

# Fiber Provider Strategies for Bridging the Digital Divide

Broadband is essential to a community's survival, but building out service to rural areas comes with financial challenges. Service providers have several options to help.

By Marc Dyman / *FiberLight*

**I**n an era increasingly defined by its cutting-edge technological capabilities, the fundamental importance of connectivity is becoming harder to ignore. In homes, internet connections and adequate access are needed for consuming content, getting in touch socially, completing schoolwork, paying bills or applying for jobs. Meanwhile, at work, connectivity is important for supporting the growing BYOD (bring your own device) trend, email, calendars, operations, payment systems and beyond. By 2020, there will be an estimated number of nearly seven network-connected devices per person across the globe.

Overall, support from network infrastructure, the internet and connected devices not only makes people's lives easier but is also a necessary component of everyday tasks and responsibilities. Nowadays, broadband is looked at less as a luxury and more as a utility, akin to water or electricity. For this reason, in 2016, the United Nations deemed internet access a human right, with internet access disruption constituting a human rights violation.

Although many regions remain on the fast track to a highly capable digital future, it can be easy to overlook the fact that across the United States (and the world), many critically underserved areas are falling farther behind the technological curve. For these areas, a host

of barriers to high-speed network deployment and enablement exist, primarily because of financial roadblocks.

Rural communities and businesses need the same access to next-gen networks and capabilities to stay competitive into the future. Being relegated to slower and more expensive connections just isn't cutting it. So, the question remains: What can rural areas do to ensure they get equal access?

## ASSESSING THE CHALLENGE

In the United States, network infrastructure rollout lags noticeably in rural and remote regions. Even in the age of 5G, reports from the Federal Communications Commission (FCC) acknowledged that in 2018, 14 million rural Americans and 1.2 million Americans on tribal land still fought for access to 4G LTE service.

This disparity exists for several reasons. In some areas – such as rural West Virginia, which covers areas in and around the Appalachian and Allegheny mountain ranges, or Minnesota, where cold temperatures keep the ground frozen for much of the year – natural terrain issues can inhibit infrastructure. However, the biggest barrier to ubiquitous connectivity still lies in its cost. Rural areas simply do not have the same population density as metro areas and they offer less incentive for broadband providers to deliver service. Essentially, significant deployment budgets make justifying the costs in the face of diminished opportunity difficult.

Of course, there is the idea of “if we build it, they will come,” meaning that once proper infrastructure is implemented and the investment is made, return on investment will be more likely to happen, and investors can rest assured that the efforts will pay off. Economic development, regardless of community size, is a pillar of success that brings in more businesses and more people. Having a better network is foundational to this process, and promoting connectivity can offer rural areas new opportunities and growth by making them more desirable. Many providers are justifiably nervous about taking on uncertain investment, however, which means that many rural businesses, individuals and communities remain untended.

### BRIDGING THE DIVIDE

To attract and facilitate new network deployments and achieve competitive connectivity for the expanding digital future, there are a few considerations that rural communities can utilize. The first is using wireless deployments as an alternative to wired fiber deployments. Though wired connectivity does deliver improved reliability, it presents more cost limitations and is not feasible in locations where there are limits to the physical ability to dig down and place the fiber.

Traditional trenching can cost local governments up to \$300 per foot, depending on the area. Wireless connectivity requires less infrastructure and can be readily deployed in hard-to-reach areas, but it also provides a less reliable signal and has distance limitations. That aside, wireless deployments are a viable way to bridge the connectivity divide in remote areas.

Another option is establishing joint public and private investment partnerships. Through joint investments, municipalities can invest locally and implement strategies for greater adoption while attracting more businesses to their communities. This can span several approaches, including private investment with public facilitation (Google Fiber

is a notable example of this), private completion with public funding or shared investment.

A report published by the Coalition for Local Internet Choice (CLIC) and the Benton Foundation examined use cases in Westminster, Maryland; Holly Springs, North Carolina; and other locations. It assesses the unforeseen hurdles and legal challenges that can be associated with such partnerships, including confirmation of authority, state statutes and constitutions. But these examples, which highlight the creative strategies and benefits of this approach, demonstrate clearly that such partnerships do prove to be valuable.

Government incentives, such as the E-Rate program, which makes telecommunications and information services more affordable for schools and libraries, can be a great way to secure funding for fiber buildouts and spur greater investment down the line while offering benefits to residents now. In Montana, a predominantly rural state, E-Rate broadband investment (with additional support from state financing and legislation) enabled local school districts to facilitate digital learning. Ninety percent of Montana’s school districts were able to meet the FCC’s minimum connectivity goal of 100 Kbps per student in 2016, up from 78 percent in 2015.

Getting creative with financial structuring is another avenue for establishing feasible funding. Pay-as-you-go and leasing-based approaches are available from some infrastructure providers, and stepped payment plans that increase over time as revenues increase or become more available are also good alternatives. These strategies allow underserved areas to get the help they need now while allowing time for the businesses to grow and ramp up over time.

Choosing a suitable infrastructure partner is also a vital consideration when it comes to network deployment and enablement. When making the decision, it’s important to partner with a multidimensional provider that serves

a purpose beyond basic broadband deployment. For example, some providers don’t want municipalities to build their own networks and would rather residents use the providers’ services directly. Looking for a provider that is supportive and willing to turn over dark fiber assets for community management if desired, provide both lit and dark services, or help with managed dark services (depending on where resources are or will be) is key.

Last, network capacity and design must be considered. The buildout may not be 1728-count fiber, but it should offer enough capacity to allow expansion and scale from a future-proofing perspective.

In addition to these strategies, looking for opportunities to establish anchor tenants or seeking grant opportunities in the health care or education market segments are effective solutions to assist in overcoming financial challenges and establishing a network for the future.

### EYES ON THE HORIZON

Essentially, the widespread discrepancy of network availability between underserved and densified areas is not just an issue for rural businesses and communities – it is a roadblock that inhibits social, economic and technological progress on a large scale. Without ubiquitous and equitable distribution of network capabilities, the nation cannot hope to move into the promised digital future as a unified collective.

Although issues of cost remain, drawing attention to these challenges and putting careful consideration and collaboration into network solutions means that new strategies emerge every day and more communities get the infrastructure required to meet the new age of basic human rights. ❖

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