

Social Broadband

Rural economic development requires grassroots action to build and use broadband.

By Tim Will / *Catalpa Partners*

Conventional wisdom states that a technological solution is the panacea for reaching the vast areas of the United States that have no or subpar internet. However, making broadband internet access faster through investment in fiber optics does nothing for the 35 million Americans who cannot read text or for the 17 million seniors – potential beneficiaries of cost-cutting advances in telemedicine – who find the internet too difficult to use.

According to a 2003 assessment by the National Center for Education Statistics, about 14 percent of adults in the United States are functionally illiterate. Few have entered the new internet economy or tapped its vast economic and intellectual potential. Nor can they easily look for jobs, apply for unemployment benefits or food stamps, fill out student-aid forms or take online classes.

The U.S. Census estimates that 49.2 million U.S. residents are 65 or older, and according to a recent Pew Research Center survey, 41 percent of them do not use the internet. Thirty-four percent stated that it was too difficult, and 19 percent said broadband was too expensive.

INTRODUCING SOCIAL BROADBAND

Inclusive solutions require community investments in what Catalpa Partners calls “social broadband.” Social broadband involves educational, technical and political steps that are technologically appropriate, are inexpensive and empower marginalized or incipiently marginalized citizens. These steps are prerequisites for any community that endeavors to balance broadband availability with internet

literacy. They involve building partnerships and developing participation within the community during its evolution to a rural *internet* community.

Social broadband is a dynamic, community-based process to future proof the community from expected technological obsolescence. It affords the creation of a multitude of small, home- and farm-based businesses through inclusion of the community in the value chain of multiple worldwide markets. This is especially important to communities that attempt to justify the cost of a broadband infrastructure with factors that may be missing from a broadband provider’s return on investment calculus: the community’s accelerated economic growth, cohesion, resilience and even economic survival.

Why wait and pay to expand a provider’s grid out to a rural community? Communities need to connect themselves back to that grid. Conversations about gigabit transport are somewhat lost on folks who have dial-up or 1.5 Mbps DSL. For communities losing their youthful populations, the stakes are too high to wait for conversations with incumbents to start.

Rather, the process starts by reconciling the leadership of a poorly connected community to the fact that its broadband deficiency is not just a technical issue; political impediments aggravate the imbalance in rural broadband connectivity. First, the community needs to look at the genesis of electrical cooperatives in the United States. Although municipal electric utilities were fairly common by 1890, 40 years later, 90 percent of U.S. farms and small towns were dark at night, except for the occasional kerosene lantern. Does



Farmers and displaced textile workers in North Carolina learn to use the internet.

this sound familiar? A Depression-era federal agency, the Rural Electrification Administration, established a loan program to alleviate the disparity, but power companies largely ignored it. Instead, people formed decentralized, nonprofit electric cooperatives, controlled by their rural memberships. Nine hundred cooperatives still exist today in 47 states.

A similar paradigm exists today. Communities will not progress economically or educationally without high-speed broadband. Traditionally self-reliant rural communities should not give up their roots. Communities need to take the initiative.

ACQUIRING THE TECHNOLOGY

In the short term, it's unlikely that conversations about fiber optics, other than as backhaul, pertain to many rural communities – fiber broadband is just out of reach. The answer to high-speed broadband connectivity in rural communities will probably lie with a wireless internet service provider (WISP) rather than a wireline or cellular provider.

Attracting a WISP requires completing the following tasks:

- Form a community broadband committee.
- Develop a survey to take to community members.
- For each willing household, collect
 - The address – or better, longitude and latitude
 - The needed broadband speed
 - The amount the household is willing to pay for that service.

If the broadband committee collects 200 commitments at the industry average of \$50.00 per month for broadband, that's \$10,000 per month, or \$120,000 annual revenue out of one little community. Now the community is in a position to negotiate instead of supplicate – and the WISP won't need to invest a cent in marketing costs.

Most WISPs respond that 50 confirmed customers are enough to justify placing an antenna to serve the community wirelessly, and that wireless infrastructure just might be useful in serving an adjacent community. The business case is even better if the

local jurisdiction will help with the use of public assets such as rights-of-way, pole access, EMS infrastructure, backhaul, and the use of water towers, other strategic promontories and public buildings as antenna bases.

Catalpa Partners' principals started placing broadband antennas on water towers in 2010, but we quickly learned that pastors of churches have both a spiritual and a material interest in communicating with their followers. Many places of worship have steeples, others have minarets and most have parking lots that permit these architectural devices to serve as unobstructed base platforms for wireless antennas. Some can even be induced to sponsor internet literacy programs for their neighbors.

No computers? Fully depreciated, three- to five-year-old, internet-ready, corporate laptop computers with built-in Wi-Fi capabilities are available by the pallet at low cost to nonprofits and governments in an interesting intersection of Moore's law, corporate largesse and the disposal costs of hazardous waste.



The farm-to-market broadband platform brought Chef Jean-Pierre Marechal from Charlotte to Searcy Farm in Hendersonville, North Carolina, in search of high-quality produce.

BRINGING MARGINALIZED BUSINESSES INTO THE NEW ECONOMY

The success of a social broadband project involves developing and empowering small, broadband-connected businesses – and this requires extensive technical support. Technical support programs are likely already available locally, but they may not be visible to or coordinated with other programs.

Catalpa Partners has worked to support small farmers and value-added food producers, growers of high-value organic crops, permaculturalists, horticulturalists, livestock breeders, beekeepers and other full- and part-time rural food producers. Armed with high-speed broadband, this group can form the basis for a new internet-based rural economy with a worldwide customer base and a huge, eight-to-one multiplier effect on the local economy. However, small farmers – who, according to the U.S. Census Bureau, are more than 60 years old on average – are unlikely to immediately adopt high-speed internet connectivity, be internet literate or even own computers.

Because of prior lack of connectivity, this economically valuable food sector

was already trying to play catch-up with the rest of the internet economy. Part of the challenge was to convert people from a “small farmer” mind-set to a “small business called a farm” mind-set. We found the Rural Entrepreneurship through Action Learning (REAL) curriculum age-appropriate and of immense help in focusing rural entrepreneurs. Utilizing REAL’s 35 years of expertise, methodology and materials are colleges, high schools and community development programs in 43 states and nine countries.

Unlike electricity in the 1930s, the internet requires more skills than flicking a light switch.

In many rural areas, high school students must fulfill a community service requirement for graduation. Who better to tutor the rural boomers who have limited internet literacy than high school millennials?

Despite graphical user interfaces, the internet is profoundly text-bound. In my county, the local community college literacy program started at a fourth-grade reading level – too high for many of the functionally illiterate. Many older farmers and unemployed factory workers have learning disabilities that

went untreated because diagnostic testing in schools was not mandated until 1987. Catalpa Partners sought out and trained volunteers to tutor older, unemployed textile workers and farmers in a discreet, one-on-one format, with exceptional, gratifying results.

We found classrooms in schools, community colleges and EMT stations whose internet-equipped spaces were available to be used at night by adult students and their teenage tutors. Many libraries also have internet-accessible computers, but few are in classrooms where volunteer tutors, students and teachers can freely and discreetly converse.

INTRODUCING APPROPRIATE TECHNOLOGY

Taking advantage of a nationwide local food movement, we approached top chefs in heretofore remote cities and showed them how to use an internally created, transactional website (www.farmersfreshmarket.org), which displayed the fresh, high-quality, in-stock and available food inventory of dozens of small farming businesses. At the same time, we taught the owners of the small farm businesses – the

farmers – to use their own “produce aisles” of this online grocery and to upload photographs and descriptions of their goods for universal display on the internet. Before long, chefs, neighborhood buying clubs and value-added produce resellers were using their credit cards to purchase absolutely fresh produce before it was even picked. Often, city folk were eating food that had been part of a plant in a farmer’s field six hours earlier. Keeping up with the times, the website evolved into Farmzie, a free app available on iTunes.

INVOLVING COMMUNITY ANCHOR INSTITUTIONS

Insurance companies already pay for selected medical procedures performed using telemedicine devices over the internet. Manufacturers are responding

with internet-enabled monitoring devices. Hospitals now have an interest in migrating their patients from office visits to internet-based monitoring in homes. That gives them a reason to advocate for universal broadband coverage in their market area and to add internet literacy to their list of health-related instructional programs.

High schools and community colleges must prepare students for the new economy by exposing them to the concepts of new media and website development, networking, application support, web hosting and cloud-based business. Students will need these concepts in any new job or business, and some will be needed specifically to work in technical support roles.

Broadband is a commodity. In most cities, consumers have

several competing providers of that commodity. Underserved communities must learn that they, like their rural electric co-op counterparts, can leverage their aggregated political and economic power to acquire and use broadband. Communities must learn to use what they have to get what they want. Negotiation, not supplication. ❖

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A SOCIAL BROADBAND CHECKLIST

PROJECT ELEMENT	DESCRIPTION	PURPOSE	COST
Community broadband committee	A small group of community leaders to investigate items below	Liaison with interests outside the community	Minimal
High-speed broadband connection	The goal: 25 Mbps download 4 Mbps upload	Serving the underserved at FCC and North Carolina state standards	Priceless
24/7 Wi-Fi hotspots	Minimum 6 Mbps download 4 Mbps upload	Serving the unserved at enabled community centers, fire stations, libraries, downtown businesses	> \$500 per location
Community-based technology training centers	10 networked public PCs with open-source software and unlimited internet access	Enabling training at libraries, community colleges, high schools, community centers, churches, hospitals	\$500 to \$1,000 per site
Community development	Outreach to organized community groups	Providing technical education, Wi-Fi hot spots, grants	Minimal
Smartphone/internet navigation literacy programs	Volunteers from community colleges, high schools, hospitals	Training those who have only cellular service available for internet access	Minimal
Internet application instruction	Volunteers from community colleges, high schools, hospitals	Providing inexpensive, teacher-led class instruction in workplace applications	Minimal
Website design instruction	One-on-one volunteers from community colleges	Creating small businesses, developing needed skills	Minimal tuition costs for certificate program
Entrepreneurship program	REAL, high schools, community college, SCORE	Promoting home-based/small business, increasing rural demand for broadband	Minimal tuition costs for certificate program
Internet technical support hotline	Volunteers from community colleges, high schools, hospitals	Meeting high school community service requirement	Minimal
Reading literacy programs	Volunteers from community colleges, high schools, hospitals	Allowing more residents to use the internet effectively	Minimal
Political liaisons	County, school, municipal officials	Reducing regulatory impediments to WISPs, providing grant funding, allowing use of public assets as broadband infrastructure	Minimal
Technology outreach	Regional tech companies invited to semiannual technology exposition	Involving and highlighting community tech businesses	Expenses paid by tech companies