

BROADBAND ACCESS IN RURAL AMERICA

HEARING
BEFORE THE
SUBCOMMITTEE ON COMMUNICATIONS
OF THE
COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE
ONE HUNDRED SIXTH CONGRESS
SECOND SESSION

MARCH 28, 2000

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ONE HUNDRED SIXTH CONGRESS

SECOND SESSION

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BROADBAND ACCESS IN RURAL AMERICA

TUESDAY, MARCH 28, 2000

U.S. SENATE,
SUBCOMMITTEE ON COMMUNICATIONS,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Subcommittee met, pursuant to notice, at 9:35 a.m. in room SR-253, Russell Senate Office Building, Hon. Conrad Burns, Chairman of the Committee, presiding.

OPENING STATEMENT OF HON. CONRAD BURNS, U.S. SENATOR FROM MONTANA

Senator BURNS. We will call the Subcommittee to order this morning. The topic of today's hearing is critical for, I think, the future of the country. This is the Subcommittee on Communications. We are going to look into the possibility of how to speed up the deployment of broadband technology across rural America.

In a few years, the Internet has grown exponentially to become the mass medium used daily by over 100 million people worldwide. I think 5 years ago had we thrown those figures out there they would have laughed at us. But the explosion in the information technology has created opportunities undreamed of by previous generations. In my home State of Montana, companies such as HealthDirectory.com and Vans.com are taking advantage of global markets made possible by the stunning reach of the Internet.

The pace of broadband deployment in rural America must be accelerated for electronic commerce to meet its full potential, however. Broadband access is as important to our small businesses in Montana as water is to agribusiness. I am convinced that the proper use of section 706 of the Telecommunications Act can help bring these advanced data services to underserved areas. I authored 706 during the crafting of the act to allow the FCC to provide deregulatory incentives so that telecommunications firms would invest in broadband technologies.

Yet, in its report on broadband deployment last year the Commission refused to use its 706 authority, citing the spread of broadband technologies across the Nation even though only 2 percent of Americans had broadband access. I will not allow 706 to be dismantled through FCC inaction.

I am aware of all the recent discussions regarding the digital divide and I am very concerned that the pace of broadband deployment is greater in urban areas rather than in rural areas. However, there is some positive and exciting news on this front as well. The reality on the ground shows that some of the gloom and doom

scenarios are far from the case. In Montana, just 2 weeks ago, Excite At Home deployed cable modem service in Billings and announced its intention to expand to other areas around the State.

Also, by pooling their limited resources, Montana independent and cooperative telephone companies are doing great things. A group of ten of these small companies has formed the Montana Advanced Information Network, known as MAIN, M-A-I-N. MAIN has a 1,000-mile fiber loop around the State, providing circuits for applications such as Internet, long distance, telemedicine, distance learning, videoconferencing, and data networking.

A group of five telephone cooperatives has formed a company called Vision Net that provides high speed Internet services to communities throughout Montana. Vision Net has 67 sophisticated interactive videoconferencing studios across the State, including 40 sites in public schools and sites in all 7 of the State's tribal colleges on the reservations.

A group of three telephone cooperatives and three electric cooperatives have joined forces to form Skyland Technologies. Skyland has built a fiber hotel in Billings. The fiber hotel provides a place for incumbent and competitive telecommunications providers, Internet service providers, Internet and e-commerce-based businesses, and others to locate their equipment without having to go to the time and expense of constructing their own facilities.

Tenants can select from a variety of fiber networks that terminate in the hotel to choose the best price routing solutions for transport of their telecommunications traffic to locations of their choosing, including the Internet backbone locations in major metropolitan areas.

Just last week, I met with an organization called the Montana Independent Telecommunications System, which is working to design and construct Montana's first true Internet network access point. This would provide a high speed on-ramp to one of the more national Internet backbone networks.

Another reason for optimism is the critical area of tremendous work done by our witness today, and that is Bob Rowe. Bob is President of the National Association of Regulatory Utility Commissioners and a Montana Public Service Commissioner, as well as a member of the Universal Service Joint Board. Bob has recently convened the first joint conference of the FCC and the State public service commissioners to study how 706 can be used to bring high speed communications to rural areas. Frankly, I do not know how he gets it all done, but he is one of the most dedicated public servants I have ever known and a great asset to the State of Montana.

I would also like to extend a special welcome to John Fitzpatrick, who is representing Touch America here today. Touch America is a subsidiary of Montana Power Company that is headquartered in Butte, Montana, and it operates a huge nationwide fiber optic network that will reach 26,000 miles in the next year or so, and I look forward to hearing from him.

With that, I would ask if—Senator Breaux, you are the first one on that side of the aisle. Do you have an opening statement?

**STATEMENT OF HON. JOHN B. BREAUX,
U.S. SENATOR FROM LOUISIANA**

Senator BREAUX. I will just be brief. I want to welcome our colleague from Louisiana who has done so much work on the broadband issue and so many of the other telecommunications areas that he has been involved. We are delighted to have him over here, and we are anxious to hear his comments.

I am still trying to catch up with narrowband, so broadband is way ahead of me. Even so, it is important, and we need to figure out how we are going to encourage it and encourage its use. We have some bills that will do that, and we are interested in hearing about it.

Thank you.

Senator BURNS. Thank you.

Senator Stevens.

**STATEMENT OF HON. TED STEVENS,
U.S. SENATOR FROM ALASKA**

Senator STEVENS. Mr. Chairman, thanks for holding the hearing.

I want to ask your consent and the consent of the committee to place in the record before my comments the statement of Senator Lott, our Majority Leader. I find myself in total agreement with his remarks and I hope the press will receive a copy of them. We share the view that the Telecommunications Act is working.

I am going to ask that you put my full statement in the record. Let me just make these two remarks.

Senator BURNS. Without objection, that will happen.

Senator STEVENS. I am pleased that Alaska will be the site of a Federal-State conference on advanced services on April 17th. While many of our large cities are beginning to receive advanced services, our 227 rural villages scattered across a land mass one-fifth the size of the United States have a long way to go to catch up.

A giant leap toward solving that problem would be for the Commission to wrap up the universal service proceeding. The States and the carriers need to know what level of support there will be. A solid universal service system will allow us to plan for the future and the portability of the subsidy would allow competition to flourish.

My full statement and the Leader's statement will be in the record, please.

[The prepared statement of Senator Stevens follows:]*

[The prepared statement of Senator Lott follows:]

PREPARED STATEMENT OF HON. TRENT LOTT, U.S. SENATOR FROM MISSISSIPPI

I want to thank my good friend and colleague, Senator Conrad Burns for holding this hearing today on the Telecommunications Act of 1996, particularly Section 706 regarding the deployment of advanced services.

Just four years ago, Congress passed this landmark measure. Many of my colleagues here and in the House can attest to the years of hard work and compromise that went into passing the final version.

Telecommunications today is credited with being the driving force in our growing economy, and without question the Act has been, in part, cause for that success.

*The information referred to was not available at the time this hearing went to press.

Despite languishing in the courts for far too long, the Act has already spiraled our economy to unparalleled levels, and spurred the creation of thousands of jobs and billions of dollars in investment.

A number of delicate balances were struck to provide incentives to open new markets to competition. While I admit I would like to see more competition in the local markets, these choices, I believe, are heading our way.

Well over one hundred private companies are competing in the local telephone market today. Many of these companies did not even exist when the Act became law. Many of these companies are facilities-based competitors, investing in their own switches. So, we are seeing progress.

In addition, just a few months ago, the first 271 application for an incumbent phone company to enter the long distance market was approved and granted to Bell Atlantic. This historic decision was encouraging. I believe it was the right decision, at the right time.

The decision was not only important to the state of New York, but to the Nation as a whole, by laying out a blueprint that will help provide a better understanding for other incumbents that want to follow suit and compete to offer long distance services.

Competition and choice must come to this part of the network, and safeguarding the incentive-based nature of Section 271 is the best way to break the monopoly over the last mile to the consumer's home or business. This is the foundation of the 1996 Act and must remain so.

The Act also addressed the availability of advanced services in Section 706. This is extremely important as well as the world of voice transitions to a world of data, which now makes up the majority of traffic on the phone network today.

There has been a great deal of discussion during this Congress about the urgent need to have high-speed Internet access available to consumers across America.

I understand the concerns that some of my fellow colleagues from rural states may have about their constituents' access to such services. I have those same concerns, but on this front, I also believe that significant headway is being made.

There are some who say that the Internet and its services are hampered by the Act, but I disagree. In fact, resistance to the competition-enhancing aspects of Sections 271 and 251 has hampered the achievement of the ultimate goal of the 1996 Act: competition at all levels of telecommunications.

Despite this resistance, increased competition is helping to spread the Internet across the country and spur investment in broadband technologies.

If anything, it appears to me that the network is being readied for high-bandwidth Internet services, and deployment of high-speed Internet access is accelerating.

Today, approximately 99 percent of American households can reach the Internet with a local telephone call, and most of these households can choose from among at least 4 Internet Service Providers.

This is nearly universal availability of Internet access. Granted, this access is not all high speed . . . yet. But that will change.

Incumbent phone companies are already offering digital subscriber line, or DSL, technology to millions of businesses and households. New entrants in the local phone market are offering high-speed Internet services. Cable television companies are aggressively rolling out their high-speed Internet services. Promising wireless technologies such as MMDS are being advanced and deployed—technologies that may very well be the best shot at reaching rural areas where other types of technologies may be limited.

This deployment is happening not despite of the Act, but because of the Act—and it is a course of competition from which we should not deviate.

I appreciate all of the witnesses who have taken the time to come and testify before the Subcommittee this morning.

I am certainly open to creative ideas in the deployment of advanced services. But it is my hope that those who support reopening the Act with modifications to Section 271 or Section 251 will reconsider.

The Act is coming of age and finally being given a chance to succeed where it is most important for consumers—in the marketplace.

Senator BURNS. Without objection.
Senator Kerry.

**STATEMENT OF HON. JOHN F. KERRY,
U.S. SENATOR FROM MASSACHUSETTS**

Senator KERRY. Mr. Chairman, thank you very much. Just very briefly, thank you for having this hearing. This is obviously a critical issue to a lot of communities in the country.

Recently in western Massachusetts, which many people would not think of automatically as that rural, but it is, we had a significant issue about the—

Senator DORGAN. Rural?

Senator KERRY. Absolutely, you better believe it.

Senator DORGAN. Western Massachusetts?

Senator KERRY. Well, come there one day and I will show you.

Senator DORGAN. Western Massachusetts.

Senator KERRY. We got a group of businesses together and created sort of an aggregated purchasing power in order to try to attract the capacity to develop broadband, and it worked very effectively. We were able to attract seven or eight bidders and finally wound up with one entity that at an affordable price is going to provide that kind of access. But many communities have not been able to do that.

I think there are two principles that ought to guide us as we go through this. One is not to do any harm to the competitive structure that we have spent an awful lot of time trying to create. I will listen carefully to Congressman Tauzin and others, but I am not convinced yet that lifting the inter-LATA restrictions is somehow going to promote large-scale deployment of broadband services, and that is really the issue.

The second principle, though, is that we need to take appropriate measures to guarantee that all Americans are going to benefit from this new economy and from the advances in medicine and education that come with it. I think there are some ways to do that, not the least of which is to try to provide an economic incentive. Senator Rockefeller has been working on the question of a specific rural incentive. Senator Moynihan and I have been working on a more generalized one which we will be introducing, I think next week, and it is fundamentally providing an economic incentive for the more rapid deployment to areas that need to be met.

So I hope colleagues obviously will keep their minds open as to what may be the best way to not interfere with a lot of energy and effort we have expended to create appropriate competition at the same time as we do encourage the rapid distribution of this critical technology.

Senator BURNS. Thank you very much, Senator Kerry.

Senator Brownback.

**STATEMENT OF HON. SAM BROWNBACK,
U.S. SENATOR FROM KANSAS**

Senator BROWNBACK. Thank you very much, Mr. Chairman, and thanks for holding this hearing.

I look at the proper incentivizing of the deployment of broadband services into rural areas as perhaps one of the key issues, if not the single most important telecommunications issues, that we will face this Congress. What we are finding taking place is that some areas are hooking into broadband services and having it and some

are not, and it is generally the rural areas that are not having the access to this new economy. It is providing a whole new economy.

We have a history in this country of making sure that we all kind of develop together. We have done it with rural electrification, we did it with rural telephony. Now we are going into another area of broadband services that we need to make sure the rural areas have access to this technology, to this new economy.

If we do not, we are going to leave a lot of our folks behind. We have never done that in the past and we should not do it now. This I think is an important hearing where we talk about how do we keep the rural areas of Kansas and of Massachusetts hooked up to the new economy and how do we move this on forward.

Mr. Chairman, I just want to go at the situation we have in Kansas if I can. With few exceptions, broadband deployment is not occurring in rural areas in my State or to my knowledge in any States across this country in a timely fashion. It is not a cynical plot, I do not think, to exclude rural areas from receiving broadband services. I think the reality is that it costs a lot of money to deploy broadband in rural areas and you run a much greater risk that you will not recover your investment, at least not for a very long period of time.

So how do we incentivize it? There are different plans that are floating around. The one that I have put forward is a deregulatory plan. Rather than a government subsidy plan, it is a deregulatory system, where we would provide deregulation for the ILEC's to be able to invest in rural areas and to recoup on that investment.

I think this is wholly appropriate and proper for them to be able to do. I think it is the right way to go. In the past where we—and I am sensitive to Senator Kerry's comment about we have worked hard to create a competitive regulatory system here and to try to get competition to kick in and we do not want to hurt that. But we are going into a new economy area in broadband. It is going to require new equipment, not equipment that has been paid for under a monopolistic system. We are going into high cost areas with this bill. This will be rural areas where you are going to have a disparate or a widely dispersed population that needs to have access to this if they are going to keep competitive.

I think our only truly effective way of being able to go forward with this without breaking the bank here in a subsidy system is a deregulatory type of system that incentivizes and allows people to invest in these rural areas. I really think as we examine this issue we are going to find that is our only true option, and it is one we ought to do, and I do not think it is one we can sit around a whole long time thinking about whether we should or should not do it, because otherwise this economy is going to take off on people and the people in the urban areas are going to have it and the people in the rural areas are not going to have it and the die will be cast for the next 50 years in the economy.

So I think this is a very important subject. I have got a full statement I would like to submit into the record on this and ask that it be accepted.

[The prepared statement of Senator Brownback follows:]*

*The information referred to was not available at the time this hearing went to press.

Senator BURNS. Without objection, it will be.
Senator Dorgan.

**STATEMENT OF HON. BYRON L. DORGAN,
U.S. SENATOR FROM NORTH DAKOTA**

Senator DORGAN. Mr. Chairman, thank you. Again, thank you for holding the hearing.

Let me agree with Senator Stevens. I think the Telecommunications Act worked. I do think we need more action from the FCC on the Universal Service Fund that needs to be developed properly. The Universal Service Fund must be attached to advanced telecommunications services, which we anticipated and wrote into the Act. If we can connect those two, then that is going to be very helpful, but that has not been done to date.

I am going to be introducing a piece of legislation dealing with a kind of broadband REA program. I feel exactly the same way as Mr. Brownback does about all the problems, but I come at it from a different perspective. I think with respect to electricity and telephones the only way we saw the buildout out into the rural reaches of the country was with a broad national incentive program, the REA program being an example.

I am going to be introducing today a Rural Broadband Enhancement Act, which is essentially a broadband REA program providing low interest loans and anticipating the connection of the Universal Service Fund to that advanced service as well in the buildout where those loans have been used.

The question is in my home town and in the home towns of many others: Will we be able to participate in the new economy? The answer is no, unless we have universal buildout. If we do not have the buildout of advanced services, we will have a digital divide. My home town of 268 people will be left, as will so many other rural areas in the country.

So there are a series of ideas that are being developed. Senator Rockefeller has one that I am attracted to. I hope he is attracted to mine as well. There are a series of ideas that we ought to evaluate because we must do something. Doing nothing is not an option at this point. Doing nothing means that those areas with robust income streams will attract a very aggressive buildout of advanced services, and those areas that do not have that kind of income stream will essentially be left until last and perhaps never unless we do something to provide for it.

That is the purpose of my offering, and I will be introducing today in the Senate, the proposal called the Rural Broadband Enhancement Act, which is effectively a broadband REA program.

Mr. Chairman, I will describe that further at some point. But I know Representative Tauzin is here. We seldom ever have the opportunity for a House member to listen at some length to Senators and so these introductory comments I hope have been very valuable to Congressman Tauzin. I am very pleased that he has come to join us.

Senator KERRY. Could I just make one tiny observation, if I may?

Senator BURNS. Yes.

Senator KERRY. The makeup of our committees, both in the House and the Senate, tend to be rural-dominated, and it is re-

flected in all the concern about rural distribution. Maybe I am the sole member of the urban caucus here, but I just want to underscore: The same problem exists in low income inner cities all across the country. We cannot think of this as exclusively a rural issue. It is really low income, revenue producing, and what the infrastructure costs versus what people can pay. We have to be attentive to both.

Senator BURNS. I think you are correct on that, because whenever we start looking at the challenges we had in rural America, where we have got a lot of dirt between lightbulbs, we also had the same problem in the inner cities about access to modern services.

I was in—I am glad the weather has changed to be normal in Seattle. I was there all day yesterday and, Senator, it rained all day, which is pretty normal and pretty green and wonderful in wonderful Seattle. So, Senator Gorton.

Senator GORTON. It did here as well, Mr. Chairman.

I do not think Congressman Tauzin needs a speech on this subject from me. I would agree with members on both sides of the political divide here that by and large our basic act is working well, but that we do need to see that the benefits it was designed to create are available to all.

Senator BURNS. We are joined today by, and appreciate him coming over here, Congressman Tauzin of Louisiana. By the way, just as a—oh, I am sorry. Senator Rockefeller, our local titan. See how many people have read that book? Do you not have a statement or anything?

Senator ROCKEFELLER. At this point, Mr. Chairman, I look forward to hearing from other witnesses.

Senator BURNS. I think to his credit, Congressman Tauzin, one of the most significant pieces of legislation that he worked on and get very little ink and very little notice was the E-911 bill that he shepherded through Congress and has probably done as much for public safety and standardizing 911 as a public safety measure. I congratulate him on that. I had not done that publicly, as I have in the forum today Congressman. But I thank you for your work on that because it was really a good piece of work.

We welcome you here today, Congressman Tauzin.

**STATEMENT OF HON. W.J. "BILLY" TAUZIN,
U.S. REPRESENTATIVE FROM LOUISIANA**

Mr. TAUZIN. Thank you, Mr. Chairman. Let me also thank you for the incredible work the Senate did on that bill. I think it is a tribute to the way we do work together on telcom matters.

I also want to take a moment to congratulate Senator Stevens. I understand he was selected just last Saturday as the Alaskan Man of the Century. So congratulations to you, Ted.

Senator BURNS. Which century?

[Laughter.]

Mr. TAUZIN. Which century? Alaska was careful not to say. I think it was pretty interesting. I think he has got a lot of potential, is what they are saying.

I also want to—Byron and all of you, I want to thank you for the comments this morning, because it does reflect somewhat of a political divide that still exists on this incredibly important issue. But

as an example of why it is rising to the top, if you will, of our political discussions, the fact that so many bills are being introduced here on the Senate side to deal with it.

Byron, your bill providing loan guarantees to rural buildouts, and Rockefeller, Kerry and Snowe, a bill dealing with again rural buildouts, Roth-Moynihan looking at tax incentives for broadband buildouts, the Brownback bill that deals with loosening regulations on some of the advanced services, the McCain bill deregulating high speed Internet services—all combining to indicate a great deal of Senate interest in this subject and perhaps an interest in closing what has become a political divide, which I think is helping to create a digital divide out there.

I think it is so important that we close the political divide as rapidly as we can. On the House side we are trying to do that. On the House side, Senator—rather, Congressman John Dingell and I, from Michigan, have joined together and we now have 180 co-sponsors behind a bill to deregulate these advanced services in order to get the buildout done as quickly as possible before we address the need for whatever subsidies we might have to provide for those areas that are still not served, whether they be in an urban center or a rural district.

Let me point out, Senator Kerry, that among the 180 co-sponsors on the House side is a sizable support from the black, Hispanic, rural, and western caucuses, illustrating again that it is the combination of both inner city problems and rural district problems that we are presented with when we talk about this digital divide.

It is also important to talk about why this digital divide is so harmful if we do not close it rapidly, as quickly as we can. It is harmful because we are not talking about a slow speed revolution in the economy. We are talking about a high speed revolution, because the high speed technologies are like a fast train leaving the station, and if communities and areas of Massachusetts or Louisiana are going to get left out they are going to get left out far behind.

The other odd thing about this revolution is that it is a lowest common denominator revolution. If I am connected to high speed but you are not, if you are on low speed, and I connect to you, I am on your speed. So who will want to connect to areas of our country who only have low speed services when they degrade their systems to do so?

It means that if you live in an area that may even have high speed services in a community, but does not have the four-lane highway to connect to the big superstructures, the backbones of the Internet, you are going to have high speed in your community all right, but you will not be able to connect to the broad national high speed network and therefore, you will be out of business, unless you move, unless you move to a center where those broadband connects can be accommodated.

Now, what is the problem with that? It is a timing problem. There are lots of folks out there—you will hear from some today, some CLEC's, Montana Power, others—who are trying to build out systems right now. But the question we ask on the House side, and I hope you ask it on the Senate side, is a simple question: Where you already have an extensive network of fiber already laid, dor-

mant, ready to go to work, why would you maintain restrictions in the law, in the regulations, that prevent those networks from being used to connect all those small communities of America, the inner cities, and the rest of this country on the high speed?

Why would you tell some companies in America, you cannot utilize your own assets to begin delivering these services to citizens? Why do we have to start addressing tax subsidies before we loosen the regulations and let it happen in the marketplace?

I am not against tax subsidies. We are handling a bill on rural satellites in my committee right now to deal with the very last segments of America that are going to get left out of local television. And that is what we ought to do when we find segments that are totally left out. But the first ought to be, as we did in SHIVA: remove the regulations and let the companies deploy, let them use their assets.

Now, I brought a few posters with me today to demonstrate the problem I think very clearly. In front of me is a picture that represents the places in America where the high speed trunks are located with points of presence for broadband connections. There are a lot of trunks in America. A lot of these high speed super-highways. But many of them pass right through Louisiana, for example, without having a point of presence for a high speed connection. If you do not have a POP, point of presence, and you are not within 50 miles of one, you either got to buy a T1 line to your community or you may be out of business on the high speed connect.

Now, what you see in front of you is an example of where those POP's exist. Now, you see in the western States there are very few of them.

Now, if you will, Teddy, why do you not flip that card over and I will give an example of the problem in America when it comes to high speed connects. If you look at this chart, you will see that the average number of points of presence per State in some of our States, in the top ten, is 33, but the average in many of our States is down to 2.3. It is like Louisiana is a two-point State.

Now, that means that if you live in a State without a large number of POP's an awful lot of your people may have high speed connect in their communities because somebody is deploying a DSL system or a CLEC is providing a system or somebody else is providing some high speed connect in your community, but you cannot get from that community to the high speed trunk lines because the four-lane highways are not being used.

Now, who owns and where are the four-lane highways that exist today? Well, let us flip that chart if you will, Ted, to the next chart and we will get a look at Louisiana, John, and I think that will give you a good example of what is true all over the country.

Here is Louisiana's POP's, two of them, one in Baton Rouge and one in New Orleans. Around those POP's is a circle drawn around 50 miles. You notice Thibodaux and Houma are not in those circles, John, my home towns, the communities where I grew up in. If you are not in those circles, you are out of the connect to the POP. You can have all the high speed you want in your community, you just cannot connect to the POP's, the point of presence to the trunk lines.

Now, Ted, if you will flip the next chart, I will show you what exists today on the ground, in the ground, ready to go to work, if we simply deregulate. Here is the fiber that already exists ready to go to work for Louisiana in the ground, that is prohibited from delivering high speed services to the communities of my State. The fiber is represented by the red lines that you see.

If you look, you will also see some blue lines across the State. Those are the old long distance LATA lines. Those are the lines drawn by the court to separate local and long distance. Those LATA lines are currently being used to prevent through regulation the delivery of broadband services across those red lines, the four-lane highways that are already in the ground, ready to serve constituents in my State, but cannot be used because of the LATA line restrictions that still exist to protect local competition in long distance and local services of telephone only.

Now, I want to disabuse, hopefully, all the listeners about our bill. Our bill does not lift the 271 restrictions on crossing those LATA lines for phone service. It does not. It, in fact, prohibits anyone who owns those red lines, the Bell companies, from delivering phone service across those LATA lines until they have met the 271 process. It makes no changes in the 1996 Act regarding that.

It simply says that as far as advance services are concerned, these broadband Internet services that are going to be critical to the new economy, that these systems can be used to serve our people, to accommodate the connects that are going to be extremely important if people in my State and your State are going to have access to this new economy, or they will have to wait 2, 3, 4, 5 years while the high speed train leaves the station and they find out that businesses have dried up or they have to move to accommodate to a city that has it.

Now, I also have—I ask you to pass this around—a map of the US WEST broadband network out West, Senator Burns, that gives you an idea of how extensive, in blue lines here, the fiber in the ground is available today. In the West the LATA lines are represented by State lines. The State boundaries become the LATA lines, and without the capacity to cross those LATA lines with advanced services many of the people out West cannot connect to a point of presence, therefore are locked out of the broadband future for our country.

Now, it is this simple. It just boils down to this. Are we going to stick our hand in the sand and continue to have a political divide that allows this digital divide to develop in America, so that we have to come in with a financial rescue, that we have to have a big subsidy program to get these services out because we did not use the systems that were available? Or will we be smart enough to let these systems go to work for Americans and will we be smart enough to do regulatory relief first and then come forward with whatever subsidy program is necessary to make sure the last pockets are served, whether they be in an inner city, Senator Kerry, or a rural community, Senator Dorgan?

The point I am making is that we have before us the opportunity to do something we did not have in 1996. We did not even know about advanced services in 1996. The Internet is barely mentioned in the 1996 Act. The browser, remember, was on the market in

1995, just a year before. Advanced services are a whole new category of service.

To hold the rest of America hostage to the old regulations that affect long distance and local while they wait for long distance connect is just not fair to too many Americans. It leaves out too many in our society.

If I can make a final pitch to you, we need, we need to think about time. Sooner or later, rural America is going to get connected. Sooner or later, urban America, the center cities are going to get connected. But if they have to wait 2, 3, 4, 5 years—and the Legg Mason report indicates that fully a quarter of America will not have service 3 years from now, a half of America will have a single competitor—what will we be doing 3, 4, 5 years from now?

We will be passing extensive tax subsidies to get it out there. We will be trying to regulate the sole providers because we do not like monopoly providers in America. We will be back debating these old regulatory arguments, instead of watching America get served by the infrastructure that currently exists.

As a final thought, I am not interested in picking winners and losers in that marketplace. I do not care what company wins or loses in the struggle to provide broadband services. That ought not be out business. Our business ought to be that Americans are winners, that every American, whether they live on a bayou in Louisiana or whether they live on a mountaintop somewhere in the West or whether they live in an inner city somewhere in the East, that every American have the advantages of this new economy, because it is going to mean health care, it is going to mean education, it is going to mean jobs, it is going to mean a future that is prosperous for people, or it is going to mean that people in this country are denied those opportunities and they have to move to the center cities again, to the places where these POP's exist, in order to be a part of this new economy.

Now, nobody ought to be relegated to that in our society. The best way to start this process and get it on track high speed is deregulation first and then whatever subsidies we need second.

Thank you very much, Mr. Chairman.

Senator BURNS. Thank you, Congressman.

Any members of the committee have any questions for the Congressman?

Senator STEVENS. Could I ask one?

Senator BURNS. Yes, sir. You can do anything you want. Man of the Year or Man of the Century can do anything he wants to.

Senator STEVENS. My great friend, I have got one problem with your comments. I think that is a very good map, but you handed out the US WEST map. US WEST sold off or is in the process of selling off nearly 600 smaller exchanges in the 14-State operating region. That includes 500,000 access lines in 10 of the 14 States.

Now, 271 says neither a Bell operating company nor any affiliate of a Bell operating company may provide inter-LATA services except as provided in this section. It is not telephony we are talking about, it is all services. So your bill does amend 271.

Mr. TAUZIN. Well, if I can respond, Mr. Stevens, if you go back to the debates we had in 1995 and 1994 and 1993 leading up to 1996, we were not talking about advanced services. We were talk-

ing about telephone services. If you look at the heart and soul of the Act in 1996, it was about several things. It was about cable services, to try to get more competition in cable, let everybody get in that business, telephone companies, satellite companies, everything, and it was also about trying to break up the local loops and creating competition in the local loops for telephone service.

Now, make no mistake about it, the big sizable revenues are still in long distance. That is the big fight. That big fight goes on whether our bill on the House side passes or not. We preserve the 14-point checklist, we preserve the 271 process. We forbid the Bells from entering long distance until they qualify under 271 under our bill on the House side, and I would encourage you, if you do a bill on this side, to do the same thing.

We do not want to upset what we did in 1996 when it comes to telephone service.

Senator STEVENS. Billy, they tell me that by 2003, 90 percent of the traffic is going to be data. Your bill takes 90 percent of the traffic and lets them loose from 271.

Mr. TAUZIN. The problem, Senator Stevens, is that if in fact data becomes the critical component, do you really want folks in your State not to be part of that world because we are waiting on somebody else to ride in and build these systems that currently exist?

My suggestion to you, sir, is that if you have a system already in the ground and our great country says to this system it cannot be used to serve our citizens, we have to wait for somebody else to come along, that that is not a good solution for Alaskans, certainly not for Louisianans.

Senator STEVENS. Well, but you have got to look at the other side of the coin. Your bill continues to lock out the long distance companies from competition because these other people have not opened theirs to competition.

Mr. TAUZIN. No, sir, it does not. Let me say it again. We keep the 271 process in place.

Senator STEVENS. Not for data, you do not.

Mr. TAUZIN. Not for data.

Senator STEVENS. But everybody is in data now, Billy.

Mr. TAUZIN. We do it for telephony, and if anybody believes that there are not huge dollar fights over telephony income today and over the next 3 to 5 years, you are kidding yourself. That is why this 271 process is dragging on so long. If I am a long distance company, I want to keep the Bells out as long as I can, and if I am a Bell company I want to keep the local competition down as much as I can.

That fight is going to continue. We have not solved that. That goes on at the FCC. And there are huge dollars at stake there. We do not touch that fight. We simply say that we should not let that fight stand in the way of Americans getting data services, because data is going to become more important to us than a mere telephone call.

Senator STEVENS. I understand you and I am trying to better understand you. But my good friend behind me here, my chief of staff, points out that DSL will not serve rural Alaska. You have to be within three miles, three to five miles of the switch. What we are interested in is preserving something for rural America.

I find it difficult to believe that these inter-LATA operating companies are friendly to rural America when they are selling off all their rural exchanges. So this is a tough fight, but I think 271 meant what it said: all services, if they want in the inter-LATA, they must deregulate.

Mr. TAUZIN. Well, if we wait for the FCC to complete a 271 process for every State in America before we allow these systems to be used for data services, Senator Stevens, I am afraid we are condemning an awful lot of people in America to being left out. That is my only concern. Again, I do not care whether the Bell company serves customers in Louisiana or a CLEC or a satellite or a terrestrial wireless system. I do not care.

I simply do not want the citizens in Thibodaux, Louisiana, to have to move to New Orleans because that is their only choice.

Senator STEVENS. I understand that.

Mr. TAUZIN. And businesses are dead in Louisiana if they are not connected.

Senator STEVENS. I understand that, and you are doing a very good job representing your people. But the trouble is that people that come from the West, they want to come into the Twenty-first century with everyone else, and we are going to be isolated if we are not included. The inclusion comes from putting in long distance into the same pocket. If you do an Internet in Alaska, you are on long distance.

I have taken too long now. I will not take any time later. But I do thank you for coming over, and I think you have highlighted the problem.

Mr. TAUZIN. Thank you, sir.

Senator BURNS. I have no other comment other than the fact that, Congressman, you know when we even started the debate on the 1996 Act we were—some of us were shocked to hear from our local RBOC companies saying that half of their business at that time was data rather than voice. So we could see the trend.

Now it is much higher than that and how we balance that out of course will have to take a very high profile in the debate that comes up.

I have no further questions. I congratulate you on your efforts and would hope that we can find a balance in that.

Mr. TAUZIN. Thank you very much, Mr. Chairman.

Senator BURNS. Thank you for coming this morning. We appreciate that.

[The prepared statement of Mr. Tauzin follows:]

PREPARED STATEMENT OF HON. W.J. "BILLY" TAUZIN,
U.S. REPRESENTATIVE FROM LOUISIANA

Good morning, and thank you, Mr. Chairman, for inviting me to testify before your Subcommittee on Communications.

Broadband, or rather the lack thereof, is an issue that not many are talking about right now. Most of what we hear is that the Act is working—so leave it alone. The fact is, however, that the Act was never intended to address Broadband deployment except in the most general terms—i.e. that advanced services should be deployed and that the FCC should forbear when necessary.

Despite this, a huge sector of our nation is not receiving . . . or even capable of receiving true high speed Broadband services. The reason is because hundreds of communities are not near any of the hubs that enable access to Internet backbones—the real super highways.

Very few companies are building high speed gathering lines all the way from the backbone points of access to the rural communities because it is expensive. While some are, like Montana Power and utility consortiums, their lines will not extend to many rural areas. Put simply, it will be a long, long time before these towns and rural areas are adequately served the way that urban areas are.

There is, however, an alternative to making our constituents wait. We can adopt a coherent broadband policy that gives all willing players equal treatment under the law and regulations, just as Congress intended when it added Section 706 to the '96 Act.

Broadband is an all new communications medium, and to quote the FCC “. . . it is operationally and technologically distinct . . .” from plain old telephone or cable service—or satellite or cellular for that matter, even though it can be delivered over some of the same infrastructure.

While all companies can compete for local customers, including the RBOCs, only one segment of the telecom industry is prohibited from engaging in deployment of the high speed broadband gathering lines needed to connect our rural communities to Internet backbones: The RBOCs.

Despite that these companies already have fiber in the ground connecting most of these rural communities to hub cities where backbone infrastructure exists, the Bells are still prohibited from hauling any data traffic because the FCC—not an act of Congress—has said that RBOCs are prohibited from sending any traffic across those 20th Century LATA lines drawn by the Courts almost 20 years ago. Those regulations and LATA boundaries were implemented to separate local and long distance calling areas for purposes of regulating VOICE TELEPHONY—not the new high speed Broadband data that is revolutionizing American communications.

Nonetheless, the FCC and many of the new competitors created by the Act, see the data-LATA restriction as an effective club to use to force the RBOCs to agree to market opening conditions that were never contemplated by the Act. These parties are not concerned about the fact that many of our constituents, yours and mine, are being left out of the Broadband revolution.

While these parties are out aggressively deploying high speed gathering lines and laying new backbone infrastructure, they don't want any competition for their business models because the status quo under FCC regulations gives them greater leverage to negotiate higher carriage rates if local customers can't get to the backbones any other way.

So, the bottom line is this: rural consumers and communities are the ones being left behind while the FCC continues its regulatory gamesmanship.

The Bill I have introduced, along with Mr. Dingell, in the House would change all of this. It enjoys the sponsorship of 180 members of the House, and is gaining momentum.

The Bill would:

1. Promote the deployment of broadband services by providing an incentive for all companies to develop and deliver advanced telecommunications services. Senator Burns has estimated that less than 2 percent of Americans who are on-line have access to cable modem or digital subscriber line (DSL) technologies.
2. Create more consumer choice by allowing both existing wires into the home—telephone and cable—to compete head-to-head in the delivery of broadband services.
3. Grant ISPs the right to collocate and interconnect with Bell company high-speed data networks so that consumers are guaranteed freedom of choice, and all ISPs have access to at least one broadband pipe.

My legislation would NOT:

1. Allow any Bell Company to carry any voice long-distance service over any high-speed, packet-switched network until the Bell company is authorized by the FCC to enter that business.
2. Deny states from regulating core telecommunications services. A telecommunications service would continue to be regulated as a telecommunications service, whether carried over a circuit- or packet-switched network.
3. Alter the *Legal Obligation* of RBOCs to fully comply with the open market requirements of the 1996 Act, including the 14 point checklist requirements of Section 271.

Thank you, and I yield back any time that I might have remaining.

Senator BURNS. We now have a gentleman who has distinguished himself in the National Association of Regulatory Utility Commissioners, and he also serves on the Montana Public Service

Commission. Ever since he has held that position and ever since we have worked together trying to address these issues of spines and broadband to rural areas—and actually Montana cannot even be classified as rural. I think we are classified as frontier in other settings.

But we welcome him this morning and look forward to his testimony, Bob Rowe, who is on the Montana Public Service Commission. Thank you for coming in this morning, Commissioner.

STATEMENT OF BOB ROWE, PRESIDENT, NATIONAL ASSOCIATION OF REGULATORY UTILITIES COMMISSIONERS, AND MEMBER, MONTANA PUBLIC SERVICE COMMISSION

Mr. ROWE. Mr. Chairman, I am Bob Rowe. I am a Montana Public Service Commissioner, and I am speaking here today on my own behalf.

I want to start by thanking all of the Members of this Committee for your very thoughtful approach to competition, universal service, and technology deployment. Mr. Chairman, I particularly want to commend you for your vision and for your leadership. I very distinctly remember meeting with you long before the Act passed, when you were working on what became section 706, and you challenged me then very directly that we have to do more than just provide good quality voice-grade service to Montana and America. In fact, you talked about specific towns in Montana.

You were thinking about high speed Internet access and other advanced services back then, and you got it, as the techies say. And your current work on the Digital Dozen and your continued work on competition, universal service, and technology deployment confirm that you still get it. I am honored to be here in front of you today.

The act is a cooperative Federalist document and you appreciate the role of States as partners implementing your vision, and you gave us tall orders. Indeed, in section 706 you instructed both the FCC and State commissions to take action.

Fortunately, in addition to your tall orders, Congress gave us good tools. I will summarize some of those tools. I will start by suggesting that there are many digital divides, not just one. I will describe some of the good work in Montana and then I will describe the tools in the Telecommunications Act toolbox, especially the section 706 tools.

Let me start by saying that there really are many digital divides and they often occur where you least expect them. Based on what I have learned so far from talking to individual customers in Montana, I think of the digital divide on a couple of axes. On the vertical axis, you can look at it by layers of the network, from the network access point down to the transport level, to the loop, and right down to the customer.

On the other layer, the horizontal layer, I think of it by the kinds of problems that customers complained to me about: absence of facilities, price to use facilities, and quality issues. All of these have been described to me by customers who use the phrase “the digital divide,” customers complaining to me about the digital divide. There are all kinds of different strategies to get at these different digital divide problems.

Another way to think of this is in terms of the relationship between density and demand, and there are areas where facilities are dense and demand is high and that is where the market is going to do exactly the job that the market was designed to do. There are the situations, such as urban areas in Washington, D.C., other large cities, where the density may be high, but the demand is not high, and that is where you use a different set of strategies, the urban neighborhoods that you already discussed this morning.

The bad news from looking at things this way is that there is not any one strategy that is going to work across the board. You need to use multiple strategies. The good news is that there are all kinds of different approaches that do work, and the good news is that we can work together to solve these real problems.

The next section of my testimony tries to describe some of the good news from Big Sky Country. Mr. Chairman, you really did a great job of summarizing my testimony, and that demonstrates to me that you do have your finger right on the pulse of Montana.

As you described—

Senator BURNS. I am cheating.

Mr. ROWE. I very much doubt that. In fact, I know that you met with some of the folks that I am going to talk about last week and over the weekend. And there are Montanans who are excited about the technology, that are using it, and they want better and more robust access. As you mentioned, Streaming Solutions in Cut Bank, HealthDirectory.com in Missoula, Stream International up in Kalispell, and then the community networks, such as the KootNet in Libby, where you have been doing so much work, and the DillonNet in Dillon.

The carriers in Montana that do not get enough attention are the ones that you described, the folks who are building the MAIN network that is outlined on this map, the two-way video studios that are being developed by Vision-Net. What is exciting about MAIN and Vision-Net, if you look at the map of Montana, the population is over in the West, but a lot of those facilities are over in the East. As you said, they are serving Indian reservations, they are serving small Montana communities. They are doing exactly, I think, what we need them to do.

As you also described, that same group of small companies is now trying to develop ways to get traffic back to the Internet backbone faster and cheaper, and again that is a very, very important task. Many of the small Montana companies are beginning to deploy DSL. My testimony includes an example of the relatively low capital cost of deploying DSL, for example in the Jordan exchange, if you are near the central office. It is about \$38 per customer for the total capital cost. As soon as you go outside of that central exchange, you fall off the cliff and at that point the average cost for DSL, just the capital cost, not the monthly cost, is about \$31,000 per customer. That is a big hurdle to jump over.

Well, those successes raise some questions and these are the questions we need to answer. What kind of support do those good efforts need to succeed? How can they be replicated in other areas and how can we build on or better those accomplishments?

Next I talk about the competition tools, and you did give us good tools that will work to promote technology deployment in rural

areas. I am quite confident that in the next year we will see Montana-based companies providing competitive DSL service.

The challenge, as the dissent said in the Iowa versus FCC case, is that competition distinguishes itself in the unshared, not in the shared, portion of the enterprise. So as we strike the balance between the competitors and the so-called incumbents, that balance is going to change over time.

Well, section 271 is another good tool that you gave us, and commissions, including New York and Texas, have done an outstanding job working through that 271 process, using that good tool. I would be happy to talk more about those State efforts in response to questions.

Out West the challenge is to figure out how to make section 271 work for rural States. We have pulled together 13 States in the US WEST region in a multi-state collaborative. In March NARUC, my national organization, passed a resolution affirming its support for the 1996 Act and opposing legislation that would permit the Bell operating companies to provide data service across LATA boundaries without first fully opening their market to competition as Congress required in 1996.

State commissions took this action because we do believe section 271 is a valuable tool to open markets and to promote deployment of advanced services.

My testimony also describes the universal service tools. I am delighted to be coming onto the Federal-State Joint Board just as our focus will move to the crucial area of providing rural service.

Then finally, the section 706 tools. As I said, you spoke to the FCC and the State commissions, and in section 706 Congress demonstrated how truly far-sighted it was. Its champions, again including you, Mr. Chairman, told us: Do more, do not be satisfied. Two years ago NARUC passed a resolution saying that section 706 is an opportunity to grab the brass ring of new technology, not just an invitation to pick the low-lying fruit.

With your active support, Mr. Chairman, NARUC prepared a proposal last summer for a section 706 joint conference between the FCC and the States. Our proposal outlined actions, including monitoring deployment through regional hearings, studies, and other efforts, activating stakeholders, coordinating efforts, disseminating information to those best able to use it. We also put forward the proposal for what we called section 706 zones, where you would target all of those efforts.

In October the FCC did create the section 706 joint conference. Its success in my opinion is going to depend on the continued involvement of providers, users, and potential users down at the community level. We will be holding regional field hearings. Those hearings will be chaired jointly by a member of the FCC and by a State commissioner. We will not have all the answers and we should not, but the hope is that the joint conference will bring together those people, those parties, who can assemble the right pieces in creative new ways.

We will be holding hearings. The first hearing was in Washington, D.C., earlier this month and that included a site visit to an inner city neighborhood. There will be a hearing on April 17th in Anchorage co-chaired by Chairman Nan Thompson of the Alaska

Commission, also a hearing in April in Sioux City, Nebraska, in May in Lowell, Massachusetts, in June in Miami, Florida, and on June 23rd in Cheyenne, Wyoming, with a Montana segment on June 21st, and we are exploring the possibility of telecasting that hearing over the Vision-Net system and possibly streaming it over Streaming Solutions.

While the joint conference is an exciting project, I hope it will help us move beyond the telewars that the armies of lawyers and advocates have been fighting in front of me, in front of you, and focus instead on what we can accomplish together.

The most exciting and important work, however, will not occur in public hearings, including the hearings that we will be holding. That is going to take place in the big cities, in the small towns, and on the frontiers, as you said, as we in Montana like to say, where people really are working diligently and creatively to solve real problems.

Mr. Chairman, that is where you were focused at the start of this whole process many years ago and I am proud that that is where you are still focused.

Thank you very much.

[The prepared statement of Mr. Rowe follows:]

PREPARED STATEMENT OF BOB ROWE, PRESIDENT, NATIONAL ASSOCIATION OF REGULATORY UTILITIES COMMISSIONERS, AND MEMBER, MONTANA PUBLIC SERVICE COMMISSION

I. Introduction—The Telecommunications Act Toolbox

Mr. Chairman, Members of the Committee:

I am Bob Rowe. I am a Montana Public Service Commissioner and President of the National Association of Regulatory Utility Commissioners. I serve on the Federal-State Joint Board on Universal Service, the Federal-State Joint Conference on Broadband Access (which I will describe), and as Chairman of the thirteen-state Operations Support System Collaborative now working with US WEST and a wide range of competitive providers. Until last November I chaired NARUC's Telecommunications Committee. I am here today speaking on my own behalf.

I thank the Members of this Committee for your thoughtful approach to competition, universal service, and technology deployment. I am sincerely honored to be here today.

Senator Burns, I particularly commend you for your vision and for your leadership. I distinctly remember meeting with you in 1995 when you first described to me your vision for what would become Section 706. You challenged me that we must do more than provide good quality voice grade service to Montana and America. You were thinking about high speed Internet access and other services. You "got it" (as the techies say). Your current work on the "Digital Dozen" bills, as well as your continued work on competition, universal service, and technology deployment confirms that you still "get it."

The Telecommunications Act is a cooperative federalist document. You appreciate the crucial role of states as partners implementing your vision, and you gave us tall orders. I am pleased to report that state commissions and the FCC have forged a better, more productive partnership than existed several years ago. You helped make that happen. For example, tomorrow the FCC and NARUC are cosponsoring a workshop on consumer-friendly billing practices that will involve a wide range of providers and consumers. Technology deployment is another key area for Federal-state cooperation.

State commissions and state governments are using many strategies to promoting access to advanced technology. Attachment 1* is an article, "Strategies to Promote Advanced Telecommunications Capabilities," published in the *Federal Communications Law Journal* in March. The article outlines why these issues are so important to State economic and community development. It also summarizes some approaches

* Attachment 1 has been retained in the Committee files.

states are taking and the basis for the “cooperative federalist” approach I will describe today.

Fortunately, in addition to tall orders Congress gave us good tools. I will start by suggesting that there are many digital divides, not just one. I will then describe the good work of Montana’s rural cooperatives and independent telecommunications companies, which give us examples of strategies that are currently working and the barriers they face. Then I will describe the tools in the Telecommunications Act toolbox. I will focus on Section 706, but will also mention the competition and universal service tools in the toolbox.

II. Not One Divide But Many

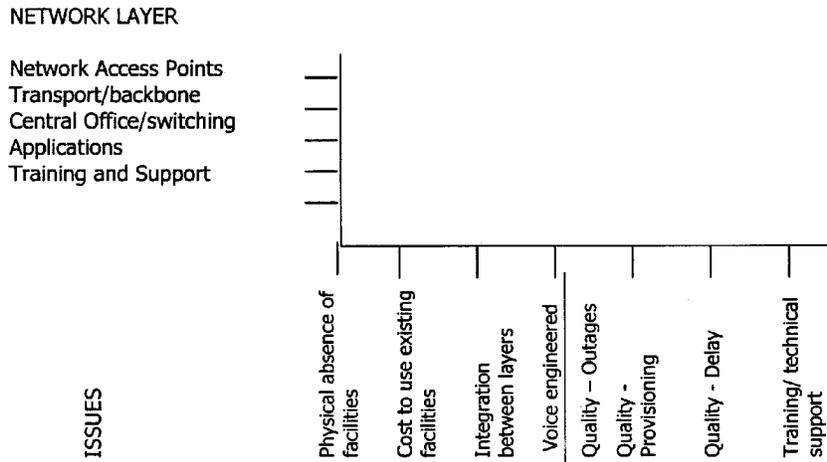
Over the last several years, I’ve become convinced there is no one “Digital Divide.” Rather, there are *many* digital divides, and they may occur where least expected. The Section 706 Joint Conference will help us understand the specific nature of the broadband access problems in communities all across the country.

Based on what I’ve learned so far, I look at the “digital divides” on two axes: First, by layer of the network (from Network Access Points all the way down to the customer). In a particular situation, is the concern backbone or transport facilities? Internet points of presence? Is it switching? Is it loop facilities (of whatever type)? What are the relationships between layers of the network (switching and backhaul, for example), or the trade offs between investing in improved signal processing and investing in new distribution plant?

On the customer level, is the problem access to customer premises equipment or other network devices? Is it absence of appropriate applications? Or is it a question of human capital, possibly addressable through technical support?

On the other axis, I think about the types of problems faced at the particular network layer. Is the concern the physical absence of facilities in a particular layer? This is certainly an issue in some areas. Is the problem congestion or exhaustion of facilities? Is the problem the price to use existing facilities? This is a real problem in some areas—distance still costs money. Or, is the concern quality? (For example, outages, slow or incorrect provisioning, difficulty handling a complex order, or insufficient technical support.) Quality problems are big concerns in some areas, and for some customers. They can directly affect investment decisions by businesses considering where to locate or whether to expand. All the disparate issues I just summarized have been described to me by customers complaining specifically about what they (not me) labeled as the “digital divide.”

**MULTIPLE DIGITAL DIVIDES
NETWORK LAYERS AND ISSUES**



It may also be useful to think of digital divide issues based on the density of the customer base and the level of demand for advanced services. In a high-density area with high demand (for example a commercial core), competition solutions may solve

any problems quickly. If a good business opportunity exists, the market will respond.

In a high-density/low-demand area (perhaps a lower income urban neighborhood) community and economic development strategies may make the most sense. These might include community access points, training programs, or even loaning laptops to schoolchildren, as has been done successfully.

In a low-density/high-demand area (possibly a rural area with a high level of dial-up Internet use) universal service, aggregation (taking advantage of competitive opportunities), and new technology may all help solve the problems. Perhaps something like an Agricultural Extension Service for technology could help overcome demand-side barriers.

In a low-density/low-demand area the full panoply of strategies might be required. Education and other creative approaches may be needed to promote demand in order to justify expensive deployments in some areas.

DENSITY/DEMAND

HIGH DENSITY/HIGH DEMAND Competition/market solutions	HIGH DENSITY/LOW DEMAND Economic and community development
LOW DENSITY/HIGH DEMAND Universal service, aggregation, technology	LOW DENSITY/LOW DEMAND "Throw the book at 'em'"

The bad news is that there is no one strategy that will bridge all the digital divides.

The good news is that there are a multitude of approaches, each appropriate to address specific problems, and—in combination—to bridge the many digital divides. The good news is that there are enormous opportunities for creativity. The good news is that we can work together to solve real problems in real communities.

III. Successes on Which to Build—Some Stories from Big Sky Country

Montanans are excited about advanced technology. They're using what they have, and eager for faster and more robust access. Investment in telecommunications infrastructure, it is now agreed, leads to greater economic activity generally.¹

- Streaming Solutions, Inc. (www.ss-i.com), based in Cut Bank, is a premiere provider of audio and video streaming systems. It has developed a range of strategic partnerships, and is eager to pursue global opportunities that will require good connections to the rest of the world.
- Based in Missoula, [HealthDirectory.com](http://healthdirectory.com) (<http://healthdirectory.com>) provides the nation's fastest growing database of Medical Society members' web pages, and provides innovative web-based health information to consumers around the nation.
- Stream International, which provides Internet and voice-based customer support services for world-class technology companies and e-businesses, recently opened a customer and technical support center in Kalispell that may eventually employ 500 people. Their decision was based in significant part on the quality of telecommunications available from Century Tel, which will provide redundant Sonet Ring technology and two way access out of the Flathead Valley. (<http://www.stream.com/Stream.nsf/18ab8bd0d1e8cf818525663c001342ed/0d72dfc5c007ec93852568ab004e9304?OpenDocument>).
- Dynamic community-based networks include the KooteNet in Libby (<http://www.libby.org>) and Dillon-Net (<http://www.dillon-net.org/>), both of which play valuable roles in these rural communities.

At each level of the network, it's possible to point to tremendous successes. Those successes should be our models. I will focus on the good work of Montana's rural telephone cooperatives and companies, which don't get their story told often enough. I'm pleased that Montana-based Touch America will be participating in today's hearing. They also have a great story to tell. US WEST has all digital switches and interoffice facilities, and has deployed Frame Relay. It has also deployed DSL in

¹ See, Edwin Parker, et al., *Electronic Byways: State Policies for Rural Development Through Telecommunications*, 2nd ed., (Aspen Institute, 1995), chapter 6, for a summary of the literature.

Helena. AT&T has begun providing high-speed cable service in Billings. Several national carriers, including Avista and PSINet are also providing service in Montana.²

Montana's rural providers have massively rebuilt their local networks, with crucial support from universal service mechanisms and, in some cases, Rural Utility Service loans. These networks are of sufficient quality to support provision of wide-band for those customers close enough to be directly served from the central office. Almost all Montanans now have dial up Internet access.

A Montana consortium of rural cooperatives and small telcos has built the ATM-based MAIN (Montana's Advanced Information Network) network, which will finish looping most of Montana this year. Together, these companies have deployed over 5,000 miles of fiber. (Attachment 2* is a map of the MAIN network.) A related consortium, Vision Net,³ connects approximately ninety switched video studios, mainly in rural Montana and including a number of studios on Indian Reservations. (Attachment 3* includes video studios connected to the Vision Net network.) Many rural providers are committed to providing DSL and other services to their members over the coming year. These efforts are important, but may be risky. And, the further out access is deployed, the more expensive and therefore risky it becomes.

For example, the Jordan exchange, served by Mid-Rivers Telephone Cooperative, includes 790 access lines in an area of 4025 square miles. The capital cost of providing DSL to the 397 customers served directly from the central office will be only \$38 per customer, and Mid-Rivers will make this investment. In cold contrast, the average capital cost to provide DSL to the 390 customers too far away to be served directly from the central office is nearly \$32,000 per customer. It is impossible to make a business case to recover all of these costs.

EXCHANGE JORDAN SQUARE MILES 4026	TOTAL ACCESS LINES 790	CDOSA ACCESS LINES 397	DLC SUBS UPGRADE D 390	CDOSA DSLAM COST \$15,000.00	DLC EQUIPMENT COST \$2,028,912.00	DLC FIBER ADDITION 388 MILES	DLC FIBER COST \$9,700,000.00	DLC COPPER ADDITION 82 MILES	DLC COPPER COST \$574,000.00
COST OF CDOSA UPGRADE	\$15,000.00		PER SUB COST WITHIN CDOSA	\$37.78		AVERAGE COST OF UPGRADE PER SUB	\$15,651.73		
COST OF DLC UPGRADE	\$12,302,912.00		PER SUB COST OUTSIDE CDOSA	\$31,545.93					
TOTAL COST	12,317,912.00								

Once high-speed service is deployed locally, that traffic must be carried to the backbone network. A high-speed information side street is of little value if it connects to a washboard-surfaced country road at the edge of town. The presence of good capacity networks such as MAIN is essential to complete the link. Vision Net is also developing ways to provide cost-effective Network Access Point (NAP) connections using a combination of existing and new facilities. Skyland Technologies, Inc., also a consortium project recently opened a "fiber hotel" in Billings. The facility provides high-quality interconnection (caged or cageless) with redundant access to multiple networks, for a variety of national and regional carriers. Attachment 4, provided by Montana Independent Telephone Systems, describes MAIN, Vision Net, the Network Access Point peering proposal, the Skyland fiber hotel, and also several carriers' work to provide DSL and to improve service on the Crow Indian Reservation.

These examples raise questions:

- What kind of support do successful efforts need to thrive?
- How can they be replicated in other areas?
- How can we build on or better these accomplishments?

IV. The Competition Tools

The competition tools involve opening up local networks (I think of them as "hub networks") through tools such as interconnection under Sections 251 and 252. It has been a challenge for the FCC, state commissions, and (unfortunately) the courts to set the right balance between incumbents and competitors over the past four years. As Justice Stephen Breyer remarked, "It is in the unshared, not in the shared, por-

²Consistent with Section 706, retail provision of pure data service is not regulated in Montana. This presents the challenge and the opportunity of working with providers in different ways to promote access. Of course, to the degree wholesale networks are open to competition and firms are competing at the retail level, traditional retail regulation is less important.

³MAIN and Vision Net's sponsors are generally members of either the Montana Telecommunications Association or Montana Independent Telephone Systems.

*Attachments 2 and 3 have been retained in the Committee files.

tions of the enterprise that meaningful competition would likely emerge.”⁴ I am pleased to report that “line sharing,” through which a competitor can lease the unused high frequency of a local loop to provide Digital Subscriber Loop (DSL) will be a successful competitive tool in Montana. US WEST and competitive providers are currently negotiating a multi-state DSL agreement, that I expect to be finalized soon. Competitive providers, especially including Montana-based companies, will use their own DSL facilities over shared lines to provide DSL in several Montana towns. This will likely trigger a healthy competitive response from US WEST. That’s just how competition is supposed to work, and just what Congress intended in opening local markets.

Section 271 is another critical competition tool you gave us. The nuts and bolts of opening markets, which you laid out in the competitive checklist, are not an easy task for anyone. Success requires absolute commitment and focus. Fortunately, four years after the Act passed, parties on both sides have moved past the posturing and are hard at work to succeed. The structure of Section 271 creates two especially important roles for state commissions: developing a thorough record, and—especially—working with the Bell Operating Company and its competitors to solve problems and implement systems that work. State commissions including New York and Texas have devoted substantial resources (including lots of creativity) to using the Section 271 tool to construct the framework for competitive local markets in their states. Where that tool is used well, as in New York and Texas, the FCC should give especially great weight to state commission decisions. That is what occurred in New York. That is what should occur in Texas.

Thirteen commissions in states served by US WEST are working together on a collaborative effort to conduct independent, third party testing of the Operations Support Systems (OSS) that are critical to the success of local competition. That process is open to all competitors, with all documents available on the Web (<http://www.nrri.ohio-state.edu/oss.htm>). Both US WEST and the competitors are working together seriously and in good faith. Issues associated with the ability of competitors to provide DSL are an important part of the Regional OSS Collaborative. (While the pending US WEST-Qwest merger presents many serious issues now being examined by state commissions including Montana’s, it is my *personal* belief that one result of the merger has been to focus US WEST much more clearly on opening its local market.)

In March, NARUC adopted a resolution affirming its support for the 1996 Act; opposing legislation that would permit the Bell Operating Companies to provide data services across LATA boundaries without first fully opening their local markets to competition as required under the 1996 Act; or, that would limit the ability of public utility commissions to fulfill their obligation to regulate core telecommunications facilities used to provide both voice and data services and to promote deployment of advanced telecommunications capabilities. We took this action because Section 271 is a valuable tool that states are using effectively to open markets, which in turn is helping to spur deployment of new services.

V. The Universal Service Tools

I was recently appointed by FCC Chairman Kennard to the Federal-State Joint Board on Universal Service. (Attachment 5 is my statement at the March 6, 2000 Joint Board meeting.) Over the next year, the Joint Board will be considering an appropriate high cost fund mechanism for the hundreds of small companies that provide generally excellent service throughout rural America. We will be paying particular attention to the reports and recommendations of the Rural Task Force.

In Section 254(b)(2) you instructed us that, “Access to advanced telecommunications and information services should be provided in all regions of the Nation.” In Section 254(b)(3) you declared that residents of rural and insular areas should have access to “reasonably comparable” services, including advanced services, at prices that are reasonably comparable to those in urban areas. In Section 254(c)(1) you directed us to consider the “evolving level” of universal service, taking into account whether services are “subscribed to by a substantial majority of residential customers.” I hope the Joint Board will be considering all these issues. Additional FCC proceedings, including those concerning the cap on the size of the high cost fund for rural providers⁵ and the consideration of bandwidth that will be supported

⁴ Separate Opinion of Justice Breyer, concurring in part and dissenting in part. *AT&T Corporation v. Iowa Utilities Board*, 525 U.S. 366, 429; 119 S. Ct. 721, 754; 1999 U.S. LEXIS 903, 102–103 (S.Ct. 1999).

⁵ See Comments of the Montana Telecommunications Association Regarding Rural Telephone Companies Seeking Removal of Individual Caps Placed on High Cost Loop Support (February

by high cost fund⁶ are also relevant. These present complex questions with often conflicting objectives among parties. The outcomes, however, will directly affect the provision of high quality basic and advanced services to many parts of this country. I will not comment on whether “Eligible Telecommunications Carriers” should be *required* to provide *all* customers advanced services in order to receive high cost fund support. However, it is significant that perhaps as many as seventy percent of all customers are within 18,000 feet of the central office, which is currently considered the maximum reasonable distance for most DSL service. It has been estimated that as much as eighty percent of the loop enhancements necessary to provide DSL could be funded under the current system but for the high cost fund cap.

VI. The Section 706 Tools

Section 706 demonstrates how far sighted Congress truly was. Its champions, especially including Senator Burns, told us “do more, don’t be satisfied.” NARUC passed a resolution two years ago saying Section 706 is an opportunity to “grab the brass ring of new technology,” not an “invitation to pick the low-lying fruit.”

Last Summer NARUC submitted to the FCC a detailed proposal for a Section 706 Joint Conference. Specific functions set out in the NARUC proposal included *monitoring* deployment through regional hearings, studies, and other efforts; *activating* stakeholders; *coordinating* efforts by seeking synergies, removing barriers, and transferring implementation to stakeholders; and *disseminating* information to those best able to use it. The proposal also discussed coordinated *deployment*, for example through “Section 706 zones.”

As we developed the Section 706 Joint Conference proposal last year, we particularly benefited from the efforts of the Alliance for Public Technology, which proposed a Section 706 Joint Board two years ago. The Joint Conference’s success, in my opinion, will depend on the continued involvement of citizens’ organizations, providers, users and potential users at the community level. Through the regional field hearings, site visits and other efforts, I hope we will emphasize the importance of these direct contributions.

Depending on the location, the customer, and the specific circumstances, a particular Digital Divide issue may have a competition answer, a universal service answer, or an answer that involves supporting state and local economic development efforts, for example through training efforts. The Rural Utility Service and NTIA also have important contributions to make.

As Federal and State commissioners, we don’t have all the answers, the resources, or the legislative direction to answer all these questions. And we shouldn’t! I hope through the Joint Conference we will be able to assist in bringing together the parties who can help assemble the pieces in the kinds of creative, new combinations that are the essence of entrepreneurialism.

Within the constraints of Federal law, the FCC worked hard to be faithful to the NARUC proposal. Created in October, the Federal State Joint Conference on Broadband Services is intended as a forum to:

- examine how to accelerate deployment of affordable advanced services to rural and under-served citizens;
- conduct an on-going cooperative dialogue regarding deployment of advanced services;
- promote an exchange of information between and among state and federal jurisdictions; and,
- explore regulatory and deregulatory mechanisms that will facilitate the widespread availability of advanced services.

11, 2000), In the Matter of Federal-State Joint Board on Universal Service, CC Docket No. 96-45. MTA suggests that modifying or removing the overall cap on universal service support for high cost rural providers would be a key step in expanding access to higher speed services in rural areas.

⁶See Comments of Rural Utilities Service, In the Matter of Common Carrier Bureau Seeks Comment on Requests to Redefine “Voice Grade Access” for Purposes of Federal Universal Service Support, CC Docket 96-45. RUS suggests that the FCC should redefine voice grade access to require bandwidth comparable to the real level of performance of urban voice grade service, specifically 3400 Hertz; that voice grade access service should include the requirement to provide 28.8 Kb/s modem connection to the substantial majority of rural customers, since the substantial majority of urban customers receive this performance; and, that states should be authorized to “grandfather” ETCs who cannot provide this service. Based on its experience implementing the Rural Electrification and Loan Restructuring Act of 1993, RUS believes these plant improvements “cost little if work is done at the time of a plant rebuild that is otherwise necessary.”

Chairman Kennard and his four fellow commissioners will all participate in the Joint Conference. Each will join with State commission members⁷ as co-hosts of regional field hearings. The opening hearing, held in Washington on March 8, included a very lively kickoff and also a site visit focusing on broadband deployment in inner cities. An April 17th hearing in Anchorage will focus on the relationship between advanced services deployment and economic development. An April 19th hearing in Sioux City, Nebraska, will emphasize cable and fixed wireless deployment and rural deployment. A May 22nd hearing in Lowell, Massachusetts, will concern public/private partnerships, deployment in remote areas, and data gathering initiatives. On June 9th, a hearing in Miami will focus on deployment to rural and urban multicultural communities, fixed wireless deployment, and public/private partnerships. On June 23rd, a hearing in Cheyenne, Wyoming (with a Montana segment on June 21st)⁸ will focus on speeding deployment via community demand aggregation, deployment in rural areas and Indian Territory, and data gathering initiatives. Information about the Joint Conference is available at its web page, www.fcc.gov/jointconference.

The Joint Conference is an exciting project. It will help move us beyond the “Telewars” the armies of lawyers and advocates have been fighting, and focus us instead on what we can accomplish together. The most exciting and important work, however, will not occur in public hearings. It will take place in the big cities, in the small towns, and on the “frontiers” (as we say in Montana), where people are working diligently and creatively to solve real problems.

ATTACHMENT 4—PARTIAL SUMMARY OF KEY SMALL COMPANY INITIATIVES

DSL Services:

- Nemont and its Subsidiaries

Valley Telecommunications has just installed its first equipment and is already offering DSL services to more than 30 customers in Glasgow. Equipment has been ordered (some has already been delivered) and will be installed this spring in six other exchanges operated by Valley, Nemont Telephone Cooperative, and Project Telephone Company. By mid-summer, 9,151 of the three companies' combined 19,582 access lines will be able to access DSL—this amounts to a 47% penetration rate as far as access goes. Of the 9,151 lines, 4,133 will be on the Fort Peck and Crow Indian Reservations. The three companies are now looking at new HDSL technology that can be repeated and therefore has a range of 28,000 feet that will allow a broader roll-out of DSL service in the next phase. Unfortunately, there will still be some customers who simply live too far out to be accessible via existing DSL technologies. Therefore, the companies are continuously exploring new technologies with various vendors and equipment manufacturers and will extend the reach of their broadband services farther and farther out as new solutions become available.

- Triangle and Central Montana Communications

While Triangle and CMC have not yet begun selling DSL, they have selected an equipment vendor and anticipate rolling out DSL in their four largest exchanges by the end of July. Their goal is to roll out DSL service in another 10–12 exchanges by the end of 2000. As with the Nemont companies, they will continue to look at developments that will allow the service to be pushed further out into the more remote locations in their service areas.

Project Telephone Company Service to the Crow Reservation:

Project serves more than 1700 access lines on the Crow Reservation in four exchanges, Crow Agency, Lodge Grass, Wyola and Fort Smith. Since 1994, when the exchanges were acquired from US WEST, Project has invested \$1,869,054 to improve and expand the exchanges. These improvements, which included the installation of digital switches and fiber optics, allowed the provision of equal access and custom calling services. Dial-up Internet access on a toll-free basis has been available to all subscribers since 1997.

Contrary to recent allegations by Western Wireless, Project's facilities are available to more than 99% of the homes and businesses on the Crow Reservation and more than 72% of the residential homes on the reservation currently subscribe to Project's service.

⁷Chairman Nanette Thompson of Alaska, Jo Anne Sanford of North Carolina, Brett Perlman of Texas, Irma Muse Dixon of Louisiana, Furtney of Wyoming, and Bob Rowe (ex officio).

⁸We are exploring the possibility of holding the hearing over the Vision Net System, and of streaming it over Streaming Solutions.

Project is also in the first year of an \$800,000 network upgrade for the two most populous exchanges on the Reservation. On completion of this project, high speed Internet access and other DSL-based services will be available.

Project has also worked closely with Vision Net to bring increased educational opportunities to the Crow Reservation. Vision Net currently has several interactive video education studios on the Reservation, including one at the Little Big Horn College in Crow Agency, Dull Knife Community College in Lame Deer, and at Lodge Grass. One of the studios, installed at the Pryor high school, is not yet fully operational because unfortunately, the Pryor exchange is served by US WEST and US WEST has only one high-speed line (a T1) into the town. Instead of paying US WEST the more than \$444,600 they require to install a second T1 into town, Project Telephone Company will likely bypass US WEST and install a microwave DS-1 facility into Pryor to get the school's studio.

MAIN, Inc.:

Montana's Advanced Information Network, or MAIN is a joint venture of Montana independent telephone companies and cooperatives. MAIN combines the companies' smaller networks across Montana into a state-wide digital fiber network that stretches from North Dakota to the Idaho border. The MAIN network is capable of bringing state-of-the-art telecommunications to vast areas of Montana and can provide circuits at the T1, DS-3 and OC-N levels for applications such as Internet, long distance, tele-medicine, distance learning, video conferencing and data networking. The MAIN network also ties to other networks in the U.S. and Canada to allow access to major metropolitan areas such as Denver, Spokane, Seattle, Dallas, Chicago, Calgary, etc.

Vision Net, Inc.:

Vision Net, a joint venture of five Montana telephone cooperatives, was started in 1995 to provide two-way interactive video to rural schools in the state. The goal of the company is to provide technologically advanced services, and support for community, educational and business development in rural and urban communities throughout Montana. Vision Net utilizes asynchronous transfer mode (ATM) technology, a strong development team and existing fiber networks such as the MAIN network to bring interactive video business and education conferencing, Internet services, Wide Area Networks and broadband transport services to communities throughout Montana. Vision Net has 67 interactive video conferencing studios throughout Montana including studios in over 40 public schools, and studios in many of the state's colleges, including all 7 of the state's tribal colleges.

I have included a map of Vision Net's system in your materials. In addition to the studios pictured on the map, sites have been constructed in Lodge Grass, Crow Agency, Pryor, and Lame Deer on the Crow Indian Reservation. Additionally, the equipment has been ordered to install a new telemedicine network with sites in the hospitals/clinics in Plentywood, Scobey, Poplar, Glasgow, and Malta.

Vision Net's Network Access Point and Peering Concept:

Vision Net currently provides peering on its own network to maximize the efficiency and bandwidth utilization for Internet circuit providers and others on the network and is working out a plan to expand this arrangement to include expanded broadband links to and peering relationships with one or more major Internet backbone providers.

Vision Net currently maintains 2 DS-3 circuits to the Internet backbone. One circuit is provided by Shaw Fiberlink of Calgary, Alberta, and the other by Global Crossing, Inc. Both circuits have been negotiated with an easy upgrade path to OC-3 and higher connectivity. Vision Net also has a multiple T1 connection with Cable and Wireless, that is being upgraded to a DS-3.

Vision Net is working with several of Montana's rural telephone companies, and Montana's university system to develop one or more network access points in Montana, and is in the process of upgrading its peering routers and expanding its BGP-4 peering relationships with its major bandwidth providers. The company is well positioned to provide cost effective statewide peering and NAP services to multiple customers, including local, state and Federal governmental entities, educational and healthcare institutions and ISPs.

Skyland Technologies, Inc.:

Skyland Technologies is a consortium of Montana and North Dakota telephone and electric cooperatives that have constructed a "Neutral Collocation and Network Connection Center" commonly referred to as a fiber hotel. The location of the fiber hotel is in Billings, Montana and offers ILECs, CLECs, IXCs, ISPs and other telecommunications providers the opportunity to physically locate their telecommuni-

cations equipment in a clean, professionally engineered and managed, controlled temperature environment with abundant, conditioned redundant power supplies.

Each tenant can locate equipment inside secured-entry “cages” if desired, or on a leased equipment rack. Tenants will be able to install, maintain, operate, replace and remove their equipment just as if the equipment were located inside their own premises. Although the facility will be secure, tenants will have access to the premises seven days a week, 24 hours a day.

This facility also serves as a physical and virtual meet-me point allowing inter-connectivity between tenants and other carriers. This allows them to share and supply emerging technologies, bandwidth, transit services, and peering arrangements all under one roof in a secure, scalable, non-congested environment. Redundant access to multiple fiber transit networks is readily available. One major advantage of the multiple-carrier environment is that it allows tenants to shop for the best rates and services among competing carriers in a single location. Other services provided by Skyland include equipment installation, maintenance, network monitoring, and diagnostic assistance.

The facility is designed to get carriers up and running quickly (almost “plug and play”), and since the conditioned space, power, etc. is readily available, the carriers will greatly reduce their up-front capital expenditures. Tenants can also “get connected” quickly and inexpensively because their links to other carriers are handled within a single building.

This facility will likely become the site of Montana’s first network access point, providing an aggregation and peering hub for Internet-related data traffic.

ATTACHMENT 5—STATEMENT OF BOB ROWE, UNIVERSAL SERVICE JOINT BOARD EN BANC

I have great respect for the work of the Universal Service Joint Board, for its members and hardworking staff, and also for the Joint Board process. I have been participating in universal service matters referred to the Joint Board for many years, and am honored now to be member. The Joint Board referral process can be slow and sometimes frustrating (like democracy), but allows for thorough consideration of matters that are truly fundamental. Formal referral is not appropriate in every case, of course, and is not always required for the non-Federal Joint Board members’ views to be considered.

Over the coming months, Job Number One will be ensuring that rural customers continue to receive excellent telecommunications service. Members of this Board have correctly endorsed “do no harm” as a guiding principle. The Rural Task Force is documenting the ways in which rural providers truly are different, as well as the key role of high quality telecommunications service in rural community and economic development. Each report the Task Force produces leads to a more complete understanding, and ultimately will allow us to do our job better.

I also look forward to considering the relationship between Congressional direction in Section 254, concerning universal service, and Section 706, directing the FCC and State commissions to promote deployment of advanced telecommunications capabilities. The Section 706 Joint Conference will convene its first face-to-face meeting Wednesday, and will be working hard over the coming months. The FCC will issue its next Section 706 report in the coming months. Informed by both efforts, I hope this Board will be able to consider Section 254(b)(2), which states, “Access to advanced telecommunications and information services should be provided in all regions of the Nation,” and also Section 254(b)(3) which provides that “reasonably comparable” service, including advanced services, should be available to residents of rural and insular areas. Congress, of course, has directed us to consider the “evolving level” of Universal Service under Section 254(c)(1).⁹ I take that charge seriously.

Starting from scratch, I would not necessarily endorse a cost modeling approach. Some criticisms of cost modeling as a basis for universal service support have been trenchant. At this late date, however, the cost model has been implemented for non-rural companies. That model is still very much a work in progress. Formally or informally, I hope this Board will work to improve both inputs and the model itself. Obviously, a model should not be applied to rural carriers unless it demonstrably preserves and advances consumers’ access to high quality telecommunications services.

⁹The evolving universal service definition, the cap on the size of the fund for rural providers, and consideration of required bandwidth are related to one another, and must eventually be reconciled.

Section 254(b)(3) requires reasonable comparability of both rates and service. I hope we will be able to consider more directly what “reasonable comparability” means, especially as we address rural providers later this year.

I am committed to support efficient implementation of the Rural Health Care and Schools and Libraries programs. In Montana, we have worked closely with the USAC, Congressional offices and especially with program participants to ensure these programs are as effective as possible, and that they continue to improve. It is truly exciting to see what is now being accomplished in rural health care delivery, and also by geographically isolated schools and libraries. It is particularly important to support efforts, currently underway, to maximize effectiveness of the rural health care program.

Finally, let me introduce my Joint Board staff member, Joel Shifman, Senior Telecommunications Advisor to the Maine Public Utilities Commission. Maine and Montana, it turns out, have a lot in common. There’s a lot of dirt between phones. Mr. Shifman is intimately familiar with strengths and limitations of various cost models, played a key role helping higher-average cost and lower-average cost states understand one another’s concerns, and knows an enormous amount about the technical and arcane topics with which this Board deals. Name a rural telco almost anywhere in the country, and he’ll tell you more than you want to know about it. He and I share a commitment, as do all of you, to doing the right thing for the citizens universal service is designed to benefit.

Commissioner Ness and Commissioner Schoenfelder, I commend you for your leadership on this Board. I appreciate your dedication and hard work, along with that of the other Joint Board members and—especially—the great work of the Federal and State staff.

I am delighted to be a member of the team!

Senator BURNS. Thank you, Commissioner.

I just have one question, and I think it is kind of parochial of you and I in the State of Montana. It seems like that more of the aggressive companies are offering broadband on the assumption that if you build it they will come. Mid-Rivers is an example of that. They are offering DSL services or will be pretty quick in eight rural Montana counties.

Tell me in your own assessment, how do you assess the demand for broadband in Montana? Is the demand there?

Mr. ROWE. There is demand. My view is that we want people to get as much value out of the network as possible. There are areas where people are not connected in the way that we would like. I talk a lot about work that we have done up in Libby, Montana. A few years ago, basically folks up there just wanted to be able to get a rapid verification of a charge card. Well, at the community level people in KootenNet went out and showed everyone else how to use that system. The level of demand went up and up and up, and you have got towns like Libby who are always kind of one step out ahead of me and two steps out ahead of the local phone company up there. That is because they are seeing the value.

So that is a good example of how things such as the Burns Center at Montana State University can go out, work with communities to push them up that learning curve.

Senator BURNS. Tell me—and I also would enjoy your comments—and by the way, as a result of your March 8th meeting here you had the resolution. Senator Stevens has asked that the resolution be made a part of this record and I think it should be, and without objection it will be.

[The material referred to follows:]

NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS

RESOLUTION

**Resolution Regarding Broadband Legislation
In the 106th Congress**

WHEREAS, The stated goal of the Telecommunications Act of 1996 (1996 Act) is to provide for a pro-competitive, deregulatory framework “designed to accelerate private sector deployment of advanced telecommunications and information technologies and services to all Americans by opening all telecommunications markets to competition;” and

WHEREAS, Several bills being considered in Congress would amend the 1996 Act to allow the Bell Operating Companies (BOCs) to provide in-region, interLATA data services without first having to comply with the market-opening requirements of the 1996 Act, including the fourteen point “competitive checklist” requirements of Section 271; and

WHEREAS, Some of these bills also contain provisions that would limit State commissions from enforcing the market-opening requirements of Section 251 for data and advanced services, thereby denying States from fulfilling their obligations to regulate core telecommunications facilities used to provide both voice and data services, and to promote deployment of advanced telecommunications capabilities; and

WHEREAS, Soon the majority of traffic carried over the public switched network will be sent over packet-switched networks, and as such, technical distinctions between voice and data will become less relevant; and

WHEREAS, State commissions have been at the forefront of implementing and enforcing the market-opening requirements of the 1996 Act and in working with the BOCs and competitive local exchange carriers to advance BOC progress towards compliance with those requirements; and

WHEREAS, In approving Bell Atlantic’s application to provide in-region, interLATA services in New York, the FCC made it clear that it will rely heavily on the factual record developed by State commissions and the States’ rigorous analysis of the evidence in considering whether to grant future 271 applications; and

WHEREAS, The FCC also stated that it will work in concert with the States to monitor post-interLATA entry compliance by the BOCs; and

WHEREAS, Southwestern Bell recently filed its Section 271 application with the FCC, following an extensive review by the Texas Public Utility Commission, and several other States presently are reviewing BOG compliance with Section 271 requirements; and

WHEREAS, In addition to the coordinated effort on Section 271, the States and the FCC have established a joint conference to cooperatively address the numerous and complex issues associated with the development and deployment of advanced telecommunications capabilities to all Americans, consistent with the objectives outlined in Section 706 of the 1996 Act; and

WHEREAS, This unprecedented level of coordination and cooperation by State and Federal regulators to (1) implement the market-opening requirements of the Act, (2) promote and ensure BOG compliance with Section 271, and (3) foster the deployment of advanced telecommunications capabilities to all Americans, demonstrates that the 1996 Act is working as Congress intended; now therefore be it

RESOLVED, That the Board of Directors of the National Association of Regulatory Utility Commissioners (NARUC), convened in its March 2000 Winter Meeting in Washington, D.C., reaffirms its support for the 1996 Act; and be it further

RESOLVED, That the NARUC opposes Federal legislation that would permit the Bell Operating Companies to provide data services across LATA boundaries without first fully opening their local markets to competition as currently required under the 1996 Act; and be it further

RESOLVED, That the NARUC further opposes Federal legislation that would limit the ability of State public utility commissions from exercising their authority and resources to fulfill their obligation to regulate core telecommunications facilities used to provide both voice and data services and to promote deployment of advanced telecommunications capabilities.

*Sponsored by the Committees on Telecommunications and Finance and Technology
Adopted by the NARUC Board of Directors, March 8, 2000*

Senator BURNS. I would like your assessment right now as far as our State is concerned on the US WEST-Qwest proposed merger.

Mr. ROWE. Sure. We held a hearing, Mr. Chairman, last week at the commission on the US WEST-Qwest merger. A number of parties said that that merger should be conditioned in a number of ways, primarily focusing on service quality, opening markets. Qwest and US WEST said there should not be conditions on the merger.

I will say that in my opinion one benefit of the merger right off the bat is that US WEST has become extremely focused on the section 271 process. When the merger was announced, US WEST became very interested in and now is very committed to the regional collaborative. So I think that there are some potential very positive elements of the merger. I expect those will be reflected in the commission's order approving the merger. But I think we do need to do a good job paying attention to the service quality issues and the competition issues.

Senator BURNS. Senator Breaux.

Senator BREAUX. Since I do not speak Montanan, I think I will just yield my time.

Senator BURNS. We do not speak Louisianan, either.

Senator BREAUX. Thank you.

Senator BURNS. Senator Stevens.

Senator STEVENS. Thank you very much, and I apologize for talking to my colleague while you were speaking. But I appreciate the way you are working with the Alaskans on this issue.

Thank you very much.

Mr. ROWE. Thank you very much.

Senator BURNS. Senator Dorgan.

Senator DORGAN. Mr. Chairman, let me just thank Mr. Rowe. He has distinguished himself in many ways on these issues and as a national leader in State utility regulator circles, and let me thank him for coming today.

Mr. ROWE. Thank you very much.

Senator BURNS. Senator Brownback.

Senator BROWNBAC. No questions for the witness.

Senator BURNS. Senator Rockefeller.

Senator ROCKEFELLER. Good morning. Thank you, Mr. Chairman. It is your favorite titan speaking here.

Bob, what percentage today and what percentage 5 years from now of transmission is going to be data as opposed to voice? Those are 2 questions, today and let us say 5 years from now.

Mr. ROWE. Mr. Chairman, Senator, clearly the trend is moving rapidly toward data. I think most people would say that a significant majority of traffic is data now and that that majority will increase over time. My preference would be to see—

Senator ROCKEFELLER. What do you mean by "significant"? Just give me a vague number?

Mr. ROWE. Certainly well over half.

Senator ROCKEFELLER. That is today?

Mr. ROWE. Yes.

Senator ROCKEFELLER. That is today, so in 5 years, it might be 80 percent?

Mr. ROWE. Certainly. You have heard a number of numbers suggested. My own experience is 100 to 200 e-mails a day, only 3 or 4 voicemails a day. So you can generalize from that. I do not think my experience is unique at all.

Senator ROCKEFELLER. Now, let me ask you the same question on broadband with accelerated services, today, 5 years from now, voice, data?

Mr. ROWE. In terms of on the broadband network, how much of the traffic on the broadband network is voice, how much is data?

Senator ROCKEFELLER. Yes. Today there is relatively little of it out there, but let us say today and 5 years from now.

Mr. ROWE. Most people expect that over time voice will increasingly be carried over what we would now call the data or the broadband network.

Senator ROCKEFELLER. The people that have data could then slip voice into that?

Mr. ROWE. That is correct, and I think there is from an engineering point of view—I think most experts would prefer to see the network evolve as an integrated network capable of carrying digitized information of any form.

Senator ROCKEFELLER. All of this except in some urban areas excludes, still leaves separate, the last mile, does it not? All of the Congressman's discussion, etcetera, he never mentioned the last mile. The last mile is still very much at stake, is it not?

Mr. ROWE. Mr. Chairman, Senator, as I suggested in my written testimony, there are digital divide issues at every layer of the network right down to the last mile loop, which is crucial in many areas. There are different technologies to get at each of these different issues. You can go further, right down to the customer level, and I think that is what the chairman was asking about.

Senator ROCKEFELLER. Now, I have seen maps of what Bell Atlantic's plan for broadband in West Virginia is and, just as Representative Tauzin showed Louisiana, it is sort of the same thing in West Virginia. When you look at their map and when you look at a couple of others who are thinking of doing business in there, their map includes today actually only two cities, Charleston and Huntington. In several years, they would include 5 of the 55 counties of the State. That is not only true of Bell Atlantic, but another company which is coming in thinking of doing competition against them.

Pennsylvania recently gave a rather large public service something, financial break, to Bell Atlantic to get them to extend outwards into rural areas. Bell Atlantic got the financial break and Paul Margie, who works with me, said that as of his last reading they had done virtually nothing to extend services out into rural areas.

It is obvious that the telephone and communications companies want to bypass all of this and not worry about inter-LATA data or anything else. If we did what Senator Brownback and Congressman Tauzin and others want, would they in fact build out?

It is a genuine question because, as Senator Stevens says, it still takes a long time. If you are, what is it, 18,000 feet away from

something, the DSL does not do you any good. So my question is why would I have confidence? They are here in such force, standing all the way around the room. It is like a Staggers Act hearing, only you never see the room so full. And they want complete freedom.

They were the ones that asked for the law in 1996. I did not get any telephone calls, any postcards, any conversation from any constituents in West Virginia saying let us deregulate telecommunications, not once, not once, except from all the companies that wanted it. So now they want to claim that the Internet was not really thought of then, but enhanced services, whatever the phrase is, were included, so all of that was anticipated, and they want a free ride.

But they want a free ride bypassing—and he says, well, we will not bypass the 14 points, but the 14 points would be, I am thinking he is thinking, really for voice more than for data. And in any event, even if they get all of it, what is the assumption that I can make that they will go ahead and do it?

Mr. ROWE. Mr. Chairman, Senator, I am not going to suggest good motives or bad motives. I am not going to suggest bad motives on the part of anyone. My belief is that there is plenty of opportunity, plenty of challenge for all of the different kinds of players in the telecommunications industry. We need all of them to be focused. And I have seen good examples of good work by everyone from the biggest Bell operating company or ATT right down to the very smallest carriers that Chairman Burns described.

My interest is in using the tools that Congress gave us, keeping everyone focused laser-like on opening up the local market. That is the reason that we have put a tremendous amount of energy into making the 271 process work in the rural West. If we do that, the first result will be that competitors will be able to come in and provide all kinds of services from voice up to the particularly exciting value added services, and I expect to see Montana-based companies doing that. That is the first result.

The second result then will be that the Bell operating companies will be able to use their networks end to end, and that is a very important goal.

The third result and the most important, though, is that customers, if we are successful, will have more choices of providers, more choices of services, and more choices of quality. When we get through that, then Congress also gave us a very important tool in section 10, which is the ability to forebear from regulation that is no longer needed, and Congress was very specific in crafting the forbearance provision.

So that is the sequence that I would like to see.

Senator ROCKEFELLER. Thank you very much.

Thank you, Mr. Chairman.

Senator BURNS. Thank you.

Building on what Senator Rockefeller was talking about with the Bell Atlantic 271 approval in New York, I think the focus now shifts to Texas and SBC. Would you have any thoughts on that application there?

Mr. ROWE. Mr. Chairman, as we were scoping the multi-state effort in the West we looked very closely at New York and at Texas. As part of that we spent time interviewing essentially Department

of Justice representatives, FCC representatives. So I do have some familiarity with the Texas process.

The Texas Commission did an extraordinarily intensive job. They used collaboratives. They had approximately 30 face to face meetings between the Bell company and the different competitors, including all kinds of different CLEC's. They used actual loads to test the operations support systems that are so critical. They addressed all of the issues from co-location through provision of DSL services, on and on and on.

So the Texas product was very, very high quality. It was like New York in that it was an open, collaborative process that used a third party tester. It was different from New York in that, instead of having a pseudo-CLEC, they were able to use actual loads. The Texas process also includes very aggressive post-entry conditioning, which of course became an issue in the Bell Atlantic situation in New York several weeks ago.

So it is a very, very high quality product. When a State commission does the kind of work that New York did or that Texas did, I think that that work product should be entitled to very, very great weight by the FCC, and I certainly hope to see that.

Senator BURNS. Thank you very much.

Senator Dorgan, do you have a question?

Senator DORGAN. Mr. Rowe, just one question. If the incumbent LEC wants to meet the checklist, obviously all the questions that were raised by Mr. Tauzin today evaporate. I mean, if they meet the checklist that infrastructure then is available for the movement of data inter-LATA, right?

Mr. ROWE. Correct.

Senator DORGAN. First of all, a number of the incumbents, the Bell companies, have not applied to meet the checklist. Some have. One has been approved, another is pending. I guess the question I ask you as a regulator is this. If you were running a regional Bell company and you decided as a CEO, look, the position of our company is we are going to go meet that checklist, we are going to do it as quickly as we can and as completely as we can. We are going to be open for competition because we want to go into long distance, if a company makes that determination is it likely that they will be able to move through this 271 process in a reasonable time?

Mr. ROWE. Mr. Chairman, Senator, I am back at the part of the question where you made me a CEO of a Bell company.

The 271 process is tough.

Senator DORGAN. Well, get over it.

[Laughter.]

Mr. ROWE. I am awake again.

The 271 process is tough for everyone. The competitors and the incumbents, have to be focused on getting through that process. They have to be acting in good faith. They cannot be gaming it.

The State commissions have I think been enormously creative in trying to put together ways to get all the parties through that process. I think we know how and I think you can do it.

Senator DORGAN. Is it tough if the culture of your company as established by the CEO is, this is something we want to do, we want to do it expeditiously because it is part of our company's plan to do this? Is it tough in those circumstances?

Mr. ROWE. It is hard work, it is intensive work, but it is important work and it can be done.

Senator BURNS. Thank you very much, Commissioner Rowe. We appreciate you coming this morning and sharing your thoughts on this very important part of our communications work here. We look forward, and there again your resolution has been made and your full statement will be made a part of the record, and we appreciate your good work on this. Bob, thank you for coming from Montana.

Senator ROCKEFELLER. Mr. Chairman, Mr. Chairman.

Senator BURNS. Yes.

Senator ROCKEFELLER. Could I just ask a quick question as he is pulling away?

Senator BURNS. Yes.

Senator ROCKEFELLER. I thank you for that.

In answering my question, I had a vaguely uncomfortable feeling that you were not dodging me, but that you were being very careful in your words. The resolution that NARUC passed was not vague. There was nothing vague about it. You did talk about that, and in the resolution, you basically said that a deregulatory approach is not something that we contemplate as being in the public interest, did you not?

Mr. ROWE. Mr. Chairman, Senator, the resolution did say specifically that the section 271 procedure should be complied with and that it should be complied with for all services, that data should not be separated out.

Senator ROCKEFELLER. So the answer is yes?

Mr. ROWE. Yes.

Senator ROCKEFELLER. Thank you.

Senator BURNS. Thank you, Commissioner. Thank you, and thank you for coming and sharing your thoughts.

We will call the next panel to the table, please. We have: Mr. Roy Neel, President and CEO, United States Telecom Association; John Fitzpatrick, Executive Director of Mergers and Acquisitions for Touch America out of Helena, Montana; Tim Regan, who is Vice President and Director of Federal Affairs for Corning; Mr. Steve Gray, President and Chief Operating Officer, McLeodUSA, Technology Park in Cedar Rapids, Iowa; and David Woodrow, Executive Vice President, Cox Communications.

Gentlemen, we appreciate you coming. I do not know, you may want to take that down. We are going to cover up old John here. We do not want to cover him up.

We are going to start this morning with Mr. Roy Neel, who is President and CEO of the United States Telecom Association, and of course no stranger to these digs. Mr. Neel, we welcome you this morning and look forward to your testimony.

STATEMENT OF ROY NEEL, PRESIDENT AND CHIEF EXECUTIVE OFFICER, UNITED STATES TELECOM ASSOCIATION

Mr. NEEL. Thank you, Mr. Chairman. We are particularly glad that you have scheduled this hearing. It is a critical issue, of course. The digital divide has not only been in front of policymakers but the general public now. It has become a very popular issue and there is some considerable misunderstanding.

I think it is important to point out that I represent not only the Bell operating companies, but more than a thousand smaller independent phone companies, many of whom operate in your States.

What I am here about today is to call on you to act now. A number of you have either introduced bills or are contemplating introducing bills that would extend this technology out into rural areas, underserved areas, low income areas, and so on. These are all good ideas. But the critical thing is to act now. A year in the Internet economy is a lifetime. We cannot afford to wait for another year, much less several years.

I want to address some of these issues in terms of reopening the 1996 Act. Frankly, when the 1996 Act was signed into law 4 years ago the situation was totally different, and that is many light years ago. So that really should not be the issue. Whether or not we are reopening the 1996 Act or changing section 271 is not the issue.

The issue is how are you going to eliminate this digital divide and do what everyone wants to do? We have a view that is not too far from what Congressman Tauzin was stating. Critical to that is going to be the relaxation of inter-LATA restrictions on data, and whether or not data has some de minimis parts of it dedicated to Internet-based telephony or old-fashioned telephone service, voice service, should not be the issue. That begins to sacrifice the good for the perfect. So the issue should not be the trees, but the forest here. How do you want to get this digital divide resolved?

We have in front of us here another copy of the map that Congressman Tauzin was using in terms of where the Internet hubs are in this country. This is a dramatic illustration of the digital divide, especially for small and medium-sized businesses, especially for small businesses in rural areas, and some not so rural. I do not think the citizens of North Dakota consider Fargo all that rural. I mean, it is a major city in North Dakota, and it is not served.

So it is critical that you attack these problems whether or not there is an issue with section 271. Whether you amend it or not, it has got to be changed if you are going to create the incentives to extend this service out.

There are several digital divides, as we have all been talking. There is rich and poor, there is rural, there is urban. In the example here there is also big business, small business. If you are a big user of data services, Citibank or something like that, you can go anywhere in the country and you can spend hundreds of millions of dollars and you can build a dedicated fiber pipe to the nearest Internet access. But if you are a small business operator, you cannot do that. You might be able to buy a T1 line—and that is the extent of my technical knowledge here, Mr. Chairman. You can do that, but it is not going to be all that good, and it is not going to be fast enough to make you competitive with your big business competitors.

So if you live in rural Montana or Kansas or anywhere in West Virginia or in rural Georgia and certainly North Dakota and Kansas and so on, you have no real on-ramp to the Internet for high speed data that allows your business to be competitive. Let me restate that: You have no effective competitive on-ramp to the Internet for your data services.

Now, there may be a lot of ways to solve this, but the first way to solve it is to provide some regulatory incentives to the companies that are already there. If you look at this map, the big red dots, they cover not only where local telephone is served, but this is primarily the CLEC community. They are doing a real good job in those areas. They are taking away customers from the local phone companies like crazy. You know about their Internet activities and their stock prices and the zillions of dollars they have been putting into that market.

But who serves that area covered by blue? Those are served by the local telephone companies. And as Congressman Tauzin pointed out certainly better than I can, the reason that those local phone companies cannot expand those yellow circles is because of the arbitrary LATA boundaries over which they cannot cross to provide these data services.

Let me give you two anecdotes that are really, really dramatic. This relates to economic development in all of your States. It could be a nightmare that was faced in Minnesota. Land's End, big company, data-rich, they were forced to move their entire corporate headquarters from Dodgeville, Wisconsin, which has only about 4200 people, to Madison, which is 45 miles away, because they could not get high speed Internet access to serve their customers. Land's End had to have that. They had to move, take those jobs out of that little town.

Here is another dramatic example. Memorial Hospital in Cortez, Colorado, serves part of Colorado, Utah, and New Mexico. It wanted to serve Farmington, New Mexico, which is 80 miles away, but it had to send its data more than 1,000 miles in a circuitous route instead of the 80 miles that US WEST could provide, simply because of those arbitrary LATA lines. Now, that cost Memorial Hospital money and time and made it less able to serve.

There are just hundreds of examples. You may have read in the Washington Post today about a little town in Texas, Earth, Texas. Read that. That could be the Internet story of the future, and if you do not want a lot of towns in your States to turn into Earth, Texas, then by all means you have got to provide the incentives for the companies that are there now and are willing and able to serve, and those are the local phone companies, the Bell companies and more than a thousand independent companies.

We are not saying the CLEC's are doing anything bad. They are doing a great job, making a lot of money. But if you want to get the Internet access and high speed access out to these areas covered by blue, then you have got to provide that relief.

Senator Rockefeller, to your last question, it is not going to guarantee that Bell Atlantic is going to build those services all through West Virginia, but they are the only ones that are positioned to do that and may do that, given the incentives, because you can bet that these competitive services are not going to be building out there. That is not where the money is.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Neel follows:]

PREPARED STATEMENT OF ROY NEEL, PRESIDENT AND CHIEF EXECUTIVE OFFICER,
UNITED STATES TELECOM ASSOCIATION

Thank you, Mr. Chairman, for giving me the opportunity to testify. I am the President and Chief Executive Officer of the United States Telecom Association (USTA). I am here today on behalf of the over 1100 incumbent local exchange carriers throughout the nation that USTA represents. We appreciate your conducting this vital and timely hearing because our members are on the front lines of the Internet and the thrust of my testimony today is that the current Internet regulatory environment must be reformed.

We need to pass legislation this year that deregulates the offering of DSL and provides interLATA relief for the RBOCs with respect to data services. We must level the playing field with cable modem service.

This relief is not only for the RBOCs but for the over 1000 mid and small companies that USTA represents that offer DSL and are burdened by regulations not faced by their direct competitors—cable modem service.

We are at a critical stage in this country in that we already face a series of digital divides. A great deal of attention has already been paid to the digital divide and separating affluent consumers from poor and middle income consumers. The growing divide between white and minority populations has also been addressed. There are two additional types of digital divides that I am going to focus on today. The first is a digital divide between large businesses and small businesses. The second is the digital divide between urban/rural.

I commend Senators McCain, Brownback, Dorgan, Kerry, Snowe, and Rockefeller for all recognizing the crisis that this country faces with respect to high speed access and the Internet and for taking the lead and introducing their respective bills.

I. High Speed Internet Access—Another Digital Divide

Today, high speed Internet access is made available on an economically feasible basis three ways. First, there is fiber optic cable. This is being provided primarily by Competitive Local Exchange Carriers (CLECs). The laying of these fiber optic cable is the reason why you see the city streets being torn up time and again, but CLECs are not deploying fiber in rural areas.

The second way is Digital Subscriber Line service (DSL). DSL is a service that incumbent telephone companies (ILECs) and others provide. By adding advanced equipment and conditioned local telephone lines, high speed Internet access by means of DSL can be provided over the same copper wires used for plain old telephone services. Data Local Exchange Carriers (DLECs) also offer DSL service, but it is almost an entirely derivative service, as DLECs are able to provide their service only by collocating their equipment in the ILEC's central telephone office and by making use of the ILECs local telephone wires, which ILECs are required by law to provide to DLECs at very low rates. DSL deployment in all areas, but especially in rural areas is being constrained by the lack of regulatory relief for these advanced services.

Third, cable operators provide high-speed access to the Internet by means of high capacity (broadband) cable wires. This is called cable modem service and is primarily a residential service.

What then is the Digital Divide? The CLECs provision of high speed access is almost exclusively limited to business customers located in downtown business areas or in an edge city. In Washington, for instance, that means the K Street corridor and Tysons Corner. Cable operators because of their historical provision of cable television service are located and provide service to primarily residential customers. So, if your area business is not located downtown or in an edge city, your only real possibility for high-speed Internet access is DSL, and unfortunately DSL is the only one of these three approaches subject to significant regulatory constraints and requirements. DSL service only exists in some areas, even in urban areas, because pervasive regulation is retarding deployment. It is, thus, not available everywhere.

If you are either a business or residential customer in a rural area where their exists limited Internet backbone facilities and little or no high speed access you are doubly burdened in your ability to obtain high speed Internet access, as you will have neither local nor long haul Internet access. If you are business customer located in a downtown business district and you want a competitor to the CLEC service, DSL is your only option, because again cable modem service is primarily located in the residential areas. To see the benefits of competition in the high-speed access market, we need to encourage the deployment of DSL, not hamper its deployment by unnecessary government regulation.

Before continuing, let me summarize what we consider to be the current factors limiting the future development of the Internet, especially for rural, residential and

small and medium business customers. First, there is the fact that DSL is pervasively regulated while other high speed Internet access services are unregulated. Second, especially in rural areas, but also generally everywhere, the restriction on the BOCs, which limits their ability to transmit data across LATA (local access and transport area) lines, limits the opportunity to expand the Internet backbone. The 1996 Act provisions that were intended to ameliorate this situation have not proven effective and the interLATA relief contemplated by the 1996 Act has produced to date authority to cross LATA lines in only one state. These LATA lines are the product of the 1982 AT&T breakup, so they were clearly not drawn with the Internet in mind, but these 1982 lines are frustrating the development of the Internet, especially in rural areas.

Internet Regulatory Freedom

Section 706

Section 706 required the Federal Communications Commission (FCC) to initiate within 30 months of enactment of the 1996 Act an inquiry concerning the availability of advanced telecommunications capability. The FCC commenced the inquiry in August 1998. The purpose of that inquiry was to determine whether “advanced telecommunications capability” was being made available to “all Americans in a reasonable and timely fashion.” Section 706 defined advanced telecommunications capability as “high speed switched broadband telecommunications capability.” If the FCC found that this goal was not being achieved, Section 706 required it to “take immediate action to accelerate deployment.” One of the principal means that Congress intended and provided to be used if this goal was not being achieved was “regulatory forbearance.”

FCC Section 706 Report (February 28, 1999—CC Docket 98-146)

After studying the matter for six months, the FCC concluded on January 28, 1999 that reasonable and timely deployment of “high speed switched broadband capability” was occurring so no “immediate action” of any consequence was required. At that time, the FCC said that high speed Internet access penetration was an acceptable .4%. Even this low figure was an overstatement of the actual penetration in that the FCC appears to have measured penetration based upon the number of high speed access customers as a percentage of residential households—not residential households and businesses. Adding businesses to this calculation would have produced an even lower penetration number. Today, 14 months after the FCC Reports and using the FCC’s same methodology there is only 1.45% high speed access penetration.

Section 706, thus, was intended to address some of the very problems that I have identified. If regulatory requirements were constraining the deployment of advanced telecommunications in a reasonable and timely manner, Section 706 instructed the FCC to eliminate them. The FCC, however, has interpreted Section 706 so narrowly as to virtually write Section 706 out of the Act. Section 706 was intended, in our view, to be stand alone authority to deal with this specific problem. The FCC, however, determined that Section 706 was constrained by other provisions of the 1996 Act dealing with voice telephone matters. Since the FCC refuses to acknowledge that the statistics show that deployment of advanced services is not happening in a reasonable and timely manner, I believe the Congress must act again in a manner that has no such statutory interpretation limitations.

There Is a Digital Divide and it Continues

My testimony today is that there are multiple digital divides. The digital divide exists at the local level for both access generally and for high speed Internet access and on the long distance level for Internet backbone. I would reiterate and emphasize once again that one of the primary reasons for this failure to close the high speed access digital divide and Internet backbone divide is regulatory constraints which add cost, time, effort and lack of flexibility to services being offered in a market that one considers to be a monopoly.

FCC Chairman Kennard even refers to this market a “no-opoly” market. DSL (Digital Subscriber Line) service offered by incumbent local exchange carriers is pervasively regulated, everything from tariffs to depreciation to annual reports to rate regulation. I brought this regulatory disparity situation to the Committee’s attention last November in my testimony. Things have not changed since then. Services functionally equivalent to DSL are not subject to any significant regulation, with cable modem services being the classic example—cable operators call this a cable service.

Not surprisingly, cable modem service is growing at a faster rate than DSL. The net effect is that major telecommunications providers, the ILECs, who would do more, could do more and want to do more are frustrated by a regulatory regime de-

signed to regulate two-way voice service in the monopoly service era of 1934! I believe the prevailing Congressional wisdom is that the Internet should not be regulated. When these DSL services are subject to regulation, government regulation has been extended and applied to the Internet—make no mistake about it.

Business Customers

For the residential customer, high-speed Internet access is a way to avoid the “world-wide wait.” To the business customer, high-speed access may be essential, even for many businesses that we ordinarily do not consider to be part of the new economy. If your business is located in the downtown area of a major city or in an edge city (e.g., Tysons Corner), you have a plethora of high speed access service providers and service options and more are coming all of the time. If you are a small or medium size business outside those limited geographic areas, your high-speed Internet access options are very limited—if they exist at all.

Since 1992, our industry has contracted with iMapData.com to evaluate and map for us where competitive local exchange carriers (CLECs) are deploying their fiber optic lines in order to provide broadband service. During this eight-year period of study, what we learn each year from these studies is that the CLECs just continue to build one on top of the other, in the same geographic areas to service business customers. The only real significant difference from year-to-year is that we have more CLECs digging up the same streets to provide service to the same class of business customers. Those of us who live and or work in Washington have been personally observing this pattern. The story about the digging up of the Washington D.C. streets has been a hot topic in the local media for two weeks now. One carrier digs up the streets, fills it in and then the next carrier comes along and digs it up again and then the next and the next. Multiple fiber-based CLECs are going after business customers in a limited geographic area.

Washington is not unique in this respect. I am attaching to my testimony maps of 15 cities, Washington and 14 others that we have studied and analyzed over this eight-year period.* These 15 cities are mature ones, with established downtown business districts. As you can see from each of these maps, the fiber being installed by CLECs is being installed almost exclusively in these downtown areas or edge cities. The areas shown in gray are in the city, but they have no CLEC fiber optic service. So, if you are a business or residential customer located in the areas depicted in gray on these maps, you will have no access to these fiber facilities or service from these CLEC providers. As you can see on the maps, the great preponderance of these very large cities is not being served by these CLECs.

Who serves in the gray areas on these maps? That is simple. If you are a business, you will have only one effective choice, DSL service, and then only if it is available in your area. You either receive the service from your ILEC or a DLEC, with the DLEC providing, as I have pointed out, service through collocation in the incumbent’s central office and through the use of the incumbent’s DSL conditioned loops. Business customers located in these gray areas are also unlikely to have access to cable modem service from cable operators, because for the present and the foreseeable future cable will be providing residential broadband service. This is not just my view. The investment community concurs. Scott Cleland of The Precursor Group said the following in his February 8, 2000 Research Report on this subject:

(1) “Most of all the CLECs built out to serve the same high-end customers, which met two criteria; high average customer revenue and geographic density. Despite industry pledges to offer broadband universally, it probably won’t happen because it will be uneconomic. . . .”

(2) “In the next three to four years, TPG projects that up to 20% of the country may have a choice of three to four different broadband facilities, roughly 30% of the country may have the choice of two and half of the country may have only one or no broadband facility to choose from.”

(3) “TPG expects cable to remain the primary residential broadband facility for the foreseeable future.”

(4) “TPG expects DSL to remain the secondary broadband infrastructure for the foreseeable future.”

Who are these businesses that cannot receive high-speed Internet access or access from only DSL service. In Washington D.C., they are, for instance, doctors, clinics and single family home, construction companies. Why do businesses of this type need high speed access? Our iMapData.com study shows as follows:

- The need for current availabilities of goods, products, services, supplies, etc.;

*The information referred to was not available at the time this hearing went to press.

- The need for current prices;
- The need to place orders fast;
- The ability to bid for different supplies at different prices and thereby reduce costs;
- The need for speedy downloading of bulky documents (e.g., multiple real estate listing, building codes, patient records, insurance forms);
- The need for speedy downloading and uploading of pictorial documents (e.g., photographs of supplies, furnishings, houses, floor plans);
- The need for speedy downloading and uploading of data-dense schematics (e.g., architectural blueprints, engineering schematics, design schematics, CAD files, X-rays, Cat scans, MRIs).

Medical facilities and physicians are a special case according to our study by iMapData.com as doctors split their time between their offices/clinics and their hospitals. They rely on high speed Internet transmission of X-rays, CAT scans, MRIs and all the schematic tools of their trade. Downloading and uploading of data-dense schematics are almost impossible at standard modem speeds.

Rural Areas

If you are on the wrong side of the digital divide, such as in rural areas, your continued survival and prosperity may just depend on the ability to obtain affordable high-speed access just as in the past these areas depended upon highways, waterways and railroads. The added costs and limitations caused by government regulation merely exacerbate an already bad situation. Small towns and rural areas without high speed Internet access will continue to find it even more difficult to attract jobs and industry.

Advanced ILEC Services Should Be Deregulated

If the Congress or the FCC, for that matter, wants to accelerate broadband deployment, they can do so by deregulating these services. All of the major broadband bills currently before the Congress move positively in this direction: Senator McCain (S-1043), Senator Brownback (S. 877), Congressmen Tauzin and Dingell (HR 2420), Congressman Goodlatte (HR 1686) and Congressman Boucher (HR 1685). All of these bills would create an incentive for ILECs to deploy broadband capability.

Before considering other ideas and approaches to this problem, such as tax incentives and universal service subsidies, we urge you to eliminate the regulatory constraints first. After deregulation, you can then evaluate what occurs in a deregulated environment. You as policymakers can then with more precision target the areas that should really be the beneficiaries of such tax credits or regulatory subsidies.

II. Internet Backbone—Still Another Digital Divide

Attached to my testimony and on the chart behind me is a map of the United States which you may have seen before.* I use it in conjunction with my testimony, because it compellingly shows the need and justification for interLATA data relief. It also shows the rural digital divide. Can anyone deny it after looking at this map? The map shows the location of Internet backbone POPs (points of presence) also called Internet hubs. A POP or hub is a high speed ramp using a highway analogy. It is the place where you get on the Internet backbone network. If you are a long distance from a POP, your service will be more costly and in many cases you will suffer service degradation.

Look, for instance, at the Upper Tier of States running West from Minnesota to Washington. There just are not any POPs. In these states, you have a very long way to go just to get connected to the Internet much less on a high speed basis. As you can further see, however, there are areas just like this in the regions of every Bell operating company (BOC), not just US West.

The Internet POPs depicted on these maps are like train stations using a rail analogy and the Internet backbone can be analogized to the rail network connecting the cities. You need to be able if you are an ISP to get to this POP (hub) in order to participate in the Internet and all of its e-functions. The greater the distance from a town to an Internet hub (POP), the more expensive the service, the constrained the speed of the service, and the more limited the service offerings. These towns can get on the slower, narrowband Internet, but cannot acquire high speed broadband connectivity at a reasonable price, if at all.

The broadband Internet is fast becoming an essential infrastructure for business. Broadband e-commerce applications are providing enormous choice, value, and benefit to users, and e-business is quickly becoming an essential tool for the manufac-

*The information referred to was not available at the time this hearing went to press.

turing, service, and agricultural sectors. Communities not served by Internet backbone hubs risk losing critical industries to connected cities, and their citizens risk missing out on the full educational and commercial benefits of the Internet.

The backbone hubs necessary for providing such benefits, however, are to a large extent available only in the country's largest metropolitan areas. Smaller cities and non-metropolitan areas do not have the same access to these high-speed connection to a backbone hub, and while over one thousand hubs (POPs) have been put in place, less than one hundred are in non-metropolitan areas. In fact, 60.7 percent of all metropolitan areas do not have a connection to a Internet backbone hub (POP). Therefore, the vast majority of Americans do not have direct access to the Internet backbone in their own communities.

Network economics and the nature of telecom markets give strong incentives to deploy networks in densely populated and high-income areas. In addition, regulations affecting investment, markets, and suppliers also impact backbone deployment. The RBOCs are uniquely positioned to address this problem and are the only ones prevented from doing so.

Let me not fail to mention one additional thought: The Internet backbone is being increasingly concentrated in a few hands—evidence the merge of MCI WorldCom and Sprint. For competitive reasons, BOCs entry into this market will go a long way causing this concern to evaporate.

Myths about InterLATA Data Relief

I would like to take a moment to clarify some confusion regarding the implications of the deregulatory relief I have suggested.

First, critics claim the Internet deregulations I'm suggesting will undo reforms of the 1996 telecommunications act. Not true. In 1995, the commercial Internet was still in its infancy. The Internet deregulation I am proposing would leave the current telephone regulation intact.

Second, critics contend that this deregulation removes the Bell's incentives to satisfy Section 271 of the Telecom Act which requires the companies to open their local markets to competition before entering long distance. Not true. These bills do not change voice regulation. The BOCs cannot offer voice long distance until they get Section 271 approval from the FCC. About 80 cents of every dollar for long distance service is for voice service. This presents quite a market incentive.

Conclusion

Congress needs to address the digital divide issue this year. Clearly, we are beyond debating whether there really is a digital divide or a problem that needs to be addressed—with five bills introduced or about to be introduced that address high speed Internet access and deployment to rural areas everyone acknowledges that there is a problem. We support all of the Senators that have taken the lead on this issue and strongly urge that any legislative solution to address the digital divide deregulate the offering of DSL and provide interLATA relief to the RBOCs for data.

Senator BURNS. Thank you, Mr. Neel.

I have got to apologize to my colleague from Georgia. I wanted to ask him if he had an opening statement before we started this panel, and we will do that at this time. I am sorry, Senator. You know, what else can I say.

STATEMENT OF HON. MAX CLELAND, U.S. SENATOR FROM GEORGIA

Senator CLELAND. I am just glad to be here, Mr. Chairman.

Senator BURNS. If you have any opening statement or comment—

Senator CLELAND. I do.

Following right on the discussion of the morning, and that is overcoming the digital divide, I note with interest the map, the map particularly of Georgia. Where those two bright circles interact, there is a little bitty piece down there of Georgia in the western portion of our State that is not served near the Alabama line, that is not served by Internet services.

What I have to report to you today, Mr. Chairman, is action by a small community in rural America, in this case rural Georgia, is

taking action on its own to overcome the digital divide. That is LaGrange, Georgia, a town of 27,000. It is fighting the digital divide. LaGrange, which is not large enough to have most telecommunications providers to upgrade their service, has made it a goal to ensure each citizen—each citizen—has access to the Internet.

This was purely a partnership between the city and something called Charter Communications. No State or Federal assistance was provided. LaGrange officials in the 1990's, early 1990's, deployed a fiber optic network because they recognized that the local exchange carrier was not preparing their community adequately for the coming information age and they saw the advantages of such an investment.

This foundation led to the development of a two-way hybrid fiber-coax cable network that supports cable modems and Internet access for the twenty first century. Last week, city officials announced the city's intent to provide Internet access for all of its residents who are cable customers at no additional cost to consumers—all residents.

Already, about 85 percent of the households in LaGrange have cable. The city council is committed to find a mechanism to pay for the Internet browser for those who do not have one because of hardship. Children, who are at the most impressionable time in their lives, will have the Internet at their fingertips and will be training themselves for the world and work force of the future. Parents and adults will develop a familiarity and comfort level with computers they might not otherwise ever experience.

Mr. Chairman, I would like to submit for the record some articles on the difference access to information has made in this little down in the lives of some of these citizens in LaGrange.* LaGrange is not only providing the foundation itself for this network, but is also investing heavily in technology.

I find this fascinating, Mr. Chairman. They are not waiting on the Congress. They are not waiting on changes in rules and regulations. They are not waiting on a merger. They are taking this on as their own project.

This program will cost the city about \$300,000 annually to operate. The capital investment will be about \$120,000. Additionally, the city will finance about \$2 million during the first project year for Worldgate equipment and settop boxes which will allow e-mail and Internet access through the household's television via a wireless keyboard. These figures may seem like a large investment for a city the size of LaGrange, but I believe that the manifold return on this investment will offer strong vindication in the years to come.

Well, what impact is this having? By having each household wired, the Mayor, Jeff Luken, is hopeful that the community will be brought closer together as well. He says this: "One of the benefits we anticipate is a community-wide communications network that will allow citizens to communicate on a variety of topics, including school assignments and activities, postings for civic meetings and job openings, and other community events, sports, entertainment and the arts, as well as local e-commerce."

*The information referred to was not available at the time this hearing went to press.

While because of its size LaGrange, Georgia, is not the first town to wire basic technology into itself, it shows the influence, though, that smaller towns themselves and more rural areas can have over companies, and it is a model I hope can be replicated elsewhere. Bridging the digital divide is vital and I will be following LaGrange efforts to see the exciting results of this investment in the future.

I thought that was an interesting story, Mr. Chairman, where communities out there see it in their own interest to invest, invest capital, invest in a citywide fiber optic network to create a network among all of its residents to communicate with itself. I think this is absolutely powerful, and to think they are the ones in the blue. They are the ones not served currently.

So I think if we can get more and more of our country on the right side of the digital divide it will have mammoth positive impacts for our State and our Nation.

This is an important hearing, Mr. Chairman. I am looking forward to hearing the testimony of our witnesses. Thank you very much.

Senator BURNS. Thank you, Senator Cleland.

Now we will hear from Mr. Timothy Regan, Vice President and Director of Federal Affairs for Corning, Incorporated. Thank you very much for coming this morning. We look forward to your testimony.

**STATEMENT OF TIMOTHY J. REGAN, VICE PRESIDENT AND
DIRECTOR OF FEDERAL AFFAIRS, CORNING, INC.**

Mr. REGAN. Thank you, Mr. Chairman.

My name is Tim Regan. I am a Vice President from Corning. We are the inventors of optical fiber and as such I would like to speak from the position of a technologist, not a telecommunications warrior. I want to make two points.

First of all, broadband as it was conceived in the chairman's section 706 is not being deployed in urban and rural or in suburban America in residential markets. It is being deployed in business markets, but it is not being deployed in residential markets.

Secondly, I want to point out that there are both financial and regulatory changes have to be made if we want to accelerate deployment.

First of all, I want to commend the chairman. 706 was really far-reaching. It was conceived before the time when the Internet was a popular word in households. The notion was we wanted to give everybody in America access to two-way high quality voice, data, and video.

Now, unfortunately, the notion of broadband and the notion of section 706 have been diluted. The FCC has defined section 706 capability as 200 kilobits. Now, let me use an example to demonstrate how low that is. When you turn on your computer in your office you are operating on what is called Ethernet. Ethernet was devised by IBM in the 1970's. It is 10 million bits per second, 10 million bits.

Now, the computer industry has decided that is not enough, so they have upgraded that and now when you buy a line card for your computer, an Ethernet line card, it can do 10 million and it can do 100 million. So what the computer industry has said is that

we need a lot more transmission competition between these islands of intelligence.

Now, I am not condemning the technologies that folks are deploying, ADSL and cable modems. They are wonderful technologies. But they are really better characterized as higher bit rate technologies, higher data speed technologies, and they provide a wonderful transition to the future of true broadband. But the notion that Senator Burns had in his bill is really not being achieved in terms of those technologies. We need to look to the next generation.

Now, we have actually commissioned some recent research to try to figure out how we get there, because we really do have this odd situation right now in America where incumbent local telephone companies are investing in copper wire for new customers, new builds, and rehabs, and we wondered, why is that. So we asked two top-flight economists to take a look at this.

They came back with two answers: No. 1, they are acting very, very rationally, given the financial and the regulatory incentives that they face. On the financial side, when you are in a situation when you face technology uncertainty, when you have low levels of competition, as you do in the telephone market for residential service, and when you face the situation of what is called the sunk costs, you actually get higher returns if you delay investing in next generation technology. You do not get returns sufficient to be able to justify the investment.

On the regulatory side, the FCC has come up with a scheme for pricing called TELRIC which we believe does not provide sufficient incentive, financial incentive, to get carriers to go to the next generation.

So in closing, Mr. Chairman, what I would like to say is that the analogy that we have had about the superhighway connecting people on off-ramps is really the wrong analogy. What we ought to be thinking about is the network being a series of islands, islands of intelligence, and on each island you have the ability to store and to process hundreds of millions of bits of information. What the future network is going to be is bridges between these islands.

So now we have connected these bridges with 56,000 bit capability. That is what you can do on a copper wire. And we have realized tremendous economic benefit from that. But you can imagine what is going to happen when we can connect these bridges the way our offices are connected with local area networks, with 10 million bits. The benefit for the economic is going to be enormous.

So what I would suggest is that we need to think creatively, we need to move forward with both financial and regulatory changes to get there. I heard someone earlier talk about the notion of subsidies. You know, I do not call targeted tax cuts a subsidy. You know, frankly that says I am not going to hit you as hard if you do something, and that does not constitute a subsidy in my mind.

So I think we need to be creative. I think there are ways to move forward to both do the current generation technology, ADSL and cable modems, and to proceed to do the next generation technology for new builds and for rehabs, so that we move along on parallel paths.

With that, Mr. Chairman, I would be glad to answer any questions you might have.

[The prepared statement of Mr. Regan follows:]

PREPARED STATEMENT OF TIMOTHY J. REGAN,
VICE PRESIDENT AND DIRECTOR OF FEDERAL AFFAIRS, CORNING, INC.

Introduction

Mr. Chairman, my name is Tim Regan. I am a Vice President of Corning Incorporated.

I understand that today's hearing is about the deployment of broadband to rural America. Obviously, this is of great interest to me as a representative of Corning. We are the original inventors of optical fiber, and of course, are anxious to see the technology deployed to all Americans, especially those in rural America.

But, I think it is important to address the question of broadband deployment to rural America in the context of the deployment to the nation as a whole. My argument is very simple. Broadband is not being deployed to residential customers in America, regardless of whether they are located in urban, suburban, or rural America. Business customers are getting it, but residences are not.

I know that you might find this statement somewhat astounding because you hear a lot about the so-called broadband deployment. Cable modem service, ADSL service (i.e., asynchronous subscriber line), and various wireless data services all claim by some, most notably the FCC, to be broadband. Without getting into semantics, I will argue in my testimony that these capabilities are more properly described as higher-speed data service, not broadband service.

I will also describe in my testimony recent economic research that Corning has commissioned to determine why broadband capability is not being deployed to residential customers. In short, the study identifies both financial and regulatory barriers to deployment.

Regulation changes alone are insufficient to get the job done.

What's Broadband

The first issue, of course, is the question of what is broadband. The answer is not obvious.

Oddly enough, the term "broadband" really comes from an older age—the analog age. In the analog age, the information-carrying capacity of a network was defined by the width of the band of spectrum used to carry a signal. The wider the band, the greater the information-carrying capacity. Thus, the term "broadband" was used to characterize a system capable of carrying a considerable volume of information.

In the analog world, a standard television video signal that requires 6 megahertz per channel was considered to be broadband. Voice at 4 kilohertz was thought to be narrowband.

In the digital world, the notion of broadband really doesn't apply. The information carrying capacity of a digital network is described as a bit transfer rate. As you know, digital signals are represented by a series of on and off signals that are characterized by pulses of electrons or photons. Transmissions in the digital world appear more like Morse code.

If we use standard television video as a service to characterize broadband, as we have done in the analog world, a bit transfer rate of 4 million to 90 million bits per second would define broadband. An uncompressed standard television video signal requires 90 million bits of information per second to transmit. It can, however, be compressed to 4 million to 6 million bits per second using what is called MPEG-2.

Data has become a very important form of information in the digital world. Remember that computers were originally called data processing machines. In the computer data world, the connections between computers are quite robust. A standard has evolved known as Ethernet, developed by IBM over two decades ago. It provides for the transmission of 10 million bits per second between computers on a local area network. Today, the Ethernet standard has been upgraded to a 100 million bits per second.

Frankly, I think the term broadband is so imprecise, it is probably useless at this point.

I think the better way of engaging the public debate is to identify bit transfer rates Americans will need to gain access to audio, video, and data applications. Table 1 below, which was taken from an article written by a Microsoft official, describes the transmission speeds necessary to gain access to a variety of applications.

Table 1. Network Transmission Speed Requirements for Real Time Audio, Video, and Data Applications

Audio		
• CD Quality Sound	256 kbps ¹	—
• Broadcast Quality	48 kbps to 64 kbps	—
• Plain Old Telephone Service	64 kbps	64 kbps
Video		
• Broadcast HDTV (compressed)	20 mbps ² /channel ³	—
• Broadcast Standard TV (MPEG-2 compressed)	~4-6 mbps/channel	
• Videoconferencing	64 kbps-2 mbps	64 kbps-2 mbps
Data		
• File Transfer (Ethernet)	10 mbps	10 mbps
• Web Browsing	240 kbps	240 kbps
• Network Games	80 kbps	80 kbps

Source: Timothy C. Kwok, Microsoft Corporation, "Residential Broadband Internet Services and Applications Requirements," *IEEE Communication Magazine* June 1997, Tables 3 and 4, p. 80-81.

Notes:

¹ 1 kbps is one thousand bits per second.

² 1 mbps is one million bits per second.

³ Each television or multi-media device must have a dedicated channel.

If you think that Americans will need access to information in all its forms—audio, video, and data—it is easy from Table 1 to see that a capability in excess of 20 million bits per second downstream and 10 million bits per second upstream, even using the most advanced compression technology, is necessary. Let me explain with some examples of the bit transfer speeds necessary to do audio, video, and data:

- Plain old telephone service requires 64 thousand bits per second both upstream and downstream.
- Standard television using MPEG-2 compression technology uses 4 million to 6 million bits per second per channel downstream. Since there are on average 2½ television sets in every household in America, three channels at 4-6 million bits per second each is needed.
- HDTV using the most advanced compression technology requires 20 million bits per second downstream.
- And, 10 million bits per second both upstream and downstream—the so-called 10 Base-T Ethernet standard—is required to give people the same data speeds at home that they get at work in order to facilitate telecommuting.

I realize that my bit transfer speed prescription sounds like a lot. But, I believe it is what will be needed.

Let me clarify one point though. My comments about broadband should not be construed as criticism of ADSL or cable modem service. These are wonderful technologies. They enable the delivery of data at substantially higher speeds over the existing infrastructure that has been deployed by ILECs and cable operators. These services provide a useful transition to full broadband.

The FCC has stated in its Section 706 proceeding that broadband is 200 thousand bits per second—or 1% of my prescription. I do not see how the FCC can defend such a low standard in light of the speeds described in Table 1 above as necessary to transmit the applications we know of today, never mind the limitless array of new ones that will be created once the infrastructure is deployed.

The FCC and others have defined broadband at such a low level because they fundamentally misunderstand the nature of the future network. It has been described by the FCC as a superhighway. And, consistent with this analogy, the connections to the home are simply narrow on and off ramps.

This is the wrong analogy. The network of tomorrow, which will be dominated by data not voice, is not a highway. It is a series of bridges. The bridges connect islands of intelligence—computers. After all, this is what the Internet is. It is a network of computers, and each computer has the capacity to store and process hundreds of millions of bits of information.

Today, these islands of intelligence are for the most part connected by very narrow bridges, a copper pair that can transmit only 56 thousand bits. Even with these very narrow bridges, we have been able to realize tremendous economic benefit from connecting these islands of intelligence.

Fed Chairman Alan Greenspan best characterized the impact of this connectedness in October last year before the Business Council when he said:

“Your focus on technology—particularly the Internet and its implications—is most timely . . . The veritable avalanche of real-time data has facilitated a marked reduction in the hours of work required per unit of output and a broad expansion of newer products whose output has absorbed the work force no longer needed to sustain the previous level and composition of production. *The result during the last five years has been a major acceleration in productivity and, as a consequence, a marked increase in the standards of living for the average American household* (emphasis added).”¹

Tremendous economic prosperity has been realized over bridges that connect the computers at 56 thousand bits per second. Can you imagine what will happen when we can connect these islands of intelligence by bridges that can carry over 10 million or 20 million bits per second?

The question before us is how to build these bridges as soon as possible. The problem for rural America is particularly acute because the cost of building these bridges is 2–3 times higher than it is for the rest of the country.

How Do We Build the Bridges?

Obviously, to deploy this new technology will require considerable investment on the part of all telecommunications carriers. The problem is, the dynamics to finance this investment have not been unleashed.

In fact, we have witnessed some unusual behavior. Incumbent local exchange carriers (ILECs) continue to deploy copper wire rather than new technology like fiber optics to provide service to new residential customers (i.e., “new builds”) and to rehabilitate deteriorated plant that is serving existing customers (i.e., “rehab”). They are spending approximately \$9 billion deploying copper to serve new builds and rehabs in the residential market.

This reality was evidenced in a recent article in *The Wall Street Journal* which stated:

“Global sales of communications wire, from fiber-optic and coaxial cable to old-fashioned copper, rose 6% to \$14 billion last year . . . Here’s the most surprising part: *The bulk of the industry’s sales continues to come from the same type of wire Alexander Graham Bell developed in 1879 to transmit voice signals—copper* (emphasis added).”²

The fiber optics industry is somewhat puzzled by this investment behavior because fiber optic systems solutions today are at relative cost parity with copper. The cost parity between fiber optic and copper solutions for residential customers is well established. Last August, Matthew Flanagan, President, Telecommunications Industry Association, submitted comments to the FCC attesting to this fact. As evidence, he submitted sworn affidavits from four different telecommunications engineering experts who all supported the cost parity claim.³

¹Remarks by Alan Greenspan, *Information, Productivity, and Capital Investment*, Before the Business Council, Boca Raton, Florida, October 28, 1999.

²Mark Tatge, “Wire Makers Thrive Despite Advent of Wireless Phone,” *The Wall Street Journal*, February 16, 2000, p. B-4.

³Matthew J. Flanagan, re: *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96–98, Telecommunications Industry Association, letter to Federal Communications Commission, August 2, 1999, which states at p. 6–7 that “In his Declaration, Mr. Cannata from Marconi Communications, demonstrates that POTS can be provided over a fiber-to-the-curb (“FTTC”) system at 98 percent to 103 percent of the cost of providing POTS over a copper system using a digital loop carrier (“DLC/copper”). He notes further that the FTTC system can be upgraded to provide high-speed data (i.e., 10/100 Base T) by incurring a 16 percent incremental cost compared to a 40 percent to 50 percent incremental cost to upgrade DLC/copper to provide Digital Subscriber Line (xDSL) service. Finally, he demonstrates how a further upgrade to provide VHS-quality broadcast video can be deployed for an incremental cost of 44 percent over FTTC for POTS, which again compares favorably to the 40 percent to 50 percent incremental cost associated with the xDSL solution.

Mr. Jacobs from Corning Incorporated shows in his Declaration similar results with respect to broadband solutions. His analysis shows that an Ethernet fiber-to-the-home system (“EFTTH”) using multimode fiber can be deployed at 7 percent less than ADSL over copper, and EFTTH is substantially more capable. The EFTTH system can deliver POTS, 10/100 Base T data, and VHS-quality broadcast video, which cannot be done on an ADSL system.

Mr. Tuhy from Next Level Communications states in his Declaration that “fiber-based narrowband solutions for local access serving residential end-users can be deployed at cost parity with copper-based solutions as measured on an installed first cost basis for newly constructed or totally rehabilitated outside plant.” He makes a similar statement with respect to

Because we are somewhat puzzled by this investment behavior, we commissioned a study by three Ph.D. economists, Drs. Kevin Hassett and J. Gregory Sidak, who are associated with the American Enterprise Institute for Public Policy Research, and Dr. Hal Singer who is associated with Criterion Economics. The study concluded that the ILECs and the CLECs are acting very rationally in delaying their decision to invest in new technology to serve residential customers. They identified both financial and regulatory explanations for the delayed investment behaviors.

From a financial perspective, this delayed investment behavior is explained by a rather new model for explaining investment behavior known as the Dixit-Pindyck model. This model shows that when faced with certain conditions, a prudent investor will maximize his return by delaying investment in next generation technology. These conditions include a sunk cost investment, a high degree of market or technology uncertainty, and the absence of robust competition. Under these three conditions, which are all prevalent in the residential telephone market, a carrier is better off delaying a decision to invest in new technology. Since ILECs are required to provide telephone service, they invest in copper solutions which are suited for just plain old telephone service. See Kevin A. Hassett, J. Gregory Sidak, and Hal J. Singer, *An Investment Tax Credit to Accelerate Deployment of New Generation Capability*, February 28, 2000, p. 7, which states: "A simple example can make the point more intuitive. The traditional view is that one should invest in any project that has a positive net present value of cash flows. Recent advances in economic theory have shown, however, that this rule is not always correct. On the contrary, it is often better to wait if at all possible until some uncertainty is resolved and cost reduction can be achieved. Consider, for example, a firm that traditionally offers telecommunications services through copper wire. The firm must decide whether to install a new advanced broadband line that costs, say, \$100 today but has an uncertain return tomorrow. Suppose that, if the demand for high-bandwidth services is high, the firm stands to make \$400 profit. If, on the other hand, there is a bad outcome and the demand for the new services is low, then the new "pipe" will be underutilized, and the firm will gain nothing from owning it. If the probability of either outcome is 0.5, then the expected net present value of laying the new broadband line is, ignoring discounting, calculated as follows: $(0.5 \times \$400) + (0.5 \times \$0) - \$100 = \100 . We can summarize this simple decision problem in the following table.

Scenario 1: The expected profit if firm installs a NGI fiber-optic cable that costs \$100 and has an uncertain return tomorrow.

Today	Tomorrow				Net Expected Return
Invest	Invest	Good Outcome	Bad Outcome		
-\$100	\$0	+ $(0.5 \times \$400)$	+ $(0.5 \times \$0)$	=	\$100

Because the project has a positive expected cash flow, one might think it optimal to install the cable today. But it is not. If the firm delays making the investment, it can reduce the risk by observing the experience of others and capturing the gains associated with deploying reducing-cost technology later. The value of waiting is that the firm can decide not to make the investment if the bad state occurs. We can summarize this subtler decision problem in the following table:

broadband. He notes that Next Level Communication's FTTC system "can be deployed to provide integrated voice, data, and video for the same cost as a copper-based solution with an ADSL overlay for high-speed data." This assumes new builds or total rehabs as well as first installed cost comparison.

Finally, Mr. Sheffer from Corning Incorporated addresses the rural deployment issue in his Declaration. He cites a proprietary Bellcore (now Telcordia Technologies) study prepared for Corning showing that the cost of narrowband fiber-to-the-home ("FTTH") at \$2,370 per home passed beats narrowband DLC/copper at \$2,827 per home passed. In other words, narrowband FTTH is 16.2 percent less costly than DLC/copper in a rural setting.

More surprisingly, broadband FTTH also beats narrowband DLC/copper by 7.5 percent (i.e., \$2,616 per home passed for broadband versus \$2,827 per home passed for narrowband). Again, this analysis was based on new builds and total rehabs and the cost comparisons were done on an installed first cost basis.

Scenario 2: Expected profit if firm waits and decides tomorrow.

Today	Tomorrow				Net Expected Return		
Invest	Invest		Good Outcome	Bad Outcome			
\$0	\$0	+	$0.5 \times (\$400 - \$100)$	+	$(0.5 \times \$0)$	=	\$150

By waiting, the firm would increase its expected return by \$50. If the firm invests today, it gives up an option to invest tomorrow that is worth \$50. The firm is better off waiting because it can avoid the loss of \$100 by not purchasing the new cable in the bad state. Note that the two examples would have the same expected return if the firm were allowed to resell the advanced broadband line at the original purchase price if there is bad news. But that salvage scenario is patently unrealistic for two reasons. First, many pieces of equipment are customized so that, once installed, they would have little or no value to anyone else. Second, if the demand for high-bandwidth services is indeed low, then the advanced broadband line would have little value to anyone else. For these reasons, the investment in the equipment is “irreversible” or sunk in the sense that it has virtually no value in an alternative use.

The study goes on to conclude that the incentive to delay for ILECs is intensified by the so-called unbundling rules which require incumbents to allow their competitors to use parts of the incumbents’ network at a regulated rate. This rate does not provide a sufficient return on investment to justify investment in new technology.

The parts of an ILEC’s network that must be unbundled and resold to competitors are known as unbundled network elements, or “UNEs.” The FCC has defined the price for the sale of these UNEs as TELRIC, or total element long run incremental cost. TELRIC attempts to value the various network elements based upon their forward-looking costs. The FCC believes that TELRIC replicates how competitive markets actually operate by approximating what it would actually cost an efficient, competitive firm to produce UNEs.

The study concludes that TELRIC pricing creates a disincentive to invest in new technology. It states:

“Most observers believe that mandatory unbundling [at TELRIC] limits the upside potential of any new investment project and that the expected return to investment in some projects may fall below the firm’s cost of capital. . . . This disincentive to invest has been emphasized in the public debate over telecommunications policy by both incumbent local exchange carriers (ILECs) with respect to the local telephony networks, and by AT&T with respect to proposals that unaffiliated Internet service providers be given the legal right of mandatory access to AT&T’s cable-television networks.”⁴

In other words, the rate of return provided for TELRIC pricing is inadequate to give carriers an incentive to invest in new technology.

Other experts, including Kathleen Wallman, former Chief of the FCC’s Common Carrier Bureau and Deputy White House Counsel as well as Supreme Court Justice Breyer, have observed this disincentive. Ms. Wallman stated in a speech to state regulators:

“Do we really mean to say that any carrier that is thinking of building a new broadband network should count on being able to recover, from day one of the operation, only the forward looking cost of their brand new network? I don’t think so. No rational, efficient firm would take that deal. And that would be our collective loss, not just theirs.”⁵

Similarly, Justice Breyer reinforced this observation last year when he noted that “. . . a sharing requirement may diminish the original owner’s incentive to keep up or to improve the property by depriving the owner of the fruits of value-creation investment, research, or labor.”⁶

The point is, the new economics as characterized by the Dixit-Pindyck model combined with the unbundling rules at TELRIC create a powerful disincentive for ILECs to invest in new technology. This disincentive is reflected in the stock price

⁴Id., p. 3–4

⁵Remarks of Kathleen Wallman at the annual convention of the National Association of Regulatory Utility Commissioners, Boston, Mass., Nov. 11, 1997.

⁶AT&T Corp. v. Iowa Util. Bd., 119 S. Ct. 721, 753 (1999) (Breyer, J. concurring in part and dissenting in part) (citing I.H. Demstet, *Ownership, Control, and the Firm: The Organization of Economic Activity*, 207 (1988)).

of incumbents, including AT&T, when they make decisions to invest in infrastructure. Their stock price falls. In January, it was reported in *The Wall Street Journal* that the share prices of SBC, Bell Atlantic, and GTE fell when Paine Webber downgraded the firms because they “. . . may have to make additional investments to deploy high-speed Internet-access services . . .”⁷

With this explanation, it is clear that both financial and regulatory changes are necessary to give carriers an incentive to invest in new technology, especially broadband technology. The important point to remember is that *both* financial and regulatory changes must be made.

Both financial and regulatory changes have been proposed by Members of this Subcommittee. Senator Rockefeller recently proposed a bill to provide financial incentives for rural deployment of higher-speed data and broadband service. Senator Brownback has proposed a bill to eliminate the regulatory barriers to deployment of pocket-switched, higher-speed capability without repealing the inter-LATA restrictions or the unbundling requirement for the existing copper loop. Both proposals are necessary to get the ball rolling. I applaud their efforts.

Conclusion

Mr. Chairman, in conclusion, I think my testimony can be summarized by two points: First, broadband is not happening. Second, to accelerate broadband technology deployment both financial and regulatory changes are necessary.

Thank you for your time and attention. I stand ready to address any questions you may have.

Senator STEVENS. Mr. Chairman, I have got to leave.

Mr. Regan, would you expand on this statement: “Frankly, I think the term ‘broadband’ is so imprecise it is probably useless at this point”?

Mr. REGAN. Yes, that is correct. Actually, the term “broadband” really is an analog term. That came from another age. In the analog world the amount of information you can transmit depends upon the width of the spectrum band in which you transmit the information. The wider the band, the more information. So it was believed in the analog world when you transmit a video signal that uses a huge bandwidth, a band that is measured by six megahertz, that that is broadband.

Obviously, in the computer world, in the data world, we are talking about data, we are talking about what is called bit rates. It is a wholly different concept. So really when we want to be precise in this debate what we need to be talking about is what kinds of applications are people going to need to be competitive in the next generation and how do we get networks built, bridges built, that will allow people to transmit at these speeds.

As I said, Ethernet is 10 million. One channel of digital TV compressed using the most advanced compression technology is 4 to 6 million bits. HDTV is 10 million bits. A telephone call is 64,000 bits. Add them up, it is a much bigger number than folks are talking about today.

Senator STEVENS. Is there another word for “broadband” that is coming into the jargon dealing with data?

Mr. REGAN. Well, I think that the better way to think about it is next generation Internet to the home.

Senator BURNS. “High speed” would not fit into that definition?

Mr. REGAN. I think that these generation technologies that folks are talking about doing and they are in fact doing—the telephone companies are doing a thing called ADSL, which is a wonderful technology that in fact can increase the speeds of copper wire by

⁷Stephanie H. Mehta, “Local-Phone shares Fall Amid concern Over Firms’ Need to Invest, Rising Rate,” *The Wall Street Journal*, Jan. 13, 2000, at B4.

as much as a factor of ten. The solution that the cable guys are promoting, called cable modem service, which is also a wonderful technology—those are I think accurately described as higher speed data service.

Broadband integrates this notion of data and video, and I think once you get to video it becomes a wholly different picture.

Senator BURNS. Thank you very much.

John Fitzpatrick, who is the Executive Director of Mergers and Acquisitions for Touch America and operates out of Helena, Montana.

STATEMENT OF JOHN S. FITZPATRICK, EXECUTIVE DIRECTOR OF MERGERS AND ACQUISITIONS, TOUCH AMERICA, INC., HELENA, MONTANA

Mr. FITZPATRICK. Thank you, Senator Burns, Members of the Subcommittee.

Senator BURNS. You might want to pull that microphone up.

Mr. FITZPATRICK. Members of the Subcommittee, thank you for the opportunity to be here.

If I could, I would like to just look at this map for one second. [Pause.]

Senator BURNS. You mean that one down there? You are almost covered up over there.

Mr. FITZPATRICK. Again, thank you for the opportunity to appear before the Subcommittee. I am with Touch America, which is the telecommunications subsidiary of the Montana Power Company. The company is headquartered in Butte and it operates one of the largest fiber optic networks in the country, a network that we expect to have expanded to 26,000 route miles by the end of 2001.

Touch America is a company that was born in a rural area. It has grown to success in rural areas. We are a company that is focused on developing a retail strategy primarily with rural areas, and we believe that we know something about operating telecommunications services in rural areas.

We are one of the companies that Representative Tauzin referred to this morning as building the four-lane highways. I want to tell you that we are not just building the four-lane highways, we are also building the off-ramps. One of the off-ramps we have built is in Fargo, North Dakota, and we have built off-ramps in Casper, Wyoming, and in seven locations in Montana which are not shown on the map. We have the capacity today to provide broadband services in a number of communities that are alleged not to have access to advanced telecommunications services.

One of the biggest problems is not that the broadband capacity does not currently exist, it is a problem with the local loop. For example, a business in Fargo, North Dakota, that wanted to get advanced or high speed data transmission through Touch America would still have to deal with the local loop from US WEST, and that can be expensive, but more often it is a time issue, waiting sometimes weeks, if not months, to get that service provisioned.

Touch America is a relatively new company. We have been in business about 16 years. We started off building microwave systems, went to building fiber systems for other companies and for ourselves, and have moved into the retail market.

There are a couple of major things I think that have happened within the telecommunications industry that have been very important to our company and we think very important to the future of telecommunications. First is the divestiture of AT&T and the opening of the long distance business to competition. That was the phenomenon that provided an opportunity for companies like Touch America and others that primarily started as inter-exchange carriers to get into the business.

But I think a second and probably more important phenomenon has been taking place in the last decade, and that is the systematic abandonment of rural America by the RBOC's and other large local incumbent carriers. As Director of Mergers and Acquisitions, I have had an opportunity to look at a number of potential wireline exchanges that have been offered for sale by the RBOC's. They do not want to be in rural America. They are focusing their energies at urban America and they have systematically sold off exchanges in those parts of their territories that are probably the most sparsely populated and offer lowest profit margin.

But this has not been a loss for rural America. Quite frankly, it has been an opportunity, because the people buying these exchanges are committed to the rural markets. They have been making substantial new investments in telecommunications infrastructure and they have been providing advanced services. Just a couple of examples.

The first company to deploy PCS services in the State of Montana was not US WEST or even Touch America. It was the Three Rivers Wireless Coop out of Fairfield. Mid-Rivers Telephone Cooperative, based in Circle, Montana, a community of about 500, has announced plans to install DSL in eight Montana communities in the eastern part of the State. In a territory that would be approximately the size of the State of Massachusetts, they will be providing DSL services in four communities under 500 population.

In contrast, Big Timber and Townsend, Montana, which are three and four times the size of places like Baker and Ekalaka and Circle and Jordan, there are no plans for DSL services, and from my personal guess it will probably be many years before they see it. What is the difference? Circle, Jordan, Ekalaka, Baker are provided services by the local telephone coop; Big Timber, Townsend get their services from US WEST.

In the State of Iowa, a consortium of 122 coops and independent telcos formed a company called Iowa Network Services to provide long distance services and Internet in rural areas. We recently partnered with them to buy GTE's telephone exchanges, all of which would be classified as rural. The largest city in the 296 exchanges we are buying is Newton, with a population of about 15,000. The new company, Iowa Telecommunications Services, is already offering Internet services in communities that were not previously provided those services by GTE.

The list of those types of examples can go on endlessly. There is success story after success story out in the rural West. In Montana, Touch America is employing LMBS services. It is the first commercial application of that technology. We have built it out in Billings and Butte, Montana; Casper, Wyoming; and Walla Walla, Washington, and are extending it to our other 22 basic trading areas in

the next 2 years. We are now involved in two joint ventures to provide PCS services, one with US WEST, which will provide an area of coverage from western Minnesota to the crest of the Cascade Mountains in Washington. A second, more recent investment was one made with a company called Wireless North, based in Minnesota, which will be providing PCS services in the rural parts of that State.

At Touch America we do not see the digital divide as pre-eminently a geographic issue, but rather one that ultimately will prove to be cultural and socioeconomic in nature. There are great opportunities for telecommunications businesses serving rural areas and when you have companies that are interested in serving those areas, like the small telcos, the coops, and companies like Touch America, the job gets done.

We think that the Telecommunications Act of 1996 is working effectively. It does take time to employ and deploy new technologies. The lead times for switches and base stations for radio equipment can be months. You cannot expect these types of systems to be built overnight. But frankly, in our judgment it is much too early to be thinking about revisiting the act to make major changes, and particularly to make major changes in the area of data transmission.

Thank you.

[The prepared statement of Mr. Fitzpatrick follows:]

PREPARED STATEMENT OF JOHN S. FITZPATRICK, EXECUTIVE DIRECTOR OF MERGERS AND ACQUISITIONS, TOUCH AMERICA, INC.

Introduction

I am Dr. John S. Fitzpatrick. I am Executive Director of Mergers and Acquisitions for Touch America, Inc.

Touch America, Inc. is headquartered in Butte, Montana. It is a wholly owned telecommunications subsidiary of the Montana Power Company. Touch America, Inc. operates one of the largest fiber optic networks in the country with 12,000 route miles of fiber currently completed, a figure that is projected to increase to 26,000 miles by the close of 2001. Much of our network is located in sparsely populated, rural areas of the Rocky Mountain and Great Plains states. Exhibit 1 shows the company's fiber routes as they currently exist and how they are projected to grow during the next several months.*

Touch America's principal lines of business include:

1. Serving as a wholesale provider of transport services to other telecommunication companies from small rural cooperatives to the largest, investor owned interexchange carriers.
2. Providing retail telecommunications services to residential and commercial customers including:
 - a. Long Distance
 - b. Private Line ATM, Frame Relay
 - c. Internet
 - d. Calling Card, and
 - e. 800/888 inbound services
3. Serving as a supplier of telecommunication equipment for commercial applications (e.g. PBX and Centrex Systems) in several Northwestern States.
4. Providing fiber optic construction services for other telecommunication companies. Touch America, Inc. is currently overseeing the construction of six major fiber routes for AT&T.
5. The company recently started to provide local access services as a competitive Local Exchange Carrier in the state of Montana. We are currently negotiating interconnect agreement in the remaining 13 US West states.

*The information referred to was not available at the time this hearing went to press.

6. Touch America is currently installing LMDS networks in 25 cities in the Northwest and upper Midwest. The first of those installations in Billings, Montana was the first commercial use of this technology. Currently this service is in operation in Billings and Butte Montana; Walla Walla, Washington and Casper, Wyoming.

7. Touch America is aggressively working to deploy PCS service through a variety of business arrangements.

Notwithstanding its location in the rural West, Touch America, Inc. has built a successful telecommunications business. Current annual revenues are projected to exceed \$100 million in 2000 and the company is profitable. Touch America believes its success is directly related to its ability:

1. To efficiently construct low cost telecommunications network.
2. To offer its customers a quality telecommunications product at a competitive price.
3. To establish cooperative supply and marketing relationships with other carriers for the mutual benefit of the carriers and their customers.

During 1999, Touch America, decided to increase its focus on supplying retail telecommunication services and, to that end, has entered into a series of strategic partnerships, which will greatly enhance the delivery of the company's services particularly in rural areas. Those partnerships include:

1. Touch America Colorado, a joint venture with New Century Energies to provide telecommunication services in the Denver Metropolitan Area.
2. TW-Wireless, a joint venture with US West Wireless to provide PCS services in 22 BTA's extending from the crest of the Cascade Mountains in the State of Washington to Western Minnesota, including the states of Idaho, Montana, Wyoming, North and South Dakota.
3. Taking an equity position in Wireless North, LLC, a PCS company created by a consortium of Minnesota Telephone Cooperatives and small Independent Telecommunication companies. Wireless North's license areas are in the Dakotas, rural western Wisconsin, and Minnesota outside the Twin Cities.
4. Iowa Telecommunication Services (ITS), a joint venture involving Touch America, Inc. and Iowa Network Services, another consortium of cooperatives and Independent Telco's. It is purchasing GTE's telephone exchanges in rural Iowa.
5. MEDNET, a partnership between Touch America and St. Patrick's Hospital in Missoula, Montana that is providing telecommunications equipment and long distance and private line services to hospitals and clinics in western Montana.

On Thursday, March 16, 2000, Touch America, Inc. announced plans to acquire the long distance assets of Qwest Communications in the 14 state region served by US West. Qwest is divesting itself of these assets as a condition to its proposed merger with US West. For Touch America, Inc., the proposed acquisition will greatly accelerate the growth of the company, and it will make us one of the larger suppliers of telecommunication services in the rural West.

Section 706

Section 706 of the Telecommunications Act of 1996 encourages

“The deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans . . .”

Where, advanced telecommunication capability is defined as

“A high-speed, switched broadband telecommunications capability that enables users to originate and receive high quality voice, data, graphics, and video telecommunication, using any technology.”

Section 706 provides a great opportunity, as well as a great challenge to America's telecommunications industry. At Touch America, the emphasis is on the opportunity provided by Section 706, not the problems or challenges that may be encountered in providing advanced telecommunications services to all American's. If Congress will stay the course, and allow competition to develop and flourish within the telecommunication industry, companies like Touch America will help the nation achieve the goal set forth in Section 706.

Restructuring of the American Telecommunications Industry

The divestiture of AT&T in 1982 completely restructured the American telecommunications industry. The responsibility for providing local access service was shifted to seven Regional Bell Operating Companies (RBOC) and the long distance business was opened to competition which, ultimately, provided consumers with more product choices and lower prices.

More recently the industry has continued to restructure itself with the RBOC's entering into mergers with each other and with interexchange companies. At the same time, the RBOC's have divested themselves of large numbers of rural telephone exchanges in an effort to consolidate operations and focus on the large urban markets. For example, during the past five years, US West has offered 70 of its Montana rural exchanges for sale and has undertaken similar initiatives in the other states in its region. In late 1998, GTE announced a repositioning effort that included the sale of about 1.5 million access lines in the rural areas of 13 western, mid-western, and southern states.

At first blush, these actions might be misconstrued as reducing telecommunication opportunities for rural residents and businesses. Actually, the opposite is the case, for two major reasons.

1. In many cases, the RBOC's had neglected the rural exchanges being sold. Equipment was obsolete and service levels poor. The rural exchanges were seen as an obligation rather than as an opportunity.
2. While the RBOC's selling the exchanges did not want to be in those areas, the sale of these exchanges provided real growth opportunities for new companies interested in and committed to serving rural customers. These companies have not only purchased the exchanges, but have upgraded them, improved service levels, and increased product/service offerings to their customers.

Examples of this commitment to rural customers include:

1. In Montana, the Blackfoot Telephone Cooperative acquired nine exchanges totaling 7,000 access lines from US West in 1994. Since then, Blackfoot has invested \$17 million upgrading switching equipment, installing fiber optics, and improving service offerings. Five years ago, areas that did not have access to 911, custom calling features, voice mail, ISDN, DSL, or even simple dial-up access Internet, have them today.
2. The Montana Advanced Information Network (MAIN), created by the state's small independent companies and cooperatives, provides fiber optic connectivity and transport throughout Montana's rural areas. Vison Net, Mid-Rivers and Range Cooperatives who use MAIN's Network provide interactive video services to around 90 rural sites. (See Exhibit 2)*
3. Mid-Rivers Telephone Cooperative based in Circle Montana plans to deploy DSL services in right exchanges during 2000, including Circle, Jordan, Baker, and Ekalaka, Montana. These communities are located in some of the most sparsely populated territory in the continental United States. In contrast, US West currently offers DSL in one Montana community, Helena, the state capital and the Montana headquarters for US West.
4. MEANS, standing for Minnesota Equal Access Network, recently renamed Onvoy, was formed by a consortium of small independent telephone companies

*The information referred to was not available at the time this hearing went to press.

and cooperatives to offer equal access to rural telecommunications consumers. The company provides long distance, Internet service on a wholesale and retail basis throughout rural Minnesota.

5. Iowa Network Services (INS) another consortium of rural Telcos and Coops. It began operation as an equal access provider and is now one of the largest suppliers of Internet Services in Iowa. Partnered with Touch America is purchasing GTE's rural telephone exchanges totaling over 280,000 access lines, through a new company, Iowa Telecommunication Services (ITS). ITS is already offering Internet services in communities where it was not available through GTE.

The Digital Divide

The concept "Digital Divide" refers to an alleged dividing line between that part of the population which has access to advanced telecommunication services, principally high speed Internet, and those who lack such access. The concept frequently emerges in discussions of economic development and it is typically tied to rural versus urban geography, with the distinct implication that rural areas are disadvantaged relative to the urban counterpoints because they do not or will not have access to advanced services.

Touch America, Inc. would like to offer these thoughts about the Digital Divide:

1. While broadband communication systems reach back over two decades, it has been only recently that the technology has advanced to the point that it can be employed at the small business or individual consumer level. At that, the price is still high when compared to services provided over conventional copper wireline facilities. As the demand for advanced telecommunication services accelerates and, if competition is allowed to continue, prices will decrease and access to, and the use of, such services will increase.

Physically, the largest impediment to the provision of advanced telecommunication services is the "last mile connection" between the consumer and the telecom network. There are several promising technological developments, including hybrid co-axial cable/fiber systems, microwave wireless systems, including PCS and LMDS applications, and, ultimately, satellite systems that can close the last mile gap.

On this issue, a certain amount of patience is required. Remember that it took close to fifty years after its invention before conventional telephone technology became a staple in America's businesses and homes. Public policy has not failed nor has America's telecommunication industry, because high speed Internet access is not linked to the majority of the nations computers, four years after the passage of the Telecommunication Act.

2. While this company is fundamentally suspect of the concept of a Digital Divide, if such a phenomenon exists, we see it primarily as a cultural or socio-economic issue rather than one based in geography. Such a divide ultimately will be between those who want advanced telecommunication services and those who do not; those who have the background and experience to use such services and those who do not. In the near term, prices may be somewhat of an issue, but telecommunication services are becoming increasingly "commoditized". Prices in real terms are dropping, and consumers will have access to advanced services at reasonable rates. That has already occurred in the long distance business and the Internet is not far behind.

In public policy discussions about advanced telecommunication services, there appears to be an assumption that a large, unserved demand exists for these services.

I recently visited with the manager of the Mid-Rivers Coop, the firm that, as previously mentioned, plans to offer DSL services in eight rural Montana communities this year. He indicated that the company's DSL investment plans were somewhat of a leap-of-faith in as much, it did not have a clear picture of the degree of customer demand, in the short term. At Touch America we don't see "unserved telecommunication needs" so much as an "emerging demand" that will grow as businesses and individuals become more skilled with and experience the utility of advanced services.

The phrase from the movie "*Field of Dreams*," "if you build it they will come" may be applicable to telecommunication services though certain investors in failed technologies might question that premise. But, from a public policy perspective, it is equally important to ask over what time period and at what cost. Again, reference to a more practical perspective and patience is in order. There is not a uniform need in this society for all entities to receive and transmit data at gigabit speeds. The telecommunications needs of the country are evolving as

is the industry itself. And, while there are some dislocations in the marketplace, they are neither large, nor fatal, and they most certainly do not require a major adjustment in public policy at this time.

3. Telecommunication services are a tool not a panacea. The immediate presence or absence of advanced services is not going to make or break the economy of rural America. Economic development or decline is rarely reducible to a single variable. The invention of the telephone, which was readily adopted by rural residents neither precipitated nor prevented the decline of the family farm. Advanced telecommunication services are not a miracle drug for rural economies. The rural economy is primarily a resource extractive economy based on agriculture, timber, and/or mineral production and the type of telecommunication services available does not change that fact. We readily acknowledge that advanced telecommunication services can provide value to businesses, governmental institutions, schools, and individuals and, further, that insuring widespread access to such services is a desirable goal of public policy. To be effective, public policy needs to be based on a realistic understanding of its costs and benefits and not move forward based upon hopes and promises.

4. The Digital Divide is more of a political construct than a real telecommunication phenomenon. It has been seized upon and is being used as a springboard by governmental agencies seeking to create a role for themselves within the telecommunications industry and by certain groups and companies seeking to undermine the requirements of Section 271 of the Telecommunication Act.

There seems to be no shortage public sector task forces examining the feasibility of extending the "benefits of advanced telecommunication services to the underserved" which usually means small cities and towns in rural areas.

As an example, the Bonneville Power Administration has announced an initiative to add fiber optic cable to its electric transmission system ostensibly to help provide advanced telecommunication services to units of local government, schools, and non-profit institutions in its service territory. BPA's transmission lines, like those of investor-owned electric utilities, may run through the countryside, but they connect cities because that's where the electric loads exist. BPA's fiber optic plan of action, for itself, does little more than duplicate, the telecommunication networks of companies like Sprint, AT&T, and Touch America.

BPA is not currently preparing to become a retail telecommunication supplier. That likely would be done by the Public Utility Districts and REA Coops in direct competition with the rural telephone cooperatives, small independents, and other investor owned telecommunication companies.

The program the BPA is developing leverages the Digital Divide as a social program in an effort to support the BPA's expansion into the competitive telecommunications markets. Oddly enough while the BPA touts itself as the savior of rural America, its current fiber optic plans call for construction of fiber facilities along the I-5 corridor in some of the most heavily populated areas of the Northwest.

Another Trojan Horse in the Digital Divide discussion is the notion that the RBOCs need relief from the requirements of Section 271 to help provide advanced telecommunication services. Actually, if the RBOCs want to provide advanced services like DSL, they simply need to install the equipment on their existing networks. They do not need to be in the long distance business to accomplish that goal.

Closing

The divestiture of AT&T started a process of both reorganizing America's telecommunications industry and opening it to competition, the benefits of which have been realized by virtually all citizens through improved communication services and/or lower prices. The Telecommunication Act of 1996 continued public policy emphasis on enhancing competition with the industry. Telecommunication companies are moving aggressively to upgrade their networks while improving and expanding service offerings for consumers. The goal of Section 706 is being met. It won't happen instantly, but it will happen provided competition is allowed to flourish.

Senator BURNS. Thank you, Mr. Fitzpatrick.

We now have Mr. Steve Gray, President and Chief Operating Officer, McLeodUSA, Technology Park, from Cedar Rapids, Iowa.

You got to get the corn market up out there, too.

**STATEMENT OF STEPHEN C. GRAY, PRESIDENT AND CHIEF
OPERATING OFFICER, McLEODUSA**

Mr. GRAY. We will try. We will certainly try.

Senator BURNS. Thank you for coming this morning.

Mr. GRAY. Good morning, Mr. Chairman, and good morning to the rest of you.

Since 1994, McLeodUSA has been exploring quite a few opportunities in what is now referred to as the broadband digital age, and in fact we have had some success in investing in a lot of the markets that in fact the mega-Bells are abandoning. We have had success in offering our services to both small business and residential consumers. In fact, we are probably the antithetical of what most people perceive CLEC's to be, in that we are not tier one market players, cream-skimming businesses. We are out there in tier two and tier three and tier four markets, focusing on bringing broadband services to both business and residential customers.

In fact, one of the manifestations of those activities is highlighted by our \$2 billion of capital that we have invested in 1999 and will invest in the year 2000. Most recently, in January of this year—and I would like to update this map—we acquired a company called Split Rock USA. Split Rock is capable of providing Internet services to 90 percent of the United States with a local phone call, with 350 of the most advanced Internet pops in the United States, trademarked by ATM to the Edge.

Well, when you look at the 2.1 billion that we paid for Split Rock, plus the 2 billion of our capital expenditures, we will have invested over \$4 billion of equity last year and this year. Which, parenthetically, is about 4 and a half times our 1999 revenue—not our costs, but our revenues.

Additional factoids with respect to McLeodUSA: 26,000 miles of operating fiber, 350 very sophisticated ATM frame relay and Internet pops, 300,000 customers, of which 60 percent are residential and the remainder almost exclusively small business. We are supporting over 250,000 Internet transactions per day, adding 25,000 subscribers per month to our advanced Internet network.

In addition to that, we have created over 9,000 jobs in this telecom and technology space, while other companies in our areas have been downsizing or rightsizing, leading to employment in the State of Iowa of approximately 2 percent.

What would I ask you gentlemen to do? One, support the 1996 Telecommunications Act. This is not the Voice Act, it was the Telecommunications Act. To Senator Dorgan's point, any CEO that did not recognize the data opportunity in 1996 should have a big problem with their board. Because it was 50 percent of the traffic then. The major manufacturing companies had over 10,000 products and services in design for this opportunity that we are now all trying to exploit.

The second thing that I would ask you to strongly consider is making that 14-point checklist mandatory. Why? The consequences, I think, are very grave if you consider the following. Is competition good? If competition is good, I think what is more important is not how quickly we run the first 13 miles of this race, but how we finish the race.

What that will mean is if we move too quickly to deregulate these mega-Bells, I will assure you that you will knock out quite a few CLEC's and you will make quite a few of us very dizzy. The only thing—and I heard this when I testified 4 years ago in North Dakota from one of the commissioners in North Dakota—the only thing worse than a regulated monopoly is a deregulated monopoly.

And until we have effective, irreversible competition in place, if I were the CEO of a Bell company, I would say to my troops, focus on load coils, bridge taps, provisioning issues, electronic data interchange, OSS, implementation standards, performance penalties, and providing great customer service to both my retail and my wholesale customers. This, Mr. Chairman, I believe is the essence of that 14-point checklist. The net net is if there is a will, there is a way for these mega-Bells to enter this data world sooner versus later.

Thank you very much.

[The prepared statement of Mr. Gray follows:]

PREPARED STATEMENT OF STEPHEN C. GRAY, PRESIDENT AND CHIEF OPERATING OFFICER, MCLEODUSA, CEDAR RAPIDS, IOWA

Summary of Testimony

McLeodUSA, headquartered in Cedar Rapids, Iowa, is a leading facilities-based Integrated Communications Provider serving both residential and business customers. We currently operate in 12 Midwest and Rocky Mountain states; nine additional states have been targeted for expansion. We have focused on serving customers in smaller markets (Tier 2, 3, 4), rather than in major metropolitan areas. The core business of McLeodUSA is to provide "one-stop," integrated communications services including local, long distance, high-speed Internet access, voice mail and paging all from a single company on a single bill, tailored to the customer's needs. McLeodUSA, with 8,100 employees, has currently deployed over 10,000 miles of fiber. The Company derives its revenues from the sale of telecommunications services and the publication of telephone directories. McLeodUSA Publishing will print and distribute more than 25 million directories in 23 states, reaching 43 million people, over the next 12 months.

McLeodUSA strongly encourages Congress to resist any RBOC proposal for broadband data relief. The 1996 Telecommunications Act is working to bring competition to telecommunications consumers in all areas of the country. While that competition is not progressing as rapidly as many would hope or were led to believe in 1996, the delays have resulted not from inadequate legislation, but from a failure of the incumbent RBOCs to fulfill their duties under that legislation. Attempting to impose an artificial distinction between data and voice services will only serve to delay the deployment of advanced services and the development of competition in general. This result will disadvantage consumers, and delay the goal of providing faster, better, less expensive telecommunications services to all Americans.

Finally, if high speed data services and facilities are deregulated, confusion about ultimate goals will not be limited to customers. McLeodUSA is acutely aware of the need to maintain investor confidence in the national goal of bringing competition to the telecommunications marketplace. That confidence has been bolstered by the clear commitment to the 1996 Telecommunications Act, and the efforts of the FCC, to reach that national goal. Legislation which would carve out data services from the pro-competitive goals of the Act would be seen in financial markets as a retreat from that national commitment. As a result, the ability of new entrants to raise the capital needed to bring true, facilities-based competition to all telecommunications markets could be placed in jeopardy. Thus, the drive toward competition could be slowed even though that is not what was intended by supporters of such "data deregulation" legislation.

On behalf of McLeodUSA, I would like to thank the Subcommittee for the opportunity to talk with you today. I would like to accomplish three goals today: first, provide a high level overview of McLeodUSA; second, summarize our concerns with providing broadband data "relief" to the RBOCs; and third, emphasize Wall Street's predictable reaction to providing "data relief" to the RBOCs.

I. McLeodUSA Overview

Clark McLeod and I formed McLeodUSA, headquartered in Cedar Rapids, Iowa, in 1992. This is not our first foray into telecommunications. In the early 1980s, Clark formed Teleconnect and built it into the fourth largest long distance company in the United States. In 1990, MCI purchased the company, then named TelecomUSA. McLeodUSA is a member of the major trade associations representing the competitive telecommunications industry, the Competitive Telecommunications Association (CompTel), and the Association for Local Telecommunications Services (ALTS).

In 1992, desiring to bring competition to the local telephone industry, we formed what today is called McLeodUSA Incorporated. Our primary focus as a company has been to serve small business and residential customers in the Tier 2, 3, and 4 markets in our target states. As a result (as of January 1, 2000), we provided competitive local exchange services to over 280,000 telecommunications customers, in the 12 Midwest and Rocky Mountain states. (We have targeted an additional 9 states for expansion this year). Nearly 30 percent of the 679,000 total access lines served by McLeodUSA are residential lines. Our average business customer subscribes to 5.5 lines.

McLeodUSA's corporate team, with over 250 years of experience, is recognized as one of the strongest management groups in the telecom industry. Strong because of our breadth, and strong because of our depth.

McLeodUSA has already become the leading facilities-based Integrated Communications Provider (ICP) in our market area, providing local, long distance and high-speed Internet services.

McLeodUSA derives its revenues primarily from the sale of telecommunications services and the publication of telephone directories. McLeodUSA has developed one of the largest competitive white and yellow page directory companies in the United States. In fact, McLeodUSA Publishing will print and distribute more than 25 million directories in 23 states, reaching 43 million people, over the next 12 months.

The opportunity for our employees is incredible: one third of our stock ownership resides with employees. This is an important linkage for our investors, and gives our employees a major stake in our success.

McLeodUSA's three-part phased execution is success based. First, building local line market share by resale and by leasing Bell facilities . . . concurrently expanding our brand presence.

Second, building the platform, with inter-city fiber connecting regional gateways.

And third, our current phase, migrating customer traffic on-switch/on-net, which involves constructing intra-city fiber which connects our customers with our regional gateways.

This execution allows us 100% access to build customer share, while capital is efficiently and effectively deployed.

In our first phase of building customer share, we have leased RBOC central offices, which allows us to sell to 100% of the customers in our 592 cities. In addition to pervasive coverage, this service is relatively easy for the Bells to provision and is generally a transparent switch over. Once the switch has occurred, we control many of the features for the customers through on-line provisioning terminals.

Our data strategy, with our recent acquisition of Splitrock Services, Inc. and the addition of industry veteran Roy Wilkens to our management team, will add new revenue opportunity from our collocations and XDSL technology. The Splitrock network includes 350 ATM (asynchronous transfer mode) switches providing dial-up and dedicated data services to other competitive local exchange carriers (CLECs), Internet service providers (ISPs) and large multi-state business customers. Splitrock also has a 20-year irrevocable right of use (IRU) for up to 16 fibers in a 16,000-mile network. This broadband network is capable of carrying integrated voice, data and video signals to 90 percent of the nation's population in 800 cities across all 50 states.

Concurrent with building customer share, we have executed the 2nd phase of our strategy and deployed the most advanced platform in our region. Over 10,000 miles, both intra-city and inter-city, high-density fiber, SONET ring topology, with incredible capacity, is capable of supporting all our voice, data and video applications.

For the last 5 years, McLeodUSA has been focused primarily on the voice market; however, the data opportunity is explosive. Data revenues will surpass voice revenues in 2009. And the bandwidth required to capture data will require companies to own or control high capacity networks. McLeodUSA is positioned for these opportunities in several key areas.

First, the market position. Our customers conveniently have only one number to call for customer service, and one bill provides the best value proposition—one company, simple and complete.

Second, our customer service is World Class. Our goal is to have a real person answering calls within 20 seconds, 24 hours a day, 7 days a week, with one call resolutions. Great people providing great service. McLeodUSA has proof. Since 1994, we have averaged 0.5% business customer churn, the lowest in the industry.

Finally, from a platform position, we can pick the best solution for the customer and the company. Our collocations connect to local access rings, which connect to 500 mile backbone rings, which then attach to high capacity regional gateways. This design is a low cost way to serve 1st, 2nd and 3rd tier markets with one regional center, robust capacity, and functionality. It also allows us to use both our network and the Bell network to optimize the economics.

Our results through end of year 1999 have been incredible.

Directories:	1998: 14 million	1999: 21 million
Local Lines:	1998: 400,000	1999: 679,000
Network:	1998: over 7,000 miles	1999: over 9,000 miles
Revenue:	1998: \$600 million	1999: \$909 million

II. Concerns about providing “data relief” to the RBOCs

Based on the progress that McLeodUSA has made in bringing competition to its markets, it is tempting to conclude that all must be going well in the world of emerging telecommunications competition. This optimistic conclusion, however, ignores the reality faced by McLeodUSA every day: that the incumbent RBOCs upon whom we depend for inputs are doing everything in their power to limit our ability to serve our customers. Those companies, at every turn, make use of each opportunity to introduce delay, uncertainty, and unnecessary expense into our business relationship.

This situation reveals an important fact about the relationship between emerging competitors like McLeodUSA and established incumbent RBOCs: the grossly unequal commercial power between those entities. Typically, when two companies negotiate a commercial agreement, both parties have something to gain and something to lose; and that situation leads both parties to seek a result where there is mutual benefit. In such a case, because either party can seek a better bargain elsewhere, both parties seek a compromise solution that maximizes their mutual gains. In contrast, our relationships with RBOCs show clearly that those companies believe they have nothing to gain by dealing with McLeodUSA. As a result, we typically find that compromise is not possible, and we are told that, if we disagree with an RBOC position, we will need to seek regulatory relief.

An example of this type of conduct is instructive. We have had a dispute with an RBOC about the charges that we pay when we order unbundled loops; not the recurring “monthly” charge (which we also believe is generally too high), but simply the one-time charge to have the loop supplied at all. We are sometimes charged thousands of dollars when the RBOC supplies these loops, even though there is no charge at all when the same service is provided to the same location by the RBOC for its own end-user customer. We know that this is the case because, when these charges have made it financially impossible for use to serve the customer ourselves, that customer has ordered the same service from the RBOC and not been charged for such “special construction.”

Under the forward-looking TELRIC pricing standards used to determine rates for unbundled loops, we believe that loop costs should already include the ability to “unbundle” loops. Even if this were not the case, however, there is certainly no reason for competitive carriers to be charged by the RBOC when the RBOC would not charge its own end-users. We believe this situation is a clear example of discrimination against companies like McLeodUSA. At least two state commissions—the Michigan Public Service Commission and the Illinois Commerce Commission—have agreed, and have refused to allow such “special construction” charges for unbundled loops.

Of course, the RBOC is appealing those decisions to court; and when we have attempted to use the reasoning of those decisions in the RBOC’s other states to convince them to change their position on this issue, the response we received was a flat “no,” with the notation that we were free to litigate before the other state commissions if we so desired.

This result plays into the RBOC’s long-term strategy in two ways. First, by requiring new competitors to expend their resources litigating issues multiple times before regulatory agencies and in subsequent court appeals, they are effectively diverting the competitor’s resources away from the goal of providing competitive services to customers. Second, by simultaneously attempting to convince state legislatures and the Congress that regulatory oversight must be reduced, they are trying

to close the only channel available to us to obtain fair treatment. And that brings us squarely to the subject before the Subcommittee today.

It is clear to me in my job as President of McLeodUSA that the RBOCs with which we deal are not committed to allowing competitive markets to develop in their historical monopoly territories. Instead, it appears that these RBOCs are committed to finding a way to enter markets which are "off limits" under the Telecom Act while preserving their local exchange monopolies essentially intact. Deregulation of data services is an integral part of that strategy.

News reports, industry analysts, and assorted pundits have all noted the "convergence" of voice and data technology in recent years. My company firmly believes in such convergence. Given this phenomenon, it is not at all clear why policymakers should spend the effort required in an attempt to develop separate legal frameworks for voice and data. The Telecommunications Act itself defines "telecommunications" to include any "information of the user's choosing." This definition on its face includes voice, data, video, and all other sources of "information." If the data services were not to be included within the procompetitive framework of the Act, it would have been a simple matter to specify that telecommunications included only "voice" services; yet the Congress did not do that when the Act was passed in 1996. Existing law makes no artificial distinction between voice and data services; both are considered to be "telecommunications." This is a wise course, and it should be maintained.

In fact, attempting to develop separate frameworks is bound to result in an artificial situation which is more complicated, less efficient, and ultimately does not serve the needs of our customers. In the long run, there will be no reasonable distinction that can be made between voice and data as it is carried over telecommunications networks. Even now, much of the voice traffic carried on existing telecommunications networks is carried in digital form. Since digital information is nothing more than a string of binary digits (carried either electronically or in optical form), there is no way to distinguish digital voice signals from other digital signals once the conversion to a digital signal is made. Thus, a legal distinction based on differences between "voice" and "data" is bound to fail.

The only way this traffic can be practically separated is before digital conversion. Yet, we will increasingly see digital conversions taking place at the home, or within the telephone network prior to switching. As a result, by the time the digital signal is ready to be switched, it will already be in digital form, ready to be placed onto a packet-switched network. There will be no distinction to be made between voice and data in such a world.

The structure of the Telecommunications Act is not based upon specific technologies or traffic patterns. Rather, that structure is based upon an immutable fact: for the foreseeable future, in most circumstances, new competitors will have no alternative but to use the existing loop distribution plant (the "copper wires") of the incumbent RBOCs. The Telecommunications Act makes those copper wires available for lease by competitors not because they are necessary to provide voice service, but because they are necessary to provide any service to the household served by them. Those wires constitute a bottleneck which the RBOCs will use to stifle the drive toward competitive local markets unless prevented by regulators and legislators from doing so. A drive to "deregulate" those bottleneck facilities simply because they are used for data transmission is exactly the wrong response if we want competitive markets to fully develop.

RBOC control of that bottleneck will be just as damaging to the development of competition for data services as it has been for voice service, if control of the bottleneck facility is not held in check by regulatory oversight. Even if one attempts to distinguish between voice and data service, it is clear that those wires are just as necessary for data as they are for voice. Increasingly, consumers will use those copper wires to transmit both voice and data, with little distinction between the two. Constructing differing regulatory regimes for each will only confuse customers and hinder our pursuit of the ultimate goal of competition in all telecommunications markets.

III. Wall Street's predictable reaction to RBOC "data relief" proposal

Finally, if high speed data services and facilities are deregulated, confusion about ultimate goals will not be limited to customers. McLeodUSA is acutely aware of the need to maintain investor confidence in the national goal of bringing competition to the telecommunications marketplace. That confidence has been bolstered by the clear commitment to the 1996 Telecommunications Act, and the efforts of the FCC, to reach that national goal. Legislation which would carve out data services from the procompetitive goals of the Act would be seen in financial markets as a retreat from that national commitment. As a result, the ability of new entrants to raise the

capital needed to bring true, facilities-based competition to all telecommunications markets could be placed in jeopardy. Thus, the drive toward competition could be slowed even though that is not what was intended by supporters of such "data deregulation."

Conclusion

The 1996 Telecommunications Act is working to bring competition to telecommunications consumers in all areas of the country. While that competition is not progressing as rapidly as many would hope or were led to believe, the delays have resulted not from inadequate legislation, but from a failure of the incumbent RBOCs to fulfill their duties under that legislation. Attempting to impose an artificial distinction between data and voice services will only serve to delay the deployment of advanced services and the development of competition in general. This result will disadvantage consumers, and delay the goal of providing faster, better, less expensive telecommunications services to all Americans.

Again, I thank the Subcommittee for the opportunity to appear before you today, and would welcome the opportunity to answer any questions that any of the Members might have.

Senator BURNS. Thank you, Mr. Gray.

Now we have Mr. David Woodrow, the Executive Vice President, Cox Communications. And thank you for coming this morning.

STATEMENT OF DAVID M. WOODROW, EXECUTIVE VICE PRESIDENT, NEW BUSINESS DEVELOPMENT, COX COMMUNICATIONS, INC.

Mr. WOODROW. Thank you, Mr. Chairman.

Mr. Chairman and distinguished members of this committee, my name is David Woodrow. I am Executive Vice President of Cox Communications, and I am here on behalf of Cox and as a representative of the cable industry. I appreciate the opportunity to discuss the very important question as to whether broadband communication services are being made available to the American people and in a timely fashion and in a comprehensive basis.

Although Cox is the fifth-largest cable MSO, it operates a substantial number of systems located, collectively, in Utah, Nevada, Idaho, Kansas, Oklahoma, Missouri, Texas, and Louisiana that serve fewer than 10,000 customers. Many of these small systems are less than 2,500 customers. Yet these subscribers will not be left behind. It is in Cox's interest to provide them with advanced services. Moreover, Cox and all other cable operators are prohibited by law from redlining or cream skimming.

Mr. Chairman, you and the members of this committee are exactly right to focus your attention on this important subject, as financial analysts agree, the fabulous U.S. economic performance of the last decade rests on the foundation of technology driven information revolution, and the expeditious, widespread utilization of broadband notwithstanding and content applications is the promise that must be delivered to all Americans if our robust economy is to be sustained into the next decade. Your urgent desire to see this broadband promise spread to rich, poor, urban, and rural citizens alike could not be more appropriate as a national goal.

So, how are we doing? Let us look, first, at some history. It took almost 30 years for the telephone network to grow from the first inter-city service between Boston and Lowell, Massachusetts, in 1879, to the intertwined Bell system of 1908. Cellular service was first offered to the public in 1983. And 6 years later, in 1989, 2 million customers were activated. In 1996, many, but not all, cellular

licensees had extended their networks to serve their covered population.

By contrast, interactive broadband network capability started from ground zero in 1997. Two years and tens of billions of investment dollars later, today broadband service is being delivered to more than 2 million subscribers. So broadband has grown three times faster than cellular to reach the same initial subscriber threshold.

Mr. Chairman, the encouraging comparisons do not stop here. It has taken Cox roughly 2 years to be in the position to offer fully half of its customer base high-speed data service. Service to elementary and secondary schools is an important adjunct to this achievement. We already have wired more than 3,400 schools with free monthly cable service.

And now, as we have upgraded to offer high-speed Internet access, Cox is producing unique distance learning initiatives through its Line to Learning programs to these schools. This is our latest step in our ongoing commitment to enhancing educational tools. Line to Learning utilizes Cox's high-speed networks to provide useful content and curriculum via high-speed Internet access.

As an extension of its Cox@home service, Line to Learning takes advantage of Cox's superior digital fiber optic network, allowing more data to be transferred to down-street rates that are up to 50 times greater than rates achievable over standard 56 kilobit per second telephone modems. Cox has also established Cox model technology schools, where advancements in technology can be employed as teaching tools. During the next 5 years, not much more time than it took Congress to successfully write the 1996 Act, ushering in the era of interactive broadband deployment, virtually the entire Cox customer base of 10 million homes passed will have access to broadband data service—rich, poor, urban, and rural alike.

Mr. Chairman, Cox proudly has led the cable industry in this Herculean effort. We have spent about \$5 billion already, and we will have spent about \$10 billion when the job is finished in 2004. But the whole cable industry is right in step with us. Cable broadband infrastructure spending to date stands at \$31 billion, and is steadily growing year to year.

Independent industry analysts project that more than 40 percent of all U.S. households will have access to cable modem service by year's end. And by 2004, 93 percent will be passed by broadband two-way networks. Since cable systems currently pass 97 percent of all U.S. households, in just a few years, high-speed cable Internet service will be available virtually anywhere in this country.

Mr. Chairman, my comments have concentrated on the aggressive record of the cable industry to squash the digital divide. Of course, many other facilities based broadband players are rushing to provide competitive services to the American people. Telco DSL, third generation PCS and several flavors of microwave, satellite, electric utility and digital broadcast networks are in various stages of development and deployment.

I have little doubt that within an amazingly short period of time every American will be able to secure high bandwidth access to the Internet. The equally good news is that these competitive services

are deployed in the economics of scope and scale, together with ever-improving technology, will drive the costs to consumers down.

I thank the committee for the opportunity to present these views, and I ask that the National Cable Television Association's filing in response to the congressionally mandated Section 706 survey for the year ending in 1999 be included in the Subcommittee record on this proceeding. That filing provides useful information and examples of high-speed data and Internet access services that are already being provided to rural and small communities. Of particular interest to the members of the Commerce Committee are service offerings in Arizona and Maine, Michigan and Mississippi, Missouri and Nevada, North Dakota, Georgia, Louisiana, Tennessee, West Virginia, Oregon and Washington, and Texas.

Thank you, Mr. Chairman.

[The prepared statement and information of Mr. Woodrow follows:]

PREPARED STATEMENT OF DAVID M. WOODROW, EXECUTIVE VICE PRESIDENT,
NEW BUSINESS DEVELOPMENT, COX COMMUNICATIONS, INC.

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Mr. Chairman, my comments have concentrated on the aggressive record of the cable industry to squash the digital divide. Of course, many other facilities-based broadband players are rushing to provide competitive services to the American people. Telco DSL, third generation PCS, several flavors of microwave, satellite, electric utility and digital broadcast networks are in various stages of development and deployment. I have little doubt that within an amazingly short period of time, every American will be able to secure high-bandwidth access to the Internet. The equally good news is that as these competitive services are deployed, the economics of scope and scale, together with ever-improving technology, will drive the costs to consumers down.

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Senator BURNS. Thank you, Mr. Woodrow. We appreciate your comments this morning.

And I want to throw out a question here. And we have listened with interest to all of your statements. And the real purpose of this hearing is just to investigate ways that we may have to pursue in order to make sure that the buildout does occur. I would ask each of you to comment right now, and do it in a capsulated form, are there additional steps we should be taking with regard to 706, to help facilitate the deployment of so-called broadband, even though Mr. Regan says we are using the wrong term, which I believe that we are? Or do we maintain the status quo and let the natural evolution happen?

Does anybody want to comment on that? We will just start the discussion right now.

Mr. Neel?

Mr. NEEL. Mr. Chairman, we believe strongly that the most important remedy that you could come up with would be to totally deregulate enhanced services. And that means everything from the central office to the Internet backbone, to the home. And that means amending 706, if necessary, to do that.

So regulators cannot put these huge burdens on companies that are now heavily regulated to provide these services. Because, as I pointed out, for many people—not all—and in fact, many of the companies here at this table, and particularly smaller local companies that have been referred to, are doing a great job out there—but to get access to the high-speed data network, you are going to have to deregulate these companies.

So removing these interLATA restrictions on data—not voice but data—is absolutely critical, as well as all these other regulatory burdens. Because it is very insidious. Any regulatory burden on a local exchange provider—and they are the only ones that are really regulated—adds costs to operating that service, adds costs to those consumers and, in some cases, creates a huge disincentive for those companies to even invest in those services.

So you have got to remove those regulatory burdens on all the companies, not just the RBOC's.

Senator BURNS. Mr. Gray?

Mr. GRAY. I think the first thing that I would like to suggest, Mr. Chairman, is that we narrow the argument. Because I believe, and subject to being corrected, that the only burden, if you will, are those imposed upon the mega-Bells. We are not talking about the companies, fine companies, like Touch America and the 150 independent telephone companies in Iowa. So I think the issue is the mega-Bells.

My second and last comment is, I would look not to 706, but, quite frankly, back to 271. Because I still fundamentally do not understand why, to Senator Rockefeller and Senator Dorgan's question, why, if those Bell companies meet and exceed that 14-point checklist they cannot do what Mr. Neel wants to be done. And we cannot distinguish, in this kilobit world, what is voice and data. Things are going to move too quickly on this on ramp and on this off ramp to look and see who is in the car. Is that data or is it voice?

And within the next several years—and we can talk about the metaphor of whether it is an island or an interstate, and we can pursue it either way—but the fact of the matter is we are talking a converging world that is going to become a kilobit-centric world, and we are going to debate whether you are using a microwave or a traditional convection oven. So letting these guys into the data business now in a totally deregulated fashion ensures that we will not have effective, irreversible competition long term.

Senator BURNS. Mr. Regan?

Mr. REGAN. At the risk of getting squashed between all my customers, because I sell stuff to all these guys—

[Laughter.]

Mr. GRAY. We will remember that.

Mr. REGAN. We are an enabling technology for everybody.

Senator BURNS. They are taking notes.

Mr. REGAN. Yes, I know they are.

I think the point is this. The Telecommunications Act was based upon the premise that we were going to enable competition, and that competition was going to drive technology. Now, when you step back 4 years later and you say, well, what is happening? Well, we have got lots of competition in the business market. The low-hanging fruit is getting picked. You just walk down the street of Washington, D.C., and you can see all the trenches.

I think the problem that we have right now really not in the business market. The problem we have is really in the residential market. And, frankly, the kind of competition that we hope that would evolve in the residential market really did not evolve. And so now we have sort of an interesting situation. We have a market

that is not robustly competitive, not necessarily ideal for the deployment of technology, because competitive markets are. And the question is, how do we advance technology in that, quite frankly, still highly regulated environment?

That is why I move toward the notion of financial solutions. We have studied this thing. We need financial solutions. Regulatory solutions are interesting. They are part of the game. But you have got to have both out there. You cannot do one or you cannot do the other.

Senator BURNS. Yes, sir, Mr. Woodrow?

Mr. WOODROW. Mr. Chairman and the committee, I would like to remind the gentleman from Corning that substantially more than half the fiber deployed in our networks goes to the residential neighborhoods. Our networks do not discriminate as to what customer you are. It is a broadband network that goes to virtually every single home pass that we serve. And we think that the Act is working extremely well.

The reason that we are doing what we are doing is because we have invested over \$5 billion in capital since the Act was passed to be able to enter into these new businesses. We spent more than \$10 billion acquiring systems, enabling us to get larger in our industry so that we could go off and provide these services to every customer, regardless of whether they are a residential or a commercial establishment.

In fact, the predominant growth that we have in terms of all the new services we have are in the residential marketplaces today. And it is for that reason that we are adding 20,000 to 30,000 new data customers a month. And those are to the residences predominantly. So we think the Act is working very well. We think it basically enabled us to come up and, on a competitive basis, to enter into all new forms of services, whether they be data or high-speed digital video or telephony. We are providing all of those services in the markets we are entering in today.

Thank you, sir.

Senator BURNS. Mr. Fitzpatrick?

Mr. FITZPATRICK. You know, if you pick up the telephone and call your banker to get the statement, and they read off and tell you that your balance is \$1,200, the information that they provide—it is converted to bits of information and it is transmitted by light over the fiber optics system to your home. That is no different than the bank transmitting information from one bank to another.

The notion that data is somehow different than voice only exists at the receiver level. Once it enters the black boxes, it is all data. So the distinction between long distance and data traffic is fundamentally artificial to begin with.

Now, I am a very skeptical person by nature, and somehow I am having a hard time believing that the regional Bell operating companies are going to make a commitment to rural areas and provide them enhanced services if they could just get access to the data transmission from major cities. There is competitive service right now, supplying that data transmission, be it for Citibank or for General Motors. And I am not convinced that USWest or Ameritech necessarily bring anything to the table.

But I do understand how they could try to leverage that issue as kind of a political tool for the purposes of saying that they are going to provide a commitment to rural areas that they have demonstrated in the last 5 years they do not have. In my judgment, the absolute worst thing you could do if you were interested in providing enhanced services to all Americans is to deregulate any further the conditions that exist in 271.

Thank you.

Senator BURNS. Senator Breaux.

Senator BREAUX. Thank you, Mr. Chairman. And I thank the panel of witnesses for their testimony.

Mr. Neel, elaborate further on what you think the problem is with Section 706. Because apparently, in the January 1999 report by the FCC on 706, they really, I guess, determined that broadband services were being provided in a reasonable and timely fashion. And then I hear from most of the panel of witnesses today that they are doing all of that.

Mr. Woodrow is spending tens of billions of dollars, 50 percent of his customers have access to it. Mr. Fitzpatrick is involved in that. Touch America is doing it. Mr. Gray spoke to the question of billions of dollars being invested in broadband deployment. So it seems that the decision by the FCC that this is occurring in a reasonable and timely fashion, according to these gentlemen, is an accurate assessment. Why would you disagree with that?

Mr. NEEL. Senator, by the FCC's own studies, the penetration for high-speed Internet access today is only 1.45 percent. Now, that means more than 98 percent of the American households do not have access to high-speed Internet.

Senator BREAUX. OK, let me ask that question then, because they are saying that it started off at .4 percent and now it is 1.45 percent. We are spending billions of dollars and it is doubling, tripling. What would you say to that?

Mr. NEEL. Well, if you are willing to wait a long, long, long, long time, then this problem would be solved. But there is another issue here. Many of the CLEC's are basically serving the same customers. If you look at the maps—Congressman Tauzin had one, there are a number of others—if you look at urban areas, they are all building to serve the same customers. And those customers have a great deal. They can drive down costs and do that.

But if you do not live along those routes of the CLEC's, then you are out of luck. And one problem with some of the local area fiber networks—and some of these small companies are doing a fantastic job of building in their own communities—but they have still got to get onto the on ramps. And that means carrying that stuff to Chicago, Kansas City and elsewhere. And that is not really happening.

Senator BREAUX. Well, let me ask this question then. Can any of the other gentleman comment to the proposition that 1.45 percent penetration is certainly not reasonable and timely deployment?

Mr. Fitzpatrick?

Mr. FITZPATRICK. First of all, I think that that is quite reasonable and that it has happened quite rapidly. But to get back to the heart of the issue—

Senator BREAUX. One percent is reasonable and rapid?

Mr. FITZPATRICK. It is for, basically, a brand-new industry. But I think you get right back to the basic point: there may be a large number of customers that are not served with these services, and who serves them? Who takes care of them? The regional Bell companies. That is the vast majority.

If you want to start providing high-speed services, they are the ones that need to make the commitment to do it with their own customers.

Senator BREAUX. Mr. Woodrow?

Mr. WOODROW. Senator, if I recall, about 60 percent of U.S. households have PC's today. And of those, about 50 percent have access to an online service of some form—AOL, MindSpring, Cox@home or whatever. So about 40 to 50 percent of our homes passed have available services to them. Whether the subscribers elect to take those services or not certainly is at their choice. We are about 3 percent penetration on average today. We have areas that are as high as 8 or 9 percent penetration. The low is 1 percent penetration.

We have been marketing these services for about 2 years aggressively in those marketplaces. So there is a difference between what the penetration is and what the availability is. These services are available to the consumers. It requires PC's. It requires a desire to have online services. It requires a desire by the consumer to be able to access those services.

We think we have been doing very well. And we have been growing extremely well and trying to just serve the needs we have and the customers today. But at least 50 percent of the homes passed have the availability of those services if they want to take them.

Senator BREAUX. Mr. Neel, it sounds like the cable industry is going to leave you at the starting blocks.

Mr. NEEL. Well, we think the cable industry is doing a great job. They have got five times as many high-speed Internet customers as the local companies. But to this point here that the Bell companies and the local companies need to make a greater commitment to rural areas, they are prepared to do that. But they have endless regulatory restrictions that do not even allow them to do that, the foremost being that they cannot even cross LATA boundaries.

So you cannot make a commitment if you cannot back it up legally, much less financially. Those companies are ready to serve. So yes, the cable modems, they are providing a huge competitive alternative. That alone should stimulate the Commission to release some of these regulations, to let some go, to declare these markets competitive. Because the cable companies are out there eating our lunch in some markets because we are not allowed to be there serving in the same way.

Senator BREAUX. What will be the incentive of the to RBOC's to in fact open up their local markets if in fact they get access to data, because some would argue that the long distance voice transmission is becoming almost insignificant?

Mr. NEEL. Well, I do not think it is becoming insignificant. It is true that it is indistinguishable in a digital era. But you want to go get the voice market, because you want to offer one-stop shopping. Any real competitive players are going to have to be able to

do it all. And right now, the Bell companies, in particular, cannot offer long distance voice service. That is 80 percent, 80 cents of every dollar, of long distance traffic is voice still. They want to be in those markets, so they have got a huge incentive to meet those 271 requirements and that checklist.

Senator BREAUX. A final question. Your chart accurately points out, I think, all the regulatory requirements that you are faced with, and the cable operations have none, according to your chart. Some would argue that the cable people do not control the local areas, and that the reason why you have that is because people cannot get into your systems. Is that a justification? Give me some thought about that.

Mr. NEEL. I do not think so. We certainly would not want the cable companies to have to take on the same regulatory burdens that we have. We think you ought to level the playing field. We think that is what you were trying to do with the 1996 Act is level the playing field, let everybody play in all of these markets so consumers will have choices. So I do not think that is an adequate reason to retain that regulation. It is not a reason to impose regulation on the cable carriers. We do not want that either.

Senator BREAUX. I just have one final comment. I am not sure we have a real broadband policy in this country. We are trying to adapt a 1996 Act to somehow find out what the broadband policy for this country is. And I do not remember a lot of discussion in 1995 and 1996 about what the broadband policy was going to be for this country.

And what we are trying to do is to adapt the 1996 Act that sort of only in a minor way dealt with broadband policy and say, well, that somehow is going to be extrapolated into broadband policy for the 21st century, when I think it is so important that we ought to clearly and precisely spell out what the broadband policy for this country is going to be. I do not think you can find that in the 1996 Act, no matter how hard you look.

Thank you, Mr. Chairman.

Senator BURNS. Senator, let me build on that just for a second and ask you this. We felt, in 1995 and 1996, that we were dealing with 1990's technology with a 1935 law, and that was not working. And the explosion in the technology really forced us to do something with regard to policy. I think this is pretty indicative of what we have heard today, is how fast that technology is growing and we could be in a position where we are behind the curve again. And that is what lends to this debate. But I know what the driving force was in 1995 and 1996.

Senator Brownback.

Senator BROWNBACK. Thank you, Mr. Chairman. This has been a good panel and a good discussion.

I want to first enter into the record the position of the Information Technology Industry Council on the bill that I have put in on deregulation.* I ask that it be submitted into the record if I could, Mr. Chairman, without objection.

Senator BURNS. Without objection.

Senator BROWNBACK. Thank you, Mr. Chairman.

*The information referred to was not available at the time this hearing went to press.

I want to focus the panel, if I could, back on the topic of the hearing. And it is a hearing on broadband access in rural areas. So we are talking about rural America with this. I know Senator Kerry and some others are concerned about the inner city, but we want to talk about rural areas.

First, Mr. Neel, if de-regulatory relief is given to the RBOC's and they are allowed to recoup on new investment that they make into these areas, to that the high-speed access—to use the proper technology—high-speed access is available, will they deploy into many of these unserved areas now and rural areas?

Mr. NEEL. There is no question that they will. Now, they may not be able to serve every home and every household, but they are going to be out serving hundreds of thousands of families in highly rural areas that are not going to be or maybe never served by these new competitive carriers. If you look at situations certainly in Kansas, but a real dramatic case is a USWest issue in North Dakota, they have got fiber pipe laid between parts of the upper Midwest, right into Minneapolis, and they cannot even turn on that switch because of the interLATA restrictions.

So there will be investment, because they have got facilities there, they can do it, it will be economical, and they will reduce costs for those consumers. They have every incentive to do it.

Senator BROWNBACk. Mr. Gray, you would rather we not do any deregulation for the Bells. And you argue strongly that this would be harmful to the overall intent of the Act and harmful to overall competition. But focusing on rural America, if we do not deregulate in rural areas and allow this investment to take place, how do you anticipate, over the next 3 years—I want to give you a short time horizon because I think we have a short time horizon to connect rural areas to this new economy—over the next 3 years, where will the money come from to connect rural areas to high-speed access?

Mr. GRAY. A great question, and I would be pleased to respond to that. The current source of cash in order to make these type of investments are, quite frankly, coming from investors, either the public markets or private venture funds. And in order for those people to make those bets, or investments if you will, they need to see public policy certainty.

I want to once again disagree with Mr. Neel. I am not aware of very many of our colleagues that are profitable and have a lot of cash-flow. So to make the \$1,000 to \$1,500 per line investment that we would need to make in order to be where we want to be 3 years from now, that money is going to come from third party investors. And we need public policy certainty. And if I may, Senator, I think it really comes down to—

Senator BROWNBACk. I want you to focus in rural areas, because that is what we are talking about here. Do you think you will be able to get that sort of capital into rural areas?

Mr. GRAY. Once again, horizontally stratifying into the mega-Bell rural markets, those that we would operational define as populations 10,000 to 25,000, yes, I believe so.

Senator BROWNBACk. And so you think you will be able to fill in this map of all the disparity over the next 3 years?

Mr. GRAY. We have been moving as aggressively as we can in our 21-State serving territory. So, yes, sir.

Senator BROWNBACK. And you are doing that now, then, and providing high-speed connection into these areas? Because the map is pretty, and maybe you dispute the map, but the map is pretty checkered, with a lot of open areas, particularly in rural areas across the country. It strikes me that you are talking about a number of billions of dollars into rural areas, lesser-populated regions, where the low-lying fruit is not particularly there, it is up in the tree a ways. And you are going to put a lot of money to get that in the next 3 years?

Mr. GRAY. I would argue that, especially in the 3- to 5-year time horizon, we are in the middle of a technology revolution. And there are a couple of things that I think we need to watch very carefully. One, the evolution of wireless, especially the UHF frequencies, 60 to 69 and 70 to 79, and some of the things that that will enable us to do much more pervasively and much more economically.

The second dimension of the technology revolution is that hardware at the end of whatever the medium is, whether it is fiber, copper, coaxial, or wireless. And we are seeing things now called the collapse central office, or the soft switch, that are now the size of those college room refrigerators that we had that will now do what it takes a roomful of equipment to do.

Senator BROWNBACK. So you think it will come more from new technology or from satellite rather than from—

Mr. GRAY. Absolutely. I think those are two of the biggest drivers in this, bringing broadband to the home and business in the rural markets.

Senator BROWNBACK. Mr. Neel, I want to give you an opportunity to answer. Do you think the investment will come from that area in the next 3 years?

Mr. NEEL. Well, I think in some communities. And Mr. Gray's company has done a great job in going to some of those less urban areas. But still, as the CLEC's report to Wall Street, they are going to where the low fruit is. They are going where the money is.

So if you look at large sections of this, maybe in some towns of 25,000, but that is a good-sized town, in Montana and in the rural West, that is not what I think of as real rural. And there is not going to be any incentive there for those folks to build those big pipes into rural areas.

My point is that the investment is more likely to come from the local exchange company, and not just the Bell company, but all those independent companies, as well, to serve those customers. Because they are already serving those customers. They have a commitment to rural America right now and have had one for 100 years.

They have an obligation, a Universal Service obligation, that they are prepared to extend to these new enhanced technologies, as well. But you have got to give them the regulatory relief. All these regulations we have pointed out here, or most of them, apply not only to the Bell companies but even to the smallest independent company, as well.

Senator BROWNBACK. Mr. Chairman, I do think it is important that we look at something that is a 3-year plan here. I do not think we can look at a 10-year proposal for filling in the blanks here. That is why I really continue to believe that our most likely oppor-

tunity if we are going to have any hope here is in more of a de-regulatory regime rather than betting either on us putting in billions of investment from government or Wall Street saying, we are going to invest in these areas that do not have as high a potential rate of return. I think, over the next 3 years, that is a pretty long shot.

Senator BURNS. Mr. Gray, building on the conversation you had with Senator Brownback, just one little comment. I have a belief I want to inject in here, because I am going to turn this hammer over to the leadership over here. I have got a very important appropriations meeting I have to go to in about 5 minutes. The buildout, the investments made, is to attract new business out there. If the services are there, you are going to add population to that community. That has to be part of the master business plan.

Mr. GRAY. It is. And actually there are two phenomenas. One, I cannot remember which panelist described it, but we have got a situation in Pella, Iowa, now, where Pella Windows is saying, Steve, what can you do to help us with the broadband connection that we need to ship voice and data all over the United States, or we are going to need to move to Chicago?

So we are actively building network to connect to either, A, existing large businesses in these communities, or, B, help the business dynamic to allow these communities specifically in these more rural States to attract or, more importantly, keep the college kids that are leaving at about 2x the rate that they are staying.

Senator BURNS. Senator Kerry.

Senator KERRY. Thank you, Mr. Chairman.

This is obviously a very, very interesting and important discussion for us. I find it a little bit disingenuous to suggest that, in 1996, we did not contemplate data transmission or different kinds of transmission other than voice. I think the definition itself says very specifically the term telecommunications means the transmission between or among points specified by the user of information of the user's choosing without change in the form or content of the information that is sent and received. And I think that, back then, there was a very significant proportion of transmission that was data of one form or another.

Now, that said, obviously there has been a revolution since then in the possibilities that come with the new technologies that have lent just enormous scope to the capacity of that data and to its impact on our society. So I do not want to be frozen in time, and I think we have to be careful of that.

But there are some other realities that we have to try to deal with here. Most of the people in this room are not attracted to this room because they have come here with some immense public commitment to seeing rural and underserved urban centers suddenly served. I think everybody knows that.

This is a fight over who is going to get how much. Now, that fight was regulated, from 1984 to 1996, because we all understood there was a monopoly regulation structure. We liberated that in 1996. And we set up some pretty clear judgments about how we were going to say to those who had had that monopoly structure, OK, you can have at it.

But we are still struggling with that. We have got a Justice Department telling us that some people should not get X, Y or Z today. We have got judges wrestling with the question of compliance with 271. We have got good friends of mine, who recently got a waiver in New York, but who subsequently were fined by the FCC for not complying in other areas.

We all understand what this struggle is about, folks. And I do not think we should cloak it in some kind of false altruism or something. This is a fight over share, market share. And you are coming to us now and saying to us, we want some relief because we ought to get in there.

Now, maybe there is some kind of relief. I am not saying no. Maybe there is something that can meet what I think is our overpowering responsibility, which is to guarantee a fair playing field, which is what we have always tried to do in this effort, competition, but second, to make sure that America gets this as fast as possible. That really is in our interest for a lot of different reasons.

And it may be we have to think differently. Now, I do not have the answer yet. I am sort of thinking out loud. We have to think differently about what creates the fastest distribution. To that end, some of us are looking at the issue of tax credits. And not trying to pick winners and losers, but seeing if we cannot incentivize the system within a structure that is already created to have competition and see how that develops.

Now, Mr. Regan, you think, I believe, that tax credits are the correct public policy at this time. And I would like to just engage that fight a little bit. Why do you feel that so strongly? And the second part of the question, Mr. Neel and others here, is what guarantee is there, given the experience that we have all been through, that if suddenly there were an unregulated atmosphere and you were going at it, that—I gather Senator Stevens earlier asked some of the questions I wanted to about the selling that is taking place of the local systems—what guarantee is there that suddenly they are going to go where they have not wanted to go and are not today?

And I am sort of balancing the economic incentives versus what you might get in this unregulated atmosphere otherwise. Do you want to address that, Mr. Regan?

Mr. REGAN. Sure. First of all, I think that we took a look at this situation. We hired some economists and we said, can you take a look at the local market, the residential market? Because that is the one where the problems lie. We do not see a robust, competitive market out there. I have got one telephone company and I have got one cable company. I think most people are in that situation.

And we may see some competition come for these higher-speed data services. And that will be great. But when you look down the line you say, I will guarantee you, the 1.5 megabits that people are talking about today will look like chicken feed in 3 years. And so we are saying, how can we give people, everybody at this table, an incentive to move forward, without engaging in this endless debate over regulation?

Because it is very complex. And the local market is highly regulated. We have Universal Service. And on top of Universal Service we have a system now of unbundling and resale. And, God knows,

other kinds of regulation. And this all creates, if you will, an inhibition. And it has suppressed telephone rates to the point where, sir, there are pockets of competition for telephone service, but not a lot. And so the market mechanisms have been disrupted.

So what we are saying is let us think bigger. Let us look to the next generation of technology and ask ourselves, what is it going to take to give everybody in the country 10 or 20 megabits? Because when you think about what is going on in the computer world, that is what they are getting. They are getting 10 megabits. They are going to get 100 megabits soon. And the Internet really, like I said, it is a collection of computers. It is a network of computers. So we have to think in the computer world.

So our thought was, let us come up with a way to create an incentive, through a targeted tax reduction, that would apply to all carriers and to all technology, that would move us into the next generation, in a parallel fashion with the things that are now going on with cable modem service and with ADSL service. I think any technologist will tell you that ADSL and cable modems are wonderful technologies, but they are a transition technology, and that there is another one out there that is going to be coming.

And so what we are saying is let us get out of the mud over these regulatory issues. Let us create a financial incentive for everybody, for all technologies and for all classes of carriers. And let us move on.

Senator KERRY. Just a quick question before I turn to Mr. Neel to counter that point. What kind of services do you envision when you talk about Next Generation Internet?

Mr. REGAN. Let me give you a simple example. When you turn on your computer in your office, you are operating at 10 megabits. Now, the kinds of services you can get at 10 megabits, you can get video services. You can get new kinds of what they call video applications, which, frankly, have not been invented yet because there is no way to transmit them. The systems that we get today, the kinds of information you get over the Internet today is largely characters and numbers, because that is what you can get.

And I think that in the future, as we get more capacity out there on these data networks, we are going to be able to transmit video files which will enable people to interact in the video domain.

Senator KERRY. And your specific objection to the relief that is being requested or advocated by some is that it is overregulated, it is one-industry-specific, and does not provide for the same kind of incentive to everybody?

Mr. REGAN. Essentially, yes, that is correct. The fact of the matter is we have got a very highly regulated market. Without passing judgment on that regulation, we are saying, let us just move on.

Senator KERRY. And, Mr. Neel, why is that neither fair nor workable?

Mr. NEEL. My view on the tax credits as an alternative to deregulation is that you should use the spending of taxpayers' money—which a tax credit is just like a public expenditure, frankly—as a last resort, if the free market cannot do it, if the private markets cannot do it. You ran through this years ago. I know the chairman of the committee and my former boss worked on this 8 years ago in deploying fiber to the home. It is great technology, but

it is very expensive. And you need to let the public switch network and the private markets try to take care of this first.

Our view is simply this. The one sector of the larger telecommunications industry that is best able to extend these technologies to everyone, wherever they live, is the sector that has been doing it for 100 years for plain, old telephone service. And so you ought to try to relieve that regulation first before you spend taxpayers' money to deploy, and that much of that regulation is obsolete, in many respects, for all the carriers, not just the Bell companies. And it does not cost you, the taxpayers, one thin dime to do that.

Senator KERRY. But what is the guarantee, No. 1, that it would be done in those areas where it needs to be done, where there is no indication to date of a willingness to do it? And, No. 2, what is the guarantee that you do not go back and upset the very competitive structure you have tried to create and simply recreate a dominant entity, and crush, incidentally, some of the innovation and competition that we have tried to create?

Mr. NEEL. There are a lot of questions embedded in that. One part of your first question implies that they have shown no interest or willingness to do this now. That is not true. They are unable to do this legally because of the arbitrary restrictions, primarily on crossing LATA boundaries, but also for all these other regulatory reasons. There is an intense willingness to do it. In fact, just look at some of the small independent companies that Mr. Gray and Mr. Fitzpatrick have referred to that are out there building those networks, those fiber networks. And they are doing it because they are putting their money where their customers are.

And you mentioned earlier about the companies selling off lines. That is not an abandonment of consumers, because other local telephone companies are taking those over and doing a really good job and, in many cases, a better job.

So the same industry is providing that service and they still have too much regulation. But we should not look at US WEST or GTE selling rural access lines to other local carriers as necessarily a bad thing. There is every willingness to do it. But in the case of those companies, there is no incentive to build out those broadband services into those highly rural areas because they are not going to recover their costs, they are going to have to unbundle them and go through a labyrinth of FCC pricing and regulatory procedures to do it. So it is crazy to spend that money on doing it.

The smaller companies may be able to do it. So there is no absolute guarantee, but you can bet if you do not give them some incentive through deregulation, not tax credits or public expenditures, if you do not give them some incentive through deregulation, then virtually no one is going to do it.

So it seems to me it is worth rolling the dice a little bit, taking a small risk, even if it means adapting section 271 or section 706 to make this happen.

Senator BURNS. Senator Rockefeller.

Senator ROCKEFELLER. Mr. Neel, our experience in West Virginia, and I think in most rural places, is that no matter where you look, whether it is deregulation of railroads, deregulation of airlines, whatever, that it goes exactly counter to what you are saying,

and that is that deregulation almost guarantees the lack of competition. In fact, the deregulation that we have been through explicitly, painfully has guaranteed the lack of competition, even though that is the reason that deregulation is often proffered, that it will create competition.

Now, I will not posit that. I am just warming up with that. I am torn on this, I am torn on this issue sometimes, because I—and with Paul Margie, whom I work with on this issue—we have these arguments in which I say: Look, and some of the same arguments that you have given; if we wait and we do not deregulate or we do not let the RBOC's or Bell Atlantic in our case get what they want, which would then in many ways sort of cede the whole question of the last mile and all of that, which is huge in the 1996 Act, that we will just be nowhere 5 years from now or 10 years from now.

I have those thoughts. I have those thoughts. And Paul and I have had those discussions, in which I say—sometimes I just come roaring out of my office and say: What is the moral value, what is the moral value of holding onto a pristine, we have got to have that 14-point checklist, we have got to have these conditions met because in 1996 that is what we said? And on the other hand, what is the morality of that if on the other hand the people that I represent, who are fiftieth in the Nation per capita income, have no broadband service?

Then I can turn quite around just as easily and on the same theory that—Mr. Crane I thought made a really interesting and a very, very important point when he said that those people who keep saying, oh, we did not have any idea about broadband, etcetera—and John Kerry made it by reading from the act.

But the even more important point, what you said, sir, and that is that 50 percent of all the companies, they already had plans. If we were not thinking about it because we were computer illiterate in 1996, which we certainly were—I am not even sure if we had an Internet service in 1996 in the Senate; if we did, it was 1 year before that—the companies certainly were thinking about it. They were thinking way out, because they do. That is their sole preoccupation. We have many preoccupations here.

So I would come back to you, Mr. Neel, with the question of, using DSL and their inability to be able to go out beyond 18,000 feet from the central office because of the cost involved, you say deregulation solves. I say to you, take the DSL example, it will not mean anything to them because they cannot spend the money.

Or I go back to my original thing, that Bell Atlantic rolls out their plan and it includes 5 of the 55 counties in West Virginia. Covad rolls out theirs and it is about the same, it is about the same.

So you deregulate—I have absolutely no sense of confidence that they will, as John Kerry brilliantly put it, that they will in fact spend any money, because it is much more expensive money. Just as Mr. Crane, and then I will turn against his argument for a second, said: Oh, we are doing it. Well, you know, maybe he is, but in how many places, because it becomes so expensive the more rural it gets. And you do not have to be in Montana to get very rural, rugged places. You can be in West Virginia, which is 96 percent mountains and where you can be driving underneath a tower,

a transmission tower, and still not be able to get cellular service. I mean, you can be looking at it and driving underneath and you cannot get it.

So the question I would put to you is, again you say, I cannot guarantee, but if you are going to say, oh, I am not interested in tax credits—and I agree with what Tim Regan said, as I always do, that it has got to be a mixture of both. I mean, I think there is nothing wrong with tax credits. I do not know—you wanted the law from the Congress and now you do not want the Congress to give up any of the American people's money.

But you do want the services out there. Olympia Snow and I are doing a thing that gets some tax credits out there, which will help. Will it solve the problem? No. Will it do all 55 counties? No. But it will help. It will start, it will get it going. It will probably guarantee that certain things will happen, maybe give Mr. Crane a better chance, Mr. Fitzpatrick a better chance to do what they are doing, you all, the conflicting interests that you represent to do more of that.

But all I know now is nothing is happening, that there seem to be no plans for really anything to happen. You are all saying, oh, let us get deregulated and we will do it, which is so easy to say. But when the economics is, when we give it to you the economics then come into play, we are out of the picture, and then you have got to live with your economics, and your economics do not favor taking it out into rural areas.

I am tremendously troubled by that. That is one reason why I am very comforted by a tax credit approach, which I think—and Mr. Regan, if you will speak to that, I want you to. But Roy, that is my dilemma. I do not want West Virginia to be left behind. I do not want Montana's good folks out there, I do not want them to be left behind. I really do not. I really fear.

We are having all kinds of new economy meetings in West Virginia, pulling our people together to figure out how we can do more venture capital, all kinds of things. I do not want us to be left barren because I got so hung up on a deregulation airline problem or a deregulation railroad problem which has absolutely ruined the State, particularly the railroads, that I hurt my own people through an anti-deregulatory approach, unless I have real confidence that once you have got it you are going to make something happen with it, and I do not have that confidence.

Now, you try to satisfy me. And then, Tim, if you would just say why you think that, if you do, that the tax credit, that the both approach type thing makes some sense.

Mr. NEEL. Well, first of all, I am not saying the tax credit is a bad idea. I am just saying it should not come first and it should not be a substitute for deregulation first.

Senator ROCKEFELLER. But you are saying that, because if we do a tax credit that takes a little bit of pressure off, and I think that you want to keep the pressure at a very high level for deregulation. Anything that decreases the pressure for deregulation is something which should be troublesome to you.

Mr. NEEL. Well, you said it, not me.

Senator ROCKEFELLER. Yes.

Mr. NEEL. So in that case yes, if it is that or deregulation, we would prefer deregulation. But I would make this observation. You are the godfather of the schools and libraries and wiring rural health care facilities. I mean, that is your deal and it was magnificent, and you and Senator Snowe deserve huge amounts of credit for making that happen.

But I have to say that getting all those schools wired with whatever speed and capacity they may have in their community or their school district is not going to do much for them if they cannot hook into research centers all around the country. So until you solve the problem that is demonstrated by this map, the schools and libraries program is not going to be worth what you want it to be.

So all I can say again is that there is no absolute guarantee, but there is an absolute certainty that nothing will be done unless you do at least let those local companies take a shot at it.

Senator ROCKEFELLER. But do you not understand how you cannot lose by giving that argument? I agree with on the E-rate. You do it K through 12, it is terrific, but they cannot access everything they need to. In Wayne County, West Virginia, they cannot access it. They are cutoff from the original intent of all of this. And of course it is a great start and it is the right thing to do.

But you see, the reason you cannot ever lose in your argument is because you say, but if we do not do it how will we know. But if we do do it and there ends up being no competition, there is no way back, and that is our experience on railroads. We have railroad companies, two in West Virginia now, two in the East Coast now, who basically tell all of our companies exactly what they will pay who are captive shippers, and that is 80 percent of our chemical companies, and there is no redress. There is no redress whatsoever.

It is killing us. It is flat out killing us because of the deregulation. So I cannot come back once I give you deregulation. I mean, I cannot come back and say, oh now, will you not please do this and that.

Mr. NEEL. Well, but the analogy between railroad deregulation and telecommunications deregulation does not really work for a whole bunch of reasons. The telecom economy is very nimble and mobile, and the very existence of the CLEC industry is good evidence of that. I do not think you could see that.

First of all, no matter what you do with section 271 or section 706 on data, you are not going to be able to put that horse back into the barn on the fundamental pro-competitive parts of the 1996 Act, which is the requirement that the local phone companies allow interconnection that is nondiscriminatory. That is absolutely the law and that will not be changed. So you cannot go back to that.

It is important to point out that there is no real monopoly for business services for these kinds of data services we have been talking about. If you live in—if there is a monopoly in a rural area, it is only because a new competitive carrier does not want to spend its money to go there. So you do not have a monopoly in those areas now.

Just look at Washington, D.C., and see what is being done with the trenches and all the different carriers.

Senator ROCKEFELLER. Do my DSL 18,000 feet from the central office?

Mr. NEEL. Excuse me?

Senator ROCKEFELLER. Do my DSL 18,000 feet from the central office? It just does not work. What comfort is that to me?

Mr. NEEL. Well, when DSL gets into your neighborhood you will have access to the cable modem and that, and you may have some wireless data service down the line. If you live in an urban area like you do, you will have lots of choices.

Senator ROCKEFELLER. Yes, but I do not live in an urban neighborhood. I happen to on a temporary basis. But where I live there are no choices. Look, we do not even have any—we do not have any—we have two health plans in West Virginia. I mean, I am dead serious about this. I am not into some kind of a polemic here. They talk about health plans and then you shop around and get the best deal and pick all your plans. We do not. And one is going broke, so we only have one.

We do not have any choices about anything in West Virginia. So on the one hand that says, well, gee, I want to go with Roy Neel because that means that Dennis Bowen and Bell Atlantic will all of a sudden start doing all kinds of magnificent things in West Virginia for rural areas, which—Maine and West Virginia are the two most rural States in the Nation, with all due respect to your excellency—that nothing is going to happen.

I go back to the broadband and Bell Atlantic's plans and Covad's plans, and it excludes virtually everything in West Virginia because there is no money to be made and it does not from a business point make sense for them to do it.

Mr. NEEL. But there is a heck of a lot better chance that they will be doing it if you give them some regulatory relief.

Senator ROCKEFELLER. Well, but yes—and I will stop on this because the chairman has been more than forbearing. The argument that there is more of a chance in deregulation, it is a good polemic, Roy. The question is, in West Virginia we do not have margins, in Montana they do not have margins, in Maine they probably do not have margins. A lot of places just do not have margins. There is no more chance for failure.

Paul and I are working on the new economy like crazy to try and change the whole way people look at things in that State. We cannot fail. So you say there is a better chance for deregulation.

Let me just ask Tim—and then I am finished, Mr. Chairman—to say why he does not think that the tax credit idea, if he does not feel that way, is a bad idea.

Mr. REGAN. On the contrary, I think it is a wonderful idea. First of all, I think we ought to change—

Senator ROCKEFELLER. To get something going, to get something going.

Mr. REGAN. Yes. Great minds are on the same wavelength, as we say in the lightwave world.

First of all, I think we ought to change the name, because we have heard a lot of people say about giving people the taxpayers' money. It is not the taxpayers' money. What you are saying is you are saying to someone: We are not going to tax you as much if you do this. In other words, we are not going to take as much away

from you if you do this. So I think we ought to call it a targeted tax cut.

But the notion—and I will address just the financial issue because I do think there is both a regulatory and a financial issue. But I will address the financial issue because I think that is the topic of your question. Rural areas are from a networking point of view simple economics. They have longer runs. Because they have longer runs, they are more costly to serve.

Now, the universal service system took care of this problem by having what they call rate averaging, which says you charge some customers more than you charge other customers—I mean, you charge customers the same regardless of the cost, but you charge a rate that is high enough so that you earn enough from your low-cost customers to be able to subsidize your higher cost customers.

Of course, that results in real weird things, like rich people who live in rural areas essentially get subsidized. That is why tax credit is so much better, a targeted tax cut, because it is really designed to try to focus on getting a technology out the door, make it available to everybody so everybody can compete for that opportunity.

In your case, you have targeted toward rural America, which is the area which frankly is going to have the biggest problem because of the long runs. It is costly, No. 1; and No. 2, because it is costly, the margins are going to be slimmer and you are less likely to get competition that would drive technology. That is the simple logic of it.

Senator BURNS. Thank you, Senator Rockefeller.

I want to thank the panel this morning. It has been a great discussion. The way I think the discussion was structured, we learn a lot more up here, I know I do in this respect—and if there is further questions for this panel, why, this record will be open for the next couple of weeks.

We thank you for coming this morning, and these proceedings are closed.

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

APPENDIX

AMERICAN PUBLIC POWER ASSOCIATION,
Washington, DC, April 11, 2000

Hon. CONRAD BURNS,
Chairman, Subcommittee on Communications,
227 Hart Senate Office Building,
Washington, DC,
Attn: Kevin Krufky, Research Assistant

Dear Chairman Burns:

Thank you for providing the opportunity for the American Public Power Association to submit comments to the Subcommittee in conjunction with its hearing on the provision of Internet services to rural America. Following this cover letter is a copy of APPA's statement for the record.

Public power systems, many of which serve small communities of 5,000 people or less, are actively engaged in providing a broad range of telecommunications services to their citizens. Representative examples are provided in our statement. However, many more municipal utilities desire to overcome the digital divide, but are thwarted by state statutory barriers to entry.

Our statement suggests Congress should amend Section 253(a) of the Telecommunications Act of 1996 to declare in still clearer terms that the FCC must preempt state legislation that prevents municipalities and municipal utilities from offering telecommunications services. Further, Congress should review the definition of "telecommunications services" in the Act to ensure that Section 253(a) will cover all advanced communications services. And finally, Congress should recognize the important role municipal governments can and do play in deploying advanced telecommunications services and encourage them to do more.

Sincerely,

ALAN H. RICHARDSON,
Executive Director

PREPARED STATEMENT OF THE AMERICAN PUBLIC POWER ASSOCIATION

Deployment of High Speed Internet Technologies in Rural Areas

The American Public Power Association (APPA) is the national service organization representing the interests of the nation's nearly 2000 publicly owned, locally controlled, electric utilities, providing electric service to nearly 40 million Americans. But electric service is not the only utility service APPA members provide. Over 267 municipal electric utilities are now providing, establishing or planning for the provision of Internet, high-speed data service, broad-band resale, dark fiber leasing or cable television.

About 75 percent of public power utilities in the U.S. are located in cities with less than 10,000 residents. Many of these municipal electric utilities developed largely due to the failure of private utilities to provide electrical service in many rural areas because they were viewed as unprofitable. In these cases, communities formed municipal electric utilities to do for themselves what they viewed to be of vital importance to their quality of life and future economic prosperity. For more than a century, public power utilities have played a vital role in furnishing essential real competition in the electric power industry.

A century later, public power utilities are meeting the demands of their constituent owners and communities by providing telecommunications infrastructure and telecommunications services where there are none and facilitating competition

where it is inadequate. Set out in Attachment A* are representative examples of some public power utility communications activities. These communities and others don't want to be on the wrong side of the digital divide; they are taking matters into their own hands.

The Problem

Yet, these local governmental efforts to provide telecommunications services within their own communities are being thwarted in some states, and with renewed efforts in others, by incumbent cable television and local telephone interests. These incumbent interests are utilizing their vast resources and long-standing relationships with state legislatures to inhibit the development of competition at the state level. *In an effort to achieve in the states what they could not obtain at the federal level, they have successfully pushed legislation in eight states to create barriers to entry for municipal utilities that want to make available communications infrastructure and services.* A summary of the state legislative barriers to municipalities and municipal utilities providing communications services and infrastructure is set out in Attachment B.* This unfortunate trend of restrictive state legislation is expected to grow unless Congress makes it clearer that such state laws are out of step with the intent and language of the Telecommunications Act of 1996. The Act was meant to ensure competition from any and all entities that were willing to participate in the marketplace.

Unfortunately, the FCC, in *The Matter of the Public Utility Commission of Texas*, FCC 97-346, petition for review denied, *City of Abilene v. FCC*, 164 F. 3d 49 (D.C. Cir. 1999), concluded that Section 253(a) of the Telecommunications Act of 1996 was not clear enough to require preemption of the Texas statute denying municipal provision of telecom services, despite the broad language of Section 253(a). That provision reads:

No state or local statute or regulation, or other state or local legal requirement, may prohibit or have the effect of prohibiting the ability of *any entity* to provide any interstate or intrastate telecommunications service. (Emphasis added)

Yet despite the inclusive language and legislative history, the FCC and the D.C. Circuit Court of Appeals concluded that "Congress in using the word 'entity' in §253(a) had not expressed itself with sufficient clarity to warrant federal interference with a state's regulation of its political subdivisions."

In enacting Section 253(a), Congress was well aware of the vital role that public power utilities could play in bringing competition to telecommunications markets, and took steps to include explicit language in the Act's Conference Committee agreement that reaffirmed the drafters' intention that all utilities be free from state barriers to entry. The Conference Committee agreement specifically noted the Conference's clear understanding that "electric, gas, water or steam utilities 'might' choose to provide telecommunications service," and they confirmed their understanding and intent that "explicit prohibitions on entry by a utility into telecommunications are preempted under this section [§253(a)]." In essence, Congress was deregulating to broaden the opportunities so every entity could compete.

Several recent Congressional letters to the FCC from members of Congress have reaffirmed that Section 253(a) was intended to ensure that municipal utilities were not to be prohibited by states from providing telecommunications services and infrastructure. They are set forth in Attachment C.*

Importance of Municipal Utility Role

Why is it important to ensure that municipalities and their utilities are permitted to offer communications services and infrastructures? Municipal government participation in providing advanced communications services can effectively advance the goals of universal services, deployment of advanced services and competition in rural and distressed urban areas.

First, many municipal electric utilities already have the infrastructure and experience to deploy advanced communications services and infrastructure. To maintain their core business of providing electric power in the 21st century, municipally owned electric utilities have constructed, or will construct, highly sophisticated broadband telecommunications facilities. In many instances, existing facilities can readily support the provision of voice, video, data and other advanced communications services to the customer base already being provided electricity and to an expanded set of customers, either by the public power utilities themselves or by other entities. Public power utilities also have more than a century of experience in bringing high quality service and competition to the communities they serve. They have

* Attachments A, B, and C, were not available at the time this hearing went to press.

skilled work forces that are accustomed to dealing with complex technologies. They have access to poles, conduits, ducts, rights of way and direct connections to their customers. They know how to help customers and provide prompt and efficient customer support. They also have a long and rich tradition of universal service and community involvement. As low cost, not-for-profit providers, public power utilities are positioned to offer advanced telecommunications capabilities even where the costs of providing service outweigh the profit potential.

Second, municipal utilities already have significant telecommunications experience in supporting their electricity business. They employ telecommunications networks, which consist of fiber optic systems, point-to-point microwave facilities, point-to-multi-point multiple address systems, and two-way land mobile radio systems. Their uses include: protective relaying; system control and data acquisition; the interconnection of substations, pumping stations and generating plants; interconnection of personnel by use of mobile radio base stations and back haul service restoration dispatch; and automated plant security and alarm systems. These utilities are also implementing advanced information and communications technology strategies to revamp both the supply side and demand side of their operations.

Third, municipal utilities employ telecommunications strategies that best meet the market needs of their communities. The simplest option—and the one most frequently used—is to lease dark fiber or bulk telecommunications capacity to new or competing private telephone companies, cable operatives, Internet providers, or other telecommunications carriers. The second option is to enter into creative partnerships with telecommunications providers, customers or other entities, including schools, universities, hospitals or libraries. And the third option is for the municipal utilities to become full-fledged providers of advanced telecommunications services to the public.

And fourth, municipal utilities want to overcome the digital divide and meet the needs of their own rural or urban distressed communities when private, profit-maximizing firms will not provide advanced telecommunications to all Americans. Unlike private, incumbent communications providers, municipal governments have a central mandate for universal service.

Private Communications Providers Give Low Priority to Underserved Areas

Last year in comments to the FCC in response to its inquiry on implementation of Section 706 of the Telecommunications Act of 1996, a number of representatives of private industry indicated why it was unlikely they would be providing advanced telecommunications services to rural areas any time soon. The Association of Local Telecommunications Service argued that the FCC “must recognize that any advanced telecommunications technology or service is likely to appeal and be marketed first to businesses and, after being proven in that market, introduced to residential consumers.” GTE maintained that “it is to be expected” that service providers “are deploying advanced telecommunications capability solely or predominantly in urban areas. It can be expensive to invest in the infrastructure needed to provide such service. Accordingly, it is rational to build the infrastructures first in areas where demand is likely to be greatest and unit losses are likely to decline most quickly. Once economies of scale and scope are captured, infrastructure can be extended to less densely populated locations.” Similarly, SBC Communications stated, “Even where advanced telecommunications capability is available, that would technically and operationally be deployed, the expected demand and associated costs may make the deployment uneconomical, particularly in rural areas.” And the National Telecommunications Cooperative Association (NTCA) put it in even starker terms. NTCA noted that, in its opinion, in rural communities, “there will always be areas where cost of providing services outweighs the profit potential.”

Municipal Utilities as Providers

Simply put, municipalities and their utilities should be enabled to provide, not prevented from providing, advanced telecommunication services. Even where the private sector determines the investment costs are too high and the returns are too low, municipal governments may be able and willing to act. Even if in rural and distressed urban areas such services are available, the cost to consumers may be high, or the service may be limited or of poor quality. In those cases, municipal utilities can and do provide competition to incumbent telecommunications carriers, serving as a threat of or actual competition to the incumbents, or as a yardstick against which to measure their performance.

Recommendations for Congressional Action

What should Congress do?

First, Congress should indicate in even clearer terms that it intends for the FCC to preempt any and all state laws that create barriers to municipalities and municipal utilities providing any kind of telecommunication services. Accordingly, Congress should amend Section 253(a) of the Telecommunications Act of 1996 with express language.

Second, Congress should review the definition of “telecommunication services” to ensure that Section 253(a) covers state statutory barriers to voice, video, data, and other advanced telecommunications services, whether provided in analogue, digitized, or packetized formats.

And third, the Congress should recognize the important role municipalities and municipal utilities can and do play in the deployment of advanced telecommunications services and infrastructure in rural and urban distressed areas and find ways to encourage further municipal involvement.

APPA appreciates the opportunity to provide you with these comments.

