having Broadband Available*



Q: Which of the following describe the type of Internet service you have at home? (Broadband, Dial-up, None, Don't Know)
 (n=1,435 adults in Tennessee and Ohio who either subscribe to home broadband service or report that broadband is available where they live)

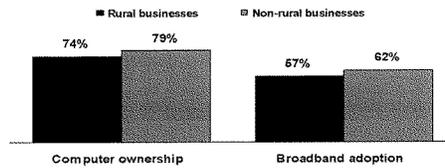
**Take rates = (% of home broadband subscribers) / (% of residents who EITHER subscribe to home broadband service OR report that broadband service is available where they live)

Source: 2009 Residential Technology Assessments of Tennessee and Ohio

³⁸Ibid, page 4.
³⁹Ibid.

Technology adoption trends among businesses also measure a demand-side gap across rural and non-rural areas. Figure 24 indicates that, in 2009 in Tennessee and Ohio, 74% of rural businesses report owning a computer, compared to 79% among non-rural businesses. Broadband adoption among rural business lags behind, at 57%, compared to adoption rates of 62% among non-rural businesses.³¹

Figure 24: Computer Ownership and Broadband Adoption among Businesses in Tennessee and Ohio

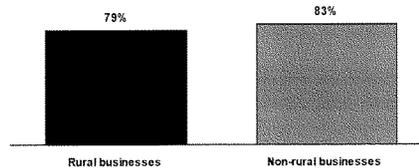


Q: Does your company use any type of computer technology to handle some or all of its business functions? And
 Q: Which of the following describes the type of Internet access your company has? (n=1,609 businesses in TN and OH)

Source: 2009 Business Technology Assessments of Tennessee and Ohio

As was the case among residential consumers, this gap in broadband adoption is not fully explained by a lack of available broadband service. Among businesses that have service available, "take rates" differ across rural and non-rural businesses. Figure 25 indicates "take rates" of 79% for rural businesses compared to 83% among businesses in non-rural areas.³²

Figure 25: Broadband "Take Rates" among Rural and Non-rural Businesses That Report Having Broadband Available*



Q: Which of the following describes the type of Internet access your company has? (Broadband, Dial-up, None, Don't Know) (n=1,306 businesses in Tennessee and Ohio, 328 of which are rural, that either subscribe to broadband service or report that broadband is available at their location)

**"Take rates" = (% of broadband subscribers) / (% of businesses who EITHER subscribe to broadband service OR report that broadband service is available at their location)

Source: 2009 Residential Technology Assessments of Tennessee and Ohio

These findings suggest that the lag in the adoption of broadband services among rural dwellers is real and cannot be explained solely due to the remaining gaps in infrastructure availability; that is, supply-side factors. Demand-side barriers to technology adoption and usage are a significant factor affecting

³¹Ibid, page 6.
³²Ibid.

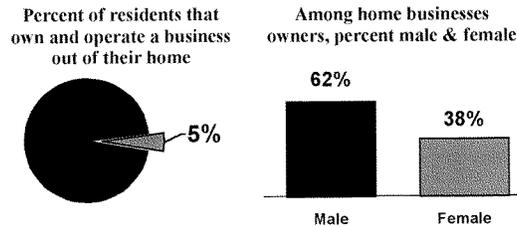
this technology lag among rural populations. The National Broadband Plan should address both challenges simultaneously by subsidizing network build-out where private investment is unlikely to flow and by addressing demand-side barriers to adoption with measures aimed at building awareness about the benefits of broadband services for rural businesses and dwellers, expand digital literacy programs, promote computer ownership, and strengthen rural community anchor institutions' broadband capacity and services.³³

H. Businesses: The Relationship Between Broadband and the Economy

On December 11, 2009, Connected Nation filed comments on the relationship between broadband and economic opportunity and its impact on businesses.³⁴ Our research illustrated that adoption patterns across businesses in different sectors can greatly vary. While 61% of all businesses surveyed adopt broadband service, different adoption patterns exist across different sectors. Businesses within the high-tech sector are the most likely to adopt broadband (78%), followed by Professional and Financial Services (76%), the Manufacturing sector (72%), and Wholesale and Transportation (64%). The sectors least likely to subscribe to a broadband connection are Healthcare (43%), Agriculture, Mining, Construction and Utilities (AMCU, 50%), and Retail, Recreation, Food and Lodging (Retail & Hosp, 56%).³⁵

Data from Tennessee and Ohio collected pertaining to home-based business ownership shed light into varying patterns of usage and adoption by male and female home-based business owners. Figure 26 shows that 5% of all adults surveyed report being home business owners. Of these, 62% are male and 38% are female (Figure 26).³⁶

Figure 26



Q: Which of the following describe the way you work from home, when you do so? And
 Q: Gender
 (n=2,460 TN & OH residents) And
 (n= 133 TN & OH residents that own and operate a business out of their home)

Source: July 2009 Connected Tennessee® and 2009 Connect Ohio ® Survey of Businesses

³³For a more in depth discussion of policy options concerning the Rural Broadband Strategy see *Comments of Connected Nation, Inc., FCC GN Docket No. 09-29*, March 25, 2009, available at <http://ajilloss.tcc.gov/lects/document/view?id=6520263594>.

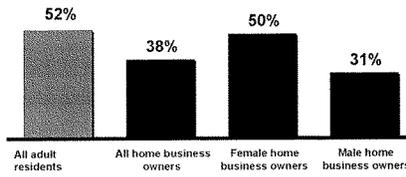
³⁴Connected Nation's *NBP Comments - Economy*.

³⁵*Ibid*, page 4.

³⁶*Ibid*, page 5.

Home business owners on average are less satisfied with the speed of their broadband delivery than the average home broadband subscriber. While 52% of all home broadband subscribers are very satisfied with their broadband speeds, only 38% of home business owners are. Furthermore, female home business owners appear to be more satisfied than their male counterparts. Half of female home business owners report being very satisfied with their connection, compared to 31% of their male counterparts (Figure 27).³⁷

Figure 27: Home business owners who are “very satisfied” with the speed of their broadband delivery



Q: To the best of your knowledge, what is the approximate download speed or bandwidth provided by your internet service provider? (n= 1,383 TN & OH residents with a broadband connection at home)

Source: July 2009 Connected Tennessee® and 2009 Connect Ohio ® Residential Survey

³⁷Ibid, page 12.



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Mr. BOUCHER. Well, thank you very much, Ms. Taylor, and thanks to each of our witnesses for joining us and sharing your views on broadband adoption. Ms. Matthey, I will begin my questions with you.

I am of the view that Ms. Matsui has performed a real service, as has the FCC in putting forward its broadband plan in recommending an expansion of the Lifeline and Linkup programs under universal service so as to promote broadband adoption. But I think we have a challenge in understanding what that would cost.

And to the extent there is a cost, the Universal Service Fund would have to be increased in order to accommodate that cost. So do you have any data about what the cost of her bill, for example, would be? Or what the cost of your recommendation as contained in the broadband plan would be for an expansion of Lifeline and Linkup?

Ms. MATTHEY. Thank you, Chairman. Actually as we were developing the recommendations on this, we came to realize that there was not sufficient empirical data that would enable us to project what increased demand would occur if we were to expand Lifeline to broadband, and that is precisely why the plan recommended that we first conduct a pilot in order to actually test and observe what would happen. And then we would be in a position to make a judgment as to the cost of a permanent implementation of the plan.

Mr. BOUCHER. Well, that is a very interesting approach, and one that would reveal the data about what the real costs are. Do you have any suggestions for how that pilot should be structured? Do you have any thoughts about the numbers of homes that should be subjected to the pilot study and other parameters?

Ms. MATTHEY. We are just beginning to start to think about that, and, in fact, we are planning to have a workshop later in about a month or so where we will be exploring those questions, how many households, how you could test and compare. Obviously if you are doing a test, you need to have in essence a control group and then a group that actually obtains the subsidy and potentially subsidies of different levels and also test the impact of coupling the subsidy with programs for digital literacy or the provision of, for instance, computers in the private sector.

Mr. BOUCHER. Well, I am glad that you are focusing on that. Let me suggest, if at all possible, that you accelerate by a good bit the formulation of a recommendation to us on that because we hope to be able to mark up soon the universal service reform comprehensive legislation that Congressman Terry and I have put forward. And we would like to make sure that the goals that Ms. Matsui has announced with regard to Lifeline and Linkup are reflected in that legislation. Our timeframe for doing that is fairly near term. So the sooner we get recommendations from you about how to structure an appropriate pilot to give us some reliable information about real costs, the better. Let me just leave that with you.

Ms. Taylor, I have a question for you. I am concerned, and I know that many are, about the reliability of some of the state-created broadband maps revealing the availability of broadband. And the particular concern that I have is that many of the states relied upon data provided by the carriers with regard to where broadband was present and where it was not.

And it is both costly and time consuming to try to verify that data, and so in many instances, what appeared in the state-based broadband map was simply the data provided by the carrier. And I think what a lot of carriers may have chosen to do is simply say well, you know, we have—this is our service territory, and we are providing broadband. But it wasn't a very granular examination, and there were vast areas in many of these instances where broadband in fact was not available. My own congressional district is a great example of that, and the Virginia map broadly overstates broadband availability in my district as compared to the actuality.

So my question to you is this. I know you have done a lot of work in this area. Your organization has been contracted to help prepare broadband maps. Did you encounter this problem? And do we have a better way of learning where broadband really is available than simply relying on carrier-provided data?

Ms. TAYLOR. Well, excuse me, Mr. Chairman. I think you speak to the heart of the issue, the mapping challenge, because—and it really speaks to how important, how critical the verification process is. Providers, we have found, submit good, solid data, but, as you mentioned, it is not always quite as granular as we would like it to be. And it is not always perfect because, quite frankly, providers don't always know exactly where they can and cannot provide service until they actually go out and test the home.

So that verification process on the ground is critical. You are right. It is time consuming. However we have found that it is well worth it because those locally accurate maps to get to that point, and we get to that point with the maps, through the verification process. And it takes multiple verifications, surveys on the ground, field tests. Consumer feedback through the web-based interactive maps is one of the best and least expensive forms of verification.

Mr. BOUCHER. So where you have been contracted to prepare the map or participate in the preparation of it, there is some verification of the data that the carriers have provided?

Ms. TAYLOR. Absolutely.

Mr. BOUCHER. That is something you always do?

Ms. TAYLOR. Absolutely.

Mr. BOUCHER. OK, and would you agree that in those instances where carrier data alone is relied on, that leads to some rather significant inaccuracies in the map as a normal matter?

Ms. TAYLOR. I would say that it varies from one carrier to the next.

Mr. BOUCHER. But in some cases it would?

Ms. TAYLOR. In some cases, it will, and verification is critical for that.

Mr. BOUCHER. It is critical in all of these cases?

Ms. TAYLOR. That is right.

Mr. BOUCHER. OK. Thank you, Ms. Taylor. Ms. Chong, I would like to call on you for this. Unfortunately my time has expired, and we now have a series of seven recorded votes on the floor, and Mr. Stearns and I are going to try to finish at least our two sets of questions. So I will recognize him at this time.

Mr. STEARNS. Mr. Chairman, thank you very much. And, Ms. Taylor, let me compliment you on your opening statement. I think when you mentioned that the demand was created so that minori-

ties outnumber Caucasians, you said, was that in the state of Tennessee?

Ms. TAYLOR. That is right. It is.

Mr. STEARNS. Yes, so I think that pretty much says it all, that your not-for-profit organization is doing that. So when you go to look at the broadband plan and you see that the FCC has indicated time and time again that everybody involved with this, this is not a self-effectuating plan. But then again, you start to see the FCC move out and say they are going to pass legislation.

So, Ms. Mattey, you acknowledged that pretty much this plan is not something that should be implemented by you folks, yet you have acknowledged that much of—in fact you said that much of it would require congressional action. But now Mr. Jenachowski and the FCC is moving out to move the Internet from Title I to Title II. And isn't it disingenuous now for the FCC to say it must reclassify broadband to implement the plan?

Ms. MATTEY. That is a question that I would defer to the general counsel and the chairman of the FCC.

Mr. STEARNS. Can the FCC or the NTIA move forward with the digital literacy corporation program, corps rather—digital literacy corps program on your own, or do you need legislation?

Ms. MATTEY. I believe that there needs to be appropriations to support such a corps.

Mr. STEARNS. Is it your position now the FCC would not establish this digital literacy corps without congressional approval?

Ms. MATTEY. I don't know the answer to that question.

Mr. STEARNS. OK. Ms. Chong, how many languages are taught in California?

Ms. CHONG. In the school system?

Mr. STEARNS. Yes.

Ms. CHONG. Primarily English, but we do have a number of—

Mr. STEARNS. No, I am asking the total number. Besides English, how many language courses are taught? By this I mean a person comes in and does not understand English, so I assume you teach in Spanish in the beginning.

Ms. CHONG. Yes.

Mr. STEARNS. How many cases like that? Do you teach Mandarin Chinese? Do you teach many languages? How many do you teach?

Ms. CHONG. I don't know the exact number on that, but I would assume that it is a very large number.

Mr. STEARNS. Yes, we looked at it, and I think we said almost 40. In this broadband plan, there is a—they are recommending a digital literacy portal. This would be something that probably you support, and I think you sort of mentioned this idea that everybody could go to the Internet and get to this digital portal to understand how to use the Internet and they impart digital skills.

Would you realize that in this broadband plan that everybody should have the opportunity to get it in its native language? So again you would have to set up this digital portal to allow almost 40 different languages, you know. So I mean all of you should perhaps see what Ms. Taylor says in her opening statement, that she is creating this demand through a not-for-profit organization. We don't need the government to go in and set up a, you know, a digital literacy corps of people and then set up the Internet to teach

them through their native language when it can be established by what Ms. Taylor says.

Is that an accurate statement, what you are saying, Ms. Taylor, that this can be done through not-for-profit organizations that is creating a demand rather than going ahead and setting up—the government set up a digital literacy corps and set up a portal where they teach you in 40 some different languages? You might comment on this digital literacy corps and this native language that they want to set up on the computer.

Ms. TAYLOR. Well, that, you know, the digital literacy corps is one of the many recommendations in the FCC plan that I think are worth considering. It is true that there have been great gains through nonprofit such as Connected Nation, such as One Economy, and this is—

Mr. STEARNS. I would think that would be a better approach than the government taking over and setting up the Web site, teaching native languages and so forth. I mean I would think your approach would be better.

But anyway, let me ask you this question, Ms. Taylor. Toward the end of your written testimony, you suggest that network neutrality is not likely to promote broadband adoption or availability, and in fact it is distracting from more productive and cost-effective efforts. Could you elaborate on that?

Ms. TAYLOR. Sure. We believe that it is imperative right now in the midst of these very complex policy issues that are being considered in Washington, that we don't lose sight of the work that is taking place across the Nation, and that these discussions don't take resources away from or undermine the efforts that are going on across the country in Tennessee and Ohio and other places.

Really we believe that the two bigger challenges are getting broadband where it is not and solving this supply-side gap that we are talking about here today. You know the people in Coshocton County, in Perry County don't care about reclassification. They just want to get their people connected, and they want to ensure that they have the resources for the programs to do so.

Mr. STEARNS. Thank you, Mr. Chairman.

Mr. BOUCHER. Thank you very much, Mr. Stearns. We have about five minutes in total left to respond to these recorded votes. And I am told that all of the other members have agreed that they will not pose questions, but we want to offer Ms. Matsui an opportunity to pose hers. So the gentlelady from California is recognized.

Ms. MATSUI. Thank you, Mr. Chairman. As I mentioned in my opening statement, the recent FCC survey found that 28 million Americans do not subscribe to the Internet due to high costs of broadband-related services. The fact is the high cost of broadband leaves far too many lower-income families in urban and rural areas.

Simply put, if you don't have the Internet, you are really at a competitive disadvantage. Ms. Matthey, in the FCC studies, did the FCC find that the cost of broadband service and related installation costs are the number one reason why lower-income households do not subscribe to the Internet?

Ms. MATTHEY. Yes, we did.

Ms. MATSUI. Rivkah, have you heard of any examples at the local level about the cost of broadband services being a real barrier to adopting broadband at home?

Ms. SASS. Yes, just about every single day, someone talks about the library as their only lifeline to the Internet because they have had to give it up for cost-saving reasons.

Ms. MATSUI. Ms. Matthey, do you believe that Lifeline Linkup assistance for broadband will spur broadband adoption rates in urban and rural areas?

Ms. MATTEY. Yes, I do.

Ms. MATSUI. And, Rivkah, in your testimony, you alluded to the fact that my Lifeline for broadband proposal would go a long way to assist unadopters become adopters again. Could you elaborate on this point, and have you seen examples of this in Sacramento?

Ms. SASS. Absolutely. I think your bill provides that opportunity in going a long way to getting those unadopters back on track with access. The costs for those who don't have access to the Internet are growing exponentially because so many services are only available online, whether it is applying for a job, accessing governmental services, all—most of—we are trying to move to e-government. All of those things are impacted, so yes, it would help.

Ms. MATSUI. OK, these are tough economic times, and anchor institutions like schools and libraries play an important role in broadband adoption. And as you indicated in your testimony, libraries are having a difficult time meeting demand as more and more hardworking Americans are now relying on computers at their local library to look for a job.

Now, I understand that you are working in Sacramento to teach digital literacy skills to assist individuals with broadband adoption efforts, and I believe it is critically important to create a culture of broadband adoption and this starts at local forums like anchor institutions.

Can you describe some of your efforts in digital literacy? And from your perspective, do you have enough computers in the Sacramento library system to meet demand during these challenging economic times?

Ms. SASS. Thank you. Visits to our libraries in Sacramento, we have 27 locations, urban, suburban, and rural. Sacramento is a very diverse county. Visits are up about 50 percent over last year. So we are busy, and we are seeing more and more people who don't have the skills or the access at home. So we are providing basic Internet classes. We are one of four libraries in the state.

We have a 13.1 percent unemployment rate in Sacramento. We are one of four libraries that was part of a pilot program to teach job-seeking skills and help people find jobs using broadband. So it is incorporated into everything we do. We are in fact the de facto digital literacy corps. That is what librarians do and have been doing for the last 15 years.

Ms. MATSUI. So you would also like some help with this too?

Ms. SASS. We would like some help with it. We don't have enough computers. We just opened a new library in suburban Sacramento, south Sacramento. It serves a very diverse, challenged community, high unemployment. There are days when, with a 10-megabit connection, the staff cannot do their work because the

Internet usage between the wireless, all the public access computers, the loaning laptops, we are overwhelmed literally.

Ms. MATSUI. Mr. Chairman, I completed my questioning. I really thank you very much.

Mr. BOUCHER. Thank you very much, Ms. Matsui. Thanks again to all of our witnesses. We appreciate your testimony, and we may be consulting you individually as we continue our consideration of broadband adoption. Thanks to all the members for participating this morning. This hearing stands adjourned.

[Whereupon, at 11:30 a.m., the Subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

**Opening Statement for Hearing on
“The National Broadband Plan: Promoting Broadband Adoption”
for Rep. Kathy Castor, FL-11
Thursday, May 13th, 2010**

- Thank you, Chairman Boucher, for holding this hearing, and thank you to the witnesses here today.
- I’m looking forward to their testimony.
- The primary goal of the National Broadband Plan is to bring the tremendous power of the internet to more people.
- There are lots of ideas out there about the best way to do this, and as you’ve heard today, there are many highly technical and controversial issues to consider.
- I want to stay focused on the one idea that holds promise for accomplishing this goal—expanding the Lifeline and Link-Up programs in the Universal Service Fund.
- This is important to me because there’s an assumption that urban areas like mine have plenty of access to broadband.
- As the National Broadband Plan highlights, *cost* is the #1 reason given for not adopting broadband.
- This makes sense to me.
- When families are making decisions about what they can and can’t afford, things like cable and internet are a pretty low priority.
- We know that the adoption rate for households with an annual income of \$20,000 or less is only 40%.
- In contrast, households making more than \$75,000 a year have an adoption rate of over 91%.
- This is where the digital divide lies.
- It’s not just a rural issue—it’s an affordability issue.
- To give you some perspective, the per capita income in my district is about \$24,000 a year.
- That’s barely enough to get by.
- Even more troubling, nearly 19% are living below the poverty line.

- These hard-working families are doing everything they can to make ends meet, keep food on the table, and keep the lights on.
- For many of us, broadband is a necessity.
- We need it to stay connected at home, school, and work.
- For hard-working families making less than \$20,000 a year, broadband can seem like a luxury.
- Expanding the Lifeline and Link-Up programs will address this gap head on.
- Representative Doris Matsui's bill "The Broadband Affordability Act," which I co-sponsor, would require the FCC to establish a program like LifeLine and Link-up to help low-income users pay for broadband service.
- I know there are a lot of students, teachers, parents, and grandparents in my district who will need our help putting broadband within reach.
- I also want to reiterate that the Universal Service Fund has historically been a program that Florida pays a lot into and hasn't always gotten a lot out of.
- I want to make sure that the new version of USF corrects this past discrepancy.
- Reform of how we pay into the USF should address this concern.
- Overall, I'm hopeful that we'll be able to bridge the digital divide by implementing the Plan.
- Thank you all. I look forward to the testimony of the witnesses, and I yield the balance of my time.