AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

SUBCOMMITTEE HEARING ON MAXIMIZING THE VALUE OF BROADBAND SERVICES TO RURAL COMMUNITIES

SUBCOMMITTEE ON URBAN & RURAL ENTREPRENEURSHIP
COMMITTEE ON SMALL BUSINESS
UNITED STATES HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

MAY 9, 2007

Serial Number 110-20

Printed for the use of the Committee on Small Business

Available via the World Wide Web: http://www.access.gpo.gov/congress/house

U.S. GOVERNMENT PRINTING OFFICE

34–832 PDF WASHINGTON : 2007

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2104 Mail: Stop IDCC, Washington, DC 20402–0001

HOUSE COMMITTEE ON SMALL BUSINESS

NYDIA M. VELÁZQUEZ, New York, *Chairwoman*

WILLIAM JEFFERSON, Louisiana
HEATH SHULER, North Carolina
CHARLIE GONZÁLEZ, Texas
RICK LARSEN, Washington
RAUL GRIJALVA, Arizona
MICHAEL MICHAUD, Maine
MELISSA BEAN, Illinois
HENRY CUELLAR, Texas
DAN LIPINSKI, Illinois
GWEN MOORE, Wisconsin
JASON ALTMIRE, Pennsylvania
BRUCE BRALEY, Iowa
YVETTE CLARKE, New York
BRAD ELLSWORTH, Indiana
HANK JOHNSON, Georgia
JOE SESTAK, Pennsylvania

STEVE CHABOT, Ohio, *Ranking Member*
ROSCOE BARTLETT, Maryland
SAM GRAVES, Missouri
TODD AKIN, Missouri
BILL SHUSTER, Pennsylvania
MARILYN MUSGRAVE, Colorado
STEVE KING, Iowa
JEFF FORTENBERRY, Nebraska
LYNN WESTMORELAND, Georgia
LOUIE GOHMERT, Texas
DEAN HELLER, Nevada
DAVID DAVIS, Tennessee
MARY FALLIN, Oklahoma
VERN BUCHANAN, Florida
JIM JORDAN, Ohio

MICHAEL DAY, *Majority Staff Director*
ADAM MINEHARDT, *Deputy Staff Director*
TIM SLATTERY, *Chief Counsel*
KEVIN FITZPATRICK, *Minority Staff Director*

SUBCOMMITTEE ON URBAN & RURAL ENTREPRENEURSHIP

HEATH SHULER, North Carolina, *Chairman*

RICK LARSEN, Washington
MICHAEL MICHAUD, Maine
GWEN MOORE, Wisconsin
YVETTE CLARKE, New York
BRAD ELLSWORTH, Indiana
HANK JOHNSON, Georgia

JEFF FORTENBERRY, Nebraska, *Ranking*
ROSCOE BARTLETT, Maryland
MARILYN MUSGRAVE, Colorado
DEAN HELLER, Nevada
DAVID DAVIS, Tennessee

CONTENTS

OPENING STATEMENTS

	Page
Shuler, Hon. Heath	1
Fortenberry, Hon. Jeff	2

WITNESSES

PANEL I

Adelstein, Hon. Jonathan, Commissioner, Federal Communications Commission	3

PANEL II

Stephens, Brandon, Balsam West FiberNET LLC	16
Shields, T. Russell, Ygomi LLC	17
Kremer, Russ, National Farmers Union	19
Christensen, Brent J., Christensen Communications Company	21
Mefford, Brian, Connect Kentucky	23
Deere, William R., United States Telecom Association	26

APPENDIX

Prepared Statements:

Shuler, Hon. Heath	37
Fortenberry, Hon. Jeff	38
Adelstein, Hon. Jonathan, Commissioner, Federal Communications Commission	40
Stephens, Brandon, Balsam West FiberNET LLC	47
Shields, T. Russell, Ygomi LLC	76
Kremer, Russ, National Farmers Union	80
Christensen, Brent J., Christensen Communications Company	85
Mefford, Brian, Connect Kentucky	91
Deere, William R., United States Telecom Association	104

SUBCOMMITTEE HEARING ON MAXIMIZING THE VALUE OF BROADBAND SERVICES TO RURAL COMMUNITIES

WEDNESDAY, MAY 9, 2007

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON SMALL BUSINESS,
SUBCOMMITTEE ON URBAN & RURAL ENTREPRENEURSHIP
Washington, DC.

The Subcommittee met, pursuant to call, at 10:00 a.m., in Room 2360 Rayburn House Office Building, Hon. Heath Shuler [Chairman of the subcommittee] presiding.

Present: Representatives Shuler, Clarke, Fortenberry, Musgrave, and Davis.

OPENING STATEMENT OF MR. SHULER

The Committee met, pursuant to call, at 10:00 a.m., in Room 2360 Rayburn House Office Building, Hon. Heath Shuler [chairman of the subcommittee] presiding.

Present: Representatives Shuler, Clarke, Fortenberry, Musgrave, and Davis.

Also Present: Representative Fallin.

ChairmanSHULER. Good morning, everyone. I am pleased to call this hearing to order. This is the Subcommittee on Rural and Urban Entrepreneurship, the first hearing of the 110th Congress.

I would like to welcome the Members of the Subcommittee, the distinguished witnesses, and our guests.

Rural America is the home of many different kinds of small businesses. In Western North Carolina, there are thriving high-tech businesses, small manufacturers, and family farms. What all these businesses have in common is the need to stay connected with their customers, their suppliers, and the information that they need to run their businesses.

Today's hearing will focus on the challenges for providing reliable, affordable broadband access of the rural small businesses. Experience has shown that broadband can bring economic revitalization to small towns by creating clusters of small businesses. Broadband service can also help farmers and farm-related businesses control costs and optimize production. This technology can provide real-time access to whether reports, fertilization guidance, and livestock tracking.

Farming communities must maximum the use of high-tech Internet access to ensure further development. I am concerned that many of our country's rural and agricultural-based communities

are not yet fully realizing the potential of value of broadband services to their economies. As more of these communities gain high-speed access to the Internet, the next challenge is to help them use the access effectively to help create jobs and sustain growth.

There are many debates going on right now about broadband policy. We must ensure that the needs of the rural, small businesses are taken into account whether local, state, or federal governments act to change the broadband marketplace.

During this hearing, I hope that we will begin a dialogue that will help make this happen.

I am very pleased that we have two expert panels here this morning and I look forward to hearing their testimony.

I would like to recognize the Ranking Member, Mr. Fortenberry, for his opening statement.

OPENING STATEMENT OF MR. FORTENBERRY

Mr.FORTENBERRY. Thank you, Chairman Shuler, for your remarks and for scheduling this important hearing today and thank you all for, especially to our witnesses, for your willingness to appear before us today.

This Subcommittee is the only Committee tasked with the exciting responsibility of encouraging entrepreneurship. Entrepreneurial small businesses are the creators of most new jobs in our country and many Americans are rethinking the old concept of work in favor of being their own boss and bringing new products, innovations, and services to the marketplace.

This is also a very decided trend among younger people and I do believe that the work of this Subcommittee can help remove some of the barriers to creating a more entrepreneurial society.

As you all are aware, we are here to discuss broadband Internet access and its importance to rural America. Broadband provides an important gateway to innovation and the tools for adapting to the ever-changing marketplace.

A study last year by the Massachusetts Institute of Technology documented that communities which had broadband availability enjoyed more rapid growth in employment. Across rural America, businesses in health care, retail, and the agriculture sectors are realizing important innovation through the growth of advanced broadband services.

America, however, has been slower than other nations to adopt this technology. Currently, 36 percent of households have broadband access, but the percentage of broadband usage is actually lower in rural parts of the country. According to a General Accountability Office report, the GAO report, the adoption rate of broadband services in rural areas is only 17 percent, much lower than the national average.

In my own State of Nebraska, we're fortunate that parts of all 93 counties have some form of broadband Internet access, however, nearly 400,000 Nebraskans live outside population centers making it more likely that they cannot access this vital service.

In today's hearing, we will hear about the potential benefits of having more competitive services for broadband in rural America and review some of the barriers that stand in the way of such development. In addition, we will review state efforts to pave the way

to an expansion of access and I'm particularly interested in how one state, Kentucky, has become a national leader on this issue. Their effort demonstrates that there is currently no strong definition of what is an unserved area and illustrates the importance of creating a methodology for defining what areas of the nation are unserved or under served.

Improving the climate for entrepreneurs will depend, in part, on a more nuanced effort by interested federal agencies to answer these questions and find out what areas of the country need the most attention. Again, thank you, Mr. Chairman, for calling this important hearing and I look forward to the testimony.

ChairmanSHULER. I ask unanimous consent that the record be open for five days for Members to submit their statement.

Hearing no objection, so ordered.

Our first panel, this morning, I'd like to introduce, the Commissioner, Mr. Adelstein. He became the Federal Communications Commissioner on December 3, 2002 and was sworn in for a near five-year term on December 6, 2004. Before joining the FCC, Commissioner Adelstein served for 15 years as a staff member of the United States Senate. For the last seven years, he was a senior legislative aide for the United States Senate Majority Leader, Tom Daschle, where he advised Senator Daschle on communications, telecommunications, financial services, transportation, and other key issues. Commissioner Adelstein was born and raised in Rapid City, South Dakota and now lives in Washington, D.C.

Mr. Commissioner, thank you for being here and we look forward to your testimony.

STATEMENT OF THE HONORABLE JONATHAN ADELSTEIN, COMMISSIONER, FEDERAL COMMUNICATIONS COMMISSION

Mr.ADELSTEIN. Thank you, Mr. Chairman, and Congressman Fortenberry, for inviting me to testify this morning. I'm especially honored to be here for your first hearing of the Subcommittee and I'm really pleased that the first subject that you're taking on is deploying affordable high-speed broadband everywhere in this country. I think we need to make broadband the dial tone of the 21st century.

As you mentioned, I grew up in South Dakota and my family business out there was building roads and bridges that helped grow our state by connecting the physical connections between communities in the state, but broadband networks now are bringing people together in ways that my engineer grandfather never could have imagined. As a bridge builder though, I think he would have understood the importance of broadband for commerce.

Broadband is especially critical to economic future of rural America where it can connect businesses to millions of new customers, facilitate telecommuting, and increased productivity, and I could go on and on and I do at length in my testimony. But what's really at the heart of it is that broadband can restore the sense of opportunity that first inspired Americans to settle the frontier and provide hope to our young people who want to stay in the communities where they grew up or return, as we discussed beforehand. They want to come back home. They need to know that there's going to be economic opportunities that await them without a kind of

broadband network that would make it just that much harder for them to get back home and stay there.

Especially in an age of global competitiveness which we'll hear about more from the panelists, no matter where people live, we've got to tap their full potential. There are good lessons to draw on. You'll hear many from the next panel, but I'm extremely concerned that as a nation, we're failing to keep pace with our chief global competitors. Citizens of other countries are getting a much better broadband deal. More megabits for less money. It's a productivity problem for economy and we've got to do better.

Some argue that we've fallen in these international broadband rankings precisely because we are such a rural country. Well, if that's true, we should redouble our efforts and address that issue head on because we certainly want to maximize rural economic development and our overall economic growth. We need to prevent outsourcing of jobs overseas by promoting the insourcing of jobs by U.S. companies within our own borders.

I'm concerned that the lack of a coherent broadband plan is one reason that we're falling behind. It's an urgent priority to create a comprehensive national broadband strategy that targets the needs of every part of this country, including rural America. It's got to incorporate benchmarks, deployment time tables, and measurable thresholds to gauge the progress that we're making.

We need to set ambitious goals that aim at true high-speed broadband. One first important step is to update our current anemic definition of broadband that we have at the FCC of just 200 kilobits in one direction, something that's more akin to the kind of speeds they're getting overseas that will really support video and data services.

We should start by gathering more reliable, specific data than the FCC currently compiles so we can better ascertain problems and develop solutions. I think you're right, Connect Kentucky showed us a great model and there's no reason that we can't do it on a national level what Kentucky was able to do on a state level. We've got to increase incentives as well because the market will be the primary driver of companies that benefit from a stable, regulatory environment.

We must also work to promote meaningful competition which is the most effective driver of innovation. It keeps prices low.

Federal universal service continues to play a vital role in maintaining and improving these rural networks. As voice becomes just one broadband application along with video and voice and data, we need to ensure that universal service evolves to provide a ubiquitous advanced services, a priority the Congress made clear in the Communications Act that was updated in 1996. One major growth engine for broadband, particularly in rural areas is the potential of spectrum-based services, wireless services. We've got to get spectrum into the hands of operators ready to serve at the most local levels. Previous auctions, I pressed for the use of smaller license blocks. I want a balanced facilitating spectrum access for those providers who want to offer service to smaller areas, with giving those larger carriers strategic opportunities to expand their footprints as they need to.

I think we really have an historic opportunity in this upcoming 700 megahertz auction. This is the television spectrum that we're going to re-auction coming up early next year or late this year. That could really facilitate an emergent third, broadband platform, a real national wireless broadband network. To make that happen, I think our auction rules should provide a diverse group of licenses, giving all bidders the chance to win licenses that best match their business plans.

Unlicensed wireless is also part of the rural solution. Unlicensed spectrum is free and in most rural areas, it's lightly used. It can be accessed immediately using widely available technology. We're working to make more unlicensed spectrum available at higher power levels and we're evaluating unlicensed operations in unused TV spectrum bands, the so-called white spaces.

There's a lot more that Congress can do as well. Just a few ideas: providing adequate funding for and properly targeting rural utility service broadband loans and grants; providing tax incentives to companies that invest in broadband in under-served areas; revising better depreciation rules for capital investments and targeted telecommunication services; investing in basic science and research and development for further innovation; and improving math and science education so human resources can continue to fuel technological growth.

Just as roads and bridges paved the way for economic success of rural America in the last century, broadband networks will be a big part of maintaining and restoring the vitality of our rural communities in the future.

Thank you for your leadership on rural broadband by holding your very first hearing on this subject and I appreciate the opportunity to testify and I'm happy to answer any questions you might have.

[The prepared statement of Mr. Adelstein may be found in the Appendix on page 40.]

ChairmanSHULER. Thank you, Commissioner. You mentioned some incentives. One was tax incentives, others was depreciation schedule. How can some of the smaller businesses benefit from that with having both a public and private relationship of extending broadband services in rural areas?

Mr.ADELSTEIN. I think public/private partnerships work really well. We'll hear from Connect Kentucky and I believe that one thing the government can do to help out is if companies do really target these areas that are higher cost, it's obviously more expensive to provide broadband to rural areas, but the benefits to the economy are such that it justifies perhaps in having tax credits that can encourage the development of broadband where it might not otherwise be economically feasible.

Similarly, in our U.S. grants and loans have been successful in the past, I'm not sure they've been as well targeted. The House Agriculture Committee held a hearing where we saw that some of the subsidies were going to the wrong places and weren't going enough to the right places. Their own IG found the same of targeting, but there's a place where public and private sectors can work together as well to try to give incentives so that the market works better.

Where there's a failure of the market to operate on its own, use a market-based mechanism like a tax credit or a low-cost loan, just to give a little edge that these providers need to make that investment in rural America. I think that will pay back in spades to the overall economy.

ChairmanSHULER. How do we help the small businesses? Once they have, there's broadband access to particular rural areas, how do we encourage from a community standpoint, how do we encourage a small business, what kind of learning curve, what type of progress should we be making to really encourage the small businesses, up-starting businesses to actually come back to the rural communities that had been going to the larger cities?

Mr.ADELSTEIN. You know, it's something that we haven't done a lot of work on in the FCC, frankly. We probably should be doing more thinking about that, but I keep referring to Connect Kentucky because we've been reading their testimony, thinking about what they did. What an outstanding job of educating small businesses and others about what is possible and the idea has been out there for a while about demand aggregation. You get these public/private partnerships that go out and educate small businesses. There's a lot of small businesses that don't know now how much they can benefit from this kind of activity.

I think that Lee Terry talked about, Congressman Terry from Nebraska, talked about how one business went from three employees, it was a meat business, to 50 when they learned that they could sell their products over the Internet and they had a broadband connection to do it with. But they hadn't thought of that until somebody came to them and explained it. So these organizations, the local Chamber of Commerce, connecting with local government authorities and state government authorities, there's no reason the federal government can't help as well, really can make an effort to educate these businesses about the possibility, so that they can thrive in these smaller communities.

There's all kinds of untapped potential and of course, the workers in rural America are second to none anywhere in the world and in this country. They're stable. They're reliable. Companies are finding that, but they can't use them if they don't have a broadband connection because a lot of the skills, call centers, or back office operations require broadband connection.

So obviously, state economic development authorities can try to attract businesses to come out and locate there, but it's important for businesses that exist already to have them educated by these kind of public/private partnerships about how broadband can help their business and then going to the providers and saying look at all these small businesses that want broadband. You've got a customer base here. It's worth it for you to invest.

ChairmanSHULER. What one thing could we do as a Congress or two things could we do as a Congress to truly have a much bigger impact in the rural areas?

Mr.ADELSTEIN. I've talked about having a national broadband strategy that targets rural America and there's a lot you can do in Congress. We have a big role at the FCC. I talk about universal service. I talk about wireless. That's all been made possible by legislation that Congress has already put on the books, putting more

wireless spectrum out there. Let's make sure we get it in the hands of small providers that will serve local levels.

Universal service, let's make sure it evolves to cover broadband at the appropriate time. Those are in place, but Congress can help us with universal service by providing a stable contribution base. We need a broader base because right now it's pegged to a declining revenue base which is long distance revenues which, as we all know, are declining. And we need to have a broader base and Congress could help with that.

Congress can also help, I think, by making sure that RUS is fully funded and that the program, as it's reauthorized in the Farm Bill, is properly targeted. I worked on that bill in the earlier Farm Bill when I worked for Senator Daschle who was the senior Member of the Ag. Committee and the Majority Leader at the time. We really thought we did a pretty good job. I mean we put it together and we said target under-served areas. Do grants to unserved areas. And I'm really saddened to learn that sometimes those priorities weren't fulfilled in the implementation of the program. So maybe Congress needs to go back. I thought we did a pretty good job writing it, but if you need to beat them on the head and say focus on real rural America, then you need to do so.

There are so many other areas that you can do, I think R&D, the whole innovation agenda that Speaker Pelosi has put forward, contains a lot of ideas that have been around for a long time, and ones that she's starting to implement. The idea of math and science education is critical so we have the basics that people can become technologically proficient in. R&D, basic R&D funding. We've seen R&D funding has gone up, but it's been largely military or health-related and you don't see basic R&D for science. It's actually fallen behind. So we need to redouble our efforts on basic R&D funding.

There's a lot that can be done. The tax credits I talked about, depreciation rules. Those are some of the areas that Congress can help us, but I think the FCC has a big role with what Congress has already given us, making sure that we do more to come up with this national broadband strategy, in conjunction with Congress so that we don't leave rural America behind.

ChairmanSHULER. The chair will now recognize Ranking Member Mr. Fortenberry.

Mr.FORTENBERRY. Thank you, Mr. Chairman, and thank you, Chairman Adelstein, for coming today. We appreciate the opportunity to visit with you and appreciate your insights. I also happened to be on the Subcommittee, on the Ag. Committee, that oversees the Rural Utility Service and we had a very exciting and interesting hearing on this very topic several weeks ago.

It's fairly clear that there are some, to put it mildly, dilemmas there. I appreciate the point you made about us not having a coherent broadband strategy nationally, the Rural Utility Service's attempt at providing a component of this brings some dilemmas into play as you mentioned. Are we unfairly subsidizing markets which already had or player competition into marks which have already had substantial private sector investment without governmental subsidy and prioritizing that over under served or nonexistent service in other rural communities.

One of the key findings that came out of that was there is not a clear understanding, as I mentioned in my earlier testimony, who's under served, who is not served, and we at a federal level our first response is we need to find out that question. But as you mentioned in your testimony, the Kentucky model, might point to a different solution to that because it is a smaller scale implementation that apparently begins with some simple concepts in terms of just informing the marketplace, particularly small businesses about the potential opportunities they have in using broadband to expand their services, thereby creating a more natural momentum in the private sector.

But nonetheless, I want you to comment on that. A lack of coherent or unpack your statement a little bit more, a lack of coherent broadband strategy or lack of coherent broadband plan would mapping the situation in the country be an aid in that regard or is the technology too variable, too fluid, and by the time we would get this done potentially at the federal level, having already shifted and changed. Would that be a problem or would that be a potential solution?

Mr.ADELSTEIN. I think mapping is an essential solution. I think that it's—we've got to do a far better job of broadband data gathering. The first step of any national broadband plan is to map out what we've got now so we know where the problems are and we can better develop solutions. GAO has been very critical of our efforts so far to assess broadband data. We need more granular data. We don't have data on the local level. We need a better definition of broadband. We're looking at 200 kilobits in one direction. That might have been good back when we invented it in the '90s, but it's broadband any more because it doesn't carry critical services like video or telemedicine or on-line learning programs.

What we're doing now are FCC data, looks at the zip codes. It says if you have one person in a zip code that has broadband, you've got broadband throughout the state, throughout that zip code. But that's just not the case. One legislative idea that's been floated I've heard, is to go to the nine-digit zip code, rather than the five-digit zip code and really getting a more localized sense of where there is and isn't broadband. We've got to have better data.

We recently as a Commission all unanimously voted out an improvement. Commissioner Copps and I have been talking for years about how we get better data on availability, more localized data. We voted out an order asking questions about how we're going to improve our data collection by looking at more demographics of subscribers. Even if we need to do surveys to find out rich, poor, race, any other, male, female, we need to know more about the demographics, where they are, what they're doing with the service.

I think this effort that we've launched on the FCC is overdue, but it certainly is welcome and I'm glad that we're doing that. It's going to take a while before that data comes in. And any guidance Congress can give us, for example, if they tell us to go out there and gather data on a nine-digit zip code and give us some funds to go out there and map that, I think it would be a good investment because in the end, that will be the first basis of the real national broadband strategy, where we go, how we deal with the problems in rural America.

Mr.FORTENBERRY. Do you interface with the Rural Utility Service on that very question or are you in separate buildings and not in communication on the issue?

Mr.ADELSTEIN. We're pretty close. We talked about coordinating. We did some—I think we could do more. Again, nobody has got the data. They look at it when they get an application, they get a loan application or a grant application in and they look at the situation there, but we don't provide that much data because we don't have a lot on a local level. It's not like Kentucky.

The example of Kentucky, our survey found that 96 percent of the people in Kentucky have broadband. They went and looked at the more granular level, it turned out it was only 74 percent. So we were way off. The situation wasn't nearly as rosy as it appeared from our zip code data. So there's not a lot we can offer RUS in terms of how to target it. I wish we could, but they're it more on a case-by-case basis and I think as they look at the case, they get more granular data about that market than we could ever —

Mr.FORTENBERRY. One of the findings was that the loan application itself was the determining factor as to whether or not the area had broadband. So I think that some maturity of our process by which we come to a better understanding of where services truly are needed in order to more precisely target our limited funds as a federal government is important and prudent. So I appreciate that offer that you just—I'll take it as an offer and we'll think through that.

One other quick point, Mr. Chairman, Mr. Adelstein mentioned the—we're talking primarily about the impact on business opportunity in rural America, but the impact on the delivery of health care and education, that this new highway, digital highway can provide, is extraordinary and I think we've got again a magnificent opportunity here to continue to measure the impacts that this technology can have in rethinking the delivery, not only of business services, but all types of social services as well that are essential well being of our country.

So I appreciate that observation. It's a very important one, as well. Undersecretary Dorr who is in charge of USDA's Rural Development pointed to this factor as being the most significant in marketplace change that we could impact on behalf of good rural development, advancing the access of broadband throughout the nation. So thank you for your input.

ChairmanSHULER. I'd like to commend the Ranking Member for his comments. With education and health care that is a vital part of what the access to broadband can help. In our District alone, we have 16 hospitals and now all of which are connecting to the major regional hospital in our area and it's an overwhelming amount of savings and costs that they can actually cut in the health care industry. It's going to be tremendous for just once again not having to duplicate services alone, to be able to access the information of the patients' medical records in order to better access the information more readily available through the use of the broadband technology. So I comment you for that.

The chair now recognizes the gentlewoman from New York, Ms. Clarke.

Ms.CLARKE. Thank you very much, Chairman Shuler, for holding this very important hearing to explore how broadband services can revitalize rural economies. Some may be wondering why I'm here since my District is not a rural community. I'm from Brooklyn, New York. However, the Chairman's District and my District share one common factor, that is inadequate broadband service. I fear that my District with its dichotomy of socioeconomic diversity, which has an extremely affluent part of the District where broadband is really not a challenge, but then has a very underserved end of the District where the socioeconomics have not lent to real access to broadband for so many years won't survive this new information age if we do not make available high Internet access.

There are countless stories from many people who live in low-income neighborhoods about how they do not have or are unable to receive access to high-speed broadband services. I personally would like to see more aggressive efforts to increase Internet access in disadvantaged communities.

And so my question to you today, Mr. Adelstein, is although broadband has become increasingly available for people of modest incomes, it has not reached those living at the lower end of the income scale. According to the most recent report by the Pew Internet and American Life Project, only 21 percent of households with an income of $30,000 or less had a broadband connection at home in the Year 2006, while 68 percent of households that earn over $75,000 a year, had a home broadband connection.

I would like to know have you done an assessment of what can be done to get more low-income households to obtain broadband connection?

Mr.ADELSTEIN. Well, the sad answer is we really haven't done as much work on this as we should. There's a real problem with pricing in some of these areas as well, even if people do have access, the prices haven't come down and we're talking about what's available overseas. I was talking to some of my French counterparts and throughout France for $40, you can get 100 channels. You can get broadband up to 20 megabits and your phone service, for $40 a month. What's happening to our economy here, the money is being demanded, $40 just to get a broadband connection. That puts it out of reach of a lot of people, even if it is available to them and you end up with statistics like that which the Pew data shows.

We need to do a better job, I think of promoting competition. It's a little easier, frankly, to get competition into a real dense area like that than it is to get it out in some of the rural areas and competition should be the driver of lower prices and better quality service, but when you see that they go around some of the low income areas and the deployment isn't nearly as good, it's a real problem.

Another issue, of course, is lack of computers there. In some countries, they're actually giving computers out to their citizens, low-cost computers, and then allowing them to hook up that way which makes a lot of sense, because without a computer, you're left behind in this age. So there could be a digital divide not only in rural America, but between economic strata, which is another area I think we talked earlier with Ranking Member Fortenberry, about

the importance of broadband data. That's an area that we should also get the cuts and figure out on demographics, high income, low income, where that penetration is taking place. I think it's especially important that we level that out because there's nothing ultimately that will level out our economic life than having access to technology. And if people are left behind on that, then they're going to continue to not be able to participate fully in our economic life as a country and our overall economic growth will suffer.

Ms.CLARKE. And so you believe that government has a role in basically promoting competition with regard to that? For instance, in New York City, while you may not have as many households that have computers in them, we have made sure that many of the public libraries and public facilities within the communities have that available. They just don't have access to broadband because as you said, the competition makes it cost prohibitive. Do you see a role that we can play in encouraging that competition and what do you think can be done in the short term to help these communities to really access the information highway?

Mr.ADELSTEIN. We have to do more about competition. That was the real focus of the Communications Act of 1996. It's critical because it's the essential input into the economy. I mean it's a time of great change, of course, in these services. You see new services emerging. People talk a lot about convergence and new players are coming in. The loss of competition after the creation of the Act, is being supplemented to some extent by other forms of competition, although the pace is unclear. You do have cable fighting it out with the telephone companies which is a battle between facilities based providers. It should be helping us, but you know, we're seeing consumers embracing these new technologies. I think the challenge is how to function in this new market.

We need better data collection to start with, better analysis of the facts, and we need to promote healthy competition by leveling the playing field, but not blinding ourselves to where competition isn't sufficient to safeguard consumers.

Ms.CLARKE. Thank you very much, Mr. Chairman. I yield back.

ChairmanSHULER. The chair will not recognize the gentlewoman from Colorado, Ms. Musgrave.

Ms.MUSGRAVE. Thank you, Mr. Chairman, along with Ranking Member Fortenberry. I was on the Ag. Committee when we were talking about this issue and when the mapping issue came up I asked the question about mapping and I was told that it would immediately be obsolete and not have very much use at all. And quite frankly, I'm encouraged by your comments. We need better analysis. We didn't even talk about a nine-digit zip code in that hearing.

But what about mapping? Could you elaborate on that and could you also address the issue of obsolescence that was raised in that hearing, please?

Mr.ADELSTEIN. Well, the marketplace is evolving rapidly, so obviously there's going to be changes, but right now we don't have a good picture at all. I mean to say you're trying to navigate a world with no map at all versus having an old map. I'd rather have an old map than no map. And that's kind of where we are now.

I think that the situation isn't changing that fast. One of the concerns about providers is their proprietary data. They don't want that out there. There's been a lot of hesitation about it and I think you can hear from the Connect Kentucky folks, but I understand it took some cajoling to get providers to provide this data and it may require Congress also to provide us exemptions from the Freedom of Information Act so that their proprietary data can be protected and they feel comfortable giving it to us. Because ultimately, it's in everybody's interest that this map take place.

I know that, for example, Verizon has talked about the importance of getting better data. I mean these companies are beginning to understand that they need to know where the gaps in the marketplace are as well and to know what's available and what's not and it would help RUS and it would also help the FCC. I mean I think all policy makers would benefit. And that's sort of the building block, the basic foundation of a broadband strategy is knowing where we have a problem and targeting solutions appropriately to them.

Ms.MUSGRAVE. How difficult was that cajoling and how much assurance do they need?

Mr.ADELSTEIN. The Connect Kentucky folks might know more about it than me. I certainly think that I've encountered a lot of resistance as I've talked to providers about whether they're willing to share more data with us and we've put out our broadband data notice asking companies for their input on what kind of data we should ask for. I've been very aggressive in saying we want all this kind of data, what do you think of that? We haven't put out the actual report yet, but we've asked them about what kind of report we should put together. And we'll see what kind of response they get. Hopefully, they're beginning to learn that we have a problem in this country and that we need that data in order to solve it.

Ms.MUSGRAVE. Do you think the Universal Service Fund is doing what it needs to do to get affordable broadband to rural America?

Mr.ADELSTEIN. It certainly is the basis, I think, of getting broadband out to rural America. Even though Universal Service doesn't directly support broadband, we have a no barriers policy that allows it to subsidize networks that can carry broadband traffic. So I think we wouldn't see the kind of broadband we are seeing in rural areas without Universal Service and going forward, we need to keep that on a solid basis if we're going to continue to have rural America connected.

I think one basic element of a national broadband policy is a strong, stable Universal Service Fund that properly targets under served areas and ensures that high-cost areas have broadband every bit as available to them as other parts of the country.

Ms.MUSGRAVE. Well, this is very much on my mind. I just worked very hard on getting health care for Veterans in rural Colorado and when we met with communities that were very eager to have this very progressive communities, the issue that the VA brought up was broadband. And so that had to in place before we could get this satellite clinic in rural Colorado and again, Ranking Member Fortenberry has talked about education and health care. And I have communities in the rural part of my District that there's no way you're going to get a specialist out there. We have

nurse anesthetists that have to fly to various hospitals in Kansas and Colorado, but for diagnosis and other things the telemedicine works wonderfully.

It's what rural communities have to have for health care, for the education needs. We have many rural schools in my District and some of them have less than one hundred students K through 12. So they face challenges, but yet those students deserve a quality education and they utilize every means possible to make sure that they get it.

Well thank you, for your testimony.

Mr.ADELSTEIN. I just might add that part of Universal Service of course, is the E-Rate which funds schools, libraries and health care, rural health care facilities for this. We recently, it will be of interest to a lot of you, that we recently came up with a rural health care program that is going to offer $60 million in test projects for rural health care and we're getting applications from a lot of your states asking how they can improve the delivery of rural health care through telemedicine. It's really an incredible lifesaving application.

From my home State of South Dakota, they came in and hit me up on it and they were talking about how there was in Parkston, South Dakota, there was a woman who gave birth at 26 weeks. It's a very premature baby and it was in the middle of a blizzard. You don't have to worry about that, Congressman Shuler, as much as some of us do, Congressman Fortenberry and Musgrave. We've got to worry about those blizzards. They're trapped in that. They couldn't get out by helicopter. They couldn't get out by road. They were in this little clinic and there wasn't a doctor there that knew it, but they had a specialist at a Sioux Falls hospital that was in connection, because they had a broadband connection in Parkston and thank God they did, he was able to guide them to the ventilator and basically save this baby's life until it could be transferred to a bigger hospital.

These kind of lifesaving applications are critical and I think that the FCC needs to continue to make efforts like this to test out how we can expand the rural health care program and that's an area that Congress could look at expanding as well.

Ms.MUSGRAVE. Thank you very much. And Mr. Chairman, I do have a written statement that I would like to submit for the record.

ChairmanSHULER. So ordered.

Ms.MUSGRAVE. Thank you.

ChairmanSHULER. The chair now recognizes the gentleman from Tennessee, Mr. Davis.

Mr.DAVIS. No questions.

ChairmanSHULER. The chair will now recognize the gentlewoman from Oklahoma, Ms. Fallin.

Ms.FALLIN. Thank you, Mr. Chair. I don't know that I have a particular question, but as I was listening to the discussion on rural health care and education and telemedicine and we even use the Internet and broadband for weather delivery service in Oklahoma through a weathernet service that we have, but I had a question about the Universal Service fee and the money that the states

have access to expand broadband. Can you explain how the fee is used and how the states can get quicker access to that?

Mr.ADELSTEIN. The money is collected through long-distance revenues which is sort of a declining base and we're trying to figure out ways of broadening the base. If Congress could help us broaden the base, that would be wonderful. In the meantime, we're trying to think within the context of the Act of how we can have a broader base in the declining base of numbers. So we take this big collection, it's a $6 billion program, including the E-Rate, and we—it's granted to companies that are called eligible telecommunications providers. They apply for this program and a state PUC in many cases will designate whether or not there can be an eligible carrier. And if the carrier is eligible, then we come up with a program to define how much they're paid for subscriber.

One of the concerns recently has been that competitive providers are coming in and the money is kind of ballooning because a lot of them happen to be wireless companies and they come in and win these funds based on the amount that's being paid to the incumbent. In many cases, there's a totally different cost basis. The incumbent, it's a lot more expensive for the LEC to provide in its embedded costs than a new wireless company that comes in and provides services. We're now debating how do we equalize that? Do we give the same amount of support to a new company or do we do it on the basis of their actual costs rather than the cost of the incumbent?

All of these funds can underwrite broadband networks. If you didn't have Universal Service, the high cost of serving these rural communities would basically have those systems deteriorating and they would be antiquated. They wouldn't be able to support broadband network. Right now, broadband itself isn't what we call a supported service which is a particular service that we pay for directly. But we have this policy that allows us to fund networks that can carry broadband and so the Universal Service has been one of the most critical elements allowing these rural local exchange carriers to upgrade their networks so that they can carry broadband traffic and we see that sometimes in some rural parts of the country because of Universal Service, they actually have excellent access to broadband that is even better in some more urban areas that don't have access to Universal Service. It's an interesting kind of a situation. So we've got to make sure that remains. Other areas of rural America are falling behind though. All the studies show that despite some of these really wonderful examples we see, there is still a real digital divide that is getting worse.

And so if everybody is saying the problem with American broadband, the reason we're falling behind is because we're a rural country, we better make sure that we keep Universal Service in place and make sure that it continues to underwrite these broadband networks so that we can compete in international economy.

Ms.FALLIN. The reason I was asking that question, at different times, I've just heard some talk back in my State that sometimes we're slow to expend those funds. We need to be spending it but yet we hesitate and delay and I was just trying to figure out why

we would even delay spending the money that's available to do that.

Mr.ADELSTEIN. There's sort of a dilemma for us on the federal level because a lot of states are really quick. They say well, it's federal money, it's easy, let's just take it. And they don't think a lot about how they award funds to eligible telecommunications carriers. And maybe your state, I'm not sure exactly Oklahoma PUC, whether they're—what they're doing. It may be out of prudence. Sometimes it's wise to be careful about how those funds are expended and we've tried to give states guidance on making sure they're very careful about how they award ETC grants so that they don't just do it willy-nilly thinking it's federal money, let's just let it go, we have nothing to lose. But they really think about the impact also on the LEC and they think if it's in the public interest for these funds to flow and how companies are going to get ETC status are going to expand their networks.

We get nervous if companies are just taking Universal Service and using it for service they're already providing and getting more for what they're already doing. We want to make sure that whatever Universal Service money they get is used to expand and make sure they truly cover everybody in the service area.

Ms.FALLIN. Thank you, Commissioner. Thank you, Mr. Chairman.

ChairmanSHULER. Does any other Member have any questions for the Commissioner?

Commissioner, thank you so much for your testimony. An outstanding job. As we all know, and as we look around the Committee, we certainly know that the backbone behind our country is our small business, over 95 percent of our business are small businesses and the more access that we will have to broadband and any way that we can help and help guide the broadband system, we would certainly appreciate your help and your guidance and your direction as well.

So thank you for your testimony.

Mr.ADELSTEIN. Thank you for your leadership, Mr. Chairman.

ChairmanSHULER. At this time, we'll have the second panel come forward, please.

[Pause.]

ChairmanSHULER. I'd like to welcome the second panel. Thank you for your attendance today and your testimony.

We'll go ahead and get started. I just want to remind the panel that I looked at some of your statements. We'll try to keep it to five minutes, best that we can. I know I'm a rookie at this chairmanship, but I will hold the gavel tight. So we'll try our best to stay within five minutes.

The Ranking Member says that he gets hungry around 11:30, so we're going to try our best to get as much information as we can.

Our first panelist, I would like to introduce Mr. Stephens, obviously from my District of Western North Carolina. Mr. Stephens serves as chairman of the board of directors of the Balsam West FiberNET based in Silver, North Carolina.

For the past year, he has been a board member since the company has been founded in 2003. Mr. Stephens is also an enrolled member of the Eastern Band of Cherokee Indians. Mr. Stephens

works for the Eastern Band of Cherokee Tribal Government as planner, economic and community development.

Mr. Stephens, thank you so much for your attendance today. We look forward to your testimony.

STATEMENT OF BRANDON STEPHENS, CHAIRMAN OF THE BOARD, BALSAM WEST FIBERNET LLC, SYLVA, NORTH CAROLINA

Mr.STEPHENS. Thank you, Mr. Shuler, and Chairman Shuler. Chairman Shuler and Congressman Fortenberry and Members of the Subcommittee, thank you for the opportunity to share the story of Balsam West FiberNET.

I'm Brandon Stephens, Chairman of Balsam West FiberNET and an enrolled member of the Eastern Band of Cherokee Indians.

I'm here to represent Balsam West FiberNET and partner members of the Eastern Band of Cherokee Indians of Cherokee, Drake Software of Franklin, and Community Alliance Partners Southwestern Community College, headquartered in Sylva. Our goal and mission is to build economic development and stability by offering affordable high-quality fiber optic infrastructure.

Western North Carolina, Eastern Tennessee and North Georgia suffer from a lack of technology and infrastructure. Affording and obtaining access to quality and reliability in telecom have been great barriers to us. Decades ago, during our area's development, telecommunication carries built a network that satisfied demand for the day and not for the future.

The result was a network that did not have redundancy or backup and was susceptible to outages and was of poor quality. Had other utilities used this same approach, power companies would have built power lines as we purchase electric appliances. Home-grown businesses like Drake Enterprises or Drake Software, co-founder and co-owner of Balsam West FiberNET rely on broadband connectivity. It transmits several billions of dollars in electronic funds transactions and data with the IRS and its clients.

The tribe and local businesses in the region depend on visitors and their ability to access funds for commerce. These outages occurred and no business was conducted for the tribe unless it was in cash. For Drake, billions of dollars in transactions were potentially jeopardized.

As a result, founding members of Balsam West FiberNET developed a 300-mile in-ground fiber optic network because wireless in our region is not viable. That's because of the terrain. We also had built this network to be at the highest standard, so we could offer services to the largest national carriers after developing this network to take care of our own concerns and secure business in our respective areas.

The founding members of Balsam West FiberNET started focusing on the region. We're an open-access system, meaning we allow unrestricted access of services across our network.

As you consider policy changes, I would urge you to know that right now the government is not promoting competition. Forbearance in copper retirement are the exact opposite.

Open access to all platforms would promote innovation and competition. The policy of closed networks is leading us back to monop-

olies and furthermore, an open network is enabling us to provide our customers to purchase content from the provider of choice.

Options create opportunity to lower prices and increase quality. The spirit of mountain people is to survive and overcome challenges. That spirit has brought us this unique collaboration between Drake software and the Eastern Band of Cherokee Indians. It is this same spirit that has always been required to overcome barriers that hamper development. BalsamWEST is working to develop regional clustering. A prime example of this is the model of Drake software.

Drake is currently expanding into new communities, developing call centers connected in real time over fiber optic cable. We also recently helped the region's schools, creating a distributed learning network called WNC EdNet. This network connects all the schools together with virtually unlimited capacity on fiber. The schools own their own networks and their own private fiber optics.

BalsamWEST and other local infrastructure owners work together to reduce this expense. We save the schools $60 million and gave them the opportunity to choose their content provider.

We also worked on behalf of the rural hospital systems lowering their costs 96 percent. We also decreased the transmission time of imaging from 30 minutes to 12 seconds. There are some barriers to our future development. We have found that federal financial resources are difficult to obtain. Policies in most programs do not lend eligibility to our communities as we fall through the cracks.

Mr. Chairman, another barrier that we hope to overcome soon with your assistance is supporting connectivity outside of our existing network, first to neighboring counties, such as Haywood and Buncombe Counties in Western North Carolina, then to connect to resources in metropolitan areas in Tennessee, Georgia, and South Carolina.

Thank you for the opportunity to share our story of success and challenges and we hope that we can depend on your support in the future of BalsamWEST Fibernet and our motto is "access to advance."

[The prepared statement of Mr. Stephens may be found in the Appendix on page 47.]

ChairmanSHULER. Thank you, Mr. Stephens. The chair would now like to introduce Mr. Shields. Mr. Shields is the founder the board chair of Ygomi, LLC, and I hope that's pronounced correctly, which develops and operates technology-based companies. Mr. Shields has over 35 years of experience. Among the technologies his companies have helped to pioneer is technology that is the foundation for the fulfilling billions of on-line direction requests through such services as MapQuest, Yahoo Maps, and Google Maps.

Thank you, Mr. Shields.

STATEMENT OF T. RUSSELL SHIELDS, CHAIR, YGOMI LLC, OAK BROOK, ILLINOIS

Mr.SHIELDS. Thank you, Chairman Shuler, Ranking Member Fortenberry, and Members of the Subcommittee. My name is Russ Shields. I am chair of Ygomi LLC. It's certainly a privilege to be here today to speak to you.

Ygomi is an Illinois-based company with a 37-year record of building companies that deliver innovative software and services to businesses. We're known for applying technology to improve people's lives. Our subsidiaries SEI, Verety, Connexis, and ArrayComm serve leading corporations.

We have more than 1200 employees across the U.S., Europe, and Asia. We provide solutions in areas such as wireless digital signal processing software, vehicle telematics, and technical support for multi-location enterprises using distributed, U.S.-based call centers.

Today's hearing is particularly relevant to the Ygomi Companies. Broadband technology touches them all. For instance, high speed Internet availability in rural areas has allowed us to create a new business solution for one of our customers. Our subsidiary, Verety, now takes drive-through orders remotely in North Dakota for a number of McDonald's restaurants, helping to improve speed of service, order accuracy, and customer satisfaction. Verety can deliver this high-quality service because broadband availability gives us access to people working from home. We have a workforce that includes farmers, stay-at-home mothers, retirees, people with disabilities, and people who care for elderly or disabled family members.

Our employees like the no-commute savings, and the convenience of flexible work shifts. We expect the number of work-at-home employees to increase dramatically in the years to come. We provide each work-at-home employee with a computer, a DSL connection, paid training, and web and phone base support. Our employees and their families can use the computer and Internet connection for themselves when they're not working.

Two-thirds of Verety's work-at-home employees did not have broadband for their families before they came to work for us.

Thomas Friedman's book, The World is Flat, mentions our effort for McDonald's in North Dakota. I believe that Friedman's vision of an efficient, interconnecting flat world is becoming truer every day. Broadband services and voice-over IP gives smaller, more isolated communities access to the world. Companies in the Telework Coalition, like Verety, are helping to realize the benefits of broadband deployment in some rural areas. The same can be done in other areas of the U.S. if the proper incentives are provided. But it takes more than just broadband. It requires a new way of thinking about the workplace and innovation.

We encourage the deployment of broadband in rural areas to ensure that the Internet is available to everyone, no matter where they live. We work with organizations like the Telecommunications Industry Association to promote access to affordable broadband, to minimize regulation, and to maximize the power of a competitive market. We believe in the value of broadband to improve government services, public safety, education and health care.

Increased global competition requires a more flexible labor environment. As a privately-held company, Ygomi can take a long-term approach to profitability. It lets us think flexibly about technologies and applications that will be needed in the future. But we still face challenges. To succeed, we must be responsive to new and evolving employee needs and attitudes. Companies that work on emerging

technologies can build businesses in rural areas need favorable environments and incentives. Policies should encourage investment in new and diverse communications technologies in rural areas.

I comment you and your staff for holding this hearing and for your efforts to extend broadband in rural America. Thank you for the opportunity to testify today.

[The prepared statement of Mr. Shields may be found in the Appendix on page 76.]

ChairmanSHULER. Thank you, Mr. Shields. The chair now recognizes Mr. Russ Kremer. Mr. Kremer is the president of the Missouri Farmers Union. He is a cooperative business developer who owns and manages a diverse five-family farm.Mr. Kremer is also the president of Missouri's Farmers Union Services, a partner of U.S.A. Broadband LLC, an organization with a mission to provide affordable broadband communication services to all rural residents of the United States.

Mr. Kremer, thank you for your testimony.

STATEMENT OF RUSS KREMER, PRESIDENT, NATIONAL FARMERS UNION, JEFFERSON CITY, MISSOURI

Mr.KREMER. Thank you, Chairman Shuler, and Congressman Fortenberry, and Members of the Subcommittee. Thank you for this opportunity to testify today. My name is Russ Kremer and I am a family farmer and president of the Missouri Farmers Union.

Today, I am here on behalf of the National Farmers Union, our nationwide organization, representing family farmers, ranchers, fishermen, and rural residents. I appreciate the opportunity to highlight the importance of accessible and reliable broadband service to the farmers and producers in communities in rural America.

The future of rural America does depend on high-speed access to the Internet. In 2005, the National Agricultural Statistical Service conducted a study on farm computer usage and ownership. While the results showed that 51 percent of U.S. farms had Internet access, further investigation uncovered that dial-up was the most common method of accessing the Internet with 69 percent of U.S. farms. It is encouraging that more farmers and ranchers gained computer accessibility each year, either through ownership or leasing of computers or other community programs, however, it is alarming that the vast majority of them must do so at the slowest connection speed possible in accessing the most uncommon means of telecommunications.

NFU supports efforts to provide competitively priced high-speed broadband Internet access for rural America. We urge collaborative efforts and public/private initiatives that leverage Internet-based technologies and use the Internet to improve communications, reduce cost, increase access, and grow farm businesses for producers and their cooperatives.

An example, NOW Wireless, the Missouri Farmers Union in response to the demand for affordable modern telecommunications access for farmers and rural residents living in remote areas, helped established USA Broadband. USAB has partnered with subscriber-based cooperatives and develops successful networks that are making this access possible.

Today, USAB is a premiere provider of high-speed wireless broadband Internet, voice communication, and video services to rural communities. The community maintains its focus on providing a superior broadband product back with exceptional customer care. In fact, about a year ago USAB partnered with the Eastern Illinois Electric Co-op, a member-owned cooperative to develop a broadband Internet network that focuses on providing a wide range of Internet broadband services to rural residents within the cooperative's 10-county service area. This includes 6,000 square miles and 240,000 homes and businesses. We also plan to utilize our credit union that we have for rural residents and farmers to help finance the services and equipment, especially for our more disadvantaged residents.

Internet is a necessary tool for farmers and ranchers who will be at an economic and competitive disadvantage if unable to use the same high-speed Internet connections that are available to other small businesses around the country and around the world, as far as that goes. USDA encourages farmers and ranchers to rely on the Internet to check weather, market, crop reports and file applications for federal programs. However, for many rural producers, the reliance on the Internet cannot be a reality.

Given the current economic climate, it is imperative that producers devote as much time as possible to marketing their products, exploring new markets. The ability to conduct financial transactions on-line would save individual producers hours of administrative work and translate its tremendous financial incentives at the farm level.

NFU has a program called e-cooperative.com. It is the world's first innovative portal to directly locate and buy quality food products plus other goods and services on-line from hundreds of U.S. agricultural producers and their co-ops in rural America. This basically has allowed us to build authentic relationships between farmers and consumers. In fact, I'm president of a co-operative that producers and processes natural pork and we market it throughout the country and the world, in fact. A lot of our pork goes into New York.

And so as we go forth, this is basically the new renaissance in agriculture and it's so dependent upon modern telecommunications. By eliminating the digital divide and providing more rural areas with high-speed Internet access, we can help these producers and these new producers market and sell their quality products and educate consumers about the value of family farmers and ranchers.

There's real challenges we heard a lot about, some of the challenges about the reluctance of these providers to come into more remote and under served areas. It's been a challenge to secure financing from providers because we're kind of—we're often are at an awkward size loan fund, too small or too large for some of them.

We also have challenges that we're concerned with limited competition in the rural markets. Some of the solutions might include that we've heard before the possibilities of providing tax credits and other incentives to inventors that want to invest into the more remote areas, as well as the possibility of allowing a 10 percent match on the Rural Utilities Service Loan Program, rather than the 20 that's necessary. It's also possible and suggested that maybe

the FCC has the ability to reallocate frequencies that will become available in television's transition to digital. We propose that successful applicants to the rural broadband initiative program would be granted the license frequency resulting in improved equity for rural broadband service providers.

Better broadband means a better place to live in rural areas and we appreciate the interest and we really believe that rural broadband is the key to rural revitalization.

Thank you very much.

[The prepared statement of Mr. Kremer may be found in the Appendix on page 80.]

ChairmanSHULER. Thank you, Mr. Kremer, and congratulations to farmers to get them back into economic structure. They need all the help that we possibly can provide for them and I thank you for your hard work and dedication to them.

At this time the chair will recognize Brent Christensen. Mr. Christensen is the vice president and general manager of Christensen Communications Company, an independent, local, exchange telecommunications carrier in Madelia, Minnesota. Founded in 1903, Christensen Communications Company provides local, long distance and cellular telephone services in addition to dial-up and high-speed Internet services. Mr. Christensen also serves as a chairman of the Legislative Policy Committee for the organization for promotion and the advancement of small telecommunications companies.

Mr. Christensen, thank you for being here today and we look forward to hearing your testimony.

STATEMENT OF BRENT J. CHRISTENSEN, VICE PRESIDENT AND GENERAL MANAGER, CHRISTENSEN COMMUNICATIONS COMPANY, MADELIA, MINNESOTA

Mr.CHRISTENSEN. As he said, my name is Brent Christensen. I work for a telecommunications company in Madelia, Minnesota, population of about 2300. It would be easier to tell you that we are a telephone company, but quite frankly that's no longer an accurate description.

I also have the privilege of serving as the chairman of the Legislative Policy Committee for OPASTCO. We are very integrated in our community. We employ six people, not counting my parents and me, and all but one of our employees reside in the community. We encourage our staff to be active in the community. I currently serve on the Madelia Public School Board and am vice president of the Chamber of Commerce. I also previously served as the Mayor of Madelia, and president of the Madelia Development Corporation.

I'm here today to talk about broadband's impact on rural communities and Madelia, in particular. We started providing broadband service in 2000. We didn't start by putting a business plan together and figuring out how much money we could make. We started offering DSL because it was important to the economic survival of our community. We entered into the DSL business because Marv Davis needed it. Marv and his son, Will, own Davis Sales and Service, a local Polaris dealer. We had been offering dial-up Internet service for a few years, as was the competitor. They told me that

Polaris had changed the way that they sold their snow mobiles, watercraft and ATVs. Warranties were now issued over the Internet. When a customer came in to buy a snow mobile, the Davises would fill out the customer information on-line and print off a warranty application. Once the customer had signed the document, the Davises would scan the document and transmit it back to Polaris over the Internet. The problem was that dial-up was too slow for this process and their dial-up connection would frequently time out and they would have to start over. This was frustrating for the Davises and their customers. In the end, if we didn't solve the problem, the Davises would sell fewer Polarises and it would severely impact their business.

I did some research on different solutions that would work with our network. We bought some equipment and we got DSL service to the Davises. The entire process took about 20 days. We didn't do a business case first. We didn't go through any corporate bureaucracy. We just got a new service to a customer that needed it.

When I was in high school, I worked for the telephone company as summer help. My grandfather was president of the company at the time and I remember the two of us walking back to the office one day and him telling me how important the telephone company was to the community and how we had a responsibility to provide the best service possible. Back then it meant providing quality, reliable telephone service. Today, it means so much more. Today, we have to provide state-of-the-art communications for the survival of our small town.

Madelia is a lot like other towns our size and in many ways like the communications industry itself. We are in competition with other communities in our area. We are in competition for industry and people. As a community, we have to leverage our assets to develop our economy. Communications is one of those assets. Because of our communications infrastructure, we can market our town to telecommuters, small businesses, and others who do not depend on a specific location to conduct their business. A good example of this is the House of Print. They're a local printing company that was started in the 1960s by a company that owned two daily newspapers in towns 20 miles from Madelia to the north and south. Both papers needed to replace their printing facilities and instead of each buying new presses, they built a new printing operation in Madelia which is halfway between the two. Today, the House of Print prints for over a 100 daily and weekly newspapers. The House of Print was our third DSL customer. Our high-speed Internet allowed them to expand their customer base and increased their business. They have literally brought in millions of dollars of new business because of their high-speed Internet connection.

The House of Print is no longer geographically limited. Today, they can bid on printing jobs on-line, allow the customer to upload data, proof the job and mail the finished product directly from their facility. The House of Print has expanded significantly as a direct result of the Internet, and they have added or upgraded their printing presses and expanded their building facilities.

As a small rural company, we face many challenges providing state-of-the-art communications. We have to provide all of the same services as larger companies and this gives us a good under-

standing of our customers. An example of this is Farmers State Bank in Madelia. They are a locally-owned independent bank. They compete against the Madelia branch office of a much larger bank. Our high-speed Internet connection has allowed Farmers State Bank to offer a full line of Internet banking services. These services have kept Farmers State Bank competitive with other banks in our area.

Companies like Christensen Communications look to Congress for leadership on issues and programs that give us the opportunity to thrive and in turn keep our customers and community thriving. We ask Congress to continue to support a strong and viable Universal Service Fund. The USF is the most important federal program for our continued success. Congress and the Federal Communications Commission needs to support the reform of the inter-carrier compensation regime by implementing the Missoula Plan which was developed by a broad cross-section of the telecommunications industry. And Congress needs to support programs like the Agriculture Department's Rural Utility Service and the Small Business Administration that helps small businesses like mine.

I thank you for the opportunity to testify today and I would be happy to answer any questions you may have.

[The prepared statement of Mr. Christensen may be found in the Appendix on page 85.]

ChairmanSHULER. Thank you, Mr. Christensen. The chair will now recognize Ranking Member, Mr. Fortenberry, for the introduction of our next two witnesses.

Mr.FORTENBERRY. Thank you, Mr. Chairman. I'd like to introduce Mr. Brian Mefford, good morning. Brian Mefford serves as the president and CEO of Connect Kentucky, where he is responsible for leading the successful implementation of Kentucky's prescription for innovation, a comprehensive plan to accelerate technology availability, literacy, and use. During Mr. Mefford's tenure at Connect Kentucky, the organization has evolved from a research-focused business with a staff of five, to a technology-implementation business with 35 staff members working statewide. Prior to this role, Mr. Mefford served as Kentucky Chief of Staff to Kentucky Commerce Secretary, Jim Host.

Welcome, Mr. Mefford, please give us your testimony.

STATEMENT OF BRIAN MEFFORD, PRESIDENT AND CEO, CONNECT KENTUCKY, BOWLING GREEN, KENTUCKY

Mr.MEFFORD. Thank you, Ranking Member Fortenberry, Chairman Shuler, and Members of the Committee, thank you for the invitation to be here with you today. I appreciate it tremendously and I appreciate the opportunity to discuss this important issue.

I am also the CEO of Connected Nation which functions as the parent company of Connect Kentucky which was, in essence, our demonstration project. It's the Kentucky story that I am here to discuss with you today.

I first want to open by briefly talking about a handful of stories that illustrate the entrepreneurial environment that exists today in Kentucky. First, I'll mention Cameron Cohlsen, who like a lot of Kentucky natives, after graduating from college found opportuni-

ties to work outside of Kentucky, found himself in Boston working for a creative services firm. And one day he looked around and said you know, it's about time I move back to be with family in Kentucky. And he said there's no reason I can't do what I do here in Boston from home in Kentucky. And so he went back to his family farm. He grew up in a family of farmers and he went back and he looked at about a 100-acre lot that had been—where his family had raised barley and tobacco for years. And he said I can envision my new creative services building right in the middle of this what was now a pasture. And so he built that company and indeed did everything that he was doing in Boston, has grown that company. Last year, won a competitive bid to produce all the creative paraphernalia and programs for the Academy Awards. And Cameron reported that having a broadband connection on that—on his family farm in the middle of Kentucky was just like being right down the hall from those folks in California as they were trading photographs and things to prepare for the Academy Awards.

And there's Global Data Tech, a company saw an abandoned mine in an eastern Kentucky county, Appalachian Regional Commission, a distressed county, and saw an opportunity to create a business there doing underground, subterranean data recovery, disaster recovery, and data backup. And so that company is now working and creating jobs that are high paying, mostly above $60,000, $70,000 jobs in this county and helping that community to flourish.

Then there's Jared Fugate, an individual who I received a call from a couple of years ago and he said you know, I'm having to move with my family out into a more rural part of my county, again in eastern Kentucky. He said I have a three-year-old business. We do tech support and web development and he said there's not broadband service out where I'm going. I really need it or my business is going to fail. Long story short, after I talked to him more, I said tell me more about your business and how it started, those types of things. He said well, I'm 17 years old. And I've been building websites for the businesses in the community since I was 14 and it's evolved and it's a company that I plan to run through college and come back here and maintain after I graduate.

Farmers were mentioned earlier. We have poultry farmers who are managing temperatures of poultry houses remotely from all places, parts of Kentucky. We have folks who are managing farms, not just in tracking soil quality and weather, not just in places across Kentucky, but now in places around the world where folks—farmers are able to invest in land and other places in the world, they're able to do that type of monitoring from their homes in Kentucky.

I wish I could that environment, that type of environment has existed always in Kentucky, but it just hasn't. In fact, four years ago, Kentucky faced the same challenges that are all too common in rural parts of the country in rural communities everywhere. The Commonwealth was struggling to use technology-centered solutions to address traditional challenges related to economic development, health care, education, and delivering government services. On the economic development front, jobs and manufacturing, farming, and mining were leaving at an alarming pace. The indicators of Ken-

tucky's technology troubles were not hard to identify. Kentucky consistently ranked low, in fact, at the bottom of the barrel among states in terms of broadband availability, broadband usage, the number of high tech companies at work in the Commonwealth, and further, college graduates were leaving in droves, creating what we all know too well as the brain drain effect.

So as we surveyed the landscape for answers, the reality of the situation was certainly troubling and we realize that the foundation of broadband infrastructure was not adequate for creating solutions that could address the challenges of a new day, not adequate to provide widespread access to telemedicine, distance learning, and e-government, and not adequate for growing and attracting entrepreneurs and industry, not adequate for providing more opportunities to our farm families and communities where our children were leaving the rural roots never to return.

And so Connect Kentucky set out to identify the root cause that had resulted in the lackluster technology picture. And it was clear that the inadequacy of Kentucky's broadband infrastructure could be traced to much of the state's inability to compete in so many areas important to the knowledge-based economy. And so broadband infrastructure had been built into those more populous areas as several folks had mentioned before, but it was those rural areas, less metropolitan areas that were under served. And so the lack of service not only created the well termed digital divide for rural residents, but it also made it impossible to create state-wide policies and initiatives that can make the entire Commonwealth more competitive.

Further, we discovered that broadband availability was only half of the challenge. It was broadband usage that represented the other part of this challenge that had to be overcome and we realized that any comprehensive strategy had to address both sides of that equation. So next we identified the barriers that were inhibiting broadband availability and use. In terms of availability, there were a series of issues that needed to be addressed. First, very little data existed to allow us to identify the true extent of the broadband gaps in Kentucky. Providers didn't know. Policy makers didn't know. And communities themselves didn't know.

ChairmanSHULER. We'll have you finish up more of your testimony during some of the questions, if that's okay.

Mr.MEFFORD. Yes, sir. Would you like me to close?

ChairmanSHULER. Yes. That's a nice way of saying it.

Mr.MEFFORD. Well, the results which I can address during questions have been that we developed maps, as was mentioned earlier, that identified the broadband gaps. We worked with providers to address market intelligence, to provide market intelligence that lowered the cost of entry into our rural markets, and we aggregated demand and helped create demand at the local level. And bottom line is we used a public/private partnership to lower those costs of entry to incent market effects, to make Kentucky a more attractive environment for broadband development and use.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Mefford may be found in the Appendix on page 91.]

Mr.FORTENBERRY. Now I'd like to introduce Mr. William Deere. Mr. Deere serves as vice president of Government Affairs for U.S. Telecom, a trade association representing 1200 member companies offering a wide range of services including local exchange, long distance, wireless Internet and cable television services. Before joining U.S. Telecom, Mr. Deere served as Deputy Assistant Secretary in the Bureau of Legislative Affairs at the U.S. Department of State where he oversaw the Department's legislative initiatives. Mr. Deere also worked on Capitol Hill as a House Appropriations Committee Staff Member for Representative Jim Lightfoot.

We welcome your testimony.

STATEMENT OF WILLIAM R. DEERE, VICE PRESIDENT, UNITED STATES TELECOM ASSOCIATION, WASHINGTON, D.C.

Mr.DEERE. Chairman Shuler, Ranking Member Fortenberry, Members of the Subcommittee, thank you for this invitation to be here today. U.S. Telecom is the nation's oldest and largest association representing rural telecom providers. The vast majority of our member companies are rural companies. They are small businesses serving small communities.

We were pleased to see affordable broadband access for all Americans as a component of Speaker Pelosi's innovation agenda. In addition, the Senate Republican High-Tech Task Force is calling for policies that promote widespread broadband deployment and use of broadband technology. Broadband deployment and adoption should be nonpartisan objectives and we believe the Congress, the FCC, and the RUS have vital roles to play in advancing these goals for rural America.

U.S. Telecom and our member companies are committed to furthering rural broadband deployment and believe the Congress can advance a number of initiatives that promote this goal. First, we must ensure a sustainable future for universal service. In the House, Representatives Boucher and Terry have recently reintroduced universal service reform legislation they first proposed last year. We appreciate the Congressmen's dedication to finding a sustainable long-term solution and we hope Members of this Committee will encourage consideration of such reform legislation this year.

In addition, Congress can promote broadband deployment by, among other things, permanently extending the Internet Tax Moratorium. U.S. Telecom supports H.R. 743, bipartisan legislation to extend the Internet Tax Moratorium that was introduced by Representatives Eshoo and Goodlatte. I encourage all Members of the Committee to consider co-sponsoring this legislation. I know that Ms. Musgrave, and Mr. Fortenberry, you are already co-sponsors of this bill, and urge the House to take up this important legislation before the moratorium expires in November.

Finally, in its relatively brief history, the RUS broadband loan program has achieved some successes. But we believe with modest changes largely based on the successful RUS telephony program, it could accomplish even more. We were honored to appear last week before your Subcommittee, Ms. Musgrave, of which Mr. Fortenberry is a Member, to offer some suggestions for the upcoming Farm Bill. We believe the primary weakness of the current pro-

gram is that it does too little for areas with no access to broadband. And while the current practice of offering cost of money loans makes projects financially viable in some areas, other high-cost areas will require low-cost loans or a combination of loans and grants to make a costly infrastructure bill feasible.We also believe steps should be taken to expand the number of companies eligible for broadband loans and that steps be taken to improve processing of loan applications at USDA.

Finally, we second Mr. Mefford's testimony. By the end of 2007, Kentucky will go from having one of the lowest broadband subscription rates to having broadband available to 100 percent of its households. That's impressive progress. And we think Congress might look to Connect Kentucky as a model for what works.

Modernization of the nation's communications infrastructure will seed economic growth and expand opportunities. Nowhere in the nation do these advances hold more potential than in rural America. We thank you for your invitation to appear today. U.S. Telecom and its member companies look forward to working with the Subcommittee and this Congress to achieve our shared objective of making broadband as ubiquitous today as electricity, water, and telephone service.

[The prepared statement of Mr. Deere may be found in the Appendix on page 104.]

ChairmanSHULER. Thank you. I'd like to thank all of you for your testimony.

Mr. Mefford, can you describe some of the types of public/private partnerships that Connect Kentucky actually really benefited, I mean outside of the—and I want to commend the 17-year-old young man for his outstanding work in entrepreneurship.

Mr.MEFFORD. Yes, sir. Mr. Chairman. First, it had to do with the mapping initiative that we undertook. We realized that our folks in government needed batter data. Our policy makers needed better data. We realized that our providers were willing to some degree to provide, to give that data and they actually wanted more data about unserved areas. They wanted to cooperate with one another to figure out where there unserved areas where.

And so we put together this initiative to map, to create this broadband inventory where every single provider in the state provided their data to us of where their served areas were. And so in your packets, I believe in front of you, perhaps, there are examples of our maps where you can see all across Kentucky, all the different types of service that's available.

But more importantly, we can then invert that data, that map, and focus on those unserved areas and we can start drilling down into the data overlays that then help providers identify low-hanging fruit immediately, providing household density data, for example. And then we can overlay data household survey data where we ask households would you adopt, if broadband was available in your household? What price points are you comfortable with, that type of information. And so we can really provide through that public/private partnership market intelligence that allows providers to move more quickly into unserved areas. I'll mention on the demand side too, at the same time we're working with communities.

We have 120 counties in Kentucky. We have created what we call E-community Leadership Teams in every county. Those are teams that represent a cross section of the community. We have farmers. We have local government officials. We have business and industry, educators, health care officials, on and on, who come to create a strategic plan for how to use technology as it's coming into the community, how to better use it and plan for. In effect, as Commissioner Adelstein said earlier, we're creating demand and aggregating demand at the same time. So the two processes work hand in hand and allow providers to see more opportunity and have a better business model for moving into these unserved areas.

ChairmanSHULER. Mr. Kremer, can you give some examples or some ways that our farmers can actually utilize the access to broadband to really strengthen their farming community? Some of the farmers in my area, they probably say they don't know how to turn a computer on. So how can we actually incentivize them to truly become more computer literate then and obviously extend it through, their business through the Internet?

Mr.KREMER. I have some good examples. I'm also a former agricultural educator that started the Young Farmer Programs and it's interesting that during the early '80s when farmers were completing scared to death of computers, I actually took the computers, put them on the kitchen table and those dual floppy drive Apple computers and taught them to get over the fear and use those computers. I think we've got to do the same thing with broadband. And I truly believe that for small and moderate size farmers, this is probably the last hurrah that we have is to build those authentic relationships with consumers. And this is how they can do it.

I mean even people like my colleagues in North Dakota, for instance, say that Missouri is more advanced because we have population centers. Well, the Internet, high-speed Internet makes the world smaller in building relationships. We have, for instance, in our organization, have developed artisan cheese plants, for instance, made from goats in Southern Missouri, Goats R Us, basically, and have taken this artisan cheese and basically made it very special and famous and have sold it throughout the country. Have done the same thing with exclusive type of heritage vegetables in Southeast Missouri. We've done the same thing with beef and pork and dairy products, and even wood products. It's basically being able to have access to that type of technology.

And what this also does it brings in and encourages and retains our young people with the brilliant, vibrant minds and those people graduate from college and can come back to the very rural area and make that connection. And so it's extremely important.

One last thing also and something I want to point out is that for instance, even our USDA and the Farm Service Agencies have been attempting to close some of the offices down which are very vital to our rural communities right now because of lack of computer access. Their point is that farmers should be more Internet savvy and access those programs on those farms via the Internet line. Well, we can kind of accommodate, but until we have more service in the rural areas we will continue to fight a lot of those closings, but this would help solve some of those problems and save the government and overall consumers some money.

ChairmanSHULER. Mr. Stephens, can you tell me about some of the barriers that you are facing in expanding the broadband in your area?

Mr.STEPHENS. Some of the barriers that we are facing basically are, as I described, were somewhere terrain and others we need just the basic support of placing the infrastructure there. We do not exactly have all of the public private support that we need. Because if we had, we would have never formed Balsam West FiberNET to begin with. It would have been at the hands of the public or the private sectors.

The public sectors with the local government: (1) Does not have the expertise nor do they have the funds, or do they have access to the funds to build the infrastructure. The low level population in the area, the scattered areas, the isolated areas; all of this came into be. As you all know of the mountains of western North Carolina and some north Georgia and eastern Tennessee, that's just to name a few things.

Otherwise, we do have a few things leading into the area, what has been placed into some of our rural mountains areas, what the government has provided and has placed there has not be effective. And to those areas I think sometimes coming at some inappropriate oversight to those resources that have been promised have not lived up to the promises to the areas.

Otherwise, some of the barriers, I think we were describing earlier from some of the other panelists, is that it is basic resources for technical assistance to training our residents on how to use technology. We have a great highway. We have great resources to put those people down that highway of information. But we need to have some skilled people to drive the Cadillacs down the highway, too.

ChairmanSHULER. Are you finding problems or issues actually connecting with some of the more of the Federal funded programs?

Mr.STEPHENS. We are. We did have one resource that came to western North Carolina that was known as the ERC, the Educational Research Consortium that was set up in western North Carolina that based itself in Asheville. And the problem was to deliver high speed Internet, to deliver broadband data transport to the areas to connect up with our school systems, do these things. And we are not yet seeing that happen. That has not occurred. So those are the things that are happening.

Otherwise, we are falling through the cracks of eligibility in other programs such as RUS. We have too much population. Again, as Commissioner Adelstein told you earlier, they look at a map and say you have DSL in this area when one person has that. We have broadband. And that is just not the case. I think those models of problems that you are seeing, that you are hearing from other panelists speaking or Commissioner Adelstein earlier, I think that mirrors what we have in western North Carolina.

ChairmanSHULER. The Chair will now recognize Ranking Member Mr. Fortenberry for his questions.

Mr.FORTENBERRY. Well, thank you all again for appearing today, and I appreciate your insights for most of you, particularly your innovations in being entrepreneurs and the effective and aggressive

utilization of broadband services in your particular communities. It is very impressive what you all have done.

I noted that your comment, Mr. Shields, about the potential to enhance telecommuting, which is essential for the well-being of rural communities. We have talked about potential value for small business, the potential value for education and health care delivery. But the potential value of allowing a person to telecommute is very substantial as well, and it is an important point.

Now you can go on line and put your order in for a McDonald's hamburger, is that what you meant in North Dakota?

Mr.SHIELDS. Yes, I was actually at a farm in North Dakota yesterday with one of our employees showing Toyota people how it worked. And McDonald's is working to change the taking of orders.

When you go to a McDonald's drive-through, you drive up to a speaker post, you talk to somebody. And they want to move about 10,000 jobs out into the rural communities to be the ones who are on the other side of that speaker post instead of having somebody doing that in the restaurant. And we have been very pleased with the work and the quality. And it is one of many things that will be done over the next decade to move what were call center areas like in Lincoln, and I actually was a kid in Lincoln, where you have got a lot of the IT services; Lincoln, Omaha, Sioux City, Sioux Falls, Fargo, Grand Forks where we are going to now move out into these communities. Because we do not need the walls anymore. We do not need to have people sitting in a big building. We can have them work wherever they want.

And this woman whose farm we were at was able to work for the first time in 20 years. When she got married and was out there in the farm, there was nothing she could do out there. The family was able to add a brand new add-on that she was proud to show us to her house because of the earnings that she was able to get from that job.

Mr.FORTENBERRY. Well, it is an outstanding example that concretizes the reality of how this potential technology can achieve so much social good in addition to advancing the movement of products and services.

Mr. Kremer, you very well point out how the small and mid-size farmer is going to increasingly depend on this connection direct to the customer.

One of the most successful farmers I have in my District was a struggling commodities farmer who changed his business model and relies heavily on the Internet sales of a specialized hay product now for pets. So it is a great point.

Mr. Christensen, I particularly picked up on the fact of your leadership. All of this is important. Advancing the technology is important, but having leadership in localized community, I think you mentioned your—what did you call it, Mr. Mefford? Your e-leadership council?

Mr.MEFFORD. E-community leadership.

Mr.FORTENBERRY. Is a great point as well that I think we can all learn from.

I would like to further unpack some of your efforts in Kentucky. I think one of the considerations that may come out of this hearing because we have discussed it, Mr. Deere, you have touched on it

as well, is the need for a clearer understanding perhaps through mapping or some other mechanism, but I think mapping is the core issue here of where there is true broadband availability, where it is underserved, where it is lacking in service. Who is Connected Nation? Was this founded in Kentucky? Are you the primary principal? What is the main objective of it? And is using a smaller footprint such as a state to provide this mapping or to provide as an entity in a state to potential provide the capacity for a more aggressive mapping system could then be duplicated in 50 States, is that a better platform than perhaps we mandating it at the Federal level as a joint project, perhaps, of the FCC and the Rural Utility Service? I think that is one of the core points that both you gentlemen made as a key component to ensuring that limited funds are targeted precisely or the private market actually has better information to develop its services.

So two points. Explain better your mission, how it was conceived, what your long term vision is? I am curious. Obviously, you are doing tremendous things. And then touch upon the mapping issue from a state perspective how that can potentially be used nationwide?

Mr.MEFFORD. Yes, sir. I appreciate the question and the compliments as well.

We envision that if we could demonstrate the success of this model as it was set up in Kentucky, we envision that it would be highly transferrable to other States. I believe it is Commission Adelstein that said in the past, and I say it often, there is not anything that is on the level of rocket science about what we have done. I mean, it is really a lot of entrepreneurial type ingenuity. And I think Commissioner Adelstein said Kentucky elbow grease is how it got done. But given that fact, it is highly transferrable. And so we had a lot of inbound calls from other states and established Connected Nation as the national nonprofit means by which we could transfer that model to other States, and also work in cases with the Federal Government as well.

Mr.FORTENBERRY. And how are you funded? What are your funding sources? Is it a consortium of interested private sector parties? Do you receive grants from the State? Federal money as well?

Mr.MEFFORD. Connected Nation is working with States. And so we primarily are receiving State funding as Connect Kentucky has. Connect Kentucky is both public/private. And so we have some contributions from participants from the private sector, but it has primarily been State monies.

Public/private is ideal so that you do have that type of engagement from the private sector community as well as from State resources, State and Federal resources.

Mr.FORTENBERRY. What I hear you saying about the mapping process is that it is half science, half art. You are somehow able to achieve proprietary data that, as Commissioner Adelstein was saying, is a problem on the Federal level. You have been able to do that, and I assume that is through relationships? Melding the art and science of getting this end task completed?

Mr.MEFFORD. They are relations that, again, transfer to the national level as well. And so those relationships are in place now to

be able to do similar things that we have done in Kentucky nationally.

Providers are attracted to an independent third party as a place to aggregate this data. They want it protected, to a certain degree. And so we are able to sign nondisclosure agreements that protects the data down to a certain level of granularity.

And so on our maps you can see where the service is and what is provided, but it does not detail who is providing that service, in most case. Or in all cases, rather.

And so there is that desire from the provider community to have that independence, that independent third party.

Now to your question of do we go at this State-by-State in terms of the mapping or do we do it at the Federal level? I do not think they are mutually exclusive. In fact, the model in Kentucky bears that out that both is likely a better answer. In other words, the Congress could empower the FCC and enable the FCC to begin such a program, hopefully in partnership with an independent entity where it is a data clearinghouse that is established as an independent entity. And so you have a federal effort. But then as we did in Kentucky as we moved community-by-community, it is sort of a verification that takes place. And that is a bit of a slower process, but it is going into the States to take the data that has been aggregated federally and fact check and say is this right on a very granular community level.

So I believe that it could be both, in answer to your question. That it could be a Federal effort and a State-by-State effort. In fact, there is a Senate bill that has been filed, 11-90 by Senator Durbin that sets up a State-by-State approach. And, again, I do not think it is mutually exclusive to have a bill that establishes the Federal approach as well.

Mr.FORTENBERRY. But again in terms of the fundamental platform by which your successful efforts have been achieved, it is that set of data? I have heard you say two things. That has been critical and, obviously, leadership and desire down to the smallest local entity has been critical. But I do not want to set up a framework here where there could be a competing framework by which we can leverage our resources to better provide broadband throughout the country. But it seems to me that a lot of this testimony is pointing to that pillar of just better understanding of market data that is out there that can be used to create momentum synergy, better synergy in the market as well as more targeting of our limited Federal funds. Is that a correct assumption?

Mr.MEFFORD.That is right. Absolutely. I think it has to be the tip of the spear. We do not know where we are today. We just do not. And that map, that national map really has to be created.

Mr.FORTENBERRY. And I appreciate your comments about a potential hybrid solution versus an either/or; Federal or more State-by-State projects. So thank you.

Would you care to comment on that, sir?

Mr.DEERE. I would second Mr. Mefford's comments. And when we appeared before you last week to discuss to discuss the RUS program, there is not a single magic bullet that solves the problem. It is making sure the funds go to underserved areas. It makes the loans more creative to go into areas where there is a truly bad

business case to be made for issuing the loan. And it is working through programs like Connect Kentucky to make sure that we know where we need to go.

As you heard in the first panel from Commissioner Adelstein, there will be issues that have to be worked out at the Federal level when we start looking at a national mapping plan. In fact, I believe as early as next week the Telecom Subcommittee, Mr. Markey's Subcommittee, could be taking up the issue. But what we were trying to point out today and last week was we have a model that works. And this is a bipartisan issues. And this is a Congress that wants to get things done. And I think we should move out on something like Connect Kentucky.

Mr.FORTENBERRY. Okay. Thank you.

Thank you, Mr. Chair.

ChairmanSHULER. The Chair will now recognize the Gentlewoman from New York, Ms. Clarke.

Ms.CLARKE. Thank you very much, Mr. Chairman.

And I have to tell you gentlemen, this has been very, very, very groundbreaking for me hearing and your testimonies just have been fascinating. What you have been able to do through ingenuity and really just out of necessity in utilizing the technologies that are available to us to really make our world a little bit smaller and make our communities much more connected is what is needed in the 21st Century. And there is no other way for us to go. And you are the trailblazers. And I have a feeling that we will be looking back at your gentlemen in generations to come as sort of like the Henry Fords of what has led our communities and in our nation into its strength and really coming into its own as a first world nation.

Let me direct my questions Mr. Mefford. Because Connect Kentucky is truly fascinating. And, again, groundbreaking. And it has demonstrated a willingness to improve the quality of life for low income communities, spurring and cultivating local entrepreneurship. Connect Kentucky has made strides using technology to improve health care, education and community development.

Can you just briefly tell me some more about your challenge as a CEO, challenges with regard to cost factors? And do you believe that you could replicate this model in urban environments that have a similar struggle?

Mr.MEFFORD. Yes, ma'am. Thank you for the question.

As I mentioned, the model is highly replicable, can be transferred to any State. And all States have these challenges, because all States have either urban gaps or rural gaps, the broadband digital divides. And so we have heard from nearly every State that wants to replicate all or part of what we are doing in Kentucky.

The primary barrier, as you mentioned, is funding. And so that is why we started working here on the Hill to discuss the importance of creating some enabling legislation that allows States to develop programs that are empowered at the Federal level but are localized in their design. That is an important element of being able to transfer this across the country.

And to your question of does it apply in urban areas. Absolutely. And so in each of our communities where we can identify an urban

digital divide, we have been addressing those just as we do in the rural areas.

We developed a program. In fact, their conventional wisdom had said in the past that folks did not adopt broadband because it was just too expensive. But we found that the primary reason that folks were not adopting broadband, particularly in our urban areas, was that they did not own a computer. They did not own a computer and it was too expensive or the second was the answer you said, it was understanding that it exists or knowing that it was available.

And so we launched program and knowing that granular kind of data, that market intelligence, that we launched a program called No Child Left Offline. And so that uses State refurbished computers and adds Microsoft software and CA software, security software and puts those computers in the households of underprivileged children. And so it is through efforts like that where we can then start impacting the adopting of broadband.

We have had 73 percent increase in households actually subscribing to broadband over the last two years

Ms.CLARKE. I would like to direct a question to Mr. Stephens. I recently read an article in the Asheville Citizen-Times, which is published in our Chairman's wonderful State of North Carolina, and it is that your company has formed a partnership amongst rural school with Drake Enterprises and the Eastern Band of the Cherokees to bring high school Internet access to 45 rural schools. Many experts see high speed Internet access as one way to help reduce poverty and close the digital divide.

With the improved access to high speed Internet capabilities children would enjoy enhanced educational opportunities and their parents could learn their skills necessary to thrive in an increasingly computer-based economy.

How successful has this partnership been and do you have any plans to pilot this model in urban environments such as New York?

Mr.STEPHENS. Well, Ms. Clarke, I believe that there is really no difference between a green covered mountainside and a skyscraper, really. It's just an obstacle in the way. And, of course, we in western North Carolina take great pride in those mountains that give us strength.

But, yes, this model has been very successful because the high cost of services provided to our schools, provided to our businesses, to individual was outrageous. We were paying eight to ten, twelve times the rate that metro carrier rates would pay in other urban areas; Atlanta, Knoxville, Charlotte, those areas.

One of the things that we had to do was to be able to bring that access to the schools. Furthermore, we had to give them the opportunity to choose their provider. To choose the content that suited their needs for their curricula, to suit their needs for their culture.

The Eastern Band of Cherokee Indians is working to build an entire new school system, if you have seen any kind of congressional in the past couple of years. We have been working to build an entire new school system. The curricula there is going to be a little bit different.

So for all types of different reasons, yes, this is a successful model. It is taking the access to the schools. They own the fiber op-

tics. They own the content. Basically they are in charge of their own destinies. And right now the construction is beginning on those laterals and on those star networks for the school systems. Unfortunately, as some of the other panelists have pointed out, funding is a major issue here. In order to: (1) Complete all of the connections to all the schools. Because our dream here is to have "No Child Left Behind," no school left behind to be able to inspire any kind of creativity for the entrepreneurship to breed home grown businesses, to be able to allow them to stay in the area. There has been a serious out migration of our best and brightest. I mean, it is great that they are able to get the education that they can, go to the University of North Carolina, go to Harvard or wherever they can go, but they seldom come back because the opportunities do not exist.

So is it successful? Yes. Because we are putting that access there. They are control of that destiny. So for that. We are also cutting down the costs. It is a wonderful model. And, yes, we hope that it is something that can be replicated throughout the area.

We are starting in our State. And we hope that this will embers the big brush fire that burns across the State.

Ms.CLARKE. Mr. Chairman, I just want to make a comment to Mr. Kremer, and maybe to all of you.

One of the things that we are looking at in urban areas with respect to the Ag bill is the use of food stamps to be able to bring nutritional foods to communities that do not have access to them. You would be surprised at how many urban areas where green groceries are not readily available, where quality or now we are moving into organic kinds of foods that lead to proper nutrition of Americans are not available. And just in listening to what you have said, one of the things that has been a challenge is how do we get or create an avenue for those who are less able financially to shop in the markets but have to utilize Government subsidy of some sort. To work with the small farmer in terms of co-oping or things of that nature and being able to access those types of nutritional things.

Have you had any conversations or have you had any thinking around that? Because I think that is one connection. You already talked about the pork. I am going to be looking for that. But, you know, other items that we can connect to other people in other parts of the country to really begin to address those issues in our communities?

Mr.KREMER. Yes, I have thought about it and I share your same concerns, and it is something that is part of our vision and our mission. And that is to provide this type of wholesome food that has got this story behind it and authenticity and make it affordable and accessible to all people.

And when you talk about, for instance, rural broadband and connecting these smaller entrepreneurs and what I would call collective entrepreneurs, you know we have these little co-ops, for instance, in remote southern Missouri that our prices are not the highest. They are kind of like in maybe in the upper one-third share of what conventional pricing would be. And so, but it has got greater value.

For instance, you may think this is an oxymoron that we have a healthy hot dog. That has no additives, that is not filler, no chemicals and that school systems want this. And I do believe that it is in the public's interest to somehow subsidize school systems or whatever, and the food stamp program as well, to allow disadvantaged people to access this as well. And I think it could be a very affordable program that is in the best public's interest.

ChairmanSHULER. Mr. Christensen, you had spoken earlier about ways you have been able to maintain businesses at home instead of having to go out of your District or maybe into more urban areas. Now what are some of the ways you are highlighting in your community, ways to actually say here is how broadband has worked, here is how it has worked for us, here is how it can work for you?

Mr.CHRISTENSEN. Well one of the ways is coming out here and talking about it. A lot of it we are doing through the Chamber of Commerce. We are doing through our community education program.

Some of the other people talking earlier talked about getting people trained on using the Internet. We are a highly agriculture community. So our community ed program puts on classes on Microsoft Excel and Outlook and things like that for senior citizens or people who do not have a lot of experience with it.

A good example of one of these programs is as a result of one of our community ed programs a guy that retired from the local hardware store started an eBay business. And he sells tractor manuals online on eBay and works out of his home four miles from town, and has been able to stay on his farm.

So that kind of word spreads around. And he has now come back and he teaches class to his peers. And that is really what we are doing.

ChairmanSHULER. Well, I would like to thank everyone for their testimony today. And just extend a special thank you for what you are doing with our rural America and in the urban areas to really expand our businesses, small businesses in particular, and what you have been able to accomplish. Continue your hard work, your dedication. And I will look forward to working with my colleagues on the issues that have been raised today for us to create the proper legislation that will actually work for the small business in America.

At this time the hearing is adjourned.

[Whereupon, the Subcommittee was adjourned at 12:01 p.m.]

STATEMENT
of the
Honorable Heath Shuler, Chair
Subcommittee on Rural and Urban Entrepreneurship
Hearing on Maximizing the Value of Broadband Services to Rural Communities
Wednesday, May 9, 2007

I am pleased to call to order this hearing. This is the Subcommittee on Rural and Urban Entrepreneurship's first hearing of this 110th Congress. I would like to welcome the Members of the Subcommittee, the distinguished witnesses, and our guests.

Rural America is home to many different kinds of small businesses. In Western North Carolina, there are thriving high tech businesses, small manufacturers and family farms. What all of these businesses have in common is a need to stay connected with their customers, their suppliers, and with the information they need to run their businesses.

Today's hearing will focus on the challenges of providing reliable, affordable broadband access to these rural small businesses. Experience has shown that broadband can bring economic revitalization to small towns by creating clusters of small businesses.

Broadband services can also help farms and farm-related businesses control costs and optimize production. This technology can provide real-time access to weather reports, fertilization guidance, and livestock tracking. Farming communities must maximize their use of high-speed Internet access to encourage further development.

I am concerned that many of our country's rural and agriculture-based communities are not yet fully realizing the potential value of broadband services to their economies. As more of these communities gain high-speed access to the Internet, the next challenge is to help them use this access effectively to help create jobs and sustain growth.

There are many debates going on right now about broadband policy. We must ensure that the needs of rural small businesses are taken into account whenever local, state or federal governments act to change the broadband marketplace. During today's hearing, I hope we will begin a dialogue that will help make sure this happens.

I am very pleased that we have two expert panels here with us this morning, and I look forward to their testimony. I now recognize Ranking Member Fortenberry for his opening statement.

United States Congressman — First District, Nebraska

JEFF FORTENBERRY

May 9, 2007

Statement for Hearing: "Maximizing the Value of Broadband Services to Rural Communities"

Thank you, Chairman Shuler, for scheduling this hearing, and for your remarks. And thanks to our witnesses for appearing today.

This subcommittee is the only committee tasked with the exciting responsibility of encouraging entrepreneurship. Entrepreneurial small businesses are the creators of most of the new jobs in our country, and many Americans are rethinking the old concept of "work" in favor of being their own boss and bringing new products and services to the marketplace. This is a decided trend among young people. And I do believe that the work of this subcommittee can help to remove some of the barriers to creating a more entrepreneurial society.

We are here to discuss broadband Internet access and its importance to rural America. Broadband provides an important gateway to innovation and tools for adapting to the ever-changing market.

A study last year by the Massachusetts Institute of Technology documented that communities where broadband was available enjoyed more rapid growth in employment. Across rural America, businesses in health care, retail, and the agriculture sectors are realizing innovation through growth of advanced broadband services. America, however, has been slower than other nations to adopt this technology. Currently, 36 percent of households have broadband access, but the percentage of broadband usage is lower in rural parts of the country. According to a Government Accountability Office report, the adoption rate of broadband services in rural areas is only 17%, much lower than the national average.

In my own state of Nebraska, we're fortunate that parts of all 93 counties have some form of broadband Internet access. However, over 394,000 Nebraskans live outside population centers, making it more likely that they cannot access this vital service.

In today's hearing we will hear about the potential benefits of having more competitive services for broadband in rural America, and review some of the barriers that stand in the way of such services. In addition, we will review state efforts to pave the way to an expansion of access, and how one state in particular, Kentucky, has become a national leader on this issue. Their effort demonstrates that there is currently no strong definition of what is an un-served area, and illustrates the importance of creating a methodology for defining what areas of the nation are un-served and underserved. Improving the climate for entrepreneurs will depend, in part, on a more nuanced effort by the interested federal agencies to answer these questions and find out what areas of the country need the most attention.

Again, I thank the witnesses, and I await their testimony.

STATEMENT OF
JONATHAN S. ADELSTEIN
COMMISSIONER, FEDERAL COMMUNICATIONS COMMISSION

BEFORE THE
SUBCOMMITTEE ON RURAL AND URBAN ENTREPRENEURSHIP
SMALL BUSINESS COMMITTEE
UNITED STATES HOUSE OF REPRESENTATIVES

MAY 9, 2007

Mr. Chairman, Congressman Fortenberry, and members of the Subcommittee, thank you for inviting me to testify about one of the seminal challenges confronting our Commission and the country: ensuring the ubiquitous deployment of affordable, high speed broadband infrastructure to every corner of this country.

We need to maximize the potential of every citizen to contribute to our social, cultural and economic life through communications, whether they live in major cities or in rural, insular or other high-cost areas, whether they are Native Americans living on tribal lands or residents of economically challenged sections of our inner cities, whether they live with disabilities, whether or not they speak English, and regardless of their income level. I would like to talk to you today about why I believe this is such an important guiding principle for communications policy and a few of the ways we at the FCC and you in Congress can and must work to achieve this ambitious goal. We need to make broadband the dial-tone of the 21st Century.

I am particularly honored to be here because -- as a fourth generation South Dakotan and the first FCC Commissioner from my state, and even from the entire upper Midwest -- I am naturally interested in the important role of broadband as a tool for promoting economic development in Rural America. Early in the last century, my grandfather became an engineer and founded a company that built roads throughout our state. The motto of our family company was "Builders of Better Bridges and Highways." I keep that spirit in mind in my work at the FCC. Just as roads and bridges provide physical links between our communities, our communications networks now bring people together in ways that my grandfather never could have imagined, but that, I'm sure, would have made him smile in wonder.

In some areas of the country, our communications tools have already surpassed the reach of the physical infrastructure to overcome the limits once immovably fixed by distance. I have visited the Bush region in Alaska, above the Artic Circle, where satellite technology, funded through universal service support, connects even some of the most isolated villages to the health and educational facilities of hub cities, even though no roads connect these towns. As we upgrade our nation's communications networks to provide broadband functionality and advanced communications services everywhere, our children will integrate these tools into their lives in ways that we are only beginning to see.

The Role of Broadband for Rural America

By expanding the reach of advanced communications technologies, we can bring new hope to many communities where it is in short or diminishing supply. We are only scratching the surface of the opportunities that these technologies can bring. We stand at the threshold of a revolution in the applications that will ride over this infrastructure. These opportunities hold enormous potential for consumers and workers in small towns and Rural America.

Broadband can connect entrepreneurs to millions of new distant potential customers, facilitate telecommuting and increase productivity. These new connections can create new jobs by allowing businesses to set up remote locations and call centers. Since I have joined the Commission, I have traveled across the country and seen broadband technologies harnessed in rural areas in ways folks back inside the Beltway might never have imagined.

For example, at auction houses across the Midwest, entrepreneurs are using broadband technologies to conduct real time cattle auctions over the Internet. Ranchers from across the country can log in, watch real time video of the livestock and make purchases without leaving their ranches. By putting their livestock up for bid in cyberspace, these auction houses have been able to bridge remote locations, expand their potential markets, and cut the costs of reaching their customers.

Broadband can also unlock transformational opportunities through distance learning and specialty classes that might otherwise be confined within the physical walls of a traditional school. Similarly, telemedicine applications are giving Rural Americans access to diagnostic services, like mobile mammography and emergency services that had been unavailable because of distance, cost, weather, or geography. As we have seen through events like the devastation of Hurricane Katrina, our communications services become even more critical in times of disaster or national emergency, whether as a means of conveying critical information to the public, enabling citizens to communicate with their loved ones, or providing an essential tool for our first responders. Broadband networks are essential to any plan to make emergency networks robust and redundant enough to survive and function in the face of such disasters in the future.

Broadband technologies have the potential to improve the quality of life in even some of most remote and economically challenged communities. On Native American lands, I have seen tribally-owned providers using broadband infrastructure to bring jobs to their communities that serve not only as important sources of employment, but also as training grounds for the young people of the tribes. In almost every small community I visit, I hear how hard it is to develop a workforce with sufficient training in technology. Yet without such workers, it is hard for a small town to develop and oversee cutting edge communications systems. We want people to be able to stay, work, and thrive in the communities where they grew up, yet I often hear that it is harder to keep young people in rural areas these days because they feel a palpable lack of local opportunities. Broadband communications can benefit Rural America in many ways, perhaps most of all by restoring the sense of opportunity that first made Americans venture forth and settle the more remote areas of this country.

As consumers are increasingly empowered to use broadband in newer, more creative ways, the stage on which we all must compete is also evolving into a global one. New telecommunications networks are a key driver of this new global landscape. They let people do jobs from anywhere in the world -- whether an office in downtown Manhattan, a home on the Cheyenne River Indian Reservation, or a call center in Bangalore, India. This trend should be a wake-up call for Americans to demand the highest quality communications systems across our nation, so that we can harness the full potential, productivity and efficiency of our own country. We must give all our towns the tools they need to compete in this new marketplace. If we fail in this, be assured, our competitors around the world will take full advantage of our failure.

Rural America and Global Competitiveness

Keeping our communities connected and ensuring that the latest technologies reach all Americans, including those in remote and underserved areas, are principles that are enshrined in the Communications Act. Meeting these goals will be more important than ever as we enter a new age of global competitiveness.

We've made progress, and there are many positive lessons to draw on, but I am increasingly concerned that we have failed to keep pace with our global competitors over the past few years. Each year, we slip further down the regular rankings of broadband penetration. For small businesses, those in rural areas, and low income consumers, the problem can be even more acute. According to one recent report, seventy-six percent of small businesses in rural areas report no access to terrestrial broadband services. Even more troubling, there is growing evidence that citizens of other countries are getting a much greater broadband value in the form of more available megabits for less money. According to the ITU, the digital opportunity afforded to U.S. citizens is not even near the top: in fact, it is 21st in the world! This is more than a public relations problem. It is a major productivity problem, and our citizens deserve better. Indeed, if we do not do better for everyone in America on this score, then we will all suffer economic injury as a result. In this broadband world, more than ever, we are truly *all* in this together.

Some have argued that the reason we have fallen so far in the international broadband rankings is that we are a more rural country than many of those ahead of us. If that is the case, and since geography is destiny and we cannot change ours, rather than merely curse the difficulty of addressing rural communications challenges, we should redouble our efforts and get down to the business of addressing and overcoming them.

I am concerned that the lack of a comprehensive broadband communications deployment plan is one of the reasons that the U.S. is increasingly falling further behind our global competitors. Virtually every other developed country has implemented a national broadband strategy. This must become a greater national priority for America than it is now. We need a strategy to prevent outsourcing of jobs overseas by promoting the ability of U.S. companies to "in-source" within our own borders. Rural America and underserved urban areas have surplus labor forces waiting to be tapped. No one will work, or work more efficiently, than Americans but many are currently without opportunities simply because the current communications infrastructure is inadequate to connect them with a good job. That situation must improve.

A National Broadband Strategy for All Americans

We must engage in a concerted and coordinated effort to restore our place as the world leader in telecommunications by making available to all our citizens affordable, true broadband, capable of carrying voice, data and video signals. An issue of this importance to our future warrants a comprehensive national broadband strategy that targets the needs of all Americans, including those in Rural America. A true broadband strategy should incorporate benchmarks, deployment timetables, and measurable thresholds to gauge our progress.

We need to set ambitious goals and shoot for real high-bandwidth broadband deployment. We should start by updating our current anemic definition of high-speed of just 200 kbps in one direction to something more akin to what consumers receive in countries with which we compete, speeds that are magnitudes higher than our current definitions.

We must take a hard look at our successes and failures. We need much more reliable, more specific data than the FCC currently compiles so that we can better ascertain our current problems and develop responsive solutions. Giving consumers reliable information by requiring public reporting of actual broadband speeds by providers would spur better service and enable the free market to function more effectively.

We must redouble our efforts to encourage broadband development by increasing incentives for investment, because we will rely on the private sector as the primary driver of growth. These efforts must take place across technologies, so that we not only build on the traditional telephone and cable platforms, but also create opportunities for deployment of fiber-to-the-home, fixed and mobile wireless, broadband over power line, and satellite technologies. We must work to promote meaningful competition, as competition is the most effective driver of innovation, as well as lower prices. Only rational competition policies can ensure that the U.S. broadband market does not devolve into a stagnant duopoly, which is a serious concern given that cable and DSL providers now control approximately 95 percent of the residential broadband market.

There also is more Congress can do, outside of the purview of the FCC, such as providing adequate funding for Rural Utilities Service broadband loans and grants; ensuring RUS properly targets those funds; providing tax incentives for companies that invest in broadband to underserved areas; devising better depreciation rules for capital investments in targeted telecommunications services; investing in basic science research and development to spur further innovation in telecommunications technology; and improving math and science education so that we have the human resources to fuel continued growth, innovation and usage of advanced telecommunications services.

Two other critical steps toward a national strategy, elaborated upon below, are properly channeling universal service and promoting spectrum-based services for Rural America.

Universal Service: Evolving for the Broadband Age

Congress and the Commission recognized early on that the economic, social, and public health benefits of the telecommunications network increase exponentially for all subscribers with the addition of each new subscriber. Federal universal service continues to play a vital role in meeting our commitment to connectivity, helping to maintain high levels of telephone penetration and increasing access for our nation's schools and libraries. With almost a decade behind us since the 1996 Act, the FCC is re-examining almost every aspect of our federal universal service policies, from the way that we conduct contributions and distributions, to our administration and oversight of the fund. As this review has gone forward, I have worked hard to preserve and advance the universal service programs as Congress intended.

Yet, broadband take rates remain comparatively low in Rural America. Among households connected to the Internet, roughly 40 percent of urban households make use of broadband access. In contrast, only 25 percent of rural households with connections to the Internet use broadband. This disparity – confirmed as well by GAO in a 2006 report on broadband -- is perhaps not surprising given that rural residents tend to be less likely to use the Internet, regardless of the technology. The Pew Foundation has suggested that this may be due in part to presence of older and less wealthy populations in Rural America. If this is true, we may expect the same factors to affect the roll-out of broadband in rural areas. But, even if slow broadband uptake truly is only a symptom of them today, we must not allow the lack of broadband access to become an affirmative *cause* of the "graying" and relative impoverishment of Rural America in the future.

Ensuring the vitality of universal service will be particularly important as technology continues to evolve. Increasingly, voice, video, and data will flow to homes and businesses over broadband platforms. In this new world, as voice becomes just one application over broadband networks, we've got to have ubiquitous broadband pipes to carry the most valuable IP services everywhere. Without such broadband networks, IP services can't reach their full audience or capability. The economic, public health, and social externalities associated with access to broadband networks will be far more important than the significant effects associated with the plain-old-telephone-service network, because broadband services will touch so many different aspects of our lives. So, it is important that the Commission conduct its stewardship of universal service with the highest of standards and that we ensure that universal service evolves to promote advanced services, which is a priority that Congress has made explicitly clear.

Wireless: A Critical Source of Broadband Services

One of the best opportunities for promoting broadband, particularly in rural areas, and providing competition across the country, is in maximizing the potential of spectrum-based services. The Commission must do more to stay on top of the latest developments in spectrum technology and policy, working with both licensed and unlicensed spectrum. Spectrum is the lifeblood for much of this new communications landscape. The past several years have seen an explosion of new opportunities for consumers, like Wi-Fi, satellite-based technologies, and more advanced mobile services. We now have to be more creative with what I have described as "spectrum facilitation." That means looking at all types of approaches – technical, economic or

regulatory – to get spectrum into the hands of operators ready to serve consumers at the most local levels possible.

Of course, licensed spectrum has and will continue to be the backbone for much of our wireless communications network. We are already seeing broadband provided over satellite, new wireless broadband systems in the 2.5 GHz band and the increasing deployment of higher speed mobile wireless connections from existing cellular and PCS providers.

During our review of the bandplan in advance of the auction last year of 90 MHz of new spectrum for the Advanced Wireless Service, I pressed for the inclusion of smaller blocks of licenses. I thought that smaller license blocks would improve access to spectrum by those providers who want to offer service to smaller areas, while also providing a better opportunity for larger carriers to more strategically expand their spectrum footprints. Our decision to adopt smaller license blocks was well received by a number of carriers and manufacturers.

The Commission has a historic opportunity in the upcoming 700 MHz auction to facilitate the emergence of a "third" broadband platform that will ensure consumers everywhere the benefits of a high-quality wireless broadband network. As we finalize our rules for the 700 MHz auction, the biggest and most important auction we will see for many years to come, it is critical we build on the lessons learned from our previous auctions to provide a diverse group of licenses so that all bidders have an opportunity to obtain licenses that best match their business plan. While I have supported rules to facilitate the secondary market for spectrum rights and licenses, I think we are best served by providing a wide variety of license sizes at the initial auction when appropriate.

I have also worked closely with the Wireless Internet Service Provider (WISP) community, which has been particularly focused on providing wireless broadband connectivity in rural and underserved areas. I even had the opportunity to host an extraordinary FCC event in my home town of Rapid City a few years ago to highlight the potential of rural WISPs. Unlicensed broadband services can be a big part of the rural solution. Unlicensed spectrum is free and, in most rural areas, lightly used. It can be accessed immediately, and the equipment is relatively cheap because it is so widely available.

We can do even more for rural WISPs and other unlicensed users. I have heard from operators who want access to additional spectrum and at higher power levels. And the Commission has been doing just that. We have opened up 255 megahertz of spectrum in the 5 GHz band – more spectrum for the latest Wi-Fi technologies – and are looking at ways to increase unlicensed power levels in rural areas.

I also have pushed for flexible licensing approaches that make it easier for community-based providers to get access to wireless broadband opportunities. We adopted rules to make spectrum in the 3650 MHz band available for wireless broadband services. To promote interest in the band, we adopted an innovative, hybrid approach for spectrum access. It makes the spectrum available on a licensed, but non-exclusive, basis. I have spoken with representatives of the Community Wireless Network movement, and they are thrilled with this decision and the

positive impact it will have on their efforts to deploy broadband networks in underserved communities around the country.

We have also made spectrum available in the 70/80/90 GHz band for enterprise use. While you may not be familiar with this spectrum block, it can be used to connect buildings with gigabit-speed wireless point-to-point links for a mile or more. Instead of digging up streets to bring fiber to buildings, licensees can set up a wireless link for a fraction of the cost -- and the spectrum is available to anyone holding a license. While others supported an auction, I successfully argued against them in this unique case, because I was concerned that auctions would raise the price of access and shut out smaller licensees. In fact, one company now is installing five links for the city of Sioux Falls. The links will be used for a number of City services, including public works, police and fire departments, as an alternative to fiber.

We are now even looking to allow unlicensed operations in unused television spectrum bands – the so-called "white spaces." It is a challenging proposal, but one that could allow for unlicensed use of spectrum that has exceptional propagation qualities, which can be particularly useful in rural areas. We have an obligation to look at the interference implications of such a proposal, and it will be a major proceeding at the Commission this upcoming year.

Conclusion

Congress has charged the Commission with ensuring that the American public stay well-connected and well-protected, directing us in the very first section of the Communications Act with making available to "all the people of the United States" rapid, efficient Nation-wide communications services. That starts with a continuing commitment to connectivity, and nowhere is this more important than in Rural America.

If the horse and wagon were the key tools that allowed my ancestors to settle the west, broadband networks will be a big part of maintaining and restoring the vitality of our rural communities in the future. Let us face this new frontier of silicon and fiber as bravely and resourcefully as they did the original frontier of forbidding forests and vast prairies. If we do, I know we will experience similar success and the proper place in the history of American progress. For the sake of ourselves, our children, and this great country, may we be as bold and successful in our own pioneering endeavor as they were in theirs. Thank you for your leadership on rural broadband and for the opportunity to testify before you today.

Testimony of BalsamWest FiberNET, LLC

to

Subcommittee on Rural and Urban Entrepreneurship

of the Committee on Small Business of the United States House of Representatives

"Maximizing the Value of Broadband Services to Rural Communities"

May 9, 2007

Mr. Chairman and distinguished Members of the Subcommittee,

Thank you for allowing BalsamWest FiberNET to present testimony to this subcommittee concerning the importance of broadband services to rural areas and the small businesses and entrepreneurs who live and work there.

BalsamWest is a certificated Interexchange Carrier and Competitive Local Exchange Carrier in North Carolina, Tennessee, and Georgia. BalsamWest is a unique company and an example of the success that can be achieved through collaboration, determination, and innovation.

BalsamWest was formed in 2003 to serve the critical need for access to reliable, affordable high-performance broadband infrastructure and services in the southwestern region of the Southern Appalachian Mountains.

BalsamWest's testimony concerns the unusually severe challenges faced by a rural mountainous region in obtaining reliable, affordable, high-performance broadband infrastructure and services, the difficulties of telecommunications and cable companies in serving the needs of the people in the region, and how—of necessity—people from within the Southern Appalachian Mountain region worked collaboratively to overcome the problem on their own—with stunning success.

The area served by BalsamWest is one of profound beauty with terrain ranging from the highest mountains east of the Rockies to deep, shaded gorges where trout-filled streams turn into

rushing whitewater rivers. One of the most geographically isolated and economically challenged areas in southern Appalachia; this area is surrounded on all sides by the 5,000-foot peaks of the Blue Ridge and Smoky Mountains. Small communities and towns have grown up wherever level ground was formed by rivers carving valleys through the mountain ranges. Communities are widely separated by steep, winding roads to the next river valley. Population in the region has historically been sparse, but is growing due to an influx of retirees, second-home owners, and resort developments attracted to the scenic beauty and lifestyle of the region. Tourism is a major economic force in the region.

The culture of the mountain people is rich, yet encapsulated. In the history of the region, there have been many challenges to overcome in obtaining basic infrastructure. In the more recent past, there have been barriers to economic prosperity in the face of agricultural decline, off-shore job flight, and the seasonal nature of tourism. Far from major trading centers and isolated by formidable terrain, mountain people have had to independently overcome many challenges through collaboration, determination, and innovation.

Coupled with these challenges has been the simultaneous emergence of a new economy powered by 21st Century technologies and knowledge resources. The new economic order presents a wealth of opportunity for those who have access to these resources— increased economic opportunities, higher living standards, better schools and health care, stronger communities, and more meaningful participation in government and public life—and a widening gap for those who do not. Economic development in our region increasingly depends less upon landing a single, blue-chip industry and more upon how well we have prepared our labor force and supported our small businesses and entrepreneurs to enter and thrive in a knowledge-based economy.

To create a new economic reality for itself, our region must have:

A Poised Infrastructure ➔

1) Access to reliable, affordable high-performance broadband telecommunications infrastructure and advanced services at competitive prices;

2) Connectivity to major metropolitan areas outside the southern Appalachian mountains, overcoming long distances to major trading centers and jobs with high-speed connectivity;

A Poised Workforce ➔

3) Community-based digital literacy campaigns as well as seamless, comprehensive training and re-training opportunities;

A Poised Market ➚

4) A process for identifying, engaging, readying, and supporting the local workforce, small businesses and entrepreneurs to transition to—as well as perform and compete in—a global marketplace; and

➘

5) Innovative and collaborative approaches to business market expansion to a more diversified and robust national and global platform.

By 2002, the lack of affordable access to reliable, high-performance broadband connectivity in the region had become a serious impediment to effective provision of health care services, education, government services, and to economic development. The needs of existing businesses for connectivity to modernize and expand were great and economic development recruitment activities were hampered when prospects inquired about access and cost of broadband connectivity. Prospective buyers of second homes in resort communities wanted access to "Triple Play" and "Quadruple Play" services available in the largest cities in the U.S.: IPTV (full high-definition video entertainment over Internet protocol delivered to the home over fiber-optic cable), VoIP (unlimited voice calling over Internet Protocol), digital surveillance, and high-speed Internet service of at least 8 megabits per second.

Cell phone coverage in the mountains is also limited by the terrain. Tower siting is difficult due to the mountains, and the high percentage of publicly-owned protected natural areas where towers would spoil the scenic beauty. While mountain people had grown used to being "out of range" in many places in the region, people moving to and visiting the region were not used to being out of touch for such long distances. While people in cities are rapidly replacing their landlines with cell phones, many people in the mountains do not have that option.

While it would seem logical to place the blame on local telephone and cable companies for failing to serve the needs of the area, it would be unfair to do so. The local management and employees of these companies live in the area, their children attend schools here, and they must obtain health care and government services from local institutions. They have the same needs and

hopes as all the other residents of the mountain communities, and they do their very best with the infrastructure resources available to them. The problems are at a higher level:

- The law of supply and demand fails in areas that are so extremely difficult and expensive to serve due to formidable terrain barriers and low population density.

- From a policy standpoint, the policies and regulations that Congress and the FCC pursue do affect the ability of competitive companies to deploy and provide service. In the past few years, the FCC has not pursued policies that promote competition and protect consumers, with especially adverse results in rural isolated areas that are difficult for any carrier to serve. Instead, the FCC has favored policies that specifically benefit the large incumbents. These large, publicly-traded companies, with shareholders expecting returns comparable to investments in other industries, cannot justify the necessary investments in advanced infrastructure and services that are so critically needed in areas like the southern Appalachian Mountains. Many areas of the rural region have had no other choice but to be served by the large incumbent carrier, which in turn cannot justify investment in the area. The result of these policies is that our businesses—which are comprised mostly of small businesses and entrepreneurial ventures—have been critically affected. We have fallen far behind in the new, global economy, and our school children and rural businesses are unprepared and unable to compete.

- Federal and state incentive, grant, and loan programs have restrictions that either prevent investments in the infrastructure, or are too complicated, cumbersome, and slow to be of benefit.

The fiber-optic infrastructure serving traffic in and out of the region was deployed when population in the area was still growing slowly. Growth in population; the now critical importance of Internet access to residents, businesses, government, education, and health care; imaging applications for education and health care, and the rising demand for high-definition video and Triple and Quadruple Play services by homeowners had driven demand to the point at which

existing infrastructure was becoming too constrained to serve the demand for higher bandwidth services.

More importantly, reliability of service had become a major issue by 2002. The region is served by a number of telecommunications companies that interconnect their fiber-optic networks to transport traffic to remote switching facilities. In some areas, these interconnections form a lateral line, not a ring. This is an important concept, because a single cut of an underground lateral fiber-optic line can cause widespread outages. In a fiber-optic ring configuration with high-end electronics, traffic is automatically rerouted in the other direction on the ring when an outage is detected.

In 2002, there were 8 outages in the western North Carolina area of the region. One of these outages took down communications over landlines, cell phones, and Internet for several hours over four counties.

Clearly this created problems for residents and businesses in the region. Millions of dollars of electronics funds transactions of two local businesses in the area, Drake Software of Franklin, North Carolina, and Harrah's Cherokee Casino in the Cherokee Indian Reservation in Cherokee, North Carolina were affected.

Why couldn't the telecommunications companies serving rural communities in this area expand the capacity of the fiber-optic infrastructure and create a ring to solve the reliability issue?

It was too expensive to do so in light of the terrain barriers – extensive rock and steep terrain – and population density was too low to provide a return on investment that is expected by telecommunication carriers. A large share of the cost of expansion and building redundancy would have to be passed on to the people in the region.

In 1998, the people and organizations in the Western North Carolina area of the region began meeting with Southwestern Community College of Sylva, North Carolina to share concerns and search for answers to the dilemma.

Southwestern Community College

Southwestern Community College, a longtime community and technology leader in the western North Carolina area of the southern Appalachian region, had offered distance learning in the early 1990s to the region's schools in its service area. Needless to say, distance learning curricula are critically important to rural schools that cannot afford to hire a teacher of advanced math and science programs for only a few children. Young people graduating from rural high schools and entering college often found themselves at a competitive disadvantage with students from metropolitan area high schools with large enrollments, where college level math and science programs are a common offering.

Southwestern Community College created an interactive instructional television network, Community Link. This closed-loop, analog-based system was designed to deliver full-motion video and audio among 13 sites—including the community college sites, four public school districts, and a regional university. This network was especially beneficial to public high schools previously unable to offer low-enrollment, high-cost, advanced course work that would not otherwise be available to small rural high schools.

As capacity on the serving carrier's network became constrained, and services became more expensive to provide, Southwestern was faced with changing its analog, full-motion video system to compressed video to save bandwidth cost. The quality of video using compression technologies at that time was not high-quality, and the learning experience for students and teachers suffered. Southwestern's experiences with high cost and service quality meshed with others' in the community. Southwestern realized that the isolation of the region and the high cost of connectivity out of region would continue to exclude it from the resources needed to compete in the new economy. They understood that the region must gain the ability to reach outside the confines of the mountains—perhaps its only hope for joining mainstream America in the fruits of the 21st Century. Finally, the College was aware of other applications, rich electronic content, and on-line services that would add tremendous value to the lives of the people living and working in the region. The College and the region would not be able to seize these opportunities without better telecommunications infrastructure.

In 1999, Dr. Cecil Groves, President of Southwestern Community College and current Community Interest Director of the BalsamWest Managing Board, initiated the Appalachian Access project to examine the needs of the region, to identify the exact nature of the issues affecting rural infrastructure deployment, and develop and assess strategies for resolving the issues. The design of the project comprised an examination of the business issues, regulatory, technological, and political factors affecting rural broadband infrastructure deployment. Mr. Jim Campbell, Vice President for Information Technology, and Mrs. Laura Pennington, Community Resource and Development Director, were responsible to inform and manage this initiative on behalf of the institution. The College partnered with Sherry McCuller, Managing Director of The Institute at Biltmore, a regional nonprofit research and planning organization and current Manager of BalsamWest FiberNET, to conduct research in the four project focus areas, develop and assess strategies in light of the factors affecting infrastructure deployment in a mountainous rural area.

The project was a groundbreaking initiative to develop in-depth knowledge and understanding of the highly regulated and complex world of telecommunications infrastructure and service delivery, and a grassroots effort to lower the cost and increase availability of broadband telecommunications services in rural western North Carolina.

The Appalachian Access partners discovered that in remote, rural areas with terrain barriers, such as communities in mountains or islands and peninsulas, the highest cost component of high-performance broadband service is more often not in the "Last Mile"—the portion of the community network between the serving carrier facilities and customer premises—as is frequently the case in other rural communities. Instead, the high-cost component is often in the "Middle Mile"—the regional network between the local carrier facility and out of area "traffic aggregation hubs". In the isolated, low population area, traffic was transported—sometimes long distances—to a remote location, where it was combined with traffic coming from other areas in the region and then transported to interconnection points where the traffic hopped onto major US long-haul networks that crisscross the country.

Internet traffic is transported to Internet Points of Presence or "PoPs" over these long-haul networks. PoPs are facilities where fiber-optic network owners physically interconnect their fiber to exchange traffic and drop and pick up services.

The closest Tier One (largest) PoP to the southwestern North Carolina and northern Georgia area of the southern Appalachian region is in Atlanta, Georgia. Two 40-story buildings on Marietta Street provide physical interconnection facilities for the fiber optic networks of almost every major carrier in the US and some international carriers to interconnect and exchange traffic and drop off or pick up "content" such as Internet Service, Internet Protocol Television ("IPTV") and Voice over Internet Protocol ("VoIP"). This content is transported over the fiber-optic networks to other carriers and on to consumers.

The importance of a Tier One PoP cannot be overemphasized because content can be purchased at these PoPs at the lowest possible cost. A Tier One PoP spurs rapid economic growth in a surrounding area as businesses and other types of organizations and institutions locate nearby to reap the benefits of proximity to lowest-cost transport and content.

Transport on the middle mile network in the rural Southern Appalachian region was priced by the mile, and that is the primary reason why the cost to the area was up to ten times higher than higher-quality services offered in metropolitan areas.

While Last Mile services were also high-cost, the cost and service quality of the Middle Mile network represented a much greater issue. The middle mile network would have to be expanded and improved, or a new network would have to be built. This was a daunting prospect in terms of cost and time to completion.

To spur investment in this component of infrastructure, the Appalachian Access partners developed a strategy to aggregate regional demand for broadband services, and combine the demand with incentives in the form of grants or public subsidy. The demand aggregation phase took almost a year and involved 129 local businesses and institutions who all agreed to aggregate their demand in a volume purchase of services.

Project principals began the negotiation process with 21 prospects in 6 categories:

- Transport providers (fiber providers)
- Applications & managed network providers
- Cable providers
- Supply brokers
- CLECs
- ILECs

All of the vendors were provided with the following list of criteria that would be used by project principals in selecting the vendor:

- Reduced prices for advanced telecommunication services for end users - at parity with adjoining urban areas;
- Enforceable service level agreement;
- Blended rate pricing (one price for everyone on network), rolling rate based on volume;
- Flat rate, not distance sensitive, middle mile pricing.
- Reduced local loop charges (last mile);
- Length of contract term (longer-term contracts allowable for high-bandwidth fiber customers);
- Redundancy to at least two national long-haul interconnection sites;
- Number and type of peering relationships;
- Degree of fiber infrastructure in proposal;
- Time required to offer services;
- Time required to provide infrastructure; and
- Other value-added offerings.

Project principals structured the following vendor incentives:

- Marketing and aggregation of demand for telecommunications services through a regional nonprofit "Master Demand Aggregator", the Western North Carolina Knowledge Coalition. These services would be provided free of charge to the winning vendor.
- Significant network construction subsidy.
- Continued resource development by the Appalachian Access team to raise additional sources of funding for the required network construction above the subsidy.
- Low-cost expansion and strategic positioning in a growth area. (Asheville, North Carolina is within a 2-hour drive of 7 of the top 200 growth cities in the US as listed by Forbes Magazine in 2001).

- National press and a replicable rural modal for the vendor to expand its customer base throughout rural America.

The US economy began a precipitous decline as early as February of 2001—and with spectacular ill timing the telecommunications sector led the plunge. With venture capital drying up for telecommunications companies and stock prices dropping at alarming rates—project principals had to rethink its list of selected vendors—in light of several factors:

- Financial stability (cash levels replaced revenue levels and market share as our focus);
- Potential to continue to attract venture capital for approximately 18 months on declining share prices; and
- Willingness to invest in capital equipment to expand into rural markets as liquidity and risk management became key factors for economic survival.

In the most fundamental terms, telecommunications companies began to focus on cash flow and improvement of liquidity ratios. Strategic moves requiring capital expenditures moved to the bottom of the priority list for all but the most cash-rich companies. As one venture capital company analyst remarked, "If a venture-backed CLEC has to spend one dime on capital equipment to expand its market territory, the deal isn't going to happen." The future of the project seemed dubious.

In the end, there was one viable vendor candidate who vied keenly for the region's business because it represented an attractive strategic positioning opportunity, as well as a way to deploy a lower cost build through the area to connect from its operations in Florida to a large new business customer in New York.

In the negotiations with this vendor, project principals worked tirelessly through every aspect of the business model—which was one of a for-profit entity looking for an internal rate of return, seeking to contain risk, minimize upfront investment, and maximize upside potential, while maintaining asset liquidity in a dangerous marketplace where Chapter 11 and divestiture loomed large.

The vendor agreed to invest significant capital in infrastructure deployment in the area in return for incentives, and assigned senior and technical staff to work side-by-side with the Appalachian

Access team to conduct the design and engineering of the fiber-optic middle mile network ring and electronics, to work through the interconnections at local carrier facilities, to develop the cost of a dedicated connection to a Tier One PoP to reduce the cost of content, to develop the cost of the demand for services identified by Appalachian Access, and to develop the structure of the transaction.

This work spanned almost a year

Tragically, the devastating terrorist attacks of September 11, 2001 occurred as the transaction was nearing final completion, and the vendor—like most companies in the U.S.—became concerned with cash conservation, liquidity, and risk. Ultimately, to the great sorrow of all involved, the vendor could not take the financial risk of entering the mountain region marketplace at that time. The Appalachian Access partners remain grateful to this vendor to this day for its tireless commitment to making an innovative plan work for the region and itself, and for the hard work of the vendor management and staff.

Appalachian Access partners turned to the public and nonprofit sectors for funding the deployment of the network and plan. Just as the private-sector viewed investment of capital into the mountain region telecommunications infrastructure as high-risk in terms of return on investment, so too did the public and nonprofit sectors. The project was viewed as too expensive and too risky by these sectors. The same factors that prevented deployment of a redundant, high-performance network by the private sector were also barriers to the public and nonprofit sectors.

After years of work, the Appalachian Access partners had to begin again, but this time they were armed with a comprehensive plan, knowledge, and expertise. The work of the Appalachian Access principals led to the conclusion that the rural mountain region would not be served with comparable infrastructure and services as metropolitan areas by the private-sector unless demand justified the investment, and even aggregated demand, incentives, and strategic advantage were not enough to attract investors in a downturn in the U.S. economy in the aftermath of the terrorist attacks on September 11, 2001. Western North Carolina needed regional private-equity investors willing to develop and own a middle mile ring that would traverse the entire region, and for economic reasons

other than return on investment in and operation of a telecommunications company or cable company.

In 2003, Ms. McCuller resigned as Managing Director of the Institute at Biltmore to concentrate her efforts full-time on developing a regional private equity funding model for infrastructure in the region. Ms. McCuller and her family, like the other members of the Appalachian Access team and BalsamWest FiberNET, live in southwestern North Carolina, and she understands first-hand the critical importance of the high-performance infrastructure to the region. She believed that her experience gained through a 20-year career with a regional investment bank in Charlotte, NC, where she served as CIO and CFO before retiring in 1992 would be important to the continuing effort and she was deeply committed to its success. Ms. McCuller formed Peregrine Management Partners to partner with Southwestern Community College and continue the work.

Regional Collaboration

By 2003, the partners knew that the only real hope for the region was to raise private equity from investors within the region whose businesses and operations depended heavily for success upon high-performance broadband and reliable infrastructure. Two organizations who were seriously concerned with the impact of the situation on their own operations responded to Southwestern's call for regional support, and BalsamWest FiberNET was born.

Drake Software

Drake Software of Franklin, North Carolina met with Southwestern Community College to explore the feasibility of developing such a network. Drake Enterprises is a family of 13 companies in the region, whose flagship company, Drake Software, was created by Phil Drake – a highly successful entrepreneur with deep roots in the region. Mr. Drake's company has grown from his development of an innovative software program to transmit tax return information electronically from accounting firms to the I.R.S., to the second largest electronic tax filing company in the U.S and a clearinghouse for approximately $5 billion of electronic funds transactions associated with income tax returns. Dnet Internet Services, the Internet arm of Drake Enterprises, was hard pressed

to maintain reliable connectivity to major Internet PoPs during tax season in light of the network outages in 2002, and its cost of service was much higher than the cost of comparable service in metropolitan areas. Mr. Drake did not want to move his business – which has created over 530 jobs in the area – out of the area in order to obtain affordable access to needed high-performance broadband services.

Mr. Drake and his management team are committed to improving conditions in the region for their business, their families, and all of the people in the region whose prosperity is so intertwined. Thanks to the work of the Appalachian Access initiative, Mr. Drake was able to clearly see the problem, the necessary action, the cost, and the potential return to his business from cost savings and reliability improvements. He knew that from a purely business prospective, he was faced with moving his business out of the region or solving the problem independently. He was well aware of the benefits to other small and medium-sized businesses in the region, as well as the benefits to education, health care, and government services in the region. While the return on investment on development and operation of a telecommunications interexchange carrier middle mile network and connectivity to a major metro Tier 1 PoP were, on their own, not compelling—the benefits to his core business, his subsidiaries and all of the businesses and organizations in the region were clear.

In September 2003, Mr. Drake committed to an investment to begin the deployment and operation of the BalsamWest FiberNET network, and appointed two members of his senior management team to represent Drake Software in BalsamWest FiberNET: Mr. David Hubbs, Director of Dnet Internet Services, which serves Drake Enterprises and also operates as a local ISP, and Mr. Tim Hubbs, President of Drake Enterprises. Both David and Tim Hubbs and their families have deep roots in southwestern North Carolina. David Hubbs served BalsamWest as its first Chairman of the Managing Board.

Construction of what is now a 300-mile network through the southern Appalachian mountains connected to Atlanta, Georgia, commenced with construction of a the first phase of the ring connecting Franklin to Webster to Sylva, North Carolina and a spur to Cullowhee, North Carolina to allow the regional university, Western Carolina University, to also benefit.

Eastern Band of Cherokee Indians

Southwestern Community College's distance learning network serves the Qualla Boundary of the Eastern Band of Cherokee Indians. Tribal Government, headquartered in Cherokee, NC, and Tribal businesses, merchants, hospitals, schools, and residents had also been deeply affected by high-cost services, limited capacity, and reliability issues. Tribal Government began examining the Appalachian Access assessment and plan, and began discussions with Drake Software and Dnet Internet Services to explore the BalsamWest partnership to pool capital to deploy and operate an advanced middle mile network.

Principal Chief Michell Hicks and the Tribal Council authorized Mr. Brandon Stephens, Tribal Planner and Grant writer, and current Chairman of BalsamWest's Managing Board to represent the Tribe's interests in the BalsamWest venture.

Economic and Social Conditions:

Despite the scenic beauty of the Great Smoky Mountains National Park and the Nantahala National Forest, western North Carolina is characterized by poverty and diverse social needs. The multi-generational residents, largely Cherokee and Scotch-Irish, have a similar experience of independence and self-reliance that is characteristic of most mountain people. They have much in common with other Appalachian people faced with stagnant economies. Because the town of Cherokee serves as the eastern gateway to the Park, much of the area has a long history of serving traditional tourists. Yet, the area has limited employment opportunities for those with special skills, so a serious out-migration of young, educated residents has been all too typical. Much of the current employment is seasonal and at low hourly wages. Unemployment rates increase in the winter months to sometimes as great as six times the national average. These economic conditions have contributed to the need for social services that are seriously underfunded in these poor counties.

Separate statistical information related to the economic and social conditions for each sector of the population within the Qualla Boundary and Eastern Band of Cherokee Trust Property follow.

Census blocks are varied between 1,407 and 4,696 in population and the percentage in poverty ranged from 24 to 38 percent;

Beyond the large number of people living in poverty, it is also important to note the high percentages of workers who are considered underemployed in the area. The centrifuge in saying that an individual is underemployed is that residents are overqualified for the available jobs in the area. The underemployed, those earning $7.00 to $8.00 per hour or less, were identified by North Carolina County:

	Graham	Jackson	Swain
Persons earning $7.00 or less per hour:	676	3,580	2,508
% earning $7.00 or less per hour:	30.1 %	34.2%	48.2%

Tribal members have discovered the difficulty of establishing a business. Those who have the ability to operate a business have discovered that receiving financial assistance through recognized banks, financial institutions, and private financiers is not a guarantee. These organizations are ordinarily unwilling to take the risk of lending money to business owners on the Trust Property. Like most Native American Reservation or Trust Property, non-enrolled members are unable to own property. The financiers are unable to collect on a defaulted loan because they are unable to own the property. Smaller loans for automobiles or home furnishing are made because they are typically able to repossess them. The Eastern Band of Cherokee Indians Tribal government is able to repossess or take eminent domain over Tribal Trust Land.

The Eastern Band of Cherokee Indian trust lands encompass more than 88 square miles. The majority of Trust Property covers parts of Swain and Jackson counties with smaller tracts in Graham and Cherokee counties and approximately 250 acres in Haywood County. There are approximately 9,500 enrolled members of the Eastern Band of Cherokee Indians living on trust lands compared to the near 14,000 total enrolled members. Of the enrolled members living on trust property, 20 percent were judged to be living below the national poverty level. The population is about evenly split between males and females.

Employment is strongly tied to tourism, which is the number one factor affecting the economy of the Cherokee Indian. Summer unemployment levels have dropped as low as five percent but the situation changes dramatically during the winter months when at least 30 percent of the Indian work force is unemployed. In June 1998, 947 or 14.7 percent were unemployed out of a tribal labor force of 6,432. The United States Department of the Interior and Bureau of Indian Affairs has recently calculated the average unemployment rate to be 13.15%.

The situation has been especially difficult in the Swain County and Graham County portions of the Reservation where several industries in the neighboring community of Bryson City have either closed or faced severe employment cutbacks. In Graham County business and industry has been limited because of geographic barriers. The Appalachian Regional Commission lists Graham County as the only distressed county in the state of North Carolina, out of the near 30 counties it serves. To be a distressed county, according to the Appalachian Regional Commission, the sustained unemployment rate must be 8.6% or higher, a 19.7% or higher poverty rate, and a per capita market income of $12,934.00 or less.

Current tribal per capita income was estimated at $10,000 per year. Median family income was judged to be $15,956.00 per year. The State reports the median family income as $26,647.00 and the national average is $16,450.00.

The fight for property and resistance to ethnic cleansing is no longer a fear for the Cherokee. The fear now is loss of identity, tradition, and disease.

In recent years, the Eastern Band of Cherokee Indians have made great efforts to encourage enrolled members to learn the Cherokee language and alphabet. The Tribe is also working in a diligent fashion to restore and recreate design, tradition and cultural significance to many things. Restoration and renovation to places like the Cherokee Ceremonial Grounds, downtown business district, and the manner business is being conducted.

Diabetes eclipses most concerns. The Eastern Band of Cherokee Indians is experiencing a crisis in diabetes prevalence that has reached epidemic proportions. Of the 14,000 enrolled

members, 1 out of every 3 persons suffers from this incurable disease. As a result of the high rate of the disease, the number of amputations has tripled in the last ten years.

The last count of Cherokee with diabetes eclipsed 1,600. Ten years ago there were 681, a number that has more than doubled. In the total number of Tribal diabetic population exists a greater number of children who have developed adult-type or type two diabetes. The real tragedy is that just when these children have reached young adulthood, they face the risk of developing diabetes complications such as leg amputations, kidney failure, and blindness. These are complications that a normal adult diabetic would face at senior adult ages. There are six times as many people with diabetes who have early and/or late stage kidney failure, heart disease, or leg amputations than someone who does not have diabetes.

Amenities in the Qualla Boundary portion of trust property include an elementary school with 600 students in kindergarten through eighth grade and a high school with 200 enrolled. There are as many as 176 students enrolled in Cherokee Head Start. There is a satellite campus of Southwestern Community College on the Qualla Boundary. The main campus is in Sylva some 15 miles away. There is also a satellite campus of Western Carolina University whose main campus is 18 miles away in Cullowhee.

Snowbird in Graham County is the most remote part of the Eastern Band of Cherokee Indians trust property. The population density is fewer than 25 people per square mile. The largest town is Robbinsville with about 800 citizens. 70% of the county is federally controlled land, a limiting factor for increasing the tax base. Ninety-six percent of county land is classified as forest, overwhelmingly as timberland with 60 percent counted as national forest. In the most recent Census the county had almost 8,000 people, which are 800 more than the 1990 Census.

In 2004, the Eastern Band of Cherokee Indians committed to an equal partnership with Drake Software to complete the middle mile network and operation of BalsamWest FiberNET. The Eastern Band also committed funding, as did Dnet Internet Services, to the development of community local loops through the communities of Franklin and Cherokee connecting to the BalsamWest regional ring. The Principal Chief of the Eastern Band, Chief Michell Hicks, appointed

the current Board members of BalsamWest representing the Eastern Band of Cherokee Indians: Mr. Brandon Stephens of Sylva, NC, current Chairman of BalsamWest's Board, and Mrs. Barbara Vicknair, former Cherokee County Commissioner from Murphy, North Carolina. Mr. Stephens and Mrs. Vicknair are enrolled Members of the Eastern Band of Cherokee Indians, and their families have lived in the region for generations.

The Eastern Band of Cherokee Indians made the decision to invest in the fiber-optic network infrastructure of BalsamWest due to network outages in the region that disrupted communications. The Tribe lost millions of dollars during these outages, and the loss for the region as a whole was estimated at $72 million. To improve service and offer residents on tribal lands high-performance broadband service and Internet access, the Tribe made the decision to partner with Drake Software.

The Tribe has begun to realize the benefits of the regional fiber-optic network and its community fiber-optic loop. Combining the low-cost, high-performance broadband infrastructure and services with tax incentives and a location in a region surrounded by high growth, the opportunities for development became evident. The Tribe has been exploring economic development outside of tourism, including call centers, software development, health care provision, and national entertainment.

To prepare the community for such development, the Tribe has provided high-performance connectivity for the Cherokee Indian Hospital to send and receive images, telemedicine applications, and video-conferencing. The housing department is exploring amenities such as Voice over Internet Protocol telephony ("VoIP"), security and surveillance systems, high speed Internet service, remote control systems for environmental monitoring and control, and Internet Protocol television ("IPTV"). The Tribe is also building on the new connectivity for Tribal schools for distance learning, video-conferencing, ultra-high speed connectivity to other schools and colleges, high-speed Internet services, and a host of education learning tools and content now possible with the installation of fiber-optic connectivity to the Cherokee school sites.

The challenges and barriers for the Cherokee in this new work of technology is that they lack a technically trained labor force due to the years of out-migration as described earlier and the access to financial resources and technical assistance to continue to move the fiber optic project forward. The work will be slow in the beginning to build a new economy and one that will attract the best and brightest, who now leave the Reservation to seek an education and never return. The Tribe is also learning that in the beginning it must rely on its own resources as there are no available state resources from North Carolina. Federal support programs are difficult to navigate and support, and the process is long. Outdated policies prevent the Tribe from taking part in active programs that support the advanced services and infrastructure needed by the Tribe and the region. Generally the programs are designed to meet the needs of regions that live in extreme conditions where the population is low (100-200 city population); the poverty level or unemployment level is 10 times the national level; and where an almost absolute zero level of connectivity exists. Broadband connectivity is currently defined as 200 kilobits per second of bi-directional bandwidth, but this bandwidth will not support high definition imaging and programming, and it would be difficult to conduct interactive, distributed work at this speed. Requirements currently imposed are difficult to meet in most rural areas like the Cherokee Indian Reservation, but the area still needs support in the form of resources to expand and leverage what has been begun by BalsamWest.

Deployment and Operation of BalsamWest FiberNET

In 2004, Ms. McCuller invited John Short to join Peregrine Management Partners to provide needed expertise in telecommunications service provision. In December, 2004, the Managing Board of BalsamWest FiberNET retained Peregrine Management Partners as the company's Manager. Peregrine reports to the BalsamWest FiberNET Managing Board.

Construction moved forward rapidly in 2004. BalsamWest collaborated with a scenic railroad in the area – the Great Smoky Mountain Railroad – to share the railroad Right of Way through some of the most difficult terrain in the entire area – from Dillsboro over Fontana Lake and through the Nantahala Gorge, areas with very steep terrain, sections of almost solid rock, and trestle bridges over Fontana Lake created by the historic Fontana Dam. Great Smoky Mountain Railroad's collaboration allowed BalsamWest to save costs in support in the region, and the Railroad was able

to gain access to infrastructure along its railway to enhance its own and its passenger's communications capabilities.

The N. C. Department of Transportation supported the effort to bring this badly needed infrastructure to the region. Mr. Conrad Burrell, the regional representative on the State Commission, communicated the importance of this effort for community development and economic development in the area to the Commission members in the State Capitol.

In 2005, BalsamWest connected its first customer: the West Care Hospital System, which was able lowered its transport costs between remote, rural health care facilities by 25 times, and decreased transport time of critical medical imaging between facilities from 30 minutes (by car) to 12 seconds. The President of the Hospital, Mr. Mark Leonard, and the IT director of the System, Mr. Shawn Remacle, understood the benefits to the hospital and to the region of the network. Westcare's innovation and collaboration allowed BalsamWest to use facilities in two of its hospitals to create colocation facilities for the communities it served. BalsamWest installed state-of-the-art electronics and rack space for others in the community to interconnect. As a consequence of Westcare's collobation, the remote facilities in the WestCare system are located directly on a 300-mile underground network connected to Atlanta, Georgia. The WestCare system has been able to lower its cost of transport service ***by 25 times***, transmit critical medical imaging ***in seconds***, gain access to new and valuable medical applications and Internet service, and benefit the communities and the BalsamWest network at the same time.

Also in 2005, BalsamWest worked with Blue Ridge Mountain Electric Membership Cooperative, a Young Harris, Georgia-based organization serving Clay and Cherokee counties in southwestern North Carolina and Towns and Union County communities in northern Georgia. Blue Ridge Mountain EMC and its Executive Director, Mr. Joe Satterfield, and Community Development Director, Mr. Erik Brinke, have long served the rural region with electric infrastructure and services and are deeply committed to community development in the area. Blue Ridge Mountain EMC wished to use its electric utility poles and facilities to offer Internet services to underserved communities in its electric service areas. BalsamWest tailored its construction design in this area to meet the needs of Blue Ridge Mountain EMC, and Blue Ridge Mountain EMC obtained

long-term ownership of strands of fiber being constructed through the region. Blue Ridge Mountain EMC provided facilities in its Young Harris, Georgia headquarters for BalsamWest's use in installing its electronic equipment, and BalsamWest created a colocation site open to the community for interconnection. BalsamWest was able to obtain a facility with excellent electric utility service and back-up electric service, and Blue Ridge Mountain EMC's headquarters facility was then located directly on the regional middle mile ring, with off-net service to Atlanta. Blue Ridge Mountain EMC, BalsamWest FiberNET, and the rural communities all benefitted tremendously from this arrangement.

In 2006, BalsamWest deployed local community loops connecting to the middle mile network in Sylva and Bryson City, North Carolina, and CopperHill, Tennessee. In Sylva, BalsamWest provided a low-cost spare duct to a local Internet Service Provider and CLEC: Metrostat Communications. Since that time Sylva-based Metrostat has deployed copper, fiber, and wireless access to the downtown Sylva area and installed a free Wi-Fi system for the town. BalsamWest's investment in underground fiber-optic infrastructure began to benefit local last mile service providers. In Bryson City, BalsamWest provided duct and fiber to the Swain County Government and Bryson City municipal government for use in connecting government sites to save cost and improve capacity and transmission speed.

Also in 2006, BalsamWest completed the first phase of a project in which it takes great pride. This project, known as "WNC EdNET" is the first of its kind. BalsamWest worked collaboratively with Southern Pipeline, Drake Enterprises, the Eastern Band of the Cherokee Indians, and Blue Ridge Mountain Electric Membership – collectively known as the "ASAP Partners" ("Advancement of Southern Appalachian Prosperity Partners") to knit its middle mile network fiber together with the fiber belonging to the other ASAP Partners and low-cost construction services where new construction was required. The network design connects all 70 K-20 educational institutions in a 6-county rural school district and the Cherokee Indian Reservation. This network is a private, educational network connecting the public and charter K-12 schools together with one another and the two community colleges and regional university serving the region.

BalsamWest has assisted the public and charter schools in southwestern North Carolina in leveraging BalsamWest's investment of $16 million in rural fiber-optic infrastructure. The ASAP Partners, working collaboratively, offered this network to the schools in a competitive bid at ***more than $60 million lower than the second lowest bid***.

The schools are being connected together on their own private fiber-optic network with virtually unlimited capacity, which is controlled by the schools. This network allows the schools to share scarce resources and work together, if they wish, to purchase services in volume. More importantly, it allows the two community colleges and regional university to connect directly to all the schools, some of which are located in remote, isolated areas, to provide real-time high definition distance learning to the classroom. The high capacity network will support concurrent, interactive programming from the community colleges and university to multiple schools. This is critical for rural schools that cannot afford to hire teachers to offer subjects to only a handful of students. Metropolitan area schools with high enrollment routinely offer college level math and science classes. Rural students are often at a competitive disadvantage in science and math upon entry to college.

The schools had initial funding of only approximately $2.8 million upon award of the bid, awarded through the Golden L.E.A.F. (the N.C. State Tobacco Trust Fund), and Cherokee Preservation Foundation, a nonprofit organization that supports Cherokee cultural heritage. Funds were awarded through the Western Regional Educational Service Alliance (WRESA) and Southwestern Planning Commission, a regional planning and economic development organization.

Since the initial funding award, BalsamWest has assisted the schools by raising additional regional philanthropic funding of ***$3.0 million*** to connect the schools and community college sites in the remote mountain communities of Robbinsville and Cashiers, NC. The cost to build the long distances through steep, rocky terrain to connect schools in these communities was high. The ***Cherokee Preservation Foundation*** and the ***Carlton Family of Cashiers, North Carolina*** stepped forward to fund these long builds and donate connecting fiber-optic strands to the schools in Robbinsville and the schools and library in Cashiers.

The schools' ownership of their own fiber network ensures their complete control and freedom to choose the "content" they wish to receive, and from whom they receive it. Content includes Internet Service, High Definition Video programming of all types, digital surveillance, video and voice telephony, dedicated data transmission, distance learning programming, and shared computing applications. BalsamWest does not require the schools to purchase these content services through BalsamWest.

Funding has been awarded and construction is underway to connect 51 of the 70 K-20 schools. These schools will be connected by during the next 12 months. There are 19 institutions left to connect, and at this time, and BalsamWest and the ASAP partners and community leaders are working hard together to raise funding to connect the remaining sites and link them all together on their own fiber-optic ring

The patient capital Drake Enterprises and the Eastern Band of Cherokee Indian invested into the region has already begun to pay tremendous rewards to all. The business model of BalsamWest FiberNET is sustainable. Its model of providing metropolitan area wholesale pricing for dark fiber, colocation, and high-capacity services within and through the region to carriers, local enterprises, Internet Service Providers, and other providers and consumers of electronic content is working. BalsamWest was cash flow positive in its first six months of operation, and again at the end of 2006. This is quite an accomplishment for any new venture, much less a venture involved in rural fiber-optic deployment and wholesale transport services in a mountainous rural area. There was a large amount of pent-up demand for connectivity within the region, as well as to connect to a major metropolitan area and Tier One Internet PoP. As with any new venture, there will be ups and downs, but with the continued support of so many people who are so dependent upon the success of this venture for future prosperity and enhancements to quality of life, it will not fail.

Since September, 2003:

- ✓ BalsamWest has deployed over 300 miles of underground fiber optic cable in the southern Appalachian region of Western North Carolina, eastern Tennessee, and northern Georgia, meeting the critical need of the region for affordable access to reliable,

high-performance state-of-the art fiber-optic broadband infrastructure, deploying underground for maximum network reliability, as well as to protect the beauty of the region.

- ✓ BalsamWest is providing direct access to lease strands of fiber in its fiber-optic network under operating or capital leases.

- ✓ BalsamWest is providing high-performance transport circuits at ***wholesale carrier pricing, comparable to metropolitan areas of the US*** where there is plentiful infrastructure and competitive wholesale pricing.

- ✓ BalsamWest offers a guarantee on service reliability comparable to the largest major US carriers serving worldwide businesses.

- ✓ BalsamWest is now serving local ISPs (Internet Service Providers), an electric cooperative, schools, hospitals, libraries, a mental health system, county and municipal governments, a regional economic development commission, and, soon, two real estate resort developments for Triple Play and Quadruple Play services. BalsamWest has interconnected with a major U.S. carrier and is working with an incumbent local exchange carrier to provide dark fiber and high-capacity circuits to expand service within the area.

- ✓ BalsamWest has adopted an "empty pipe" policy. BalsamWest offers only fiber and "empty pipes" (dedicated transport circuits used to transport "content" – voice, data, video and computing applications) within and through the area. BalsamWest does not sell content. Local content providers serve rural communities with low populations.

- ✓ Through the outreach of the Southwestern Community College, and representatives of Drake Software, the Eastern Band of Cherokee Indians, BalsamWest FiberNET, and all of the collaborators in the venture, rural EDCs (Economic Development Commissions") are becoming aware of their new capability to offer facilities in the

region, connected to Atlanta, as locations for electronic operations of Atlanta companies. Rural EDCs are reviewing or deploying technology incubators connected directly to the fiber backbone for use by small businesses and entrepreneurs in conducting electronic businesses.

BalsamWest's future plans include:

- Expansion of the middle mile network into more mountainous rural communities in rural western North Carolina, eastern Tennessee, northern Georgia, and western South Carolina.

- Connectivity to first tier research universities in surrounding areas for access to additional distance learning programming for rural schools, and to allow technology businesses to tap the intellectual and research capabilities of these institutions.

- Connectivity of rural municipal and county government sites in the BalsamWest footprint to provide a secure and reliable, low-cost, high-performance, private government network so that they may obtain the same cost savings and benefits as the schools served by WNC EdNET.

- Connectivity from the Eastern Band of Cherokee Indians Tribal Government offices in Cherokee, NC to the remote reservation lands of Snowbird in the isolated, remote area of Graham County, NC.

- Additional connectivity for Triple Play and Quadruple Play content providers into the region for new residential developments connected on fiber.

- Raise awareness of public and private sector organizations concerning the broadband infrastructure situation of rural areas of the U.S. with significant terrain barriers

- Seek ongoing collaboration and support for network expansion to nearby metropolitan areas through the Southern Appalachian Mountain region.

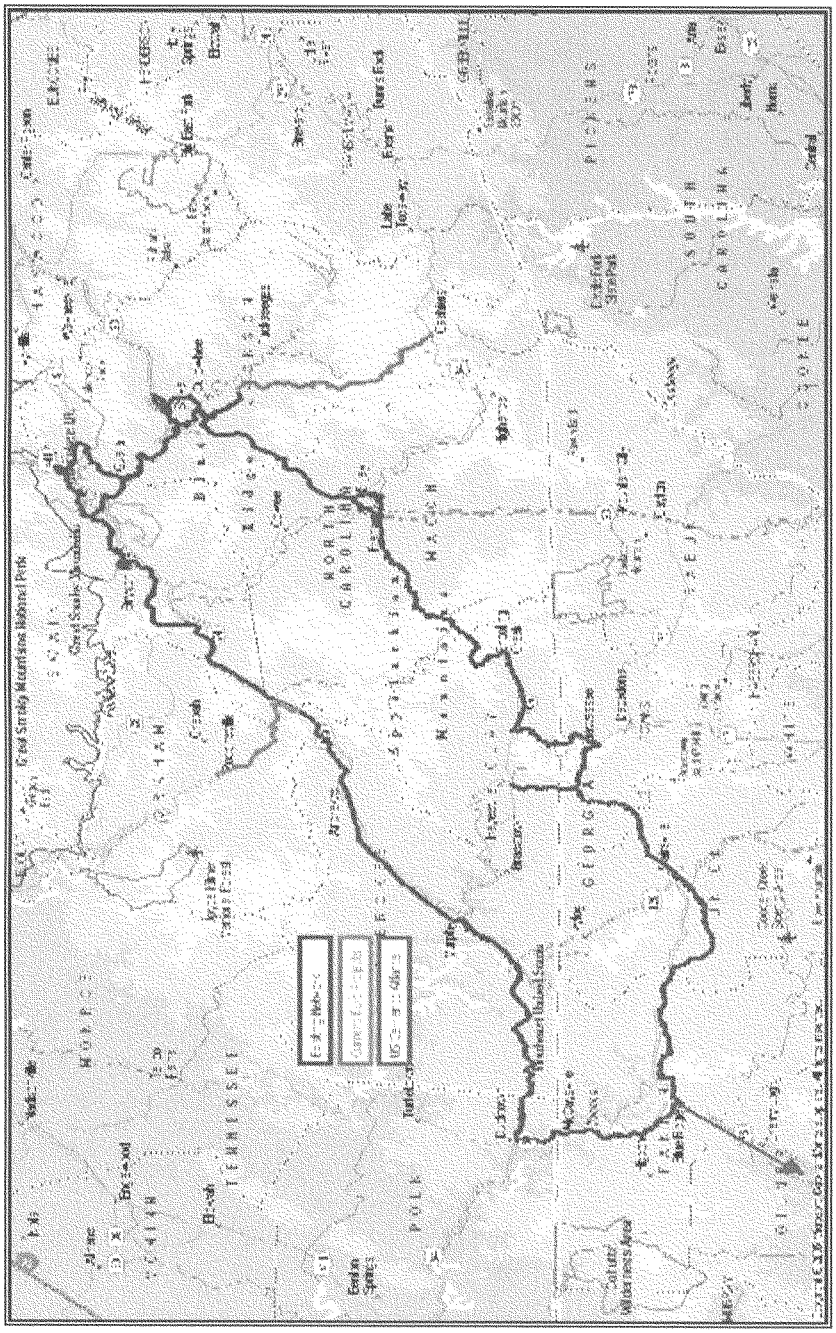
- From a policy and support standpoint, even with our own regional fiber network we, or the companies to which we provide service, must interconnect to the existing telephone networks in each community for local loop access to premises. This means that we must lease the last mile of copper from the large incumbent carriers. Congress must ensure that our company, or the carriers and ISP companies to which we provide service, have access to the existing incumbent local network at reasonable rates.

- Mr. Chairman, we cannot rely on the old monopoly companies to drive broadband to rural America, especially in areas like the southern Appalachians that are so underserved. We have heard promise after promise from these companies "Just change this law or regulation and we will deploy advanced networks." If we want broadband available quickly to rural America, we must open the networks to competitors so that we can insure everyone in our area is able to benefit from the good work that we have begun. BalsamWest is an OPEN network offering services to all. We welcome competitive access to our network to increase the number and kinds of advanced services that can be provided at competitive pricing to residents, businesses, government, education, and health care institutions. To build on the good work begun by BalsamWest and ensure that the maximum benefit is obtained by our region, we, and other carriers, require competitive access to local incumbent networks in the communities we serve.

Summary

BalsamWest's work has indeed been a stunning success for everyone who has been touched by the high-performance network, thanks to the support of so many mountain people and organizations throughout the Southern Appalachian Region. Much work remains to be done, and more challenges will surely arise. But, the resiliency and commitment of the mountain people to independently solve challenges will overcome future challenges. The work of this isolated remote mountain region is a perfect example of the entrepreneurial spirit that has spurred so much innovation in the U.S. By collaboration and pooling of capital, resources, and expertise, the isolated mountain communities of

this region are networked together, and can network small business and entrepreneurs together on an ultra-high-speed superhighway of virtually unlimited capacity. The region can distribute jobs, access to information, expertise, and resources across an entire regional network, and the network has been connected to one major metropolitan area trading center, with more to come. Through bold action and perseverance in the face of seemingly impossible challenges, the Southern Appalachian Mountain region is stepping forward as a new entrant into the global new economy, bringing a wealth of innovative ideas, products and services to the world at large – which is now at their fingertips.


Great Smoky Mountains National Park
TENNESSEE
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
Cherokee
Bryson City
Franklin
Hiawassee
Blairsville
Dahlonega
Helen
Cleveland
Ellijay
Chatsuge Wilderness Area
Cohutta Wilderness Area
Chattahoochee National Forest
Nantahala National Forest
Pisgah National Forest
Cherokee National Forest
Blue Ridge Parkway
Appalachian National Scenic Trail
Eastern Hemlock
Carolina Hemlock
Wooly Adelgid

SOUTHERN APPALACHIAN COMMUNITIES CURRENTLY SERVED BY BALSAMWEST FIBERNET

Western North Carolina:

- **Jackson County:** Cashiers, Cullowhee, Dillsboro, East Laport, Gay, Glenville, Greens Creek, Sylva, Tuckasegee, Webster and Wilmot
- **Qualla Boundary of Eastern Band of Cherokee Indians**: Cherokee
- **Swain County:** Almond, Bryson City, Nantahala , Talc Mountain, and Whittier
- **Graham County:** Robbinsville and Tulula, (crosses Fontana Lake on the railroad's bridge trestle)
- **Cherokee County:** Andrews (adjacent to Andrews airport), Hothouse, Marble, Murphy, Ranger, Suit, Tomotla and Topton
- **Macon County:** Cullasaja, Franklin, Iotla, Pumpkintown, Rainbow Springs, Union, and traverses Chunky Gal
- **Clay County:** Hayesville, Shooting Creek, and adjacent to Ridges Country Club

Eastern Tennessee:

- Polk County: Copperhill, Ducktown and Isabella

Northern Georgia:

- Fannin County: Blue Ridge, McCaysville and Morganton
- Towns County: Friendship, Jacksonville, Hiawassee, Young Harris
- Union County: Blairsville

TESTIMONY OF T. RUSSELL SHIELDS
CHAIR, YGOMI LLC

BEFORE THE SUBCOMMITTEE ON RURAL
AND URBAN ENTREPRENEURSHIP
OF THE HOUSE COMMITTEE ON SMALL BUSINESS
U.S. HOUSE OF REPRESENTATIVES
ON
MAXIMIZING THE VALUE OF
BROADBAND SERVICE TO RURAL COMMUNITIES

May 9, 2007

Testimony of T. Russell Shields
Chair, Ygomi LLC
Before the Subcommittee on Rural and Urban Entrepreneurship
of the House Committee on Small Business
U.S. House of Representatives
on Maximizing the Value of
Broadband Service to Rural Communities

May 9, 2007

Chairman Shuler, Ranking Member Fortenberry and Members of the Subcommittee, my name is Russ Shields. I am chair of Ygomi LLC. It is a privilege to have the opportunity to speak to you today.

Ygomi is a U.S.-based holding and operating company with a 37-year track record of building companies that successfully deliver innovative software and services to meet essential business needs. We are known for the imaginative application of information technologies that improve the lives of people throughout the world.

We currently operate four information and communications technology companies that are developing and commercializing leading-edge solutions in such areas as wireless digital signal processing software, vehicle telematics, and technical support for multi-location enterprises using distributed call centers. Ygomi is headquartered in Oak Brook, Illinois. Ygomi and its companies – SEI, Verety, Connexis, and ArrayComm – serve leading corporations around the world, with more than 1,200 employees across the U.S., Europe, and Asia.

Today's hearing on "Maximizing the Value of Broadband Service to Rural Communities" is important to the Ygomi family of companies because broadband technology touches all of them. For instance, the expansion of high-speed internet connectivity to rural areas in the U.S. has provided unique opportunities for companies like ours to invent, improve, and evolve new and economic business solutions for our customers. In addition, we have been able to provide broadband services directly to our employees improving their quality of life and the economic viability of their communities.

Service firms, including call center providers in the U.S., are increasingly facing issues of labor shortages. The deployment of broadband and high-speed interconnections has provided a new source of reliable, talented work-at-home labor to U.S. service businesses, helping us to keep those jobs here in America and to provide higher quality service to our customers.

North Dakota is one state that has benefited from superior broadband deployments. Verety, one of the Ygomi companies, provides remote order taking services for a number of McDonald's U.S. restaurants, helping them improve speed of service, order accuracy, and customer satisfaction. Verety is able to deliver consistently high-quality service because the availability of broadband services gives us access to an exceptional talent pool in North Dakota

that is able to work from home. We take great pride in bringing job opportunities to people in rural states like North Dakota who cannot or prefer not to work outside their homes. Verety's work-at-home opportunities offer greater workforce participation, a high degree of flexibility, and an enhanced quality of life. This approach attracts a higher caliber work force with more education and work experience than traditional centers can. We can offer attractive career opportunities, which in turn means a more stable workforce.

Today, we have approximately 150 employees in the areas surrounding Fessenden, Rugby, Steele, and Wishek, North Dakota. We have a dynamic workforce that includes farmers, stay-at-home mothers, retirees, people with disabilities, and people who care for elderly or disabled family members. We expect the number of work-at-home employees to increase exponentially in the years to come. We provide each work-at-home employee with a computer and software; internet DSL connection, telecommunications equipment, paid training, and web and phone-based support. The at-home broadband service is provided by Qwest, United Telephone, and a variety of rural telephone companies and cooperatives. In addition, our employees and their families can use the computer and internet connections for themselves when not working. Our employees like their no-commute savings and the convenience of flexible work shifts of 2 to 10 hours. It is interesting to note that more than two-thirds of Verety's work-at-home employees had no access to broadband for their families before coming to work for us.

Currently, many of our operations and training managers work from their homes. We have also identified several key positions that can be migrated to the work-at-home model and which represent career paths for some of our current employees. These include Senior Technical Analysts, Quality Assurance Analysts, Knowledge Managers to support customer service agents, Inside Sales representatives who nurture client accounts, and Process Engineers who help us improve the way we do business. These positions require highly skilled people with college degrees and relevant work experience, and they can earn significantly more than minimum wage.

Other Ygomi companies are also taking advantage of broadband deployments in rural areas. Broadband is at the core of many of our business models – past and present. For instance, ArrayComm, widely acknowledged as the world leader in commercializing multi-antenna signal processing software for wireless communications systems, developed software that is currently deployed worldwide including in Australia, Canada, Africa, China, Japan, Europe, and the Middle East. Its technology greatly enhances the capacity and improves the economics of wireless mobile broadband services. This technology will help extend the reach of broadband services in both rural and urban areas around the world. Connexis is working in partnership with vehicle manufacturers worldwide to provide safety-related data connectivity for all vehicles, with particular emphasis on areas with little or no cellular coverage. We foresee broadband and other advanced communications technologies making a major contribution to improve road safety for people in rural areas.

We have all read Thomas Friedman's book, *The World is Flat*. In fact, it mentions our effort for McDonald's in North Dakota. I believe that the vision of a "flat world" is becoming truer each day. The days of Private Branch eXchanges (PBXs) and Automatic Call Distributions (ACDs) are no more. Broadband services like DSL and broadband applications like VoIP are bridging the gap and helping give smaller, more isolated communities more access to the world

and vice versa. Like Verety, companies in the Telework Coalition are helping to realize the benefits of broadband deployment in some rural areas. The same can be done elsewhere in the U.S., if the proper incentives are provided. But it will take more than just broadband to bring real benefits and economic opportunities to these areas. It will require a new way of thinking about the workplace and technological innovation.

Broadband is just one way to deliver these benefits that works better in some areas than others. We encourage and support the deployment of other communications technologies that enable creative solutions and public and private partnerships in rural areas to ensure that the next generation of benefits are available to everyone no matter where they live. We are working with organizations like TIA to promote access to affordable and advanced communications services, to limit regulations, minimize disruption to competitive market forces, and promote the use of broadband in government services, public safety, education, teleworking, and healthcare.

Increased global competition requires a more flexible labor environment. As a privately-held company, Ygomi is able to take a patient, long-term approach to profitability. We have the flexibility to think about the future and the technologies and applications that will be needed 10 or more years from now. Despite this flexibility, we still face challenges. For instance, new technologies increasingly change the way we conduct business and the ways our employees choose to work. Employee attitudes about work change, and to succeed, we have to respond creatively to new and evolving employee needs. Non-traditional work arrangements and alternative compensation structures are needed. This century's workplace will not be in just one geographic location, but will be anywhere and any time. Among other things, the workplace will be shaped by the increasing participation of older workers who remain active longer, working parents who want to balance their home and work lives, including the impact of commuting on the environment, and the desire to work where we live and to be able to choose places to live without being restricted to places with large employment centers.

Further, companies like ours who are working on emerging technologies and building businesses in rural areas will still need to seek out favorable business incentives that take into account investments in the community, equipment, wages, and training. This will require the implementation of national policies that encourage investment in new and diverse communications technologies, the promotion of competition as a means of facilitating universal deployment of broadband technologies, and fiscal incentives for broadband deployment. There are also elements in current tax and labor laws that, while appropriate for urban offices, make it difficult for companies to meet the needs and interests of employees working from their farm homes.

In conclusion, I would like to commend you and your staff for the holding this important hearing and for your efforts to help maximize the value of broadband to rural America. Thank you for the opportunity to testify before you today. I am pleased to answer your questions.

National Farmers Union

Testimony of Russell Kremer

Before the
U.S. House of Representatives
Committee on Small Business
Subcommittee on Rural and Urban Entrepreneurship

Concerning Broadband Technology & Economic Development in Rural America

Wednesday May 9, 2007
Washington, D.C.

STATEMENT OF RUSSELL KREMER

PRESIDENT, MISSOURI FARMERS UNION

BEFORE THE U.S. HOUSE OF REPRESENTATIVES
SUBCOMMITTEE ON RURAL AND URBAN ENTREPENEURSHIP

CONCERNING BROADBAND TECHNOLOGY & ECONOMIC DEVELOPMENT IN RURAL AMERICA

MAY 9, 2007

Chairman Shuler, Congressman Fortenberry and members of the subcommittee, thank you for the opportunity to testify today. My name is Russ Kremer, and I am the president of the Missouri Farmers Union. Today I am here on behalf of the National Farmers Union (NFU), our nationwide organization representing family farmers, ranchers, fishermen and rural residents. In addition to running a diversified family farm in Osage County, Missouri, I am a board member of Cooperation Works, a national network of cooperative developers. I appreciate the opportunity to highlight the importance of accessible and reliable broadband service to the producers and communities of rural America.

The future of rural America, particularly family farmers and ranchers, depends on high-speed access to the internet. In 2005, the National Agricultural Statistics Service (NASS) conducted a study on farm computer usage and ownership. While the results showed that 51 percent of U.S. farms had internet access, further investigation uncovered that dialup was the most common method of accessing the internet with 69 percent of U.S. farms. It is encouraging that more farmers and ranchers gain computer accessibility each year, either through ownership/leasing of computers or through community programs. However, it is alarming that the vast majority of them must do so at the slowest connection speed possible.

NFU supports efforts to provide competitively priced, high-speed broadband internet access for rural America. We urge collaborative efforts and public-private initiatives that leverage internet based technologies and use the internet to improve communications, reduce costs, increase access and grow farm businesses for producers and their cooperatives. Illinois based NOW Wireless, LLC, and the Missouri Farmers Union, in response to the demand for affordable, modern telecommunications access for farmers and residents living in remote areas, helped establish USA Broadband, LLC (USAB). USAB has partnered with subscriber based cooperatives and developed successful networks that are making this access possible. To date, USAB is the premier provider of high-speed wireless broadband internet, voice communication and video services to rural communities. The company maintains its focus on providing a superior broadband product backed with exceptional customer care.

In June 2006, the Eastern Illini Electric Cooperative, IlliCom Telecommunications and USAB joined forces to offer CONXXUS, a broadband internet company that focused on providing a wide range of high-speed broadband service to rural residents within Eastern Illini Electric Cooperative's 10-county service area (6,000 square miles and 240,000 homes and businesses). USA Broadband President, Barry Goodwin, was quoted as saying, "CONXXUS has a solid foundation already established in the Paxton, Illinois community. We will continue to provide these same quality services and outstanding customer relations, while effectively expanding our service territory to include all of east-central Illinois. CONXXUS will provide that technology and offer unprecedented access to such things as Virtual Private Networks (VPN), distance learning opportunities, telecommuting, telemedicine, and complete connectivity throughout whole towns." Eastern Illini Electric Cooperative is a member-owned rural electric cooperative based in Paxton, Illinois that supplies energy solutions to approximately 11,000 members. IlliCom Telecommunications, a subsidiary of Eastern Illini, is a provider of high-speed wireless internet services, website design and hosting, video/internet services for multiple dwelling units, and dial-up internet services in eastern Illinois.

The internet is a necessary tool for farmers and ranchers, who will be at an economic and competitive disadvantage if unable to use the same high-speed internet connections that are available to other small businesses around the country. Farmers and ranchers rely on the internet to check weather, market and crop reports and search for suppliers of feed and equipment. Furthermore, family owned farming businesses need real-time access to online banking, accounting, order fulfillment and freight forwarding. Given the current economic climate, it is imperative that producers devote as much time as possible to marketing their products and exploring new markets. The ability to conduct financial transactions online would save individual producers hours of administrative work and translate into tremendous financial incentives at the farm level.

Access to broadband is imperative if we are to renew the rural landscape. Retaining and attracting aspiring young farmers and rural entrepreneurs is essential to securing a sustainable rural economy. NFU has developed local, community based cooperatives that produce and process food with the wholesomeness and integrity that consumers demand. Broadband services provide the link between these collective entrepreneurial businesses in rural areas to consumers throughout the country.

NFU's *www.e-cooperatives.com* is the world's first innovative portal to directly locate and buy quality food products, plus other goods and services, online from hundreds of U.S. agricultural producers and their co-ops in rural America. Both producers and consumers are able to access the *www.e-cooperatives.com* database via searchable categories for American family farms, ranches, cooperatives and rural businesses according to location, type of business, growing practices, available products, specialty goods and niche items. The E-Commerce Timeline Learning Model guides producers through every step of the process, from planning to web development and product design to marketing. This site originated as a technical assistance project of NFU and initially funded in part by grants from USDA's Rural Development agency. By eliminating the digital divide and providing more rural areas with high-speed internet access, we can help

producers market and sell their quality products and educate consumers about the value of family farms and ranches.

Providers do not deny that there is a need for expansion into less urban areas, but investing in rural America needs to be attractive to investors and providers. Technical assistance is important. Broadband access cannot be expanded without providing the support infrastructure necessary to make it successful. High-speed access is a wonderful tool, but significant administrative challenges of getting into the homes of agricultural producers must be addressed. A single broadband company with a monopoly would have no incentive to maintain the same level of service offered to subscribers in heavily populated areas or to provide any service to sparsely populated areas; mergers and consolidations that remove or limit competition in rural markets should not be permitted. It is important to get an accurate portrayal of where the neediest areas are and how to provide broadband technology in those areas. Investigation into broadband access in rural areas reveals that most beneficiaries reside in larger towns.

Service providers tend to exercise great selectivity in the sectors of rural America in which they invest. As producers, we face great obstacles in attracting adequate financing and equity investment for broadband buildout in under-served areas. One solution is to establish federal incentives or tax credits to investors who supply equity to rural broadband initiatives in under-serviced areas. Similarly, federal loan guarantees or a reduction of the required equity match of the USDA Rural Utilities Service (RUS) program from 20 percent to one percent could make expansion projects more attractive and viable. I encourage you to evaluate these respective funding commitments and give consideration to decreasing the amount of money from state resources and mandate the federal government provide the maximum amount of funding possible.

The House Agriculture Subcommittee on Specialty Crops, Rural Development and Foreign Agriculture recently held its own hearing on rural broadband programs operated by USDA's RUS. The outcome of the hearing was a resounding message that access to broadband is the limiting factor in the economic growth of our rural communities. I encourage this subcommittee to work with your counterparts in the agriculture sector to find the most efficient and affordable way to provide rural America with reliable broadband access.

We believe that USDA's RUS is the appropriate agency to help expand technology and keep it up to date. RUS is an excellent example of how the federal government, rural cooperatives, nonprofit associations, public bodies and for-profit entities can work together to shrink the urban-rural divide. Funding of RUS programs should be increased above current levels and account for the additional staff that will be needed to accommodate the needs of rural citizens.

Similar to the first days of electricity, rural America is being left behind. It should be a national priority to include rural areas of the country in broadband buildout. Rural access to advanced telecommunications provides tools for enhanced medicine and education. The slow pace of rural broadband expands the educational divide in our country.

Reliable access opens the door for distance learning opportunities in rural schools. As a family farmer, I am greatly concerned that lack of high speed access is driving the younger generation out of rural America and into more urban environments. Better broadband means a better place to live, increased entrepreneurship, and retention of young people. High-speed internet connections make it more appealing for other businesses to enter rural areas that would otherwise refrain from establishing commercial outlets.

We applaud the efforts of the farmers and ranchers who have taken the initiative to work towards a reliable and affordable expansion of broadband technology. In fact, the genesis for the most successful cooperative efforts can be found on the farms and ranches of rural America, not in the bustling urban areas of the nation. I thank you for including an agricultural representative on today's panel and welcome any questions you may have.

TESTIMONY OF

BRENT CHRISTENSEN

CHRISTENSEN COMMUNICATIONS
MADELIA, MINNESOTA

UNITED STATES HOUSE OF REPRESENATIVES

SMALL BUSINESS SUBCOMMITTEE on

RURAL and URBAN ENTREPRENEURSHIP

MAY 9, 2007

Mr. Chairman and members of the committee, thank you for the opportunity to testify this morning. My name is Brent Christensen. I am the Vice President and General Manager of Christensen Communications Company. We are an independent, local exchange telecommunications carrier located in Madelia, Minnesota. It would be easier to tell you that we are a telephone company, but quite frankly, that is no longer an accurate description. I also have the privilege of serving as the chairman of the Legislative Policy Committee for the Organization for Promotion and Advancement of Small Telecommunications Companies (OPASTCO).

Our company was founded in 1903 by 48 local people who wanted state of the art telecommunications. One of those original 48 was my great-great-grandfather, Henry Joerg (the local blacksmith and saddle maker). This original group approached the owner of the local flour mill, C. S. Christensen (my other great-great-grandfather), and asked him to purchase 25% of the original stock. Over the years, my family acquired more and more stock, and today my father is the sole stockholder.

In 2006, we stopped using the Madelia Telephone Company name altogether. Christensen Communications Company better reflects what our business has become. We had customers who never thought of us when they needed their computers repaired or even for high-speed Internet.

We are very integrated in our community. We employ six people, not counting my parents and me. All but one of our employees reside in the community. We encourage our staff to be active in the community. Our employees are or have been volunteer Firefighters, EMTs, and Boy and Girl Scout leaders. We are active in the Chamber of

Commerce and other civic organizations. I currently serve on the Madelia Public School Board and am Vice President of the Chamber of Commerce. I also previously served as Mayor of Madelia and president of the Madelia Development Corporation.

I am here today to talk about broadband's impact on rural communities and Madelia in particular. We started providing broadband in 2000. We didn't start by putting a business plan together and figuring out how much money we could make. We started offering DSL because it is important to the economic survival of our community. We entered into the DSL business because Marv Davis needed it.

Marv, and his son Will, own Davis Sales and Service, a local Polaris dealer. We had been offering dial-up Internet service for a few years, as was a competitor. They told me that Polaris had changed the way they sold their snowmobiles, watercraft, and ATVs. Warranties were now issued over the Internet. When a customer came in to buy a snowmobile, the Davis' would fill out the customer information online and print off a warranty application. Once the customer had signed the document, the Davis' would scan the document and transmit it back to Polaris over the Internet. The problem was that dial-up was too slow for this process and their dial-up connection would frequently time out and they would have to start over. This was a frustrating process for the Davis' and their customers. In the end, if we didn't solve the problem, the Davis' would sell fewer Polaris', and it would severely impact their business.

I did some research on different solutions that would work with our network. We bought some equipment and got DSL service to the Davis'. The entire process took about 20

days. We didn't do a business case first, we didn't have to go through corporate bureaucracy, we just got a new service to a customer who needed it. The hard part was figuring out what to charge. It took us awhile, but in the end we settled on a rate that was both fair to the consumer and eventually recovered our costs.

When I was in high school, I worked at the telephone company as the summer help. My grandfather was president of the company at the time. I remember the two of us walking back to the office one day and him telling me how important the telephone company was to the community and how we had a responsibility to provide the best service possible. Back then it meant providing quality, reliable telephone service. Today it means much more. Today we have to provide state of the art communications for the survival of our small town. Madelia is like a lot of other towns our size, and in many ways like the communications industry itself. We are in competition with other communities in our area. We are in competition for industry and people. As a community we have to leverage our assets to develop our economy. Communications is one of those assets. Because of our communications infrastructure, we can market our town to telecommuters, small businesses, and others who do not depend on a specific location to conduct their business.

A good example of this is the House of Print. They are a local printing company that was started in the 1960s by a company that owned two daily newspapers in towns about twenty miles from Madelia to the north and south. Both papers needed to replace their printing facilities, and instead of each buying new presses, they built a new printing operation in Madelia which is halfway between the two. Today The House of Print prints

newspapers for 100 daily and weekly newspapers.

The House of Print was our third DSL customer. Before they received high speed Internet, drivers would have to bring floppy disks containing the newspaper pages to Madelia to be printed. Proofs would have to be either faxed or mailed to customers, and the company was very geographically limited. Our high speed Internet allowed them to expand their customer base and increase their business. They have literally brought in millions of dollars of new business because of their high-speed Internet connection.

The House of Print is no longer geographically limited. Today they can bid for printing jobs online, allow the customer to upload data, proof the job on line, and mail the finished product directly from their facility. They have the advantage of being centrally located in the United States, which makes shipping their finished product that much easier. The House of Print has expanded significantly as a direct result of the Internet. They have added or upgraded their printing presses and expanded their building facilities.

The House of Print has become very dependent on the Internet for their business. So much so that they have had to add a redundant Internet connection. While we are now the only dial up Internet provider in Madelia, we have two high speed Internet competitors, Midwest Wireless, a cellular provider, and Comcast Cable. The House of Print gets their redundant Internet connection from Comcast.

As a small, rural company, we face many challenges providing state of the art communications. We have to provide all of the same services as the larger companies. This gives us a good understanding of our customers.

A good example of this is Farmers State Bank in Madelia. They are a locally owned independent bank. They compete against the Madelia branch office of a much larger bank. Our high-speed Internet connection has allowed Farmers State Bank to offer a full line of Internet banking services. I personally balance my checking account online and have even started paying my bills online. These services have kept Farmers State Bank competitive with other banks in our area.

Companies like Christensen Communications look to Congress for leadership on issues and programs that give us the opportunity to thrive, and in turn, keep our customers and community thriving. We ask Congress to continue to support a strong and viable Universal Service Fund (USF). The USF is the most important federal program for our continued success. Congress and the Federal Communications Commission needs to support the reform of the intercarrier compensation regime by implementing the Missoula Plan, which was developed by a broad cross section of the telecommunications industry. And Congress needs to support programs at the Agriculture Department's Rural Utilities Service and the Small Business Administration that help small businesses like mine.

We face many challenges in this industry, which directly affect our company and our ability to provide the advanced services our customers need to stay competitive in their businesses, like Davis Sales and Service, the House of Print, and Farmers State Bank.

I would like to thank you for the opportunity to testify today, and I would be happy to answer any questions you may have.

CONNECTED NATION

Testimony of Brian R. Mefford, CEO of Connected Nation
Before the U.S. House of Representatives
Committee on Small Business

Subcommittee on Urban and Rural Entrepreneurship

"Maximizing the Value of Broadband
Services to Rural Communities"

Wednesday, May 9, 2007 - 10:00 a.m.
Room 2360 of the Rayburn House Office Building

Testimony of Brian R. Mefford, CEO of Connected Nation
Before the United States House of Representatives
Committee on Small Business
Subcommittee on Rural and Urban Entrepreneurship
Rep. Heath Shuler, Chairman
"Maximizing the Value of Broadband Services to Rural Communities"
Wednesday, May 9, 2007 - 10:00 a.m.
Room 2360 of the Rayburn House Office Building

Chairman Shuler and Members of the Committee:

Thank you for the opportunity to speak with you today regarding the important issue of expanding broadband and related technology to the rural areas of the United States.

Connected Nation is a national non-profit organization dedicated to closing the digital divide. Connected Nation is the parent company of ConnectKentucky, our Kentucky-based organization that has served as the "demonstration project" for Connected Nation. It is the "Kentucky story" that I'm here to share with you today.

Four years ago, Kentucky faced the same challenges that are all too common in rural states and communities across the country. The Commonwealth was struggling to use technology-centered solutions to address traditional challenges related to education, healthcare, and government services.

On the economic development front jobs in manufacturing, farming, and mining were leaving the state at an alarming pace, with little evidence that lost opportunities were being replaced with new technology-centric ones.

The results of Kentucky's technology troubles were not hard to identify. Kentucky consistently ranked low among states in terms of broadband availability and usage, as well as the number of high-tech companies doing business in the Commonwealth. Further, college graduates were leaving in droves, creating a troubling "brain drain" effect.

As we surveyed the landscape for answers, the reality of the situation was troubling indeed. We realized that the foundation of broadband infrastructure was not adequate for creating solutions that could address the challenges of a new day: not adequate to provide widespread access to telemedicine, distance learning and e-government; not adequate for growing or attracting entrepreneurs and industry; not adequate for providing more opportunities to our farm communities and their families where children were leaving their rural roots, never to return.

It was at this economic crossroads that Kentucky determined to become aggressive in addressing technology shortcomings to ensure that communities could come to thrive in this new environment – and ConnectKentucky, Kentucky's tech-based economic development partnership was born. In an unprecedented alignment of public and private interests, ConnectKentucky, an independent non-profit organization has seized upon the promises of the knowledge-based economy.

Immediately, ConnectKentucky set out to identify the root cause that had resulted in a lackluster technology picture for the state. It was clear that the inadequacy of Kentucky's broadband infrastructure could be traced to much of the state's inability to compete in areas important in the knowledge-based economy. Broadband infrastructure had been built into the state's more populous areas, leaving more rural areas unserved. The lack of service not only created the well-termed "digital divide" for rural residents, it also made it impossible to develop statewide policies that depended upon access to broadband.

Further, it was discovered that broadband availability was only half the problem. The remainder of the challenge related to the actual use of broadband-related technology. Any resulting turn-around strategy had to be comprehensive in nature: addressing both sides related to broadband *availability* and the *use* of broadband and related technology.

Next, the organization identified the barriers that were inhibiting broadband availability and use. In terms of availability there were a series of issues that needed to be addressed. First, very little data existed to allow us to identify the true extent of the broadband gaps in Kentucky. Providers didn't know, policy makers didn't know and communities themselves didn't know. Second, the regulatory environment was creating uncertainty among the provider community and causing a pull-back effect that ensured that investments weren't being made in more risky areas. Third, the cost of entry into rural communities was prohibitive for telecommunications providers of all types.

Challenges related to the use of technology included: lack of appreciation for the value of technology at the household level, lack of cohesive interest in technology at the local level, and lack of state initiatives to encourage awareness and build interest in technology at the state level.

Under the structure of a public-private partnership, ConnectKentucky developed a plan to address Kentucky's broadband challenge. The plan provided the direction for:

1) Gaining a better understanding of where we were – in the form of broadband inventory maps. The maps would help promote current service while also identifying the gaps that existed. Data layers would provide additional household information while identifying existing public assets, such as water towers, that could be used to extend broadband coverage;
2) Creating market intelligence at a local level to help providers identify investment opportunities and to effectively lower the cost of market entry. Household and business surveys would assist providers in better targeting rural investments;
3) Establishing grassroots technology leadership teams at the county level to create local technology strategies across multiple sectors including: local government, business and industry, education, healthcare, agriculture, tourism, libraries, and community-based organizations. The local teams would generate and aggregate demand by identifying ways to better leverage technology in local communities; and
4) Developing public-private initiatives that could promote the value of technology, improve technology literacy, and drive adoption among households.

Working in conjunction with Kentucky Governor Ernie Fletcher, the plan was fully developed, funded and launched as Kentucky's *Prescription for Innovation* in October 2004. The plan called for full broadband availability by the end of 2007; dramatically improved use of computers and the Internet; the creation of a meaningful online presence for all local communities; and the establishment of eCommunity Leadership Teams in all 120 counties.

As a result of the implementation of the *Prescription for Innovation*, Kentucky has experienced a technology turnaround. Due to the public-private approach and the very tactical nature of the plan, we have been able to bring all parties to the table to ensure that Kentucky could leapfrog its previous poor standings.

Through the work of ConnectKentucky and its partners, Kentucky's *Prescription for Innovation* has led to the following successes during the last two years:

- Kentucky is recognized as the **national leader** in technology acceleration with the *Prescription for Innovation* repeatedly acknowledged as the national model for states;
- Broadband inventory maps have been created for the entire state, promoting current coverage and allowing providers to better target unserved areas;
- **Broadband availability has increased from 60 percent to 92 percent** of households able to subscribe (on track to reach 100% by the end of 2007), representing 504,000 previously unserved households and more than 1.2 million residents that can now access broadband;
- **Broadband use at home has increased 73 percent**, a rate that has led the nation;
- Broadband use among Internet connected businesses rose from 65 percent to 85 percent;
- **Home computer ownership grew by 20 percent** while the national average rose by 4 percent;
- More than **$650 million in private capital has been invested in Kentucky** (unprecedented);
- Nearly **2,000 home computers have been distributed** to the homes of underprivileged Kentucky students through the No Child Left Offline program;
- **eCommunity Leadership Teams have been established in every Kentucky county** creating grassroots technology growth plans across nine sectors;
- More than **70 percent of Kentucky counties now operate or are in the process of constructing a meaningful web presence** for e-government and online citizen services, up from about 30% just two years ago;
- **22,000,000+ positive media impressions** have covered Kentucky technology growth; and

At an increasing rate, companies are locating to Kentucky, entrepreneurs are developing businesses in Kentucky, and jobs are growing in Kentucky because the Commonwealth now has the technology infrastructure and an increasing technology-savvy workforce to support business growth.

Over the last two years, more than 14,500 total technology jobs have been created in Kentucky[1]. Perhaps the most appropriate place to isolate and measure the direct employment impact of broadband expansion efforts is in the Information Technology (IT) sector. During the same two year period, **in the IT sector alone, Kentucky jobs have grown at a rate 31 times the national growth rate: 3.1 percent for Kentucky versus 0.1 percent nationally**.

[1] Bureau of Labor Statistics (BLS) for two year period beginning January 2005 through December 2006. Includes jobs created in the following NAICS sectors: information; finance; professional, science, and technical; management; and healthcare. Sectors are comprised primarily of high tech jobs and all jobs within these sectors are "technology based". Other sectors include additional technology jobs; however, these jobs are aggregated with other non technology jobs, such as in the manufacturing sector. As BLS does not disaggregate these jobs, they could not be included in the figure above, which results in an understatement in the reporting of technology jobs.

The closing of the digital divide is already yielding dividends in the quality of life for Kentuckians. Computer literacy has increased, the number of high tech jobs has increased, and Kentucky communities are enjoying the return of their children. Consider these developments in higher education related to how Kentucky has addressed the "brain drain" challenge that all states face:

- Today, 86 percent of all Kentucky graduates remain in Kentucky to live and work—a 18 percent increase since 2000;
- Since 2000, there has been a 50 percent increase in the number of out-of-state students who remain in Kentucky;
- For those graduates who came in as Kentucky residents, 95 percent of them now stay; and
- The percent of doctoral degree students who stay in Kentucky has nearly doubled (27 percent to 52 percent).

Today in Kentucky entrepreneurs are thriving; businesses of all sizes are finding an environment ripe for growth; rural communities are finding ways to diversify and provide attractive opportunities for their children; primary schools and universities are connected as never before, providing content and curriculum never before possible. Kentucky has developed a statewide eHealth plan that recently received federal funding as part of an aggressive Medicaid Transformation program. In short, as the broadband challenge has been addressed a strong foundation was established to allow for technology-centric solutions to flourish.

Kentucky as a microcosm has demonstrated the importance of the national broadband discussion and the relevance of technology to America's ability to compete. Based on our experience in Kentucky, we know that technology diminishes the significance of distance. In the past, opportunities to thrive have depended largely upon one's proximity to major markets. Technology has made the distance factor irrelevant. In other words, with the availability of cutting edge technology, entrepreneurs can thrive just as well in rural America as places such as New York or Los Angeles. Technology has become the great equalizer for individuals and communities alike – creating opportunities, fueling better education, higher quality healthcare, and better quality of life – regardless of where an individual or community happens to be located.

This same dynamic however represents both a huge opportunity and major threat for the United States. Other countries have invested in broadband towards achieving universal access – and like Kentucky, they have managed to leapfrog their previous standings to become a competitive force. It is the hope of Connected Nation that this Congress can call the country to arms on this issue by conveying the true sense of urgency for action. The nation needs a comprehensive approach that is good for our markets, our entrepreneurs and our communities. No doubt, it is a challenge of historic proportion. Just as previous times called for a national response to the needs for railroads, highways, electricity, and telephone service – the broadband challenge calls for an aggressive and comprehensive response to ensure that America remains the dominant leader in the global economy.

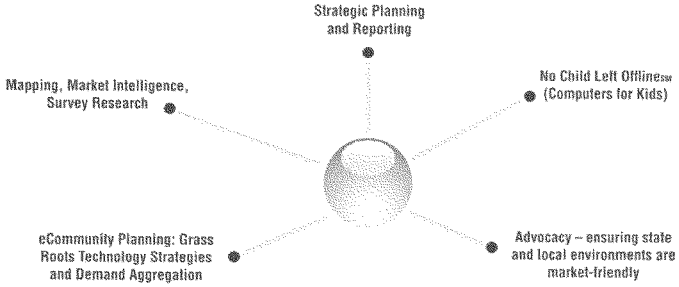
Thank you Mr. Chairman.

Background

Connected Nation, Inc. is a national non-profit organization known for its ability to close the digital divide. Through its partnerships, programs, and policies Connected Nation makes technology work for previously underserved communities and markets, improving community life and economic development while enhancing markets for technology providers. Connected Nation's proven methodologies are delivering dramatic results that translate into more efficient public services and enhanced quality of life. Connected Nation's work in Kentucky, ConnectKentucky, has been identified as a national model for the expansion of broadband.

Connected Nation's proven methodologies enable comprehensive technology expansion efforts that effectively enhance the supply of available broadband while dramatically increasing demand through state and local grass roots awareness/adoption campaigns. Connected Nation specializes in increasing technology access and literacy towards greater digital inclusion for all. This technology expansion improves economic development, healthcare, education, and public safety; and provides a better way of life for Americans.

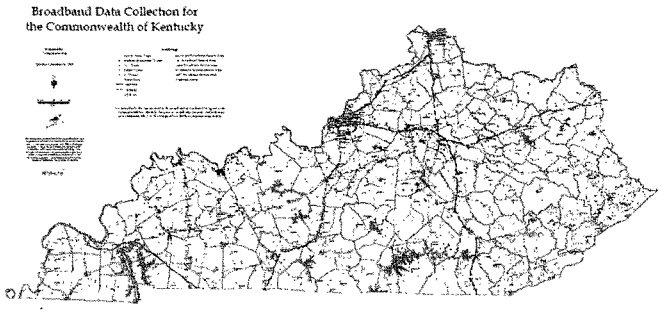
Charting the course for the United States' technology-centric future, Connected Nation creates partnerships between the public and private sectors. These partnerships encourage cooperation for mutually beneficial purposes – making the cost of technology expansion go down and the demand for technology go up. Our comprehensive approach to technology expansion works for communities and markets.



Research and Mapping

Connected Nation's broadband inventory maps are industry leaders. These GIS maps create an inventory of existing broadband services based on provider deployment data. This analysis effectively helps broadband providers to more effectively target their build out resources. Connected Nation's market intelligence (maps, survey data and grassroots demand aggregation) benefits companies by causing the cost of doing business to go down and the ease of doing business to go up.

This broadband inventory map is publicly available and based on provider deployment data.



Beyond accurately measuring the inventory of broadband services, Connected Nation's research measures other important items related to the expansion of broadband. For example, What are the consumer barriers to broadband? Or, How do businesses use broadband?

Based on these findings, programs can be developed that encourage digital inclusion. For example, our research indicated that while industry assumed that the monthly fee was a primary barrier to the adoption of household broadband the lack of a computer at home ranked even higher. We developed No Child Left Offline as a partnership based solution. No Child Left Offline has facilitated cooperation among private partners, corporate foundations and state governments to place computers and printers into the homes and schools of disadvantaged children.

Connected Nation's Impact

Connected Nation's model is based on a simple premise that technology can be good for communities and markets. Comprehensively engaging both supply and demand realities is the best plan for success. The results from ConnectKentucky confirm the strength of Connected Nation's model.

Launched in 2004, Kentucky's *Prescription for Innovation* is a comprehensive plan to accelerate technology statewide, particularly in the areas of broadband availability and computer literacy and use. ConnectKentucky is implementing this initiative which maintains four key objectives for impacting statewide technology-based economic development:

- Full broadband deployment;
- Dramatically improved use of computers and the Internet by all Kentuckians;
- A meaningful online presence for all Kentucky communities, to improve citizen services and promote economic development through e-government, virtual education, and online healthcare; and
- Local technology leadership teams in every community to develop and implement technology growth strategies for local government, business and industry, education, healthcare, agriculture, libraries, tourism, and community-based organizations.

As identified by the *Prescription for Innovation*, technology can dramatically expand economic development opportunities and improve the quality of life for Kentuckians. With expanded technology, opportunities are within reach, such as:

- Developing a competitive economic advantage for attracting today's high-tech jobs to replace the decline of traditional manufacturing jobs;
- Residing in one of Kentucky's rural communities and succeeding in a career that formerly required moving to a major metropolitan area;
- Better and less expensive healthcare; and
- An education that prepares Kentucky's children to prosper in a globally networked world.

To fully address each of these opportunities and to ensure that Kentucky provides an increasingly attractive environment for technology expansion, ConnectKentucky employs a comprehensive approach that has been identified as a national leader and a model program for the rest of the country to follow.[2] Last year, ConnectKentucky received the U.S. Economic Development Administration's 2006 Excellence in Innovation Award.

---

[2] ConnectKentucky has been cited as a national best practice by: the US Economic Development Administration, the U.S. Government Accountability Office of Congress, the White House Office of Technology, Federal Communications Commission, Appalachian Regional Commission, USDA Rural Utilities Service, Congressional Research Service, Center for Digital Government, Southern Growth Policies Board, Communications Workers of America, Rural Telecommunications Congress and numerous states across the nation.

What Is ConnectKentucky?

ConnectKentucky connects people to technology in world-altering ways: improving the lives of the formerly disconnected; renewing hope for previously withering rural communities; driving increases in the number of tech-intensive companies and jobs; and nurturing an environment for lifetime learning, improved healthcare, and superior quality of life. Through its partnerships, programs and policies ConnectKentucky makes technology work for previously underserved communities and markets, improving community life and economic development while enhancing markets for technology providers.

ConnectKentucky works with supply and demand realities in a manner that respects communities and gets results. ConnectKentucky is engaged with all 120 Kentucky counties, local business and community leaders, and private sector technology companies to facilitate comprehensive technology expansion efforts that both enhance the supply of broadband-related technology and create demand by catalyzing and delivering grassroots awareness, literacy and use of technology.

Impact of ConnectKentucky

Through the work of ConnectKentucky and its partners, Kentucky's *Prescription for Innovation* has led to the following successes during the last two years:

- Kentucky is recognized as the **national leader** in technology acceleration with the *Prescription for Innovation* repeatedly acknowledged as the national model for states;
- **Broadband availability has increased from 60 percent to 92 percent** of households able to subscribe, representing 504,000 previously unserved households and more than 1.2 million residents that can now access broadband;
- **Broadband use at home has increased 73 percent**, a rate that has led the nation;
- Broadband use among Internet connected businesses rose from 65 percent to 85 percent;
- **Home computer ownership grew by 20 percent** while the national average rose by 4 percent;
- More than **$650 million in private capital has been invested in Kentucky** (unprecedented);
- Nearly **2,000 home computers have been distributed** to the homes of underprivileged Kentucky students through the No Child Left Offline program;
- **eCommunity Leadership Teams have been established in every Kentucky county** creating grassroots technology growth plans across nine sectors;
- More than 70 percent of Kentucky counties now operate or are in the process of constructing a meaningful web presence for e-government and online citizen services. Two years ago, only one-third of Kentucky counties had a website, and many of these were not functional;
- 22,000,000+ positive media impressions have covered Kentucky technology growth; and
- **Kentucky is on track to be the first state with 100 percent broadband coverage.**

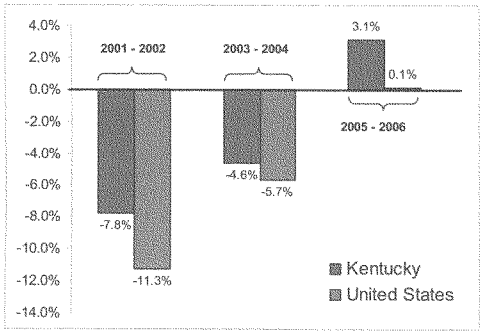
ConnectKentucky's Economic Impact: A Case Study

At an increasing rate, companies are locating to Kentucky, entrepreneurs are developing businesses in Kentucky, and jobs are growing in Kentucky because the Commonwealth now has the technology infrastructure and an increasing technology-savvy workforce to support business growth. **On track to become the first state with 100 percent broadband coverage with nation-leading increases in broadband use at home and work.**

Over the last two years, more than 14,500 total technology jobs have been created in Kentucky[3]. The most appropriate place to isolate and measure the direct employment impact of broadband expansion efforts is in the Information Technology (IT) sector. During the same two year period, **in the IT sector alone, Kentucky jobs have grown at a rate 31 times the national growth rate: 3.1 percent for Kentucky versus 0.1 percent nationally**.

Chart 1

Kentucky Growth vs. National Growth in Information Technology Jobs



During the first two years of the *Prescription for Innovation,* Kentucky IT jobs grew by 3.1 percent, outpacing national growth by 31 times.

Connected Nation's Kentucky engagement, ConnectKentucky, has been recognized as a national leader by: the U.S. Government Accountability Office of Congress, the White House Office of Technology, US Economic Development Administration, Federal Communications Commission, Appalachian Regional Commission, USDA Rural Utilities Service, Congressional Research Service, Center for Digital Government, Southern Growth Policies Board, Communications Workers of America, Rural Telecommunications Congress and numerous states across the nation.

---

[3] Bureau of Labor Statistics (BLS) for the two year period beginning January 2005 through December 2006. Includes jobs created in the following NAICS sectors: information; finance; professional, science, and technical; management; and healthcare. These sectors are comprised primarily of high tech jobs and all jobs within these sectors are "technology based". Other sectors include additional technology jobs; however, these jobs are aggregated with other non technology jobs, such as in the manufacturing sector. As BLS does not disaggregate these jobs, they could not be included in the figure above, which results in an understatement in the reporting of technology jobs.

Reversing the "Brain Drain" in Kentucky

The closing of the digital divide is already yielding dividends in the quality of life for Kentuckians. By closing the digital divide, computer literacy has increased, the number of high tech jobs has increased, and Kentucky communities are enjoying the return of their offspring. Consider these developments in higher education related to how ConnectKentucky has helped Kentucky address the "brain drain" challenge that all states face:

- Today, 86 percent of all Kentucky graduates remain in Kentucky to live and work—a 17 percent increase since 2000.
- Since 2000, there has been a 50 percent increase in the number of out-of-state students who remain in Kentucky.
- For those graduates who came in as Kentucky residents, 95 percent of them now stay.
- The percent of doctoral degree students who stay in Kentucky has nearly doubled (27 percent to 52 percent).

Connected Nation's Legislative Agenda

Connected Nation provides the leadership that delivers technology for strong communities and open markets. Our work is predicated on the notion that there's no reason for anyone in America to be on the wrong side of the digital divide.
Here's why:

- Connected Nation's work has proven to be effective in state based engagements like ConnectKentucky.
- Each state has underserved communities that desperately need access to affordable and dependable broadband.
- National public and private entities are looking for a means of cooperating for our greater national good.

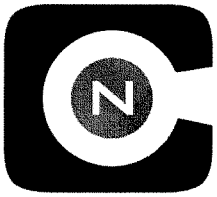
Therefore, Connected Nation encourages legislation that bridges the digital divide for all of America.

Connected Nation advocates a national legislative agenda that accomplishes the following:

- Provides solution for ubiquitous broadband deployment and increased adoption by encouraging and funding public-private partnerships at a state level;
- Establishes a grant program to enable each state to develop a comprehensive approach to broadband deployment while simultaneously driving broadband adoption and technology development at a local community level;
- Allows nonprofit organizations that have established a partnership with state government to apply for funding to:
  - Identify and map the gaps in broadband service – those areas without broadband availability – and then work collaboratively with all providers to fill those gaps in a manner that supports their business plans and works for communities;
  - Measure and track broadband and information technology use among citizens and businesses, investigate barriers to adoption at a local level, and provide market analysis for unserved areas;
  - Develop local technology planning teams with members representing a cross section of the community, including business, telecommunication labor, K-12 education, health care, libraries, higher education, community-based organizations, local government, tourism, parks and recreation, and agriculture;
  - Equip and facilitate local technology planning teams with the tools and resources to improve technology use within each sector; and
  - Establish effective programs to improve computer use and Internet access for disenfranchised populations.

This public-private partnership approach establishes the collaborative environment that encourages investment, drives technology adoption, and empowers grassroots-led community development and ultimately, strengthens America.

CONNECTED NATION℠



CONNECTED NATION℠

Technology for Strong Communities And Open Markets

Connected Nation offers valuable partnerships that enable technological and economic progress of historic proportion.

Please join Connected Nation as we close the digital divide in America.

444 North Capitol Street, Suite 224
Washington, DC 20001
1-877-846-7710
www.connectednation.com
info@connectednation.com

Statement of
William R. Deere
Vice President, Government Affairs
U.S. Telecom Association
to the
House Committee on Small Business
Subcommittee on Rural and Urban Entrepreneurship
May 9, 2007

Chairman Shuler, Ranking Member Fortenberry, members of the subcommittee: Thank you for this opportunity to appear before you today. I am Bill Deere, Vice President of Government Affairs for the USTelecom Association. I am pleased to appear before this subcommittee to discuss USTelecom's perspective on *"Maximizing the Value of Broadband Services to Rural Communities."* It is a timely moment for the subcommittee to hold this hearing.

USTelecom and its member companies are proud of the role we play connecting the country, and we wholeheartedly support the objective of ubiquitous, nationwide broadband. We were pleased to see "affordable broadband access for all Americans" as a component of Speaker Pelosi's Innovation Agenda. Similarly, the Senate Republican High-Tech Task Force is calling for policies that "promote widespread deployment and use of broadband technology." Broadband deployment and adoption *should* be *non*-partisan objectives, and we believe the Congress, the Federal Communications Commission and the Rural Utilities Service have vital roles to play in advancing these goals in rural America.

USTelecom represents innovative companies ranging from the smallest rural telecoms in the nation to some of the largest corporations in the U.S. economy. Our member companies offer a wide range of services across the communications landscape, including voice, video and data over local exchange, long distance, Internet and cable networks. USTelecom is the nation's most established – and largest – association representing rural telecom providers. The vast majority of our member companies are rural providers. They are small businesses serving small communities. They are proud members of these communities and deeply committed to their future development. What unites our diverse membership is our shared determination to deliver innovative voice, video and data services to the consumer—a commitment we know is shared by this subcommittee.

Regulatory Changes Have Spurred Broadband Deployment

The Federal Communication Commission's decisions that oriented the communications marketplace away from government-managed to market-based competition have resulted in an explosion of broadband coverage across the nation. In March 2002, the FCC clarified that high-speed cable-modem service is an information service not subject to unbundling and other Title II regulations of the Communications Act. In August 2003, the FCC exempted wireline fiber facilities from the Commission's unbundling requirements. In September 2005, the FCC clarified that wireline broadband Internet access service is also an information service not

subject to unbundling and other Title II regulations of the Communications Act. These actions have accelerated broadband deployment in the United States from just over 4 million broadband lines in 2000 to just under 16 million broadband lines in 2002 to approximately 32 million lines in 2004 to almost 65 million lines in 2006. This demonstrates a direct correlation between the FCC's market-based policies and the explosion of broadband subscribers in the United States. The lack of regulation on wireless services also has permitted wireless broadband services to explode as well. In June of 2005, there were almost 380,000 wireless broadband subscribers; in June of 2006, there were more than 11 million. The Commission's recent video franchise order promises to further increase the demand for broadband service.

Internet access is available through DSL, or cable modem, or wireless, or satellite – and, increasingly, over power lines and municipal wi-fi systems. In fact, there are more than 1,270 broadband service providers in the U.S. today.

Against this competitive backdrop, North American telecommunications companies are projected to spend $70 billion on new infrastructure this year. The next wave of broadband innovation holds the promise of significant, life-enhancing advances from health care to the environment to education and to our economy. It is critical, as you know, that these opportunities be accessible in rural America, as well. Mr. Chairman, much has been made recently of new international broadband penetration rankings from the Organization of Economic Cooperation and Development (OECD). We have some issues of our own with our country's current ranking of 15th in the world. We feel it significantly undercounts, for example, connections in the U.S. business market. It certainly also under-values the markedly more intense facilities-based competition we have here in the U.S. But the most striking dissimilarity is that 10 of the 11 countries allegedly in front of us are significantly smaller than the U.S.—as diminutive as Norway, which is comparable in geographic size to New Mexico. A majority also have much smaller *populations*, including Iceland, an entire country that is comparable to the metro area of Naples, Florida. The exception is Canada, which is a country of vast geographic expanse. However, 80% of the population is clustered along the U.S. border. So the true broadband challenge before our country is precisely the challenge we are here today to discuss. How can we most efficiently work together to connect parts of the country where the marketplace alone is incapable of attracting the significant investment necessary to truly build a broadband nation?

USTelecom and our member companies are committed to furthering rural broadband deployment and believe that Congress can advance a number of initiatives that promote this goal.

Sustainable Universal Service

First, we must ensure a sustainable future for universal service, a program designed to increase access to telecommunications services nationwide and to maintain affordable rates in low-income and rural areas. USTelecom and our member companies have advocated that universal service should be reformed to create a strong and sustainable system that can provide affordable, reliable telecommunications for all Americans. The current funding system is

eroding at a rapid pace requiring the current system to be reformed. The need for reform was underscored last week by the Federal-State Joint Board on Universal Services' recommendation to temporarily cap further growth of universal service funds going to wireless carriers and competitive service providers.

USTelecom supports this recommendation. Consumers would benefit from a temporary cap on universal service support because it reduces the burden they face from a rising contribution factor. A temporary cap on universal support for wireless carriers and competitive service providers would allow the Commission additional time to develop and implement much needed fundamental reforms. Doing nothing in the near term, which would only serve to raise the cost of communications services purchased by consumers, is simply not an option.

In the House, Representatives Rick Boucher (D-VA) and Lee Terry (R-NE) have recently re-introduced universal service reform legislation that they first proposed last year. This legislation is an important initiative to help preserve the future for universal telecommunications service and spur broadband deployment in rural areas and we appreciate the Congressmen's dedication to finding a sustainable, long-term solution. While there is broad recognition that action must be taken to reform universal service, it is vital that members of this Committee encourage the consideration of such reform legislation this year.

Tax Policies To Encourage Broadband Deployment

In addition, Congress can promote broadband deployment by permanently extending the Internet Tax Moratorium; allowing for faster depreciation of broadband equipment and fiber; and creating a tax credit for the deployment of broadband equipment and fiber.

Congress first passed the Internet Tax Freedom Act (ITFA) in 1998. The moratorium was extended by Congress in 2001 and 2004 and now expires Nov. 1, 2007. The moratorium needs to be permanently extended to ensure that this critical component of the American economy is not the target of excessive taxes imposed by state and local governments. If the moratorium is allowed to lapse, USTelecom members and their customers will face a significant tax increase for Internet access services.

USTelecom was joined by NCTA and CTIA in a letter to all House members in support of H.R.743, bipartisan legislation introduced by Representatives Anna Eshoo and Bob Goodlatte. I encourage all members of the Committee to consider cosponsoring this legislation and urge the House take up this important legislation before its expiration in November.

The RUS Broadband Program -- Modest Changes Could Produce Dramatic Results

In its relatively brief history, the Rural Utilities Service (RUS) broadband loan program has achieved some successes. But we believe with modest changes, largely based on the successful RUS telephone program, the program could accomplish even more.

Last week, USTelecom appeared before the House Agriculture Committee in order to make recommendations for inclusion in the Farm Bill that would advance our collective goal of

helping the nation achieve universal broadband penetration:

1) Better target areas currently not served;
2) Enhance incentives for investment in the areas not served;
3) Expand program eligibility;
4) Improve processing at USDA; and
5) Explore public-private partnerships.

Revise the eligibility rules to better target areas not served

We believe the primary weakness of the current program is that it does too little for areas with no access to broadband. Although the nation is dotted with areas currently not served, the USDA Inspector General concluded the program's focus has shifted away from rural communities that would not, without government assistance, have access to broadband technology.

In revising eligibility rules, we believe the Agriculture Committee may need look no further than the RUS telephone program. This program has a 60-year record of success, and we believe it holds important lessons for broadband. In the telephone program, initial loans to areas with adequate, existing service are discouraged. In fact, the RUS administrator must issue a non-duplication finding prior to making such a loan. In the broadband program, a similar requirement would help direct funds to where they are most needed – those areas with no existing broadband service. Making loans for duplicative facilities and service, when other citizens in rural America reside in areas with no service at all, is not a good use of scarce government resources. In addition, the telephony program requires that service be extended to the widest practical number of users in the service area, avoiding a problem that has sometimes arisen in the broadband program, where service is only provided within town limits, but not to the surrounding county.

Enhance incentives for investment in areas not served

Providing broadband service in rural and remote areas is a challenging proposition. While the current practice of offering cost-of-money loans makes projects financially viable in some areas, other higher cost areas will require below-cost loans or a combination of loans and grants to make a costly infrastructure build feasible. This will become increasingly important as the program narrows to focus on areas with truly no access. Congress should encourage RUS to look at the unique needs of these areas and to enhance incentives for the private sector to act. Taxpayers will reap the benefits through loan repayments and tax revenues generated by broadband-driven economic development. We believe that taking these basic steps would increase the number of loan applications to areas with no service facing significant economic barriers to investment, such as low population densities or difficult terrain.

Expand eligibility to more applicants

We also believe steps should be taken to expand the number of companies eligible for broadband loans. When the broadband program was established, a provision was adopted prohibiting loans to telephone companies with more than 2% of the nation's access lines. This is

counterproductive. Some USTelecom members serve rural areas that would otherwise qualify for broadband loans. For example, the FCC classifies Embarq as a rural carrier in 17 of the 18 states it serves, yet it is prohibited from applying for RUS broadband funds. Meanwhile, RUS is searching for more applications from carriers seeking to serve untouched areas. Again, if I might refer you to the successful, 60-year-old telephony program – it has never had a 2% restriction, and it has never suffered as a result. The emphasis in our view should be on the infrastructure needs of a community, not on the company willing to serve it.

Improve processing at USDA

USTelecom also advocates that steps be taken to improve processing of loan applications at USDA. At present, the broadband and telephony programs have access to a small number of attorneys in the Agriculture Department's general counsel office. This has created a bottleneck when legal decisions are needed and caused delays in processing loan applications—delays that too often put broadband deployment on hold in communities with no service.

Explore public-private partnerships

Finally, I direct the subcommittee's attention to the successful public-private partnership in Kentucky, driven by a non-profit organization called Connect Kentucky. Connect Kentucky has worked with the RUS broadband program, but has gone much farther than would have been possible with RUS alone. Its first objective was to map broadband availability in the whole state, something that no other state has done. Then it created technology teams in each community that lacked broadband. These teams looked at computer ownership, technological literacy, and other factors to increase demand for broadband. At the same time, the teams worked with broadband providers to match up new demand with new broadband deployments. By the end of 2007, Kentucky will go from having one of the lowest broadband subscription rates in the country to having broadband available to 100% of its households. That's impressive progress, and we think Congress might look to Connect Kentucky as a model for what works. In fact, we understand that Senator Durbin has recently introduced legislation that would create a national program based on the Connect Kentucky model.

Mr. Chairman, in closing, let me reiterate that it is critically important that rural areas be included in the nationwide drive for greater bandwidth capacity. This modernization of the nation's communications infrastructure will seed economic growth and expand opportunities ranging from telecommuting to distance learning to telemedicine. Mr. Chairman, nowhere in the nation do these advances hold more potential than in rural America.

We thank you for your invitation to appear today. USTelecom and its member companies look forward to working with the subcommittee and this Congress to achieve our shared objective of making broadband as ubiquitous today as electricity, water and telephone service. Broadband is an essential building block of every modern American community and we must make sure its many opportunities are accessible to all Americans. Thank you.

○