BROADBAND ACCESS IN RURAL AREAS

HEARING

BEFORE THE

SUBCOMMITTEE ON REGULATORY REFORM AND OVERSIGHT

AND

SUBCOMMITTEE ON RURAL ENTERPRISES, AGRICULTURE AND TECHNOLOGY

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ECONOMIC DEVELOPMENT IN RURAL AMERICA, SMALL BUSINESS ACCESS TO BROADBAND

Thursday, May 17, 2001

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON REGULATORY REFORM AND OVERSIGHT, SUBCOMMITTEE ON RURAL ENTERPRISES, AGRICULTURE AND TECHNOLOGY, COMMITTEE ON SMALL BUSINESS,

Washington, DC.

The Subcommittee met, pursuant to call, at 2:07 p.m., in Room 2360, Rayburn House Office Building, Hon. Mike Pence [chairman of the subcommittees] presiding.

Chairman PENCE. I would like to call to order this joint hearing of the Subcommittee on Regulatory Reform and Oversight and the Subcommittee on Rural Enterprises, Agriculture and Technology of the Committee on Small Business. This joint hearing is entitled Economic Development in Rural America—Small Business Access to the Broadband. And I will be welcoming our guests individually, but as Chairman of the Subcommittee on Regulatory Reform and Oversight, I have a few brief remarks, as does my colleague and friend, Chairman of the other Subcommittee that serves as a host today, and then we will hear also from the Ranking Member of that Subcommittee before we receive testimony.

Our hearing held jointly today with my good friend from South Dakota's Subcommittee on Rural Enterprises, Agriculture, and Technology addresses the new economy and the technology needed to ensure that rural areas can share in the global business opportunities that arise from continuing penetration of the Internet. This is the second in a series of hearings that the Subcommittee on Regulatory Reform and Oversight has held on the Internet-based economy. Today's hearing focuses on the so-called digital divide, the lack of high-speed or broadband access to the Internet currently plaguing rural small businesses and the importance that broadband access will play in the continued economic prosperity of rural small businesses. Next week, the Subcommittees will examine the technologies and providers who will help bridge the urban and rural digital divide. I would like to thank the gentleman from South Dakota, Chairman Thune, for agreeing to cochair these very timely and important hearings.

Since the advent of the Industrial Revolution in England in the late 1700s, infrastructure development has been a key component of economic development. Location always has been a critical component for building infrastructure. Villages in the late 1700s that

were not located near a stream that could be used for steam generation often missed the prosperity of the early Industrial Revolution. Towns in the late 1800s that were not served by railroads faced economic stagnation. Counties bypassed by interstate highways lost substantial growth opportunities as the economy moved from rail transportation to cars and trucks. Cities without adequate air transportation links cannot attract companies in a national and even global economy.

Today communities that do not have broadband access to the Internet face the same barriers to economic development that communities, mostly rural, faced in previous generations when the mills, railroads, highways and airports passed them by. Without broadband access, rural communities will be unable to entice businesses that rely on the Internet to relocate and take advantage of the many qualities that rural communities offer. The other benefits, low crime, inexpensive housing, lack of traffic, clean air and a connection with one's neighbors are things that are missing in the booming metropolises of this country. All these things taken together are the competitive advantage of our small towns and of rural America at large.

Broadband access also provides small businesses with new, more efficient ways to conduct their operations. There are some great examples of how technology is changing business in unexpected ways. Who would have predicted that ranchers would be transmitting bids in cattle auctions over the Internet? Finally, broadband access will provide rural communities with access to information and resources that at one time would have necessitated visiting or locating in metropolitan areas. Ultimately broadband access will invigorate rural economic development and not force young people in rural areas to leave home in search of the American dream.

Rural areas and businesses should not be deprived of their opportunity to prosper because they do not have access to high-speed Internet connections. The witnesses at this hearing will explain the vital role that broadband access plays or can play in their businesses. Furthermore, they will discuss the importance of broadband access to economic development in rural areas.

I look forward to hearing from all of the witnesses today, particularly my own constituent Robert Nolley, the founder of the ISP Tubesock.net, who provides a valuable service to the residents and businesses of Shelbyville, Indiana, by bringing them access to the Internet.

I will now recognize my cochair for this hearing, the gentleman from South Dakota, Mr. Thune, for his opening statement. After his opening statement, I will then recognize the Ranking Member of Mr. Thune's Subcommittee Mr. Udall. I would also take note that the Ranking Member of my Subcommittee Mr. Brady had a death in the family and could not be with us today.

So with that I recognize my co-Chairman Mr. Thune for his opening remarks.

[Mr. Pence's statement may be found in appendix.]

Chairman THUNE. I thank the gentleman from Indiana for his openings remarks and want to say good afternoon. It is a pleasure to welcome our panelists to this joint hearing between the Subcommittee on Rural Enterprises, Agriculture and Technology,

which I chair, and the Subcommittee on Regulatory Reform and Oversight, which is chaired by my colleague from Indiana Mr. Pence. I also want to acknowledge Mr. Udall, Ranking Member of our Subcommittee, and appreciate his participation here today and am looking forward very much to the testimony we have before us.

We want to thank those of you who have traveled long distances to be here to participate in this hearing.

Today's hearing is the first of two hearings that will focus on the issue of broadband telecommunications access to rural America. This afternoon we plan to examine a critical role that small business access to broadband services will play in maintaining the economic health of our rural communities.

Throughout our Nation's history there have been significant events that help connect all of America. In the 18th century it was the creation of the river and canal systems. In the 19th century the railroad system was built, and in the 20th century we spent significant energy building a national highway system. All of these transportation systems served to connect rural America and small business owners with the rest of the population and were crucial in bringing economic prosperity to our communities.

Advanced telecommunication services are just as important to our future. As our economy becomes more and more dependent on the Internet for growth, we must ensure that rural America is not left behind. Without high-speed Internet and communications access, more sparsely populated areas will find it difficult to improve economically. Farmer and ranchers to health care workers and retail store owners, people are realizing that if they want to maintain a viable business and serve their community, they must have access to advanced telecommunications service. In addition, for States with predominantly rural populations, being able to offer the latest technology is crucial to luring new business and providing jobs. It is no longer enough to offer a probusiness environment. Advanced technology has to be available.

Broadband access may also help to stem population loss to rural areas. Citizens will no longer be compelled to leave their towns and communities in higher paying jobs and challenging careers, and telecommuting may well become a reality for many workers in rural areas.

I look forward to hearing from our witnesses and thank you all for participating in today's hearing.

I also have a gentleman from my home State who I would like to introduce at the appropriate time. But I look forward to the testimony and the opportunity to address this issue and hopefully shed some light on what I think is a very important issue to rural America, and certainly to all of America. Thank you, Mr. Chairman.

[Mr. Thune's statement may be found in appendix.]

Mr. UDALL. Mr. Chairman. Thank you very much, and welcome to the panel, Chairman Thune and Chairman Pence. I am pleased to be here today for our first joint Subcommittee hearing to examine the impact that broadband telecommunications services have on small business in rural areas.

Over the last decade we have witnessed how the Internet has revolutionized our economy, the way we teach our children, provide

medical services and even conduct our everyday business from shopping to communicating. However, about 86 percent of Internet delivery in the United States is concentrated in only the 20 largest cities. Rural America and its communities are not a part of the information highway and instead are in danger of losing ground to urban areas that can attract jobs and have access to affordable high-speed service and a strong telecommunications infrastructure.

On August 3, 2000, the Federal Communications Commission released a report on the availability of high-speed and advanced telecommunications services. The report concluded that advanced telecommunications capability is being deployed in a reasonable and timely fashion overall, although certain groups were identified as being vulnerable to not receiving service in a timely fashion. Those groups included rural Americans, particularly those outside of population centers, low-income consumers, minority consumers and tribal areas to name a few.

It is clear that rural America is in danger of becoming the other digital divide. Many small business men and women in our rural community recognize the need to engage in e-commerce to compete and survive in our growing technological economy. Rural communities recognize without a strong telecommunications infrastructure, recruiting businesses and building economies will be hard to achieve. However, even if technologies like broadband are deployed, communities like our Native American reservations that are without even the most basic telecommunications infrastructure will be beyond the far reaches of this technological leash.

One of the questions we need to ask ourselves is will small business in rural areas with high-speed Internet access be more likely to find new market opportunities? That question will be hard to answer because we would have to assume that small businesses in rural areas know how to use e-commerce, have the training and skills to make it work, and that is a whole other ballgame.

There are several legislative proposals that have been offered in Congress that address the concerns of broadband access and deployment. One bill would allow the Baby Bells to offer long distance data and voice services in their home areas. However, there are no guarantees that if this were to occur that the Baby Bells would deploy this service to the most rural of rural areas.

A second piece of legislation, which I am cosponsor of, H.R. 267, the Broadband Internet Access Act of 2001, would offer incentives for deployment of broadband service to rural and low-income areas. This legislation would offer a two-tier tax credit for investments that provide next-generation broadband service to all other areas of the country except urban business areas, and to encourage providers to act quickly, the credit would be limited to broadband service deployment in the next 5 years.

The Internet holds an endless amount of potential for small business as well as for parents, teachers, doctors and farmers. Through the use of the Internet, doctors are using telemedicine to help cure and save lives. For those who live in rural communities, telemedicine would allow rural hospitals to effectively treat patients and receive expert medical advice with no degradation of patient care.

Beside the deployment of broadband to rural areas, we should make sure we address other areas of concerns that small busi-

nesses have with the Internet, such as security, privacy, construction and maintenance, intimidation, and how to fully participate and utilize e-commerce applications in its business practices.

Thank you both, Chairmen Thune and Pence, and I look forward today to hear from our panel.

[Mr. Udall's statement may be found in appendix.]

Chairman PENCE. I thank the gentleman from New Mexico Mr. Udall for his very thoughtful opening statement and his participation in our hearing today, and to Chairman Thune, the gentleman from South Dakota, we thank you for your comments as well.

Before the Chair recognizes the first witness, allow me to explain as a courtesy the technology that is in front of you. It is fairly evident. We will ask you to keep your opening statement to approximately 5 minutes to allow for this panel to ask questions and complete our hearing in an orderly way. You will see the lights in front of you green from the moment that you start. At 1 minute that light will turn yellow, and at the 5-minute marker the red light will appear. You need not fear the gavel unless you go dramatically past the 5-minute time frame. So when you see the red light, just try to wrap up your remarks, and we will move on to the next witness.

With that, it is my privilege to introduce your first witness today, Mr. Robert Nolley, who is the president and founder of Tubesock.net, which happily is a successful Internet business serving individuals and businesses in the heart of east central Indiana's Second Congressional District that I serve here in Washington, D.C.

Mr. Nolley is one of those youthful prodigies that makes those of us with gray hair frustrated. Rob became interested in computers in 1986 at the age of 16 when his father purchased a Commodore 64 computer for him, and since graduating from high school and tour of duty in the United States Navy, he went on to pursue a bachelor's degree in business administration at Indiana University.

He proceeded to become professionally involved in site construction, Internet site construction, working with NFL Hall-of-Famer Joe Theismann. He developed an online chat program with basketball analyst Billy Packer, but in 1996 he left that employer to form his own Web development company, starting RN Media in February of 1996, and began marketing his services to local businesses. And in 1999 and thereafter, he began the company Tubesock, Incorporated, and it is currently the ISP of choice for small businesses in Shelbyville, Indiana, and across much of east central Indiana.

Rob is married to the former Jill Drake of Shelbyville and comes to us under duress, having become a new father just 60 days ago.

The Chair recognizes for 5 minutes Robert Nolley of Shelbyville.

STATEMENT OF ROBERT NOLLEY, FOUNDER AND PRESIDENT, TUBESOCK.NET, SHELBYVILLE, IN

Mr. NOLLEY. Thank you. I would like to state that I do not have any contract with the Federal Government.

Good afternoon, ladies and gentlemen of the Committee. I would like to thank you for inviting me here today. My name is Rob

Nolley, and I am the president of Tubesock Inc., an Internet service provider based in Shelbyville, Indiana. Although Tubesock has only been offering Internet access to citizens of Shelby County since the fall of 1999, we already serve more than 900 subscribers, employ five people and deliver a full range of e-commerce services to our customers for both residential and business. From helping local businesses to design Web pages to providing the high-speed Internet connections that help citizens of Shelby County reach the world quickly and efficiently, we do it all.

Like many other small Internet providers nationwide, I recognize that rural markets provide great opportunities, and I hope to be there to provide Internet access and Web development services for many years to come.

Early on when we added Internet access to our Web development business, we realized that in order to survive and compete with other ISPs, we would need to offer broadband service. The dial-up business is a good one, but more and more business customers are demanding faster Internet service in order to more efficiently serve their own clients. In Shelbyville we are presently bringing high-speed access to our customers in two way, through DSL or digital subscriber line access service, and high-speed Internet over cable. In order for us to deliver DSL to our customers, we must interconnect with special DSL equipment installed at our local phone company's central office. We cannot install the equipment ourselves because we are not registered as a phone company, nor do we desire to become one.

In Shelbyville, Ameritech does not employ any of this equipment, but a competitor of theirs, Rhythms, does. We approached Rhythms in order to interconnect and sell their product. Because of our small size, we were referred to a resaler of the Rhythms product, a company called Netisun. Offering the DSL product this way has been tough. The lead times are about 2 months. It is a two-part installation. The length of time is primarily because of the amount of time it takes SBC-Ameritech to configure our customers' phone lines so they can get their data through the Rhythms equipment. Once this is done, Rhythms generally gets our customers switched on 1 day later.

SBC-Ameritech does not offer DSL itself in Shelbyville and claims this is because it is under scrutiny of the State utility regulatory commission for the poor service it provides to residential consumers, and it wants to fix those problems first. Yet we have noticed that SBC-Ameritech offers DSL service everywhere in Indiana except Kokomo and Shelbyville.

The other way for us to deliver high-speed Internet access for our customers is over local cable network, and I must say for us this is the way we prefer to do it. Dealing with the phone company is usually such a nightmare. In Shelbyville the local cable operator is Susquehanna Communications, and Susquehanna recognized early on that partnerships with multiple ISPs could be a profitable business. It ran four strands of fiber-optic cable to our facility at no cost in order to provide this service to our customers. And in contrast to the 2-month lead times for DSL, a customer can have their high-speed Internet over cable delivered in about a week, and we are informed almost immediately when Susquehanna's router is down.

This allows us to tell our business customers quickly about service difficulties. Susquehanna in also local, and this makes them easier to deal with as well.

We have a number of business customers who use high-speed connections for their business, customers in Shelbyville, like Prime Time Grill and Bar, that is able to upload its sales information to its corporate office in Indianapolis over its cable connection; or Martin Potts and Associates, a local CPA firm that is able to use its DSL connections to download IRS forms and accounting software updates much faster than they could over a dial-up operation; or Sandman Brothers, the local GMC-Chrysler dealership that does all of its customer financing through its DSL connection. We have seen the differences that broadband services make to these business and believe that broadband is an important product that we must continue to be able to deliver to our customers in a cost-effective way in order to survive as an Internet service provider.

We have specific thoughts and real concerns regarding this, part of which are included in my written testimony, that I would like to address in the question-and-answer portion of this hearing. Thank you.

Chairman PENCE. Thank you, Mr. Nolley.

[Mr. Nolley's statement may be found in appendix.]

Chairman PENCE. And before I yield to Chairman Thune to introduce a witness from South Dakota, I wanted to acknowledge the presence of the gentlelady from New York. Congresswoman Kelly has joined us. She is the former Chairman of the Subcommittee on Regulatory Reform and Oversight and has set the pace for our Subcommittee. So it is great to have you here. Thank you for being with us.

With that I will recognize Chairman Thune to introduce our next witness.

Chairman THUNE. Thank you, Mr. Chairman, and it is a great honor for me to have someone from my State here today, Gene Reich, who is the coordinator for telehealth services at Avera St. Luke's Hospital in Aberdeen, South Dakota, and has been very instrumental in exploring the utilization of new technologies to serve the health care needs of people not only in Aberdeen, but also in many rural areas of my State.

Everything in my State is kind of rural, but there are degrees of rural, and, frankly, Gene really spearheaded the telemedicine legislation that was adopted and signed into law last year by the President as part of the Medicare refinement bill. It originated in a hearing I had up there where he laid out some of the issues and barriers to using technology and being able to get reimbursed under Medicare. As a result of that process, we were able to have legislation adopted last year which is currently in, as Gene informs me, the rulemaking stage, and we are hopeful that we can get the rules drafted in such a way that it will provide the assistance that is necessary to really make this a transformational technology in terms of serving the health care needs of people in my State of South Dakota and all across this country.

Gene has often indicated to me that this is about telehealth, not just telemedicine. They are doing some wonderful things in patient consultation and innovative pioneering-type ideas when it comes to

health care, but also when it comes to the area of education, wellness programs, training, those sorts of things, all of which I think he will talk about in his testimony.

But it is great to have him here and very exciting to see the things that are happening as a result of his efforts there in Aberdeen, South Dakota. So with that I will yield the floor to Mr. Reich.

STATEMENT OF GENE REICH, TELEHEALTH COORDINATOR, AVERA ST. LUKE'S HOSPITAL, ABERDEEN, SD

Mr. REICH. Thank you, Congressman. My name is Gene Reich, from Aberdeen, South Dakota, and I am the coordinator for telehealth services at Avera St. Luke's in Aberdeen, South Dakota. And on behalf the Presentation Sisters and the Benedictine Sisters, the sponsoring groups of our network family called Avera Health, I would like to thank you for the opportunity to present our input on this critical subject certainly to rural America and to rural health care.

I would also like to publicly thank Congressman Thune and this body for its support of telehealth legislation passed last year that will benefit the future growth of telehealth services nationwide. I commend this Committee for taking up the matter of access to broadband technology in rural America. This is an important issue for the economic development in our State as well as the delivery of quality health care services in our region of northeastern/north central South Dakota.

Avera St. Luke's is celebrating its centennial year in meeting the healthcare mission of the Presentation Sisters in the city of Aberdeen and the surrounding region. We are proud that we have used the latest technology to meet the sisters' cherished health care mission and would be interested to know what some of the early members of the order might think about some of the methods we have used to meet that mission. There are not many members of the order left with us, only about just a handful less than the age of 50, so all of us at Avera St. Luke's feel a strong commitment to continue the mission, and pledge to do so in any way possible.

We feel that advanced technologies will be a key to our survival as a rural health care provider. At Avera St. Luke's we use interactive video conferencing to provide valuable health care services to 15 rural hospitals and clinics. We built and equipped these facilities with videoconferencing technology with the help of two Federal grants and a significant investment by Avera St. Luke's.

We use the technology to deliver quality health care services in a variety of ways. We provide regular continuing medical education programs to rural providers and staff. We provide frequent training sessions for rural health care staff in a variety of disciplines. For example, in the month of June, we have already scheduled a workshop for hospice volunteers, a workshop on mentoring and a session on caring for the urology patient in a rural health care setting. We also use videoconferencing for corporate meetings, partner meetings, association meetings.

In this time of cutting programs in health care to meet budget concerns, Avera St. Luke's and Avera Health are using innovative technologies such as videoconferencing to cut travel costs by thousands of dollars a year in order to keep our current level of services

intact. Like most similar projects around the country, we also use the technology for telemedicine services. It allows our medical specialists to be available to rural providers and patients in a videoconference setting, saving patients and families travel expenses and time away from work. Risk of travel is also a consideration, especially in our part of country during the winter months.

While CME programs, trainings, meetings and telemedicine are all part of the offerings of Avera St. Luke's telehealth services, the area we are most proud of and the area of service that I think separates our project from many others around the Nation is our education and wellness programs. We offer classes in lowering your cholesterol, quitting smoking, eating right, and even a support group for diabetics. We also offer regular health forums featuring physicians and other health care professionals presenting valuable health care information on a variety of subjects. And last December we also made Santa Claus available over our videoconferencing network. As it turns out Santa Claus was high-tech. We are proud of the wide diversity of our programming which makes our project one of the true telehealth projects in the country.

One thing we have learned about access to technology, when people are exposed to new and innovative technology, they learn to use it to benefit their way of life. We have certainly been a witness to that premise in the health industry. We currently use ISDN service to deliver our programming at Avera St. Luke's. Many experts feel that ISDN is an outdated technology, that it has served its purpose, and we are certainly very aware of that and are exploring new and more efficient ways to communicate, and we are constantly looking for new equipment designs that will serve us better. Staying on top of the developing technology is nearly impossible, but in our field of telehealth, it is essential to our survival to cut costs in order to keep our now coveted telehealth services in place.

We feel the availability of advanced and affordable networks and infrastructure are critical to the survival of our project and projects like ours across the country and also to the survival of rural America. Thank you.

[Mr. Reich's statement may be found in appendix.]

Chairman PENCE. The Chair now recognizes Mr. Marvin Imus, who is an owner/manager for over 20 years of a family-owned single store that was founded 47 years ago.

Mr. IMUS. 1947.

Chairman PENCE. A degree in economics from Western Michigan University, currently you are the Chair of the Wholesaler Technology Advisory Board, a member of the Wholesaler Independent Retailer Task Force and the NAWGA's Category Management Certification Committee, and you have been involved in developing and implementing a card-based marketing program for the last 5 years, and your own customer card base is 6 years old. He is owner of the Paw Paw Shopping Center in Paw Paw, Michigan.

Mr. Imus.

STATEMENT OF MARVIN IMUS, OWNER, PAW PAW SHOPPING CENTER, PAW PAW, MI

Mr. IMUS. Thank you.

Good afternoon, Chairman Thune, Chairman Pence and members of the Subcommittee. I would like to thank you for this opportunity to speak to you on behalf of my business and also for all retailer single-store operators that are supported by FMI, the Food Market Institute.

Let me take a moment to tell you have about my business and my community. Paw Paw, Michigan, is a small town in Michigan just outside of Kalamazoo, about 10 miles west. We started the business in 1947 with 1,000 square foot of retail space. Currently we have 41,000 square feet. We have 30,000 products on our shelves, but we have a database of 75,000 items and a historical data base of every item sold to every customer for the last 6 years. This is probably our most important asset as we go to our marketplace and as we try to use the data from our sales to market back to the consumer, information and the products that they desire. We rely on this information, and it is all based on broadband technology to give us the profitability aspect of it.

We have a Website which currently offers weekly specials, wine ordering, gift baskets, weekly recipes, and meal solutions, as well as household tips and consumer alerts. We have a weekly newsletter that we e-mail to our customers that request it. Approximately 10 percent of our customers visit the Website. We see the Internet as being the facilitator of communications for our commerce in the future and potentially providing for competitive advantage for a small business like ours.

Broadband access is important for small businesses and consumers in rural America. Broadband access is not currently available in Paw Paw. If it were available, we would use it to enhance our business. Currently we utilize a frame relay connection for our Internet usage. This is provided to us through our wholesaler out of Grand Rapids, Michigan, and basically provides us an ability of communicating back and forth. We exchange information, orders, products back and forth between our store and the headquarters of our supplier.

There is an analogy I would like to use that seems to work very well. If you are on an escalator at the bottom level of a building, and you want to get to the third floor, with a 56k modem you have a one-person escalator going up to the second floor. As you go up to the second floor, you have to get off because the escalator has to reverse to go back down, and you have to get back on the escalator to go up to the third floor. This is a 56k modem.

A broadband technology has the ability of putting three or four persons or more on a step of the escalator. That escalator can go up or down, so you have access both ways. It has a TV-like quality that the consumers are demanding before we can get to a point where the information that we are delivering to the consumer is impactful enough for us. With dial-up technology today, it is too slow. They don't have the time nor the desire to want to wait for a page to be drawn on our site. Textual information that is available quickly is basically boring. They are looking for TV-quality access.

As you can see in my statement here, which included a chart that highlights the number of years it has taken from major technologies that we depend on each day to reach mass market over

the years, electricity took 40 years, telephones 30, and Internet access has reached over 25 percent of the population in 10 years, yet in rural America we are not seeing that type of access yet.

One other analogy I would like to use is my mother-in-law. She goes south for the wintertime, and we use telephones to keep in contact. But we bought her a small Web TV system just so we can e-mail back and forth with her. It cut my phone bills down dramatically. In fact, it really overkilled it because she is online so much now that we cannot call her anyhow, which is great. But that aspect that the elderly are getting access outside of their own community and gives them the broad world aspect is tremendous, but we need to have quicker access with more TV-like quality to get to that.

Certainly the work of the Committee in conjunction with the Commerce Committee is important to ensuring that broadband access is available in the near future to businesses and customers in rural areas at a reasonable cost. I understand that this is no easy charge, but I for one feel the competitiveness of our business depends on it.

Thank you for the opportunity to testify, and I will be pleased to answer questions later.

Chairman PENCE. Thank you, Mr. Imus.

[Mr. Imus' statement may be found in appendix.]

Chairman PENCE. And you mention questions, and for those of you new to being witnesses on Capitol Hill, we will have time for questions by this panel of members for this panel of witnesses at the conclusion of Mrs. Stark's presentation.

I would also remind Mr. Imus and others that in view of your mother-in-law analogy that all your testimony here is a public record.

Mr. IMUS. Can I see that before you publish it?

Chairman PENCE. If it gets back to your mother-in-law, it is your fault.

I would like to recognize Jonathan Linkous, who is the executive director of American Telemedicine Association, the largest membership-based organization in the world focusing exclusively on providing health and medical care through telecommunications technologies, and Mr. Linkous has over 20 years experience in the Nation's capital working in corporate and public sectors. For 5 years he was a leader in the aging services community as the executive director of the National Association of Area Agencies on Aging. His principal interest in this position was in using telecommunications and adaptive technology to assist older Americans and their caregivers.

Mr. Linkous was also involved for many years in the regional planning and economic development field, serving as the deputy executive director of the National Association of Regional Councils and at the Appalachian Regional Commission as director of the district.

Mr. Linkous holds a master's in public administration from American University in Washington, D.C., and also degrees from Franklin University in Columbus, Ohio, with postgraduate work at the LBJ School of Public Affairs in Austin.

The Chair recognizes Jonathan Linkous for 5 minutes.

STATEMENT OF JONATHAN LINKOUS, EXECUTIVE DIRECTOR, AMERICAN TELEMEDICINE ASSOCIATION, WASHINGTON, DC

Mr. LINKOUS. Thank you, Mr. Chairman. I appreciate the opportunity for testimony today, and I am testifying on behalf of the American Telemedicine Association. ATA is a nonprofit membership-based organization promoting telemedicine and working on ways to resolve barriers to employment. Members of ATA include representatives of an important small business in rural America, and that is health care clinics, physicians' offices and small hospitals.

Telemedicine represents a marriage of advanced telecommunications technology and new approaches to providing medical and health care. Be it through online consultations between rural clinics and specialists at major medical centers, telehomecare for homebound frail patients or homebound mothers-in-law, access to comprehensive databases of health and medical information for consumers over the Internet, telemedicine holds the promise of using telecommunications to improve the lives of all Americans.

The deployment of telemedical links to rural medical, centers requires communications networks that are affordable reliable and capable of handling large amounts of data in a very small time.

When I was at the Appalachian Regional Commission, we recognized the importance of opening up the isolated areas of Appalachia through a construction of a network of highway systems throughout the Appalachian Mountains. The highways of today are located on the telecommunications infrastructure. The telecommunications infrastructure opens up the isolation of rural America to the opportunities for education, commerce, and health care.

For rural hospitals, medical clinics and other health-related small business, access to broadband networks means being able to treat patients through a local health facility rather than losing those patients and the revenues to distant communities. It means improved health care for rural residents. It means being able to keep a local clinic open. It means reducing public and private employer costs for health care, and finally, it means hope for small and rural towns and villages struggling to survive and grow.

I would like to share one example as to how access to broadband technologies can make a substantial difference to improving patient care. That is in the area of teleradiology. Teleradiology allows medical clinics in rural areas to gain access to services of a qualified radiologist you may not get otherwise. An X-ray or other image is transmitted to a radiologist for an assessment or service they provide. For almost all radiology services there are several images to be viewed in the area in question from two or more angles. If anybody has had a broken arm, you know you go in, you get two or three X-rays. If you digitize those X-rays and send them over a communications line as is needed for teleradiology, the amount of information provided in that can be enormous, up to 5 megabits of data, for example.

If you are transmitting that over a plain old telephone line, you are talking about several hours of waiting. If there is a glitch in the line, you have to resend the data because it is a medical image. So, therefore, you are talking about double the amount of time. In

emergency situations this can happen, and many medical clinics in rural, isolated areas, that amount of waiting time is just totally unacceptable. For other situations it is at best inefficient.

Despite the recent growth of alternative bandwidth choices such as wireless or terrestrial communications lines, rural communities are still limited to the availability of high-speed telecommunications where available and have problems with the reliability and costs. Other countries, notably Canada and Finland and Sweden, have established specific national goals towards universal deployment of high-speed telecommunications to every home throughout that country. The United States has not done that. Congress should consider establishing a national public-private commission to look at establishing similar goals incorporating similar incentives and programs that will accelerate the availability of broadband telecommunications to every business and every home throughout the United States. The provision of such policies in Canada and Scandinavia, I believe, is accelerating those countries in the battle for the telecommunications market in the future.

There is a small but very important program authorized through which the Federal Communications Commission assists rural health providers in obtaining access to broadband services. Congress established this program under the Telecommunications Act of 1996 to provide improved broadband access by rural health care providers. Recent improvements by the FCC in the program create hope that the program can provide major benefits to rural America, and I urge Congress's support for that program.

Finally, I want to join the other members of the Committee in thanking this panel and particularly thanking Representative Thune for your support for telemedicine and your support this last year of the telehealth bill that provides very important incentives for telemedicine, particularly rural America. So I publicly want to thank you, sir, on behalf of the association for your leadership and support.

Thank you, and I will be glad to answer any questions.

Chairman PENCE. Thank you, Mr. Linkous.

[Mr. Linkous' statement may be found in appendix.]

Chairman PENCE. Lastly, the Chair is pleased to recognize Nancy Stark, the director of community and economic development at the National Center For Small Communities here in Washington, D.C. With 24 years of experience in community and economic development in telecommunications, Ms. Stark has directed research, designed and conducted training programs, written guidebooks and provided technical assistance to small-town leaders across America.

Currently Ms. Stark directs a U.S. Department of Commerce-funded research project to identify, describe and evaluate the most effective technology-led economic development strategies for distressed rural communities.

Recently Ms. Stark authored Getting Online, a Guide to the Internet for Small-Town Leaders, and Harvesting Hometown Jobs, a Rural Economic Development Primer.

Ms. Stark created and led the AOL Rural Telecommunications Leaderships Awards, a digital divide initiative and partnership with the AOL Foundation. The awards recognized and promoted

outstanding achievement in rural community development resulting from the deployment and use of advanced technologies.

Ms. Stark hold an M.S. in financial management from American University and a B.S. from Cornell, and the Chair recognizes Nancy Stark for 5 minutes. Thank you for being here.

STATEMENT OF NANCY STARK, DIRECTOR OF COMMUNITY AND ECONOMIC DEVELOPMENT, NATIONAL CENTER FOR SMALL COMMUNITIES, WASHINGTON, DC

Ms. STARK. Thank you, Chairman Pence and Chairman Thune, members of the Subcommittee. Thank you for the opportunity to testify before you today. I am Nancy Stark, director of community and economic development with the National Center for Small Communities here in Washington. The National Center for Small Communities is the only national, nonprofit research, training and technical assistance organization devoted exclusively to serving the public servants of America's small and rural communities.

On the topic of telecommunications, rural telecommunications we have directed several initiatives that were mentioned recently. One is a guidebook called Getting Online, a Guide to the Internet for Small-Town Leaders—actually several Members of Congress have distributed this to their constituents; the AOL Rural Telecommunications Awards; and most recently now a research project on technology-led economic development strategy.

As I am sure you know, our Nation is a Nation of very small communities. The latest Census of Governments reports that of the 36,001 subcounty and local governments, meaning towns, cities, villages, all the rest, approximately 90 percent have fewer than 10,000 residents; 82 percent have less than 5,000 residents; 51 percent have fewer than 1,000 residents.

Much has been reported recently about the apparent narrowing of the urban-rural digital divide. For instance, a recent U.S. Department of Commerce report said that the gap between rural households and the others that access the Internet had narrowed from 4 percentage points in 1998 to 2.6 percentage points in 2000.

However, these statistics mask the real urban-rural digital divide. More and more rural households and businesses have Internet access, but few have high-speed broadband telecommunications services. While nearly all users can now ramp on to the information highway via a local dial-up connection, although there are certainly places in this country where you have to make a long distance call to connect to the Internet, but saying that most of them can get dial-up, the deployment of high-speed services has been slow and limited. For example, the April 2000 joint report of the U.S. Department of Commerce and the U.S. Department of Agriculture showed that less than 1 percent of residents in communities with fewer than 10,000 residents have access to DSL, in contrast with 86 percent for cities with populations above 100,000. Similarly, approximately 1 percent of residents in communities of 10,000 population or less have access to cable modem compared to 72 percent of residents in cities above 250,000 population.

Without state-of-the-art communications, rural businesses are at a severe disadvantage. Nearly all businesses need connection to the Internet. Small and midsized enterprises are being forced to mi-

grate their business to the Internet by bigger companies they are affiliated with. In this symbiotic relationship, most small businesses are either suppliers to or distributors of bigger businesses. Businesses need high-speed broadband to download files, submit and receive orders, view graphics, access databases, participate in videoconferencing, basically to participate in the modern economy.

Without state-of-the-art telecommunications, businesses are far less productive. Consider the time it takes to download a 10-megabyte file using dial-up versus high-speed Internet access. This is kind of my version of the escalator motif. Those are some statistics from the FCC. If you took this guidebook, for example, which is principally text and a few graphics, and you had 12½ of these, that would be a 10-megabyte file. If you downloaded that using a 14.4 modem, which is not uncommon in rural areas, it would take 1½ hours. If you downloaded it with DSL, a 4-megabit cable, it would take 20 seconds; or with an 8-megabyte DSL, it would take 10 seconds. So we are looking the difference between 1½ hours and 10 seconds.

There are signs the deployment of broadband telecommunications services to rural America is increasing, but it is increasing very slowly. Our observation is that despite the demand, and there is lots of demand kicking and screaming from local and residential and business markets, it is chiefly the small local telephone companies or cooperatives that are providing DSL, and sometimes cable, to small communities, not the larger companies. It is also our observation that the market forces in many small, especially very remote rural communities may not be sufficient to inspire the development of high-speed services, and that Congress may need to consider market-based incentives to spur deployment.

Because of the critical influence of broadband telecommunications services on rural economic development, the National Center For Small Communities hopes that Congress will explore strategies for helping communities to remain on the right side of the digital divide.

Thanks for this opportunity, and I welcome your questions.

[Ms. Stark's statement may be found in appendix.]

Chairman PENCE. Thank you, Ms. Stark, and, witnesses, we are going to move to the question-and-answer portion. The Chair has a few questions for each of the witnesses, and we will then recognize Chairman Thune and Ranking Member Udall and Ms. Kelly and those who can remain to participate.

We encourage you to keep your answers fairly brief so we can get as much participation as possible, but we will refrain from any blinking lights.

The Chair would like to congratulate each of the witnesses on very good and informative and particularly plain English presentations which those of us that do not have Chairman Thune's background in this area are particularly grateful that you spoke in plain English.

With that said, the question for Mr. Nolley, on a very practical level SBC is the employer in Shelby County, Indiana. What is the time frame right now when you ask SBC to provide Tubesock.net with a T–1, ISDN or other telecommunications service? Is that

rapid deployment; is it acceptable? In practical terms how does it work?

Mr. NOLLEY. It is real slow. The current lead times are about 2 months, so we have to kind of time—keep on top of time to make sure we ordered ahead of time before we actually need it. We have to order it ahead of time. And sometimes we may be off on our timing, and we get it a little bit too soon, so we are paying for something we do not really need. Their lead times are off, and they keep getting further and further out.

Chairman PENCE. The effect on your ability to interact with your clientele, encouraging them to go to more advanced communications technology when they have to wait for that, the period of time would be what?

Mr. NOLLEY. We often make ourselves look pretty bad because we will get the lead times from Ameritech, relay those lead times to our clients, and then our clients end up asking us where is the product, where is the product. We look bad, and, of course, trying to get through to Ameritech to get answers you never get anywhere. That is why we have been pushing cable Internet service because it doesn't touch Ameritech at all. It is local cable company, local people who are working in the community. We already have good rapport with them, good conversation. It is quicker. You don't have to worry about getting a suspect voice mail system and trying to leave a message for somebody. So we are moving towards cable.

Chairman PENCE. A question for Mr. Imus. The Paw Paw Shopping Center. You describe the Internet as a facilitator for your business. Could you elaborate for these Committees in this joint hearing how it would facilitate your business? Do you expect to use the Internet principally for marketing, or do you expect online shopping to become a large part of your revenue stream?

Mr. IMUS. Well, yes. All of the above. Actually what we have with our wholesaler right now is an intranet, which is a closed Internet loop where it is just communication between us and the wholesaler, and all the other retailers are part of it. But the Internet gives us the ability of having effective marketing abilities that we can use very cost-effectively.

As consumers get more and more online, we achieve a critical mass. We have not achieved that point yet. We have online shopping. Again, because of the speeds of the access that the consumers have in our area, it has not been overly well-received. I foresee it to be a key component of our future plans for survival.

Chairman PENCE. Mr. Linkous, a couple questions. First, I wonder if you might elaborate on the significance of technical clarity that comes with broadband access in terms of diagnosing. In plain English is there a health benefit, a diagnostic benefit to expanded broadband access in telemedicine?

Mr. LINKOUS. Well, if I were a patient, I would like to have a physician who may need an eyeglass prescription to wear his glasses; and with broadband, you do have a guarantee of certain clarity of images. There are a few medical specialty groups, radiology being one of them, that actually have come up with some specific clinical guidelines regarding clarity of image. The American College of Radiology has a requirement now that you have an image, radiology image, that is 2k by 2k, 2,000 dots by 2,000 dots. That is a

fairly high-definition image that is required, because, again, if you are looking at an X-ray, it is a very minor change in the bone that can make a completely different diagnosis, and the soft tissues would be the same.

So, yes, I think it would—broadband is absolutely critical for certain types of applications. Now, there are applications in telemedicine that probably can get by with lower, but absolutely. But for a lot of what you see, certainly for emergency situations, certainly for specialty referrals, the higher the speed, the better. It is not only going to be an image that you have that is going to be arriving at the destination quicker, but also the quality of the image is going to be significantly improved.

Chairman PENCE. Mr. Linkous, you also propounded today before these Subcommittees the idea of a national commission of sorts. I wonders if you might elaborate on the jurisdiction of that commission, the goals of that commission, and so we might consider that.

Mr. LINKOUS. Certainly, and certainly I would be available to talk to staff about it in more detail. But if you look at the experience in a couple of other countries, I think, frankly, they are putting the United States in the dust in some of the things that they are doing. Using an urban example, if you look at Helsinki in Finland, they have made a commitment that every single home in Helsinki is broadband-wired. When you talk to a neighbor, when you talk to your mother-in-law or children, you are seeing your children over the phone lines. Canada has made a similar commitment in the process of deploying it.

Now, in the United States we have a little bit of a different system where we have a private sector that is involved more so than other countries, but it seems to me that in the United States, it is high time particularly for rural America to have a commission of public and private companies to talk about ways that we can deploy broadband throughout—not only to every business, but as I mentioned, to every home, using things like tax incentives, regulatory relief, building on programs that are available in many, many States that are deploying broadband networks throughout the State, and as well as volunteerism that is going on throughout the country.

So it seems to me there is a lot of solutions available, and it is probably an appropriate time for this country to have some kind of a national body that is starting to set forward some goals and a specific timetable to get things deployed.

Chairman PENCE. Mr. Reich, thanks again for your wonderful presentation. You are breaking new background for me and my understanding this area.

You used some pretty strong language today about the Internet, and you said that it was the key to the survival of the rural health care provider. As someone who represents an area that is largely rural and has seen a real shift in the delivery of health care services—one county that I serve, Rush County, Indiana, announced, sadly, 2 years ago—said that they would no longer be delivering babies at Rush County hospitals. Is the power of the Internet and broadband technology powerful enough to reverse the trend towards regionalism, or we are talking about the survival of regional health care providers?

Mr. REICH. I think there is an evolution certainly. That is not going to change. But I think we can do a lot with broadband capabilities to keep that rural physician and rural provider in place. We have several examples of communities and health care facilities on our network that aren't very big. A community in extreme—north central South Dakota, maybe a community of 3- or 400 people has one rural physician, but he has access—he has access to broadband videoconferencing technology, so he has been able to resolve a lot of the isolationism which he has faced. He is all out there by himself, but he is not anymore. He has access to consultations. He can talk to the surgeons about a patient he might want to send in. He can present that patient. And he takes advantage of continuing medical education programs that he needs to stay certified and to keep his license intact by staying at home during during lunch hour, not missing any time away from his clinic, not being gone for 2 or 3 weeks wherever to get the credits that he needs. He can get all of those credits by staying in his own clinic, and he has access to so many different things.

I think in his current situation he will probably end up retiring there. Not too long ago he had considered leaving this community in north central South Dakota, and the community encouraged him and came to him and got he and his wife to stay. And it is really a cool story because part of that, I think, really is the reason he was staying is because he has access.

And there are others. There are other stories on the network, too, not necessarily physicians, but PAs. I think we solved a lot of isolationism. I think we feel like there is some connection even though we are not a huge medical center hub site. We are a relatively small medical center in northeastern South Dakota, but still just having that connection and that relationship I think is going to help. I really do.

Chairman PENCE. Last question before I yield to my colleague Mr. Thune.

Ms. Stark, you are a recognized national expert in the area of economic development in small communities. Do you have any data or do you have any comparison of communities that have broadband access, relatively small, versus ones that haven't and the impact that can—that may have on the economic development over the last 5, 10 years?

Ms. STARK. No, I don't have any absolute data to share with you. I think most of what is going on is anecdotal. Even what we are doing for the Department of Commerce, this project on technology is primarily collecting data, in the process of collecting data. However, we are looking at 14 very rural distressed communities that were recognized as having a leadership role in technology-led economic development. We are not finished yet. We administered a survey to them, and we are looking at what have been the impacts in terms of economic development and also things that are a little bit less tangible perhaps, citizen participation, youth engagement, lots of things that make a rural community survive or not survive.

So I would love to share that with you once we have finished that, which will be in a few months, but there are some wonderful case studies. I have mentioned a few communities in here, Abingdon, Virginia, which is not that far from here, which has had

high-speed broadband access in many public access places as well as residential use since 1996, which is really remarkable. So there are examples out there. They are just few and far between.

Chairman PENCE. The Chair recognizes Chairman Thune for any questions.

Chairman THUNE. I thank the Chairman, and I thank the panel for all the good testimony. This all helps us build a record and establish a foundation which points to not only the successes happening out there today, but certainly highlights where we need to go in the future in order to make this an online society that doesn't know a digital divide, where you have rural areas that are benefiting from the same technology that the urban, more populated areas are.

Mr. Imus, by the way, your mother-in-law called, and she heard what you said, and she wants you to stay with your escalator story. She is very well-connected down there. I commend you not only for your entrepreneurship in taking on the challenges that you have in your business, but also your bravery in using illustrations that pertain to your mother-in-law. Most of us probably would not dare to go there.

Just a couple of questions, and I will direct these around a little bit to a couple of different areas.

Mr. Reich—and I know in conversations with you, and having seen firsthand the things that you are doing, the various innovations that were out there, and really what that is doing to change the way that we do business, to change the way we meet health care needs in rural areas, to enhance and improve the quality of life for people that live not only in Aberdeen, which, by South Dakota standards, is a population center, but those who live in more remote outlying areas, those towns of 5,000 people that are served by your facility there, but I guess I would be just curious to know how broadband technology could further enhance your ability to provide telehealth services and telemedicine services to South Dakota residents. How does that improve what you were already doing?

Mr. REICH. I have lots of ideas. Everybody that has been involved in technology for a while comes up with ideas and new ideas. And I think for access to broadband technology, high-speed Internet access for us, I think, would be really something that would open up a lot of doors for us in education and wellness.

We do a lot of education wellness programs on our network. The folks in those communities have access to those programs in rural health facilities, whether it is a clinic or hospital. I believe in the future with access to broadband technology in small farm homes, in communities all across our State and all across the country, we feel like that we can eventually archive the program eventually on the Internet, maybe place them on the Internet, put them on our Website, and people can have access to a variety of health care issues. They can have access to a class on cholesterol. They can access a diabetes-type information if they had access.

And right now I don't think a majority—I don't think there is a whole lot of high-speed Internet access to the rural farms and communities in much of North and South Dakota and the western parts of the State, but I see that as a real interesting step for our-

selves in telehealth and telemedicine in the future, kind of what these guys are talking about with the use of the Internet.

Right now we have same broadband access to rural areas. We have to bring it to more rural people, and we think we can do a lot more in delivering health care services.

Chairman THUNE. I would like to tie into a point that, Mr. Linkous, you made earlier on, and either of you can respond to this question, in dealing with reliability. One was quality of transmission, which I think you referenced, and you got an interactive patient consultation, and I am thinking—looking at, say, for example, some sort of a skin condition, and being able to make a diagnosis in an interactive setting like that. And the question is about liability and whether or not you diagnose it accurately, and if you don't have the good quality of transmission, is that an issue?

And then secondly, the reliability question having to pertain more to if you were doing emergency-type care of the equipment itself—I am talking about the infrastructure itself—do you have enough confidence—at that point is there a confidence level in treating, say, a trauma situation if you had to rely on that technology? I mean, do we have the sort of confidence in the reliability of the technology now that it would enable us to use it in that kind of a context where you are talking about an emergency situation, a trauma-related-type situation?

Mr. REICH. I think we are close. We have had—and, in fact, I have talked to a gentleman. Who happens to be a rural telecommunications worker who also works on the community ambulance. And he told me, he said, boy, we would like to have access to ERs. And, boy, I think the technology is close. I don't know if Jon would agree or not, but I think it is really close. I think we can do a lot of things that would be acceptable for an ER doc.

Mr. LINKOUS. Yeah. A couple of examples of things that are under way in Texas. At the Houston Medical Center they are working on an ambulance that has the ability to forward, send live images from the ambulance directly to the emergency room. I don't think we are quite there yet on reliability, but we are getting close, I agree.

The second example is there is a new company that has formed that provides intensive care services; that they have a contract right now with several hospitals in the Norfolk area where there is actually intensive care docs, intensivists as they call them, that were wired into the intensive rooms for the small hospitals that cannot afford an intensive specialist before this. But because it is a very dangerous situation where you have immediate emergency care that is needed, they use multiple T–1 lines going into the facility, to their clinic, using different providers, because it is very important for them to have redundancy built into the system.

So that is one way they are using it now. They are getting there. We are not quite, but we are getting there.

Chairman THUNE. Any comment on the quality? It seems to me at least broadband, where you have the interactive, the ability to interactively telelink, are there any questions with quality of transmission, when a doctor, for example, might be seeing—and I will just use my State as an example again—a specialist at St. Luke's Hospital might be looking at a situation, say, in Miller or

Highmore or Gettysburg, and somebody has a skin lesion or a lesion of some sort and is trying to make a diagnosis.

Mr. REICH. How comfortable is the physician in that respect?

Chairman THUNE. Yes.

Mr. REICH. I hate to say, but it depends on the physician. Some physicians are more cautious than others. I like to call them open-minded physicians. As far as liability is concerned, I don't know if we have had any real test cases as of yet, and I would assume they are coming somewhere along the line, but we have not seen any yet.

I think it depends on the physician. I think some physicians are really accepting. Others see it as a follow-up tool rather than maybe a primary diagnosis-type tool. But it depends. I think that there are physicians that are very comfortable. There is equipment out there for—in dermatology that I think we can do it. I think we can project the image that is acceptable if the dermatologist is open enough to—and it takes some time. They just don't—I think you just don't come into a medical consult and do it for the first time. When we start out a physician in telemedicine, we try to train them a little bit, and these guys are busy people, and we need a little bit more open-mindedness and cooperation from these people, and I think we are going to get it as we educate them better.

And I think that is maybe the brunt of all we are talking about here. We have a need to educate people on what broadband technology means to them. Some people don't really understand what we are talking about today. This is an issue that is incredibly important for us in rural South Dakota.

Chairman THUNE. In a follow-up to that, are you having any problems getting new communities to accept and utilize telehealth, the types of technology that are there? You have addressed sort of the physician side of it, but how about that community out there? Are there any barriers?

Mr. REICH. I think we did at first. I really do. I think it has gotten better. Part of what we have to do is get out there and to talk to them and explain to them about what this technology could mean to their communities. I have spoken to many small community groups, doing lunches, explaining to them what we are trying to do with videoconferencing as it turns out in this particular application.

But an example, Mobridge is a community on the Missouri River in north central South Dakota, and we are going to put a couple new sites there online in the next month or so. Just the opposite there. While some of the early communities we worked with, we had to go out there and sell it, Mobridge is saying, hey, we see what is going on; we want to be a part of it. So I don't think there is going to be a big sell needed out there. They want to be a part of it. We have had docs out there ask when are we going to get this technology? We need this; we see what it is doing for John Ottenbacher out in Selby. We want the same kind of access.

Mr. LINKOUS. If I can mention, in the last 10 years there are lots and lots of clinical trial studies done on medical imaging that send telecommunications versus the doctor seeing it as well as patient satisfaction surveys. Every single one of them without an exception, as far as I know, have shown that the images transmitted

using telemedicine have been acceptable, assuming you have the high-speed telecommunications line that transmits that image. And patient satisfaction people love it because people do not get access to those doctors if they do not have telemedicine.

Chairman THUNE. It is a very real issue in many areas, the distances, the weather. I direct this maybe to Mr. Nolley. I would be curious to know what your thoughts are about the percentage of people out there on the main streets of this country who are conversant or knowledgable about DSL or broadband or regular dial-up modem connections. Do most people really understand the differences about those options and what kind of benefits they offer? Do people who have a standard dial-up connection today—and Ms. Stark utilized some of the statistics and percentages of people, and there are a lot of people who have at least some form of access, but do they really understand the potential of having access to a broadband or high-speed Internet type?

Mr. NOLLEY. When we refer to businesses, they do understand what it is that it can bring. When you refer to residential consumers, they know—they don't understand the words or the terms "broadband" or any of that kind of stuff, but they do know what DSL is. They do know it is faster and what it can offer. They know what cable Internet is and what it can offer. But in talking with the businesses in our community and doing my job going around trying to sell this, they do understand what it can bring and the benefits, especially the communications aspect of bringing e-mail to the corporate network, Internet availability on every desktop, things of that nature. They understand.

Chairman THUNE. And I think Mr. Imus testified to that fact, too. He understands what this is about. And you said that in Paw Paw today you don't have access to broadband. Some of your competitors, the bigger ones who have the benefit of economies of scale, use satellite or something else. They are going to have that opportunity available to them.

How ultimately are we going to get broadband access to a community like Paw Paw? And I mean, do you have any suggestions for us in terms of things that we might be able to do to provide incentives to get your area served? I am—certainly from a small business—we talked about the health care side of it, but certainly from a small business standpoint, I would think, doing business with your suppliers who are all connected.

Mr. IMUS. It is becoming a competitive issue, very much so. We are competing with chains that are doing billions of dollars of business instead of the millions that we do. While it is not the only component of our success, it is becoming a larger percentage. Consumers want products on the shelves quicker and faster. As soon as they see it on TV, they want it in the store. Information about products, about the health aspects of the product, we do not have access to that information in a timely enough manner. We had a conversation the other day, and there are areas just outside of Paw Paw that are still on third-party lines. You pick up a phone and you have to listen to somebody else's conversation.

Chairman THUNE. You want to hear your mother-in-law.

Mr. IMUS. Exactly. I am not sure how to address that issue, I don't know, because it is a very big issue. A lot of our penetration

with our Website, I think, is the lack of the ability of the consumers to access the Internet. You can get a 56k modem off the shelf for 20 bucks, but even the quality of the telecommunications in our area is so bad that these modems automatically adjust down speedwise for quality. So I have a 56k modem, but I am only going to access the Internet at 14.4, and that is the best I can do, and that is just completely unacceptable.

Chairman THUNE. Hopefully next week we will get some suggestions, too. We will bring in some broadband providers to talk to about what we can do to drop those barriers. I appreciate very much your testimony this afternoon and your responses to the questions, and we hope this will help us build a record upon which to hopefully formulate some decisions.

Thank you, and, Mr. Chairman, I yield back.

Chairman PENCE. Thank you, Chairman Thune, and the Chair with now recognize the gentleman from New Mexico, the Ranking Member of Mr. Thune's Subcommittee Mr. Udall.

Mr. UDALL. Thank you, Chairman Pence. I want to, first of all, thank the panel and tell them how much we appreciate their presence and for the excellent questions of both of the Chairmen here exploring this very important area.

It seems to me we are at a point where—and I guess, Mr. Linkous, you talked about it a little bit—other places like Helsinki, Finland say every home should be broadband-wired. Canada has made a commitment. Other places in the world are making these kind of commitments and doing these things, and the challenge for us rural areas is how we figure out to do that as quickly as possible. And when we faced that challenge in terms of moving goods and moving materials a generation ago, we invested heavily in an interstate highway system. And Congress right now is considering when it comes to broadband looking at legislation to increase broadband access to rural areas. Much of this legislation would cost 2-, $3 billion over 5 years, major commitment of resources.

This question is really addressed to all of you on the panel. As taxpayers, do you believe it is a good idea for Congress to focus on this investment at this type of level?

Mr. LINKOUS. I will take a little stab at that. In looking at what is needed in the suggestions I have from the national commission, I don't think I had envisioned or the association envisions the Federal Government paying for every last mile of wire that goes out there. However, there is a lot of incentives that Congress and the United States can use to make sure that that technology is out there as well as looking at the use of alternative technologies, because you have to look at what the advancements have been for wireless applications right now. We are not always talking about wireline applications going to every home, but it certainly seems to me that if we are looking at what is increasingly—what I see as a competitive issue, an issue of the U.S.'s position in the world, in a competitive marketplace, then it probably does justify some investment of taxpayer dollars.

Mr. UDALL. When you have say incentives, we are talking about using the Tax Code. We are using taxpayer dollars in a little different way.

Any other panelists' thoughts on it?

Ms. STARK. It seems that there are two kinds of communities out there right now. There are those communities served by high-speed broadband, or will be soon, and those are communities, primarily urban, suburban or rural areas right outside of metropolitan areas, where the market forces exist, where the demand for such services exist. And either the large RBOC's (Regional Bell Operating Companies) will provide that service, or it will be large cable, or it will be small telephone companies, co-ops, small cable companies.

But there are a whole other group of communities out there where the market forces may not exist, and I think those are the communities that we should be concerned about. And they are in your States, absolutely, as well as in many other States. I think those are the communities where we need to think about market incentives or also just some provisions.

You know the very controversial issue now as to whether local government, utilities can provide telecommunications services, and that is being litigated back and forth right now. What other things can we do, because I think the truth is—and we have seen this over and over again in all the research we have ever done—in very small, rural communities people make do with what they have. So if there is a community college, there is a whole lot of economic development coming out of that community college. It may only be two or three stakeholders, movers and shakers, whatever you want to call them, that make things happen in that rural community. People make do with what they have.

So I think we need to think about those communities that—sitting in situations where the conditions are such that there is not a profit-making motive for companies to come in and provide telecom, and those are the communities I am concerned with.

Mr. NOLLEY. I would like to comment also that using Chairman Pence's Rushville district, we have tried to penetrate that area with broadband. It is in a different LATA. We are in the Ameritech territory. Rushville happens to be in the Verizon territory. A lot of businesses in Rushville, they can not even get ISDN service, and I think someone mentioned earlier that is kind of an outdated service. We have had a lot of trouble with the tariffs involved when you cross LATAs in getting broadband over there. Verizon's explanation is they don't feel like investing in Rushville because they do not know if it will be profitable. But for a small business—say the ISP had the incentive to do something like that, as a small business it would be profitable for them. So I feel that investment would work.

Mr. REICH. I have a feeling that the Federal Government still is—granted the public sector is going to have something to do with this, but somewhere along the line if we are going to get out there and build an interstate highway system with broadband technology, which to me is totally realistic, it needs to happen in our country in the next 10 to 15 years for sure.

I still think the Federal Government has to play a role in putting together the networks. If we want to build an ultimate network someday where we can all talk to each other and everything works out, I think if we get everybody going in different directions, too, all these providers going in different directions, we might have affordability problems, and we will not communicate well with the other side. So I think there will have to be some leadership that

will come from Congress or somewhere to keep everything intertwined, very comparable to what the interstate highway system is. That is a very good analogy.

Mr. UDALL. Mr. Imus.

Mr. IMUS. I am just very concerned about the competitive nature of our industry. We are a dying breed, small single-store retailer, market, hardware. We are impacted by the megachains, and any kind of regulatory issues that come to us are very impactful on our whole business. So I don't really have that much more to add to that.

Mr. UDALL. Great. Thank you. Thank you for your answers.

Two of you talked about the use of technology and how you can use this technology in the area of medicine, for example—a radiologist looking at tests over a long distance for medical purposes. Can you think of other examples, either, I guess, Mr. Reich or Mr. Linkous, of other specialties that are also utilized? Are we really opening it up to rural areas which will have a real difficulty getting specialists in many cases, that all the specialists out there will be able to be plugged in this way?

Mr. LINKOUS. I would say there is probably not a medical specialty around that is not involved in some way in telemedicine. Our membership has, I would say off the top of my head, 40 or so specialties and subspecialties represented by the memberships. And I am sure that Avera has many different types of applications.

Mr. REICH. I agree, there is an application, if it is follow-ups, whatever, there is a value to them. And we are working on right now a diabetes education project. We have a tremendous need for diabetes education. We feel like we can save people a lot of travel by conducting diabetes education consults, using videoconferencing technology, critical for an aging population like we have in South Dakota. There is no physician involved. This is talking to diabetics and their families. There are a lot of other things going on for services, other services provided other than just the medical specialists.

Mr. UDALL. Now, when you talk about being able to take a medical record like an X-ray or any other record that we have just talked about and utilizing that in another place and transferring it across these lines, it raises a whole other issue that we hear a lot about from our constituents, which is this whole issue of privacy and how do you deal with the privacy issue. How do you protect a patient's privacy moving that kind of information around? Have you run into any problems? Is there another problem there? What would you tell a patient that is going to have to have this kind of thing happen to them? And, of course, the advantages you have outlined, are there any disadvantages in terms of privacy?

Mr. REICH. I would say there is some education involved, but, boy, we really haven't had any. It would be just like if a patient came to our facility, we conduct a consult the same way. It is the same thing except it is a face-to-face video conversation. Everything is conducted the same way, the same confidentiality. I think there is no difference. We would like to mimic as much as we can what a patient would go through seeing a specialist if they traveled 2 hours to our facility and traveled 2 hours home.

But to answer your question, for sure it is an issue. Absolutely. And in health care it is a big-time issue right now. But I am very

conscious of that, and that is maybe one of our number one concerns when we work on the telemedicine application is that we need to make sure we protect the patient's privacy.

Mr. LINKOUS. I will add to that every telemedicine application, every program has in place guidelines and use of encryptions, as well as specialty clinical requirements regarding privacy of patients' records, as well as the protection of the images themselves that are transmitted. I agree it is a very important issue, and it is a very important issue throughout the country on patient privacy and electronic medical records.

I think it is important to point out that probably anybody in this room can put on a white lab coat and go into many medical centers right now and collect a number of patient records and walk out with it. So it is not limited to the fact that there is electronic records right now available, it is throughout the country in terms of patient records.

Mr. IMUS. Mr. Udall, if I might comment on that. As I mentioned before, we have a database of all our customers' transactions for the last 6 years, and privacy has become a very big issue for us, and we try to protect that. As you know, medical histories are very important as is personal shopping, grocery shopping is very personal to the consumer herself.

I had a call from an attorney who wanted to subpoena my record for this consumer in a divorce case, and I have told them, no, that I would not let the record go. And he said, I am going to subpoena you. And I said, that is fine, you may subpoena me, and still won't provide the record. And he said, well, you will be in contempt of court, and you can serve jail time and have a severe fine. And I said, you do not seem to understand. First of all, this is Paw Paw, Michigan. The judge and everybody in the jury are going to be shopping in my store. The second is that the protection of the consumer is so private that it takes each of us as individuals that are guarding that data, we have taken on that onus of having to do that to the best of our extent in protecting that.

That happens all the time. Hackers get in there. Kids are smarter than we are when it comes to this type of technology. Yet it still is very important for us to take that upon ourselves to protect that data so it will not become public record.

Mr. UDALL. Do any of you have any idea how much medical centers or hospitals have to spend annually to upgrade systems to protect privacy?

Mr. REICH. I wouldn't have any firm numbers, Congressman, but it is astronomical. It is a huge issue. We have that all the time. We are trying to meet these new regs that are coming, and I deal with this in education as well as telehealth, and I have people clamoring for information about what we need to do, and it is costing us. It is going to cost the health care industry millions of dollars to adhere to some of these regulations, and, you know, we are trying to—there are a lot of reimbursement questions, and now you have to deal with these kind of issues. No firm number, but it is a big one.

Mr. UDALL. When you say regs, you are referring to the HIPAA regulations that Secretary Thompson has under review?

Mr. REICH. Yes.

Mr. UDALL. Okay.

Mr. LINKOUS. Certainly we hear from our members fear of HIPAA, particularly rural hospitals and rural clinics, those institutions that are operating on the margin already, as to what HIPAA is going to do to them in terms of costs. There is a lot of rumors and scared talk right now. There is hope when it finally comes down and we see the black and white of what is going to be required to be implemented, it will not be as bad as what we feared, but there is a lot of concern that implementations of HIPAA regulations will, frankly, put some medical centers out of business.

Mr. UDALL. And you all know that Secretary Thompson has said that he has opened this up for comment, and clearly anybody that is interested here ought to give him specific examples of what needs to be changed, because just like you were saying, I was very encouraged with his guidelines and principles that he was going to try to follow. He is going to try to protect privacy, yet at the same time try not to hinder the operation and—the operation with a patient and her quality of care. So we really need to find that right balance.

Once again, let me thank the panelists and thank the two Chairmen, Chairman Pence and Chairman Thune, for your very strong interest on this issue and your commitment to get to the bottom of this and really do something about it. Thank you very much.

Chairman PENCE. The Chair thanks the gentleman from New Mexico, the Ranking Member, for his very thoughtful questions and kind remarks.

The Chair would also recognize for any questions she might have the gentlelady from Ohio Ms. Tubbs Jones.

Mrs. JONES. Thank you. I don't serve on this Subcommittee, and I was sitting here trying to figure out how I got here, and I told my staff member I was trying to be up on broadband. So she put this on my schedule, and I am glad I got here.

I come from the rural community of Cleveland, Ohio. Very interesting, my hair stylist, a small businessman, and I have lots of conversations, and he said to me, you know, I am having a problem getting the type of phone lines I want in the city of East Cleveland to do the high-speed, the whole business. And I said, Mr. Black—that's his name—not in East Cleveland. He said, apparently it is not lucrative for them to come and wire this little suburb of East Cleveland.

And I say this seriously and jokingly, but also I want to add that my colleague Eva Clayton from the great State of North Carolina said to me—I said, I am going by this, are you interested, and she said, yes, and go read this letter. I won't read the whole letter, but in essence what she says, when we talk about rural communities, we have tend to talk about farming, but more importantly rural communities need a lot of different things, and I will read one paragraph. She says, however, in spite of the many challenges facing rural America, the response of the United States Government has been a piecemeal combination of policies. While we devote resources to individual problems facing our rural communities, such as housing, there is a lack of an integrated policy that seeks to address the entire rich fabric of rural America. Included in that she is talking about infrastructure, broadband and the like.

So on behalf of my friends that come from rural communities, I am glad I had an opportunity to hear what you had to say. I am enlightened more than I was previously. I have absolutely have no questions, but I thank you for coming here, and I thank the Chair and Ranking Member.

One more thing I will say, I did have a chance to visit Mr. Udall's community with President Clinton 2 years ago, and we were discussing this very issue, the digital divide, and had a chance to travel up to the Navajo Nation, and it took us an Army helicopter and another helicopter to get there. So I recognize the distance and the divide that comes as a result of being in rural America. And thank you, Mr. Chairman, for the community, to be here.

Chairman PENCE. Well, the Chair thanks the gentlelady from Ohio and welcomes her as an ex officio member of these joint hearings at any time in the future. I appreciate your energy, your enthusiasm and encouragement to these outstanding witnesses.

I will ask as a courtesy of Chairman Thune for Mr. Udall are there any additional questions of the panel?

Chairman THUNE. I think we have probably covered all the bases, Mr. Chairman, and would invite Ms. Tubbs Jones to South Dakota, too. There are places you can't get to with a helicopter. I am just kidding. But I appreciate the fact that we have Members from the more populated area of the country who feel our pain, so to speak, because these rural areas are very, very difficult, challenging when it comes to getting some of the same basic service that a lot of our brethren in the bigger cities expect.

I appreciate your participation, and I appreciate the panel's testimony today, and we will look forward to developing this issue further. Thank you, Mr. Chairman.

Chairman PENCE. Mr. Udall, any additional questions or comments?

Mr. UDALL. No. I would just like to say that on that trip she talked about out to Shiprock, New Mexico, I know that Congressman Thune has many areas like that in South Dakota, many of these tribal areas and reservations. They have a hard time getting phone service, sometimes getting electricity service. So we have a real challenge there, and I think sometimes we may need to look at those in a little different way than we look at some of the other rural problems that are out there, but clearly everybody is in the same boat on this. We need that kind of broadband access, and thank you once again.

Chairman PENCE. With that, the Chair would like to thank our witnesses, Mr. Reich and Mr. Imus, Mr. Linkous, Ms. Stark and Mr. Nolley of Indiana. We thank you for all traveling, in some cases far distances, and in other cases bringing tremendous acumen and background to what will be the first in a series of joint hearings of the Subcommittee on Rural Enterprises, Agriculture and Technology and the Subcommittee on Regulatory Reform and Oversight of Small Business. And I think I speak for Chairman Thune when I say that it is my sincere hope that the remainder of our hearings will be as illuminating and as interesting and as well presented as this panel has provided in this hearing.

With that, this joint hearing is adjourned. I thank you.
[Whereupon, at 3:47 p.m., the subcommittees were adjourned.]

ELIMINATING THE DIGITAL DIVIDE: WHO WILL WIRE RURAL AMERICA?

Thursday, May 24, 2001

HOUSE OF REPRESENTATIVES, SUBCOMMITTEE ON REGULATORY REFORM AND OVERSIGHT, AND SUBCOMMITTEE ON RURAL ENTERPRISES, AGRICULTURE AND TECHNOLOGY COMMITTEE ON SMALL BUSINESS,

Washington, DC.

The subcommittee met, pursuant to call, 10:06 a.m. in Room 2360 Rayburn House Office Building, Hon. Mike Pence and Hon. John Thune [chairmen of the subcommittees] presiding.

Mr. THUNE. This joint hearing will come to order.

Good morning. It is my pleasure to welcome you this morning to the joint hearing between the Subcommittee on Rural Enterprises, Agriculture, and Technology, and the Subcommittee on Regulatory Reform and Oversight chaired by my colleague from Indiana, Mike Pence.

I would especially like to thank those of you who have traveled over a long distance to participate in this hearing today.

Today's hearing is the second of two which are focusing on the issue of broadband telecommunications access in rural America. This morning we plan to examine how we can connect rural America to ensure it is not left out of the Internet revolution.

Here to discuss this challenge with us today are five witnesses representing a broad array of telecommunications companies. The committee will hear from Sulley Buttes Telephone Cooperative from my home state of South Dakota; from New Edge Networks; Armstrong Cable Company; Western Wireless Corporation; and Hughes Network Systems. These companies range in size from large corporations to small local businesses and utilize very different technologies but they all have one goal in mind, and that is to provide broadband access to rural America.

We heard at last weeks' hearing that one of the biggest obstacles to rural broadband access is affordability. Because of the sheer cost of new technology and the associated access costs, the vast majority of small business owners find themselves unable to obtain services that other parts of the country take for granted. So when faced with the question of how to provide high speed connections to all Americans, those of us who represent rural areas understand how important the information highway is to the future prosperity of our constituents.

Just as the national highway system has been crucial to the economic prosperity of rural America during the last century,

broadband Internet technology will be equally important this century.

Small business owners in rural America are becoming increasingly aware of the importance of broadband access to the future viability of their businesses. To continue to serve their communities and remain competitive with large companies, small business owners must have reliable and affordable high speed Internet access.

Congress is looking at different solutions to the problems of access and affordability. One promising bill, H.R. 267, the Broadband Internet Access Act of 2001, has been introduced by Representative Phil English from Pennsylvania. The bill uses tax credits as incentives for companies who are interested in providing broadband access in rural and low income areas. As a cosponsor of this legislation, I believe H.R. 267 uses a balanced approach to federal tax dollars and free market solutions to reach our goal of broadband access for all Americans.

I again want to thank all of our witnesses for participating in today's hearing, and I look forward to hearing your testimony. At this point I would like to yield to the chairman of the other subcommittee, my colleague from Indiana, Mike Pence for an opening statement.

Mr. PENCE. Thank you, Mr. Chairman.

I thank you for agreeing to co-chair these very important and timely hearings.

Our hearing held jointly today with my good friend from South Dakota's Subcommittee on Rural Enterprises, Agriculture and Technology addresses the rise of the new economy and the technology needed to ensure that rural areas can share in the global business opportunities that arise from the continuing penetration of the Internet.

This is the third in a series of hearings that the Subcommittee on Regulatory Reform and Oversight has held on the Internet-based economy. Last weeks' hearing, as the Chairman indicated, focused on the so-called digital divide—the lack of high speed or broadband access to the Internet currently plaguing rural small communities. Today's hearing examines the various technologies for eliminating the digital divide, be it cable, satellite, DSL, fiber-optic, or wireless. The businesses testifying today have decided that it makes good business sense to provide broadband to rural areas, and I look forward to a very informative session from all of our witnesses.

Again, I would like to thank the gentleman from South Dakota, Chairman Thune, for agreeing to co-chair these hearings and also would like to acknowledge the ranking member of our subcommittee the gentleman from Pennsylvania, Mr. Robert Brady, who joins us and who while from a very large city, Philadelphia, still is demonstrating a genuine commitment to seeing to it that the opportunities that are available over the Internet are available to all Americans. I thank you for your interest and participation.

The evidence of the digital divide is pretty clear. While urban areas get broadband access, rural areas are left behind. A relevant illustration is that today's hearing is being carried live by Hearings.Com on the worldwide web. That is accessible in most major metropolitan areas, as our discussion will be today, but is not ac-

cessible to adults or to students in rural America that might be even more interested in our discussion today.

As the Federal Communications Commission noted in August of 2000 in their report on deployment of broadband services, "Consumers in Los Angeles County have a rich variety of choices of advanced services while there are no providers of advanced services for residents of rural West Virginia."

Given the benefits of broadband service and the importance it can play in maintaining the vitality of America's rural communities, that disparity must change. Inroads are being made to reduce this disparity as the witnesses at today's hearing will demonstrate. More investment will be required as the National Exchange Carrier Association estimates that it may cost as much as $11 billion to make telephone lines in rural America broadband capable.

My primary concern is that the investment will not occur quickly enough to stimulate the economies of rural America, and of Indiana particularly. The only favorite I seek to play in the debate over broadband is to ensure that businesses in rural America have the same access to advanced telecommunication services that are available in Los Angeles, New York, and Washington, D.C. and Philadelphia. I have no preference concerning technology or providers. All I am interested in is making sure the government gets out of the way or otherwise adopts policies that ensure that all businesses interested in serving rural America have that opportunity.

I look forward to the testimony from the witnesses and the problems that they see in delivering broadband to rural America. The businesses at today's hearing represent the entire spectrum of technologies for delivering broadband access. We will hear from a company that provides satellite service, a cable operator focusing on serving rural America, two competitive local exchange carriers that started to serve rural America after the enactment of the Telecommunications Act of 1996, and a very small telephone cooperative that serves rural South Dakota.

Conspicuously absent today are the largest incumbent telephone companies serving rural Indiana, South Dakota and rural New Mexico. Let the record show that invitations were extended so the joint subcommittee members could inquire about these companies' plans for broadband deployment in rural areas. The invitations were turned down due to the press of business. I might note that a number of the small businesses represented here today were able to attend even though they clearly do not have the resources or the flexibility of the companies that did not wish to participate. I know that I am disappointed in not being able to create a full and complete record on the potential providers of broadband service for rural America and the problems they face in eliminating the digital divide as I am sure all of my colleagues on this panel are as well.

Again, let me thank the gentleman from South Dakota for agreeing to co-chair this hearing. I look forward to working with him and other members interested in addressing the critical need for telecommunications infrastructure in rural America.

I thank you, Mr. Chairman.

Mr. THUNE. I thank the gentleman from Indiana for his statement, for his leadership on this issue.

We are joined by the ranking members of the two subcommittees, and I would first like to yield to the gentleman from the great state of New Mexico, the ranking member on the Subcommittee on Rural Enterprises, Agriculture and Technology, Mr. Tom Udall.

Mr. UDALL. Thank you very much, Chairman Thune.

Chairman Thune, Chairman Pence, and ranking member Brady, I also find it particularly discouraging that Qwest would not attend today and come and tell us about their plans to expand into rural areas of New Mexico, and I think all of us feel the same way on that.

I am pleased to be here today for the second joint subcommittee hearing to examine the impact of broadband telecommunication services on small business in rural areas. All of us recognize that the Internet has revolutionized the way people communicate, students learn, and the way in which business is conducted in America and throughout the world. However the fact of the matter is that while just about every apartment and city school and suburban home are wired and connected with high speed Internet access, there are many people in America who have not benefitted from this technological revolution either because service is too costly or non-existent.

This is especially the case in rural areas where the Internet along with high speed access remains just a concept, not a real tool as it is in more urban areas.

The Internet possesses limitless potential to bring technology, information and jobs to our rural communities. In my state our small business communities accounted for nearly 90 percent of all net new jobs last year. High speed Internet access must be an essential and basic service that all Americans are entitled to. I believe that Internet access must become a basic service everywhere for every American.

Yesterday Qwest announced that broadband Internet access will be coming to parts of rural New Mexico. Two of the four cities where digital subscriber line equipment, otherwise known as DSL, will be installed are located in my district. In addition to New Mexico, Qwest will expand its DSL service in 10 other western states. Even though communities I represent are not like Los Angeles or Phoenix, they are significantly populated and personally it is astonishing to me that this service was not offered earlier.

Many areas of my district remain technologically isolated and some of my constituents face the threat of never acquiring the computer skills that we have come to consider basic and essential in today's technological economy.

One piece of legislation which I believe will assist in the deployment of broadband to rural areas such as in my district is H.R. 267, the Broadband Internet Access Act of 2001 which is designed to offer incentives for deployment of broadband service to rural and low income areas. I have joined Chairman Thune, Congressman Bartlett, Congresswoman Christensen, and 149 other members from both sides of the aisle in co-sponsoring this legislation. The broad support for this legislation is an indication that Congress is committed to seeing the deployment of high speed and affordable Internet access that will reach all Americans.

I hope that you share our concern and that we can work today towards greater understanding and a common goal.

Thank you, Mr. Chairman. I look forward to hearing from our panel today.

Mr. THUNE. I thank the gentleman, and I would at this point yield to the distinguished ranking member of the Subcommittee on Regulatory Reform and Oversight, Mr. Brady, from the state of Pennsylvania.

Mr. BRADY. Thank you, Mr. Chairman.

I represent urban districts. I do not always get the chance to hear the concerns of rural areas in obtaining Internet access. I am very happy to have this opportunity to hear these concerns and offer my support for the rural communities in their endeavors to gain broadband access. Because broadband technology has the potential to transform the Internet, there has been a great deal of debate in Congress on how to ensure timely deployment, fair competition and service to all sectors and geographical locations of America.

I look forward to learning more about these issues. And just to let you know, South Dakota, Indiana, New Mexico, Philadelphia. [Laughter.]

It sounds strange, but I thank the two chairmen and my ranking member also, my dear friend from New Mexico for allowing this city slicker here to learn a little bit more about the rural areas and to pledge my support to you.

Thank you.

Mr. THUNE. And I want to thank the gentleman for his hospitality last summer. We were in your fine city of Philadelphia for a national convention. I did not see you at a lot of those events, but we enjoyed the greatest hospitality of your district.

Mr. BRADY. I was in so much seclusion.

Mr. THUNE. Okay.

We have been joined also by a gentleman from Illinois. Mr. Phelps, welcome to the committee.

Mr. Baird from the state of Washington has joined us, and I believe he is here to introduce the witness from New Edge Networks.

Do you want to make an opening statement?

Mr. BAIRD. I can do that now, Mr. Chairman, or when——

Mr. THUNE. Do you want to get a minute to catch your breath? We can catch up with you.

Mr. BAIRD. Sure.

Mr. THUNE. Terrific. Good.

Before we begin receiving testimony from the witnesses I do want to remind everyone that we would like to keep each of the witnesses, to keep their oral testimony to five minutes. Your written statement will be included in the record.

In front of you on the table you will see an array of lights. Green, red, and yellow, which I guess is fairly self explanatory. But when the red light is on, the committee would like to have you, if you could, wrap up your testimony. But there are no trap doors there. If you are not finished by then we will not——

[Laughter.]

But without further delay—And I might add, too, that we are scheduled to have a vote on the journal here at some point in the

very near future. So we will get underway but we may have to break just to make you aware of that.

So without further delay I am going to introduce our first witness. That is Mr. Michael Cook of Hughes Network Systems. He is the Vice President and General Manager of the Spaceway Business Group of Hughes Network Systems. In this role he is responsible for the establishment and operation of the new Hughes Spaceway Broadband Satellite System. Mr. Cook has more than 20 years experience in telecommunications, having worked previously for cable and wireless and Alcatel Business Systems. Mr. Cook holds a first class or honors Bachelor of Science degree in Mathematics from Exeter University.

Mr. Cook, if you would please proceed.

STATEMENT OF MICHAEL L. COOK, VICE PRESIDENT AND GENERAL MANAGER, SPACEWAY AND HUGHES NETWORK SYSTEMS, BETHESDA, MD

Mr. COOK. Thank you very much. Good morning.

I am Vice President of Hughes Network Systems and General Manager of Spaceway. Spaceway is Hughes' next generation broadband satellite system, and that is going to provide broadband service coverage to the whole of the United States including Alaska, Hawaii, South Dakota, Indiana, New Mexico, Illinois, Washington State, and of course Pennsylvania.

I would like to thank the committee for the opportunity to speak to you today and to commend the members of both committees for reviewing the issue.

In the satellite industry we are inspired by the prospects and promises of broadband service, but at the same time we are deeply frustrated with the apparent lack of awareness of the critical role that satellites will play in the provision of advanced broadband services—particularly to small businesses and consumers in rural areas.

We hope the Congress in drafting legislation to support the deployment of broadband and in reviewing the FCC allocation of spectrum will take into account and support this essential role that satellites will play both in the provision of broadband service and indeed in the competitive landscape across the whole of the country. I am going to come back to those two issues in a few moments.

Firstly, I would like to review the role that Hughes Network Systems, or HNS as I will probably refer to it, is playing in providing high speed communications. HNS was a pioneer in the very small aperture terminal VSAT industry which is the provision of satellite delivered data communications services using small dishes.

H.N.S. was also the first to offer true broadband service over satellites when it introduced its direct PC service in 1996.

Today HNS provides broadband satellite services to approximately 300,000 consumers and businesses in the United States through its DirecPC and DirecWay services using today's operational Ku-band satellites.

What is more important than that is that we continue to invest heavily to significantly advance the technology and service quality. HNS' efforts have led to significant price reductions in both equip-

ment and services while simultaneously increasing the power and the effectiveness of these systems.

Historically small business has been underserved by terrestrial broadband service providers. HNS considers that small businesses are one of the most important components of our future broadband services. In fact we already provide satellite broadband services nationwide to thousands of small businesses through DirecPC and DirecWay.

Using current satellite technology we are involved today in a number of initiatives that are aimed specifically at serving the small business community. These initiatives are things like on-line livestock auctions, streaming video and Internet content to family-owned businesses, data multicasting, remote worker training, and briefing such as for the health care, financial, agricultural and insurance industries.

In the not too distant future small businesses, no matter where they are located geographically, will require broadband access. Not merely to be more competitive, but in order to survive.

As part of our dedication to the continuing development of advanced broadband services, we have committed $1.5 billion for the U.S. portion of a new, advanced, broadband satellite system called Spaceway.

When it is fully deployed Spaceway will consist of a global network of geostationary satellites offering broadband service in the new Ka-band frequency spectrum. Three satellites will be dedicated to serving North America with launches beginning at the end of next year.

Spaceway satellites are quite unlike any that exist today. The satellites have roughly five to ten times more capacity and will be capable of much higher data, voice and video communication speeds than today's Ku-band systems.

Spaceway satellites will be capable of transmitting data at over 400 megabits per second, and with custom software and equipment individual Spaceway users will receive services individual services at downlink speeds of 30 megabits per second or 30,000 kilobits per second to each terminal.

This downlink speed is about 1,000 times faster than the speeds available today on a typical telephone modem, and depending on the particular terminal chosen, users will be able to send data up to the satellite at speeds from 512 kilobits per second to 16 megabits per second.

Spaceway is perfectly designed to meet the burgeoning demands of small businesses everywhere, and using standard Internet protocols from low cost satellite terminals, its data rates will support high speed Internet access, high quality full motion videoconferences for businesses and residential applications, and point to point applications of streaming and large amounts of data.

In the Spaceway world there will be no have's and no have not's. There will be no differences between rural and urban communities' access to broadband. And with broadband satellite solutions there is no digital divide.

One key issue has been spectrum allocation. In order to provide a high quality service, Spaceway needs clear spectrum that is not simultaneously used by terrestrial services. In our view, the FCC,

which has the primary responsibility for allocating spectrum, has sometimes placed a higher priority on short term terrestrial deployment rather than on long term provision of competitive satellite services. As a result, broadband satellite systems operating in the Ka-band such as Spaceway, have not been allocated sufficient spectrum to operate as efficiently and effectively as possible.

We would like to encourage the committee to examine the crucial role of spectrum allocation and the most effective way it can be used to serve small businesses and underserved communities, particularly in rural areas.

Secondly, there are a number of bills before Congress, and we have talked about some of them already, that would offer tax and other incentives to companies to build out their broadband infrastructure to rural areas. We believe it is essential that any legislation enacted by Congress be truly technology neutral and recognize the needs of users throughout the country.

Unfortunately, we sometimes find that proposals do not take into account the unique characteristics of broadband satellite technology, but instead tend to favor terrestrial technologies. We believe that that will be counterproductive since it will diminish the potential availability of broadband services in rural areas by discouraging the most promising solution for these areas.

In conclusion, I would like to say very clearly that through the development of interactive broadband satellite technology, Hughes is eliminating the digital divide. With the services we are deploying today—DirecPC and DirecWay—and with the significantly enhanced capabilities we will have when we deploy Spaceway at the end of next year, small businesses, wherever they are, will be within easy reach of the broadband universe without service discrimination, and very particularly, without financial disadvantage.

I would like to thank the subcommittee members for your time this morning, and I will be delighted to answer any questions that you have on the subject.

[Mr. Cook's statement may be found in appendix.]

Mr. THUNE. Thank you, Mr. Cook.

Next we will move to Thorpe "Chip" Kelly with Western Wireless Corporation. He is the Senior Vice President for Sales and Marketing for Western Wireless in Bellevue, Washington. Mr. Kelly started as General Manager in 1989, working for predecessor entities of Western Wireless including Stanton Communications and Pacific Northwest Cellular. Over the years he has held a variety of positions in sales and marketing for the company.

Mr. Kelly, please proceed.

STATEMENT OF MR. THORPE "CHIP" KELLY, SR. V.P. FOR SALES AND MARKETING WESTERN WIRELESS CORP., SEATTLE, WA

Mr. KELLY. Thank you very much.

Good morning Congressman Thune, Congressman Pence, and members of the subcommittees. I commend you and your colleagues for highlighting the advanced telecommunication needs of rural America.

My company, Western Wireless, successfully provides wireless telephone services in areas of the country long neglected by others.

The company serves customers in 19 western states with a state of the art network infrastructure capable of providing both basic and advanced telecommunications services for rural businesses and residential customers. Our system covers 800,000 square miles which is 30 percent of the continental United States, and our average population density in our markets is 11 people per square mile.

For Congressman Brady, that would be probably the area of Philadelphia with about 500 people in it. So it is rural.

Our mission statement is that we endeavor to be the premier communications provider to rural America.

About seven years ago we began providing wireless local loop service to small businesses and residential customers in a remote area of Nevada that had never been served by local telephone companies before. In the last year we have launched competitive wireless local loop service in more than 70 rural communities in Minnesota, Kansas, Texas, and South Dakota.

In South Dakota, for example, we are providing wireless service on the Pine Ridge Indian Reservation, which as Congressman Thune knows all too well, is a remote and depressed area. For almost half of our tribal customers we provided their first ever telephone service.

Many have questioned the viability of cellular telephone service in rural America, and now it is widely recognized that wireless service holds the key to the availability of advanced telecommunications services in rural America.

The centerpiece of Western's three year old effort to bring the benefits of competition to the local telephone market in rural America is our petitions, pursuant with federal law, for designation as eligible telecommunications carrier status or ETC. Western Wireless has been designated as an ETC in 12 states.

Despite national policy to the contrary, rural areas have in many cases been effectively excluded from the benefits of the competitive telecommunications market because of incumbent local telephone companies which have historically monopolized the access to universal service support necessary to provide affordable telecommunications in these rural and high cost areas.

For example, the cost of providing telephone service in many rural areas exceeds $100 per line per month, and yet consumers pay as little as $10 or less per month with the Universal Service Fund making up the bulk of the difference.

Clearly, a competitive carrier that does not have access to Universal Service Funds would not choose to enter that local market and compete with incumbent carriers who do have universal service support.

The Telecommunications Act of 1996 was supposed to eliminate the historical barriers to local competition in rural areas by requiring the FCC and state commissions to open the universal service market to competitive entry. Five years have now passed since the passage of this Act and rural consumers are still waiting for the promised benefits.

The problem is that the FCC and state commissions have not completed the transition to a competitive universal service system, which I believe is critical to competitive entry in rural markets and to the closing of the digital divide in rural America.

Western's entry into the universal service market allows us to serve the basic and the advanced communications needs of our rural customers.

In December, Western successfully demonstrated the capabilities of next generation wireless digital technology in a trial in Windom, Minnesota where speeds of 153 kilobits per second were received over wireless local loops. And Western is now in the process of deploying this technology into its network and will commercially launch high speed data services later this year.

Further, as third generation wireless technology becomes widely available in 2002, data rates of more than 600 kilobits per second will be supportive.

In order to resolve the digital divide the government must take steps to reform current universal service support mechanisms so that competitive carriers and incumbent carriers alike have access to the same levels of support.

This means that implicit support mechanisms such as access charges must be replaced with explicit portable universal service funding mechanisms, and that explicit portable universal service funds are established to provide support to carriers that serve rural, high cost areas.

Second, the government must expeditiously grant competitive carriers ETC status and prevent incumbent carriers from delaying and preventing competitive entry into the global market.

For the past three years, incumbent local exchange carriers have engaged in anti-competitive tactics aimed at delaying or preventing Western from entering the local market. One incumbent local exchange carrier in North Dakota went as far as to cut off Western Wireless' interconnection to the public telephone network. A court order ultimately ordered the incumbent telephone company to restore service and pay damages.

In conclusion, competition holds the key to the deployment of advanced telecommunications services in rural America.

The federal government should foster competition by establishing a competitive universal service system and by taking enforcement actions against anti-competitive behavior by incumbent carriers.

The government should also end the limitations on spectrum aggregation by crafting a comprehensive spectrum allocation policy, and these two points are elaborated upon in my written statement.

Thank you, Mr. Chairman, and I am happy to answer questions later.

[Mr. Kelly's statement may be found in appendix.]

Mr. THUNE. Thank you, Mr. Kelly.

At this point I am going to yield to the gentleman from Washington, Mr. Baird, who would like to introduce his witness and I believe any statement you would like to make, Mr. Baird.

Mr. BAIRD. Let me thank the Chairman for assembling this panel. I think it is a critical topic particularly for areas such as yours and mine where a number of rural areas do not have access to high speed Internet.

Fortunately, however, companies such as those we are hearing from today are making real progress in this area. One company that has made particularly progress is a company located in Vancouver, Washington, New Edge Network.

With us today is Susan McAdams, the Vice President for Regulatory and Public Affairs. Ms. McAdams has more than 23 years of experience in the telecom field. Before coming to New Edge she worked for the Washington State Utilities and Transportation Commission, the National League of Cities, the National Telecommunications and Information Administration of the Department of Commerce, and the North Carolina Task Force on Public Telecommunications.

I want to thank Ms. McAdams for making the trip here to testify. I believe we could not have a better person to talk about this issue.

Mr. THUNE. Thank you, Mr. Baird.

Ms. McAdams, please proceed.

STATEMENT OF SUSAN MCADAMS, V.P. FOR EXTERNAL AND LEGAL AFFAIRS, NEW EDGE NETWORKS, VANCOUVER, WA

Ms. MCADAMS. Thank you very much, Mr. Chairman, members of the committee, and Congressman Baird for that most gracious introduction. Thank you very much.

I am especially pleased to have the opportunity to testify here today because New Edge Networks is proud to in fact be bridging the digital divide by bringing broadband communication services to hometown USA. New Edge Networks is the largest national broadband services provider focusing on small and mid-sized cities and towns. We generally serve communities with population ranges between 5,000 and 250,000. These include towns like Rapid City and Sioux City, South Dakota; Bedford, Michigan City, Indiana; Decatur, Illinois; Farmington, Santa Fe and Albuquerque, New Mexico; and of course Battleground, Camas, Longview and Vancouver, Washington.

We were founded less than two years ago and believe that we are in fact a success story of the 1996 Act. To date, New Edge Networks offers services, broadband Internet access services to customers in 400 smaller cities and towns in 29 states.

Today, gentlemen, there is a new economic revival in small town USA and information is the driving force behind that revival. Chairman Pence, Chairman Thune, and other members of this committee have spoken eloquently about the vital role of broadband in supporting small business development, and our marketplace experience bears this out.

Let me tell you about the comments of one small businessman, Marcus Wilcox, whose company, Cascade Energy Engineering, is located in the small town of Walla Walla, Washington. He had this to say. "Our engineering firm makes heavy use of the Internet from e-mail to transferring large, computer-aided design files and spreadsheets. With our choice to set up shop in a small, eastern Washington town, slow Internet access was assumed to be a way of life. When New Edge Networks and our Internet service provider, Blue Mountain Internet, offered us DSL, it seemed to be too good to be true. Going to DSL actually saved us money."

A moment ago I referred to an information-powered economic revival in small town USA. Unfortunately, the revival tent in which this miracle is taking place is currently listing in the wind and is in danger of toppling over. Some proposals before this Congress, if

enacted, threaten continued competitive deployment of advanced telecommunications services, especially in smaller markets.

The 1996 Telecommunications Act did something conceptually very simple. It set in motion a framework for competition in the telecommunications marketplace. The promise of the Act was to bring further deployment, competitive prices, increased innovation, and improved customer service to telecommunications markets across the nation. To achieve these objectives Congress carefully crafted the transition from monopoly to a competitive market structure. And central to this design is the requirement that new entrants be allowed to interconnect with traditional networks that were financed over the last 100 years by monopoly rate payers.

In fact in only the few short years since the Act, competitive providers have produced astonishing results. Fifty-six billion dollars invested since 1997 in new network infrastructure; 16 million access lines served by CLECs; 8200 central offices DSL-equipped; 500,000 DSL lines provided; and in fact today about half of Americans can access CLEC provided DSL.

What the committee is probably most interested in is what we feel the Congress can do today to continue to address the issue of broadband development in rural America. I suggest the following in conclusion. Stay the course that Congress charged with the Telecommunications Act. Make monies available for targeted subsidies, for further deployment in rural areas. Give the FCC stronger enforcement tools such as Chairman Michael Powell has requested. Urge timely FCC action on pending petitions that would set clear performance intervals and standards for loop provisioning by the incumbent telephone company. Consider requiring full structural separation of the major incumbent telephone companies into retail and wholesale companies. And finally, send a clear message to Wall Street that Congress continues to support the important pro-competitive policies of the '96 Act.

Unlike some in the industry, we believe that the House Small Business community has a critical stake in this debate, and that is why I am here today. We applaud you for holding these hearings. We urge you to continue to monitor telecommunications developments. You are in a unique position to assure that any legislation before Congress empowers small businesses as full participants in today's information economy.

Thank you very much.

[Ms. McAdams' statement may be found in appendix.]

Mr. THUNE. Thank you, Ms. McAdams.

At this point we have a vote on, so members have gone. We are going to keep rolling here, and they will come back and we will turn it over.

But I would like to introduce, and I will take these out of order if it is okay with the witnesses.

It is my pleasure to introduce Randy Houdek of Sulley Buttes Telephone Cooperative in Highmore, South Dakota from my home state. Mr. Houdek is a graduate of Northern State University of Aberdeen, South Dakota and has been employed by Sulley Buttes for 15 years, spending the last four years as General Manager. He and his wife Deb are the proud parents of three boys—Derrick, Carsten, and Hayden.

Sulley Buttes' telephone is a small rural incumbent local exchange carrier that is owned by the members of the cooperative and run by a board of directors elected by the membership and has been serving customers for over 40 years in central and northeast South Dakota. And I might add, has very much been on what I would call the cutting edge of extending broadband service, DSL, to a lot of small, rural communities across South Dakota.

So we are very delighted and pleased to have Randy with us today. Thank you for coming to Washington. Please proceed.

STATEMENT OF RANDY HOUDEK, SULLEY BUTTES TELEPHONE COOPERATIVE HIGHMORE, SD

Mr. HOUDEK. Thank you very much for allowing me this opportunity. I am honored.

Again, my name is Randy Houdek. I am the General Manager of Sulley Buttes Telephone, SBCT, of Highmore, South Dakota. Our system serves a substantial portion of central and northeast South Dakota. We are a small local exchange carrier, an ILEC, that is owned by the members of our rural communities.

Sulley Buttes currently is serving more than 13,600 customer in rural areas of central and northeastern South Dakota. According to the 2000 census, South Dakota has approximately 754,000 people or roughly the same number of people as the city of San Francisco. However, our population is disbursed over more than 77,000 square miles with fewer than ten people per square mile. In areas served by Sulley Buttes, we have fewer than two customers per mile of line.

In contrast, the average customer density in the urban areas is closer to 100 per mile of line. Several other incumbent carriers in South Dakota have less than one customer per mile.

The U.S. Department of Health and Human Services classifies more than 60 percent of South Dakota as not rural, but frontier. Yet even in the face of these obstacles we have managed to grow and thrive as a company thanks in part to the federal government's policy of universal service. This policy has brought basic telephone service to rural locations like Highmore in the early parts of the 20th Century, and now the policy of universal service is helping bring advanced services to communities in rural South Dakota.

At Sulley Buttes we are proud of the fact that we offer our customers many of the latest and most advanced technologies available in the market today. Currently we have deployed digital subscriber line, DSL technology, in seven of our exchanges, and we plan to deploy DSL in the remaining 19 before the end of the year. We offer the latest call-in features including voicemail, caller ID, call waiting, and most of the other services offered in urbanized areas. Moreover, we provide advanced services including high speed, always on Internet, cable television, centralized equal access to long distance carriers. This progress has largely been made possible by the various financing programs and support mechanisms made available to companies like mine over the past several decades. More recently we have acquired wireless licenses including PCS and LMDS licenses to use as tools in providing advanced services to our subscribers.

Programs like the Rural Utility Service or RUS and the Rural Telephone Bank have helped finance major portions for rural companies like ours that are just not feasible for many commercial lenders. Thanks to these entities and the universal service concept, Sulley Buttes and other ILECs in South Dakota have deployed broadband services in more than 40 small communities with plans to increase to more than 100 by the end of the year.

The subject of your hearing today is eliminating the digital divide—Who will wire rural America? I am here to tell you this morning for the record, that the job is already being done to a large degree by Sulley Buttes and its colleagues from around the nation. We approach our work from an integrated perspective using wire as well as fiber, radio, and all other available technologies.

Sulley Buttes is a member of National Telephone Cooperative Association or NTCA, an association representing more than 540 small rural ILECs. Much of what I talk about today is representative of what other rural ILECs are doing as well.

Sulley Buttes and our rural ILEC colleague surveyors that are viewed as economically unattractive to the industry's largest carriers. We have relied on loans from the Rural Utility Service telephone program as well as cost recovery through federal universal service program. Both programs have been critical to our ability to provide service of a price and scope that are comparable to those anywhere else in the nation.

Because of our commitment to serving these communities, rural telephone companies accept an area-wide coverage commitment. In other words, we take on the responsibility of serving every customer in our market regardless of their economic desirability.

The push for Internet access came primarily from our business customers which includes farming and ranching operations that have interest in commodity pricing and other market information, and retail operations that wish to interact with their customers. On the residential side we have helped to ensure that the school-age children are able to access many educational offerings available via the Internet. In South Dakota we have what is known as the Digital Dakota Network, a state-initiated project that provides broadband access to most of the educational classrooms within the state.

I am proud to say that Sulley Buttes already provides broadband service to the native American community in the Sisseton exchange. We have fiber in place on the Coal Creek Reservation and soon will be providing broadband service in this area as well.

Finally, for the past five years we have provided the technology that has enabled telemedicine applications and are taking steps to move these services to higher speeds in the near future.

Regardless of the technology used to provide advanced services, cost will always be a major factor. It is critical that policymakers here in Washington understand this fact and remain willing to support programs such as the rural utility service or universal service system.

There will always be upgrades and new technologies that are necessary to ensure consumers are receiving the most advanced services of the era.

Recently NTCA conducted surveys on the provision of advanced service deployment nationwide in rural America by the ILEC community. The results should be of interest to this subcommittee and are summarized at the end of my written presentation. Contrary to popular perception, dial-up Internet access is widely available to the areas served by the rural telcos and actual usage is growing significantly. Almost 90 percent of the schools and libraries and other public institutions have access to broadband service. Meanwhile, rural companies who are seeking to provide broadband service face economic and technical challenges including extremely high costs.

The bottom line is continued support will be necessary.

We are cognizant that certain wireless carriers are seeking to gain access to the universal service funds in the name of bringing competition to rural communities. Congress and the FCC must recognize the sensitivity of the rural ILECs and changes to the revenue streams, particularly in USF funding. Rural ILECs like Sulley Buttes have taken on the responsibility of being the carrier of last resort and we have a decades-long track record of being committed to serving the rural communities. Competition in this arena must coexist with the concept of universal service. This requires regulators to engage in a balancing process. Rural America does not benefit from competition for the mere sake of competition. California has learned this lesson the hard way with regard to its electric utilities.

The '96 Act is pro-competitive but recognizes that one size does not fit all. Competition must be tempered with universal service considerations in high cost, hard to serve rural areas. As discussed above, Sulley Buttes and our fellow rural ILECs are already eliminating the digital divide in a lasting way by providing broadband service to the communities we have served for decades and will continue to serve for decades to come.

The current universal service funding mechanism is not broken. It may require updating. The FCC is going in the correct direction with its USF reform effort.

In this regard we hope the FCC adopts the complete MEG plan. The FCC must focus more on the USF impact when it considers policy matter related to the ETC status such as those represented by Western Wireless.

Thank you again for this opportunity.

[Mr. Houdek's statement may be found in appendix.]

Mr. THUNE. Thank you, Mr. Houdek.

We have, Mr. Pence has returned. I am going to turn the chair over to him so I can get over to vote. He will introduce our last witness.

Mr. PENCE. [presiding]. Thank you, Mr. Chairman. I thank our witnesses for accommodating the vagaries of a congressional voting schedule. It is my understanding that that will be our last recorded vote for some time so we should be able to complete our business this morning without any additional interruption.

Our next witness this morning is Kirby Campbell with the Armstrong Group of Companies. Mr. Campbell is the CEO of the Armstrong Group of Companies based in Butler, Pennsylvania. As CEO he provides advice on all financial decisions, and assists in Arm-

strong's continued growth and diversification efforts. Prior to joining the Armstrong Group in 1972 he worked for PriceWaterhouse for three years. Mr. Campbell graduated from Geneva College in 1969.

The chair recognizes Mr. Campbell for five minutes.

STATEMENT OF KIRBY CAMPBELL, CEO, ARMSTRONG GROUP OF COMPANIES BUTLER, PA

Mr. CAMPBELL. Thank you.

Why am I here? I am here to help in any way I can. I have been in the industry for 30 years. We serve rural America in the states of Pennsylvania, New York, Ohio, Maryland, West Virginia and Kentucky. Not only in cable, but small, rural telephone companies. What I wanted to do was identify what I felt were critical areas that you and your group could focus on and maybe make a difference going forward so that the small operator in rural America can continue to exist.

There are over 1,000 cable operators in this nation right now, and the bulk of that 1,000 are serving rural America. They are, I think, being put at some disadvantage based on some of the unintended results of legislation and rules being misinterpreted.

One of the areas that I think you could focus on if I were sitting in your chair that would help. Rural, small cable companies do not enjoy the same costs for acquiring programming as the large MSOs do.

When you go out and build these facilities and plants in rural America you sign personally for this model and you have to put models together that justify the borrowing. It makes it hard when you have to pay more yet charge the same because of competitive pressures of the MSOs around you or the satellite providers, that if your bottom line is eroded. So I ask the question and I ask you to look into why are rural cable companies, smaller cable companies, having to pay more for programming?

When those programmers realize that they force through these processes the small operators out of business, sometimes the acquirors of these small areas leave the management team and everything intact and do not change a thing, yet the acquiring large MSO immediately gets more money into the bottom line because they get reduced rates.

Another area that I think is being abused and needs focus is retransmission. I do not think that retransmission is getting the results that it intended. Rural companies who have to provide network service to the constituents are being forced to carry multiple channels on their broadband. That is all operators have to sell is broadband width. We would like to see the marketplace determine who—what is carried by the marketplace. The subscriber will pay for what they want.

We are being forced to carry multiple channels by the networks that the subscriber may or may not want. When these retransmissions rules were instituted, I think there was not a vision that these networks would be in three businesses. I could give you specific examples later if you want, but networks are in sports programming, they are in network and they are in satellite programming. They force the operators to carry multiple channels as a re-

sult of just trying to get the local network to the local subscriber. They do not care whether it is in the state that you operate or not, they make you carry these things all over the place. So retransmission consent, again, I think could be talked about for hours. I would urge you to look into that and see is it really doing or is it hindering the development? Our conclusion after 30 years of watching it, it is hindering it because it is thwarting the money available through higher costs.

Another area that is concerning us is again with the networks, digital must carry. The same thing. We have broadband. We would like the market to determine what can be carried. Broadcasters are seeking legislation that will force us to carry not only their analog and their digital, and who knows what programming they will provide on those services going down the road.

Open access is a big issue. Many of us in rural America have stepped forward, risked our capital. We put models together which we control our own destiny and it does not seem fair that after private money is put into the marketplace that after the fact the rules can be changed and jeopardize the very loan covenants that I agreed to when I signed on the dotted line.

Another thing that just came across my desk this week that concerns me, in rural America we use rights of way. We feel that we have a need to pay for that right of way. Our average cost for pole attachment is $6 to $9. We just received an invoice this week which the utility is asking for $42 a pole. If that were to result in the way that we have to pay for these poles, that would mean in some of the areas that we serve that each subscriber each month would have to pay $10 a month just to cover pole rental. A huge deterrent. I would think that you would be concerned that if pole attachments are permitted to go that high, that is a huge deterrent to the construction and deployment of broadband going forward.

My perspectives, like I say, are after 30 years of experience. To the extent that our group, I am associated with the ACA representing 1,000 operators, we will give you whatever information you need to make prudent decisions going forward. Thank you.

[Mr. Campbell's statement may be found in appendix.]

Mr. PENCE. The Chair thanks Mr. Campbell for his testimony, and for the testimony of all of our witnesses.

With apologies to the gentleman from New Mexico, I am going to exercise the authority of the Chair and recess our hearing for approximately 40 minutes. We on the Republican side of the aisle have a mandatory conference relative to the tax bill, and we do expect that to run about 30 minutes.

So we will order this hearing, which you all have stimulated some very important questions that I know members of this panel are anxious to ask you. We will recess this hearing for approximately 40 minutes or until such time that either Chairman Thune or I return to the chair. I encourage you to take advantage of the delicatessens and other lunch fare as we may be going into the lunch hour.

[Recess.]

Mr. THUNE [presiding]. The hearing will resume.

Let me sort of pick up where we left off. Again, we appreciate all the testimony of our witnesses on the panel this morning. Very

insightful. It is exciting to see some of the things that are happening out there, and figure out how we can go about replicating some of those success stories, and then talk, as some of you did in your testimony as well, about things that the Congress ought to be looking at in terms of making broadband access more accessible in rural areas.

Just a first question that I would like to pose of all the witnesses if you can respond to it to the degree that you have perhaps studied this issue, but the House Commerce Committee recently passed H.R. 1542 which is the Internet Freedom and Broadband Deployment Act, probably more commonly known as Tauzin-Dingell. The bill seeks to ease restrictions and requirements on providing broadband services that were placed, restrictions, that is, that were placed on the Bell operating companies by the Telecom Act of 1996.

I would just as a general question ask do any of you believe that opening up the long distance market to the Baby Bells would increase competition and help meet the growing demand for Internet access and long distance data capacity?

Ms. MCADAMS. Quite the opposite, Mr. Chairman. I am convinced that the provisions of the Tauzin-Dingel bill both in terms of opening up the Interlata data market and the provisions which would eliminate the provision of unbundled network elements are the obligation of the RBOCs to provide unbundled network elements for broadband services, would have the eventual effect of condemning especially more rural constituents to monopoly supply of telecommunications.

What we know today, in New Edge's case, in many of the central offices and small towns where we are, we are the only DSL provider. The incumbent has not yet even stepped up to that plate. They tend to roll out DSL service shortly after competition comes, and that is a great dynamic of competition, and that has been the pattern with broadband development.

So no, I believe that is a counterproductive approach.

Mr. THUNE. Anyone else care to comment on that subject?

Mr. COOK.

Mr. COOK. I think, just to pick up on the issue of the monopoly supply. Of course from a satellite point of view we bypass all of the terrestrial networks and therefore because we are going to be providing services literally everywhere, we will be a competitor to whatever terrestrial networks are put in place. So we think that we have confidence, if you like, that Congress is going to make the right decisions on this bill. From our point of view we are relatively neutral. We think that competition will exist regardless of the outcome of that particular bill.

Mr. THUNE. Would anyone else care to comment?

Mr. HOUDEK. From an independent's perspective, particularly in South Dakota, we are a single-Lata state. It does not have a lot of impact for our company. However, we are a little bit reluctant to open up the Act this early. There are provisions to accomplish what they want. So we are, I guess, in favor of not tearing the Act apart yet.

Mr. THUNE. Ms. McAdams, you indicated that the monopoly status would not be helpful. What they have argued in support of that legislation is that it will give them powers they do not currently

have that will enable them to get to places that nobody else can—that because of their economies of scale they can serve and there are not providers out there. That would be their argument to counter yours, that it is better to have one than to have none.

For those of us who come from rural areas, that is a fairly persuasive argument if we do not have anything going right now. But we are also attuned to the fact that we want to make sure there is a competitive playing field out there.

I guess I am wondering, in particularly remote areas of the country like South Dakota I think fits that category, Randy described it as the frontier. It is not rural, it is frontier. We want to make sure that our smaller towns have that opportunity.

I know that the RBOCs in coming in and making that case, that was the argument they made. But you disagree, obviously, with that position.

Ms. MCADAMS. Yes, Mr. Chairman. I do agree that wireless is a great and appropriate technology for the very much more rural areas, the farms, the ranches, et cetera. But for the small cities and towns where DSL wire line service makes sense, and where the constituents have paid for that distribution plant through their rates, their monopoly rates for the last 100 years, it makes equal sense in those areas to provide the opportunity for both the RBOC and the competitor to compete, and we do not mind competing with the incumbent. And in the case of the small companies, in fact New Edge Networks currently brings DSL services on a wholesale basis to some of the small telephone companies who then resell our service branded with their own name, and that is a great cooperative effort.

But today the argument mounted by the large incumbents that the inter-Lata restriction is keeping them from deploying broadband, I frankly believe has very little merit. There certainly are a few areas in the country which we can point to where perhaps the Lata boundary is in a somewhat inconvenient place. The FCC has in place today an expedited process by which companies or individuals in those communities can apply for Lata-boundary modifications. As far as I know, none of the incumbents have in fact availed themselves of that process to correct Lata boundaries if they are in fact making this problem for them in some specified areas.

Mr. THUNE. There are several bills that have been introduced in this Congress that are designed to promote development of broadband technology to rural and underserved areas in addition to the Tauzin-Dingell legislation, and again, I think it is questionable as to whether that is the appropriate vehicle for some of the reasons that you noted.

But some of the other legislation—tax incentives, tax credit, the English bill, loan guarantees. I think Mr. Houdek you referenced RUS in our part of the world.

Do those make sense? Are those approaches that in your judgment would make a difference in terms of the incentive it provides for companies to come in and provide those types of services?

Anybody feel free to comment on that.

Mr. CAMPBELL. A concern I have is that there are deployments of monies already out there, and to bring in subsidized monies that

could compete with those already invested dollars, or how do you recognize those who did step forward already?

I think it is a good idea, it helped develop telephone service in rural America, but it is a complex environment in today's world. So if you can figure a fair way to do it, that would be—What I have read so far, there are some inequities. So a fair way, yes, but subsidized monies is not always necessarily the solution either.

A lot of people did the tax credits in a lot of the smaller coop areas do not even pay taxes so it is really not a true incentive to some of the rural areas that are doing this stuff through coops.

Mr. COOK. I would just again like to echo some of those things. In building out a broadband satellite network, we have already made the decision to invest $1.5 billion without the need or the incentive of tax credits.

While we think that tax credits are not wholly bad, there has got to be some benefit and incentive and it will no doubt encourage some additional build-out, it is not going to solve the whole problem because some of the areas that we are talking about will remain too expensive to bill out with traditional terrestrial technologies. So from our point of view, we think that if indeed there are to be tax credits or similar incentives, the most important thing is to ensure that they are truly technology neutral, that they do not have requirements for particular types of service or speed which would favor one technology against another. Under those circumstances we would obviously, anything which is an incentive, which will encourage you to take up broadband services is obviously in principle a good thing.

We also wonder whether maybe the credits should be oriented towards the end user rather than the infrastructure builder, and thus allow the market to decide what is the appropriate technology to use in each different area, so some way of encouraging or motivating the end user, subsidizing the end user's takeup of broadband services. That in itself will create a level playing field for all of the technologies to build out.

Mr. THUNE. In that approach the customer basically, it would incent them through some sort of a tax credit to subscribe to whatever services might be out there?

Mr. COOK. That is right.

Mr. THUNE. Without differentiating between types of technologies.

Mr. COOK. That is exactly right. You put the power in the hand of the end user to decide what is most appropriate for him.

Mr. THUNE. A followup question with respect to your technology, Mr. Cook. One of the accusations that has been leveled I think against the satellite industry or systems is their lack of reliability relative to other types of technology. What has been your experience with respect to the reliability issue?

Mr. COOK. In the end there is absolutely no difference in terms of reliability between satellite systems and terrestrial systems. With broadband satellite today and indeed tomorrow when we have Spaceway available, we will be offering levels of availability and levels of service quality that will be equivalent to anything that is offered by terrestrial technologies. We spent a huge amount of money and effort, time and effort, in really pushing the limits of

technology and we believe that we have a fantastic service offering which will compete everywhere very favorably with anything that is offered terrestrially.

Mr. THUNE. I have some other questions I would like to ask but I will take a break here and yield to the distinguished co-chair here, Mr. Pence, for some questions.

Mr. PENCE. Thank you, Mr. Chairman. I want to thank all the witnesses for their patience on what has become a fairly unusual day in Washington.

First a question across the board. As someone who believes very strongly in state and local control, I would like to ask the panel generally what they would view as the proper role of local governments in the regulation of broadband services, specifically should local governments be limited to simply regulating the use of the right of ways, or should there be a greater role, and if there is a greater role does that act as a hindrance? Whoever wants to step up to the microphone on that one.

Mr. HOUDEK. I think the '96 Act was written, gave specific powers to the state commissions to determine ETC status.

One of the things they base it on is the public interest. I am afraid that without the actual states making those decisions they might not, some of the areas that are currently served only by the traditional ILEC might go unserved.

Our industry has made a commitment to serve the entire area with high speed, high quality. I think that it would be very difficult for us if we were to lose some of the support we get to provide that service for less, or for a substandard product.

Ms. MCADAMS. Mr. Chairman, I have been dealing with telecommunications public policy long enough that I remember a time, frankly a couple of decades ago I hate to admit, when the cities at their conferences of the National League of Cities, the Conference of Mayors, et cetera, would get together and ask themselves the question what can we do to attract infrastructure development in terms of telecommunications? It is important for us in terms of our economic development, in terms of our competitiveness in the nation and the world, and that, it seemed to me, was a very positive approach saying how can we attract this infrastructure investment.

Unfortunately what many of the CLECs and the competitors today are finding is that the city's interest has changed somewhat and is unfortunately more along the lines of how much revenue can we derive from the individuals who bring in the infrastructure and use the public rights of way.

Clearly the municipalities have an important role in managing their rights of way and reducing traffic congestion, in issuing permits and making sure that work in the streets is done safely and so forth. But that is a circumscribed role. I agree the Act and the history of telecommunications law cedes to the public utility commissions in the states the overall regulatory oversight of entry and pricing for local services.

So I would agree with those who argue that the role of the municipality should be limited to that which is reasonably related to the direct use of the right of way, and that fees for the use of the right of way should relate to the actual administrative costs of making that right of way available.

In fact the local economy stands to gain immeasurably from the increased transactional mass, the support for small, medium and large businesses as a result of that infrastructure development.

Mr. KELLY. We too share the desire to keep most of the oversight on a state and local basis. Instead of right of way, we talk about tower ordinances and that certainly is something that is a bit frustrating on a region by region basis, but something that we are easily able to work with local constituencies.

What has been a little discouraging though is I think the different speed with which different states, state PSCs, have taken up compliance with the Telecom Act of '96 and in particular, there are a lot of states that just do not seem to be very close at all to having their state funds or state universal service funds funded in any way. That is a frustration for us.

Mr. COOK. From our point of view I think we think it is a very good thing, a healthy thing that state and local government takes an active interest in telecommunications. From the perspective of a satellite provider, for every satellite that we put up we are able to offer coverage across the whole of the United States. That means it would be very difficult for us to operate if there were differences in the regulatory or other environment, significant differences anyway, on a state by state or a local basis.

So the most important thing, again, is to ensure that there is consistency of environment for us to be able to provide the same high quality services to everybody.

Mr. HOUDEK. An experience we have is, at the local level, an unfair competitive advantage of different technologies, i.e., not having to pay local franchise fees.

A certain percent of every dollar we collect, be it for broadband Internet, video, whatever services we provide is taxed where competitors are not. And we have equal to or greater investments in providing those. So I would like to see that leveled out somehow by the locals.

Mr. PENCE. Specifically to Mr. Campbell, in your testimony, your written testimony, you spoke about the irony of attempts being made to create incentives to RBOCs and to incumbents to service smaller market areas and rural areas, to close the digital divide saying rather obliquely that we are already here.

Is it your feeling that we should not create incentives or mandates in the Congress that would even invite the incumbents in in a competitive environment under the '96 Act? I wanted you to amplify those remarks.

Mr. CAMPBELL. In a fair way, competition is good. I have watched with interest being in telephone and cable over the last 30 years the results of the larger incumbents not stepping forth in rural America, and I find it ironic that they do when the incentives are put before them. Right now those large incumbents are even thinking about abandoning by selling off some of their rural investments and concentrating in highly populated areas.

So I take it from just a competitive view that if it is a level playing field—But why did they not step up before this? It is not that they did not have the resources or the money, they opted to go where the more dense population was and where they could make

bigger returns. That is what I find ironic at this time to encourage those who have ignored, to now participate.

Mr. PENCE. Somewhat along those lines, Ms. McAdams, you made a comment during Chairman Thune's question and answer period about if we were to provide incentives to the RBOCs or the incumbents to move into the rural area that we would be, I think your phrase was condemning you to monopoly supply. Could you elaborate on that for someone very new to this area?

Ms. MCADAMS. Yes, thank you, Mr. Chair. I need to perhaps clarify the point I was trying to make and perhaps I did not make myself as clear as I should have. In particular, incentives for development, I agree with my fellow panelists that direct incentives, especially if they go to rural businesses, rural institutions and agencies, who then can choose through a competitive bidding process a provider, make a great deal of sense, and in some of those instances the incumbent would win those bids and we think that is a fine thing.

The point I was trying to make was that some of the current proposals before Congress, and Mr. Thune referenced the Tauzin and Dingell bill, would in fact make it impossible for companies like my own to have access to the existing copper infrastructure which by its nature is today a natural monopoly in terms of wire line access, and therefore if that bill were to pass in its current form, competitors such as myself would simply no longer be able to provide these broadband services to the rural communities in which we serve today.

So in that sense, removing the obligation of the incumbents, the RBOCs, to allow access to the existing copper plant would result in in most instances the RBOC being the only wire line carrier available to rural consumers.

Mr. PENCE. One other question for Ms. McAdams, in your written testimony you call for, that Congress ought to or the FCC ought to consider full structural separation of large incumbent telephone companies into distinct wholesale and retail telecommunications providers to avoid there being a built-in institutional incentive for preferring their own provider.

We certainly have been down this road in the courts with courtesy of the Justice Department and another high tech area. Speak to that proposal and how, whether you would see Congress acting or the FCC acting or legal action as appropriate.

Ms. MCADAMS. Yes, thank you, Mr. Chairman, for the opportunity to expand those thoughts.

The basic problem and the reason why we have to have so much regulatory oversight of this transition between the monopoly market structure and a competitive one is because of the need for wire line competitors to interconnect with and use the essential facilities of the incumbent phone company. Because it is the incumbent who controls those bottlenecks, clearly there can be an opportunity and we believe an incentive for the incumbents to favor their own retail operations, perhaps in very subtle ways in some cases. The ultimate solution to that problem, and in fact a fairly deregulatory proposal, would be to duplicate what the courts ended up doing, and of course Congress was also considering at the time, which was

done in 1984 in divesting the AT&T Bell system into local and long distance companies.

A divestiture of the existing RBOCs into retail and wholesale arms would then break that affiliation such that there would no longer be any incentive for the incumbent who owns the bottleneck facilities and provides them on a wholesale basis to all comers, to favor their own retail efforts. Now how that might come about, I think there are a number of forums. It has been suggested in Congress. Senators DeWine and Kohl presented such a proposal in the past. Today such proposals are pending before a number of state legislatures. Some PUCs such as Pennsylvania have considered and implemented some version of structural separation. And certainly if the antitrust opportunities and remedies in telecommunications are restored, right now there is some what I would consider to be bad law out there which says violations of the Telecommunications Act basically can't be used as evidence in an antitrust case and there is pending legislation before the House Judiciary Committee to correct that. So if the antitrust remedy were restored, then conceivably such a structural separation might end up being ordered by a court as a result of an antitrust case.

Mr. PENCE. Thank you.

One other question, and I will yield to the Chairman and to my colleagues.

Mr. Cook, in my former life I was in syndicated radio, and know just enough to be dangerous about Ku-band technology. I'm fascinated by your presentation about the Ka-band as a possible way of end-running all the challenges of terrestrial access to broadband and wanted just very briefly to ask you about your Spaceway system and I believe you said within three years you expect to have three geosynchronous satellites that can address North America and how realistic is that as an alternative to more traditional means of broadband access?

Mr. COOK. The simple answer is it is a very, very real alternative. It builds actually on the Ku-band technologies that we have today, so we have existing Ku-band, broadband services, which are widely distributed and widely taken up.

But we certainly intend to launch Spaceway—actually, again, the first satellite will be up round about the end of next year; the second Spaceway satellite is programmed to be about six months later; and then the third will come on stream based on the uptake of the first two.

And the services that we will be able to provide will be extremely competitive. I think I mentioned in my statement the sort of speeds we are talking about. The speeds we are talking about are typically greater than you will be able to get with today's SDL and cable modem types of technology.

There are some unique benefits that you can generate from a satellite system. It is very, very good for rural casting and multi-casting services, when it is saying the same information to lots of people.

We have devised Spaceway with some very, very advanced technology to optimize now the satellite broadband capability for point to point traffic.

Today's systems tend to be broadcast orientated technology systems. Spaceway is being pushed far more towards the point to point end of the spectrum. It means that we will be able to offer direct small dish to small dish high speed connectivity, so there is no need anymore for users to go into a terrestrial gateway or into a central hot station. Any small business will be able to communicate directly with any other at these high broadband speeds.

We think from a pricing point of view we are also going to be extremely competitive. We are expecting that small businesses will be able to acquire Spaceway technology, capital costs for up to two years out, so there is no final cost yet. But we are expecting the capital costs can be significantly less than $1,000 for the equipment and the dish and everything necessary to receive the service, subscription rates will be very comparable with DSL subscription rates.

So we expect the service to be very, very competitive from a technology and from a commercial point of view.

Again, from the main subject of the hearing, from a rural point of view, the cost differential to us in providing service to a rural user compared to a metropolitan user. And therefore, the service will be available fundamentally at the same price with the same capabilities wherever the user is.

Mr. PENCE. Thank you, Mr. Chairman. I have no more questions.

Mr. THUNE. Thank you, Mr. Pence, and I notice when you made the comment about this not being a usual day in Congress that there really are not any what I would call very many usual days in Congress. This is an unusual place and I think having the word Congress and extraterrestrial in the same context probably makes a lot of sense.

But I would like to yield to the ranking member, the gentleman from New Mexico, Mr. Udall for questions.

Mr. UDALL. Thank you, Chairman Thune.

I have a couple of questions for Randy Houdek.

I have a district that is, in my state, heavily native American. We have 22 tribes, we have a large Navajo reservation, so I am very interested in your ability to serve native American populations.

To start, what specifically has your business done to provide broadband access to the rural areas in South Dakota?

Mr. HOUDEK. Thank you.

What we have—We have taken a system-wide approach to deploying as quickly as we can fiber into the local, the rural areas, and then to the house we will use copper.

The part of the reservation we serve is the Coal Creek Reservation. We have just done that. We have got fiber-optic loop in and within a month we will be able to provide DSL-type services 30 miles out in the country on the reservation.

We recently acquired the system exchange from Qwest which has a large native American population up there, the Sisseton Wahpeton Tribe. We are, as we speak, we have staked and are planning to bury fiber to that community right now. We are offering via sole services in Sisseton and plan to expand that. Within the city of agency they have a couple of hospitals and clinics and schools. We are going to bury fiber to all of those.

There has been a very good reception from our communities.

Mr. UDALL. Can you address some of the challenges than to putting it into Indian country.

Mr. HOUDEK. Actually the challenges that we face in particular are not much greater than they are in any other part of our service area. We are very sparsely populated. The technology is expensive. And in order to get the customers to actually subscribe to the service you have to price it aggressively, and that just makes for kind of a long-term payback.

We are a coop. We are member owned. Maybe our incentive is not to much generating huge profits as opposed to providing service to our owners.

Mr. UDALL. What percentage of the market does SBC control in South Dakota?

Mr. HOUDEK. Sulley Buttes Telephone?

Mr. UDALL. Yes.

Mr. HOUDEK. We have about 7,000 square miles. What percentage, again, we are 13,600, there are 770,000 in the state. Geographically we are about 10 percent; actual access lines, I cannot do the math that quick.

Mr. UDALL. That gives me what I need, thank you.

Mr. Kelly, can you elaborate on some of the problems your company has encountered in its ETC application process and in its general efforts to provide service?

Mr. KELLY. Certainly. As I mentioned earlier, we have had problems with incumbent carriers, and what we have found, there has been quite a bit of frivolous activity that has been brought to bear by the incumbent, lots of motions, in some cases court challenges along the way. Probably the ultimate frustration was when we initiated service up in Regent, North Dakota, and after getting ETC status up there, and had the local telephone company shut our network office. Just completely cut the wires, took us out of the system.

We were restored within a couple of days and were fortunate through court action to get that resolved in our favor. But it is tough going up against the incumbents. We would really appreciate a real smooth and orderly process, particularly at the state level at the PFCs.

Mr. UDALL. Am I right in inquiring and getting ETC means you cannot pick and choose your customers?

Mr. KELLY. Absolutely not. When we receive ETC status it is for a designated study area and we are required with our ETC to provide service to everyone within that study area.

Mr. UDALL. And the universal service funding covers basic services only, is that correct?

Mr. KELLY. Absolutely. We see——

Mr. UDALL. What is the difference between your basic offering and your advanced services offering?

Mr. KELLY. If you take a look at our native American initiative in South Dakota on the Pine Ridge Indian reservation, for instance, we are providing today basic telephone service. I would not construe it as being broadband. But half the customers who we have signed up there in the five months that we have been in service

never had a telephone line before. So before you can go broadband you need to get basic service.

So we see universal service as the mechanism by which we can get good competition for basic telecom service. Then from there we can, on a level playing field, go out and start making the enhancements to both our network and to our other competitors' networks to get the high speed bandwidth and the broadband type technology that we are here talking about today.

Mr. UDALL. Thank you.

Chairman Thune mentioned the surrealities of Washington, and one of the things that happens back here is we sometimes see television commercials that the rest of the country do not see that I think are designed to influence members of Congress.

I just recently saw a commercial on Tauzin-Dingell that talked about, and maybe those of you here have seen it, it talked about how it was going to be guaranteed that rural areas under that bill would be provided with broadband access. I know that Chairman Thune asked about this but I was just wondering if any of you had any thoughts, or if you had seen that commercial or any additional thoughts in terms of the discussion on the bill providing that.

Ms. MCADAMS. Mr. Udall, the bill as originally submitted, as I read it at least, did not have any assurance or guarantee of any additional deployment on the part of the incumbents in return for the end run around Section 271 of the Act that is also incorporated in the proposal. However, it is my understanding that an amendment was added during committee markup which purports to be a rural, a buildout provision but in fact is very limited. It requires within five years, which of course is an eternity in the telecommunications industry, the incumbents to outfit their existing central offices for DSL and make DSL available within three miles of the central office.

Three miles from the central office probably does not take care of a lot of your constituents, Mr. Udall. I know that Congressman Largent argued during the markup that in his rural area in Oklahoma a buildout requirement more on the order of 30 miles such as you are hearing, some of the coops, have stepped up on their own to do, would make more sense if there is to be a bill of that nature and there is to be a buildout requirement.

Frankly, I think what you are hearing among the panelists today, the witnesses today, is that the market is working to in fact bring these services perhaps not as fast as any others would have liked, but the capital realities are such that it is a both expensive and time consuming process. But I think you are seeing services in fact brought through appropriate mixes of technology increasingly to rural areas as a direct result of the opportunities crafted in the '96 Act.

Mr. UDALL. Any other panelist—Go ahead.

Mr. KELLY. I am not familiar with the particular legislation, it is not my general domain. But Randy and I were both talking, that it is interesting that neither of us have seen the ad. It is Beltway surrealism. And there is a certain amount of irony that the companies sponsoring it are the very ones in our markets who are selling off the exchanges to companies like Randy's.

Mr. UDALL. Okay. Thank you very much. We will keep an eye on those commercials and monitor that. [Laughter.]

Mr. THUNE. Three miles in South Dakota is just a short walk. [Laughter.]

The distances are very real. I do not think anything in that bill probably contemplates what we are talking about as far as the dimensions.

The Chair recognizes the gentleman from Washington, Mr. Baird, for questions.

Mr. BAIRD. Thank you, Mr. Chairman.

I want to in all sincerity compliment both Chairs for hosting this meeting. We have an awful lot of hearings around this place and very few, I can sincerely say, are as informative as this one has been, and I compliment you for hosting it and the panelist for their thoughtful and diverse presentation.

I do want to ask my friend from New Mexico where he is finding time to watch TV. [Laughter.]

Mr. BAIRD. Maybe your staff tapes them.

Mr. UDALL. Five seconds when I am shoving down some breakfast before heading to this hearing. [Laughter.]

Mr. BAIRD. Oh, I remember that.

I think part of the importance of this is many of us represent rural communities and we know on the Small Business Committee how important broadband and remote access is to our development of these communities. Many have been hit hard in our state by timber cutbacks or fishing changes, and if we are going to help them diversify their economy, we have got to provide the access to the technology to make it so.

Years ago our country faced rural electrification challenges, and very analogous in the sense that the sort of major companies did not have the financial incentive to go out and provide this access. In that case the government stepped up to the plate and found ways to promote rural electrification.

Let me ask each one of you to address this question, and it is a two-parter.

What is the single most important and effective thing the federal government could do to promote broadband access to our rural communities? And what is the single stupidest thing we could do, even possibly through unintended consequences, that would impede the expansion of broadband?

I will start with Mr. Cook.

Mr. COOK. From our point of view the single most important thing is spectrum allocated for satellite. Spectrum is the one component which directly affects the amount of capacity that we can put up, and therefore the number of subscribers that we can serve. Having access to an appropriate amount of spectrum is essential if satellite services are to be readily available to rural areas.

Our concern is that the amount of spectrum required is not being made available to us, and I am talking about the entire satellite industry. Each orbital slot that we have could support more satellites and therefore more subscribers if we were given the full amount of spectrum that we had requested when the licenses were being issued.

Additionally, there has been a tendency to continue to nibble away at the clear spectrum that is available—in other words, interference-free spectrum that is allocated for satellite services. That is a trend that must be reversed.

The stupidest? I guess from our point of view it would be to create legislation that unduly favors one technology versus another, one place versus another.

As we have heard there are a lot of things going on in the market which are positive and which are generating improved broadband access to rural areas. The wrong sort of intervention will create distortions which could have an absolutely counterproductive impact.

Tax legislation and other incentives should be absolutely technologically neutral.

Mr. KELLY. I think that as the microphone gets passed down you are going to start hearing the answers get more and more similar.

The most important thing is going to be having a technology neutral, competitive enhancing set of incentives out there. That is the most important thing that can happen.

I think the more that we look at fostering monopolies, the less competition obviously you are going to get and the fewer the advances in broadband.

Probably the stupidest thing right now, once again this kind of sounds familiar, is going to be ignoring the need for some comprehensive spectrum policy planning right now.

The U.S. is behind particularly the European but also Japanese carriers in terms of their spectrum allocations. More spectrum out there in the hands of wireless providers will mean more broadband, plain and simple. We are under a spectrum crunch right now so ignoring that is probably the stupidest thing that I could see out of Washington.

Mr. HOUDEK. Thank you.

From the rural ILEC perspective, I guess one of the most important things I would like to see happen is when enforcing the Act, as FCC enforces the Act, we recognize the balance between competition and universal service. Competition is wonderful, but let us not sacrifice the service in the very rural areas just for the sake of competition. The Act was written fairly well so that the two prongs are competition and universal service and to do one without the other is I think going to do a disservice to the very rural people.

Mr. CAMPBELL. Repeating what I said earlier, I think the most important thing for a small rural company like ours and the members of the ACA is to be afforded a level playing field. It takes money to develop these facilities and you have to sell at bottom line profit to pay that money back. And there is an unjust, or undue disadvantage by the larger MSOs getting programming costs cheaper. Therefore being forced to build into less dense areas that we would like. We could build into more less dense areas if we could get more bottom line, we could got a little deeper.

That falls into the retransmission rules as well. Let the marketplace determine how that broadband—We don't have spectrum, we have bandwidth. And with the rules and regs as they are being utilized now by the networks, they are demanding the use of that in

a way that maybe is not behooving the best interest of the constituents and subscribers out there.

I guess the thing that I would like you not to do is ignore history. This is a Small Business Committee, and just look what has made rural America what it is. It is the small businessman. It is not the big guys. They do not go there, and we have.

Ms. MCADAMS. Thank you, Mr. Baird.

It is absolutely clear to me that the biggest barrier today to further broadband deployment is the drought in the capital markets throughout the telecommunications industry and in the competitive sector in particular.

What Congress could do that would be the smartest thing today in my perspective, would be to make it clear to Wall Street that Congress intends to stick with the very good policy framework and direction and pro-competitive policies that were set forth in the '96 Act and stay that course.

The market is working. Everyone sitting at this table is in fact demonstrating that fact today.

The stupidest thing is, you know, it is a symmetrical answer, Mr. Baird. The stupidest thing would be to reward the bad behavior of the large and incumbent telephone companies who frankly have done everything they can get away with to impede the development of competition under the Act by both legal and regulatory challenges, by strategic incompetence, by confusion of the station and egregious pricing, and reward them for that behavior by restoring their monopoly.

Mr. BAIRD. Thank you very much for those I thought very thoughtful answers.

If you could give me a list of those critiques I might use them later on in the floor speeches.

But I think the points are very well taken and I certainly have seen first hand the challenges many of your industries face in the capital market, and we have seen I think elsewhere in the economy when regulatory uncertainty creeps in, it can create huge disincentives to investments and capital starvation can be possibly the greatest single threat to innovative folks like you who are really pioneers and going—Where other folks have not seen the great return, you have seen the need and I commend you for that, and I think your points are very well taken.

Thank you, Mr. Chair.

Mr. THUNE. I thank the gentleman from Washington.

I would also add that I like small words and big print so I am not sure all of the adjectives that you used I could stay with either, but I think it does make the point and I appreciate the very direct and candid way in which you have all answered the questions.

I just have a couple of wrapup questions, and I asked most of the members if they had other questions and I do not think anybody does. You can get a chance at a closing statement here in a minute.

But I am curious as to understanding, help me better understand the technology. How do you differentiate, Mr. Kelly and Mr. Cook, between what your two technologies do? Satellite and wireless. Mechanically speaking so I better understand it. I think I understand the wired side of it. But how do those work?

Mr. COOK. In one sense they are very similar because we are using wireless techniques. There is a slight frequency difference in the allocated spectrum we are using, but that is not significant.

The most important difference is that a satellite can see a lot of geography from one place. That means we can offer the same high quality service wherever people are in the footprint. So ubiquity of coverage is an inherant feature of satelite service. That then enables, as I think I said earlier, services such as like broadcasting and multicasting.

One of the particular benefits of the sort of system we have, the new Ka-band technology, are spot beams. These are geographically oriented high power beams. There are lots of them together which provides the total coverage.

But in each of those spot beams a services, such as local broadcasting which is very important for local communities, is a viable activity. Local multicasting and local connectivity—again, very important.

So really the issue is the source of the data transmission is coming from, and what is the link point? That link point is our capacity point.

It does not matter where the demand for service is on the ground. Our capacity is available fundamentally to everybody, and therefore the capacity can be used to save the demand from wherever it originates.

Mr. KELLY. I am trying to keep big type and small words in mind here.

In essence, our technology is wire telephony without the wires. We also have switches and we are terrestrially based. We maintain towers, towers that provide coverage to the signal that we use to communicate to the device.

The beauty of wireless as a technology is that you do not ever have to replace the waves out there. As we go through and add new technology, as technology advances, it is something that is added once at the switch. It is added to each individual tower as you go. The devices are upgraded, but you are not faced with the degradation of copper, the wires, in between.

So we, in particular Western Wireless operates in the 800 megahertz cellular frequency range. It is a technology that is very good for coverage, very good for capacity, particularly in rural America. And we believe that as we go through and make extra investments into 3G technology and new digital technology that we are going to be able to get very good data rates, up to 20, 30 miles away from the tower. So it is something that lends itself very well to rural America.

Mr. THUNE. And just one followup question, because you had indicated earlier, and I know some of your frustrations in dealing with some of the reservations in South Dakota, but the question about the universal service fund, being eligible for voice transmission type services. That decision is a function, is it not, of the state public utility commissions? I mean in order to become eligible for some of that funding, is that where you would wage your argument, or wage your debate?

Mr. KELLY. In general all those decisions are made on a state level. We have an application pending right now with the FCC,

however, because jurisdiction over Indian reservations is a little less clear for Pine Ridge.

Mr. THUNE. I am aware of that. And any of the panel who care to comment on that subject, but I think it was referenced in at least a couple of the testimonies this morning about the universal service fund, in terms of how that might be applied across other areas as opposed to just its traditional use under the Act.

As I understand the way that works, at least right now in most cases it is just limited, is that correct?

Ms. MCADAMS. Yes, Mr. Chairman. It is under the purview of the state regulatory commissions who periodically undertake to evaluate what level of services constitute basic services, and most of the state commissions believe that that well may be a moving threshold over time. However, in making that evaluation the state commissions I believe also are taking very seriously the need to balance what should be subsidized with what essentially is a telecommunications taxation program on basic telecommunications bills to collect the funding to go into universal service.

So while they look at whether new services should be subsidized, they also are balancing that benefit against the cost on the normal consumer's bill.

Mr. THUNE. Randy.

Mr. HOUDEK. Thank you.

If I could add, the federal universal service fund, the FCC makes the determination on what services are supported. If it is a statewide USF then the state commission makes that determination.

But back to the issue of should support be given to a competitor in that case. In a perfect world, the fund would not be limited. But the way it works now is if the USF support is given to someone else it takes away from the incumbent who obviously still has that investment.

The risk of losing a revenue stream that it takes to support or make those investments, you know, if that is at risk I feel that you might stifle investment.

In a perfect world—the fund is capped right now. In a perfect world it would not be, but that is the way it is now.

Mr. THUNE. All right. Does the gentleman from Washington have any closing remarks? Mr. Chairman, Mr. Pence, any summation?

Mr. PENCE. Thank you, Mr. Chairman.

I want to thank again Chairman Thune for lending his support and his subcommittee's interest in this issue. I think these have been, as has been said by some of our colleagues, very informative. As Mr. Baird said, very informative and very enlightening hearings over the past two weeks.

I look forward to working together on many future occasions as we bring regulatory reform and rural enterprise together to truly promote small business development.

In addition to commending the Chairman and the members, I want to commend these witnesses who have achieved a couple of goals in this area that this fairly high tech, illiterate member of Congress is grateful for. Number one, I appreciate that you spoke in English, and you did not use a lot of very big words. More importantly, I think that you very clearly advocated your hard earned

position and credibility as pioneers on the frontier of the digital divide.

You are truly representative of enterprises across America who have been willing to go where no RBOC has been willing to go. In many cases where no incumbent with far more resources has been willing to go.

Having an entrepreneurial background, I admire you, and I respect you, and I pledge to you not only our subcommittee's continued interest in your challenges, but also I pledge to you simply as a member of Congress to be an advocate for the work that you are doing.

In that vein, I feel very strongly that we should stay the course that Congress charted in 1996 with the Telecommunications Act. I also believe and will look for opportunities to make monies available for targeted subsidies and grants dealing with that capital drought that so many of you spoke to.

Also, I am going to pursue the availability of stronger enforcement tools, giving the FCC a stronger hand simply to enforce the law as it is written, and ultimately as we move into what will likely be a lively debate over modifications of the '96 Act and other very worthwhile measures before Congress.

Allow me to say that this member of Congress is committed to leveling the playing field, avoiding mandates to organizations small or large, but ultimately doing those things inside the context of a free market model that will achieve the objective of those 150 West Virginia children who flanked Chairman Thune and I this morning at our press conference who attend a small, rural middle school that does not have broadband access. To recognize that unless we deal aggressively in a public policy model, in an enforcement model, and in the way of subsidies and grants for capital formation, that as I said this morning at the press conference, I believe that 25 years from now you will be able to tell where there is broadband access in America from a satellite photograph, given the nature of the economic activity and the population centers.

I come from a largely rural area with medium sized cities that are filled with the brightest adults and the brightest young people in America, and I would like to keep them all right there and make sure that the opportunities to move into the new economy are there.

I thank you for the sacrifices that you all have made, the capital that you have risked in bridging that divide, and I pledge to work with you to achieve that goal.

I thank the Chairman, again, for cooperation in this hearing, and I thank all the witnesses for their outstanding presentations.

Mr. THUNE. I thank the gentleman from Indiana, and I would just say that all those young people that he talked about in his state, we would like to move to South Dakota, which is why we want to make sure that we have all these opportunities available there.

But I have to admit, I am very excited to hear the things that are going on. I really am. I think some of the things that are happening are remarkable and as Mr. Pence noted, they are happening out there in the small business sector, entrepreneurial sector, as opposed to the more traditional deliverers of these types of services,

and I want to credit all of you for the work that is going on and echo what Mr. Pence said. That is we want to work with you as partners, in making sure that we are tearing down barriers and providing incentives.

Whatever this Congress can do to enhance the opportunity for better availability of high speed access, whether it is band-width or spectrum, depending on what your technology is, we want to make sure that the competitive issues, the economic development issues, distance learning, health care, all those quality of life things are available not just in our population centers but to people that live in rural areas. I think this is going to be critical in terms of seeing that accomplished in the same way that building the interstate highway system and the railroad system of the past, or rural electrification as Mr. Baird indicated, those are all things, models that have led to great progress in this country and it ought to be progress that extends beyond the borders of Washington, D.C. and some of our metropolitan areas to places more remote.

So anyway, I appreciate very much your testimony. I hope that you will feel free in the future to call upon us and visit with us about things that we ought to be doing, insights that you have.

I certainly am someone who admittedly is a novice in this area but want to come up to speed on the issue so that we can be conversant in talking away. And we can come to a formation of public policy that would enable us to get to the finish line.

So thank you very much for your testimony and for your patience today. I appreciate everything that you have contributed.

This hearing is adjourned.

[Whereupon, at 12:51 p.m., the subcommittees were adjourned.]

MIKE PENCE, INDIANA
CHAIRMAN

ROBERT BRADY, PENNSYLVANIA
RANKING MINORITY MEMBER

Congress of the United States
House of Representatives
107th Congress
Committee on Small Business
Subcommittee on Regulatory Reform
and Oversight
2361 Rayburn House Office Building
Washington, DC 20515-6315

Statement of Mike Pence
Chairman
Subcommittee on Regulatory Reform and Oversight
Committee on Small Business
United States House of Representatives
Washington, DC
May 17, 2001

Our hearing held jointly with my good friend from South Dakota's Subcommittee on Rural Enterprises, Agriculture and Technology addresses the rise of the new economy and the technology needed to ensure that rural areas can share in the global business opportunities that arise from the continuing penetration of the Internet. This is the second in a series of hearings that the Subcommittee on Regulatory Reform and Oversight has held on the Internet-based economy. Today's hearing focuses on the so-called digital divide: the lack of high-speed or broadband access to the Internet currently plaguing rural small businesses and the importance that broadband access will play in the continued economic prosperity of rural small businesses. Next week, the Subcommittees will examine the technologies and providers who will help bridge the urban/rural digital divide. I would like to thank the gentleman from South Dakota, Chairman Thune, for agreeing to co-chair these very timely and important hearings.

Since the advent of the Industrial Revolution in England in the late 1700's, infrastructure development has been key component of economic development. Location always has been a critical component for building infrastructure. Villages in the late 1700s that were not located near a stream that could be used for steam generation missed the prosperity of the early industrial revolution. Towns in the late 1800s that were not served by railroads faced economic stagnation. Counties bypassed by interstate highways lost substantial growth opportunities as the economy moved from a rail transportation to cars and trucks. Cities without adequate air transportation links cannot attract companies in a national and global economy. Today communities that do not have broadband access to the Internet face the same barriers to economic development that communities, mostly rural, faced in previous generations when the mills, railroads, highways, and airports bypassed them.

Without broadband access, rural communities will be unable to entice businesses that rely on the Internet to relocate and take advantage of the many qualities that rural communities offer. The other benefits – low crime, inexpensive housing, lack of traffic, clean air, and a connection with one's neighbors -- are things that are missing in the booming metropolises of this country. All these things taken together are the competitive advantage of our small towns and rural America.

Broadband access also provides small businesses with new, more efficient ways to conduct their operations. There are some great examples of how technology is changing business in unexpected way. Who would have predicted that ranchers would be transmitting bids in cattle auctions over the Internet. Finally, broadband access will provide rural communities with access to information and resources that at one time would have necessitated visiting or locating in metropolitan areas. Ultimately, broadband access will invigorate rural economic development and not force young people in rural areas to leave home in search of the American dream.

Rural areas and the businesses should not be deprived of their opportunity to prosper because they do not have access to high-speed Internet connections. The witnesses at this hearing will explain the vital role that broadband access plays or can play in their businesses. Furthermore, they will discuss the importance of broadband access to economic development in rural areas. I look forward to hearing from all the witnesses today, particularly my own constituent, Robert Nolley founder of the ISP Tubesock.net, who provides a valuable service to the residents and businesses of Shelbyville, IN by bringing them access to the Internet.

I will now recognize, my co-chair for this hearing, the gentleman from South Dakota, Mr. Thune for his opening statement. After his opening statement, I will then recognize the ranking member of the subcommittee on Regulatory Reform and Oversight, the gentleman from Pennsylvania, Mr. Brady for his opening statement, and finish with the ranking member of the Subcommittee on Rural Enterprises, Agriculture and Technology, Mr. Udall for his remarks.

JOHN THUNE, SOUTH DAKOTA
CHAIRMAN

TOM UDALL, NEW MEXICO
RANKING MINORITY MEMBER

Congress of the United States
House of Representatives
107th Congress
Committee on Small Business
Subcommittee on Rural Enterprises, Agriculture and Technology
2361 Rayburn House Office Building
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Opening Statement

Chairman John R. Thune

Subcommittee on Rural Enterprises,
Agriculture and Technology
House Committee on Small Business
May 17, 2001

Good afternoon. It is a pleasure to welcome you to this joint hearing between the Subcommittee on Rural Enterprises, Agriculture and Technology, which I chair, and the Subcommittee on Regulatory Reform and Oversight, chaired by my colleague from Indiana, Mike Pence. I would especially like to thank those of you that have traveled over a long distance to participate in this hearing.

Today's hearing is the first of two hearings that will focus on the issue of broadband telecommunications access in rural America. This afternoon, we plan to examine the critical role

that small business access to broadband services will play in maintaining the economic health of our rural communities.

Throughout our nation's history, there have been significant events that helped connect all of America. In the 18th century, it was the creation of the river and canal systems, in the 19th century, the railroad system was built, and in the 20th century, we spent significant energy building a national highway system.

All of these transportation systems served to connect rural America and small business owners with the rest of the population, and were crucial in bringing economic prosperity to our communities.

Advanced telecommunication services are just as important to our future. As our economy becomes more and more dependent on the Internet for growth, we must ensure that rural America is not left behind. Without high-speed Internet and communications access, more sparsely populated areas will find it difficult to improve economically.

From farmers and ranchers, to health care workers and retail store owners, people are realizing that if they want to maintain a viable business and serve their community, they must have access to advanced telecommunication services.

In addition, for states with predominately rural populations, being able to offer the latest technology is crucial to luring new business development and providing jobs. It is no longer enough to offer a pro-business environment. Advanced technology has to be available.

Broadband access may also help to stem population loss in rural areas. Citizens will no longer be compelled to leave their towns and communities in search of higher-paying jobs and challenging careers, and telecommuting may well become a reality for many workers in rural areas.

I look forward to hearing from the witnesses, and I thank you all for participating in today's hearing.

Statement by Congressman Tom Udall
Ranking Member
Subcommittee on Rural Enterprises, Agriculture and Technology

"Economic Development in Rural America—Small Business Access to Broadband"
May 17, 2001

Chairman Thune and Pence, I am pleased to be here today for our first joint subcommittee meeting to examine the impact that broadband telecommunication services have on small business in rural areas.

Over the last decade we have witnessed how the Internet has revolutionized our economy, the way we teach our children, provide medical services, and even conduct our everyday business from shopping to communicating. However, about 86% of Internet delivery capacity in the United States is concentrated in only the 20 largest cities. Rural America and its communities are not a part of the information highway and instead are in danger of losing ground to urban areas that can attract jobs, have direct access to affordable high-speed service, and a strong telecommunications infrastructure.

On August 3, 2000 the Federal Communications Commission released a report on the availability of high-speed and advanced telecommunications services. The Report concluded that advanced telecommunications capability is being deployed in a reasonable and timely fashion overall, although certain groups were identified as being vulnerable to not receiving service in a timely fashion. Those groups included rural Americans, particularly those outside of population centers; low-income consumers; minority consumers; and tribal areas to name a few.

It is clear that Rural America is in danger of becoming the "other digital divide." Some small businessmen and women in our rural communities recognize the need to engage in e-commerce to compete and survive in our growing technological economy. Rural communities recognize that without a strong telecommunications infrastructure, recruiting businesses and building economies will be hard to achieve. However, even if technologies like broadband are deployed—communities like our Native American reservations that are without even the most basic telecommunications infrastructure will be beyond the far reaches of this technological leash.

One of the questions we need to ask ourselves is—
"Will small businesses in rural areas that have high-speed Internet access be more likely to find new market opportunities?" That question will be hard to answer because we would have to assume that the small businesses in rural areas know how to use e-commerce, have the training and skills to make it work----and that is a whole other ball game.

There are several legislative proposals that have been offered in Congress that addresses the concerns of broadband access and deployment. One bill would allow for the Baby Bells to offer long-distance data and voice services in their home areas. However, there are no guarantees that if this were to occur that the Baby Bells would deploy this service to the most rural of rural areas.

A second piece of legislation----which I am a co-sponsor of----H.R. 267, the Broadband Internet Access Act of 2001 would offer incentives for deployment of broadband service to rural and low-income areas. This legislation would offer a two-tiered tax credits for investments that provide "next generation" broadband service to all other areas of the country except urban business areas. And to encourage providers to act quickly, the credit would be limited to broadband service deployment in the next five years.

The Internet holds an endless amount of potential for small business as well as for parents, teachers, doctors, ranchers and farmers. Through the use of the Internet Doctors are using Telemedicine to help cure and save lives. For those who live in rural communities, telemedicne would allow rural hospitals to effectively treat patients and receive expert medical advice without degradation of patient care.

Besides the deployment of broadband to rural areas we should make sure we address other areas of concerns that small businesses have with the Internet---such as---security, privacy, construction and maintenance, intimidation, and how to fully participate and utilize e-commerce applications and its business practices.

Thank you Mr. Chairman and I look forward to hearing from our panel today.

Subcommittee on Regulatory Reform and Oversight
and the
Subcommittee on Rural Enterprises, Agriculture, and Technology
of the Committee on Small Business
of the United States House of Representatives
Joint Hearing

May 17, 2001

Statement of Rob Nolley, President, Tubesock, Inc.

Tubesock, Inc. is new to the Internet Service business. It was started in October of 1999 after a failed attempt to purchase an existing Internet Service Provider. We had accumulated an enormous amount of research about this business and we felt that we could do a better job at servicing not only residential customers but business customers as well. Our focus was on helping small businesses get a full range of Internet solutions, a market demand we knew we could satisfy.

The owners of Tubesock had owned a multimedia company called RN Media. Its primary focus was on web development solutions for business. RN Media had built a reputation for providing quality service to business for Information Systems. Starting Tubesock was a natural progression for us. In the short time we have been in business we have made a dent in the market and have built an incredible reputation.

When we started we knew we wanted to focus on business. The solution for business called for lower cost broadband service, to provide Internet access to the corporate network, email and web. We were aware that some broadband providers were already in town selling their services to businesses. These providers were not local and could not service customers the way they were used to being serviced. We began to search for ways to provide these kinds of services to business and eventually residential consumers.

BRINGING BROADBAND TO SHELBYVILLE

1. Digital Subscriber Line Service (DSL)

In order to survive and compete with other ISPs, it was clear early on that we must offer broadband service. We approached Rhythms, a competitive carrier which specializes in Digital Subscriber Line (DSL) service about becoming a reseller of their product. DSL service is essentially a way to deliver high speed Internet access over existing phone lines, but it requires the installation of special equipment in phone company central offices. Rhythms has made a business of installing this equipment in central offices and leasing space on its equipment to ISPs.

We were told by Rhythms that we were too small to become a reseller and that we should approach one of their existing resellers about becoming a reseller. In other words, we could become a reseller of a reseller. We were referred to a company called Netisun. Netisun was already marketing their DSL service in our town. We met with Netisun and were able to work out a deal to be the exclusive provider of DSL for Netisun in Shelbyville. This meant that Netisun would not market businesses directly and would forward all prospects to us. The margins were however, very slim; therefore we focused on the "value-added" services that go along with providing broadband to businesses. These items include firewalls, the installation and maintenance of networks, web development, web hosting, email service and continued service and support.

DSL has been a tough product for us. The lead times are about 2 months. It is a two-part installation for us. The length of time is primarily because of the amount of time it takes SBC/Ameritech to configure the customer's phone line to send their data through the Rhythms equipment. Once this is done, Rhythms is usually able to get our customers switched on one day later.

The other problem we have from being a reseller of a reseller is the service we receive. We are usually the last ones to hear about new services, or specials. We have no control over the service and are not notified when the service is down. Most of the problems we encounter are usually not worth the effort. There are constant billing problems, we have also found that in violation of our agreement, Netisun has

come into our exclusive area and has sold DSL right under our noses. Our contract has protected our right to retrieve those customers, however, it is one more problem that makes DSL a service that is almost more trouble than it is worth.

During the summer of 2000 our SBC/Ameritech sales rep called and wanted to know if we wanted to sell SBC/Ameritech DSL to residential and business customers. We told SBC/Ameritech that we were very interested in selling DSL. They sent over a contract for us to sign. The pricing on the contract was much better than the pricing we were getting from Netisun. But before we ever got a chance to sign the contract, our rep called back to let us know that SBC/Ameritech was not going to provide DSL in our area after all. At the time, SBC/Ameritech was under scrutiny by the state Utility Regulatory Agency for the poor service it was providing residential customers. Their excuse for not offering us DSL service was because they wanted to address their current service problems before they jumped into another service. We later found out that SBC/Ameritech was offering DSL service in all of its markets in Indiana except Kokomo and Shelbyville. We have to wonder therefore, if SBC/Ameritech isn't holding back on DSL in this market until it gets Congressional permission to operate as an unregulated monopoly – purposely withholding DSL from the market until it gets what it wants legislatively.

Dealing with SBC/Ameritech has always been tough. Since they are the only local phone company in our area, we are forced to purchase our ISDN Prime lines from them. We have never been billed correctly and getting quotes for new lines is a complete hassle with lead times about 2 months. How can a company that has such terrible service expect to service our customers the way we do?

2. High Speed Internet over Cable

In Shelbyville, the local cable company, Susquehanna Communications, was already offering cable Internet service to businesses in town through another local Internet Service Provider. It was hard to believe that in our small town, the cable company was providing this service, since it was not even available in many larger markets. Susquehanna decided to open its service to all the Internet Service Providers in town. It ran 4 strands of fiber to our facility at no

cost in order for us to provide this service. Susquehanna, however, was mainly focused on residential consumers. They created a pricing structure for business that was not competitive at all with the DSL pricing. Business customers who had been getting their high speed Internet access over cable dropped this service and switched to DSL. The providers they chose were not local companies and therefore, all local providers lost out. Susquehanna was amazed that they lost these customers to DSL and it became a real eye opener for them. Through our continued persistence we have recently convinced Susquehanna to change their business pricing structure to be more competitive with DSL. Currently their corporate headquarters in Pennsylvania is evaluating what changes need to be made.

From our perspective, we would much rather sell Cable Internet Service to businesses. We have more control over the service, as it actually passes through our own backbone (Sprint), as compared to the Rhythms DSL product, which is designed to pass through Netisun's backbone (Time Warner). The lead times are about one week compared with 2 months for DSL, and we are informed almost immediately when Susquehanna's router is down. This allows us to notify our business customers when the service is experiencing difficulties. Susquehanna is a local company and this also makes them easier to deal with.

3. Local Impact

In rural America there is a lot to be said about doing business locally. Small businesses would rather deal with local providers than with out-of-town businesses or phone companies that they already do not trust. We are the ones who sponsor their kids' soccer teams, donate money to local charities, hire local people, and pay local taxes -- keeping the money in the local economy. We also consume the products and services that the local businesses provide. We are completely capable of servicing the client in a way that no giant foreign corporation possibly can.

The local economy in Shelbyville has been helped immeasurably simply by the pure availability of Internet access of any speed – however, we also have the following concrete examples of how local businesses, as well as even one government agency have been able to benefit from the higher-speed access we have delivered to them:

Prime Time Grill & Bar:
Prime Time is a local franchise restaurant that specializes in family dining. They currently have a 128K Cable Connection through Tubesock. This line is used for communications to Prime Time's corporate office in Indianapolis. In the evening the sales information for the local restaurant is automatically uploaded to the server at corporate through this connection. A Virtual Private Network (VPN) connection is the method of communication used. We have been working with them on future plans to add security cameras that they can view and monitor through this connection on the web. This is the type of application that would be somewhat difficult to accomplish over a slow dial-up connection.

Martin, Potts & Associates:
Martin, Potts & Associates is a local CPA firm. They currently use a 256 KB per second ADSL connection for Internet Access and Email for their entire staff. This allows them to avoid having to purchase separate phone lines for each staffer, which would have to be dedicated to their Internet use, and the DSL connection is less costly than the phone company would charge for a similar "frame relay" phone line operating at the same speed. This type of high-speed access allows them to download forms more quickly from the IRS website and to communicate with their clients through email. They also use the fast service to download updates to their accounting and tax software. Prior to broadband, updates were mailed to them on cd and had to be installed on all PC's. Clients also email their accounting data to their firm for auditing and the creation of financial statements.

BM & W Sales and Service:
BM & W is a janitorial supply store. They currently use a 256 KB/Second DSL Connection for Internet and Email. They have remote stores located around the state in other rural areas. The remote stores use a VPN connection to connect to the server in Shelbyville to pull up inventory, client information and sales information. Remote stores, because of the Internet, have instant access to all of this information that they did not have before, and because of broadband, they have it faster.

Sandman Brothers:
Sandman Brothers is a local GMC and Chrysler dealership. They currently use a 128 KB per second DSL Connection for Internet and Email. They also use the connection to train their technicians and sales people on product knowledge and technical guidelines through Daimler-Chrysler Academy. The dealership also received GM and Chrysler administrative messages through their connection. Through GM, all financing is done through their connection. Sandman Brothers also publishes their inventory to their website through their DSL Connection. Everyone from the sales and service manager to the administrative office help can now communicate through email, and high speed Internet service allows them to service customers more efficiently.

Shelby County Government:
The Shelby County Courthouse uses a 1,024 KB/Second Cable Connection to give Internet and email access to its office holders and staff members. Remote government offices such as the Shelby County Prosecutor use a separate 1,024 KB/Second Cable Connection to tie its office to the main server at the courthouse. A VPN connection is made from the Prosecutor's office to the Courthouse to allow the Prosecutor access to the court systems software. The Prosecutor also uses its connection for Internet and email.

CONCLUSION

Although there are a wide variety of delivery mechanisms for high speed Internet access, including satellite and wireless, in Shelbyville, we have found that the here and now solutions of Internet over cable and to a limited extent, DSL, provide good solutions for many of our customers. The high speed access over cable that in so much of the country is marketed to primarily residential consumers, we have actually found to be quite suitable for business applications as well, though to be sure, a customer's ability to receive high speed access depends on their access to 2 way cable. Susquehanna has most of the county wired however, and is willing to run cable to businesses which lack the wire.

DSL could and ought to provide additional competitive choices for customers if for no other reason than the beneficial effects of market

forces on prices for end users – however, it seems evident to us that under the present regulatory system, the monopoly phone companies have every incentive to stall and delay installations for our DSL customers, possibly until they achieve such total deregulation as to ensure that they can have a total monopoly on DSL as well as local phone service.

We are extremely concerned therefore, about Congressional efforts to further deregulate SBC/Ameritech, because we fear that we will wind up with a monopoly that is in a position to raise prices (because regulations have been erased), provide poor service (as it has demonstrated time and again in Indiana), and use its market power to crush competition whenever and wherever it happens to arise. In fact, we believe we should have had competitive choices for local phone service in Shelbyville by now, but suspect that the lack of options has something to do with the fact that competitors have had such a tough time fighting their way past SBC/Ameritech in places like Indianapolis, that they have not yet been able to expand to our market.

We would also like to state for the record that there are more ways to deploy DSL than may first meet the eye. DSL is not a magical or mystical technology. It has been around for many years. The first practical use of DSL was made by burglar alarm companies who purchased very simple copper phone lines, at very low prices, from the phone companies and configured them so that a 24 hour connection existed between a grocery store, for instance, and the burglar alarm company. One pulse down the connection might indicate a broken window. Two pulses a door ajar.

Eventually we realized that these lines were capable of carrying many more than one or two pulses, and the concept of DSL Internet access was born. But at the same time, the phone companies recognized this and with the blessing of regulators, withdrew these simple, cheap copper phone lines from the market, leading us to our present day situation, where the only way DSL can be deployed is if the phone company is willing to do it, or a competitive phone company like Rhythms, is willing to install DSL equipment in the local phone company central offices. (ISPs like Tubesock cannot for the most part, put their own equipment in central offices, unless they first register themselves as competitive phone companies. When we watch the grief Rhythms encounters from SBC/Ameritech, as it tries to turn up customers, we have little desire to join them.)

There are ISPs throughout the country however, in rural areas like Shelbyville, who are bringing DSL to their customers, quietly and slowly, by obtaining these simple copper phone lines and attaching their own DSL equipment to them. It is the solution no-one likes to talk about, because they fear the phone company will pull these lines out of service once their purpose is known. We see no good reason for this. It is one way that high speed Internet service could reach more rural constituents, faster, by empowering the same ISPs who brought America online in the first place to bring it to them. We would not have to wait for companies like SBC/Ameritech to pay attention to the rural areas we love, and recognize as good business markets.

If we are serious about delivering high speed Internet access to all Americans, we should consider all of our options, not just the ones our local phone companies are steering us toward.

In the meantime, we will continue to bring high-speed access to our friends and neighbors, through the cable company that has wisely recognized that profitable partnerships can be forged with local ISPs such as Tubesock, and through such competitive options as currently exist for DSL – competitive options we hope to see expanded.

Testimony of Gene Reich
Telehealth Coordinator
Avera St. Luke's Hospital

Before the Subcommittee on Rural Enterprises, Agriculture and Technology and the Subcommittee on Regulatory Reform and Oversight

House Small Business Committee
May 17, 2001

My name is Gene Reich and I am the Coordinator for Telehealth Services at Avera St. Luke's in Aberdeen, South Dakota. On behalf of the Presentation Sisters and the Benedictine Sisters, the sponsoring groups of our network family called the Avera Health, I would like to thank you for the opportunity to present our input on this critical subject to rural America and to rural healthcare. I would also like to publicly thank Congressman Thune and this body for its support of Telehealth legislation passed last year that will benefit the future growth of Telehealth Services nationwide. I commend this committee for taking up the matter of access to broadband technology in rural America. This is an important issue for economic development as well as delivery of quality healthcare services in our region of northeastern and north central South Dakota.

Avera St. Luke's is celebrating its centennial year in meeting the healthcare mission of the Presentation Sisters in the city of Aberdeen and the surrounding region. We are proud that we have used the latest technology to meet the Sisters cherished healthcare mission and would be interested to know what some of the early members of the order might think about some of the methods we've used to meet their mission. There aren't many members of the order left with us and only a few under the age of 50, so all of us at Avera St. Luke's feel a strong commitment to continue the mission and are pledged to do so in any way possible. We feel advanced technologies will be a key to our survival as a rural healthcare provider.

At Avera St. Luke's, we use interactive videoconferencing to provide valuable healthcare services to 15 rural hospitals and clinics. We built and equipped these facilities with videoconferencing technology with the help of two federal grants and a significant investment by Avera St. Luke's. We use the technology to deliver quality healthcare services in a variety of ways. We provide regular Continuing Medical Education programs to rural providers and staff. We provide frequent training sessions for rural healthcare staff in a variety of disciplines. For example in the month of June we have already scheduled a workshop for hospice volunteers, a workshop on mentoring and a

session on caring for the urology patient in a rural healthcare setting. We also use videoconferencing for corporate meetings, partner meetings and association meetings. In this time of cutting programs in healthcare to meet budget concerns, Avera St. Luke's and Avera Health are using innovative technologies, such as videoconferencing, to cut travel costs by thousand of dollars a year in order to keep our current level of services in tact.

Like most similar projects around the country, we also use the technology for telemedicine services. It allows our medical specialists to be available to rural providers and patients in a videoconference setting, saving patients and families travel expenses and time away from work. Risk of travel is also a consideration, especially in our part of the country during the winter months.

While CME programs, trainings, meetings and telemedicine are all a part of the offerings of Avera St. Luke's Telehealth Services, the area we are most proud of and the area of service that separates our project from many others around the nation is our education and wellness programming. We offer classes in lowering your cholesterol, quitting smoking, eating right and even a support group for diabetics.. We also offer regular health forums, featuring physicians and other healthcare professionals presenting valuable healthcare information on a variety of subjects. And last December, we also made Santa Claus available over our videoconferencing network. We are proud of the wide diversity of our programming, which makes our project one of the true Telehealth projects in the country.

One thing we've learned about access to technology is when people are exposed to new and innovative technology, they learn to use it to benefit their way of life. We have certainly been a witness to that premise in healthcare.

We currently use ISDN service to deliver our programming at Avera St. Luke's. Many experts feel ISDN is an outdated technology that has served its purpose. We are very aware of that and are exploring new and more efficient ways to communicate. We are constantly looking for new equipment designs that will serve us better. Staying on top of developing technology is nearly impossible, but in our field of Telehealth, it's essential to our survival to cut costs in order to keep our now coveted Telehealth services in place.

We feel the availability of advanced and affordable networks and infrastructure are critical to the survival of projects like ours, and I believe just as critical to the survival of rural America. Thank you.

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TESTIMONY OF MARVIN IMUS

VICE PRESIDENT, PAW PAW SHOPPING CENTER

PAW PAW, MI

ON BEHALF OF THE FOOD MARKETING INSTITUTE

BEFORE THE SUBCOMMITTEES ON

RURAL ENTERPRISE AND TECHNOLOGY POLICY AND

REGULATORY REFORM AND OVERSIGHT

OF THE HOUSE SMALL BUSINESS COMMITTEE

THURSDAY, MAY 17, 2001

Chairman Thune, Chairman Pence and Members of the Subcommittees:

Good afternoon. My name is Marvin Imus. I am the Vice President of Paw Paw Shopping Center, a family-owned supermarket in Paw Paw, MI. I also serve on the Food Marketing Institute's (FMI) Independent Operators Committee.

I want to thank you for the opportunity to testify not only on behalf of my business, but on behalf of all independent operators of retail food stores represented by FMI. We appreciate the work this Committee is doing to try to ensure access to broadband technologies in rural areas.

I would like to take a moment to tell you about my business and my community. Paw Paw Shopping Center was started in 1947 by my father as a hometown, community neighborhood store. Paw Paw is a town of 4,000 in southwest Michigan. Our store is currently 41,000 square feet offering 30,000 products in store and a historical database of 75,000 products. We have created a database of every item sold to every customer since 1995. We use this information to put items on the shelf based on customer preferences, not just what the manufacturer wants to move. This is the most important asset of our company, and it has required a significant investment in technology. It will never be possible to build a store big enough to house all of the products available. Our historical database of transactions helps us to "mine" the data to find the items important to our customers and then base our offers on what they want. With this technology and information, we are starting to work toward target marketing and true one to one communication. Both rely, however, on a broadband backbone in order to proceed.

We have a website, www.pawpawshop.com, which offers our weekly specials, wine ordering, gift baskets, weekly recipes and meal solutions as well as household tips and consumer alerts. We also have a weekly newsletter that we e-mail to customers who request it. Approximately, 10 percent of our customers visit the web site. We see the Internet as being **the** facilitator of commerce for the future and potentially for providing a competitive advantage for small businesses like ours.

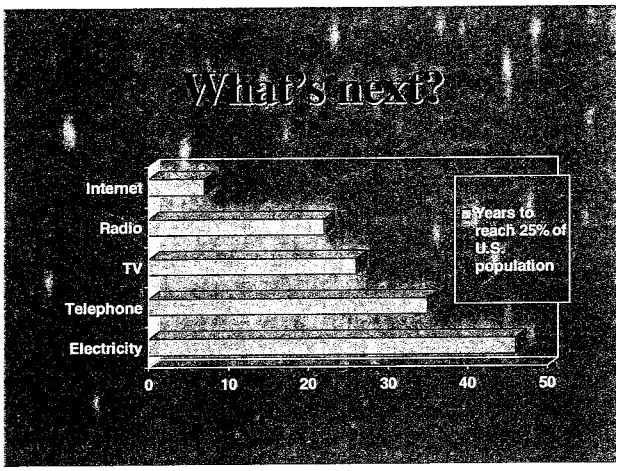
Broadband access is important for both small businesses and consumers in rural America. Broadband access is not currently available in Paw Paw. If it were available, we would use it to enhance our business.

Currently, we utilize a frame relay connection for our Internet usage. It is better than a dial up 56k modem as it is always on, however it is not that much faster than a dial-up modem. Broadband would allow multi-task and multi-station access with one line. Many people have 56k modems to increase the speed of their home computers. In actuality, you rarely get the advertised 56k speed. Usually, you are lucky to get 28k speed due to old equipment and old phone lines. The modem must adjust and slow down due to the line quality. Currently, information coming from customers is much too slow. We offer on-line shopping now, but find it is not being used because it is too slow. Broadband access could dramatically increase the speed by which information is delivered between my site and my customer's computer dramatically increasing my Internet shoppers and future Internet capabilities.

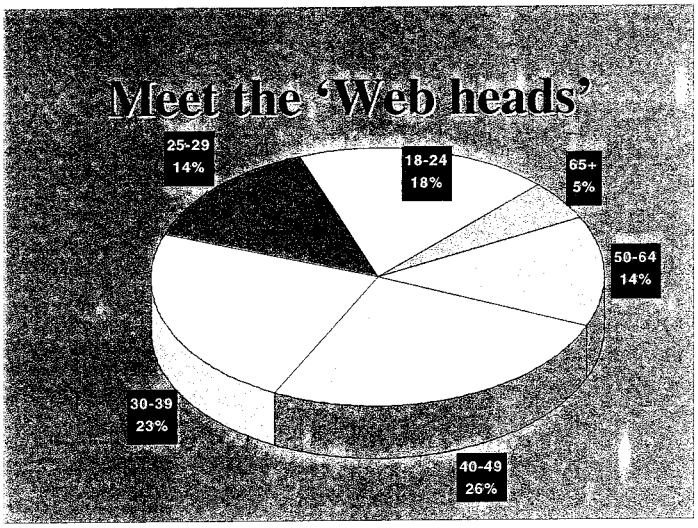
I have an analogy I like to use describing the importance of broadband access. Imagine you are standing on the ground floor of a building and need to get to the third floor. There is an escalator. If the escalator is like a 56k modem, it is one person wide. You could ride it to the second floor but you would have to get off while the escalator reverses to take people or information, down. After it reversed again, you could get back on and take it to the next level,

stopping and starting and waiting until you reached your destination. You can imagine the frustration of my customers who would like to shop on-line. With broadband, you not only get speed, but volume too. Using our example, on the ground floor, there would be an UP and a DOWN escalator and they could hold 3 or more people on each step. Also there may be an express elevator that moves extremely fast. While the 56k escalator gets you where you want to go eventually, the time involved is too great. Additionally, broadband provides TV-like quality audio and visual that consumers expect and demand. Until I can get to that point, my penetration of consumers will remain small and will not attain the critical mass needed for effective marketing.

Included in my testimony is a chart highlighting the number of years it has taken for major technologies that we depend on each day to reach mass market. Electricity took over 40 years, telephones over 30, while Internet access has reached over 25% of the population in less than 10 years. Imagine where this technology can be in 10 more years. The potential is tremendous, but without broadband access, small businesses like mine may fall behind.

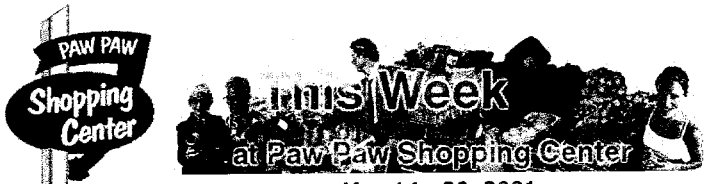


Already, Internet usage is distributed widely among age categories, with 19% of "web heads" in the 50+ age group. Fifty percent of users fall into the 30-something and 40-something groups with the remaining 31% in the 18-29 age group.



We have invested significantly in technology to improve efficiency and customer service. It is expensive and sometimes frustrating to try to stay up to date technologically with my competitors. As a small business, I have to wait for a local phone company or perhaps a cable company to offer broadband access. My competition may be able to install a satellite when they need to enhance communications, something I simply cannot afford.

Certainly, the work of this Committee in conjunction with the Commerce Committee, is important to ensuring that broadband access is available in the near future to businesses and customers in rural areas at a reasonable cost. I understand that this is no easy charge, but I for one believe that the competitiveness of my business depends on it. Thank you for the opportunity to testify and I would be pleased to answer any questions you may have.



May 14 - 20, 2001

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Lemons, Oranges, Grapefruits and such . . . .

Spring has sprung and the desire for refreshing, tangy flavor can be achieved with citrus. Even the most ordinary vegetables, salads, dips and dishes can be transformed into a spectacular taste sensation by adding orange, lemon, lime or grapefruit juice to a recipe. In some cases, citrus juice can be used to replace a less flavorful liquid such as water.

Citrus zest also adds flavor and color to recipes. The trick to using citrus zest is not removing peel past the colored area. The white layer underneath the colored outer peel tastes bitter. You can use a citrus-zesting gadget that removes the entire colored part of the rind in several tiny slivers in one pass. If you don't have this gadget, use a sharp swivel peeler to cut off the outer layer of peel in thin sheets, then sliver on a cutting board.

Nutritional Value

Besides tasting delicious, citrus fruit which contains essential vitamins and minerals, play an important part of a healthy diet for all men, women and children. Hundreds of studies have been conducted on nutrients and their role in reducing the risk of such diseases as cancer and heart disease.

While most people know that eating the right foods in the proper amounts is essential for good health, a

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growing body of evidence suggests that certain foods containing vitamin C, fiber, folate and other vitamins and minerals may be especially beneficial to maintaining personal wellness.

This week's *Make Mealtime Easy* feature **Add Zest with Citrus** brings tangy taste to a variety of foods.

Wines - Our Advanced Wine Search feature allows you to search and sort through a large selection of over 1000 wines and champagnes online which can be delivered to your favorite grocer - the Paw Paw Shopping Center for pickup on your next shopping trip!

Household Tips - Find useful tips in one of four categories - Household, Kitchen, Cleaning and Remedies. A search and browse feature is available to type in a key word or browse through the listed tips. New tips will be added every week.

We want your favorite household tips! **Click here and enter!** You could **win a $5.00 gift certificate** in our weekly random drawing.

New

New Recipe
citrus!
Orange Lem
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Orange Coff
Lemon Ran
Herb Grillin
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Lemon Chic
Toss
Lemon Hert
Chicken
Fish Steaks
Orange Bee
Mexican Tor
Casserole

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Hours: Monday thru Saturday 7 a.m. to 9 p.m., Sunday 8 a.m. to 8 p.m.

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Lemon Ranch Dip Dinner

Category: Appetizers & Snacks - Dips

Ingredients:

1/2 cup	**mayonnaise**	**Save!**
1/2 cup	ranch salad dressing	
1/2 teaspoon	freshly grated lemon rind	
1-2 teaspoons	fresh lemon juice	
	Fennel tops, snipped	
2 teaspoons	capers, drained	
	Dippers:	
	smoked turkey cubes, boiled shrimp, French bread, fennel bulb, carrots	
	fresh asparagus, sugar snap or snow peas, radishes	

Save today, with ingredients featured in our Weekly Ad!
Weekly Ad ingredients have the **Save** link. Click to view the savings!

Mix the mayonnaise with ranch dressing, grated rind and lemon juice (reduced-fat products may be used if desired). Snip the feathery tops of fresh fennel, which have the flavor of anise or tarragon, into the dip and fold in lots of little capers, well-drained, or cut large capers in half. Turn dip into individual dipping containers or into hollowed cucumber chunks or small bell pepper cups. Let dip stand for flavors to blend while preparing the eat-by-hand supper ingredients: Smoked turkey cubes or turkey ham and boiled shrimp, peeled, can be speared on frilled picks or small skewers. Cut French bread into cubes or make thin, toasted slices. Slice the fennel bulb into strips after taking layers apart. Cut a large carrot, scraped, into coins on the diagonal and boil in salted water until crisp-tender. Scoop out with a slotted spoon and drain well. Add snow peas to boiling carrot water and cook pea pods about 45 seconds to brighten green color; drain well. Meanwhile, snap off, then peel the lower part of asparagus spears and cook or microwave spears until crisp-tender, plunging into cold water to stop cooking. Drain well. Trim radishes and halve. To serve, arrange seafood, meat, vegetables and French bread around individual containers of lemon ranch dip.

Testimony of the
American Telemedicine Association

Before the House Committee on Small Business
Subcommittee on Regulatory Reform and Oversight and the Subcommittee on Rural Enterprises, Agriculture and Technology

Economic Development in Rural America – Small Business Access to Broadband

Provided by Jonathan D. Linkous, Executive Director

May 17, 2001
Washington, DC

Mr. Chairman:

My name is Jonathan D. Linkous. I am the executive director of the American Telemedicine Association and provide these remarks today on behalf of the Association. We are grateful for the opportunity to speak briefly to you about the importance of broadband networks for rural America.

ATA is a non-profit membership-based organization, which promotes telemedicine and works to resolve barriers to its deployment. Members of ATA include representatives of an important part of small business in rural America – health care clinics, physician's offices and small hospitals.

Telemedicine represents a marriage of advanced telecommunications technology and new approaches to improving medical and health care. Be it through online consultations between rural clinics and specialists at major medical centers,

telehomecare for homebound frail patients, or access to comprehensive databases of health and medical information for consumers over the Internet, telemedicine holds the promise of using telecommunications to improve the lives of all Americans.

Telemedicine encompasses a multimillion-dollar industry with rapid growth predicted over the next five years in many parts of health care. However, the promise of telemedicine will go unfulfilled for rural America without access to high speed, affordable telecommunications. The deployment of telemedical links to rural medical centers requires communications networks that are affordable, reliable and capable of handling large amounts of data in a short time.

ATA has long advocated for federal support in deploying broadband networks throughout rural America as a component of health care reform. In March 1994 ATA testified before Congress about the need for rural access to high-speed telecommunications infrastructure saying:

> "Installation of telemedicine equipment serving rural communities would be fruitless without adequate transmission lines and facilities to carry the quality of video and speed of transmission required for many medical consultations. A principal goal of health care reform is providing greater access to health care for all Americans. Without an adequate communications infrastructure, rural America will lose the opportunities it now holds for using telemedicine to increase access to medical care."

When I worked for the Appalachian Regional Commission ten years ago, we recognized the importance of opening up isolated rural communities through the construction of a networked highway system through the Appalachian Mountains. The highways of today are located on the telecommunications infrastructure that opens up the isolation of rural America to the opportunities for education, commerce and health care.

For rural hospitals, medical clinics and other health-related small businesses, access to broadband networks means being able to treat patients through a local health facility rather than losing patients and revenues to distant communities. It means improved health care for rural residents. It means being able to keep local clinics open. It means reducing public and employer costs for health care. Finally, it means hope for small, rural towns and villages struggling to survive and grow.

I would like to share two examples of how access to broadband technologies can make a substantial difference in providing patient care:

> Teleradiology allows medical clinics in a rural area to gain access to the services of qualified radiologists. An X-ray or other radiological image is transmitted to the radiologist for an assessment. For almost all radiology services there are several images to be viewed of the area in question taken from two or more angles. Two mid sized medical images sent at the quality needed for rendering

a medical opinion can easily consist of 5 megs of data. If transmitted over plain old telephone lines with a normal 56 K modem this could take almost two hours to transmit. If there are glitches in the line affecting the initial transmission, it could require double that amount of time. For most emergency situations, that amount of time to wait is unacceptable. For other situations that amount of time is, at best, inefficient.

Transmission of live video images of a quality that allows for an actual medical diagnosis of a patient's condition requires broadband technology. Live video is required for such applications as mental health consults, assisted surgery, emergency medicine and even some pathology examinations. The standard frame rate for high quality video (like seen on television) is 30 frames per second although lesser quality may be employed with the use of image compression. Transmission of video typically requires bandwidth speeds of anywhere from 128 kps to 1.5 mbs. For most telemedicine services this requires more than just plain old telephone service. Rural areas of the country without such bandwidth will continue to lack access to many types of telemedical services. The alternative is either travel by the patient and the patient's family to a distant location or simply doing without health care. Unfortunately, national health statistics show that all too often patients in remote areas without adequate healthcare do not ever get the care they need in order to remain healthy, productive citizens.

Despite the recent growth of alternate bandwidth choices such as wireless (cellular, satellite) as well as terrestrial (cable, DSL) rural communities are still limited in the availability of high-speed communications and where available, have problems with reliability and cost.

Other countries, notably Canada and several Scandinavian countries have established specific national goals toward universal deployment of high speed telecommunications throughout the country. Congress should consider creating a national public-private commission to establish similar goals incorporating appropriate incentives and programs that will accelerate the availability of broadband telecommunications to every business and eventually every home in rural America.

There is a small but important program authorized through the Federal Communications Commission that assists rural health providers to obtain access to broadband services. Congress established the program under the Telecommunications Reform Act of 1996 to provide improved broadband access by rural health centers. Although well intentioned, this program has fallen far short of its potential and ATA has been critical of its implementation. However, recent improvements by the FCC in the program create hope that the program can still be a major benefit to rural America. Indeed, money for grantees is finally flowing and the potential impact of the program on rural health is growing. ATA encourages Congress to continue this relatively small yet very significant program.

Finally, I want to thank Representative Thune for your strong support for telemedicine and your leadership last year in getting important legislation passed that expands Medicare reimbursement for telemedicine in rural areas.

Thank you. I will be happy to answer any questions you may have.

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Testimony of

Nancy Stark

Director of Community and Economic Development

National Center for Small Communities

before the

Subcommittees on

Regulatory Reform Oversight

and

Rural Enterprise and Technology Policy

House Small Business Committee

Hearing on Economic Development in Rural America – Small Business Access to Broadband

May 17, 2001

Chairman Pence and Chairman Thune, members of the subcommittees, thank you for the opportunity to testify before you today. I am Nancy Stark, Director of Community and Economic Development at the National Center for Small Communities (NCSC), here in Washington DC. For the past 24 years, I have directed research, designed and conducted training programs, written guidebooks and provided technical assistance to small town leaders and rural development practitioners, especially on the topics of economic development and (most recently) technology. It is a pleasure to share the NCSC's insights on the impact of broadband telecommunications services on small businesses in rural America, and its importance in maintaining the economic health of rural communities.

The National Center for Small Communities (NCSC) is the only national, non-profit research and technical assistance organization devoted exclusively to serving the public servants of America's small and rural communities. The Center accomplishes this mission by providing small town leaders with tools to govern effectively, and by developing skills to expand local economies, protect natural resources and preserve community character.

The NCSC was founded in 1984 as the educational arm of the National Association of Towns and Townships (NATaT). Incorporated as a separate non-profit organization in December 1996, the National Center develops and distributes educational and training program materials in such critical areas as local government management, community and economic development, funding and fundraising, environmental issues and telecom-

munications. Guidebooks and other materials are particularly geared to rural and small communities with limited staffing and financial resources.

On the topic of rural telecommunications, the NCSC has directed three recent initiatives. In September 1999, the National Center published ***Getting Online: a guide to the Internet for small town leaders***. Initially developed with funding from the USDA Fund for Rural America, the guidebook went into its third printing (thanks to private sector support) and distributed more than 40,000 copies to small community leaders across the country.

Also in 1999, NCSC partnered with the AOL Foundation (now the AOL Time Warner Foundation) to launch the **AOL Rural Telecommunications Leadership Awards**. The Awards recognized and promoted outstanding achievement in rural community development, resulting from the deployment and use of advanced telecommunications. All applications demonstrated how enhancing rural telecommunications had invigorated the community or region in demonstrable ways. The National Center managed the Awards program for two years and distributed $100,000 to successful applicants.

In October 2000, the NCSC commenced a year-long research project to identify and explore effective **Technology-Led Economic Development Strategies** for distressed rural communities, with funding from the U.S. Department of Commerce, Economic Development Administration (EDA). Through in-depth case study research, NCSC will produce two useful and accessible research products for economic development practitio-

ners: (1) a *Best Practices* print publication that identifies and describes the most effective technology-led economic development strategies for distressed rural communities; and (2) a collection of 14 in-depth case studies on technology-led economic development drawn from distressed rural regions. Both products will be accessible on the NCSC Web site by October 2001.

America is a nation of very small communities. **The latest Census of Governments reports that of the 36,001 sub-county local governments, approximately 90 percent have fewer than 10,000 residents**; 82 percent have fewer than 5,000 residents; and, 51 percent have fewer than 1,000 residents. These are the small communities that, in large part, remain on the wrong side of the digital divide, with significant consequences for business development and economic vitality.

Much has been reported about an apparent narrowing of the urban-rural digital divide. According to the U.S. Department of Commerce, nationwide, the gap between rural households and others that access the Internet has narrowed from 4 percentage points in 1998 to 2.6 percentage points in 2000. The *Falling Through the Net: Towards Digital Inclusion* October 2000 report also showed that 38.9 percent of households now have Internet access, a 75 percent gain from 22.2 percent in December 1998.

However, these statistics mask the real urban-rural digital divide. **More and more rural households and businesses have Internet access, but few have high-speed, broadband telecommunications services.** While nearly all rural users can now ramp

onto the Information Superhighway via a local dial-up connection (versus paying long-distance charges to simply connect to the Internet), the deployment of high-speed services has been slow and limited.

As explained in *Advanced Telecommunications in Rural America*, an April 2000 joint U.S. Department of Commerce and U.S. Department of Agriculture report, rural America's Internet service providers rely, primarily, upon local telephone carriers to transmit data, with a resulting connectivity speed limit of about 33 Kbps. **Less than one percent of residents in communities with fewer than 10,000 residents have access to DSL**, while this number explodes to 86 percent for cities with populations above 100,000. The same is true for high-speed cable modem access. **Approximately one percent of residents in communities of 10,000 population has access to cable modem service,** compared to 72 percent of residents in cities above 250,000 population. Additionally, on top of the slow connectivity problem, many rural dial-up customers experience busy signals due to crowded phone lines.

Without state-of-the-art telecommunications, rural businesses are at a severe disadvantage. Today, nearly all businesses have some connection to the Internet. Small- and mid-sized enterprises are being forced to migrate their businesses to the Internet by the bigger companies they are affiliated with. In this symbiotic relationship, most small businesses are either suppliers to, or distributors of, bigger businesses. **Businesses need high-speed, broadband services to download files, submit or receive orders, view graphics, access databases, etc.** Even if they don't maintain a Web site to sell goods

and services directly to consumers (although many do), they must still maintain electronic communications with their affiliated companies.

Without state-of-the-art telecommunications, businesses are less productive. **Consider the time it takes to download a 10-megabyte file using dial-up versus high-speed Internet access.** Using a common 28.8 Kbps dial-up modem, it would take 46 minutes to download the file, or 1.5 hours using a slower, 14.4 Kbps modem. In contrast, the same 10-megabyte file could be downloaded in 20 seconds using a 4Mbps cable modem or in 10 seconds using an 8Mbps DSL connection. Rural businesses that transmit or receive large files, especially graphics, x-rays and audio files, require high-speed connections.

There are signs that the deployment of broadband telecommunications services to rural America is increasing. Several of the small communities participating in NCSC's research project on Technology-Led Economic Development are benefiting from high-speed communications, primarily DSL. Examples include Abingdon, VA; Klamath County, OR; Colville, WA; and, Watford City, ND. **Our observation is that, despite demand from the local residential and business market, it is chiefly the small, local telephone companies or cooperatives that are providing DSL (and, rarely, cable) services to small communities, not the larger companies.**

Sometimes, high-speed telecommunications services result from a partnership between the local telephone company or cooperative and a rural electric cooperative. As

reported in May 2001 magazine of the National Rural Electric Cooperative Association (NRECA), Willmar, MN is now served by a cooperative-run telecommunications venture called En-Tel. The venture includes a power company, a rural electric coop, three independent telephone companies and a municipal utility. En-Tel is building redundancy – creating a loop that will keep Willmar in business even if a fiber optic cable is cut or there's a failure outside the city – and overbuilding, meaning laying cable to nearly every home and business without any guarantee that they will purchase the service. Redundancy and overbuilding are critical elements of successful telecommunications services, but are rare in small, rural communities.

There is much disagreement in Washington about if and how the Federal government should stimulate broadband deployment in rural areas. **Our observation is that the market forces in many small, especially remote communities may not be sufficient to inspire the development of high-speed services, and that Congress may need to consider market-based incentives to spur deployment.**

As small, rural communities struggle to create, retain and expand local jobs and income generation, broadband deployment will become increasingly vital. The following is a partial list of technology-led economic development strategies that are far more effective if high-speed telecommunications services are available:

- Business and technology incubator (shared space and services for business start-ups)

- Interactive community Web site (to promote business attraction or tourism development)
- Internet Masters Program (train-the-trainers introduction to the Internet)
- Community Technology Center (public access for community residents)
- Tech Training (info tech or scientific training to enhance local labor skills)
- Youth cyberguides (young people assisting local businesses with e-commerce)

Because of the critical influence of broadband telecommunications services on rural economic development, the National Center hopes that Congress will explore strategies for helping communities that remain on the other side of the digital divide.

Thank you again for this opportunity to testify and I will be happy to answer any questions you may have.

SCOTT McINNIS
3D DISTRICT, COLORADO

COMMITTEE ON WAYS AND MEANS

COMMITTEE ON RESOURCES

CHAIRMAN
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May 17, 2001

Congressman Mike Pence
Representative
Untied States House of Representatives
1605 Longworth
Washington, D.C. 20515

Dear Chairman Pence:

I want to recognize and applaud your efforts to address the impact of broadband services on small businesses – an issue that is very important to our constituents. Today's hearing in the Small Business Committee is an excellent step toward understanding and addressing the critical role that small business access to broadband services will play in maintaining the economic health of America's rural communities. Numerous bills have been introduced intended to stimulate deployment of broadband technologies, but all of these measures have failed to garner widespread support from the providers of these technologies because they failed to address both the supply side and the demand side of the broadband equation.

Two primary factors affect the decision of where to deploy network equipment: (1) the total cost of the equipment necessary to serve a targeted area; and (2) the estimated consumer demand for services in that area. In order to truly influence investment behavior, an appropriate *demand* incentive must be offered in conjunction with an appropriate *supply* incentive.

Attached is a summary of *The Broadband Deployment and Telework Incentive Act of 2001* that I intend to introduce shortly. It addresses both the supply and demand sides of the broadband deployment equation by:

- Allowing broadband service providers to take a **current year tax deduction** for investments in certain broadband telecommunications equipment. In order to be eligible for this incentive the equipment must meet certain criteria including being capable of providing broadband service to underserved rural and urban areas.

- Providing employers with an annual **employer telework tax credit**, and employers and employees with an annual **telework equipment tax credit**.

  - The **employer telework tax credit** is based on the number of employees that telework. An enhanced credit is available for each employee of a **small business** or for each employee who is covered under the **Americans with Disabilities Act of 1990** ["ADA"].

- The **telework equipment tax credit** is available to both employers and employees and is based on amounts paid annually for certain telework expenses including access to Internet and broadband technologies. An enhanced credit is available for each employee of a **small business** or for each employee who is covered under the **ADA.**

I believe that *The Broadband Deployment and Telework Incentive Act of 2001* will go a long way toward helping small businesses achieve their full potential and I look forward to working with you on this very important issue. I hope you will review the attached material in light of today's hearing.

Thank you for your time and consideration. Please have your staff contact Christopher Hatcher or Jon Hrobsky in my office at 5-4761 if you have any questions.

Sincerely,

Scott McInnis
Member of Congress

SM:co3

REP. MCINNIS -- BROADBAND DEPLOYMENT & TELEWORK INCENTIVE ACT OF 2001

Proposal to stimulate deployment of broadband technologies to certain targeted areas and to promote broad participation in telework arrangements.

INTRODUCTION

Numerous bills have been introduced over the past few years that were intended to either stimulate mass deployment of broadband technologies or to promote teleworking. The broadband bills typically provided for various tax credits or low interest loans as a financial incentive for companies to deploy broadband equipment. The telework bills typically provided for tax credits based on either the amount of employees who telework or on the cost of equipment that enables those employees to telework. However, each of these measures has consistently failed to garner widespread support from the business community because they did not recognize the natural interdependence of these two initiatives and consequently failed to address both the supply side and the demand side of the broadband equation.

THE SUPPLY SIDE: ECONOMICS OF BROADBAND DEPLOYMENT

The decision on where to deploy network equipment is based on two primary factors: (1) the total cost of the equipment necessary to serve a targeted area (typically expressed as "cost-per-subscriber"), and (2) the estimated consumer demand for services in that area (typically expressed as "revenue-per-subscriber"). Areas in which the sustainable excess of revenue-per-subscriber over cost-per-subscriber meets or exceeds a company's required return on asset/investment [ROA/I] are usually candidates for network deployment.

All prior incentive bills have only focused on the "supply" side of the deployment equation and have ignored the "demand" side. This fails to recognize the fact that an area without a deployment incentive (i.e., an area with a high cost-per-subscriber ratio) can be more desirable from an ROA/I perspective than an area with a generous deployment incentive if the former area has a favorable revenue-per-subscriber ratio.

As evidenced by the relatively low level of business community support for all prior broadband bills, it is clear that a *supply* incentive will only be effective if it is offered in conjunction with an appropriate *demand* incentive.

THE DEMAND SIDE: TELEWORK ARRANGEMENTS

According to numerous surveys, the primary obstacle to widespread participation in telework arrangements is the inability of employees to remotely access broadband technologies. Unfortunately, the demand for these technologies has not yet reached a level that would influence the supply. In order to remedy this situation, an appropriate *demand* incentive must also be offered to maximize the effectiveness of any *supply* incentive.

THE SOLUTION

The Broadband Deployment and Telework Incentive Act of 2001 [the "Act"] is unique in that it recognizes the natural interdependence between the supply of and demand for broadband services, and accordingly provides incentives to both providers and consumers of such services.

REP. MCINNIS -- BROADBAND DEPLOYMENT AND TELEWORK INCENTIVE ACT OF 2001
Bill to stimulate deployment of broadband technologies and to promote broad participation in telework arrangements.

SUMMARY OF THE ACT

Broadband Deployment Incentive

- Allows broadband service providers to take a **current year tax deduction** for investments in certain broadband telecommunications equipment. Broadband telecommunications equipment is equipment that is capable of transmitting signals to a subscriber at an attainable downstream rate of at least **1,000,000 bits per second** and transmitting signals from a subscriber at an attainable upstream rate of at least **128,000 bits per second**.

- In order to be eligible for the deduction, the broadband equipment must also:

  - (1) be located on or within a central switching office, cable hub, head end, or other similar network delivery point; (2) extend from the subscriber side of the point or points described in (1) to the subscriber's premises, or (3) be located on the outside of the subscriber's premises.

  - Be capable of providing broadband service to certain **rural and urban areas**.

- The ability to take a current year tax deduction is applicable to costs for broadband telecommunications equipment paid or incurred after **December 31, 2001** and before **January 1, 2007**.

Telework Incentive

- Employers are eligible for an annual **employer telework tax credit**, and employers and employees are eligible for an annual **telework equipment tax credit**.

  - The **employer telework tax credit** is based on the number of employees that telework and the frequency with which they telework. An employer is eligible for a maximum annual credit of **$500** for each employee who teleworks on a full-time basis, and a prorated amount is available for each employee who teleworks on a part-time basis. For each employee who is covered under the **Americans with Disabilities Act of 1990** ["ADA"] or for each employee of a **small business** (defined as a business with 50 or fewer employees) the maximum annual employer telework tax credit is **$1,000**.

  - The **telework equipment tax credit** is available to both employers and employees and equals **10%** of amounts paid annually for qualified telework expenses. For each employee who is covered under the **ADA** or for each employee of a **small business**, the credit rate is **20%**. Qualified telework expenses include amounts paid for such items as computers, fax machines, copiers, telecommunications equipment, and access to Internet or broadband technologies. In order to be eligible for the credit, however, all expenses must be necessary to facilitate teleworking as determined by the employer. In general, both employers and employees are **limited** to a maximum annual telework equipment tax credit of **$500** each per employee. For each employee who is covered under the **ADA** or for each employee of a small business, employers and employees are limited to a maximum annual telework tax credit of **$1,000** each.

REP. MCINNIS -- BROADBAND DEPLOYMENT AND TELEWORK INCENTIVE ACT OF 2001
Bill to stimulate deployment of broadband technologies and to promote broad participation in telework arrangements.

STATEMENTS IN SUPPORT OF THE ACT

Broadband Deployment Incentive

IT IS TIMELY.

Commercial activity is centered around points of origin, destinations, or links between points. Many early-American cities developed around shipping centers with access to oceans. Railroads furthered the economic expansion during the late eighteenth and early nineteenth centuries. The growth of the U.S. economy since World War II can be tied to the popularity of motor vehicles and the construction of highways and mass transportation systems.

Today's economy is no different except that it is largely centered around the ability to transport information through telecommunication networks. Just as centers of commerce historically sprang up around navigable rivers, natural harbors, railroad tracks and major roads, the commercial hubs of tomorrow will take root around pipelines that carry torrents of computer data. This incentive will stimulate investment in the telecommunications infrastructure that will define these new commercial hubs.

IT WILL ACCELERATE THE DEPLOYMENT OF BROADBAND EQUIPMENT.

Advances in technology will most likely continue to reduce the physical and financial boundaries that are currently impeding universal access to state-of-the-art communications services. Universal access may be a reality at some point in the future, but any further delay in achieving that reality means deferring the benefits of advanced communications services, and critical time lost for those who are already falling victim to the digital divide. By providing a strong incentive for the deployment and usage of broadband equipment, access to these services can become a reality sooner rather than later.

INVESTMENT STIMULATED BY THE ACT MAY INCREASE CERTAIN STATE AND LOCAL TAX BASES.

Not only will rural and urban areas reap the benefits of access to advanced communication services, but depending upon their tax laws, they may also experience an associated increase in property, income, sales, and other state & local tax revenues.

INVESTMENT STIMULATED BY THE ACT WILL ATTRACT ADDITIONAL COMMERCIAL INVESTMENT.

By stimulating investment in broadband technology, rural and urban areas will be better positioned to attract and retain businesses that rely on advanced communication services.

ACCESS TO ADVANCED COMMUNICATION SERVICES IS A QUALITY OF LIFE ISSUE.

Advanced communication services provide a greater benefit than just being able to trade stocks and order books via the Internet. For example, just as basic telephone service enabled people to call for medical help in an emergency, advanced services can greatly improve medical treatment, allowing the finest medical specialists to serve even the most remote health care facilities.

IT IS BENEFICIAL TO ALL PARTIES IN THE SUPPLY CHAIN.

End users (both residential and business) are the ultimate beneficiaries of this incentive since it will result in them having access to advanced communication services. Service providers benefit since it affords a financial stimulus to break into under-served markets, and manufactures and retailers of broadband equipment (e.g., Corning, Lucent Technologies, Cisco Systems) benefit because it creates a greater demand for their products.

REP. MCINNIS -- BROADBAND DEPLOYMENT AND TELEWORK INCENTIVE ACT OF 2001
Bill to stimulate deployment of broadband technologies and to promote broad participation in telework arrangements.

Telework Incentive

IT IS TIMELY.

The U.S labor market has become very suitable for a telework initiative. Today, 60% of the workforce is involved in information work, which is an increase of 43% since 1990. It is also estimated that 40% of this work is compatible to some level of telework. As these trends will undoubtedly continue, it is imperative to develop the telecommunications infrastructure today that will support the workforce of tomorrow.

IT GIVES ALL AMERICAN WORKERS THE OPPORTUNITY TO INCREASE THEIR QUALITY OF LIFE.

By teleworking, the average American will recover 2 hours per day previously spent commuting. In addition to spending more time with family, the average American's day care and automobile costs will be lowered.

IT BENEFITS THE EMPLOYER THROUGH INCREASED PRODUCTIVITY.

On average, studies have shown that teleworking reduces absenteeism costs by 63% and increases productivity by 15%-20%. Absenteeism is down because flexible telework arrangements enable employees to more effectively manage work time, and productivity is up because less time is spent commuting and more quality time is spent working.

IT PROVIDES SPECIAL INCENTIVES FOR SMALL BUSINESSES.

According to the Small Business Administration, small businesses: represent more than 99% of all employers; employ 52% of private-sector workers, 51% of workers on public assistance, and 38% of workers in high-tech occupations; represent nearly all of the self-employed, which are 7.2% of the civilian work force; provide about 75% of the net new jobs; provide 51% of the private sector output; represent 96% of all exporters of goods; obtain 28% of federal prime and subcontract dollars; and are 53% home-based and 3% franchised operations. In order to support these businesses, which truly are the backbone of the American economy, the Act provides generous incentives for them to access broadband technologies and promote teleworking.

IT COMPLIMENTS PRESIDENT BUSH'S DESIRE TO INTEGRATE AMERICANS WITH DISABILITIES INTO THE WORKFORCE.

The President's list of priorities included several provisions aimed at integrating Americans with disabilities into the workforce by using telework strategies. Specifically, the President wants to "....provide Americans with disabilities incentives to purchase teleworking tools, encourage companies to contribute to these items, and ensure that federal regulations promote, rather than impede, the growth of telework." The Act specifically addresses these priorities.

URGENT ACTION IS REQUIRED TO BEGIN REDUCING THE CAUSES OF TRAFFIC CONGESTION AND IT'S SUBSEQUENT ENVIRONMENTAL POLLUTION.

Federal, state, and local governments spend billions of dollars annually on the Nation's transportation needs and environmental pollution cleanup. Congestion costs are estimated to be $74,000,000,000 annually in lost work time, fuel consumption, and infrastructure repair. The average American daily commute has ballooned to 62 minutes for a 44-mile trip. In terms of pollution, on-road vehicles contribute 30% of all poisonous nitrogen oxides emissions. These costs show no signs of decline.

REP. MCINNIS -- BROADBAND DEPLOYMENT AND TELEWORK INCENTIVE ACT OF 2001
Bill to stimulate deployment of broadband technologies and to promote broad participation in telework arrangements.

Telework arrangements provide a viable solution to these problems. The DOT projects that by 2010, benefits from robust participation in teleworking arrangements will include savings of: 208 million hours of workforce time; $19.9 billion in avoided highway construction costs; and 61,400 metric tons of NOX emissions per year.

The Act provides critical incentives to help remedy these infrastructure and environmental costs.

IT COMPLIMENTS PRESIDENT BUSH'S DESIRE TO REDUCE AMERICA'S DEPENDENCE ON FOREIGN OIL.

The President's list of priorities included several provisions aimed at reducing America's dependence on foreign oil. From 1992 to 2000, this dependence rose 56%.

Telework promotes energy conservation, which in turn reduces America's dependence on foreign oil. If 10% to 20% of all commuters switched to teleworking, it is estimated that 3.5 billion gallons of gas per year would be saved.

IT IS CONSISTENT WITH THE CLEAN AIR ACT AMENDMENTS.

The Clean Air Act mandates measures "....to require employers in high-pollution areas to reduce single-occupant automobile trips by their employees during peak hours". In fact, if 15% of workers in New York City teleworked 3.7 days per month, there would be 95,000 fewer vehicles on the road per day. Therefore, the Act will help implement the provisions of the Clean Air Act.

IT IS BENEFICIAL TO ALL PARTIES IN THE SUPPLY CHAIN.

An increase in telework participation will result in an economic boost to telecommunication network and service providers, computer hardware and software companies, and office equipment and supply companies.

IT IS CONSISTENT WITH OTHER INVESTMENT INCENTIVES THAT ARE IN THE FORM OF TAX CREDITS.

The concept of tax incentives can be traced back to various Income Tax Acts of the late 1800s and Revenue Acts of the early 1920s. However, with the Revenue Act of 1962 and the addition of the investment credit to the Code, Congress enacted the first of many incentives designed to encourage specific economic behavior. These incentives were designed to stimulate investment in rehabilitation, energy, and reforestation endeavors, employment of targeted individuals, production of alcohol fuels, certain research, investment in low-income housing, and several other types of expenditures. As a behavior modification tool, these incentives also provide insight into the economic, social, and political issues that Congress needed to address at the time. In light of the ongoing global technological revolution, there is no better time, or greater need, to stimulate investment in our nation's communications infrastructure and to implement programs to accommodate tomorrow's work force.

REP. MCINNIS -- BROADBAND DEPLOYMENT AND TELEWORK INCENTIVE ACT OF 2001
Bill to stimulate deployment of broadband technologies and to promote broad participation in telework arrangements.

SECTION – BY – SECTION DESCRIPTION

SECTION 1. SHORT TITLE

This act is cited as the "Broadband Deployment and Telework Incentive Act of 2001".

SECTION 2. FINDINGS AND PURPOSE

Findings. The findings describe the proliferation of Internet use and the growing disparity between the availability of broadband services in certain rural and urban areas compared to other areas. The findings also cite the benefits of teleworking to the environment, transportation infrastructure, energy consumption, employee quality of life and employer productivity.

Purpose. The purpose of the Act is to accelerate deployment of broadband access to the Internet for those Americans located in certain rural and urban areas and to promote employer and employee participation in telework arrangements.

SECTION 3. DEDUCTION FOR CERTAIN DEPRECIABLE BUSINESS ASSETS

- Enables broadband service providers to take a **current year tax deduction** for investments in certain broadband telecommunications equipment. "Broadband telecommunications equipment" is equipment that is capable of transmitting signals to a subscriber at an attainable downstream rate of at least **1,000,000 bits per second** and transmitting signals from a subscriber at an attainable upstream rate of at least **128,000 bits per second**.

- In order to be eligible for the deduction, the broadband equipment must also:

  - (1) be located on or within a central switching office, cable hub, head end, or other similar network delivery point; (2) extend from the subscriber side of the point or points described in (1) to the subscriber's premises; or (3) be located on the outside of the subscriber's premises.

  - Be capable of providing broadband service to certain **rural and urban areas**.

- The ability to take a current year tax deduction is applicable to costs for broadband telecommunications equipment paid or incurred after **December 31, 2001** and before **January 1, 2007**.

SECTION 4. CREDIT FOR TELEWORKING

- Provides that employers are eligible for an annual **employer telework tax credit**, and employers and employees are eligible for an annual **telework equipment tax credit**.

  - The **employer telework tax credit** is based on the number of employees that telework and the frequency with which they telework. An employer is eligible for a maximum annual credit of **$500** for each employee who teleworks on a full-time basis, and a prorated amount is available for each employee who teleworks on a part-time basis. For each employee who is covered under the **Americans with Disabilities Act of 1990** ["ADA"] or for each employee of a **small business** (defined as a business with 100 or fewer employees) the maximum annual employer telework tax credit is **$1,000**.

  - The **telework equipment tax credit** is available to both employers and employees and equals **10%** of amounts paid annually for qualified telework expenses. For each employee who is covered under the **ADA** or for each employee of a **small business**, the credit rate is **20%**. Qualified telework expenses include amounts paid for such items as computers, fax machines, copiers, telecommunications equipment, and access to Internet or broadband technologies. In order to be eligible for the credit, however, all expenses must be necessary to facilitate teleworking as determined by the employer. In general, both employers and employees are **limited** to a maximum annual telework equipment tax credit of **$500** each per employee. For each employee who is covered under the **ADA** or for each employee of a **small business**, employers and employees are limited to a maximum annual telework tax credit of **$1,000** each.

MIKE PENCE, INDIANA
CHAIRMAN

ROBERT BRADY, PENNSYLVANIA
RANKING MINORITY MEMBER

Congress of the United States
House of Representatives
107th Congress
Committee on Small Business
Subcommittee on Regulatory Reform
and Oversight
2361 Rayburn House Office Building
Washington, DC 20515-6315

Statement of Mike Pence
Chairman
Subcommittee on Regulatory Reform and Oversight
Committee on Small Business
United States House of Representatives
Washington, DC
May 24, 2001

Our hearing held jointly with my good friend from South Dakota's Subcommittee on Rural Enterprises, Agriculture and Technology addresses the rise of the new economy and the technology needed to ensure that rural areas can share in the global business opportunities that arise from the continuing penetration of the Internet. This is the third in a series of hearings that the Subcommittee on Regulatory Reform and Oversight has held on the Internet-based economy. Last week's hearing focused on the so-called digital divide: the lack of high-speed or broadband access to the Internet currently plaguing rural small businesses. Today's hearing examines the various technologies for eliminating the digital divide: be it cable, satellite, DSL, fiber optic, or wireless. The businesses testifying today have decided that it makes good business sense to provide broadband to rural areas and I look forward to a very informative session. I would like to thank the gentleman from South Dakota, Chairman Thune, for agreeing to co-chair these very timely and important hearings.

The evidence is pretty clear -- a digital divide exists in this country. While urban areas get broadband access, rural areas are being left behind. As the Federal Communications Commission noted in its August, 2000 report on deployment of broadband services "Consumers in Los Angeles County have a rich variety of choices of advanced services, while there are no providers of advanced services for residents of rural Wilsondale [West Virginia]." Given the benefits of broadband service and the importance it can play in maintaining the vitality of America's rural communities that disparity must change.

Inroads are being made to reduce this disparity as the witnesses at today's hearing will demonstrate. More investment will be required as the National Exchange Carrier Association estimates that it may cost nearly $11 billion to make telephone lines in rural America broadband capable. My primary concern is that the investment will not occur quickly enough to stimulate the economies in rural America.

The only favorite I seek to play in the debate over broadband is to ensure that businesses in rural America have the same access to advance telecommunication services that are available to businesses in Los Angeles, New York, and Washington, DC. I have no preference concerning technology or providers. All I am interested in is making sure that the government gets out of the way or otherwise adopts policies that ensure all businesses interested in serving rural America have that opportunity. I look forward to the testimony from the witnesses and the problems that they see in delivering broadband to rural America.

The businesses at today's represent the entire spectrum of technologies for delivering broadband access. We will hear from a company that provides satellite service, a cable operator focusing on serving rural America, two competitive local exchange carriers that started to serve rural America after the enactment of the Telecommunications Act of 1996, and a very small telephone cooperative that serves rural South Dakota. Conspicuously absent are the largest incumbent telephone companies serving rural Indiana, South Dakota, and rural New Mexico. Invitations were extended so the Joint Subcommittee members could inquire about their plans for broadband deployment in rural areas. The invitations were turned down due to the press of business. I might note that a number of the small businesses represented here today were able to attend even though they clearly do not have the resources of the companies that did not wish to attend. I know that I am disappointed at not being able to create a full and complete record on the potential providers of broadband service for rural America and the problems they face in eliminating the digital divide.

Again let me thank the gentleman from South Dakota for agreeing to co-chair this hearing. I look forward to working with him and other members interested in addressing the critical need for telecommunications infrastructure in rural America.

JOHN THUNE, SOUTH DAKOTA
CHAIRMAN

TOM UDALL, NEW MEXICO
RANKING MINORITY MEMBER

Congress of the United States
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Opening Statement

Chairman John R. Thune

Subcommittee on Rural Enterprises,
Agriculture and Technology
House Committee on Small Business
May 24, 2001

Good afternoon. It is a pleasure to welcome you to this joint hearing between the Subcommittee on Rural Enterprises, Agriculture and Technology and the Subcommittee on Regulatory Reform and Oversight, chaired by my colleague from Indiana, Mike Pence. I would especially like to thank those of you that have traveled over a long distance to participate in this hearing.

Today's hearing is the second of two hearings focusing on the issue of broadband telecommunications access in rural America. This morning, we plan to examine how we can connect rural America to ensure it is not left out of the Internet revolution.

Here to discuss this challenge with us today are 5 witnesses representing a broad array of telecommunications companies. The committees will hear from Sully Buttes Telephone Cooperative from my home state of South Dakota; New Edge Networks; Armstrong Cable Company; Western Wireless Corporation; and Hughes Network Systems.

These companies range in size from large corporations to small local businesses, and utilize very different technologies, but they all have one goal in mind - to provide broadband access to rural America.

We heard at last week's hearing that one of the biggest obstacles to rural broadband access is affordability. Because of the sheer cost of new technology and the associated access costs, the vast majority of small business owners find

themselves unable to obtain services that other parts of the country take for granted.

So we are faced with the question of how to provide high speed connections to all Americans. Those of us who represent rural areas understand how important the information highway is to the future prosperity of our constituents. Just as the National Highway system has been crucial to the economic prosperity of rural America during the last century, broadband Internet technology will be equally important this century.

Small Business owners in rural America are becoming increasingly aware of the importance of broadband access to the future viability of their businesses. To continue to serve their communities, and remain competitive with large companies, small business owners must have reliable and affordable high speed Internet access.

Congress is looking at different solutions to the problems of access and affordability. One promising bill, H.R. 267, the Broadband Internet Access Act of 2001, has been introduced by Representative Phil English from Pennsylvania. The bill

uses tax credits as incentives for companies who are interested in providing broadband access in rural and low-income areas. As a cosponsor of this legislation, I believe H.R. 267 uses a balanced approach of federal tax dollars and free market solutions to reach our goal of broadband access for all Americans.

I want to again thank all of the witnesses for participating in today's hearing, and I look forward to your testimony.

"Eliminating the Digital Divide... Who Will Wire Rural America?"

Hearing before the

U.S. House of Representatives
Committee on Small Business

Subcommittees on Regulatory Reform and Oversight
and
on Rural Enterprises, Agriculture and Technology

Statement by Michael L. Cook
Vice President and General Manager
Spaceway™
Hughes Network Systems
May 24, 2001

Hughes Network Systems
May 24, 2001

Introduction

Good morning, my name is Michael Cook. I am a Vice President of Hughes Network Systems and General Manager of Spaceway -- Hughes' next generation broadband satellite system, which will provide broadband service coverage to the entire United States, including Alaska and Hawaii.

I would like to thank the committee for the opportunity to speak to you today, and to commend the Sub-Committees for your foresight in reviewing this issue. In the satellite industry, we are both inspired by the prospects and promises of broadband service, and at the same time deeply frustrated with the apparent lack of awareness of the critical role that satellites play in the provision of advanced broadband services, particularly to small businesses and consumers in rural areas. We hope that Congress, in crafting legislation to support the deployment of broadband and in reviewing FCC allocation of spectrum between satellites and terrestrial use, will take into account and support the essential role that satellites play both in the provision of broadband service and in the competitive landscape. Our industry will deliver huge benefits provided that we are treated equally with our terrestrial competitors.

Hughes Network Systems (or "HNS") is a division of Hughes Electronics and is a sister company of DIRECTV (the nation's leading satellite television entertainment company) and of PanAmSat (the leading provider of global video and data broadcasting services via satellite). HNS is attributed with the invention of the Very Small Aperture Terminal (VSAT) industry – the provision of satellite-delivered data communication services using small earth stations or "dishes." HNS is the global leader in the provision of the VSAT equipment and VSAT services. We have continued to invest heavily in order to significantly advance the technology and service quality in this area. HNS' efforts have led to a reduction in costs and pricing of services, while significantly increasing the power and the effectiveness of these systems.

In 1996, HNS was the first to offer broadband over satellites when it introduced its DirecPC service. DirecPC has won many technology awards and has been the benchmark against which all new broadband satellite solutions have been measured. Today, HNS is providing broadband satellite services to approximately 300,000 consumers and businesses in the United States through DirecPC and DirecWay using today's operational Ku-band satellites. These dishes are installed throughout the country, in the main providing two-way services via satellite and eliminating the need for traditional phone lines. No matter where users are -- in a densely populated urban area or a remote, rural location -- they benefit from exactly the same performance and quality of service as any other user.

As part of our dedication to the continuing development of services for our customers, Hughes has committed $1.5 billion for the U.S. portion of an advanced satellite system called Spaceway. When fully deployed, Spaceway will consist of a global network of geostationary satellites offering broadband service in the new Ka-

band frequency spectrum. Three satellites will be dedicated to serving North America with launches beginning at the end of next year. Spaceway satellites will be quite unlike any that exist today. These satellites will have 5 to 10 times more capacity and will be capable of much higher data communication speeds than today's Ku-band systems.

Spaceway satellites will be capable of transmitting data at 400 megabits per second. With custom software and equipment, individual Spaceway users will receive services at a downlink speed of up to 30 megabits (or 30,000 kilobits) per second. This downlink speed is about a thousand times faster than the speeds available today on a typical telephone modem. Depending upon the particular dish chosen, users will be able to send data at uplink speeds from 512 kilobits per second to 16 megabits per second. Spaceway will provide direct small-dish to small-dish connectivity without the need for gateways or terrestrial interconnection. This means that it will become extremely cost effective for small businesses to build their own private networks among business collaborators, customers and suppliers wherever they are, and it will also be particularly efficient for local broadcasting and multicasting. Spaceway's data rates will support high-speed Internet access, high-quality full-motion videoconferencing for business and residential applications, point-to-point communications and streaming of large amounts of data.

Spaceway will provide a platform for services that will compete on price and performance with DSL, cable modem, terrestrial wireless and frame relay technology. The difference is this. As with DirecPC today, Spaceway services will be available everywhere in the United States.

In the Spaceway world, there will be no "have's" and "have-not's." There will be no differences between rural and urban communities' access to broadband. With broadband satellite solutions, there is no digital divide.

HNS and Small Business

HNS is already providing broadband services nationwide to small businesses through DirecPC and DirecWay. At this time, we provide high speed Internet service to thousands of small business customers. HNS considers small business, which has traditionally been underserved by terrestrial broadband providers, to be one of the most important components of our future broadband business.

HNS has been steadily building services with particular appeal to small business users. For example, our Edgucast™ services allow users to access live, high-quality *interactive* video training simply by subscribing through a web site. Video is streamed to users of the DirecPC broadband service. We are working on a number of initiatives aimed at serving the small business community such as: online livestock auctions, streaming video and Internet content to family-owned businesses (e.g., gas stations), data multicasting, and remote worker training and briefings (e.g., for the health care, financial, agricultural and insurance industries).

We expect that when Spaceway becomes operational, we will serve up to 1,000,000 small business users in the U.S. within a few years.

Why do we expect such extraordinary growth in small business customers? The demand for broadband is driven by the desire for small businesses to compete on the same playing field with their larger competitors. Urban and suburban users, particularly large businesses, are getting access to more bandwidth. Application developers and content providers who have been catering to these traditional customers are now opening their eyes to a new world of customers, including small businesses that want to compete on a national, and even international stage. Small business end users are now creating and distributing their own content – such as digital photos and videos, large data files and bandwidth-intensive web applications.

All this means that we are entering the 'content generation' – where broadband is a requirement, not a luxury. In short, small businesses will require broadband access not only to be more competitive, but also in order to survive. For those located in rural areas – something like 50% to 70% of the land area of this country – there will often be only one solution – satellite delivered broadband service.

Small Business and Spaceway

Spaceway is perfectly designed to address this burgeoning demand of small business for broadband since it will provide high-speed data connections using standard Internet Protocols from low-cost satellite terminals. The individual "dishes" for Spaceway will be smaller than one meter in diameter for consumers and small businesses, and will be available on a mass-market basis for easy installation. We anticipate the prices for this extremely high-speed service to be comparable to those charged today for similar services in highly-competitive urban areas.

Recommendations to Congress

HNS understands the importance of broadband access for small business and fully supports the efforts of this Committee and of Congress to ensure the availability of high quality communication services to this sector.

Our message to you today is simple. The only technology that will ubiquitously provide cost-effective broadband access across the entire United States is satellite technology. Hughes is already making the technology investments necessary to provide these services. However, we sometimes find that legislative and regulatory proposals to extend broadband services to all are not technology-neutral, but instead often favor terrestrial technologies. Such policies will have a counter productive effect – they will diminish the potential availability of broadband services in rural areas by discouraging the most promising solution for these areas. Let me suggest several issues for the Committee's consideration.

One key issue is spectrum allocation. Spaceway will provide two-way small-dish to small-dish direct, high-speed broadband service throughout the United States. In order to provide a high-quality service, we need clear spectrum that is not simultaneously used by terrestrial services. The FCC has the primary responsibility of allocating spectrum. In our view, the FCC has sometimes placed a higher priority on short-term terrestrial deployment rather than on long-term provision of competitive satellite services. As a result, broadband satellite systems operating in the Ka band such as Spaceway, have not been allocated sufficient spectrum to operate as efficiently and effectively as is possible.

Throughout the Ka-band spectrum allocation proceedings, the FCC acknowledged the satellite industry's request for 1000 MHz of spectrum not shared with terrestrial services. By the end of these proceedings, the FCC had reduced the spectrum allocated to geostationary Ka-band satellite systems from 1000 MHz to 720 MHz (220 MHz of which will not be fully available until 2010). This seriously reduces the amount of capacity available to provide these essential services, and requires us to use additional orbital slots to serve the demand for these services nationwide.

We accept that the FCC have a very difficult balance to find. Nevertheless, by effectively favoring terrestrial wireless services that provide coverage in mainly urban areas, the FCC is disadvantaging rural broadband users. The viability of satellite broadband systems depends on full-country service, including the urban markets, in order to bring the benefits and economics of advanced broadband to rural Americans.

We encourage the Committee to examine the crucial role of spectrum allocation and the most effective way it can be used to serve small businesses and under-served communities particularly in rural areas. We are confident that the Committee will conclude that satellite providers have a critical role to play in serving these areas and providing a needed level of competition nationwide.

Secondly, there are a number of bills before the Congress that would offer tax or other incentives to companies to build out their broadband infrastructure into rural areas. It is essential that any legislation enacted by Congress be technology-neutral and recognize the needs of users everywhere. The fact is that, even with generous government subsidies, it will be still be uneconomical for terrestrial providers to build out infrastructure everywhere. Tax and other incentive legislation should be inclusive of all technologies and should be written in a way that acknowledges the key role that satellite technology will play in broadband infrastructure development throughout this nation. We stand ready to work with the Committee and other members of Congress to accomplish this goal.

In conclusion, I would like to say very clearly that through the development of interactive broadband satellite technology, Hughes is eliminating the digital divide. We have committed our own funds without depending upon, or even requesting, federal subsidy. With the services we are deploying today (DirecPC and DirecWay) and with the significantly enhanced capabilities we will have when we deploy Spaceway at the

end of next year, small businesses, wherever they are, will be in easy reach of the broadband universe, without service discrimination and without financial disadvantage.

I would like to thank the Subcommittee Members for your time this morning, and I will be delighted to answer any questions you may have.

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TESTIMONY OF

THORPE "CHIP" KELLY

SENIOR VICE PRESIDENT FOR SALES & MARKETING

WESTERN WIRELESS CORPORATION

Committee on Small Business

U.S. House of Representatives

**Joint Hearing by the Subcommittee on
Regulatory Reform and Oversight and
The Subcommittee on
Rural Enterprises, Agriculture and Technology**

"Eliminating the Digital Divide: Who Will Wire Rural America?"

May 24, 2001

Western Wireless Corporation
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Mr. Chairman and members of the Committee, I commend you and your colleagues for highlighting the telecommunications needs of businesses located in rural America, for recognizing what the private sector is doing to address these needs, and for acknowledging government's role in resolving the "digital divide." I especially appreciate the opportunity to address a subject that is not only of great interest to this Committee, but also a subject that is at the core of the business mission of my Company, Western Wireless Corporation.

Western Wireless has built a very successful business based upon providing cellular telephone service in areas of the country neglected by others. The Company provides wireless telecommunications services in 19 western states through a state-of-the-art network infrastructure capable of serving the basic and advanced telecommunications needs of rural business and residential consumers. We have a single focus and that is to serve the telecommunications needs of rural America.

Approximately seven years ago, we commenced providing wireless local loop service to small businesses and residential customers in a remote area of Nevada that had never been served by the local telephone company.

More recently, in 1999, we began providing wireless local loop service in competition with the incumbent local telephone company in Regent, North Dakota, a community of less than 300 people. And just within the last year, we have launched competitive wireless local loop service in more than 70 rural communities in Minnesota, Kansas, Texas, and South Dakota. In South Dakota, for example, we are providing telecommunications services on the Pine Ridge reservation, which, as Congressman Thune knows all too well, is a very rural and depressed area that lacks many of the necessities of life, including affordable telecommunications services. And in rural Texas, the Company has launched service in 20 communities with hundreds more being prepared for launch right now. Prior to our entry into the local telephone market in these rural areas, the benefits of competition, including access to new and innovative services, such as high-speed data services and other advanced services remained merely a hope for consumers and policymakers alike.

There was a time, not so long ago, when many questioned whether cellular telephone service in rural America would be viable. Western Wireless delivers cellular service to rural America today. It is widely recognized that wireless service holds the key, not only to the deployment of basic services

to all Americans, but also to the availability of advanced services in rural America. Currently, advanced telecommunications services are available to only a small segment of the population in rural areas. Advances in wireline technology will undoubtedly close the "digital divide" with respect to some consumers, but most rural wireline consumers are likely to remain on the wrong side of the "digital divide." Until recently, there was little promise for these consumers. Now, through advances in wireless technology, many rural consumers will have access to advanced telecommunications services for the first time.

Three years ago, Western Wireless embarked upon an effort to bring the benefits of competition to the local telephone market in rural America. The centerpiece of this effort was the Company's petitions, pursuant to the Communications Act, for designation as an Eligible Telecommunications Carrier (ETC) for purposes of universal service support, which is necessary to provide affordable telecommunications services in many rural, high-cost areas. To date, Western Wireless has been designated as an ETC in 12 states and is working with the FCC and state commissions on furthering the goals of universal service policy.

It has been a national policy since 1934 to make available to all Americans, regardless of the location of their residence, affordable telecommunications services. In too many cases, rural areas have been effectively excluded from the benefits of a competitive telecommunications market because incumbent local telephone companies have historically monopolized the access to universal service support necessary to provide affordable telecommunications services in these rural, high-cost areas. For example, the cost of providing telephone service in many rural areas exceeds $100.00 per line per month, and yet consumers pay as little as $10.00 or less per month, with universal service funding making up the difference. Clearly, a competitive carrier that does not have access to universal service funds would not choose to enter the local market and compete with incumbent carriers who do have access.

The Telecommunications Act of 1996 (Act) was supposed to eliminate the historical barriers to local competition in rural areas by requiring the FCC and state commissions to open the universal service market to competitive entry. Five years have now passed since the passage of the Act and rural consumers are still waiting for the promised benefits. The problem is that the FCC and state commissions have not completed the transition to a

competitive universal service system, which I believe is critical to competitive entry in rural areas and to the closing of the "digital divide" in rural America.

Over the past three years, Western Wireless has aggressively pursued entry into the universal service market, thereby allowing the Company to serve the basic and advanced communications needs of rural consumers. Just this past December, Western Wireless successfully demonstrated the capabilities of the next generation of wireless digital technology in a trial in Windom, Minnesota where data speeds of 153 Kbps were achieved over wireless local loops. Western Wireless is now in the process of deploying this technology into its network and will commercially launch the high-speed data services later this year. Further, as 3rd generation wireless technology becomes commercially available in 2002, data rates of more than 600 Kbps will be supported.

The principal factor in predicting whether advanced services will be available to all consumers in rural areas is the availability of network facilities capable of supporting high-speed data services. Today, the facilities-based service providers in rural areas include incumbent local

exchange carriers, cellular service providers, cable operators, and satellite system operators. Until recently, financial support in the form of universal service was made available only to the incumbent local exchange carrier with the hope that this carrier would provide basic and advanced communications services that consumers want. It has become increasingly clear that in many rural areas the delivery of advanced services will not come to fruition without competition.

So, what must government do to resolve the "digital divide?" First and foremost, government must take steps to reform current universal service support mechanisms so that competitive carriers and incumbent carriers alike have access to the same levels of support. This means that implicit support mechanisms, such as access charges, must be reformed and replaced with explicit, portable universal service funding mechanisms, and that explicit, portable universal service funds are established to provide support to carriers that serve rural, high-cost areas. Second, government must expeditiously grant competitive carriers ETC status and prevent incumbent carriers from delaying and preventing competitive entry into the local market. For the past three years, incumbent local exchange carriers have engaged in anti-competitive tactics aimed at delaying or preventing Western

Wireless from entering the local market. One incumbent local exchange carrier in North Dakota went so far as to cut off Western Wireless' interconnection to the public switched telephone network. A court ultimately ordered the incumbent telephone company to restore the service and pay damages.

It should not be overlooked that as the new Internet economy moves from wired to wireless, the need for the development of a long-term spectrum allocation plan is vital if your constituents and our customers are to see the benefits of this new economy. The Congress, the Federal Communications Commission, the Administration, and industry must work together to develop a roadmap for a comprehensive spectrum allocation policy that 1) is market driven, 2) is open to the greatest number of participants, 3) considers industry's additional spectrum requirements to provide innovative advanced services to consumers at home and abroad, and 4) encourages continued competition in the wireless industry and equal footing in international markets. In the long run, this market-based approach will be better for the U.S. economy, better for consumers, and better for American taxpayers. The wireless industry is working with congressional leaders to formulate solutions that promote economic growth in the short-term by providing a

pathway to spectrum for a high-tech growth industry that enables it to compete in the global marketplace—recognizing at the same time that U.S. national security interests benefit from a comprehensive, long term spectrum management plan.

Additionally, the total amount of spectrum available for commercial mobile uses in the United States is only 189 MHz. The average European allocation is close to 355 MHz. Both Europe and Japan are planning to deploy the next generation of high-speed wireless data services this year. In this country, however, current FCC policy limits the ability of wireless carriers to provide advanced services in the very markets where those services would find the greatest demand and where U.S. carriers would achieve the greatest economies of scale for serving rural America as well. FCC policies enhance the current spectrum drought by applying an artificial "spectrum cap" that limits a provider to 45 MHz per urban market and 55 MHz per rural market. The 45 MHz cap is half that allowed in the United Kingdom (90 MHz) and considerably less than the 86 MHz assigned nationally in Japan to DoCoMo. The FCC is currently reviewing the efficacy of their spectrum cap rules and a decision to lift or modify the cap is expected before year's end.

In conclusion, competition holds the key to the deployment of advanced telecommunications services in rural areas. The role of government is to ensure a level playing field through the establishment of a competitive universal service system, a comprehensive spectrum allocation policy, the elimination of limitations on spectrum aggregation, and enforcement action against anti-competitive behavior by incumbent carriers. In so doing, the goals of the Telecommunications Act of 1996 will be fulfilled.

The Western Wireless Story

Western Wireless' entry into the local telecommunications market reflects a building block approach to the provisioning of advanced telecommunications services in rural America. Today, Western Wireless provides cellular service throughout the more than 100 rural service areas and small metro areas licensed to the Company covering approximately 25% of the landmass of continental US, but just over 3% of the population. The Company has expanded its cellular service offerings to include wireless residential service (WRS) in rural areas by using its existing cellular network infrastructure, including switching, high-bandwidth network facilities, cell sites, and wireless local loops, to provide new and innovative local telephone services to consumers, such as wireless local loop service. In a further expansion of its service offerings in rural areas, Western Wireless has aggressively pursued entry into the universal service market. The expansion of its network infrastructure in rural areas to provide WLL and universal service will enable Western Wireless to offer consumers advanced telecommunications services, including high-speed data services, using 3rd generation cellular technology and possibly local multipoint distribution service (LMDS).

Cellular Service Provider

- Rural cellular service provider in 19 western states.
- State-of-the-art telecommunications infrastructure in rural areas.
- Deployment of 2.5 generation and 3rd generation technology capable of delivering advanced telecommunications services, including high-speed data services.

Wireless Local Loop Provider

- Industry leader in the deployment of wireless local loop service in rural America.
- Sole provider of local telephone service to the residents of Reese and Antelope Valley, Nevada.
- Competitive provider of local telephone service in Regent, North Dakota, community with a population of approximately 268.

Universal Service Provider

- Eligible Telecommunications Carrier (ETC) in Minnesota, North Dakota, and Kansas.
- ETC status granted in 12 states and has commenced serving 70 markets in 5 states, serving more than 44,000 homes.
- ETC application pending before FCC for service to Indian reservations.

Local Multipoint Distribution Service Licensee

LMDS licensee in 36 markets covering portions of Nebraska, North Dakota, South Dakota, Montana, Minnesota, Idaho, Iowa, Wyoming, Texas and Colorado.

House Small Business Committee:
Regulatory Reform and Oversight Subcommittee
and Rural Enterprises, Agriculture and Technology Subcommittee

"Eliminating the Digital Divide- Who Will Wire Rural America?"

May 24, 2001

Prepared remarks of Susan McAdams,
Vice President for External and Legal Affairs, New Edge Networks

Good morning Mr. Chairmen and members of the Subcommittees. I am Susan McAdams, Vice President for External and Legal Affairs, for New Edge Networks, a competitive broadband provider headquartered in Vancouver, Washington. I especially appreciate the opportunity to testify on this important topic. New Edge Networks is committed to bridging the "digital divide" by bringing broadband telecommunications services to Hometown, USA.

New Edge Networks is the largest national broadband services provider that primarily focuses on small and mid-sized cities and towns. We generally serve communities with population ranges between 5,000 and 250,000. We were founded less than two years ago, and consider ourselves a success story of the 1996 Telecommunications Act. To date, we offer services to customers in 400 cities and towns in 29 states.

Most incumbent telephone companies and other broadband providers have chosen to target customers for high speed Internet services in the 'NFL cities.' New Edge Networks and a number of similar competitive local exchange providers (CLECs) have taken a different approach. We've chosen to focus on smaller markets because we believe there is a large unmet demand for advanced services in these areas. In fact, New Edge Networks believes that broadband services are even more vital in small communities than in urban centers.

Information is a driving force behind a new economic revival in small town USA. Small businesses outside of major metropolitan areas now can ride high-speed data lines to burst through old barriers of time and distance. Today's global economy is a virtual meeting place in which small town businesses can be full participants through electronic transactions. Rural and suburban residents can work from home, linked to commercial centers over high-speed lines to the Internet. Rural health clinics and schools can access specialized resources and information formerly obtainable only in big cities.

In short, companies like New Edge Networks have exploded on the scene to narrow the digital divide.

In a recent letter to Representative Cannon, the American Corn Growers Association put it this way: "The bottom line is that high-speed Internet access is necessary if rural businesses and communities are to fully participate in, and contribute to the growth of, the American economy."

This general observation is reflected in the comments of one small businessman, Marcus Wilcox, whose company Cascade Energy Engineering is located in the small town of Walla Walla, Washington:

> Our engineering firm makes heavy use of the Internet, from e-mail to transferring large [computer-aided design] files and spreadsheets. Our 56k modem connection was having a significant effect on our productivity (and sanity!). ...[W]ith our choice to set up shop in a small eastern-Washington town, slow Internet access was assumed to be a way of life. ... When New Edge Networks and our ISP, Blue Mountain Internet, offered us DSL, it seemed too good to be true. Installation took 30 minutes and it has worked flawlessly. We get all the bandwidth we were promised, and were able to eliminate a costly business phone line. Going to DSL actually saved us money!

Since passage of the 1996 Telecommunications Act, New Edge and other competitive providers have been working hard - and as quickly as the market will allow – to deploy broadband services throughout the country. Understandably, many providers focus on the populated urban areas, but CLECs have also begun to deploy broadband to Americans in less populated communities. In fact, about 50 percent of Americans can access DSL services today as a result of the tremendous investments by CLECs.

A moment ago, I referred to an information-powered economic revival in small town USA. Unfortunately, the revival tent in which this miracle is taking place is listing in the wind and may be in danger of toppling over. Some proposals before this Congress, if enacted, threaten continued competitive deployment of advanced telecommunications services, especially in smaller markets.

New Edge Networks and other competitive providers of high-speed Internet access over digital subscriber line (DSL) technology utilize existing telephone lines that we connect to our own state-of-the-art digital transmission equipment. We obtain these lines and related facilities from incumbent telephone companies as "unbundled network elements" under cost-based wholesale rates as provided by the Telecommunications Act of 1996. Some argue that the traditional telephone companies should be relieved of their obligation to make available these lines and other unbundled network elements for use in delivering high-speed data services. I believe that this proposal is ill-advised, would delay further broadband deployment, and would have the result of condemning rural small businesses to a regime of perpetual monopoly over wireline broadband services.

The 1996 Telecommunications Act did something very simple; it set in motion a framework for competition in the telecommunication marketplace. Congress chose to promote competition for local telecommunications services as the best engine for deployment of advanced technologies. The promise of the Act was to bring competitive prices, increased innovation, and improved customer service. To achieve these objectives, Congress carefully crafted the transition from monopoly to a competitive market structure. Central to this design is the requirement that new entrants be allowed to interconnect with traditional networks that were financed over the last one hundred years by monopoly ratepayers.

In only a few short years competitive providers have produced astonishing results:

- $56 billion invested since 1997 in network infrastructure
- 16 million access lines served
- 8,200 central offices DSL equipped
- 500,000 DSL lines provided

What the Committee is most interested in, I'm sure, is what we believe this Congress should and can do to address the issue of broadband deployment to rural America. I would suggest the following:

- Stay the course that Congress charted in 1996 with the Telecommunications Act;

- Make monies available for targeted subsidies and grants – made on a competitive basis - so providers can have access to resources needed to build out networks in our highly capital intensive industry;

- Give the FCC stronger enforcement tools such as the ability to impose higher, self-enforcing financial penalties on violators of the 1996 Telecommunications Act, particularly on those providers who fail to adequately open up their markets to competition (this is a provision that is supported by FCC Chairman Michael Powell). Additionally, provisions should be made for damages and punitive penalties to be paid to CLECs that are harmed;

- Urge timely FCC action on a pending petition that would set clear performance intervals and standards for loop provisioning. Competitive providers must have efficient, timely, and cost-based 'interconnection' with ILEC networks. The FCC set these kinds of standards for 'collocation' in central offices that has helped speed one phase of deployment. Quicker loop provisioning will speed deployment of high speed DSL service;

- Consider requiring full structural separation of large incumbent telephone companies into distinct wholesale and retail telecommunications providers. This is the only real way to eliminate incumbent incentives to favor their own retail operations;

- And finally, send a clear message to Wall Street and other institutional investors that Congress supports the framework for competition required by the 1996 Telecommunications Act. The longer Congress grapples with legislative proposals that turn back the provision in the Act, the more difficult it will be for providers to have access to needed capital markets for offering innovative services in the telecommunications marketplace.

New Edge is proud to have demonstrated a strong track record of bridging the digital divide. We are deeply concerned, however, by some legislative proposals currently before this Congress. These proposals would actually widen the digital divide by abandoning competition as the driving force for innovation and broadband deployment. We must not turn back the clock to a time when monopoly providers unilaterally determined which services would be available to customers in small markets.

The House Small Business Committee has a critical stake in this debate. We applaud you for holding hearings on this important issue. We urge you to continue to monitor telecommunications developments. You are in a unique position to assure that any legislation before Congress empowers small businesses as full participants in today's information economy.

Statement of

RANDY W. HOUDEK

General Manager of Sully Buttes Telephone Cooperative
Highmore, South Dakota

before

U.S. House of Representatives Small Business Subcommittees on
Regulatory Reform and Oversight
and
Rural Enterprises and Agricultural Policy

May 24, 2001

Introduction

Good morning, thank you for allowing me to participate in this hearing.

My name is Randy W. Houdek. I am general manager of Sully Buttes Telephone Cooperative (SBTC or Sully Buttes) of Highmore, South Dakota. Our system serves a substantial portion of central and northeast South Dakota. We are a small local exchange carrier (ILEC) that is owned by the members of our rural communities. I am a graduate of Northern State University of Aberdeen, South Dakota with majors in accounting and finance and a minor in economics.

Sully Buttes is currently serving more than 13,600 customers in rural areas of central and northeastern South Dakota. According to the 2000 census, South Dakota has approximately 754,000 people (or roughly the same number of people as the city of San Francisco). However, our population is dispersed over more than 77,000 square miles, with fewer than 10 people per square mile.

That demographic is even further complicated when you consider that more than forty percent of all the state's residents live in South Dakota's ten largest communities. In the areas served by Sully Buttes Telecommunications Cooperative, we have fewer than two (2) customers per mile of line. In contrast, the average customer density in urban areas is closer to 100 per mile of line. Several other incumbent rural carriers in South Dakota have less than one customer per mile of line. The U.S. Department of Health and Human Services classifies more than 60 percent of South Dakota, not rural, but "frontier."

Yet, even in the face of these obstacles, we have managed to grow and thrive as a company thanks in large part to the federal government's policy of universal service. This policy brought basic telephone service to rural locations like Highmore and Blunt in the early parts of the 20th century, and now the policy of universal service is helping to bring advanced services to communities in rural South Dakota.

At Sully Buttes, we are proud of the fact that we offer our customers manyof the latest and most advanced technologies available in the market today. Currently, we have deployed digital subscriber line (DSL) technology in seven of our exchanges, and we plan to deploy DSL in the remaining 19 exchanges before the end of this year. We offer latest calling features including voice mail, Caller I.D., call waiting, speed calling, call forwarding, distinctive ringing, three-way calling, anonymous call rejection, customer originated trace, and most other services offered in urbanized areas. Moreover, we provide advanced services, including: High-speed (768 kbs) "always on" Internet, cable

television and centralized equal access to long distance carriers. This progress has largely been made possible by the various financing programs and support mechanisms made available to companies like mine over the past several decades. More recently, we have acquired wireless licenses, including PCS and LMDS licenses, to use as tools in providing advanced services to our subscribers.

Programs like the Rural Utilities Service and the Rural Telephone Bank have helped finance major projects for rural companies like ours that are just not feasible for many commercial lenders. Thanks to these entities and the universal service concept, Sully Buttes and other ILECs in South Dakota have deployed broadband services in more than 40 small communities with plans to increase that to more than 100 by the end of the year.

However, with all the positives that we see, there are clouds looming over the horizon. There is no doubt but that the policy of universal service is in need of re-examination, and it must be done in short order. The 1996 Telecommunications Act directed the Federal Communications Commission to fully implement a policy of universal service for rural carriers. However, the FCC has limited access to the federal Universal Service Fund by placing a cap on the amount of funds that an individual company can draw from the fund in any given year. That cap severely limits the ability of companies like mine to upgrade and replace necessary infrastructure and make decisions about deploying advanced technologies, including broadband.

Meeting The Digital Challenge

The subject of your hearing today is "Eliminating The Digital Divide -- Who Will Wire Rural America"? I am here to tell you this morning, for the record, that this job is already being done to a large degree by SBTC as well as its several hundred small rural ILECs from around the nation. We approach our work from an integrated perspective, using wire, as well as fiber, radio, and all other available technologies.

SBTC is a member of the National Telephone Cooperative Association (NTCA), an association representing more than 540 small, rural ILECs. Much of what I talk about today is representative of what other rural ILECs are doing as well.

SBTC was incorporated in 1951 by a group of community leaders faced with the lack of telephone service in our area. Rural ILECs serve areas that are viewed as economically unattractive to the industry's largest carriers. We have relied heavily on loans from the Rural Utilities Service Telecommunications Program (formerly The Rural Electrifications Administration [REA]) as well as cost recovery through the federal Universal Service Program. Both programs have been critical to our ability to provide services of a price and scope that are comparable to those anywhere else in the nation. Because of their commitment to serving their communities, rural telephone companies accept an "area-wide" coverage commitment. In other words we take on the responsibility of serving every consumer in our market regardless of their economic desirability.

As a member-owned telecommunications provider, we place a high priority on being responsive to our customers needs. SBTC began offering Internet access five years ago, and our communities have reaped the benefits of access to such services. The initial push for these services predictably came primarily from our business customers, which includes farming and ranching operations that have interests in commodity pricing and other market information, insurance salespersons and adjusters that need to communicate with their home office while in the field, and retail operations that wish to interact on with their customers. On the residential side, the push for advanced services has come largely in response to ensuring that school age children are able to access the many offerings available via the Internet. In South Dakota, we have what is known as the Digital Dakota Network, a state initiated project that provides broadband access to most of the educational classrooms in the state.

Knowing of the great interest Washington policymakers have had in the level of communications services that are available to native Americans, I am proud to say that SBTC already provides broadband services to the native American community in our Sisseton exchange. We have fiber in place on the Crow Creek Reservation, and will soon be providing broadband services in this area as well.

Finally, for the past five years we have provided the technology that has enabled telemedicine applications, and we are taking steps to move these services to higher speeds in the near future.

Regardless of the technology used to provide advanced services, cost will always be a major factor. It is critical that policymakers here in Washington understand this fact, and remain willing to support programs such as the RUS or the universal service system. There will always be upgrades and new technologies that are necessary to ensure consumers are receiving the most advanced services of the era.

Recently, NTCA conducted a numerous survey on the provision of advanced service deployment nationwide in rural America by the ILEC community. The results should be of interest to this Subcommittee, and are summarized at the end of my written presentation.

Contrary to popular perception, dial-up internet access is widely available to the areas served by rural telcos, and actual usage is growing significantly. Almost 90% of schools, libraries, and other public institutions have access to broadband service. Meanwhile, rural companies seeking to provide broadband service face economic and technical challenges including extremely high costs. And the bottom line is that continued support will be necessary.

We are cognizant that certain wireless carriers are seeking to gain access to universal service funds in the name of bringing "competition" to rural communities. Congress and the FCC must recognize the sensitivity of rural ILECs to changes in their revenue streams, particularly USF funding. Rural ILECs like Sully Buttes have taken on the responsibility of being the "carrier of last resort," and have a decades-long track record of being committed to serving their rural communities. Competition in this arena must co-exist with the concept of universal service. This requires regulators to engage in a balancing process. Rural America does not benefit from competition for the mere sake of competition. California has learned this lesson the hard way with regard to its electric utilities.

The 1996 Telecom Act is procompetitive, but recognizes that one size does not fit all. Competition must be tempered with by universal service considerations in high cost, hard to serve rural areas. As discussed above, Sully Buttes and our fellow rural ILECs are already eliminating the digital divide in a lasting way, by providing broadband services to the communities that we have served for decades, and will continue to serve for decades to come. The current Universal Service funding mechanism is not broken. While it may require updating, the FCC is going in the correct direction with its Universal Service reform effort. In this regard, we hope the FCC adopts the complete MAG Plan. The FCC must focus more on USF impact when it considers policy matter related to ETC status such as those represented by Western Wireless.

Narrow Band

- 93% of rural ILECs offer local dial-up internet access (through telco or an affiliate)
- 20% of customers who can subscribe to dial-up Internet service are subscribers (in 1999 the average was about 15%)
- 88% of companies offer dial-up access at speeds exceeding 28.8 kbps to more than 3/4ths of their customers

Broadband Service

- In mid-2000, 55% of rural ILECs were offering some form of broadband service to customers, and 79% were expected to do so by the end of 2001
- 56 % of the customers of companies offering DSL had access to the service, with that figure expected to climb to 69% by the end of 2001
- And 88% of schools, libraries and other public institutions can currently receive broadband service, as of mid-2000, 41% subscribe to such service

Network Infrastructure

- Customer broadband access speed averages 269 kbps, and 19% of the ILECs reported providing broadband customers speeds of greater than or equal to 512 kbps

Conclusion

Thank you again for this opportunity. For additional information, you can contact me at the following address:

Randy W. Houdek, General Manager
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P.O. Box 157
Highmore, South Dakota 57345-0157

Tel. 605-852-2224 Fax. 605-852-2404

Sully Buttes Telephone Cooperative, Inc. has not received any federal grant, contract or subcontract in the current and two preceding years.

BEFORE JOINT SUBCOMMITTEES OF THE HOUSE SMALL BUSINESS COMMITTEE THURSDAY, MAY 24, 2001

TESTIMONY OF KIRBY J. CAMPBELL

CEO – THE ARMSTRONG GROUP OF COMPANIES
MEMBER – AMERICAN CABLE ASSOCIATION

INTRODUCTION

Thank you, Mr. Chairman.

My name is Kirby J. Campbell, and I am the CEO of The Armstrong Group of Companies, an independent cable business serving 208,000 subscribers in several states, including Ohio, Pennsylvania and West Virginia.

Our company is also a member of the American Cable Association. ACA represents more than 930 independent cable businesses serving more than 7.5 million subscribers primarily in smaller markets and rural areas across the United States. ACA members serve customers in every state and every U.S. territory and also in nearly every congressional district represented by the members of this Committee.

Unlike some larger companies you hear about, ACA members are not affiliated with program suppliers, big telephone companies, major ISPs or other media conglomerates. We focus on smaller market cable and communications services, often in markets that the bigger companies choose not to serve.

Like other ACA members, our company, The Armstrong Group, specializes in serving residential and business customers in smaller markets and more rural areas. Our company today is on the forefront of providing advanced telecommunications services to customers in these markets, including high-speed cable modem Internet

service and digital cable television. Our customers want broadband, and we're delivering it to them.

THE ISSUES FACED BY SMALLER MARKET CABLE SYSTEMS IN THE DEPLOYMENT OF BROADBAND SERVICES

I am pleased to have the opportunity to speak to you for several reasons.

First, our company and the members of the American Cable Association are rapidly deploying broadband services. At The Armstrong Group, we connected our first high-speed Internet customers in 1997 and today serve 18,000 Internet customers, including 1,100 small businesses.

On the deployment of broadband in smaller markets, we have a success story to tell. Our company and other ACA members are making substantial investments in system upgrades and are taking calculated business risks to launch broadband services in our markets. By the end of this year, we will offer Internet and digital cable to more than 90% of our 208,000 customers. In our case, we will have invested more than $130 million and more than $600 per subscriber to deliver these new services. Our technical platform is superior to almost all major metropolitan cable systems. When it comes to deployment of cable modem service in smaller markets and rural areas, our company at Armstrong and other ACA members are part of the solution, not part of the problem.

We find it ironic that so many attempts are being made to incent huge conglomerates like the RBOCs to service smaller markets and rural areas in order to

close the so-called "Digital Divide." Our company and the hundreds of others in the ACA are already there.

In December 2000, the American Cable Association commissioned a study of its members to determine the extent of broadband, high-speed cable modem deployment in its members' cable systems. The results were impressive. Despite the many challenges faced by my company and other ACA members to launch broadband, the facts show that we're doing it. The ACA survey showed the following:

- Current regulatory and legislative policies have encouraged investment in infrastructure. The marketplace is working.
- The imposition of mandatory open access laws or regulations would impose significant additional costs and deter investment.
- Current ACA members' expansion plans will double the number of homes passed by broadband services within the next 12 to 24 months.
- ACA members have invested hundreds of millions of dollars to install fiber, upgrade plant, and acquire equipment necessary to offer cable modem services and other advanced services.
- Most ACA members obtained the capital required to upgrade networks and purchase equipment from sources typical for smaller business – banks or retained earnings.
- ACA members indicated that they would not risk the investment necessary for this expansion if burdensome regulations were imposed on cable modem service in their markets.
- Many ACA members provide cable modem service through negotiated agreements with unaffiliated ISPs.

Despite the success story that's taking place in our company and so many other ACA members' companies, the deployment of broadband services is threatened by certain facts, proceedings and cost trends. These problems and challenges fall into four specific areas:

(1) **Access to capital.** Access to capital is vitally important to the deployment of broadband in smaller markets and rural America, but adequate sources for this capital are limited. Initiatives considered by Congress can address this concern by providing for technology neutral credits, loan guarantees or low-interest loan programs that will make capital more affordable and readily available to launch broadband services in smaller markets.

(2) **Forced carriage of both analog and digital broadcast signals.** The effect of mandatory dual digital broadcast television carriage (dual must-carry of local television stations' analog *and* digital broadcast signals) on cable systems with limited bandwidth will result in lost capacity and lost important broadband services that our customer want. The substantial costs and adverse effects of paying for a forced transition to digital will stop or hinder the advancement of high-speed Internet – particularly in rural areas.

(3) **Mandatory open access in smaller markets.** The effect of open access regulations, if imposed on these markets, will create a chilling effect to hinder or even stop the development of broadband services in smaller markets and rural America, where the marketplace is already working.

(4) **The high cost of programming supply and other annual cost increases that far outstrip the rate of inflation or cost of living.**

These costs are being borne disproportionately by smaller businesses in the cable industry. Independent cable companies pay 25-30% more for programming than the larger cable companies and must absorb significant annual programming increases that far outstrip the trend in retail cable rates for independent cable businesses. Another potentially chilling factor is pole rent – the amounts charged by utilities or cooperatives to independent cable businesses for the right to attach cable to utility poles. If utilities or cooperatives, which are using federal funds to build their infrastructure, are allowed to triple or quintuple their rates for pole rent, as some have begun to do, the impact on rural areas would be devastating. In very rural areas with only 10-15 customers per mile, these new rates could be $10.00 per subscriber per month. The end result of these increases is that important capital and resources are taken away from resources that would otherwise fund the development and deployment of broadband service in smaller markets and rural America.

Before discussing each of these areas individually, it is important to understand what makes serving smaller markets and rural areas unique and why certain factors impact us disproportionately. The most basic factor is that it is much more expensive on a per customer basis to provide expanded bandwidth and advanced services in rural America. The main factor is the number of homes in a given mile. While an urban area will have 100 or more homes per mile, we provide service in areas down to 15 homes per mile. Our company-wide average is only 45 homes per mile. Fewer customers per

mile in smaller markets and rural areas mean a substantially larger investment per customer for all services, including broadband. This fact alone puts pressure on all other operating factors.

In the telephone and electric business, this fact of operation has been understood for years, and that's why telephone companies and electric cooperatives providing service in rural America have been subsidized for years by the federal government. Smaller, independent cable businesses have not been subsidized. We have achieved our success through independent risk financing and sweat equity. However, we are not here to ask for subsidies, but rather only a level playing field that could easily be tilted against us by any one of the following factors. And if this field is tilted, it will certainly impact and adversely affect the deployment of broadband in smaller markets and rural America.

(1) Access to Capital and Technology Neutral Solutions to Encourage Broadband Deployment are a Must to Serve Smaller Markets with High-Speed Internet, Digital Cable and Other Broadband Services.

Our company and all ACA members face the challenges of building, operating and upgrading broadband networks in smaller markets and rural areas. For most of these companies, the capital required to upgrade networks and purchase equipment came from sources typical for smaller businesses – banks or retained earnings. In other words, our capital comes from Main Street, not Wall Street.

But this investment is not easy to make or to obtain. When independent companies like mine and need to raise money to serve smaller markets and rural

America, we sign personal guarantees. My company has taken the financial risk to make investments in a robust broadband infrastructure in smaller markets. Far from languishing on the wrong side of a Digital Divide, our customers have access to high quality cable modem service today. Current expansion plans of ACA members will double the availability of the cable modem service within 24 months. In some cases, these markets are ahead of broadband deployment in urban centers.

Compared to RBOCs and the largest cable and media companies, most independent cable businesses face serious difficulties in finding sources of capital. Many communications lenders are not interested in lending to smaller companies serving smaller markets.

This is true because the loans sought by smaller, independent companies are generally smaller than loans sought by larger companies, and thus do not produce the same for the bank in lending fees, interest, etc. In addition, there can be a longer payback and return on a loan to service a sparsely populated smaller market compared to an urban market with hundreds of subscribers per mile.

Therefore, many independent companies find themselves seeking loans from local, general service banks on Main Street rather than the experienced commercial communications lenders on Wall Street. Moreover, many of these smaller loans with the local banks are "hit or miss" and may depend on a number of factors unrelated to the project itself.

The federal government has already begun to consider a number of proposals that would help to encourage broadband deployment by providing tax credits, federal

loan guarantees or other federal grant or low-interest loan programs. These ideas would help independent companies in smaller markets and rural areas obtain the capital they need to launch broadband services. We support these ideas.

The key to success for these programs would be to ensure that they are technology neutral and easily obtainable through a streamlined, simplified application process.

It is important for the programs to be technology neutral because this would ensure that all technologies (cable, wireless, satellite, etc.) are encouraged to make use of the funds or credits. At the same time the competition for the funds would help speed deployment where it is so vitally needed.

As mentioned earlier, ACA members are already deploying advanced services in many rural areas, and we are uniquely positioned to expand into other rural markets. Our company and ACA would enjoy the opportunity to work with the Small Business Committee in considering technology neutral solutions that would put capital in the hands of smaller, independent businesses to encourage broadband deployment in smaller markets and rural America.

(2) The Unintended Consequences of Mandatory Digital Broadcast Carriage on Cable Systems with Limited Bandwidth Will Derail Broadband Deployment in Rural America.

A second issue facing threatening independent cable's progress is the broadcast industry's campaign to force dual carriage of analog and digital signals during the transition to digital television. The forced carriage of both the analog and digital

broadcast television signals of local broadcast stations on smaller market cable systems would absorb most of the bandwidth we are developing for broadband services. This would undercut our ability to roll out new services our subscribers want, just so broadcasters could get a free ride for both analog and digital signals. Mandating digital carriage would cause the loss of important existing analog and digital programming and high-speed Internet services. It would also create a significant chilling effect on the development and deployment of new advanced telecommunications services to these markets.

The ability to provide these new services is essential to attracting the capital necessary to upgrade our smaller market systems in response to marketplace demand. It is already difficult enough to attract the capital necessary for broadband, which provides a new revenue stream, let alone finding the money for a forced transition to digital, which would provide no new revenues.

Mandating digital broadcast carriage on smaller market cable systems would force other existing important services off our systems in order to accommodate digital broadcast signals, which few of our customers could watch now anyway.

An important point is often missed in this debate: the government has given broadcasters both the analog and new digital spectrum to transmit both of these signals during the transition period before digital broadcast signals are mandated in 2006. But the law has not granted smaller market cable systems additional bandwidth to carry any of the additional broadcast signals.

We have to pay for our additional bandwidth through costly system upgrades. We can only pay for these upgrades by carrying services our customers will pay us for. Currently, our customers are not requesting digital broadcast signals in our markets.

From a technical, operational, economic and practical standpoint, we cannot carry all of the digital and analog signals of the local broadcasters. The reason? Because we are still required to devote up to fifty percent (50%) of our channel line-ups for other mandated carriage set-asides, such as analog must-carry, retransmission consent, non-commercial educational programming, public, educational and governmental programming, and leased access programming, not to mention the current analog, digital and high-speed data services our customers now demand and expect.

Who will make the choice to tell my customers what they can and can no longer receive as a result of dual must-carry or mandated digital broadcast television carriage? And is this the right thing to do? I think not. But one thing is certain. Our company and other ACA members like ours will get blamed for it, while dissatisfied switch to direct broadcast satellite service. This result could threaten the viability of smaller market cable systems, which would certainly be an unintended consequence of this policy.

As far as smaller market cable systems are concerned, the FCC has gotten this one right – no dual carriage during the transition period. When you hear broadcasters demand a legislative fix for their dual carriage demands, we encourage members of this

committee to carefully consider the consequences for smaller market cable systems and consumers.

The High "Cost" of Converting to Digital and the Threat to Broadband Deployment

Right now our company is engaged in a competitive race to improve our systems through the use and deployment of digital cable services and high-speed Internet. These services are a reality today. They are available now. They are helping us improve to our systems and provide advanced higher quality telecommunications services to our customers today.

Our company is using these services to close the so-called "Digital Divide" in smaller markets now. These services and the required systems upgrades are costly. For example, on average it costs about $130,000 to install a digital cable headend that will enable our customers to receive significantly more services that they want. But not all customers take these services right off, and the return on investment for a digital headend like this one is lengthy. In addition, you can understand how difficult it is to economically spread that cost across a system that may only serve 500 customers.

We face the same situation with the substantial investment necessary to deliver high-speed cable modem Internet service. It's expensive, and the return is a long one.

Still, these services are available now. They are not on the drawing board or potentially available sometime in the future. Our company is doing right now what policymakers want – improving our service, enhancing competition in the marketplace, and closing the "Digital Divide" by providing advanced telecommunications services.

But what if the significant funds that it takes to launch digital cable or high-speed Internet are forced to cover the costs of dual must-carry or mandatory digital broadcast carriage? Plainly, something would have to give.

The adverse effect on broadband deployment would be more than an unintended consequence of mandating digital broadcast television carriage. It would be a direct result.

(3) The Effect of Open Access Regulations if Imposed On Smaller, Rural Markets Will Create a Chilling Effect to Hinder or Even Stop the Development of Broadband Services in Smaller Markets and Rural America, Where the Marketplace is Already Working.

For smaller markets, the relevant policy goals are: (i) continued rapid deployment of broadband services, and (ii) maintaining a regulatory environment that encourages investment in companies serving these markets. The emphasis by Congress and the FCC to date on regulatory restraint and marketplace solutions has succeeded in smaller markets and rural America. Our company has taken a substantial financial risk to bring Internet services to our customers. Why should someone who has not taken this risk be allowed to come in and skim off profit? This could stop Internet deployment dead in its tracks. And why should small rural cable operators be burdened with real open access when large ILEC's have yet to open their networks in a meaningful way.

By recognizing the unique circumstances and economic considerations of smaller market providers in rural America, this Committee can avoid unintended consequences

in broadband deployment and ensure that the desire by some industries to regulate does not drown out the concerns of independent cable and the smaller market customers they serve.

As we have shown, despite many challenges, independent cable has accepted the challenge to launch broadband services. But this impressive success begs one question: With the higher costs associated with serving lower density markets, what drives this progress? The evidence points to one consistent answer the absence of burdensome regulation spurs investment in broadband deployment.

ACA members surveyed report that they developed their broadband business models on the assumption that marketplace forces would govern their provision of cable modem service. Nearly all ACA members currently providing cable modem service indicated they would not risk additional capital at this point if the service were to face burdensome regulations in their markets.

(4) The Effect of Uncontrollable Cost Increases which are Being Borne Disproportionately by Smaller, Independent Cable Businesses Could Have a Major Impact on the Financial Viability of These Companies and, Therefore, Their Ability to Upgrade Their Systems and Provide Advanced Telecommunications Services, Like Broadband Technologies.

Programming costs are skyrocketing. Why? Because they can. Giant media companies, like Disney, or vertically integrated programmers, like Time Warner/AOL, own most cable and satellite programming networks. Aside from the fact that

programming costs are increasing by 20% each year or more, smaller, independent cable businesses pay 25-30% more for programming than larger cable businesses.

Huge media content conglomerates, vertically integrated programmers and the unintended consequences of retransmission consent are major contributors to this problem. The huge media conglomerates – Disney/ABC, CBS/Viacom, NBC/GE, Fox, Time Warner/AOL – all use their enormous market power to hold hostage the carriage of broadcast networks and local broadcast stations they own through the "retransmission consent" process every three years. Retransmission consent under the 1992 Cable Competition and Consumer Protection and Policy Act allows the owners of broadcast networks and stations to withhold the right of a smaller, independent cable business like mine to carry the network or station unless we agree to the broadcast owner's terms of consent. With the enormous power wielded by these conglomerates, we have no ability to negotiate fair terms at all. We are at their mercy.

As a result, more and more overpriced programming is being forced on to our cable systems in order to secure retransmission consent. This takes up precious bandwidth, significantly increases our costs and expenses and takes away valuable resources for launching broadband in our systems.

Skyrocketing costs for sports programming are another major factor. Our costs for sports programming increased 40% in 2000 alone. Our customers must eventually pay for these out-of-control increases. Smaller, independent cable businesses should be able to buy programming on the same basis as larger cable companies. There is no cost basis or economic justification for this discrepancy.

Another area of growing concern is pole rent – the cost we pay a utility or a cooperative for the right to attach our cable lines to their poles. While typical rates to rent a pole are $6-$9 annually, our company recently received notice of an increase that would increase our pole rent to $47.25 per pole per year in areas providing telecommunication services. This is a totally unwarranted increase because no physical aspect of our attachment has changed at all. As previously mentioned, this could amount to an increase in costs of more than $10.00 per subscriber per month in rural areas. Who could introduce new broadband services in smaller markets and rural areas under these circumstances?

Independent cable businesses are under enormous pressure to keep rates to consumers within either the rate of inflation or cost of living. However, suppliers of programming services, pole rents, etc., are under no such restriction – either mandated by regulation or the marketplace. If these costs continue to skyrocket out of control to the point where smaller, independent cable businesses can no longer afford them, how can there ever be hope of long-term broadband deployment in smaller markets and rural America?

What Can Be done? Some Potential Solutions.

Full deployment of broadband services, like high-speed cable modem Internet and digital cable service, cannot be accomplished or even be expected to succeed unless the barriers to further deployment are removed. While there may be a number of solutions to eliminate these barriers, we offer several suggestions to address the barriers discussed in our testimony.

Access to Capital

- Provide incentives to lenders and financial institutions to lend money for broadband projects in smaller markets and rural areas.
- Consider "technology neutral" plans that would provide tax credits, loan guarantees or low-interest loans to lower the cost of capital, increase access to it, and help spur broadband deployment.

Mandated Digital Broadcast Carriage

- Refrain from imposing "dual must-carry" on smaller, independent cable businesses that would be required to carry both the analog and digital broadcast television signals of television signals.
- Let the marketplace develop solutions to digital carriage and technology concerns. Imposing dual must-carry won't help if the technology and digital programming are not available to the consumer on a cost-effective basis.
- Consider eliminating smaller, independent cable businesses from the myriad requirements of mandated carriage of certain types of programming to increase bandwidth that would then be available for broadband deployment.

Open Access Regulations

- Promote plans that would encourage marketplace negotiation between independent cable businesses and unaffiliated Internet Service Providers. The marketplace is already working to solve these concerns.

- Refrain from imposing mandated open access regulations, which would hinder or even stop the development of broadband deployment in smaller markets and rural areas.

Increasing Programming, Pole Rent and Other Operational Costs

- Hold hearings and seek detailed information from programming owners on the actual costs of programming and the various rates charged to providers of varying sizes. Find out how the increasing cost of programming is affecting independent cable businesses and discouraging broadband deployment.
- Prohibit huge media conglomerates from tying new programming services or digital broadcast carriage to analog retransmission consent and also from forced bundling of programming services.
- Extend and strengthen current programming access regulations from the 1992 Cable Act, as amended.
- Consider applying other principles, such as unfair trade practices, to programming business practices.
- Tighten the provisions of the Pole Attachment Act to eliminate huge, unjustified rate increases of utilities, and extend the provisions of the Act to municipalities and cooperatives.

CONCLUSION

In conclusion, our company's future and our ACA members' future lie in the deployment of broadband services. We have already embraced it.

Independent cable companies are responding to marketplace incentives, making substantial investments in infrastructure. The marketplace is working.

The results are exactly what the Congress intended – delivery of advanced services to an increasing number of consumers in smaller markets through market-based solutions.

However, severe barriers face us if we are to continue to deploy broadband throughout all smaller markets and rural areas. These barriers could derail the enormous gains that have already been made. My company and all of the members of the ACA are concerned that these barriers could stop broadband deployment cold.

We're committed to working with the Committee on solutions that will enable us to eliminate these barriers and further encourage broadband deployment throughout smaller markets and rural America.

I would like to sincerely thank the Committee again for allowing me to speak before you today.

KIRBY J. CAMPBELL

Kirby J. Campbell graduated from Geneva College in 1969 with a B.S.B.A.

Kirby J. Campbell is Chief Executive Officer of The Armstrong Group of Companies. Prior to joining The Armstrong Group in 1972, he worked for Price Waterhouse for three years. His first years with Armstrong were in the specialized area of public utilities. After that, he helped develop the necessary accounting, financial and capital structures, as well as the existing modern data processing center, which enabled Armstrong to position itself for the future. He currently provides advice on all financial decisions and assists in Armstrong's continued growth and diversification efforts.

Statement of Thomas Cohen
Coordinator, Americans for the Digital Bridge

Before The
Small Business
Subcommittee on Regulatory Reform and Oversight
And
Subcommittee on Rural Enterprises, Agriculture and Technology

May 24, 2001

Chairman Pence, Chairman Thune, Ranking Member Brady, Ranking Member Udall, and members of the joint subcommittee:

Thank you for the opportunity to submit this statement for the record. My name is Thomas Cohen, and I am the coordinator of Americans for the Digital Bridge, a broad based ad hoc coalition of agriculture, telecommunications, and public interest organizations which have banded together to support the need to bring critical broadband infrastructure to rural and low-income areas and to ensure the United States maintains its global leadership in the crucial areas of telecommunications and information technology, including the Intenet. To achieve this goal, our group supports The Broadband Internet Access Act of 2001 (H.R. 267), introduced by Representative English, along with its Senate companion (S. 88), introduced by Senator Rockefeller, and similar measures introduced in the states. Congressmen Thune and Udall are among the members of the Small Business Committee who have cosponsored H.R. 267, and we thank them for their support and hope that other members of the panel will also sign on soon. This legislation, now supported by over 150 members of the House and half of the Senate, would stimulate the deployment of high-speed Internet service to rural and low-income urban areas through a temporary, two-tiered tax credit to providers who extend their networks to those targeted areas.

The availability of broadband in rural areas is clearly an appropriate focus for your panel – slow broadband rollout is both a small business problem and a rural problem. Small business is clearly at a disadvantage vis-à-vis big business in broadband availability and its associated efficiencies. And for rural small businesses, the problem is exacerbated by the greater distances and costs involved. Attached is a letter to President Bush from eleven national agriculture organizations describing the importance of broadband on the farm and urging support for the Broadband Internet Access Act

The delivery of broadband in rural areas is unlikely to come via any single technology, but rather through a combination of all available technologies -- Digital Subscriber Line (DSL), cable modem service, optical systems, terrestrial wireless and satellites. That is why it is important that public policy initiatives in the broadband arena are crafted to be completely technology neutral. The Broadband Internet Access Act is designed in such a technology-neutral fashion.

This bill is also provider neutral. Any provider delivering the speeds called for in the bill is eligible for the tax incentive, regardless of the medium of delivery.

Americans for the Digital Bridge strongly believes that financial incentives can make a substantial difference in the deployment of broadband facilities to all Americans, just as they have in other important infrastructure developments throughout our history -- the Pacific Railroad, the Interstate Highway System, rural electrification, and rural telephone service. In all of those cases, the federal government decided that the benefit was worth the investment. For broadband deployment, however, we believe that use of a tax benefit is a more efficient incentive than the direct spending and low-interest loans utilized in the projects mentioned above. There are no new bureaucracies, contracting agents, loan officers, or loan defaults. If a company provides the required service in a qualified area, they get the tax benefit. If they fail, they do not. It is that simple.

And because many of the communications providers are tax-exempt cooperatives, H.R. 267 includes a provision allowing them to also take advantage of the tax incentive through an exemption from what they would otherwise pay in unrelated business income taxes ("UBIT").

For these reasons, we hope that you will consider H.R. 267 as an important component in the rural broadband solution, and that you will support its passage by Congress at the earliest opportunity.

Thank you for the opportunity to provide you with our views on this important topic. We hope that you will not hesitate to contact us or view our web site at www.AmericansForTheDigitalBridge.com if we may provide more information.

Americans for the Digital Bridge

(www.AmericansForTheDigitalBridge.com)

Agilent Technologies
Alcatel
Alliance for Public Technology
American Association of People with Disabilities
American Electronic Association
American Farm Bureau
American Telemedicine Association
Arizona Consumers Council
The Broadband Company
Columbia Consumer Education Council
Consumer Alliance of the Southeast
Corning Incorporated
Council of Chief State School Officers
Delaware Chamber of Commerce
Electronic Industries Alliance
Floyd County Network Group
Georgetown University Medical Center
MS Global Systems, Inc.
Information Technology Industry Council
Kidz Online
League of United Latin American Citizens
Libraries for the Future
The Loveland Group
Lucent Technologies
Metropolitan Area Advisory Committee, San Diego, CA
Microtek Internet Services
Mitretek
NAACP
National Association of Development Organizations
National Association of Commissions for Women
National Association of the Deaf
National Black Chamber of Commerce
National Corn Growers Association
National Hispanic Council on Aging
National Indian Education Association
National Trust for the Development of African American Men
Nortel Networks
Oklahoma Municipal League
One-Economy
Qwest Communications
Siemens
Telecommunications for the Deaf
Telecommunications Industry Association
3Com
United Home Owners Association
United States Distance Learning Association
United States Seniors Health Cooperative
Universal Service Alliance
World Institute on Disability

February 12, 2001

Honorable George W. Bush
President
The White House
Washington DC, 20500

Dear Mr. President:

We, the undersigned organizations, are writing to express our very strong support for the Broadband Internet Access Act of 2001. We believe that this legislation will provide a very significant stimulus to help overcome the slow deployment of broadband Internet service in America, particularly in rural areas.

The growing digital divide is severely harming America's farmers and ranchers, their families and all those who live and work with them to maintain communities in rural areas. American agriculture spans our vast continent. Current and next generation Internet access is crucial to help rural areas bridge these long distances, retain and build their market competitiveness, and sustain their communities.

At a time when the e-world is creating greater productivity and efficiency for U.S. industries in urban centers, American farmers and ranchers are being left behind and geographically isolated. Due to the high cost of Internet technology infrastructure, investment has not been extended to rural users who live in low-population density areas.

That is why the Broadband Internet Access Act could make a huge difference in rural broadband deployment. Through a temporary investment incentive, the bill will allow the creation of a broadband infrastructure which would otherwise not be feasible in sparsely-populated areas.

For farmers and ranchers, broadband Internet access will improve our competitive position and provide significant economic gains. Advanced Internet applications will reduce input costs, improve productivity and environmental protection, create new marketing opportunities and outlets, simplify price discovery and improve risk management. Just as the Interstate highway system allows us to transport goods to and from U.S. urban centers, broadband Internet services will allow us to transmit and receive information crucial for success in a time of increasingly sophisticated and complex agricultural operations.

We look forward to working with you to bring equity to America's rural and low-income communities. We ask that you support the Broadband Internet Access Act of 2001 which is an important first step in bringing the full potential of the digital economy into America's heartland.

Sincerely,

American Agri-Women
American Farm Bureau Federation
National Cattlemens' Beef Association
National Corn Growers Association
National Council of Farmer Cooperatives
National Pork Producers Council
National Sorghum Producers Association
National Wheat Growers Association
North American Export Grain Association
Rice Millers' Association
U.S. Rice Producers' Group

Introduction

My name is Bob Phillips, and I am the President and CEO of the National Rural Telecommunications Cooperative.

The National Rural Telecommunications Cooperative (NRTC) represents the advanced telecommunications and information technology interests of more than 1,000 rural utilities and affiliates in 46 states.

Founded in 1986 by the National Rural Electric Cooperative Association (NRECA) and the National Rural Utilities Cooperative Finance Corporation (CFC), our mission is to lead and support our members in developing telecommunications technologies and other products that strengthen their businesses and serve their consumers.

In the early 1990s, we forged a critical partnership with DIRECTV, Inc., a unit of Hughes Electronics Corporation. NRTC invested more than $100 million toward launching the nation's first and most successful high-power direct broadcast satellite (DBS) system, thereby acquiring exclusive sales rights to 8 percent of DIRECTV households. NRTC has since become the leading distributor of satellite television service and hardware to rural America. NRTC members serve more than 1.7 million rural consumers, nearly 20 percent of all DIRECTV subscribers.

In addition to DIRECTV, NRTC offers a wide range of services to our members including Internet and e-commerce solutions, long-distance service, power management and automatic meter reading systems, as well as other high-quality telecommunications services to our rural constituency.

The Promise Of Satellite

There are two answers in response to your question, "Eliminating the Digital Divide - Who Will Wire Rural America?"

First, I respectfully submit that the question should be, "Who will serve", rather than "who will wire", rural America. Many rural consumers may not want or need a

"wire." Satellite-based solutions available today in rural communities through Ku-band (frequencies near 12 GHz) technologies provide high-speed Internet (HSI) service. Next-generation Ka-band (frequencies near 18 GHz) technologies will offer faster data rates and service equal to or better than landline Internet services currently available in urban areas.

My second response is to say, on behalf of our members, "We will serve rural America." Many of our members already have begun the task of building broadband systems in rural America. Cooperatives have a proud tradition of being the first to provide electricity and telephone service in their areas. They are carrying that tradition on today by providing advanced telecommunications.

One of the ways that NRTC is aiding its members with the transition to broadband is by providing support for them to offer high-speed Internet service via satellite. We have partnered with DirecPC, a subsidiary of Hughes Network Systems and with StarBand, which are both providing Internet to the home using Ku-band satellite systems. Our agreement is to use our membership network to deliver this service throughout our rural service territory.

Satellites provide all the ingredients that are needed to close a digital divide:

1. *The Ubiquity of Satellite* – Due to the fact that the coverage is from 22,000 miles away, satellites are able to offer full coverage to just about every home regardless of how rugged the terrain. The consumer does not have to live near a central switching point or tower.
2. *Fast, Always-on Internet Access* – The initial wait for a dial-up connection and then again as you begin downloading documents will no longer be an impediment. Satellites soon will smash the hourglass by providing speeds from 10 to 20 times faster than dial-up.
3. *Available Now* – Many consumers living in rural and urban areas are still waiting for wired Internet access to the home to come to their

neighborhoods. Virtually any home today could receive HSI via satellite.

Obstacles Still Remain

While satellite service is available, and the subsequent economic benefits are very likely, the initial start-up costs for many rural consumers can be high. The consumer premise equipment (CPE) needed to install satellite HSI amounts to about $700 per household. Even if equipment manufacturers subsidize the purchase, as they are planning to do, or the cost is reduced over time as with other consumer electronics some rural consumers may choose to delay the purchase of high-speed Internet service.

Many consumers are just learning about broadband services and satellite HSI in these early stages. Rural service providers could use favorable public policies that will encourage the growth of satellite-based HSI as rapidly as possible.

Current Congressional Regulatory Initiatives

Congress is considering several bills that are intended to help deliver broadband to rural America.

The priority as in any action is to "First, do no harm." Congress should treat satellite technology on an equal basis with all others. We certainly accept that satellite is not the answer for everybody, but it is the answer for many in rural America. There should be no legislative or regulatory hurdles to rapid deployment of a satellite-based solution. Legislation should not only allow but also encourage a satellite solution for provision of broadband services. The special needs of rural consumers need to be addressed.

Rural cooperatives, not-for-profit entities with long histories as good neighbors in their communities, will be Congress' closest allies in the campaign to introduce

advanced services to all Americans. So far, Congress has paid significant attention to tax-incentive approaches to encourage for-profit carriers. There is a danger that these policies will lack incentives favorable to tax-exempt organizations.

Legislation to provide tax credit incentives should allow tax-exempt organizations to sell or trade their credits.

Likewise, policies that would grant new privileges to certain types of providers without a clear commitment to serve rural America fully and adequately would be unwise.

FCC policies should treat all technologies, including landline, terrestrial wireless, and satellite approaches, equally and should balance their goals to ensure current cooperative service providers are not in jeopardy of losing their ability to offer their service.

The Rural Utility Service (RUS) of the United States Department of Agriculture (USDA) currently has a $100 million broadband initiative and a very good resource on broadband issues. To date, RUS has approved funding to three applicants. Eligible rural entities have submitted more than $300 million in loan applications. Clearly the RUS will exhaust their funding in this fiscal year. The Administration proposes to fund the program again next year at the same $100 million level.

Congress should seriously consider expanding the program, both in dollar amount and in the types of activities that would be eligible for funding under the program.

Conclusion

Satellite technology will be the most effective answer for many consumers in rural America. Our federal programs need to recognize that multiple technologies from

various providers, including cooperatives, will represent our best chance to deploy broadband and all of its applications in the most timely and cost-efficient manner.

A clear commitment to rural America and other served and underserved citizens should be at a minimum, a requirement of any company requesting federal assistance.

OPASTCO

FOR IMMEDIATE RELEASE
May 24, 2001

Contact: Martha Silver
202/659-5990

OPASTCO PROVIDES RECOMMENDATIONS TO SPUR BROADBAND DEPLOYMENT

WASHINGTON -- The Organization for the Promotion and Advancement of Small Telecommunications Companies (OPASTCO) today offered its recommendations for legislative proposals that would facilitate the deployment of broadband services to rural communities. OPASTCO offered its recommendations in anticipation of the joint hearing being convened today by the House Small Business Committee, Subcommittee on Regulatory Reform and Oversight and the Subcommittee on Rural Enterprises, Agriculture and Technology titled, "Eliminating the Digital Divide – Who Will Wire Rural America."

"OPASTCO's small telecommunications carriers commend the interest Congressmen Pence, Thune, and members of the subcommittees have shown in broadband deployment to rural areas by convening today's hearing. The subcommittee chairmen have put forth a number of challenging questions related to broadband deployment that we are pleased to address including the current state of broadband infrastructure in rural America, and barriers to further deployment of broadband services," said OPASTCO President John Rose.

"Perhaps the biggest challenge to the deployment of advanced services to rural areas involve the same factors that make traditional voice service difficult and expensive to deploy. These barriers include sparse and dispersed populations, great distances between the customer and the central office, difficult terrain, and a lack of economies of scale. In addition, factors such as consumer demand can vary greatly from one rural area to the next. Compounding these challenges for small carriers is the inability to spread costs over urban population centers and the lack of access to the vast capital resources which are enjoyed by large carriers," said Rose.

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"It is also noteworthy that many small telecommunications carriers have already begun to deploy high-speed advanced telecommunications capability to rural communities. Finally, a recent study of the National Exchange Carrier Association (NECA) indicates that 65 percent of small carriers' access lines will be upgraded, so that they are physically capable of delivering broadband services, by 2002. However, the estimated cost to upgrade remaining access lines is $10.9 billion. Clearly, to mandate immediate ubiquitous access to broadband services would require an appropriate level of federal financial support. Although there is no single all-encompassing solution, the following proposals can each play a role in helping rural consumers enjoy the benefits of advanced services," said Rose.

For OPASTCO and its members, there are at least two legislative proposals that would facilitate the deployment of advanced telecommunications services:

1. **Establish an advanced services exemption:** The market and operating conditions of many small carriers' service areas do not naturally support more than one telecommunications provider capable of delivering service to all customers. This fact led Congress to exempt rural telephone companies from the network unbundling, resale, and collocation requirements under section 251(f) of the Telecommunications Act of 1996.

   Presently, when a state commission rescinds a rural telephone company's exemption, the revocation applies to both voice grade and advanced services. Small carriers, if forced to lease network components to other companies, will find it far more difficult to obtain financing for the risky and costly investments necessary to upgrade facilities for the provision of advanced services. An advanced services rural exemption, separate and distinct from the voice grade exemption, would thus encourage investment in advanced services infrastructure in high-cost, difficult-to-serve markets.

2. **Eliminate the restrictive cap on high-cost universal service support mechanisms.** The FCC's "interim" caps on the rural high-cost universal service assistance prevents rural carriers from obtaining all the support for which they qualify, contrary to the mandate within

section 254 of the Telecommunications Act of 1996 that support be "sufficient." Small carriers must expend scarce capital to make up for funding shortfalls engendered by the cap in order to maintain quality voice-grade service. These resources are subsequently not available for investment in advanced services infrastructure. This regulatory penalty against customers of small, rural carriers should therefore be lifted immediately.

OPASTCO supports S. 500/H.R.1171, the "Universal Service Support Act," introduced by Senator Conrad Burns and Representative Nathan Deal. This legislation would remove the cap on the annual amount of total nationwide loop cost expense adjustments; the cap on allowable corporate operations expense for purposes of calculating universal service support; and the cap on universal service support for acquired exchanges. OPASTCO, as part of the LEC Multi-Association Group (MAG), has also advocated for removal of these caps in its MAG Plan, which was filed with the FCC on October 20, 2000.

OPASTCO looks forward to working closely with all members of the House Small Business committees to further address the important and complex issues raised today.

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Note to Editors: The Organization for the Promotion and Advancement of Small Telecommunications Companies (OPASTCO) represents more than 500 small, independently owned, local telecommunications companies serving primarily rural areas of the United States and Canada. Its membership includes both commercial companies and cooperatives, which range in size from fewer than 100 to 100,000 access lines and collectively serve more than 2.6 million customers. OPASTCO represents rural telecommunications interests before federal regulatory bodies and Congress, provides publications and holds two conventions annually in January and July of each year, addressing the needs of the small telecommunications industry. The association also has an affiliate nonprofit, the Foundation for Rural Education and Development. Visit the OPASTCO Web site at www.opastco.org.

May 23, 2001

VIA HAND DELIVERY

Chairman Michael Pence
Subcommittee on Regulatory Reform and Oversight
Committee on Small Business
U.S. House of Representatives
2361 Rayburn House Office Building
Washington, DC 20515

Chairman John Thune
Subcommittee on Rural Enterprises, Agriculture, and Technology
Committee on Small Business
U.S. House of Representatives
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Re: Eliminating the Digital Divide — Who Will Wire Rural America?

Dear Chairman Pence and Chairman Thune:

This letter is for the record of the hearing titled "Eliminating the Digital Divide — Who Will Wire Rural America?" to be held on Thursday, May 24, 2001. I thank you for organizing this hearing to investigate this extremely important issue.

The good news is that there are answers to the question: "Who will wire rural America?" OnSat Network Communications, Inc. ("OnSat") was established in 1998 to provide satellite based, cost-effective, bi-directional, high-speed Internet access, telephone, live video conferencing and other broadband services to remote rural areas. OnSat (http://www.onsatnet.com/) is currently providing proven, self-sustainable satellite based systems that allow rural America the ability to take advantage of the many opportunities digital connectivity provides, including Internet, telephony and video based distance education and healthcare services. I would like to suggest that the question in the title of this hearing is, therefore, not quite accurate because the answer may not rely on wire exclusively or primarily. It may rely on satellite based wireless technology such as OnSat's as well.

OnSat created the Digital Equity Network® to take advantage of both satellite and other wireless local loop technologies together with its sophisticated and proprietary bandwidth management and intelligent caching to provide customized solutions to rural markets. What sets the Digital Equity Network® apart from "wired" solutions is that to

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connect to our nationwide network, customers will never have to lay a single cable or dig a single ditch. If access to power is a problem, OnSat installs a point-of-presence powered exclusively by solar power.

Not surprisingly, OnSat has become a recognized leader in helping to bridge the digital divide. OnSat currently delivers broadband service to Navajo land in Arizona. In Red Mesa, Arizona OnSat currently provides high speed Internet service to many students and residents on a Navajo reservation there. According to Karen Lesher, the Director of Federal Programs in the Center for Program Planning and Implementation for the Red Mesa School District, "the increased speed from the OnSat system makes an incredible difference in student access to information through technology." The Navajo reservation's previous wire-based system required 2 hours 15 minutes to transfer a special data file over the telephone connection to the Internet; with the new OnSat system they now transfer the same file in less than 8 minutes. OnSat is now in the process of installing over 100 such sites in the Navajo Nation in a project funded by the Bill and Melinda Gates Foundation, but has had to use the less reliable Ku-Band because of the outstanding FCC issues discussed below.

In rural Wyoming, at the request of US West, OnSat undertook to bring the Internet and telephony (other than ancient radio telephones) to several communities, one of which was a six hour drive down a dirt road from the nearest (copper) phone lines and, which, if provisioned by US West, would have cost more than $4 million and taken in excess of six months to install. One such town had a total population of less than fifty and a K-12 one-room school serving just eight students. OnSat delivered higher-speed Internet to that school and its surrounding community than can be found in almost any public or private school in the most affluent and fiber-provisioned regions of America.

OnSat has also been active outside the United States in remote regions in which the problems of lack of Internet access mirror the problems faced by many in rural America. OnSat has been active in bringing high-speed Internet access to villages in Honduras through its Solar.net Village® program. Most of these villages are not even connected by road, and the introduction of high-speed Internet access has made an immeasurable impact on the educational opportunities and the quality of life available to their residents. If we can accomplish this in remote Honduras, we can do even better in rural America, with your help.

One of the areas the hearing seeks to explore is the technologies available for delivering broadband services to rural areas. It is OnSat's experience that satellite technology is particularly well suited for this purpose. In comparison with terrestrial systems, satellite networks can be deployed more rapidly and more easily — particularly in areas with rough terrain or remote rural areas where facilities are too widely dispersed to lay cable or string wires. OnSat operates using a network of technically identical antennas that communicate with a hub antenna via satellite. This "hub and spoke" configuration makes these systems less expensive to operate relative to other satellite or terrestrial systems. In addition, OnSat has made innovative use of spectrum by using the C-Band of frequencies instead of the more commonly used Ku-Band. Even though terrestrial and satellite users share C-Band frequencies, OnSat decided to operate in the

C-Band because networks that operate using these frequencies have significant technical and cost advantages. While antennas that operate using C-Band frequencies must be coordinated with C-Band terrestrial antennas in order to avoid interference, OnSat has not run into significant problems because its antennas tend to be located in remote rural areas with few, if any, other potentially interfering antennas.

Another issue the hearing intends to explore is the barriers to further deployment of broadband services in rural America. Here's where we need your help. The present FCC licensing process for networks like OnSat's is extremely time-consuming, burdensome and expensive. Almost two years ago, in September 1999, OnSat petitioned the FCC to change its rules to allow streamlined licensing of C-Band "hub and spoke" networks. The FCC responded by issuing a Notice of Proposed Rulemaking — a proceeding that is still ongoing. However, the streamlined licensing rules that the FCC has proposed, with a few minor changes, should go a long way toward ensuring that companies like OnSat can rapidly and efficiently deploy broadband networks in rural areas. Adapting the FCC's Rules to accommodate these innovative uses of C-band spectrum has not been an easy or quickly accomplished task. But the Commission is apparently nearing a decision on the rulemaking — none too soon for OnSat which has been seriously delayed and handicapped by the needless rigidity of the existing rules as applied to OnSat's pioneering services and operations. But the Commission has sought to accommodate us both in the rulemaking and in the very difficult interim period when OnSat sought ad hoc fixes to the problems posed by an inhospitable regulatory regime for the C-band frequencies. We hope this Committee will urge prompt and favorable resolution of the rulemaking (Docket No. 00-203) and recognize that the FCC has sought to make its rules more accommodating of OnSat's pioneering rural service.

For more information, please visit our web site at http://www.onsatnet.com/.

Sincerely,

David Stephens
Chairman, Co-Founder
OnSat Network
Communications, Inc.

cc: Rep. Robert Brady
Rep. Tom Udall
Rep. W. J. Tauzin
Rep. Fred Upton

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Rep. John D. Dingell
Rep. Edward J. Markey
Sen. John McCain
Sen. Ernest Hollings
Sen. Conrad Burns
Sen. Robert Bennett
Sen. Jeff Bingaman
Sen. Pete Domenici
Sen. Orrin Hatch
Sen. Jon Kyl
FCC Chairman Michael K. Powell
FCC Commissioner Gloria Tristani
FCC Commissioner Harold W. Furchtgott-Roth
FCC Docket No. 00-203