

How FCC Can Close the Digital Divide

A Broadband Policy that Cost Effectively Closes the Gap, While Increasing Broadband Adoption, Attracting Private Investment, Creating Rural Jobs and Increasing Prosperity

In his bestselling book, “The World is Flat”, Thomas Friedman describes how geographical boundaries have been made irrelevant by the widespread availability of broadband (BB) access. Yet many areas of the U.S. have failed to grasp the immense implications of the digital revolution. Rural areas have been among the last to understand that this seismic shift in the economy has the potential to create new opportunities to increase their prosperity. A “digital transformation” is coming that will affect all industries and touch people on all continents – clearly dividing winners and losers.

In recent years, the FCC and NTIA have largely addressed the lack of adequate infrastructure. However, BB access alone is not the silver bullet to creating jobs. Now, policy makers face the next critical BB challenge - raising rates of BB adoption in rural communities, at a time when economic output is weak and government budgets are constrained.

The challenges facing BB adoption touch upon issues of geography, community, culture, traditions, business models, and the choices made each day by the American people. In the marketplace of ideas, there are many who speak about the problems associated with BB connectivity and the digital divide in rural America. Many ideas attack one or two pieces of the problem, while some commercial entities conceptualize technology-centric solutions based on their particular interest. Yet few solutions put forward today holistically address the problem with a concrete, proven plan of attack, and even fewer bring a rural perspective to broadband. And to date, virtually no proposed solutions can demonstrate success.

The Risk: Failure to Increase Broadband Adoption will Hurt U.S. Prosperity

BB is no longer a luxury that rural communities can afford to do without.

- In today’s “flat” and global economy, BB access and adoption is as central to economic prosperity as food and water is to life
- U.S. economic competitiveness is at risk when citizens believe they do not need BB
- Enabling a digital-ready citizenry now involves education and transforming behavior more than building infrastructure
- Budget realities require solutions that recognize the limited resources from the public-sector, while employing strategy and tactics that leverage private market investment

The Problem: Why the Digital Divide has not Disappeared

A widely held misperception is that BB access is the barrier to widespread adoption of digital information technology. Thanks to major federal and state investment in digital infrastructure, that barrier has been significantly reduced. Yet at least four other barriers to BB adoption remain:

1. Communities Fail to Grasp Broadband’s Economic Value

A 2010 Department of Commerce study found that, in rural areas, nearly 46% of homes chose not to purchase BB, even where it is available. This study confirms what Baker Corporation and VITAL Economy have experienced firsthand: **providing digital infrastructure is an important first step but is not sufficient for BB adoption to occur.** Until rural communities and citizens realize that BB is a critical strategic asset to build prosperity, not a commodity or a recreational expense, they will not take advantage of existing infrastructure.

An important factor behind these attitudes is that rural communities have less exposure to what can be achieved with BB; their frame of reference is usually other rural residents who possess a similar mindset. Many in rural America do not understand that BB is an enabler to an online marketplace in which to sell their products to the world, to access educational opportunities, or to connect to healthcare services from leading experts.

2. Communities Fail to Collaborate

The majority of rural communities consist of separate public, private and non-profit entities that have minimal collaboration. Political and jurisdictional boundaries, as well as competing plans and initiatives, create “Silo Vision” and prevent the kind of collaboration that would maximize BB investment. Additionally, communities often view carriers as competing adversaries rather than strategic partners. Most importantly, they have unrealistic expectations that if providers have built a network for the community, people will purchase BB access and jobs will automatically follow.

3. Carriers Lack Community Input and Appropriate Tools to Aggregate Demand

In general, BB carriers today look at business expansion opportunities much as they have for many years. Their assessment is typically conducted as an internal corporate exercise that analyzes potential service areas without seeking community input or considering economic and demographic factors. Further, they tend to use demand data based on zip codes, county boundaries, or census blocks, rather than using broader geographic measures or other outside data sources that are better indicators of true BB demand. Carriers also fail to collaborate with other service providers and the community at large to address the ultimate challenge of raising BB adoption rates, which are the true source of BB impact.

4. Infrastructure Often Doesn’t Cover the “Last Mile” to the End User

While the American Recovery Reform Act (ARRA) stimulus funding dramatically raised interest in rural BB, much of the stimulus money has been used to create mid-mile networks that extend the network but do not necessarily connect to the actual location (the last mile) where service is needed. Collaboration among carriers and newer technologies, including wireless options, largely do not address “last mile” connectivity, the true measure of whether rural homes and businesses can take advantage of BB’s economic potential.

The Opportunity: A Strategy that Improves Prosperity *with* Broadband Adoption

Using an approach developed especially for rural communities, the government can take action to promote rural BB usage, closing the remaining digital divide without a large public sector investment or additional stimulus dollars. Using the approach described below, the FCC can:

- **Raise broadband adoption rates in rural areas from 20% to 40% or more, at a cost that is up to 67% less than standard customer acquisition costs.**
- **Increase rural spending on broadband connectivity resources from 1.5% to 6% of gross regional domestic spending (GRDS),**
- **Focus private sector investment in broadband infrastructure to reach all U.S. citizens and businesses through a proven demand aggregation system.**
- **Establish rural American regional economies as desirable innovation hot spots that increase employment by 20%, double new business starts, raise regional average wages by 20% and reduce poverty by 20% in 5 years.**

The Solution:

Facilitating Rural Broadband Adoption While Increasing Jobs and Prosperity

To address the problems cited above, a collaborative, structured program that breaks down the traditional barriers to effective BB adoption is needed. This white paper describes a cost-effective way for policy makers to close the digital divide in America. It is based on proven elements that have been successfully implemented in numerous regional markets in America, resulting in demonstrable job creation and private-sector capital investment.

The core of the program was developed over 15 years specifically for rural America. It takes a measured approach that leverages public-sector funding with sustainable collaborative investments from the private and non-profit sectors. It uses a proven methodology that empowers regions and rural communities to develop a market-driven strategy with actionable plans and ongoing support. The initial results then attract even greater BB adoption and private-sector investment over the longer term.

The program detailed below employs a documented formula that has been successfully implemented in rural communities from southern Illinois to northwest Washington State to New England and beyond. Network providers serving these regions invested over \$200 million in expanded BB network infrastructure without a single dollar of public investment. These same regions increased their rates of BB adoption by 40-50%, which is sustaining private sector investment in these initiatives.

Program Management Framework: The Foundation for Program Success

A key element of success is Program Management— methodically and consistently following the program’s “formula”, while implementing and managing each project in a manner that respects the unique economic attributes of each community. Effective and experienced management, plus adequate resources to support all elements of the program lifecycle, are essential for sustainability on a national scale. Components of success include:

- Strategic and implementation planning and needs analysis,
- Data standards, development, data management and program reporting,
- Provisioning of a comprehensive/scalable program GIS,
- Provisioning of specific community mapping applications and project “dashboards”
- Community leader support -- documentation, implementation and training

Program Formula – Five Phases to Success

The program itself is implemented in five phases, as described below.

Phase 1:

Create a Collaborative Relationship between Carriers and Communities

The early phase of the program links business, education and community leaders (stakeholders) in a collaborative process. This effort, led by a trained project manager, educates citizens and businesses about the potential positive impact of BB adoption. Expanded utilization of existing embedded networks is the first step in maximizing BB’s impact. The leaders define common goals, the Return on Investment (ROI) for each participant, and an ROI for the communities they serve. Multiple stakeholder sessions follow a step-by-step progression that builds rapport among leaders and increases awareness of BB issues, creating an empowered group of champions/stakeholders to support the effort to expand BB adoption. By working together, business, education & government entities discover new opportunities and applications for BB in the community that will help improve their quality of life and prosperity.

As a parallel process in Phase 1, a trained project manager helps residents/businesses communicate with BB carriers and their own municipal government to translate their needs, replacing conflict with collaborative approaches. Working together, competitors uncover and aggregate needs to help the various constituents identify mutually beneficial market opportunities. Project management takes these aggregated needs and helps the group develop unified requests for proposal (RFP) documents. These documents clearly define the business case for expanding networks and providing services to the target area, while maintaining an open competitive environment for providers in Phase 2.

Phase 2:

Utilize Sophisticated Tools for Aggregating Broadband Demand

The tools configured and implemented during this phase facilitate the creation of a Network Provider Community of Interest (NP-COI), a framework within which carriers develop common goals and understand network build criteria. Employing powerful aggregation tools in this manner defines the market by locating specific customer demand. Additionally, community leadership and stakeholders receive training that enables them to harness the power of the technology.

This method of aggregation allows potential customers in the community to leverage a web-based solution with data that better defines the true BB demand in their area, which in turn attracts carriers.

Phase 3:

Benchmark “Digital Readiness” for Economic Growth

This component of the program utilizes a unique benchmarking index to help regional leaders measure where they are on the path to becoming a sustainable, thriving economy. Based on this program’s track record of experience, higher-performing communities can be characterized by using a balanced approach to community economic development (CED). The benchmarking index provides a baseline for community leadership and project managers to develop strategies that reflect a region’s strengths, including workforce capabilities, economic resilience and quality of place. It also looks at a region’s climate of innovation and entrepreneurship.

Phase 4:

Benchmark Economic Conditions

This phase applies a regional economic modeling capability to enable a rural economy to calculate its gross regional product, jobs, earnings and output at the county, multi-county, regional or cross-border level, and to forecast the impact of adopting knowledge-based business sectors. It also utilizes specific capital investment impact tools and commuting patterns assessments.

The economic modeling used in this phase is uniquely developed for each economic region in a manner that makes economic data easy for non-economists to use. By applying powerful economic modeling tools in a way that provides regionalized output in an easy-to-understand format, rural communities can gain a real sense of ownership for their region -- building collaborative ties among stakeholders and reducing the limits of traditional political boundaries.

Phase 5:

Help Communities Obtain Appropriate Last Mile Technology

Today’s marketplace provides many existing and emerging technologies to deliver BB services to the last mile end user. Usually, ethernet over IP is converted to numerous protocols for transmission over copper lines, fiber optic cables, satellite, microwave radio or cellular/fixed wireless to the end users’ home, business or mobile device. The myriad of protocols are converted back to Ethernet via a suitable customer premise device for consumption by end user equipment such as TVs, VoIP phones, computers, and portable devices connected via Wi-Fi wireless. Smart home and smart grid applications can also be supported.

While this type of program supports all types of BB approaches, it is most successful when using available technology that more quickly makes BB attainable and cost effective for rural markets. Today, a fixed wireless approach has many advantages, including that it benefits both the provider of BB services and the customer by delivering a means to quickly design, build, and implement a network. A deep understanding of the technology needed to build and run an effective network is critical when selecting a provider and/or deciding on a particular approach. Providing knowledgeable program managers who are vendor independent yet well-versed in the technology is another important element of success.

This 5 phase “system” compares favorably to approaches that have a limited understanding of mapping networks or assessing community demographics for economic development. In contrast to those approaches, this approach collectively engages the individual, the community *and* the carriers to harness synergies and to change mindsets and behavior. These changes in turn transform regions’ spending habits and leverage BB to achieve economic prosperity.

Recommendations for FCC and NTIA Policy Makers

Studies have shown that successful economies invest 6% of GDP in broadband connectivity, 400% higher than the typical rural community investment in America today.¹

¹ Source: Impact of Connectivity Spending as Percent of GDP: Rural versus Best Wealth Creating Economies, ViTAL Economy, Inc. 2002 & 2007

By using a measured amount of existing government funds while leveraging private sector investment to facilitate BB adoption, the FCC can help rural communities grow their BB-based new economies. By supporting the multi-phased approach described above, the FCC can positively affect the level of BB adoption and network investment to more quickly eliminate the digital divide in America.

This approach allows the government to use its limited resources to transform rural communities into competitive, globally-connected and digital-ready economic regions, while also facilitating job creation, private-sector capital investment, and broader economic prosperity.

To achieve these goals, government officials should:

1. Support proven, private-sector strategies that foster a coordinated, collaborative, and empowering approach to rural BB adoption. Such programs should have the following components:
 - a. Support for transformative community behavior.
 - b. Robust regional and community mapping and data development that helps rural communities identify adoption gaps, as well as important economic and specific COI information.
 - c. A specific plan for bringing BB providers and users together to collaboratively expand broadband adoption.
 - d. Strategic linkage of FCC, NTIA and RUS investments with EDA, USDA, DOL, HUD and SBA rural CED, plus quality of life and livable community initiatives.
 - e. Economic benchmarking, readiness assessment and asset mapping tools.
 - f. Annual benchmarking of and incentives linked to community digital readiness.
2. Shift infrastructure development to a newer philosophical approach that promotes BB adoption by rural institutions, businesses and citizenry as a critical national imperative with the coming digital transformation. Retire older “last mile” thinking and emphasize “first mile” connectivity to rural America. By using cost-effective approaches that leverage newer technology and private sector investment, this newer approach should:
 - a. Support the view that rural homes and businesses are the beginning of BB connectivity and the rural value-chain.
 - b. Support transformative provider behavior.
 - c. Provide robust regional and community mapping and data development that helps rural communities identify access gaps, as well as important economic and specific COI information.
 - d. Create a specific plan for bringing BB providers and users together to collaboratively expand BB first mile access.
 - e. Conduct annual benchmarking of and link incentives to community digital availability and adoption.

The program described here will change an entire community, county or state. Traditional government funding is often limited in scope and thus able to address only a small part of the issue. Without a comprehensive plan and broad funding, significant change is unlikely to occur. We recommend that FCC commit the limited resources necessary to support a broadband adoption program that will span network build, adoption and economic change across a wider area. Such an approach will leverage government investment by encouraging private carrier investment. It will spark transformative economic growth, create new jobs and signal the beginning of the end of the digital divide in America.

About ViTAL Economy: Your Partner on the Journey to Successful Community and Economic Development

Since 1992, members of the ViTAL Economy (VE) Alliance have guided regional economies in 43 states and three countries to a brighter future using our proven blueprint, the VE Journey. These communities have transformed themselves from declining to sustainable regional economies. They have implemented VE Journey program elements described in this white paper that leveraged regional broadband networks to:

- Create billions of dollars in new, sustainable economic growth
- Develop hundreds of high-performance businesses
- Create thousands of high-wage jobs
- Enable dozens of economic regions to achieve global best practice rates of broadband adoption

We've also collaborated with hundreds of network providers who have helped their communities return to sustainable economic growth. We help you leverage broadband networks to change the way you live, work, learn, govern, compete, collaborate and share resources, to become winners rather than victims of our information-enabled economy. For more information, visit vitaleconomy.com.

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