REMAPPING DEBATE
Asking "Why" and "Why Not"

Wave of the future?

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May 25, 2011 — It's the economic-policy equivalent of the tree falling in the forest: Around the country, dozens of small and medium-sized communities have begun to build high-speed Internet systems, with some remarkable early results. Outside the affected communities themselves, however, hardly any national leaders are looking at these experiments, or at the idea that broadband, like highways and electricity, might be one of those forms of crucial economic infrastructure where public investment has the potential to spark a surge of private investment, creating jobs and boosting wages and opportunity.

Job openings in Virginia and North Carolina

Rick Boucher represented the southwestern corner of Virginia in Congress from 1983 through 2010. In Boucher's former district, the roughly 18,000 inhabitants of Bristol, Virginia, were among the first Americans to have fiber-to-the-home (or FTTH) Internet access. The city's publicly owned electrical utility, BVU, funded the project with bonds, completing its initial deployment in 2002; more recently, federal grants have allowed the utility to extend service to businesses — but not homes — in nine nearby counties.

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There was skepticism about the BVU initiative at first, Boucher said in a phone interview. "But I think today there's no doubt at all that it's been a worthwhile investment," he added.

As evidence of the economic payoff, Boucher points to the construction of large facilities by Northrup Grumman, which manufactures military hardware, and CGI, a global computer-consulting firm. Both companies cited the BVU network as an important lure. Together, they are bringing more than 700 jobs to the region, paying an average annual wage of over $50,000, "which is a phenomenal salary for our part of the world down here," according to Wes Rosenbalm, BVU's president.

Fiber has helped Bristol and the surrounding counties hold onto existing businesses as well as attract new ones. Alpha Natural Resources, a coal giant, pointed to the BVU service as a key factor in its 2009 decision to keep the company's corporate headquarters in Bristol after a merger with Foundation Coal, a rival based in the more cosmopolitan Baltimore-Washington corridor. BVU's fast service

(up to 30 megabits for downloads and 10 megabits for uploads) will allow Alpha management to maintain close electronic watch over a combined network of mines in West Virginia, Kentucky, Pennsylvania and Wyoming.

Over the hills to the south, a number of North Carolina towns and local cooperatives have built broadband networks, using foundation grants, a now-depleted state subsidy program, and, in a few cases, federal stimulus money. Thanks to the combination of rural broadband and an online produce exchange set up by a nonprofit group called Foothills Connect, some of the former employees of North Carolina's many shuttered textile and furniture plants have built new livelihoods using formerly idle or under-exploited family farmland to grow such things as purple garlic, squash blossoms and shitake mushrooms for the high-end restaurants of Charlotte.

The Chattanooga story

If the economic policy committees of Congress decided to investigate the economic potential of community broadband, they could get a good quick picture with a three-day bus tour. Day One: southwestern, Virginia. Day two: central North Carolina. Day three: Chattanooga, Tennessee, which, with a population of 168,000, is the biggest of the roughly 55 U.S. communities in which locally owned electrical utilities have decided to lay fiber-optic cable in the name of economic development.

Chattanooga is another place where fiber has played a part in convincing big companies to locate large facilities. J. Edward Marston, vice president of marketing and communications for the Chattanooga Chamber of Commerce, points to two recent recruiting triumphs. One involved a $91 million Amazon distribution facility; the other, an operations center for a British-owned company, Homeserve, that provides seven-day-a-week appliance repair and maintenance for customers in 36 states.

Chattanooga's fiber network has been a foundation for high-tech business startups. One new company, Specialty Networks, allows doctors spread across many area hospitals and offices to get quick image analysis from radiologists specializing in the cancers of various regions of the body. In the past, according to Dr. Jim Busch, the radiologist behind the venture, eye, nose, and throat doctors would get initial readings from radiologists who did not necessary understand the particular subtleties of cancers affecting those areas. Now a single head-and-neck expert reads the images for just about all of greater Chattanooga's ENT doctors. "The relatively inexpensive nature of all this bandwidth has been great for patient care," Dr. Busch told Remapping Debate.

> As the U.S. struggles to revive a badly depressed economy, hardly any elected leaders or opinion leaders on the national stage are talking about publicly-owned or operated broadband.

Like some of Chattanooga's other online entrepreneurs, Dr. Busch appreciates the fact that the service provided by the city's utility, EPB, is "symmetrical," which means that it allows subscribers to

send files as quickly as they receive them. The utility assumes that “everyone’s download is someone else’s upload,” Katie Espeseth, EPB’s vice president of fiber-optics, explained in a phone interview.

Public or private?

Graham Richard, the former mayor of Fort Wayne, Indiana, is an outspoken champion of broadband — public and private — as an economic-development tool. Richard persuaded Verizon to make Fort Wayne a pilot city for the rollout of its highly touted FiOS service. More recently, Google chose Kansas City as a site for its one-gigabyte project. By and large, however, private providers have concentrated on places with relatively high densities of affluent households. When the population is sparser or less well-off, these companies acknowledge that they don’t get a big or quick enough return to satisfy their investors.

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When public agencies and nonprofits get into the broadband market, it is usually only after they have failed to persuade phone or cable companies to do the job, according to Wes Rosenbalm of BVU in Bristol, Virginia. Echoing the pattern of rural electrification in the 1930s and ‘40s, government has stepped in after figuring out that some parts of the country hold little appeal for investor-owned companies. The big cable and phone companies will invest in Los Angeles or New York City, but not in “your second and third-tier communities,” Rosenbalm observed.

Going with your gut

It is not easy to measure the economic value of broadband, Rosenbalm and others agree.

A 2010 study, conducted by the Public Policy Institute of California, found a causal link between the arrival of broadband and employment growth, with the most striking effects seen in the least populated areas. Another analysis (commissioned by a trade association known as the Fiber to the Home Council) found an increase in home-based businesses, a trend also noted by many of the local agencies and utilities behind these initiatives.

In Reedsburg, Wisconsin, public broadband service has allowed Lands End to develop a kind of virtual call center, with many of its customer service representatives working out of their homes. In Powell, Wyoming, a company called Eleutian is teaching conversational English to students in South Korea; some of its faculty members are local schoolteachers working from home after hours, thanks to a videoconferencing link that reaches over the Rockies and across the Pacific.

Fiber-to-the-home is a “wonderful, wonderful benefit for your community,” Rosenbalm said. Besides its recruiting value, the service has been a big plus for southwestern Virginia’s banks, hospitals, and schools, according to Rosenbalm. Although “I don’t know that you can fully quantify the benefits for most organizations,” he said, “I have no doubt that we have improved the quality of life drastically.”

“From the point of view of retaining and gaining jobs, I can give you example after example,” Graham Richard of Fort Wayne said. “What I don’t have is a long-term double-blind study that says it was just broadband.” But “as a leader, sometimes you go with your gut,” Richard said, adding that his gut tells him infrastructure investments are “probably the most long-lasting and important decisions that local leaders make.”

Time to go national?

Richard and others have called for a national initiative modeled on the Rural Electrification program of the New Deal era. Such an effort would not require a huge amount of federal money, according to Christopher Mitchell, who oversees a telecommunications project at the Institute for Local Self-Reliance, a nonprofit research and advocacy organization based in Minneapolis.

“If the public sector is involved,” people assume that “the federal government is going to have to spend a lot of money,” Mitchell said. But because broadband roll-outs tend to be self-supporting after the first three to five years, they can be financed with long-term loans, in contrast to what he says is the industry’s (and much of Washington’s) favored approach of “shoveling money at AT&T, Comcast and other major players that can hire lots of lobbyists.”

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Public broadband can be an efficiency booster for the utilities that provide it, Mitchell pointed out. In Chattanooga, EPB is using its fiber network to install 1,500 smart electrical switches, which are expected to reduce power outages by 40 percent, translating into a $40 million savings for customers. At present, when a tree falls on a power line, the utility often has to have a truck driver cruise the neighborhood searching for the trouble spot. The new system will make it possible to pinpoint the source immediately and restore power in “milliseconds as opposed to hours,” according to Espeseth, the EPB spokesperson.

Several cities have laid trenches to accommodate water or electrical as well as fiber-optic lines. Fort Wayne’s former mayor, Graham Richard, sees potential for a “dig once” strategy on the part of hundreds of cities facing federal mandates to upgrade their sewer systems. By digging once, and funding the projects with a single set of bonds, Richard argues, communities can solve two huge problems in tandem.

If America acted on the lessons of rural electrification, “we would see a national program of long-term, low-interest loans for local governments and cooperatives, [giving preference to] those who are working together to form larger projects because of the economies of scale,” Mitchell said. “And they would be building open-access networks that would then be available to independent service providers to offer services on.” The short-term result would be “that just about every American would have access to affordable, fast, and reliable Internet from the provider of their choice.”

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And the long-term results? Fast and reliable Internet service, said Mitchell, has become the sine qua non of improved productivity across a wide array of business sectors — obvious cases like health care and data services, and not-so-obvious cases like car repair. Now that most cars have built-in computers, mechanics routinely need to “access a database online somewhere” in order to diagnose problems and make fixes. And these systems are “increasingly sophisticated,” Mitchell added, “to the point at which if you don’t have reliable access to the Internet, your ability to be an automotive repair shop is badly impaired.”

With reliable and affordable high-speed Internet, “We would see a whole lot more innovation, a lot more home-based businesses,” Mitchell said, “which has all kinds of spillover effects for the rest of us in terms of less pollution and less congestion on the roads.”

Building the necessary infrastructure in communities throughout the country provides benefits that “accrue to all of us,” but, “they’re not easily monetized for higher profit,” Mitchell asserted. That, he added, is “why it would be better for the public sector to be involved.”

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