



## The Wiring of Rural America

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No one will argue with the notion that Americans living in rural areas need to be fully connected to what we used to call the Information Superhighway. There is no controversy about the goal. But as the ancient proverb teaches us: The devil is in the details. In order then to insure that the United States can actually achieve the goal of connecting all Americans to advanced telecommunications services, we must focus on those details. We must be clear about why all Americans should be connected, what it means to be connected to advanced telecommunications services, and who is responsible for making sure we are all connected.

Rural Americans are lagging behind in connectivity as compared to urban and suburban Americans, and they are lagging behind their rural competitors in Canada, Europe, and the industrial nations of Asia. America got a head start in the advanced telecommunications race thanks to national policies that promoted the development of the Internet and promoted the transfer of digital technologies from military uses to educational, scientific, and business uses. Make no mistake about it, we have lost our head start because of national policies that have been abandoned, ignored, or violated during the Bush administration.

The promise of new digital information and communications technologies is to move from a media environment dominated by a few to an environment where the many can communicate effectively to the all. This new technology would leap over the barriers of print and broadcast and cable media. But not only that, this new communications capability would allow for improvements in education, for better health care, for expanded business opportunities, and for greater civic engagement. But it will not happen on its own. This great promise is being realized in New Brunswick, Canada, and Tono, Japan, and in the farm country of southwest Ireland.

Great strides have been made in these countries since 2000, but despite the distortions of FCC Chairman Kevin Martin and NTIA Director John Kneuer about broadband penetration in the United States, great strides have not been made in Mississippi and Utah and Oklahoma and Kansas.

Why has this Republican administration and the Republican Party which dominates those states and has dominated Congress since 2000 allowed this promise to fade in rural America? Why is President Bush's promise of broadband to all by 2007 so empty? This is a nonpartisan issue, a nonpartisan goal, but we should not shrink from holding our elected and well-paid representatives responsible. And if Democrats are ever in a position to move real legislation and get it signed, we should not shrink from holding them responsible for the sorry state of advanced telecommunications services in the United States. We should be clear that this is not a

technological problem, nor is this really a market problem about encouraging competition. This is a political problem.

**The details.** The Pew Internet & American Life Project reported in 2006 that nearly three-quarters of Americans have internet access and 42 percent have broadband connections at home. Parks Associates estimates that 55 percent of U.S. households will have broadband in 2007. So what's the problem?

If you dig into the weeds of the Pew survey of some 4,000 people you will not be reassured that even a majority of the respondents who say they have broadband have any idea of how fast their service is. Parks Associates is relying on projected data released by the cable and telecommunications on what consumers are going to be provided something called broadband service, again with no clarity about what speeds will be provided. I do not mean to disparage or dismiss the work of either Pew or Parks. They are not responsible for gathering data to assist the public or legislators in determining public policy.

We come to one of the things that the 1996 Telecommunications Act actually got right. Section 706 of that act requires the Federal Communications Commission to report every two years to Congress on the state of deployment of advanced telecommunications services in the United States. Lawmakers were clear that they were particularly concerned to understand how advanced services were being deployed in rural America. The FCC has failed Congress and the public miserably.

**What is broadband?** Broadband is short for broad bandwidth. There is a not-very-helpful technical definition and a more helpful practical definition about broad bandwidth. The Federal Communications Commission defines broadband as a digital telecommunications service of 200 kilobits per second downstream coming to your computer. That definition might have been advanced in 1996, but it is certainly not advanced today. Other countries, Canada, for instance, define broadband as "a high-capacity, two-way link between an end user and access network suppliers capable of supporting full-motion, interactive video applications." Let's be clear that 200 kbps does not get us to full-motion, interactive video. Canada aims for five megabits per second upstream and downstream, but they are clear that as technology changes the technical definition may change.

In addition to their ridiculously low definition of broadband, the FCC determines deployment by asking the telecommunications companies whether they provide "broadband" to one customer in a zip code. This is not a new concern. Both FCC Chairman Bill Kennard and FCC Commissioner Gloria Tristani argued in 2000 that the zip-code data was insufficient to determine broadband deployment.

So, when you look closely at the details, you find that we don't have a good definition of what broadband is in the United States, we don't know who has whatever we're calling broadband, and we don't really know where advanced telecommunications services are being deployed. We cannot make intelligent public policy in the dark.

**Proposed solutions.** Rep. Rick Boucher (D-VA) has slightly revised and reintroduced his Universal Service Reform Act (H.R.2054), which in part would redefine broadband at 1 mbps and set a goal of achieving that within 5 years. Note that the majority of Japanese already have access to broadband 50 times that speed. Rep. Ed Markey (D-MA) is also drafting legislation: the Broadband Census of America Act, which reportedly would require the FCC to increase its

broadband threshold speed from 200 kbps to 2 mbps and require deployment information with at least the detail of nine-digit zip codes.

And Sen. Daniel K. Inouye (D-HI) has introduced Senate bill 1492: The Broadband Data Improvement Act. Section 3 of that act would “establish a new definition of second-generation broadband to reflect a data rate that is not less than the data rate required to reliably transmit full-motion, high-definition video.” These are all improvements over the current situation.

I admit a preference for Sen. Inouye’s approach—with one caveat. I would add two terms: real-time and interactive. We want advanced telecommunications service that will allow real-time, robust two-way communication of full-motion, high-definition video. And let me emphasize that we should demand this not because it will allow us to play better computer games or share pictures of our children or upload cool dance and animation videos. We want real-time, two-way interactive transmission capability because it will help visiting nurses in homes and emergency technicians in the field communicate effectively with doctors in big-city hospitals hundreds of miles away. In the rural northern community of Tono, Japan, the city has addressed the challenge of losing its last obstetrician by creating a facility where pregnant women can be examined remotely using high-speed, interactive real-time digital communications services.

We want high speed two-way interactive transmission because communication in the digital age should be from each to all. We are supposed to be moving away from the standards where big networks communicate down to the little people. The emphasis on downstream is all wrong. The small business or the family farmer in Canton, Ohio should be able to communicate just as effectively upstream as the big business in Cleveland, Ohio . . . and that means send and receive (upstream and downstream) capability.

One more word about standards. We have thousands of Americans purchasing something called “broadband.” We need a truth in advertising standard for broadband. When you buy a jar of peanut butter it has to have peanuts in it. If you’ve buying something called broadband but are not able to send or receive quality video quickly, and by quickly I mean in a few seconds, you don’t really have broad bandwidth. It’s true you’re getting something running on the information superhighway, but it’s not close to being an advanced telecommunications service. The FCC is counting bicycles and calling it broadband while they are counting automobiles in Canada and high-speed trains in the rest of the industrial world. Are U.S. DSL speeds, which average around a half a megabit per second, broadband? Well, not exactly. Cable modem service is a little better at an average of 1.5 megabits per second, but it doesn’t really compare to 5 or 10 megabits offered in Canada. Nor does it compare to the 50 to 100 megabits offered in Europe and Asia. Sure, what we’ve got here is faster than dial-up, but is it broadband? Not exactly.

There is a lot of conversation about the data collection of a non-government group called ConnectKentucky. I am all in favor of non-governmental entities gathering data and mapping broadband service. What ConnectKentucky does not do is establish just what broadband is. Is it fast broadband, slow broadband, barely broadband? We don’t know. And because this project works nice with the so-called broadband providers, we are not likely to find out.

Again, Section 706 of the Telecom Act requires the FCC to report on the state of deployment of advanced telecommunications services. We’ve got a law in place. Let’s set a standard for what advanced telecommunications services means worthy of our country and relevant to our needs, and challenge the telecommunications companies to meet that. Let’s stop setting standards and

designing public policy based on what the private telecommunications and cable companies can do today and what the private companies are willing to tell us. Congress has the budgetary authority over the FCC to hold them accountable to act as the expert agency. Please hold the FCC accountable and require them to at least get useful information from the so-called information providers. If AT&T wants to provide video to local communities, have them provide deployment data first.

Setting the proper standards and collecting data is just the start. Let us assume we have a digital divide and gaps to fill in rural America. Very briefly we should: 1) encourage public-private partnerships; and 2) expand the universal service program to fund broadband service to underserved areas.

We must reinstate the Technology Opportunity Program run by the National Telecommunications and Information Administration that the Bush administration eliminated. Encouraging public private partnerships to both deploy and develop new applications for advanced communications technologies was smart policy. Canada largely adopted that policy while we cut back. That's how they jumped ahead of us. In New Brunswick, a largely rural Canadian province, the government of Canada provided up to \$16.5 million, the government of New Brunswick investing \$12.5 million, and the telecommunications company invested \$15.6 million in the New Brunswick Broadband Initiative. They finished six months ahead of schedule and are reporting that 90 percent of New Brunswickers in 327 communities have access to truly high-speed broadband service.

In addition, instead of capping the universal service program we must continue to protect and advance it. Despite the Chicken Little cries of "uncontrolled growth," the universal service program is working to connect school and libraries and hospitals and small business in rural America. Much of the expansion of deployment has occurred because of the e-rate and other universal service programs. As Sen. Ted Stevens (R-AK) has argued, capping universal service is "an ostrich approach."

Despite the ongoing attacks on the so-called Gore Tax, the Universal Service program is one of the few parts of the 1996 Telecommunications Act that actually works. Over 90 percent of schools and libraries are connected and helping millions of Americans connect to advanced telecommunications service. And the rural portion of the universal service program, the Rural Utilities Service and the Rural Telephone Bank have been working effectively for 50 years to ensure service to communities ignored by the big telecommunications carriers. Universal Service needs to be extended, not capped. We need to make sure that broadband is provided, not only through traditional wireline, but through wireless terrestrial and satellite service as well.

There is a continuing academic debate over Robert Metcalfe's law on the value of networks. The importance of communications services that actually connect to a wide range of other communications services should be a no-brainer. But we don't have to limit ourselves to recent observations about the obvious fact that the public importance of a communications system grows as you connect more members of the public to the system. This is not a new insight. It is in fact an insight with deep roots in our system of government.

The historian Richard John reminds us that in 1787 Dr. Benjamin Rush argued for federal investment in a communications system "to distribute knowledge of every kind through every part of the United States." Five years later James Madison pushed through Congress and President George Washington signed the Post Office Act of 1792, reversing the British colonial

policies of postal service as a way to generate revenue and establishing a “service first” set of postal policies to ensure that all Americans had access to the most advanced communications operation of its day.

What Rush and Madison and Washington were concerned about was how to make sure that a government of the people, by the people and for the people actually worked. And so they established a system of universal postal service that became the largest and most advanced the world had ever known. What the founders understood is still true today. If we are to make our democracy work all Americans need access to the most advanced tools to communicate with each other about public policy.

Connecting all Americans to the most advanced communications service is important for business, health care, and education, and it is fundamental for civic participation. Rural Americans do not represent only a need, they represent a resource. We need the energy and ideas and active engagement of our small towns and rural communities in our national discussion. Our federal policies should ensure not only that rural America sees and hears the world, but that the world has an opportunity to see and hear and benefit from rural America. Today that means two-way, real-time interactive communication of voice, data, and high-definition video.

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