US HOUSE COMMITTEE ON ENERGY AND COMMERCE

SUBCOMMITTEE ON TELECOMMUNICATIONS AND THE INTERNET

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Mr. Chairman and Members of the Subcommittee

It is an honor and a privilege to speak before you today on a subject where I have spent my life

working to see that the citizens of my state, North Carolina, and the nation's other 49 states and

territories have the capability through telecommunications to interact with the world, their

country, their state, and local communities of interest – whether for business, health, education,

safety or quality of life purposes. I have worked at the state, national and international level in

the telecommunications industry. I have worked at the state level in government, and on national

advisory committees on telecommunications and connectivity. Within the university community,

I have been involved in research, implementation and deployment of cutting-edge technologies

to extend the benefits of virtual education and telemedicine to citizens.

Connectivity to the world for citizens and businesses levels the playing field, creating

opportunities to enhance their capability to be successful in whatever venue they choose. For

rural communities today, it is the last, best hope to be a credible place to live, work, play and

raise a family. It is critical that rural communities are contributors, and not just a drag on the total

economy of their state and country. Without connectivity and use of the Internet for economic

purposes, the economies of rural communities will continue to decline, and at a faster rate.

Since the founding of voice telephony by Alexander Graham Bell, it became apparent that a

telephone was a lifeline to the surrounding local community. It was not until the 1950s that one

could instantly call across this country on your telephone from your home or business. Just as

the Rural Electric Administration (REA) led to light in rural homes, stringing wires on fence

posts and on trees enable telephone. These technologies together enabled rural America to

become the economic engine that built and fed the cities of our country. North Carolina's

agribusiness community funded our great universities, drove the fight for and funded the creation

of the Research Triangle Park and built the small cities for commerce across our state. Light and

voice empowered those rural economies and made possible the research and technology that has

springboarded my state to a position of prominence in the knowledge economy.

Today, data joins light and voice as the engines that drive commerce and extend rural

communities' market reach beyond the end of the next road to the far reaches of the globe.   That

first mile of connectivity is the critical key. Without it, economic activity with other

communities, cities, businesses in other state, or partnerships with companies in Asia or other parts of the world just cannot happen.

Let's look back. At the start, telephony service did not move too quickly. Small telephone cooperatives and independent companies began to fill-in the service gaps left by the large monopoly telephone companies. The Universal Service Fund (USF) was created to enable those large and small companies to deploy to more citizens wherever the economics did not support deployment. As you know, carriers became "carrier of last resort" and had to provide telephone lines in their territories to whoever asked for service.

The Universal Services Fund met a critical need. It has been a vehicle that has fed the deployment of phone service, and stands as a best practice that should be used to overcome existing Internet service gaps and do the same for true broadband access.

It was not until the USF was created that the larger companies had a funding mechanism that provided them with resources to deploy to areas of need. In 1995, I was chair of a committee of the U.S. National Information Infrastructure fund. Recommendations put forth by that Committee would have required: 1) a data port in every home, 2) the Life Line Link Up Fund (a fund which is a joint effort of the Federal Government and a state) be morphed into a similar fund that would support data connectivity for citizens who could not afford to pay the current ongoing data connectivity rates, and 3) broadband be added as a central focus for the USF.

These recommendations were before their time; the Internet was not yet the blazing connector that it is now. Today, our citizens have Interstate highways for travel, electricity that is ever

present, and local and long distance telephone service, but many lack the core connectivity service of choice, the Internet. They need this access to be available, whether on a cell phone, on their tractor, in their cars, through computers in their homes, or in their barns or packing sheds. They need this access to better manage their lives, their education, or a company that may be 1,000 miles away. They deserve it.

I would like to acknowledge all of the investments made by our major carrier providers – cable and wire line, our small independent wireline companies and our telephone cooperatives. These companies have helped North Carolina, along with the investment of our state government and the commitment of our General Assembly, to work together since the divestiture of the original AT&T and the regional bell companies through the Telecom Act of 1976 to be a leader among large fiber networks. Together we have been able to extend very dynamic services across major fiber highways in North Carolina. We have worked cooperatively, if not always smoothly, with each other to provide the best model, in my opinion, of moving connectivity to everyone in the entire country. The e-NC Authority is technology neutral in our efforts. We have also worked with satellite deployers and with our WISPS--wireless Internet service providers. We have made significant progress - **BUT IT IS NOT ENOUGH.**

The e-NC Authority was established by the N.C. General Assembly to serve as an advocate and catalyst to transform North Carolina from analog to digital in its 21st century focus on the communications environment. Our mandate was to move the entire state towards more technology-focused economic development — not entirely possible without ubiquitous broadband access. The Authority is a state authority, but with a hybrid organizational structure.

Housed in a nonprofit, we do not report to the nonprofit, the N.C. Rural Economic Development Center, but to a board that is named by the N.C. House, Senate and Governor. Our funding initially came from a nonprofit in the Research Triangle Park, MCNC, which was formed in the early 1980s by the N.C. General Assembly and former Governor Jim Hunt to jump start the semiconductor and information technology industries in North Carolina. MCNC gave the e-NC Authority, $30 million to start this effort of transformation. The General Assembly began to provide a small amount of operational funding to e-NC in 2005, and to provide funds for broadband connectivity in 2007. The Authority has, on average, an operating budget of $1 million to oversee all the activities. Over seven years we have managed more than 400 grants and contracts to other organizations and communities, with the purpose of increasing broadband supply building citizen's demand for Internet.

WHERE ARE WE?

At the state level, North Carolina ranks 11[th.] in the number of "high-speed" lines, approximately 26th to 28th in household penetration, and 15th in the number of fiber lines.
At the end of 2006:

- 16 percent of our households had no "high-speed Internet access" (using the FCC's definition of 200 kbps in one direction)
- 21 rural counties had less than 70 percent access—four had less than 50 percent but by November 2008 all four will be above 70 percent

- In some rural counties served by telephone cooperatives and in-state independent providers, DSL has been extended to the entire marketing area. At least two cooperatives are deploying fiber-to-the-home with speeds of 80 Mbps in some portions of their territories

- Two municipalities, Wilson and Salisbury, are developing city-wide fiber-to-the-home systems

- Numerous wireless and fiber activities in small communities are on going

- Larger wire line companies seem to be capping out at 85 percent in rural communities

The e-NC Authority, where I serve as executive director, believes that where at all possible the private sector should be the provider of first resort. WE PARTICULARLY, ENCOURAGE PUBLIC PRIVATE PARTNERSHIPS; WE KNOW THAT THEY WORK. But, if the private sector companies cannot move out in a timely manner, even with incentive funds available, then the local communities should have the option to move forward to see that their community is connected to the world. Even with the best of intentions of all parties, sometimes, the only option is for communities to forge ahead on their own.

Let me offer some examples that illustrate our operating principle of being technology neutral and encouraging innovative partnerships. The e-NC Authority has funded a fiber sheath, where an electric cooperative, a for-profit cable company, and a non-profit middle mile fiber carrier navigate across some difficult mountain terrains. Those entities agreed to jointly maintain this fiber, to allow any other nascent companies to purchase facilities access from them at a discounted price from regular market price and to do so for the foreseeable future. The e-NC Authority incented the agreement to deploy this fiber with a grant of more than $600,000 from e-NC funds. Nascent companies can be profitable from the get-go, and survive to serve the rural communities, if they have a 25 percent discount below the market rate. Economic developers should take notice of this. Another important fact is that we had to develop the legal documents ourselves since lawyers have not yet in many rural areas learned the dialogue, or the instruments to define this sort of contracts in this sector. All law schools should please pay attention to this in revising their curriculums for the 21st century.

Our board voted to move forward this year with a more intense drive back into our communities and a renewed digital inclusion effort. We want to see broadband available, and we want to see it purchased and used. We initiated a review of the world of Internet that looks at the broadband revolution, deployment today and tomorrow, deployment and resulting economic development in North Carolina, how much bandwidth is enough for the U.S. and North Carolina, conclusions and in particular recommendations for North Carolina.

This report, entitled, *Capturing the Promise of Broadband for North Carolina and America,* was released yesterday through the auspices of the New America Foundation.

Diana Oblinger, President of Educause, speaking of their recent report, joined us in discussion at this release, as did FCC Commissioners Copps and Adelstein and a representative of the Fiber-to-the-Home Council. The summary of the report is on our Web site (www.e-NC.org) and will be filed with your Committee. Copies of the full report will be forwarded also to your Committee. I encourage you to review it. It is the fullest assessment that I have seen on the state of broadband — current until last week. Jim Baller and Casey Lide, of Baller Herbst law firm, were the principal authors of the report.

The ability for citizens to access new tools for managing knowledge of Internet availability, such as GIS-based mapping, exists only in a few states. We believe that North Carolina, through the e-NC Authority, was the first state to map broadband availability. (I am aware of HB 3919; North Carolina has mapped the access for our citizens since 2001. I can answer any questions later for your committees staff on this.) Surveys of citizens regarding Internet availability and their use of it have taken place every two-to-three years, and we will complete the fourth survey this fall. These surveys document the relevance of the Internet and connectivity to our citizens, their willingness to pay subscription parameters for bandwidth, their use of the tool to access content, content they prefer to access, why they have computers and access or why they do not, their incomes, household census and many other demographic statistics that give us data with which to plan for programs to drive connectivity access and subscription.

North Carolina has, through the e-NC Authority, spent the last seven years focused on the following:

- Mapping our state with a dynamic network visible daily on where connectivity exists. This is used to prepare a yearly report on high-speed access. We also offer an on-call handler to assist citizens who want access.

- Surveys about Internet use and subscription levels

- Free digital literacy programs for our citizens

- Free public access at more than 400 sites across North Carolina

- Development of e-communities plans, steering committees and e-champions

- Training for leaders on why connectivity leads to economic growth

- Development of Business and Technology Telecenters for seven very distressed rural counties

- Programs to transform local governments' capability into transactional web sites

- Funding of wireless and fiber networks in rural communities with citizens as managers

- Technical Assistance to communities to assist with decision making on whether to venture into this new world of community networks

- Manuals for e-business Training, Business and Technology Telecenter, and Podcasting

All of our programs are developed through research, local citizen and business input, implementation. Many or our programs and initiatives are assessed by reputable third parties to determine our outcomes — our success and our failures — and then reprogrammed to see new innovation. Our Web site contains all of our manuals and our training programs in an effort to be the one-stop shop for broadband knowledge for citizens and businesses.

All homes and individuals should have access to an Internet provider with broadband speeds. The new focus by the FCC, in its order released in March, is a step forward. Broadband speeds should be at least 768 kbps symmetrical but moving quickly upwards — within three years to more than 6-10 Mbps. My professional view is that it should be at least moving towards 80 Mbps to the home, considering that we are now 15th in the world in broadband deployment and perhaps lower if we addressed speeds. This will still put us at a distinct disadvantage when compared to the rest of the world.

Universal Service Fund

Now, I will move forward to respond quickly to your questions.

To Whom - Advancing broadband to all Americans has become more important than universal telephone service since universal telephone service is for all intents and purposes already here.

By Whom - All entities who pay into the Universal Service Fund

(Except when entities are involved with the E-rate for schools)

(Or Entities-nonprofit or private- that can demonstrate positive cash flow and five years of operations where there is no provider of service)

For What?

- For Homes connectivity

- Expand Life Line Link Up program to include broadband access

- Schools, nonprofit hospitals and clinics (health programs in the past not well defined and requirements too confusing). While building-out access to the Internet, these facilities would provide more economic development in rural communities.

How Much?

A well developed fund that would make ubiquitous broadband possible. The Benton Foundation notes that the current figure is too low. We have not researched this and accept their greater access to knowledge on the appropriate needed funds.

The investment in broadband will pay off immeasurably with technology-based economic development and benefits for education, health care and quality of life for citizens. An estimate of $500 billion in economic growth for ubiquitously available broadband could also see 1.2 million high-wage jobs as well as boost business productivity and enable small businesses to engage in global commerce. (Capturing the Promise of Broadband for North Carolina and America, June 2008.)

North Carolina Example:

One example of a program is our Business and Technology Telecenters. This program has returned more than $163 million in cash to seven distressed rural communities in North Carolina. Three have been in operation for six years, and four in operation for two years. These Telecenters serve as technology light houses, working to transform their communities from the agricultural, furniture and textile past to the 21st century of technology and knowledge-based enterprises. Without broadband access, this would not have been possible.

Incidentally, North Carolina lost more than 90,000 manufacturing jobs between 2001 and 2006. Significant growth took place in biosciences as jobs in that sector increased from 20,000 to 47,000. The state showed significant growth in biotechnology, pharmaceuticals, software and computer system design, data processing and banking and finance. Most of this growth took place in the Research Triangle Park and Charlotte areas. These Business and Technology Telecenters, which are located in counties that were ground zero in the loss of manufacturing jobs, **demonstrate that broadband access and the technology-based economic development it enables can be the platform for transforming rural economies into more vibrant engines of commerce.**