Bridging the Digital Divide

CapTech

How Utilities Companies Can Address Rural Broadband Gaps

Thought Leadership
Energy & Utilities

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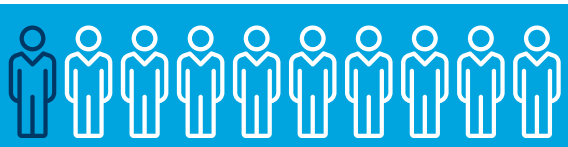
In its 2020 Broadband Development Report, the FCC pointed out the fact that an astonishing 18 million Americans still have no access to broadband internet. That means millions of Americans are unable to quickly and easily access information, make online purchases, connect with distant friends and family, work from home, engage in distance learning, take advantage of telehealth, and enjoy a host of benefits that many of us simply take for granted.

We all know how the COVID-19 pandemic put a spotlight on our country's critical need for fast, affordable, and available broadband service. By some estimations, broadband traffic experienced a year's worth of growth in just a few weeks during the pandemic. Affordable, reliable access, specifically in rural areas, has always been a problem in certain areas of the United States; the pandemic reminded us of just how big a problem it is for many Americans.

The Brookings Institute's "5 steps to get the internet to all Americans," sums up America's rural broadband challenge with this: "Rural Americans do not have high-speed broadband because of the high cost of stringing or trenching fiber-optic cable across empty miles. Paying high capital costs to deliver to only a few subscribers is hard to justify from a business standpoint."

You may then ask why other solutions that seem more cost effective are not in play here.



10% of Americans still don't have access to a quality broadband network.

"There are multiple ways to provide connectivity to unserved areas," says the Brookings Institute, "but the principal effort should be for the high-speed, low-latency, future-proofed capabilities of fiber-optic cable." In short, other solutions cannot provide the level of service desired and needed by these communities.

According to the June 2020 General Accounting Office Report, "Broadband Observations on Past and Ongoing Efforts to Expand Access and Improve Mapping Data," from 2009 through 2017, "federal investments totaled about $47.3 billion to target broadband infrastructure for rural areas." Yet, despite billions in government funding over the years, roughly 10% of Americans still don't have access to a quality broadband network.

Federal funding as a driver for expansion has provided us with a lackluster performance at best. One reason, for example, is the way the FCC defines what they consider "acceptable" service. In order for a company to receive federal funding, the FCC requires that they build a network that delivers only the most basic service. As a result, the FCC has paid billions of dollars over the years for the construction of rural networks that fail to meet the unserved and underserved population.

According to the Brookings Institute, one solution could be fiber because once a network is created, there is no need to run additional fiber; any increases in throughput can be made using existing fiber. But who pays to run it? For Internet Service Providers (ISP), the revenue opportunities often do not justify the expense of connecting rural communities with fiber infrastructure. However, this problem is simply too costly to ignore for millions of Americans who are being left behind due to this social economic divide.

BUILDING THE "MIDDLE MILE" OF BROADBAND INFRASTRUCTURE

How will we bring broadband to America?

Despite the roadblocks, experts agree that the most promising solution lies in fiber. For decades, the local phone company was being subsidized with the expectation that they would provide internet connectivity to customers in the same way that they were providing a telephone network, but that hasn't worked. With the pandemic bringing the need for nationwide, affordable broadband into sharper focus, it is now up to those who have the power to affect change — Congress, ISPs, utility companies, and local and state governments — to put their collective brain power to work and find innovative solutions.

One solution for ISPs to connect with these customers is to leverage electric utility "smart grid" projects, which is happening right now in Virginia, Alabama, Missouri, and other states. Electric companies have been building fiber networks to manage communications on their electricity grids. The fiber network being built on the transmission and distribution grid can be utilized by ISPs to reduce the overall cost of connecting rural customers. With utilities bridging this "middle mile" and ISPs owning the last mile connections, a solution to this major problem may reside right in front of us.

According to the Energy News Network, "a handful of rural Virginia communities, where the pandemic has exposed the cost of unreliable internet service, may soon see relief as a spillover benefit from utilities' smart grid investments. The state's largest utilities, Dominion Energy and Appalachian Power, are each developing pilot projects in which the utilities will defray some of the cost of grid communication system upgrades by partnering with local internet providers who will share use of the fiber cables. Under Dominion's $29 million proposal, internet service providers would pay to lease portions of a 300-mile fiber cable that the company has built to support its electric grid. Money from those contracts would help offset the cost of the project for Dominion investors and customers." Utilities companies in other municipalities are following Dominion's lead. In Missouri, for example, City Utilities is partnering with ISP CenturyLink in implementing what's now referred to as the "utility lease model." The model serves all extremely well; it doesn't rely on federal support, and it addresses both an aging utility grid and the digital divide.

Rural broadband programs are rapidly expanding as current events have recently brought to light discrepancies in internet access. More companies are beginning to see the benefit of supporting these initiatives and using their organization's resources to support local communities.

PARTNERING FOR THE FUTURE OF BROADBAND INFRASTRUCTURE

How can your organization initiate partnerships to address rural broadband gaps?

With the recent success of these pilot programs and increasing government focus, rural broadband initiatives are likely to gain additional support in the coming years. State governments are considering grid transformation projects to be in the public interest and we're seeing electric utilities already building communication capabilities into the grid. As this momentum continues to build, determining your company's role in these initiatives is critical for addressing rural broadband gaps. As a starting point, electric utilities may focus on a few key areas:

01 Gain familiarity with the rural broadband programs and legislation within your state

02 Determine what areas qualify as underserved

03 Evaluate internal processes and tools execution

04 Assess field execution

05 Understand potential integration points with third parties such as ISPs and state governments

After this assessment, organizations will likely have a better understanding of how to position themselves to support rural broadband expansion. One key

consideration will be prioritization of grid investment and mapping these to underserved rural areas. As companies narrow in on desired locations, initiating partnerships with local third parties will be crucial in establishing success.

Electric utilities should consider how software and tools can support execution when laying the middle mile. Having a work management application in place can help manage projects, track necessary easements, and support landowner communications. Ensuring teams can access one system of record increases collaboration and improves efficiency as program needs continue to grow.

COLLABORATING TO SUPPORT RURAL BROADBAND EFFORTS

A top five US energy company needed a workplace management system to complete the middle mile need following its partnership with ISPs to help bring internet to rural communities. With the roll out rapidly growing, the size of the project was becoming unmanageable in the current state, which was largely manual. In response, CapTech set out to develop a collaborative system of record that all project team members could access; one that ensured that all the involved landowners were contacted, and correct easements obtained to avoid any legal liabilities.

The comprehensive, strategic technology application managed the project from initiation to fiber cable installation. The process began with eliciting business requirements from all the project stakeholder groups in order to determine the key features needed for the application. The CapTech team delivered a custom work management system to support the client's needs that identifies impacted landowners along routes, tracks necessary easements, and sends internal and external communications. The application can manage various project types, including Rural Broadband and Grid Transformation fiber projects allowing contractors and field employees the ability to manage projects without full system access or clearance.

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John leads CapTech's Energy and Utilities practice, driving innovation and sharing best practices across our client partners. Additionally, he serves as an account executive for one of our largest utilities clients, working to ensure successful delivery. He has more than 14 years of consulting experience with more than a decade supporting utilities clients.

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Deanna has eight years of experience performing process improvement, business analysis, and project management services across various industries. She partners with clients to deliver innovative solutions that help them achieve their business objectives. Deanna has worked the past 14 months to implement a custom work management system at a leading Virginia utility, supporting the state's Rural Broadband rollout.

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