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BROADBAND: A CATALYST FOR SMALL BUSINESS GROWTH

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BEFORE THE

SUBCOMMITTEE ON HEALTHCARE AND TECHNOLOGY

OF THE

COMMITTEE ON SMALL BUSINESS
UNITED STATES
HOUSE OF REPRESENTATIVES

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BROADBAND: A CATALYST FOR SMALL BUSINESS GROWTH

WEDNESDAY, FEBRUARY 15, 2012

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SMALL BUSINESS,
SUBCOMMITTEE ON HEALTHCARE AND TECHNOLOGY,
Washington, DC.

The Committee met, pursuant to call, at 1 p.m., in room 2360, Rayburn House Office Building. Hon. Renee Ellmers (chairwoman of the subcommittee) presiding.

Present: Representatives Ellmers and Richmond.

Chairwoman ELLMERS. I call the hearing to order.

I want to thank the witnesses for your testimony and your input today. We appreciate your participation at this very, very important hearing today.

Access to broadband services has the potential to transform the way small businesses and organizations fundamentally operate. Small firms can communicate with potential buyers around the world; family farmers can better monitor and manage crop prices; and entrepreneurs can launch a website or application from their living room. As a registered nurse and a small business owner, I fully understand the benefits of a modern health care facility with broadband access. More importantly, broadband provides the gateway and opportunity for economic growth and job creation, especially in the rural areas.

While it is easy to understand the limitless benefits of broadband Internet, those capabilities would not be available if not for the contributions of our small business providers like those represented here today. To keep up with the growing demand, private sector enterprises have invested billions of dollars to upgrade their network to provide faster and more reliable services. It is because of these investments that we can enjoy broadband at the workplace or on a wireless device.

However, there is still a severe shortage of network infrastructure that limits many small businesses from utilizing the broadband services. In particular, rural areas of states are most likely to lack the necessary capabilities, as they can be difficult and expensive to develop. This is the reason that I introduced H.R. 2128, which is the Stripping the E-Prescribe Arbitrary Mandate Act of 2011, which would prevent the federal government from imposing penalties and fees on health care providers who are not yet able to e-Prescribe.

Currently, there are a variety of federal initiatives aimed at providing broadband to everyone in the United States. When consid-

ering these policies, we must first ensure that the regulatory changes do not diminish the incentive for private sector investment in broadband infrastructure. Moreover, we must strengthen our oversight on various programs to confirm that federal dollars are being spent efficiently, and will benefit small businesses in rural areas.

We have a distinguished panel of witnesses here today. I look forward to hearing their thoughts on the importance of broadband and how best to provide broadband to small businesses across the United States. I now yield to Ranking Member Richmond for his opening statement.

Mr. RICHMOND. Thank you, Chairwoman Ellmers, one for recognizing me, and two for having this very appropriate Committee hearing. And then thank you to Ms. Sanders, Mr. West, Mr. Bundridge, and Ms. Branon for coming here today.

I think we can all agree that today's hearing will offer us a great opportunity to examine the benefits and challenges of broadband deployment. The technology and telecommunication sectors are major contributors to the U.S. economy for engines for economic growth with the potential to create at least one million new jobs and keep over three million employees at work in the broadband sector. Small firms stand ready and eager to capture the economic gains produced by this technology.

Most small businesses are embracing broadband more than ever before and it is rapidly changing the way business is conducted. Innovative applications and services such as video conferencing are helping small companies reduce costs, increase productivity, and expand their businesses into new marketplaces. We have seen the benefits broadband can bring to our daily lives in a variety of ways. Those fortunate enough to have access to broadband know how it improves efficiency while reducing operator costs. Yet, in rural areas the percentage of small businesses without broadband access is twice as high as urban areas. Even though broadband subscriptions have steadily increased, access in rural and low income communities is being outpaced by the rest of the country due to a lack of network deployment.

Beyond the access barrier there are cost issues. Small firms pay two times more per employee for broadband than larger firms. Unfortunately, the adoption gap may further widen without adequate support for broadband deployment. Federal loan and grant programs have helped economically disadvantaged communities gain access to high speed Internet, resulting in attracting business, lower unemployment rates, and skilled workers. Eliminating the digital divide will not only assist rural and low income communities, it will help our nation's job creators.

By making the virtual marketplace more accessible, the bar to entrepreneurship is lowered, which encourages job creation throughout the economy. Broadband access has significantly impacted tourism, agriculture, and rural health care. Improving the ability of patients and practitioners to use electronic medical records and telemedicine has been a top goal in Louisiana. These investments have improved patient care and resulted in a better integrated health system.

Today's hearing will focus on improving broadband access in order to strengthen the small business economy. The insights gathered today will enable us to make certain that policies coming out of Congress and the FCC effectively support network deployment. This Committee will ensure that the needs of small firms are taken into account during the FCC's Universal Service Fund reform process. Our country's continued leadership in technological development depends on it.

In advance of the testimony, I want to thank all of the witnesses who traveled here today for both their participation and insights into this important topic. Thank you. And I yield back.

Chairwoman ELLMERS. Thank you to our ranking member.

STATEMENTS OF MITZIE S. BRANON, GENERAL MANAGER, YADKIN VALLEY TELECOM, TESTIFYING ON BEHALF OF THE NATIONAL TELECOMMUNICATIONS COOPERATIVE ASSOCIATION, ORGANIZATION FOR THE PROMOTION AND ADVANCEMENT OF SMALL TELECOMMUNICATION COMPANIES, AND WESTERN TELECOMMUNICATIONS ALLIANCE; ROGER BUNDRIDGE, GENERAL MANAGER, NORTHWESTCELL, TESTIFYING ON BEHALF OF THE RURAL CELLULAR ASSOCIATION; DARRELL M. WEST, DIRECTOR OF THE CENTER FOR TECHNOLOGY INNOVATION, BROOKINGS INSTITUTION; REBECCA SANDERS, INDIANA TELEHEALTH NETWORK DIRECTOR, INDIANA RURAL HEALTH ASSOCIATION, TESTIFYING ON BEHALF OF THE NATIONAL RURAL HEALTH ASSOCIATION

Chairwoman ELLMERS. Our first witness is Mitzie Branon, who is the general manager of Yadkin Valley Telecom in Yadkinville, North Carolina. She has over 20 years of experience with the Yadkin Valley and currently resides in Fall Creek, North Carolina. She is testifying today on behalf of the National Telecommunications Cooperative Association, Organization for the Promotion and Advancement of Small Telecommunication Companies, and the Western Telecommunications Alliance. Thank you for being here, Ms. Branon, and we look forward to your testimony.

STATEMENT OF MITZIE S. BRANON

Ms. BRANON. Thank you for the invitation to participate in today's discussion on the role of broadband access in the start-up and growth of small business.

For the past two years I have served as general manager of Yadkin Valley Telephone Membership Corporation, which is headquartered in Yadkinville, and my remarks today are on behalf of Yadkin Valley, as well as NTCA, OPASTCO, and WTA, and their several hundred community-based members that provide a variety of communication services throughout the rural far reaches of the nation.

Our industry leads the way in deploying high speed sustainable broadband to rural America, thereby providing an incubator for small business ideas in rural America to be implemented and flourish. America's 1,100 rural telecom providers serve approximately 40 percent of the nation's landmass, yet about 5 percent of the population, an average of 10 customers per square mile. Yadkin Valley serves over 26,000 customer lines and our 670 square mile rural

service area in the Piedmont portion of North Carolina. We employ 160 people, and our 2011 operating revenue was about $34 million. We offer 1.5 megabit broadband to 96 percent of our service area with much faster speeds offered to a majority of customers, and we are working on a strategic network plan to deliver 25 megabit broadband to the 55 percent of our customer base that does not already receive it.

Rural providers are community focused. When Internet first became widely available in the 1990s, Yadkin Valley donated time and material to wire the local schools. Yadkin Valley recently provided dedicated fiber circuits that connect a large hospital in Winston-Salem to medical facilities in our service area, empowering them to use state-of-the-art technology for transmitting patient files and images. The efficiencies of our broadband network mean more opportunity for small business to start up and grow, and companies from around the world can reach our customers through the Internet. Ever since Yadkin Valley began operating in 1950, we have been proud to serve as the only provider to the most rural areas of North Carolina while other carriers chose to serve only the most profitable, densely populated towns.

Broadband has become essential to doing business in the United States. The Small Business Administration reported in 2010 that 90 percent of small businesses use broadband; 71 percent had a website; and over one-third are not satisfied with their Internet speed. Small, rural, community-based telecommunications providers alone contributed $14.5 billion to the economy in 2009 supporting 70,700 jobs through employment and purchasing goods and services. The Federal Universal Service Fund was created to support quality, reliable telecom service in high cost rural areas where low customer density, vast distances, and rugged terrain deter even the most optimistic business cases. Without universal service and intercarrier compensation, which is a system by which carriers compensate one another for the use of their networks, rural carriers would be forced to drastically reduce service or charge unaffordable prices, neither of which is consistent with longstanding national statutory policy.

The FCC released its Universal Service Intercarrier Compensation Reform Order on November 18, 2011, with the aim of transitioning the program to explicitly support broadband service in rural America. However, the FCC's order failed to adopt provisions promoting broadband service in small rural carrier service areas. It cuts existing cost recovery mechanisms for rural carriers retroactively and it proposed further notice of rulemaking with the potential for more cuts.

In sum, rural providers will be expected to do more with less opportunity for cost recovery and do not even get the regulatory certainty they sought as a further notice hinders lending and investment. Reforming universal service and intercarrier compensation properly is essential to achieving our national goal of universal broadband access and to the livelihood of thousands of job creating small businesses.

We can all be proud of our nation's broadband progress over the past decade and the opportunities that broadband creates for small businesses to compete and thrive. This success has been made pos-

sible due to the unique cooperation between the industry, the American people, and policymakers, a partnership that will be essential to America's quest to secure and maintain global broadband preeminence. Rural providers and the rural associations are eager to continue working with you to move forward aggressively to fulfill the national objective of making broadband universally available.

Thank you for your attention to this matter.

Chairwoman ELLMERS. Thank you so much, Ms. Branon. And I failed to—you were well under our five minute time so I appreciate that. And I did fail to mention to the rest of the panel you will have five minutes to give your testimony. And if you can see the lights in front of you, it will stay green. And about the point where it is one minute left it will turn yellow. And then you will get a red light after that. But we are flexible here. We want to hear as much as we can, but if I have to I will cut you off. So I appreciate that.

Our next witness is Mr. Roger Bundridge. See, I knew I was going to get it wrong and I apologize. It is kind of a tongue twister. Roger Bundridge.

Mr. BUNDRIDGE. Bundridge.

Chairwoman ELLMERS. Bundridge.

Mr. BUNDRIDGE. Yes.

Chairwoman ELLMERS. See, I kept putting another R in there. That is my problem.

Mr. BUNDRIDGE. That is fine.

Chairwoman ELLMERS. Roger Bundridge. He is the general manager of NorthwestCell based in Maryville, Missouri. I did say that correct. Yes?

Mr. BUNDRIDGE. Yes.

Chairwoman ELLMERS. Is it Missouri to you or Missouri?

Mr. BUNDRIDGE. I use Missouri.

Chairwoman ELLMERS. And the Maryville, okay.

Mr. BUNDRIDGE. Maryville. Yes.

Chairwoman ELLMERS. It depends on where you are. I have learned this.

Mr. BUNDRIDGE. That is right.

Chairwoman ELLMERS. Okay. As he has held this position for the past 10 years where he has helped to grow from 12 to 29 employees. He is testifying on behalf of the Rural Cellular Association. Welcome, Mr. Bundridge.

Mr. BUNDRIDGE. Thank you, Chairwoman Ellmers.

Chairwoman ELLMERS. I am going to get it right by the end of this. So thank you for your testimony. And please proceed.

STATEMENT OF ROGER BUNDRIDGE

Mr. BUNDRIDGE. Chairwoman Ellmers, Ranking Member Richmond, and members of the Subcommittee, thank you for the opportunity to be here today. My name is Roger Bundridge and I am the general manager for NorthwestCell.

NorthwestCell is headquartered in Maryville, Missouri, and provides mobile voice and broadband services to customers in five counties. NorthwestCell understands small business operations because we are a small business with 29 employees, one retail location, and 11 agent locations. We like to say that we are big enough

to serve you but small enough to know you. I also serve on the Board of Directors for the Rural Cellular Association, which represents over 100 competitive wireless carriers just like NorthwestCell.

The areas that we serve are primarily rural and we take pride in our commitment and support of these communities. Smaller rural and regional wireless providers connect Americans throughout their communities which allow them to innovate and compete. For example, I recently met with a group of farmers that will utilize our mobile broadband service along with iPads to control and maximize planting and harvesting. NorthwestCell also provides broadband data to the Nodaway County Sheriff's Department so that officers can access critical databases in real-time. NorthwestCell is the only company in our market that is capable of providing wireless 3G broadband service in both examples.

In order to be able to continue to serve rural America, NorthwestCell and other competitive wireless carriers have four critical needs. One, sufficient and predictable service through the new universal service mechanisms; two, access to usable spectrum; three, access to cutting edge devices; and four, reasonable terms and conditions for roaming service.

First, like most of the RCA members, NorthwestCell currently receives high cost support through universal service funding to construct, maintain, and upgrade high quality wireless networks at affordable prices in rural areas. Also, like many RCA members, NorthwestCell stands to lose all or a substantial portion of this funding as a result of the FCC's recent USF reform efforts. As part of these efforts, the FCC is working to establish the Mobility Fund to provide support for mobile wireless services. Unfortunately, the $400 million in annual non-Tribal support budgeted for the ongoing Mobility Fund will not be sufficient to provide continued expansion. The FCC must allocate additional funding. In addition, it is critical that the funding be distributed based on a forward looking cost model rather than a single winner reverse auction. The use of reverse auction methodology will make it virtually impossible for a small business to compete for funding for mobile broadband.

Second, increased consumer adoption of mobile services and the skyrocketing use of high speed data strains the carrier spectrum holdings. As capacity is exhausted, a carrier must acquire additional licenses either through the FCC auction or on the secondary market. The FCC's authority to auction spectrum expires this year, and it is important that Congress extends this authority. In doing so, Congress must preserve the FCC's flexibility to structure the auctions and license services in a manner that promotes competition and allows small businesses to participate.

Third, carriers have difficulties accessing the latest and greatest devices. Exclusivity agreements between device manufacturers and the largest carriers have limited the number of devices available to small carriers where devices will only work on a specific slice of spectrum. We need devices to continue to expand our service.

Finally, roaming is critical to connectivity. Customers expect their devices to work wherever they are. With the FCC's Data Roaming Order last year, carriers are required to offer roaming for both voice and data services at fair and reasonable rates. The order

is being challenged in court and the smaller and regional carriers may be unable to provide their customers with broadband roaming on the larger carriers' networks.

Despite these challenges, NorthwestCell and wireless carriers like us play a critical role in the market. For us to remain competitive in an increasingly consolidated industry and to continue to expand service to difficult to serve areas, I strongly urge you to support policies at the FCC and in Congress that level the playing field and allow smaller carriers to grow. One, with sufficient and predictable universal service support for mobile broadband; two, for competitive access to spectrum; three, roaming on commercially reasonable rates; and four, to offer cutting edge devices.

Thank you again for the opportunity to participate today.

Chairwoman ELLMERS. Thank you so much, Mr. Bundridge.

And now I am going to turn to Ranking Member Richmond to introduce our next witness.

Mr. RICHMOND. Chairwoman Ellmers, it is my honor to introduce to the panel and members in the audience Mr. Darrell West. Mr. Darrell West is the director of the Center for Technology Innovation at the Brookings Institution. He is the author of 18 books and is the winner of the American Political Science Association's Don K. Price award for best book on technology. His current research focuses on technology policy, the Internet, health care, education, and privacy and security. Welcome, Mr. West.

STATEMENT OF DARRELL M. WEST

Mr. WEST. Thank you very much, Chairwoman Ellmers and Ranking Member Richmond. I appreciate the possibility of testifying before this Committee.

As each of you pointed out in your opening statements, broadband is a crucial driver of job creation and economic development. Researchers have found a strong link between broadband innovation and overall economic prosperity. For example, a World Bank study of 120 nations found that each 10 percentage point increase in broadband penetration adds 1.3 percentage points to a country's gross domestic product. So there is a huge economic payoff in terms of investment in this area. We are also seeing tremendous growth in terms of mobile broadband in particular. Within four years it has been estimated that mobile broadband will comprise about 80 percent of the total broadband subscriptions. So it will become the dominant means of Internet connectivity. The applications that are enabled both by mobile, as well as fixed line broadband are especially important for small businesses and rural communities because these platforms have become the crucial areas for innovation in entrepreneurship, health care, and in education.

But in order to gain the benefits of broadband innovation there are three particular actions that we believe would further economic development and help small businesses. The first is in regard to the research and development tax credits. We argue that Congress should extend and make permanent the research and development tax credit. This is an example of our national short sightedness. Oftentimes the R&D tax credit gets extended on an annual basis. But rather than extend it over a longer period of time it gets renewed

episodically and never on a very predictable schedule. This ends up creating uncertainty and inefficiencies related to the vagaries of federal policymaking. Many other countries basically have made this permanent. They offer more favorable tax policies for infrastructure, development, and investment. So we argue first of all that we need to extend and make that tax credit permanent.

Second, we support reasonable Universal Service Fund reform. As each of you knows, our current fund dates back to 1997 when the Internet was in its infancy and there was little social media or few mobile devices. We think it is time to update our policies so that small businesses and consumers can take advantage of 21st century digital tools. The world has shifted from a communications model based on telephones and mail to a digital economy that relies on the Internet, mobile phones, e-commerce, and social media. But yet the billions generated for the USF continue to focus almost exclusively on phone services.

My Brookings colleague, Jeff Rosen, who is also a law professor at George Washington University, has undertaken research on the Universal Service Fund and he finds that the programs are inefficient, they are expensive, and they are redundant in what they provide. He finds examples where the costs for terrestrial fixed line service is much more expensive than mobile or satellite telephone services that are available in those very same communities. He finds some communities have multiple carriers each receiving high cost program subsidies. So we think it is time to update the Universal Service Fund to allow those living in underserved communities to use the funds to cover both voice as well as broadband services.

We also support the idea of reverse auctions. David Wyld, who is a professor in Louisiana, has undertaken research on this. There are a number of federal agencies that already are using reverse auctions—the State Department, the Defense Department, and so on. He finds major cost savings of over 25 percent an increase in transparency. He also finds that more than 80 percent of the winning bids out of these reverse auctions have gone to small businesses. So they do not really benefit large companies; it is actually small companies.

We support the use of incentive auctions in the spectrum area to reallocate a scarce spectrum. We think this is a good way for Congress not just to raise money for the federal budget but also provides a mechanism for companies to sell their unused spectrum. We think that the FCC should have the authority to set up the eligibility requirements for these auctions and also provide the licensing conditions that would then allow them to attach some provisions in order to further a particular goal. So with these actions we think small businesses would have a fair opportunity to gain the benefits in the new digital economy.

Chairwoman ELLMERS. Thank you so much, Mr. West.

And our final witness is Ms. Becky Sanders. She is the director of the Indiana Telehealth Network based in Terre Haute, Indiana. She oversees the development and network administration of their 60 remote health care facilities. She is testifying on behalf of the National Rural Health Association. Welcome. You have five minutes for your testimony. Thank you.

STATEMENT OF REBECCA SANDERS

Ms. SANDERS. Thank you. Good afternoon, Chairwoman Ellmers, (coughed), Ranking Member Richmond, and members of the Subcommittee. I am honored to stand before you today. Thank you for the opportunity to testify today on behalf of the National Rural Health Association and the Indiana Rural Health Association.

As Representative Ellmers said, the Indiana Telehealth Network has about 60 members right now. We are one of the 50 remaining projects under the FCC's Rural Health Care Pilot Program. That program does allow for 85 percent subsidies for construction and monthly recurring services for rural health care providers.

We have 35 critical access hospitals in the state of Indiana, about 20 of them are participating in our network. We also have about 20 community mental health centers participating in our network. We have found that with the buildout of over 200 miles of fiber constructed through the Federal Communications Commission's Rural Health Care Pilot Program and the objective scoring process that is part of the Pilot Program, that it is the rural telephone companies who have been our most successful vendors. That is their market. They are friends and neighbors of the rural folks that are operating the hospitals, clinics, and the banks in the rural communities we serve. We have six very strong examples of public-private partnerships between local economic development organizations and health care organizations. The average standard fiber construction costs are about $44,000 per mile. While I agree with my colleague Mr. West that it is more expensive than a wireless setup, health care providers will not rely on wireless to do their day-to-day business for telepharmacy, for radiology, for transferring electronic medical records. They do not believe that it has the five nines of reliability that the PSTN was built upon.

Based upon our experiences with the Rural Health Care pilot program, and the regular primary RHC program, we have found that there are a lot of administrative burdens, a lot of cumbersome forms that have to be filled out. When thinking about USF reform I would argue that streamlining these programs, and continuing to allow consortiums to work together in a public-private partnership arena is the best way to move forward.

Universal Service Reform needs to happen but there still is a large need for subsidies. When telephone companies like Yadkin Valley Telephone were built about 100 years ago, many of them formed co-ops. Farmers and the rural communities that came together with doctors in the rural communities that wanted to have reliable phone service in areas that larger telecommunications companies would not serve. If we look at that kind of model again and we look back to those types of cooperatives, I think we will find a very good model going forward as we look at rolling out broadband to all Americans across the nation.

Just a couple other things. We talk about America being the land of the dreams and I thought it was very interesting last night in Washington, DC, in my hotel when I was trying to do some final research for my comments today, that I did not have adequate wireless access in my hotel room to do what I needed to do. There are huge opportunities across the nation for wireline providers, and for wireless providers to work together to bring broadband services

to Americans. In those communities that I mentioned where we have very good public-private partnerships, it was the local economic development organizations that came to me and said, "Hey, I hear that you have this program that can help us get fiber to our community. Not only is it going to help the hospital; it is going to help the community. I have businesses that want to relocate here that will not do it unless we have reliable broadband in our community. So what do we need to do to sign on?"

Thank you for your time today.

Chairwoman ELLMERS. Thank you. Thank you so much, Ms. Sanders. And we will go right into questions. Thank you all for your opening statements. I will start with questions. This question is for everyone on the panel. And Ms. Sanders, since we ended with your testimony I will start with you first.

The National Broadband Plan sets the goal of providing affordable broadband coverage to every American in the next decade. How would you evaluate the government's performance so far? That is a big question. And how are you working to help reach these goals? And I know, Ms. Sanders, you have already addressed some of those. So, please, if you will.

Ms. SANDERS. When you look at the National Broadband Plan—I believe it is in section 10—and in my written testimony I have included some exhibits that talk about the needs for health care providers; a minimum of five megabits for a single physician office is the recommended broadband connection for electronic medical records. For those in the health care industry, the adoption of Meaningful Use and electronic medical records is very important, in coming years healthcare providers will be penalized for not adopting electronic medical records. That is one of the reasons that adequate broadband access is so important.

Programs like the USF Rural Health Care Program are a huge step forward. It has taken a lot of time to put our program together but I think we are at the tip of the iceberg. And as the years progress and as we continue to build trust and relationships with all of our health care participants and the vendors that we are working with, we will begin to see the benefits of what we have built.

Mr. WEST. I would say that we have made tremendous progress in the national broadband area. Certainly, when you look at some of the interesting new applications that have cone online in terms of health care and education in particular, there are lots of exciting new things. But I think there is still a lot of work yet to be done. The general criticism that I would have is I think we just need more flexibility in how we are using the dollars. I mean, I think we are still tied to a telephone landline model in an era where we are moving from telephones to digital outreach. And even within the digital sphere we are moving from fixed lines to mobile. Within five lines most applications are going to be mobile. And I think even in the health care area there are exciting new opportunities developing in mobile health. We have done studies at Brookings in terms of some of these new programs that are going online. So I would just encourage Congress and certainly the various federal agencies to try and build a little more flexibility into some of these programs.

Mr. BUNDRIDGE. Speaking on behalf of NorthwestCell, my company in the last 10 years has constructed from 12 cell sites to 29–35 cell sites, I apologize. And we have even included 3G wireless service. I mentioned a couple examples where we have 3G service and we have been able to support farmers and public safety agencies. We have done this through the support of USF and the system that we have been currently using has been working. And for the past three years our company has been under a cap and still we are not contributing to the growth of the fund. So we are still continuing to offer broadband service in our region. And we continue, in order to migrate to 4G services and support the growth of mobile broadband service we need to continue to receive funding to help do that in unserved areas.

Ms. BRANON. At Yadkin Valley Telephone we have made a lot of progress towards our broadband deployment. Since 2005, we have spent a little bit over $40 million on fiber to the home. We have not gotten to all of our customers yet but we are certainly working on that and we are constantly hearing from small businesses how they need more speed, more speed. And we are able to do that with the fiber but even now with the download speeds that we are offering in those areas up to 25 meg, we are now hearing they would have demands for higher speeds, the upload speeds.

So they want it both ways now and that is a requirement. And we have also seen a lot of small businesses in our territory taking advantage of the broadband. We recently had a company, Southern Farm Supply, and we installed 12 computers there. We actually are their IT provider as well. And obviously they are—and they use our firewall service also, so they are using the Internet for their business and they are in our area. We have another trucking dispatching company that has been able to put people in their homes to work out of to do the dispatching because of the broadband that we provide to them. So that has been a great efficiency builder for them and has enabled those people to work out of home.

We have also had a couple of different companies who have bought IP phone systems. They are in the rural areas and these enable them to connect with other companies outside of our area as if they are on the same phone system. The IP system is doing great.

As far as the broadband plan, we were fortunate enough to last year receive the loan grant dollars. So that is going to enable us to get even to the more rural areas where you have hardly, you know, very, very few customers per mile. But we can only use that money in underserved areas. We cannot use that in our home territory, but we are taking advantage of that. And that is working along well.

We are striving to get 25 meg out to all of our customers over the next several years but with the regulatory uncertainty with the Universal Service Fund, you know, it really makes us weary of really committing ourselves to a lot of investment right now and not knowing what the future is going to be because we really rely on the universal service and intercarrier compensation to help us recover the cost of our network.

And we have a lot of users on our network. You know, we have long distance carriers and we work with the wireless carriers to

carry traffic. So lots of times for the heavy traffic, when it hits a tower they then connect to our fiber, which you have to have that to be a carrier for the heavy data usage that is coming and is already here. Thank you.

Chairwoman ELLMERS. Thank you. And I have one more question for now and this question is for Ms. Sanders.

In your testimony, or excuse me, let me back up. I am looking at the wrong one. Earlier today the Gallup Poll actually put out some poll data that I think speaks volumes. Forty-eight percent of small businesses are not hiring new employees due to rising health care costs; and 46 percent are focused on uncertainties in the new government regulations.

So my question for you is the effect of the broadband on health care. Do you feel, or how do you characterize the access of broadband in reducing the costs of health care for your facilities? And do you believe it has helped small business health care facilities become more independent and viable?

Ms. SANDERS. That is a really good question. I wish I had a crystal ball.

There is a lot of uncertainty in health care reform as well as Universal Service Reform and intercarrier compensation. And the answers to those questions will help us solve and answer this question.

From the rural health practitioner standpoint, I have seen a lot of use of telemedicine over our network and other networks that we have been in touch with. With electronic medical records, just like any new technology, or any new procedure, there is a little bit of chaos at the beginning, but once things calm down most practitioners are finding that they are able to see more patients and be more productive with electronic medical records.

Now, in a telehealth situation, a specialist could stay in an urban area and see patients all over the world. That makes for an even more productive workday. Without telehealth, many physicians today from metropolitan areas in Indiana will spend one day a week on the road, traveling to various rural sites and see patients, maybe once a month in any given rural community. The physicians have a lot of travel time on the road. They are not nearly as productive as they could be over telemedicine.

Chairwoman ELLMERS. Thank you so much for that input.

And now I am going to yield to Ranking Member Richmond for his questions.

Mr. RICHMOND. Thank you, Chairwoman.

I will start with just a small story. My mother is from the poorest place in the country, which is Lake Providence, Louisiana. When we talk about broadband and we talk about how that affects small and poor communities, when I visit there, the restaurants lose money and the hotels lose money because I will not say there. I will drive 30 miles to Vicksburg so that I can have broadband and cell service as opposed to staying in my mother's hometown and renting a hotel and eating there at night. And we typically do not think about the economic development in those terms. But if you do not have it, you are not staying there, especially people who are hooked to their devices and people who have to use it for their

business. I guess I will start with Mr. West for my first question then.

We have heard a lot of compelling testimony that broadband connectivity has become a critical economic driver of the U.S. economy. Small firms in particular rely on broadband networks to expand their markets and become more competitive. To that extent, do you believe that broadband-related dollars could translate quickly into jobs for American workers?

Mr. WEST. Absolutely. I mean, broadband is clearly a huge driver of job creation. As I pointed out in my testimony, if we just increase people's access to broadband we are going to raise GDP on average 1.3 percentage points. So right now the United States is roughly at about a 70 percentage Internet usage level so there still are 30 percent of Americans who are outside the digital revolution. So if we can just improve access by getting costs down and by improving digital literacy programs we can get broadband out to underserved communities, both in rural as well as in urban areas, there is going to be an economic payoff. Small business is going to be a big beneficiary of that because a lot of the high tech jobs really are being created at the small business level. So anything we can do to ease the regulatory burden, improve access, and boost Internet broadband usage is going to pay off economically.

Mr. RICHMOND. Thank you. And Mr. Bundridge, considering what Mr. West just described, I guess looking at the reports by the FCC and USDA with the impact of broadband on farming and tourism, for small rural carriers how do you promote greater adoption among small businesses in your local communities?

Mr. BUNDRIDGE. I think since I live within the areas that I serve I have a personal relationship with those small businesses and the people in those communities. Within my market we have a county, Worth County, Missouri, and it is actually one of the poorest counties in Missouri. There are 2,000 people in that county, and my company decided to go in and build a cell site there five years ago. I received a petition from somebody there within the community wanting service and so we moved forward on that. We started off. We worked with the city and we put something on a water tower. It just let us come in here and at a low cost try to create some service for you. And we went in and did that and we started getting customers out of it. So the perception that it was a poor county caused companies to stay out of it. Today we have—over 50 percent of the customer base there has our service and in turn, since they have our service, you know, we find ourselves supporting the schools and the small businesses within that community on a regular basis since it is, you know, since we have such a large customer base there now as a percentage of the customers.

So I think to go into some of these communities in these rural areas that you mentioned, there is a lot of need there. And there are a lot of people that need broadband, mobile broadband, along with fixed broadband services. And companies like ours are the ones that are going to go in there since we have a personal relationship with those communities to build that out.

Mr. RICHMOND. Ms. Branon, we know that many of the rural service providers face high deployment costs associated with serving low density areas. How is your business dealing with those

costs? And as an industry, where do we stand with respect to deployment of broadband services in rural and high cost areas?

Ms. BRANON. We have, like I mentioned a minute ago, we have taken advantage of the BIP Loan Grant. We received a $22 million half loan, half grant, and we look advantage of that. We have slowly started, you know, we started building out our fiber to the home network, which goes to homes and businesses in 2005. And as far as the high cost with that, we were fortunate that we did not have to borrow a lot to do that but ongoing we are going to have to think about ways we are going to have to do things differently. And that is where the whole thing with the Universal Service Fund is very scary for us because we are not sure how we are going to be able to move forward with that uncertainty with what is going on with that.

Mr. RICHMOND. With the grant that you all received, what was the process like to get it?

Ms. BRANON. It was very cumbersome. A lot of paperwork. It took us, you know, we had to hire outside engineers to help us do the paperwork. There was so much involved with that. We had to do in-depth analysis of who else was serving in those areas, if we had competition, and were they truly underserved? Because they had to be underserved to get that dollar. So we spent a lot of money doing the application. And then we had to go through the waiting process to see if we were going to get it. You know, we put in a lot of dollars to get that loan grant.

Mr. RICHMOND. Do you have any idea how much you all spent?

Ms. BRANON. Just the pre-loan work, I would say $100,000 to $150,000 pre-loan.

Mr. RICHMOND. Madam Chairwoman, I yield back now and then we can see if we can kind of get through.

Chairwoman ELLMERS. Just so you are aware, I have another question I would like to ask all of you. It is really kind of a three part question but we have been called for a vote so we are going to continue on but they will hold it open. So we have got a few more minutes.

Basically, my last question for all of you is how do you keep track of the variety of federal regulations that are coming down in Washington, number one. And how does this influence your business strategy? And lastly to that question I would like to ask you, if you could eliminate one federal regulation, what would it be?

And I will start with you, Ms. Sanders.

Ms. SANDERS. Wow. Can I go last? Keeping track of things, the Indiana Rural Health Association has 13 employees—or I am sorry, 12 employees. We do our best to keep track of things. We each have our own little areas that we keep an eye on as far as federal grants, that type of thing. It is very difficult to know.

For example, yesterday I was at a meeting. We were talking about rural EMS services and somebody said, "Oh, hey, did you see this grant? This would be perfect for you guys." I had no knowledge of it so she sent it over.

In an effort towards reducing paperwork, and administrative work, we use grants.gov. But if there was a better way to consolidate all of the different grants it would be very helpful. For example, we have talked about BIP and BTOP a little bit, as well as

USDA funding. Keeping track of all of the different grant opportunities is a very difficult process.

And to reduce legislation, not necessarily legislation but just streamlining of government programs more work between government agencies. As a FCC rural health care pilot program, we looked at BIP and BTOP. We estimated maybe $100,000 on paperwork to try and apply for that. We did not have it. WE did not have the manpower. We did not have the money to hire anybody to do it. So we could not even think about taking advantage of that particular program.

The more that the federal government can do to streamline the processes and reduce administrative burden, the better off we all will be.

For example, the FCC Pilot Program does not include any administrative assistance at all. So we had to go to outside sources or resort to membership fees to cover our own costs.

Chairwoman ELLMERS. Thank you. Mr. West.

Mr. WEST. I will try and keep my comments brief because I know you have time constraints.

I agree with many of the comments that have been made and certainly, you are right. There are a huge number of federal regulatory requirements that stifle innovation, especially in the technology area, so whatever we can do to ease the burden there would be helpful. One particular thing that I would highlight in terms of things the federal government could do is to keep free and unlicensed spectrum because I think particularly when you are thinking about the small business community, it is the freedom and license spectrum that, you know, mothers use for baby monitors, people with smartphones use to access the Internet, and a wide variety of small businesses use to communicate with their customers. And so, you know, in the recent budget debates there has been a proposal to kind of limit the free and unlicensed spectrum. I think that would be devastating for small businesses and would have a very negative impact on entrepreneurs.

Chairwoman ELLMERS. Thank you.

Mr. BUNDRIDGE. I depend on my trade organization, Rural Cellular Association, to keep up on issues. As far as your question what burdens our companies, there are many things. I would tend to think though the administration or administrative burdens and streamlining policies that help foster small businesses like mine to compete.

Chairwoman ELLMERS. Thank you.

Ms. BRANON. At Yadkin Valley, we rely heavily on NTCA, which is the National Telephone Cooperative Association. They do a great job of keeping us informed. We do also use some consultants for that kind of thing, who help us do some regulatory things that come across. New things that we have not dealt with before, we rely on those outside consultants. And I will have to agree with them; the administrative, you know, all the paperwork, all the extra things we have to do, especially like with the loan grant. We just went through an audit with that and there is a lot of time involved. We had a RUS auditor just left earlier this week and it is a lot.

Chairwoman ELLMERS. Ranking Member Richmond will have another question.

Mr. RICHMOND. Right. Hopefully we can keep it short. I am not as confident as the Chairwoman, especially being in the minority and being a new member that they are going to keep the machine open for me. And the truth of the matter is as soon as they get to the votes I think the Chairwoman is in trouble, too, as soon as they get to the number they need.

Seriously, looking at, the recommendations that have come from you all, I was trying to take notes. One was leveling the playing field, predictable universal service support, competitive access to spectrum, roaming, commercial reasonable rates and availability of cutting edge, interoperable devices, and making the R&D tax credit permanent so that people can properly plan and know that it is going to be there and can invest and calculate their business model accordingly. Is there anything else that you can think of in like a minute or so that we should look at that can be a legislative fix or something through the administration that you think could help what we are trying to accomplish?

Mr. WEST. I mean, one issue I would highlight is the need for digital literacy programs because particularly with that 30 percent of Americans who are outside the Internet revolution, I mean, some of it is costs, so reducing costs will help. But for a fair number of these people it is like they do not know how to use the Internet, they do not know how to set up their computers, they do not know the virtue of the computers. I grew up on a farm and I remember earlier the United States had the Agricultural Extension Service to kind of go out and train people on new techniques. For the digital world we need to think about the same type of thing.

Mr. BUNDRIDGE. I think about education. Looking at e-readers. A lot of people in these small communities do not have access to Internet. If they could access Internet through an e-reader, through a mobile product, or a fixed product, then I think that would drastically help our education.

Chairwoman ELLMERS. Ms. Branon.

Ms. BRANON. I do not really have a comment about that right now.

Mr. RICHMOND. Thank you very much.

Chairwoman ELLMERS. Thank you. And thank you to all of our distinguished panel today for your participation. Your input is very important to us.

This Subcommittee will continue to closely follow the actions of the federal government in expanding broadband to small businesses. I look forward to working with my colleagues to ensure that the federal policies do not obstruct the private sector investment in broadband infrastructure, as this will have an adverse impact on small businesses and their ability to grow.

I ask unanimous consent that members have five legislative days to submit statements and supporting materials for the record. Without objection, so ordered.

This hearing is now adjourned.

[Whereupon, at 1:50 p.m., the Subcommittee hearing was adjourned.]

Statement by

Mitzie Branon
General Manager
Yadkin Valley Telephone Membership Corporation
Yadkinville, NC

On behalf of the

National Telecommunications Cooperative Association,
Organization for the Promotion and Advancement of Small Telecommunications Companies, and Western Telecommunications Alliance

Before the

United States House of Representatives
Committee on Small Business
Subcommittee on Healthcare and Technology

Broadband: A Catalyst for Small Business Growth

February 15, 2012

I. Introduction

Thank you for the invitation to participate in today's discussion on the role of broadband access in the startup and growth of small businesses. Broadband has quickly become an essential service that plays a key role in creating jobs in America's small business community. For the past two years I have served as General Manager of Yadkin Valley Telephone Membership Corporation, which is headquartered in Yadkinville, NC. Prior to my current position, I served as General Manager of Yadkin Valley Telecom, a subsidiary of Yadkin Valley Telephone, for four years. Before that I served as Controller of the Company for ten years. I regularly work with the National Telecommunications Cooperative Association (NTCA), which represents small, community-based telecommunications cooperatives and other small telecom providers in Washington, DC. My remarks today are on behalf of Yadkin Valley Telephone, as well as NTCA, OPASTCO, and WTA and their collective several hundred small community-based members that provide a variety of communications services throughout the rural far reaches of the nation.

We believe our industry is uniquely qualified to participate in today's discussion because we are consumer-centric small businesses that are leading the way in deploying high-speed, sustainable broadband to rural America, thereby providing an incubator for small business ideas in rural America to be implemented and to flourish. Yadkin Valley, similar to nearly half of NTCA's other members, operates and functions as a cooperative. In a cooperative structure, the consumers are also the owners, so every idea and every action is made from both an owner and a consumer perspective – the two are truly one and the same. Likewise, those rural providers that are family or commercially owned are also consumer-centric because they are locally owned and operated.

Yadkin Valley's top priority has always been to provide every one of our consumers, who are also our owners, with the very best communications and customer service possible. Yadkin Valley has several lines of business, including incumbent local exchange service, competitive local exchange carrier service, Internet Service Provision, Video, Broadband, Long Distance, and Wireless. Make no mistake – while our headquarters are in Yadkinville, we in fact serve over 26,000 customer lines across our 670 square mile rural service area that is spread across the Piedmont portion of the state of North Carolina. This constitutes about 39 customers per square mile. We employ a total of 160 people and in 2011 our annual operating revenue was about $34 million dollars. Our service area is rural and sparsely

populated, requiring great effort to get advanced services to our customers. In our industry's parlance, as a small rural provider of this size, Yadkin Valley is a Tier 3 carrier.

Let me give you a quick snapshot of how Yadkin Valley compares with several other industry entities. Verizon, AT&T, and CenturyLink are classified as large, or Tier 1 carriers, and also operate in multiple states. Verizon has a workforce of nearly 194,000 and annual revenues of $106.6 billion. AT&T has a workforce of 266,590 and annual revenues of more than $123 billion. CenturyLink has a workforce of 45,000 and operates in 37 states. Clearly with operations of this size, the priorities, objectives, and sources of capital are generally far different from Yadkin Valley's community-based limited-scale approach to doing business. And it is important to note that among the small rural Tier 3 carriers, Yadkin Valley is one of the larger carriers. So as I describe the difficulties that our company confronts, just multiply those for the hundreds of carriers that are even smaller than us.

The entrepreneurial spirit of Yadkin Valley is representative of our approximately 1,100 small rural counterparts in the industry, who together serve approximately 40% of the nation's land mass, yet about 5% percent of the population. Like the vast majority of our rural colleagues, Yadkin Valley has always been an early adopter of new technologies and services. Yadkin Valley currently has 1.5 Megabit broadband service available to 96%, 3 Megabit broadband available to 82% of our service area, 5 Megabit broadband available to 61% of our service area, and 25 Megabit broadband service available to 45% of our customer base. We are currently working on a strategic network plan to deliver the 25 Megabit broadband service to the remaining 55% of our customer base. These speeds cannot be delivered with copper. Much of the small business world will be demanding these fiber-delivered speeds in the very near future.

When Internet first became widely available in the 1990s, Yadkin Valley donated time and material to wire local schools. We also provide dedicated broadband circuits to community colleges that have satellite campuses in our service area. Yadkin Valley recently provided dedicated fiber Metro-Ethernet circuits that connect a large hospital in Winston-Salem to doctors' offices and other medical facilities in our service area, empowering them to use state-of-the-art technology for transmitting patient files, medical records, and images efficiently.

Small businesses in the area are better equipped to startup and grow thanks to the efficiencies broadband delivers. The network we provide allows companies from around the world to reach our customer base through the internet. For residential customers, we are willing to go the last mile with broadband to provide them with opportunities to work from home or participate in on-line classes.

We provide fiber to the wireless towers in our service area. At these towers, wireless carriers such as Verizon, AT&T, and T-Mobile buy circuits from Yadkin Valley to connect to the land lines that carry the bandwidth-heavy data and voice services. Without the investment we have made over the years, the wireless carriers would either decline to serve these rural areas or be forced to make much larger investments in their plant facilities.

From 2005-2011, Yadkin Valley invested $40 million in our Fiber to the Home project. This investment gave 42% of our customer base Fiber-to-the-Home. In the latter part of 2010, we were notified that we had been awarded a US Department of Agriculture Rural Utilities Service (RUS) Broadband Initiatives Program 50%loan/50%grant. This money is being used in the most rural underserved parts of our service area to provide broadband service.

Yadkin Valley is a carrier of last resort and has always operated under the premise that if someone wants service in our service area, then we do whatever it takes to provide them with that service. Ever since Yadkin Valley began operating in 1950 we've been proud to serve as the only provider to the most rural areas of North Carolina while the other carriers chose to serve only the most profitable and densely populated towns. Rural Americans throughout Yadkin Valley's service area, and indeed throughout the markets of NTCA, OPASTCO, and WTA members, are enjoying universal voice service, access to broadband Internet services, and enhanced emergency preparedness.

II. The Benefits of Rural Carrier Investments and Operations Flow to the Entire Economy

The American economy runs on broadband. As the Federal Communications Commission (FCC) stated in its February 2011 Notice of Proposed Rulemaking for Universal Service Fund (USF) and intercarrier compensation (ICC) reform:

> Ubiquitous broadband infrastructure has become crucial to our nation's economic development and civic life. Businesses need broadband to start and grow; adults need broadband to find jobs; children need broadband to learn. Broadband enables people with disabilities to participate more fully in society and provides opportunity to Americans of all income levels. Broadband also helps lower the costs and improve the quality of health care. As important as these benefits are in America's cities—where more than two-thirds of residents have come to rely on broadband—the distance-conquering benefits of broadband can be even more important in America's more remote small towns, rural and insular areas, and Tribal lands. Furthermore, the benefits of broadband grow when all areas of the country are connected. More users online means more information flowing, larger markets for goods and services, and more rapid innovation. [1]

The Small Business Administration (SBA) reported in 2010 that the small business broadband adoption rate was at 90% and approximately 71% of small businesses had a website. [2] Among businesses with Internet service, the share that still uses dial-up connections decreased dramatically from 44% in 2003 to 6% in 2010, demonstrating how essential high-speed, high-capacity broadband has become to doing business in the US. In fact, it appears that many businesses want even faster speeds than they are currently receiving. That same 2010 report stated that almost half (48%) of rural respondents and more than one-third (37%) of metro respondents report that they are not satisfied with their Internet speed. It is impossible to estimate the economic impact that small business use of broadband has on the US.

Small rural community based telecommunications providers alone contributed $14.5 billion to the economies of the states in which they operated in 2009. [3] Of this, $10.3 billion was through their own operations and $4.2 billion was through the follow-on impact of their operations. Two-thirds (34

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[1] *Connect America Fund, A National Broadband Plan for Our Future, Establishing Just and Reasonable Rates for Local Exchange Carriers, High-Cost Universal Service Support, Developing a Unified Intercarrier Compensation Regime, Federal-State Joint Board on Universal Service, Lifeline and Link-Up: Notice of Proposed Rulemaking and Further Notice of Proposed Rulemaking,* WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 07-135, WC Docket No. 05-337, CC Docket No. 01-92, CC Docket No. 96-45, WC Docket No. 03-109, FCC 11-13, at para. 3 (2011) (NPRM).

[2] Columbia Telecommunications Corporation. Small Business Administration, Office of Advocacy. (2010). *The impact of broadband speed and price on small business*

[3] Kuttner, H. Hudson Institute, (2011). *The economic impact of universal telecommunications: The greater gains*

percent or $4.97 billion) of the $14.5 billion final economic demand generated by rural telecom companies actually accrues to urban areas. The rural telecommunications sector supported 70,700 jobs in 2009, both through its own employment and the employment that its purchases of goods and services generated.

If businesses want to reach today's consumers, then they must have access to robust, reliable broadband. The National Telecommunications and Information Administration's November 2010 report titled "Exploring the Digital Nation: Home Broadband Adoption in the United States" stated that home broadband usage went from 51% in 2007 to 64% in 2009.[4] Sixty-six percent of urban (metropolitan) Americans subscribe to broadband at home, as compared with 51% of rural (non-metropolitan) Americans.

The job-creating benefits of broadband have been reported far and wide. Recent studies conclude that every one percentage point increase in broadband penetration in a state increases overall employment by 0.2% to 0.3% a year.[5] Further, an area moving from no broadband providers to one to three providers during the years 1999 through 2006 realized 6.4% employment growth on average.[6]

So, we know that a robust broadband infrastructure is critical to economic development. We know from a technological standpoint that all broadband networks, whether wireless or wired, ultimately rely upon the wired network. And we know that wired networks provide the capacity to support the type of applications that this nation critically needs: telehealth, distance learning, civic participation, and interstate and global commerce.

To not have access to high-speed Internet in this day and age is unimaginable to most people, but as many as 24 million Americans—one in thirteen of us—live in areas where there is *no access to any broadband network*.[7] According to the FCC's National Broadband Plan, 14 million people do not have access to terrestrial broadband capable of download speeds that "can support today's and tomorrow's

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[4] (n.d.). Retrieved from website: http://www.esa.doc.gov/sites/default/files/reports/documents/report.pdf
[5] (n.d.). Retrieved from website: http://www.brookings.edu/~/media/Files/rc/papers/2007/06labor_crandall/06labor_crandall.pdf
[6] (n.d.). Retrieved from website: http://www.ppic.org/content/pubs/report/R_110JKR.pdf
[7] NPRM at para. 5.

applications," and such housing units are more common in rural areas.[8] These people have small business ideas that need broadband to succeed and they need jobs that small businesses can provide.

III. The USF & ICC Mechanisms are Essential to Broadband Availability, Service Quality, and Adoption in Rural Areas

The Universal Service Fund (USF) and intercarrier compensation (ICC) system have long played a role in connecting all of America by supporting telecommunication services in rural areas. The federal USF was created to provide predictable, sufficient, and specific support for operations in high-cost rural areas. As Congress recognized in the Telecommunications Act of 1996, these areas need support to ensure the availability of affordable, high-quality services for consumers. High-cost USF is a program that enables providers to deploy and operate advanced networks in places where low customer density, vast distances, and rugged terrain deter even the most optimistic business cases.

Without sufficient and predictable USF support to supplement customer revenues, rural carriers, who serve an average of 10 customers per square mile, would be forced to drastically reduce service or charge retail prices that no consumer could realistically afford. Both outcomes would be inconsistent with long-standing national statutory policy demanding that all Americans receive access to affordable advanced communications services that are comparable in price and quality. These networks connect rural communities and outlying farms and ranches with the rest of America and the world. Even if a wireless carrier were to operate in some portion of a rural area, that wireless carrier could not deliver high-quality broadband without the robust underlying capacity of the networks provided by these small entrepreneurial community-based carriers. There is good reason that Congress mandated universal service in the Telecommunications Act of 1996 – it helps fuel the rural and national economy and ensures the availability, affordability, and quality of communications products and services.

With the help of USF and ICC, rural carriers provide near-universal voice service to all Americans and have increased broadband penetration to 92% of their consumers with only 3% growth per year in USF support over the past several years (based on the FCC's current broadband definition of 768 kbps down and 200 kbps up). But this task is not easy, and more remains to be done. In many cases, the

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[8] *See Connecting America: The National Broadband Plan*, FCC (rel. Mar. 16, 2010) at 20.

broadband that rural carriers have deployed is only DSL speed. This basic level of broadband often does not reach the speed – 4 Mbps downstream/1 Mbps upstream – that the FCC has now identified as a target level of "universal service" and it clearly does not meet the needs of many small businesses according to the 2010 SBA study referenced above. The time has come to update these important network support mechanisms to ensure that everyone can participate in the economy made possible by a nationwide integrated advanced communications network.

The FCC released its USF/ICC reform Order on November 18, 2011 with the aim of transitioning the program to explicitly support broadband service in rural America.[9] At the request of the FCC, the rural carriers and larger providers reached agreement on a Consensus Framework for reform last summer that would've kept the fund at its current level while supporting faster broadband to more Americans.[10] The parties to the Consensus Framework made many difficult compromises to reach an agreement in the hope of achieving universal broadband service and gaining some regulatory certainty. However, the FCC's order failed to adopt provisions promoting broadband service in rural carriers' service areas, cuts existing cost recovery mechanisms for rural carriers retroactively, and proposed a Further Notice of Rulemaking with the potential for more cuts. In sum, rural providers will be expected to do more with less opportunity for cost recovery and don't even get the regulatory certainty they sought as the Further Notice hinders lending and investment. This "regulatory overhang" is undermining job creation, network investment, and the sustainable quality of broadband services in wide swaths of rural America.

We believed that with all of the facts before them, the FCC would've taken advantage of the opportunity to make bold recommendations that would include a call for a national commitment to invest in and maintain state-of-the-art communications technologies throughout all of America. Unfortunately, the agency's narrow focus on delivering broadband to the completely unserved fails to acknowledge that America's most rural areas can only be served with the help of ongoing high cost support.

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[9] *Connect America Fund*, WC Docket No. 10-90, *A National Broadband Plan for Our Future*, GN Docket No. 09-51, *Establishing Just and Reasonable Rates for Local Exchange Carriers*, WC Docket No. 07-135, *High-Cost Universal Service Support*, WC Docket No. 05-337, *Developing an Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Lifeline and Link-Up, WC Docket No. 03-109, Universal Service – Mobility Fund, WT Docket No. 10-208, *Report and Order and Further Notice of Proposed Rulemaking*, FCC 11-161 (rel. Nov. 18, 2011).

[10] *See* Letter from Walter B. McCormick, Jr., United States Telecom Association, *et al.*, to Chairman Genachowski, FCC, WC Docket No. 10-90, *et al.* (filed July 29, 2011).

Missouri State University found that if USF were eliminated, 1,524 direct and 3,500 indirect jobs would be lost over the next five years. This would end up costing the state over $604 million in lost economic output over that time period. Colorado State University found that if rural telecos in that state lost 30% of their USF payments, payroll would be reduced by $2.2 million resulting in lost economic output of $10 million and $608,000-873,000 in lost state and local tax revenue per year.

A study undertaken by New Mexico State University reported that, in 2012 alone, reductions in USF based upon early 2011 proposals by the FCC could lead to a total employment loss in New Mexico of 335 jobs, with more than 260 of those jobs being outside the telecommunications industry. Personal income in New Mexico would decline $200.3 million, leading to a loss in state tax revenue of $13.6 million.

Oklahoma City University predicts 3,000 lost jobs over five years in Oklahoma, with lost wages of $123 million. The news from Kansas is no better – Wichita State University estimates that USF reductions proposed by the FCC in its February 2011 Notice of Proposed Rulemaking would cost rural Kansas 367 jobs and $51 million in wages over a five year period. These results are not limited to the telecommunications sector, but instead extend to firms that do business with the carriers and their employees.

Rural providers sincerely hope that the FCC will expressly decline to act on several aspects of its Further Notice and instead signal service providers, lenders, investors, and consumers that it will allow adequate time for adjustment to the changes already made in its Order. Moreover, since carriers cannot "undo" loan commitments or "tear out" existing networks, the FCC should make clear that any caps or other limitations on cost recovery already adopted in its Order will be applied prospectively. As it has done for consumers in other areas, the FCC should adopt a Connect America Fund that will provide additional funding for broadband-capable deployment in areas served by rural providers.

Reforming USF and ICC properly is essential to achieving our national goal of universal broadband access and to the livelihood of thousands of job-creating small businesses that need broadband to compete in a global economy.

IV. The Rural Utilities Service is an Equal Partner

Another important tool helping advance state-of-the-art networks is the ability of small rural communication companies to obtain financing from RUS, which has been lending for broadband capable plant since the early 1990s. RUS programs have helped rural providers deploy modern networks in many rural areas where the market would otherwise not support investment. Reliable access to capital helps rural carriers meet the broadband needs of rural consumers at affordable rates.

Unfortunately, the success, momentum, and economic development achieved from the RUS's telecommunication programs are put at risk as a result of the regulatory uncertainty created by the ongoing cost recovery reform proposals I outlined above. RUS lending and USF support are inextricably linked as 99.2% of RUS Telecommunications Infrastructure borrowers receive high cost USF support. The presence of high cost recovery is crucial to the RUS telecom and broadband loan calculus. Dangerous cuts to USF, especially if applied retroactively, could put billions of RUS loans at risk of default. In addition, regulatory uncertainty has led to private lenders becoming less willing to provide financing for rural broadband projects – making RUS communications programs more vital than ever before.

As Congress continues to grapple with where to best direct scarce resources, it's important to note that the RUS Broadband Loan Program and the traditional Telecommunication Infrastructure Loan programs are funded with loans that must be paid back with interest – creating a win/win situation for rural broadband consumers and taxpayers. Last year, during debate on the FY 2012 Agriculture Appropriations Bill, the full House of Representatives recognized the value and continued importance of RUS funding to the delivery of affordable, rural communications and voted in favor of an amendment to continue supporting the Broadband Loan Program. Rural providers look forward to building on an already successful partnership with RUS.

V. Broadband Gains

We can all be proud of our nation's broadband progress over the past decade and the opportunities that broadband creates for small businesses to compete and thrive. This success has only been possible due

to the unique cooperation that has existed between the industry, the American people, and policymakers. Together, through a spirit of entrepreneurship, a can-do attitude, and a deep national confidence, the appropriate mix of programs and policies have been cultivated and maintained to ensure widespread broadband deployment and adoption.

This commitment and partnership will be essential to America's quest to secure and maintain a level of global broadband preeminence. To underscore this assessment I draw the committee's attention to a May 2009 U. S. Government Accountability Office (GAO) report that, among other things, considers the federal government's approach to broadband deployment.[11] In the study's opening remarks it notes that according to government officials, "the federal approach to broadband deployment is focused on advancing universal access."

The GAO report goes on to state that historically the role of the government in carrying out a market-driven policy has been to create market incentives and remove barriers to competition, while the role of the private sector has been to fund broadband deployment. It continues that under this policy, broadband infrastructure has been deployed extensively yet doing so in rural areas is more difficult and in some instances gaps remain, primarily due to the limited profit potential associated with such initiatives. Industry stakeholders credit RUS and USF with helping to increase broadband deployment and that to achieve universal access, support of this nature will be essential in the future.

Despite the long history of success associated with these programs, a small but vocal minority of voices exists that refuse to accept this reality. Throughout this debate over the government's role in broadband deployment, the rural sector of the industry has routinely been directed to "think outside the box" in a search for more economical solutions to communications infrastructure deployment. If I do nothing else here today, it is my overarching desire to ensure that everyone participating and listening to this discussion ultimately leaves with the recognition and understanding that rural carriers always have and always will "think outside the box." Truly, they have no other choice.

What segment of the industry was the first to completely convert to digital switched systems? What segment of the industry was a pioneer in providing wireless options to their hardest to reach

[11] (n.d.). Retrieved from website: http://www.gao.gov/new.items/d09494.pdf

customers? What segment of the industry produced the first company to deploy an all-fiber system? What segment of the industry was the first to offer distance learning and tele-health applications? What segment of the industry was an early leader in providing cable-based video, then satellite video, and now IP video to their markets? What segment of the industry quickly moved into Internet Service Provision in the early stages of the Internet's public evolution? And what segment of the industry continues to lead in the deployment of high speed broadband capable infrastructure?

In every instance the answer to those questions is the small rural segment of the communications industry. Rural carriers are small businesses that dedicated to providing opportunities to other small businesses and individuals that might otherwise have to compete on an unlevel playing field. This is possible because cooperative and commercially structured systems are owned and operated by members of the local community. Clearly, these are entrepreneurs who care about their communities and their nation and are continually "thinking outside the box."

VI. Conclusion

Today we are on the cusp of fully moving into a world where data, video, and mobility are the primary objectives of consumers and voice will be secondary, if not an afterthought. Yet, regardless of whether consumers are focused on voice or some other form of communication, they will still require the underlying infrastructure to ensure their communication gets to its destination. The only difference is that with regard to broadband and advanced-services-capable infrastructure, the costs and subsequent need for support are even greater than they are for voice-only infrastructure. America stands at a crossroads between a narrowband and broadband world. The choice is clear. The rural industry has long been the leader in deploying advanced telecommunications services to America's rural areas. Rural providers and the rural associations are eager to continue working with you to move forward aggressively to fulfill the national objective of making broadband universally available as is envisioned by so many and indeed mandated by statute. Thank you for your attention to this matter.

Testimony of

Roger Bundridge
General Manager
NorthwestCell

on behalf of

Rural Cellular Association

before the

United States House of Representatives
Committee on Small Business
Subcommittee on Healthcare and Technology

regarding

Broadband: A Catalyst for Small Business Growth

February 15, 2012

Chairman Graves, Chairwoman Ellmers, Ranking Member Velázquez, Ranking Member Richmond, and members of the Subcommittee, thank you for the opportunity to be here today. My name is Roger Bundridge, and I am the General Manager of NorthwestCell. NorthwestCell is headquartered in Maryville, Missouri and provides mobile voice and broadband services to customers in five counties, including several rural areas that would not otherwise have access to these services. We also provide nationwide coverage through roaming agreements. Not only does NorthwestCell provide services for local small businesses and public safety officers, but it is also a small business itself, with 29 employees, one retail location, and eleven agent locations. We like to say that we are big enough to serve you, but small enough to know you.

I also serve on the Board of Directors for the Rural Cellular Association (RCA), which represents over 100 competitive wireless carriers, most of which qualify as small businesses under the U.S. Small Business Administration's Size Standards. NorthwestCell is like many other RCA members in several ways: the area that we serve is overwhelmingly rural; we are community-oriented, locally-based, and take pride in our commitment and support of our community; and our participation in the federal universal service program has enabled our build-out of high-quality mobile wireless services, including mobile broadband.

Mobile Broadband Fosters Small Business Growth

Smaller, rural and regional wireless providers connect Americans wherever they live, work, and play and provide social, educational, and public safety benefits to our customers and communities. Our mobile broadband services allow small businesses to innovate and compete. For example, I recently met with a group of farmers that will use our mobile broadband network and iPads to control and maximize planting and harvesting. This mobility will allow them to be

more efficient and productive. NorthwestCell also provides EVDO (3G) data cards to the Nodaway County Sheriff's department so officers can access critical databases in real time. For example, an officer can receive immediate information associated with a license plate during traffic stops. This system also allows dispatch to know where an officer is located and allows the officer to complete his reporting in the field.

Smaller, rural and regional wireless providers also directly benefit local economies by constructing and maintaining wireless towers, completing radio frequency engineering, opening and maintaining retail locations, obtaining an inventory of devices, engaging in local advertising, and providing customer care and service. With each of these activities, carriers like NorthwestCell are retaining and expanding employment with high quality jobs and supporting other small businesses.

The ability of competitive wireless carriers to maintain, upgrade and expand their networks is critical to the continued deployment and expansion of mobile broadband services, particularly in rural areas, and to supporting other small businesses. As I will explain, however, in order to be able to continue to serve rural America, NorthwestCell and other competitive wireless carriers need sufficient and predictable support through the new universal service mechanisms, access to useable spectrum, access to cutting edge devices, and reasonable terms and conditions for roaming service.

Universal Service Fund/Connect America Fund

Like most RCA members, NorthwestCell currently receives high-cost support through legacy Universal Service Fund mechanisms to construct, maintain, and upgrade a high-quality wireless network to provide affordable mobile service to customers in rural areas. Also like

many RCA members, NorthwestCell stands to lose all, or a substantial portion of, this critical funding as a result of the Federal Communications Commission's (FCC) recent universal service reform efforts. While it is important to support wired voice and broadband, underfunding support for wireless carriers like NorthwestCell will likely result in degraded or significantly diminished mobile wireless service for rural Americans. Unless the FCC takes steps to ensure adequate support for mobile broadband in universal service mechanisms, and makes that support available to competitive carriers, the continued deployment of mobile broadband services in rural areas is uncertain.

As the FCC works to implement and defend its universal service reform efforts from several court challenges, it also is working to establish the Mobility Fund to provide support specifically for mobile wireless services. Unfortunately, the $400 million in annual non-tribal support budgeted for the ongoing Mobility Fund is woefully inadequate. In order to ensure that Americans in rural areas have access to mobile broadband services, the FCC must provide additional funding for wireless.

In addition, to ensure that sufficient and predictable funds are available through the Mobility Fund, it is critical that these funds be distributed based on a forward-looking cost model rather than single-winner reverse auctions. Using a model, the FCC would determine the support levels based on the costs an efficient carrier would incur in providing service to the area, with support provided to the carrier that wins the customer in that area. As the FCC has stated in the context of other USF reform efforts, the use of a cost model, "send[s] the correct signals for entry, investment, and innovation." Utilization of a cost model would also ensure that carriers that have been dedicated to providing service in rural areas, like NorthwestCell, may continue to do so.

Rather than a portable, cost-savings model, however, the FCC has proposed using a reverse auction to determine and award Mobility Fund support. Unfortunately, reverse auctions disadvantage the smaller carriers already providing service, and these auctions effectively foreclose competition in high cost markets. A reverse auction, where carriers "compete" with lower and lower support levels to be selected to provide service in a particular area, is inherently anti-competitive, with the government selecting a monopoly provider. Further, there is significant risk that larger carriers may participate in a reverse auction for the sole purpose of eliminating competition from smaller wireless providers, because such larger carriers can rely on revenues from service in urban areas to subsidize artificially low bids to provide service in rural areas. This scenario does little to expand broadband, threatens to reduce existing service, will result in lower quality service, and may drive smaller carriers from the market.

Consumers increasingly rely on mobile broadband services, and I respectfully request that this Committee urge the FCC to increase its budget for the Mobility Fund and to make such funds available to wireless carriers based on a portable, forward-looking cost model.

Spectrum Access

In order to provide service, and to respond to the skyrocketing demand for data, carriers need to be able to access useable spectrum through participation in government-run auctions or through the secondary market. Spectrum is a finite, tax-payer owned resource which is exclusively licensed for commercial service to carriers. It is the lifeblood of mobile broadband. Increased consumer adoption of mobile services and increased use of high-speed data puts a strain on a carrier's spectrum holdings. As capacity is exhausted, a carrier must acquire additional spectrum licenses, either through FCC auctions or the secondary market.

Since the Omnibus Budget Reconciliation Act of 1993, the FCC has distributed licenses to use wireless spectrum through auctions. The current statute provides the FCC with the tools needed to ensure competition in the auction room, which combined with the correct policy decisions and business plans should lead to competition in the marketplace. This existing authority is critical so that the FCC can utilize auction mechanics developed over the last 18 years, to ensure that smaller, rural, and regional carriers have the *potential* to win access to a license or licenses in future auctions.

The FCC's authority to auction spectrum is currently set to expire later this year, and it is important that Congress work to extend this authority. One path forward is to include the extension of auction authority in the ongoing Conference Committee pending between the House of Representatives and the Senate, focused on other issues such as extending the "payroll tax deduction." Spectrum policy has become part of this discussion as auctions are often a win-win; they get spectrum into the market for carriers to use to expand wireless service, and they bring in significant revenue to the U.S. Treasury – to the tune of over $75 billion in net revenue between 1994 and 2010.

Unfortunately, the FCC and small carrier experiences established over nearly two decades of auctions at the FCC may be disrupted by a section of the spectrum provisions under consideration. This provision would prohibit the FCC from establishing any eligibility restrictions in future auctions, or from imposing any conditions on licenses, such as requirements that a licensee offer service on wholesale basis. The removal of competitive safeguards could make it very difficult for a smaller wireless carrier to establish a strategy for future auctions and more challenging to attract investment, and may have the unintended consequence of discouraging many smaller wireless carriers from competing in an auction. Down the line, this

would ultimately lead to further consolidation in an industry that already has been moving towards two dominant players controlling the marketplace. I urge members of this Committee to preserve the FCC's authority to structure auctions and license services in a manner that promotes competition and participation by small businesses.

Access to Devices

Smaller carriers also experience great difficulties gaining access to the latest wireless devices. Exclusivity agreements between device manufacturers and the largest carriers have limited the number of devices that are available to smaller carriers. Even worse, exclusivity arrangements increase the cost of available devices. Obtaining devices is an issue of scale, and like many smaller carriers, NorthwestCell cannot order sufficient volume of devices to demand the attention of manufacturers. Even when several smaller carriers band together to increase our collective buying power, our percentage of customers in the U.S. wireless market pales in comparison to the large carriers. Each of the top two wireless carriers, Verizon Wireless and AT&T, individually control almost as many subscribers as the next 10 largest carriers combined.

The lack of device interoperability over different bands of spectrum, particularly in the 700 MHz band, also threatens the deployment of mobile wireless services and the ability of small carriers to obtain devices and provide service. As the industry moves to fourth generation (4G) service, the largest carriers have launched devices designed to work on their own spectrum frequencies alone. This anticompetitive technology block further frustrates the ability of rural and regional carriers to access devices and provide roaming service.

Data Roaming

Rural and regional carriers offer the larger carriers access to our networks through roaming. Like the large carriers, rural and regional carriers need to provide roaming service to our customers when they are outside their home service areas. To do so, we must negotiate with other carriers to determine the terms, conditions and prices for access on the other carrier's networks. Customers expect and deserve for their devices to work wherever a compatible network is present, and if we cannot provide this service, we lose the customer to another service provider. Data roaming is critical for smaller carriers to continue to exist in today's market.

Thanks to the FCC's *Data Roaming Order* last year, carriers are now required to offer roaming for both voice and data services at fair and commercially reasonable rates, where technically possible, through private, business negotiations. Prior to this roaming order, it was difficult, if not impossible, to compel the larger carriers to come to the negotiating table. The order is being challenged in court, and smaller and regional carriers may yet find they are unable to provide their customers with broadband roaming on the larger carrier's networks.

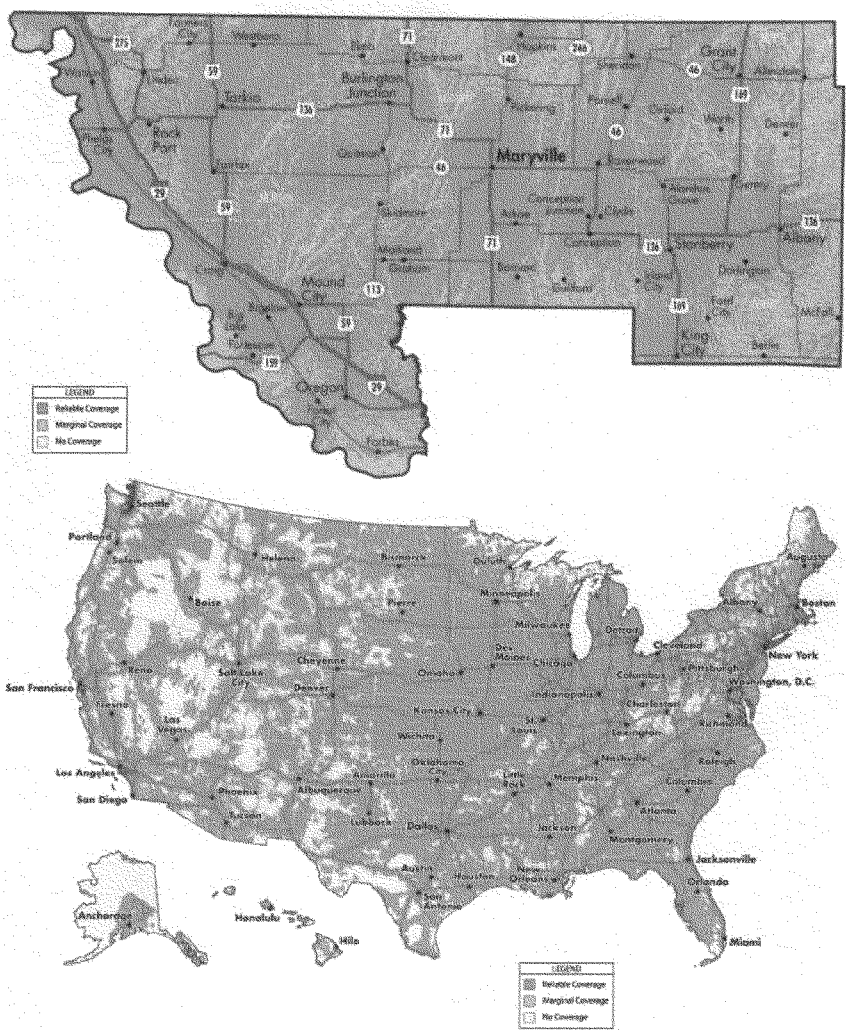
Conclusion

Despite the challenges I have discussed today, NorthwestCell and wireless carriers like us play a critical role by providing service to rural and otherwise underserved areas and acting as a competitive balance to the largest carriers. We typically offer high-quality service plans at lower costs and with better coverage and customer service than our national counterparts. We also work to provide high quality jobs while expanding mobile broadband service in areas that may otherwise remain unserved. For us to remain competitive in an increasingly consolidated industry, and to continue to expand service to difficult to serve areas, I strongly urge you to support policies at the FCC and in Congress that level the playing field and allow smaller carriers

to grow with sufficient and predictable universal service support for mobile broadband, competitive access to spectrum, roaming on commercially reasonable rates, and the availability of cutting-edge, interoperable devices.

Thank you again for the opportunity to participate in today's hearing, and I welcome any questions.

NORTHWEST CELL COVERAGE



U.S. House Committee on Small Business

Subcommittee on Healthcare and Technology
February 15, 2012

Statement of Darrell M. West, Ph.D.
Vice President and Director of Governance Studies,
and Director, Center for Technology Innovation, Brookings Institution

Chairwoman Ellmers, Ranking Member Richmond, and members of the Subcommittee. Thank you for the opportunity to testify at this hearing on "Broadband: A Catalyst for Small Business Growth."

Since 2008, I have been Vice President and Director of Governance Studies and Director of the Center for Technology Innovation at the Brookings Institution. I am the author of 18 books, including *Digital Government: Technology and Public Sector Performance* (Princeton University Press, 2005), *Digital Medicine: Health Care in the Internet Era* (Brookings Institution Press, 2009) and *Digital Schools: How Technology Can Transform Education* (forthcoming, Brookings Institution Press, 2012). As the remarks below document, broadband plays an important role in furthering economic development opportunities for small businesses, especially in rural areas.

The Crucial Role of Broadband in Economic Development

Broadband is a crucial driver of job creation and economic growth. Researchers have found a link between technology innovation and overall economic prosperity. For example, a World Bank study of 120 nations between 1980 and 2006 undertaken by Christine Qiang found that each 10 percentage point increase in broadband penetration adds 1.3 percent to a country's gross domestic product.[1] Investments in this area creates jobs and lays the groundwork for long-term development.

The applications enabled by the Internet are especially important for small businesses and rural communities because they have become crucial platforms for innovation in health care, education, entrepreneurship, and communications. High-speed, universal broadband furthers productivity and generates powerful new efficiencies and economies of scale. According to Philip Bond, the president of TechAmerica, "each tech job supports three jobs in other sectors of the economy." And in information technology, he says, there are five jobs for each IT position.[2]

Fast broadband and wireless speeds help people take advantage of new digital tools such as telemedicine, video on demand, GIS mapping, and video conferencing. New developments in health information technology and mobile health, such as emailing X-rays and other medical tests, require high-speed broadband. Distance learning requires sufficient bandwidth to connect students across geographic areas.[3]

Strategies for Broadband Innovation

Right now, the United States does not have a coherent strategy for broadband innovation. Unlike other nations, we make policy in a piecemeal fashion and focus on short rather than long-term objectives. This limits the efficiency and effectiveness of our efforts.

Promoting Entrepeneurship and Small Business: Entrepeneurs play a major role in the economies of many countries. They launch companies, build businesses, and provide jobs. Increasingly, as the globe moves towards a digital economy, small business developers require mobile technology to develop their companies. Broadband allows them to stay connected even while they are on the go. They can reach bank officers, suppliers, and customers as they travel around the area. This helps them remain in close contact and build the required relationships.[4]

Due to their relatively low cost and ubiquitous connections, mobile devices and cellphones help overcome digital disparities. There are well-established inequities based on race and ethnicity in socio-economic well-being.

Yet mobile devices have narrowed the gap in technology utilization. Smartphone ownership actually is higher among Hispanics (45 percent) and African-Americans (33 percent) than whites (27 percent).[5] This helps minorities start businesses, access m-health applications, engage in m-learning, and gain the full benefits of the technology revolution.

Technology offers important assistance for those in under-served rural communities. People living in rural areas suffer from limited access to broadband and Internet services. This makes it difficult for them to participate in the digital economy. Investing in digital infrastructure represents a way to improve Internet access in places that are geographically remote.

Improving Health Care: Wireless and broadband technologies represent key ingredients in providing quality and accessible care, and gaining budgetary efficiencies. Health care based on mobile health, remote monitors, electronic medical records, social networking sites, video conferencing, and Internet-based recordkeeping makes a positive difference for many people. For example, we should encourage email reminders to take medicine, mechanisms to measure satisfaction with doctors and hospitals, and websites that make care ratings publicly available to other patients.

One of the virtues of e-health is that it puts the patient in charge of certain activities. Using remote monitoring devices, people can measure their own weight, blood pressure, pulse, and sugar levels, and send test results electronically to health care providers. They get personalized feedback via email and reminders when they gain weight, have an uptick in their cholesterol levels, don't take their medicine, or have high blood pressure. Social networking sites provide

discussion forums and the benefit of collective experience from other people suffering similar problems. With these tools, patients take responsibility for their routine health care and rely on physicians for more serious medical conditions.

National surveys show that Americans would like to employ digital technologies in their medical care. For example, 77 percent said they would like to get reminders via email from their doctors when they are due for a visit, 75 percent want the ability to schedule a doctor's visit via the Internet, 74 percent would like to use email to communicate directly with their doctor, 67 percent would like to receive the results of diagnostic tests via email, 64 percent want access to an electronic medical record to capture information, and 57 percent would like to use a home monitoring device that allows them to email blood pressure readings to their doctor.[6]

The sophistication of mobile devices has spawned a variety of new medical applications that help doctors and patients stay in touch and monitor health care needs. For example, mobile applications allow physicians to get test results on their mobile device. They can look at blood pressure records over time, see an electro-cardiogram, or monitor a fetal heart rate.

These applications make doctors more efficient because they don't have to be in the physical presence of a patient to judge his or her condition. Digital technology allows people to overcome the limitations of geography in health care and access information at a distance. This makes it possible for patients to get a second opinion without visiting another physician by sending that person relevant medical tests. If a personal conference is required, doctors can use video conferencing to speak to individuals located in another city or state.

Advancing Educational Achievement and Access: Broadband helps to personalize learning and improve student assessment.[7] Speaking at a recent education policy symposium, Mark Schneiderman, the senior director of education policy for the Software & Information Industry Association, said that "the factory model that we've used to meet the needs of the average student in a mass production way for years is no longer meeting the needs of each student". Instead, he called for education changes that would recognize the enormity of the information changes that have taken place in American society. In today's world, he claims students "are surrounded by a personalized and engaging world outside of the school, but they're unplugging not only their technology, but their minds and their passions too often, when they enter into our schools."[8]

Wired classrooms, handheld devices, and electronic instructional sets let pupils learn at their own pace and in their own manner. Personalization makes education more adaptive and timely from the student standpoint and increases the odds of pupil engagement and mastery of important concepts. It frees teachers from routine tasks and gives them more time to serve as instructional coaches and mentors for students.[9]

Smartphones and mobile devices are being utilized for educational purposes in a variety of institutions. An analysis of application stores for Blackberry, the iPhone, and Android found that popular education-oriented downloads included My Very First App, Star Walk, Ace Flashcard, Wheels on the Bus, and Cosmic Discoveries. There also were a number of "productivity-enhancing" apps in the areas of administration, data collection, and collaboration.[10]

Some teachers have developed Facebook applications for personalized learning. They are using social media to post comments, get reactions from students, set up meetings, and express views about the class. Research conducted at a private liberal arts university found that for courses set up in this manner, students averaged an hour per day accessing the Facebook Learning Management System. Instructors discovered that students responded almost immediately to messages about the course and that pupils "engaged more in questioning through Facebook messages directed to the instructor than asking them verbally in the face-to-face classroom".[11]

Professor Chris Dede of Harvard University has looked at "immersive interfaces" enabled by m-learning and found three educational advantages: allowing multiple perspectives, situated learning, and transferring knowledge from one setting to another.[12] Each of these experiences enhances the learning process and allows students to gain new knowledge or apply insights to different areas.

Handheld devices enhance student learning in other ways as well. They have been found to bridge the gap between haves and have-nots, and expose pupils to a rich array of instructional resources. Students find this approach very engaging and report great satisfaction with mobile learning approaches. This is particularly the case with underserved populations located in rural or poor districts.[13]

Building the Mobile Economy: Consumers like the convenience of mobile broadband. They enjoy being able to access email, the Internet, and a wide range of applications online. People no longer are tied to the home or office for social, economic, or civic engagement. They can access information and complete transactions wherever they happen to be.

For the first time in history, the trend lines for installed smartphones and personal computers will cross at the end of 2012.[14] The total number of IP-network enabled desktops, notebooks, and netbook personal computers now exceeds that of cellular phones with a high level operating system. However, due to the high growth rate in consumer and business installations of smartphones, mobile devices will outnumber personal computers this year. Smartphone installation currently is growing at about three times the rate of personal computers.

The extraordinary growth rate in mobile broadband adoption means that within four years, mobile broadband will comprise about 80 percent of total broadband subscriptions and become the dominant means of Internet connectivity. In emerging markets, mobile broadband is expected to increase from 37 to 79 percent of all broadband subscriptions between 2010 and 2015.

In the United States, a survey undertaken by the Pew Research Center this year found that 83 percent of American adults own a cellphone, while 35 percent own a smartphone.[15] When asked whether they used various services, smartphone owners indicated that they employed it to send or receive text messages (92 percent), take a picture (92 percent), or access the Internet (84 percent).

Needed Policy Actions

Broadband utilization and mobile technology innovation is growing, but there remain several actions that would further economic development. Below, I review specific actions that will help small business take advantage of digital innovation.[16]

Extend and Make Permanent Research and Development Tax Credits: One example of our national short-sightedness is the research and development tax credit. Members of Congress have extended this many times in recent years, but they generally do this on an annual basis. Rather than extend this credit over a long period of time, they renew it episodically and never on a predictable schedule.

Due to political uncertainties and institutional politics, we end up creating inefficiencies linked to the vagaries of federal policymaking. While companies in other countries invest and deduct on a more predictable schedule, we shoot ourselves in the foot through a short-sighted perspective. Many other countries offer more favorable tax policies than is the case in United States. We should extend and make permanent the R and D tax credit so that telecommunications companies, Internet service providers, and small businesses have greater certainty about tax policy.

Approve Reasonable Universal Service Fund Reform for Broadband Deployment: Our current Universal Service Fund (USF) dates back to 1997, when the Internet was in its infancy, and there were little social media or few mobile devices. We need to update our policies so that small businesses and consumers can take advantage of 21st century digital tools.

The world has shifted from a communications model based on telephones and mail to a digital economy that relies on the Internet, mobile phones, e-commece, and social media. Businesses find customers through digital communications and consumers now can place phone calls via Google Voice or Skype.

At the same time, many Americans have smartphones that serve both as telephones and Internet providers. People can browse the Web, place phone calls, and access email through a single device. They can do this while on the run and wherever they happen to be.

Yet the billions generated for the USF continue to focus almost exclusively on phone services. Its four programs (E-Rate, High-Cost, Low Income, and Rural Health Care) provide subsidies for schools and libraries, infrastructure developers, low income people, and health providers, respectively. As noted by George Washington University Law Professor and Brookings Non-Resident Senior Fellow Jeffrey Rosen, these programs are inefficient, expensive, and redundant in what they provide. In his USF study, he cites examples of a "Hawaiian company [that] is paid $13,345 per year per telephone line for terrestrial service even though satellite telephone service is available for about one-tenth of that price" and the Mississippi community of Hattiesburg that "is served by twelve carriers, each receiving High Cost program subsidies."[17]

We should update the Universal Service Fund to allow those living in under-served communities to use fees paid into the High Cost Program and the Low Income Program to cover voice and

broadband services. About 30 percent of Americans remain outside the Internet revolution. They are at a serious disadvantage when communicating with friends and family members, forming businesses, accessing mobile health, or taking distance learning courses.

To help them, we should phase out the High Cost Fund and replace it with a Mobility Fund and a Connect America Fund, as proposed by the Federal Communications Commission. According to Rosen, the former proposal would "support the development of mobile broadband infrastructure into those few areas where 3G coverage is unavailable", while the latter would "enable all U.S. households to access a network that is capable of providing both high-quality voice-grade service and broadband".[18] This redeployment of federal resources within a market framework would promote better service for consumers and small businesses.

Use Incentive Auctions to Reallocate Scarce Spectrum: We are dangerously short of spectrum for wireless and broadband expansion. According to the Federal Communications Commission, we need a minimum of 300 MHZ over the next five years in order to accommodate growing cellphone usage, handheld devices, smartphones, tablets, and mobile broadband. It is vital for consumers and small businesses to gain access to spectrum in order to facilitate job creation, economic development, and entrepreneurship.

A market-based mechanism for reallocating scarce resources is spectrum auctions.[19] Used successfully in the past, members of Congress should approve incentive auctions that would allow companies that no longer need spectrum to sell them to other businesses willing to pay. This approach would have several benefits. It would provide a way for companies to sell unused resources. It gives access to spectrum for cell and mobile providers so they better can serve consumers and businesses. Auctions also bring in needed resources to the federal government to finance the national budget.

We also need to determine ways to make more efficient use of existing spectrum. In a Brookings paper, Robert Matheson and Adele Morris propose technical solutions designed to improve the efficiency of spectrum utilization. They argue that it is possible to utilize current bandwidth through a combination of legal, regulatory, policy, and technical improvements. For example, they suggest that licensees should be able to "buy, sell, aggregate, and subdivide their LERs (licensed electrospace right) at will."[20] A "flexible rights regime" offers greater efficiency, they say, than a command and control approach.

Increase Broadband Adoption: With nearly one-third of Americans outside the Internet Revolution, it is important to expand broadband adoption. There are many reasons why people have not adopted broadband service. A national survey undertaken by the Federal Communications Commission reveals that 36 percent cite the overall cost of the service, 22 percent say they are uncomfortable with the Internet, and 19 percent find digital content not compelling enough to warrant usage.[21]

These results suggest a variety of actions that would increase broadband adoption. For example, digital literacy programs would train people on online applications that may be useful to them. Improved market competition also would help drive down consumer cost barriers that currently

limit use. And outreach programs could help bridge the digital divide based on age, race, gender, income, and education.

Unless we boost adoption levels, it will be difficult to gain the economies of scale enabled by digital technology. With the proposed actions, consumers and small businesses would have a fairer opportunity to compete and gain the benefits of the new digital economy.

Notes

[1] Christine Zhen-Wei Qiang, "Telecommunications and Economic Growth, Washington, D.C.: World Bank, 2009.

[2] Philip Bond, "Tech Provides Map for Nation's Future", *Politico*, September 18, 2011.

[3] Taken from Darrell M. West, "Technology and the Innovation Economy", Washington, D.C.: Brookings Institution Center for Technology Innovation, October 19, 2011.

[4] For a more extended treatment of this topic, see Darrell M. West, "Ten Facts About Mobile Broadband", Washington, D.C.: Brookings Institution Center for Technology Innovation, December 8, 2011.

[5] Deloitte, "The Impact of 4G Technology on Commercial Interactions, Economic Growth, and U.S. Competitiveness", August, 2011, p. 14.

[6] Darrell M. West, *The Next Wave: Using Digital Technology to Further Social and Political Innovation*, Washington, D.C.: Brookings Institution Press, 2011.

[7] Darrell M. West, *Digital Schools: How Technology Can Transform Education*, Washington, D.C.: Brookings Institution Press, forthcoming, 2012.

[8] Innovate to Educate, "System [Re]Design for Personalized Learning", Washington, D.C.: Software & Information Industry Association, 2010, p. 8.

[9] Ruth Moody and Michael Bobic, "Teaching the Net Generation without Leaving the Rest of Us Behind: How Technology in the Classroom Influences Student Composition", *Politics & Policy*, Volume 39, no. 2, 2011, pp. 169-194.

[10] Jessica Briskin, Tutaleni Asino, Michael Montalto-Rook, and Yaozu Dong, "Smart Apps: An Analysis of Educational Applications Available on Smartphones and the Implications for Mobile Learning", paper presented at the annual convention of the Association for Educational Communications and Technology, Anaheim, California, 2010.

[11] Stephoni Case and Susan Stansberry, "Teaching with Facebook as a Learning Management System", paper presented at the annual convention of the Association for Educational Communications and Technology, Anaheim, California, 2010.

[12] Chris Dede, "Immersive Interfaces for Engagement and Learning", *Science*, Volume 323, January 2, 2009, pp. 66-69.

[13] C. Shuler, "Pockets of Potential: Using Mobile Technologies to Promote Children's Learning," New York: The Joan Ganz Cooney Center at Sesame Workshop, 2009.

[14] Strategy Analytics, January, 2011.

[15] Aaron Smith, "Americans and Their Cell Phones", Pew Research Center, August 15, 2011.

[16] Additional proposals can be found at Darrell M. West, "Technology and the Innovation Economy", Washington, D.C.: Brookings Institution Center for Technology Innovation, October 19, 2011.

[17] Jeffrey Rosen, "Universal Service Fund Reform: Expanding Broadband Internet Access in the United States", Washington, D.C.: Brookings Institution Issues in Technology Innovation, April, 2011, pp. 3-5.

[18] Jeffrey Rosen, "Universal Service Fund Reform: Expanding Broadband Internet Access in the United States", Washington, D.C.: Brookings Institution Issues in Technology Innovation, April, 2011, p. 7 and Federal Communications Commission, *Connecting America: National Broadband Plan*, 2010, p. 145.

[19] Jeffrey Rosen, "The Future of Spectrum", Washington, D.C.: Brookings Institution Issues in Technology Innovation, August, 2011.

[20] Robert Matheson and Adele Morris, "The Technical Basis for Spectrum Rights: Policies to Enhance Market Efficiency", Washington, D.C.: Brookings Institution, March 3, 2011.

[21] Federal Communications Commission, *Connecting America: National Broadband Plan*, 2010, p. 168.

Testimony of

Rebecca Sanders

Indiana Telehealth Network Director

Indiana Rural Health Association

On behalf of the

National Rural Health Association

And the Indiana Rural Health Association

Broadband: A Catalyst for Small Business Growth

Before the

House Small Business Committee

Subcommittee on Healthcare and Technology

United States House of Representatives

February 15, 2012

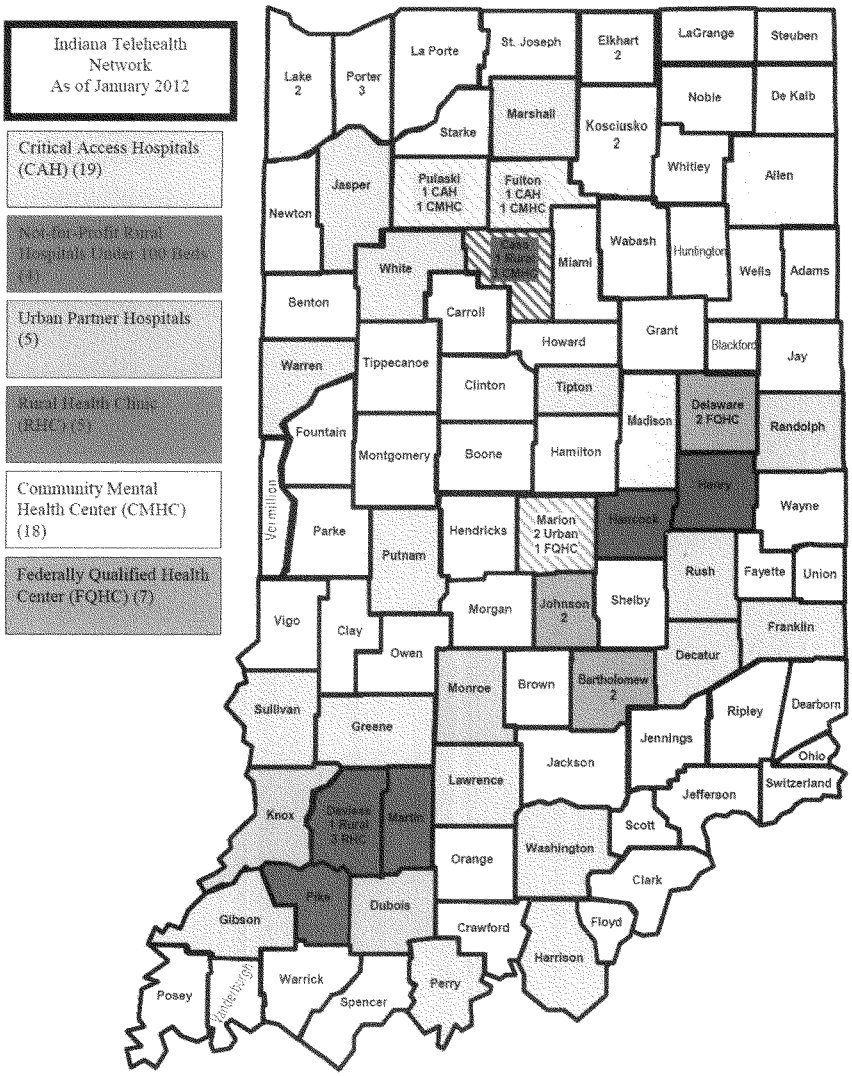
Summary

Good afternoon, Chairwoman Ellmers, Ranking Member Richard and Members of the Subcommittee. I am honored to stand before you today. Thank you for the opportunity to testify today on behalf of the National Rural Health Association (NRHA) and the Indiana Rural Health Association (IRHA). My name is Rebecca Sanders and I am the Indiana Telehealth Network Director for the IRHA.

The Indiana Telehealth Network (ITN) is one of the 50 remaining projects under the Federal Communications Commission's (FCC's) Rural Health Care Pilot Program (RHCPP). The FCC's RHCPP was conceived in 2006, and officially started at the end of 2007. The pilot program is designed to encourage healthcare providers to aggregate their needs and develop regional and/or statewide networks to connect health care providers through a dedicated broadband network. The pilot program funds up to 85% of the cost of constructing a regional and/or statewide network to Internet2, the National Lambda Rail, or the Public Internet. The pilot program also funds up to 85% of the monthly recurring charges for up to 72 months, depending on the length of contracts signed with telecommunications vendors for the network.

As of February 2012, the ITN has almost 60 participating healthcare facilities, including Critical Access Hospitals (25 beds or less), not-for-profit rural hospitals under 100 beds, urban partner hospitals, Rural Health Clinics (RHCs), Community Mental Health Centers (CMHCs) and Federally Qualified Health Centers (FQHCs). While connecting these facilities, our winning telecommunications vendors have laid just over 200 miles of fiber around the state of Indiana.

Indiana Telehealth Network Participants



As the ITN expands its fiber across the state of Indiana, we collect stories from our healthcare participants. When asked about the impact of fiber and high speed broadband capacity on their hospital and surrounding communities, here is what some of them had to say:

- Donna Nobbe, IS Director of Margaret Mary Community Hospital (MMCH), in Batesville, IN: Broadband is critical to the successful exchange of healthcare data. MMCH is a CAH and a participant in the Indiana Telehealth Network. MMCH securely exchanges data via broadband with hospitals spanning 2 metro areas – Indianapolis, IN & Cincinnati, OH. Additionally, many physicians in the Batesville community receive data from MMCH as well as hospitals in these metro areas via secure broadband services. MMCH has seen significant growth in the types and frequency of healthcare data being exchanged. Four years ago all Lab results and Radiology interpretations were faxed from hospitals to physician practices. Today, this information is exchanged over broadband. Syndromic surveillance data is shared with the State via broadband. The use of broadband for secure data exchange is expected to continue to grow. In the near future, immunization information will travel across broadband. MMCH also plans to deliver information directly to patients via a community based patient portal across broadband service.

- Tim Putnam, CEO of Margaret Mary Community Hospital (MMCH), in Batesville, IN: When we are looking at acute critical patients like MI's and Strokes, what I hear is like the song goes, "I want it all and I want it now." Labs, CTs, video links, EHRs, etc. Every second of delay causes us a problem (time is tissue). As we become more dependent upon this technology it must be as reliable as possible.

- Jim Boyer, CIO of Rush Memorial Hospital, in Rushville, IN: The teamwork between the Indiana Rural Health Association, NineStar Communications, and Rush Memorial Hospital has provided fiber optic connectivity at 10-gig speeds for Rush Memorial Hospital and its community. Not only does this connectivity allow faster bandwidth speeds for Rush Memorial and its clinics, it allows us as a small rural hospital to provide a greater service to our patients by giving Rush Memorial the capability of connecting to metropolitan healthcare services, which may not be found in typical rural healthcare settings.
    - These services include telemedicine, connectivity to a state health information exchange, ability to send and receive radiology images faster, thus cutting patient wait times, distant education for our clinicians and physicians, data exchange, and video conferencing. The partnership between NineStar Communications, the Indiana Rural Health Association, and Rush Memorial Hospital has allowed Rush Memorial Hospital to stay competitive in an ever changing healthcare market, advance Rush Memorial towards the future of healthcare interoperability, and advance the technical services Rush Memorial provides its patients. Overall, the Rural Healthcare Pilot Program has allowed our community to economically develop in commerce with local and metropolitan businesses and members of the rural Rush County community.

- John Hill, Director of ECS for St. Vincent Health: St. Vincent Health is a group of 20 hospitals serving central and southern Indiana with over 15,000 Associates. Our mission is to extend our faith based ministry to some of the most rural areas within Indiana. With a significant tertiary facility at our core in Indianapolis we can proudly claim 8 Critical Access Hospital as part of our

family. St. Vincent is blessed with our successes to date but is in no way immune from the economic pressures that surround health care and particularly in serving some of these rural areas.

- We have been very fortunate to be able to participate in the Indiana Telehealth Network. This has enabled us to offer a much higher quality of care to these underserved areas and do so with very modest operating costs derived from the ITN initiative. This endeavor will support our business model to continue to expand our presence in critical access as well as growing our employed physician community. The end result is improved quality of care, incremental new jobs, and St. Vincent can continue to fulfill our mission and support our enabling strengths of Healthcare that is Safe, Health That Leaves No One Behind, and Healthcare That Works.
- With the relationship established by ITN, St. Vincent can cost effectively extend the same patient experiences that are most often associated only within the metropolitan environment. This includes all voice, data and video applications, delivered on high bandwidth, highly reliable and cost effective transport services.
- Another benefit of the ITN initiative is that it has become an incubator for businesses working together in Indiana. St. Vincent, ITN and the local economic development folks have all come together to exploit the opportunity of the new cost effective network connectivity. In one or our small towns we are now working with a group of local investors exploring new business opportunities which will lead to new jobs in an economically depressed area.
- Many thanks and sincere appreciation to those with the vision to create this and everyone that has worked so hard to make it all happen.

Anchor Tenant Concept

One of the most unique aspects of the ITN, as compared to other pilot projects, is our 'anchor tenant' concept. As part of our objective scoring during the RFP process, vendors are given additional points for overbuilding (and paying their own 'fair share') into the surrounding community and providing us with marketing plans for the provisioning of services above and beyond the healthcare anchor tenant. The majority of our winning vendors have taken this concept to heart and meets with local community leaders to discuss potential services to businesses surrounding the healthcare facilities.

- The Indiana Fiber Network (IFN) has won the majority of our contracts under the ITN, to date. They also provide us with NOC services for our ITN Shared Platform, or common meet point, for all of our healthcare participants. Our videoconferencing and telestroke equipment is powered out of our Shared Platform.
- When describing their marketing plan, IFN recently said "Working with the rural communities to provide broadband connectivity is not something new to IFN, it is what we do every day." August Zehner of IFN gave us an example of how the fiber they built into Community Hospital of Bremen, in Marshall County, Indiana, affected the local community: Bremen, Indiana has been able to get affordable fiber connection in the local community through the ITN program. The hospital was the first business in Marshall County to have access to such services due to their participation in the ITN. The Bremen Chamber of Commerce had been involved in many discussions and grant endeavors with key stakeholders in the state for several years regarding the need for reasonably priced fiber access to enhance their economic development competitive advantage. The IFN has since helped two other businesses in the area with high speed broadband options for transport and internet access: Bremen Casting, and Universal Bearings.

- Rob Cleveland, Executive Director of the Blackford County Economic Development Corporation, says: The ITN will allow businesses in Blackford County access to an asset that is currently not available to them. They have previously had difficulty getting regular telecom providers to provide reasonably priced broadband services. Many manufacturers were forced to pay huge sums of money for T-1 lines to serve their facilities. The fiber will give the community an entirely new outlook on economic development. There are so many benefits to this program. In addition to the schools and manufacturers, the potential for our downtowns might be the largest benefit. Rural downtowns are suffering. They are no longer the retail centers for the community – and probably never will be again. For a rural downtown to survive, it must be a service-oriented business, or a retailer that sells to the world. Currently, we do not have that capability in either of our downtowns. By making fiber available to downtown Hartford City and downtown Montpelier, we will be able to do so much more in the way of business attraction.
- Steve Eberly, Executive Director of the Warren County Local Economic Development Organization, and County Commissioner for Warren County, has been one of our biggest supporters. Within the next month, one of our longest construction builds will be completed by the Indiana Fiber Network at St. Vincent Williamsport Hospital in Warren County. Warren County is just one of the 92 counties in the state of Indiana. According to the USAC website, 64% (or 59) of the 92 counties are considered rural. Another 32% (or 29) have pockets of rurality. Only 4% (or 4) counties in Indiana are considered urban by USAC standard. According to 2010 Census records, there are 8,508 residents in Warren County, which represents less than 1% of the population of Indiana. Approximately 24 miles of fiber optic cabling was laid as part of the construction build to St. Vincent Williamsport Hospital, which also included boring under the

Wabash River. This build would not have been possible without Steve's leadership, and the support of the rest of his team.

- When I spoke with Steve, he told me about the new cellular tower that will be built on the REMC's site. The Warren County REMC is the smallest in the state of Indiana, but is now able to host a cell tower because of the fiber brought to Williamsport under the ITN. Several other enhanced connectivity projects for Warren, Benton, and Fountain counties have been accelerated by as much as five (5) years because of the fiber brought to Williamsport by the Indiana Fiber Network, under the ITN. Two (2) high schools are on schedule to get high speed fiber optic broadband access by the end of 2012. Two of the area's largest employers will have fiber in the very near future as well. Harrison Steele Castings Company, the largest employer in Fountain County, has approximately 900 employees. They are a world leader in their industry and a preferred supplier to many of the word's most prestigious names in agriculture, heavy equipment, energy, military, mining, and the oil and gas industries.
- Another of the area's largest employers is TMF Center, a family-owned business with around 400 employees. Founded in 1977 in Illinois, TMF moved to Williamsport, Indiana in 1994 due to the more favorable business climate in Indiana. Since moving to Indiana, TMF Center has grown from annual sales of $5 million to over $48 million today.

- Ron Arnold, Executive Director or the Daviess County Economic Development Corporation, was extremely excited when the IFN built fiber into Daviess Community Hospital. The fiber goes right by what will be one of the largest intersections of the new I-69 corridor off of State Road 50 in Washington, Indiana. Several business are currently located near that intersection, and

many others are interested in locating there, based on the knowledge that fiber and high speed broadband will be available to them.

- Another of our premier vendors is Smithville Digital. Smithville Digital is a facility based Competitive Local Exchange Carrier headquartered in Ellettsville, Indiana. As a part of the bid process, Smithville Digital has been selected to provide broadband service to Critical Access Hospitals in Linton, Sullivan, Bedford and Bloomington.
    - As a result of winning these bids, Smithville sees opportunity within these communities and has already established relationships with businesses and local governments.
    - For example, Smithville is now providing broadband access with a fiber-to-the-premises solution to Lawrence County courthouse in Bedford which lies along the path we build for IU Health Bedford.
    - In Sullivan, Smithville is providing service to businesses along US 41.
    - Discussions are ongoing with businesses in Linton including a local Wireless ISP for fiber connectivity and broadband.
    - Smithville's relationship with IU Health Bloomington goes back several years but through this grant we have been able to connect facilities in rural areas connected with IU Health Bloomington.

- Other vendors were able to construct fiber to some of our CAHs with almost no cost for construction or installation of services. The reason for this is that the vendor's business development plan had included overbuilding into the hospital's community anyway, and access to the 85% reimbursement under the FCC's RHCPP moved up their implementation timeline by

several years. Some of our greatest stories of partnership with Local Economic Development Organizations around the state are still in the works in for Blackford County, Randolph County, and Jennings County. In many cases, we will not know the full impact of this project for another 3-5 years.

Our Mission

The mission of the ITN is to improve the health and well-being of Indiana residents, particularly those in rural areas, through the utilization of a dedicated broadband health network to deliver telehealth applications including, but not limited to, telemedicine, health information exchange, distance education and training, public health surveillance, emergency preparedness, and trauma system development.

A recent bill presented to the House of Representative, H.R 3458, is relevant to our mission. This bill proposes to amend title XVIII of the Social Security Act to ensure the eligibility of eligible professionals practicing in rural health clinics for electronic health records and quality improvement incentives under Medicare. As an advocate for rural health care, I urge you to vote to pass this bill.

Benefits of Fiber

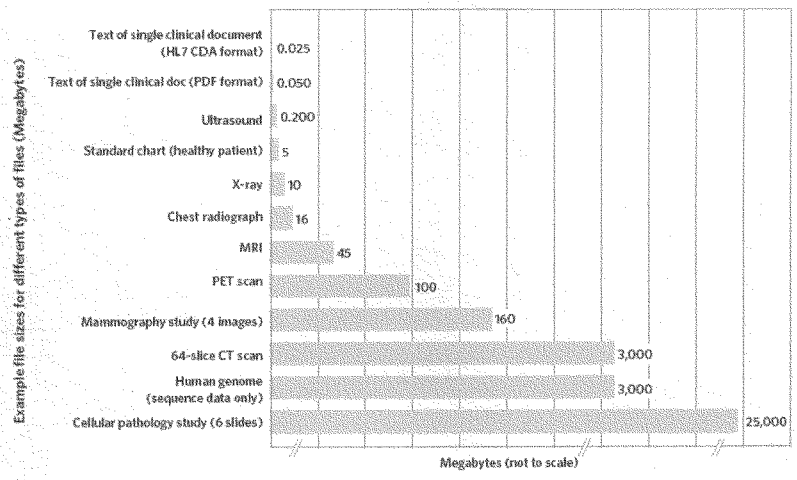
The lightning speed of fiber optic transmission services means that health providers in rural areas can consult with specialists, monitor patients in remote locations, transmit and receive very large files, such as MRI scans, all in a matter of minutes or seconds. In many parts of Indiana, patients have no local access to specialists in critical fields, such as radiology, cardiology, and neurology and must travel great distances, often in very fragile health, to obtain those services.

When adequate broadband is available in rural areas, patients are able to access specialists via telemedicine while staying in their local communities. This results in time savings to the patients through reduced travel, and higher laboratory and radiology revenues to the local healthcare providers who would have lost those revenues to the urban healthcare provider. Some providers are beginning to create business models where all they do is to see patients remotely via telemedicine. Most patients report positive feedback on the experience of visiting with a physician via telemedicine.

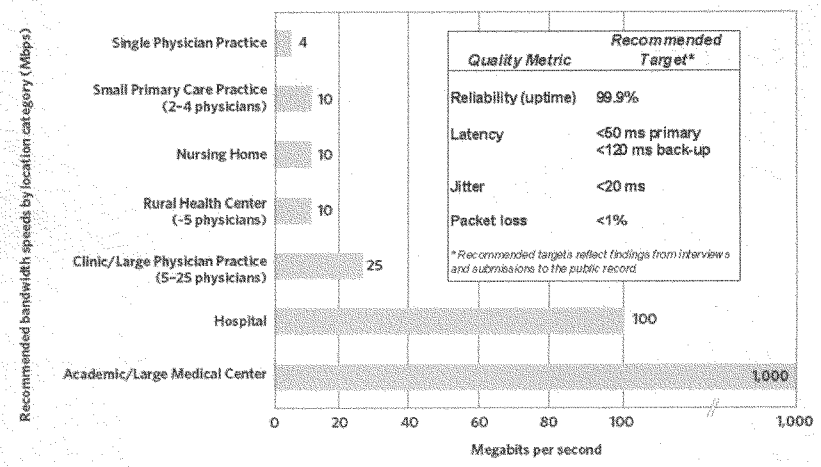
The National Center for Rural Health Works (http://ruralhealthworks.org/) has created several impact models designed to illustrate the economic impact of healthcare professionals in a rural community. One study in particular focuses on the Economic Loss to a Community from a Primary Care Practitioner Shortage. According to the study, one primary care physician generates approximately $1.5 million in revenue, $0.9 million in income (wages, salaries, benefits, and proprietor income) and creates 23 jobs in both the physician clinic and the hospital. This assessment underestimates the total value of a rural primary care physician, as their impact on other sectors such as pharmacy and nursing homes is not included. Thus, the physician's economic contributions are as important to a community as their medical contributions. As our nation faces a growing physician shortage, it is absolutely critical that rural leadership across the United States understands that rural communities are at risk of losing much more than the opportunity to receive local medical care.

Among other things, the National Broadband Plan, which was released on March 17, 2010, included "a plan for 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." Below are a couple of Exhibits from the National Broadband Plan that illustrate healthcare data file sizes and estimated broadband capacity needs for healthcare providers.

Healthcare Data File Sizes, National Broadband Plan, Exhibit 10-B



Required Broadband Connectivity & Quality Metrics, National Broadband Plan, Exhibit 10-C



Based on these exhibits above, you can see the recommended bandwidth speed by even a single physician office is 4 mbps. This is slightly greater than 2 T1s (at 1.5 mbps each). Many of the rural health clinics in Indiana are using DSL today – all they can afford is the $60-$100 for business grade DSL – which very rarely would meet the recommended bandwidth speed, and almost certainly would not have the guaranteed speed reliabilities often found with fiber optic broadband services.

Examples of Additional Services that can be deployed on top of Broadband Network Infrastructures

Now that the ITN has the majority of our sites connected to reliable high speed broadband connectivity, we have begun layering services on top of our fiber optic network infrastructure. Through partnerships with our vendors, we have established partnership agreements for disaster recovery, including access to offsite data storage, backup, and recovery services. Additionally, we are in our second year of administering our own videoconferencing network, funded by the Indiana Flex Program (Flex). Flex is funded by a grant awarded to the Indiana State Department of Health, State Office of Rural Health (SORH) by HRSA Office of Rural Health Policy (ORHP). As of February 2012, we have deployed approximately 100 webcams and MOVI/Cisco Telepresence licenses for desktop videoconferencing. Within the next 30-60 days, we will have a total of 13 different Videoconferencing Host Sites in our member hospitals across the state. Through the IRHA, we have procured a media server and are now able to stream, record, and archive events on our Virtual Library. In the next couple of months, we will be launching our new 'Lunch and Learn' series. This will include topics requested by our members. Some of the topics will have CME available. We are also very close to signing a group purchasing agreement with an Online Learning Management System (LMS) vendor. We hope to have that service up and running by fall 2012. The LMS will provide access to accredited continuing education courses for hospital staff via a dedicated e-Learning portal. We estimate an average savings of $2,300 per trip per

employee in reduced travel costs for off-site classes. Future plans include access to patient education courses via the dedicated e-Learning portal. None of this would have been possible without the high speed fiber optic broadband network put into place under the ITN via the FCC's Rural Health Care Pilot Program.

USF Reform

I personally participated in multiple sets of group comments on the USF NPRM. We do not have the time here today to talk about all of the details, possibilities, and ramifications regarding Universal Service Reform. There are many lessons learned in the FCC RHCPP that should be incorporated into the new Connect America Fund: continue to allow consortium applications; continue to fund construction of healthcare networks; set the subsidy level for the Health Broadband Services Program at 85%.

Other suggestions for improvement of the program include: make every effort to further streamline the eligibility and application processes to reduce administrative burdens; implement electronic signatures and submission of documents; consider revising the definition of 'rural' to be more inclusive of connected healthcare facilities; defer any 'meaningful use' criteria and reporting requirements; allow networks to individually determine the best way to operate their network – IUR, capital lease, short term lease, contracts for services, etc.; permit subsidy for administrative expenses and maintenance costs for NOCs; expand the list of eligible entities to include Health Information Exchanges (HIEs), Health Information Organizations (HIOs), Regional Extension Centers (RECs), data centers and nursing homes.

Expected Outcomes

In accordance with the mission of the ITN, we are constantly striving to assist our healthcare facilities with becoming anchor tenants in their communities. From the beginning of our participation under the FCC RHCPP, we have tasked our telecommunications providers with the continued expansion of

broadband services to residential homes and businesses throughout Indiana. Once again, I thank you for this opportunity to speak to you today.

Statement for the Record

Jerry James, CEO, COMPTEL

Before the

United States House of Representatives

Committee on Small Business
Subcommittee on Healthcare and Technology

Hearing on

Broadband: The Catalyst for Small Businesses Growth

February 15, 2012

Madam Chair and members of the Subcommittee, COMPTEL appreciates the opportunity to provide a statement for the record for today's hearing. COMPTEL has about 200 members and in 2011 celebrated its 30th year representing entrepreneurial broadband competitive companies in the communications marketplace. Nearly two-thirds of COMPTEL's members are small businesses, a majority of which have $10 million or less in revenue and fewer than 100 employees.

COMPTEL member companies utilize private investment to drive technological innovation and create economic growth with their competitive broadband voice, video, Internet, data, and other advanced services. Customers are offered a wide array of broadband products, services, and solutions, ranging from traditional voice to managed services to cloud computing. Members of the competitive industry are at the forefront of innovation, having been the first to deploy DSL in the mid-1990s and now deploying next-generation, IP-based managed networks utilizing copper, fiber and wireless technology. Whether our members are saving customers thousands of dollars per month in IT costs by offering a cloud-based solution or providing

support for the telecommunications needs of rural healthcare facilities, COMPTEL members are the companies fostering innovation, entrepreneurship, and job creation.

Today's hearing is appropriately titled because broadband *is* the catalyst for small businesses and we appreciate the Committee's continued focus on the communications marketplace. Fostering a healthy small business environment, especially one designed to encourage innovation and job creation, is critically dependent on advanced communications networks. America's small businesses must have the ability to purchase broadband services, which will enable them to grow and compete. And, the best way to ensure affordable access to broadband and greater capacity to handle small business demands in this country is to maintain and promote successful policies that enable competitive service providers to reach small business customers. Doing so requires a robust wholesale market to provide elements of the underlying networks to offer real competitive retail services.

The passage of the 1996 Telecommunications Act, a bipartisan consensus between a Republican Congress and President Clinton, introduced competition in telecommunication services. As the Congress continues to examine opportunities to make broadband more affordable and increase the capacity of broadband networks to small businesses, you should make clear that broadband policy must enable all competitors to have access to the underlying communications infrastructure on reasonable terms and conditions.

A November 2010 report commissioned by the Small Business Administration's Office of Advocacy evaluated the impact of broadband speed and price on small businesses. It said, "Small businesses want both competition and choice in broadband service market. They see competition as key to innovation, customer service, and lower prices." [1] Also included among

[1] Columbia Telecommunications Corporation, for the Office of Advocacy, U.S. Small Business Administration, *The Impact of Broadband Speed and Price on Small Business*, November 2010, page 55.

the report's recommendations was the need for the government to "encourage and enable small business broadband *providers* and other competitors by providing access to network infrastructure or otherwise lowering barriers to entry."[2] These statements are particularly instructive because much of the existing network that connects America's small businesses is the copper network. Competitive access rules governing use of copper networks are designed to ensure that small businesses can have a choice among service providers.

The innovations that competitive companies bring to market are enabling the legacy copper network to be a valuable broadband resource for small businesses. For instance, one of the technologies actively being deployed by COMPTEL companies is Ethernet over Copper (EoC). Where fiber cannot be deployed, yet high bandwidth requirements exist, EoC can allow a small business to significantly increase its bandwidth to 10 Mbps at a much lower price than the cost of a traditional T-1.

Where copper facilities no longer exist, or the copper is not useable, Congress can encourage the FCC to examine solutions and policies that allow small businesses to continue to reap the benefits of the competitive marketplace with access to capabilities provided over fiber based infrastructure. It is not just about access for the service provider, it is about small businesses gaining access to cutting-edge digital technologies and applications that drive value and growth. The ability of competitive service providers to access the underlying communications infrastructure on reasonable terms and conditions, while maximizing existing infrastructure, will continue to provide small businesses with the tools they need to succeed.

In addition to ensuring access to network infrastructure, it is vital for any successful broadband policy to guarantee the ability of service providers to interconnect with other provider's networks, regardless of the technology. Sound interconnection policy, regardless of

[2] *Ibid.*, p. 56.

technology or network, gives the nation a functioning competitive broadband market. As long as we maintain and promote a competitive interconnection policy in telecommunications services, investment is higher, prices are lower, innovation is greater, jobs and productivity increase, and innovation flourishes.

Pro-competitive policies are vital to ensure a vibrant communications marketplace. Challenges remain to ensure all small businesses are able to reap the benefits of high-speed broadband and the resulting cutting-edge applications and technologies. Only a functioning competitive market will ensure that those challenges are met in the near future.

Madam Chairman and members of the Subcommittee, thank you for the opportunity to provide this statement for the record.