Mapping as a Strategic Tool

Kit Carson Electric Cooperative used VETRO FiberMap to reduce troubleshooting time and meet demand for new fiber broadband service.

By Will Mitchell / *VETRO FiberMap*

Kit Carson Electric Cooperative (KCEC) is a member-owned electric distribution cooperative that has served Taos, Colfax and Rio Arriba counties in New Mexico since 1944. For the past 75 years, KCEC has provided electricity to more than 29,000 members.

In the 1990s, the electrical deregulation movement brought unprecedented changes to the utility industry and opened the door for KCEC to offer new infrastructure services, such as propane and internet. In 2000, Kit Carson Internet was established to resell dial-up, DSL, satellite internet and line-of-sight wireless. In 2010, KCEC was awarded a $64 million American Recovery and Reinvestment Act grant, which it used to help build more than 2,900 miles of fiber optic cable main line on existing poles and rights-of-way.

Kit Carson Internet has now installed more than 500 miles of drop fiber optic cable to the home. The cooperative serves internet to more than 7,300 customers, including members who reside in areas where broadband was not previously available or service was limited.

Growth of the internet division created more than 400 jobs, of which 90 percent were sourced locally, thanks to the mandate of KCEC CEO Luis Reyes. He recognized that the ARRA grant and advancing broadband technology provided a unique opportunity to elevate the skill set of the local labor force in northern New Mexico. KCEC provided the training, certification and experience that contractors and laborers needed to deliver fiber-to-the-home services and help bridge the digital divide. This endeavor greatly added to the economic viability of the community.

THE CHALLENGE: RAPID GROWTH

As a fast-growing division of KCEC, Kit Carson Internet was challenged to respond to an overwhelming number of requests for service and new installations, as well as requests from existing members for immediate customer support. The cooperative needed to respond to nearly 14,000 new applications for fiber broadband and determine how to efficiently get fiber drops to these homes and businesses while minimizing costs for consumers. The mountainous geography of northern New Mexico added to the complexity of the project.

The lack of a true, live mapping system was a major hurdle to efficiently providing service to new and existing members. If Kit Carson Internet experienced a light loss or network issue, an engineer needed to work across multiple systems to troubleshoot and determine how to fix the problem. This often required opening AutoCAD files, Excel spreadsheets for splice matrices and a Google Earth overlay to attempt to repair a line and meet service agreements. Although CAD was a helpful tool for design and construction, it lacked the mapping elements and troubleshooting features necessary to identify an issue and deploy a field manager to the correct location for repairs.

Kit Carson Internet wanted its construction drawings migrated into a true network management system. To work more efficiently, the company needed field crews and staff to have

Kit Carson Internet deploys fiber.

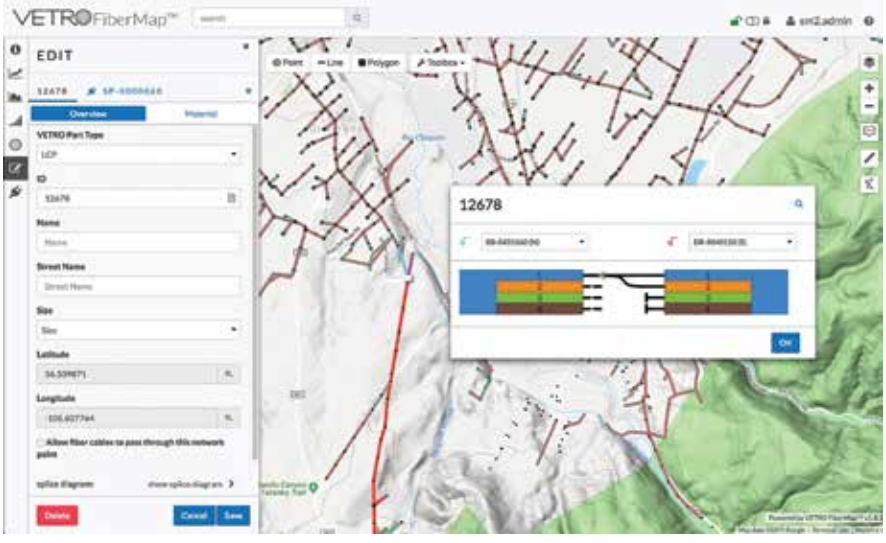
access to a live map to troubleshoot issues and build new lines. To prevent data silos and encourage knowledge transfer among workers, it needed one platform as a central, accessible hub for all fiber network information.

THE APPROACH: A FIBER-SPECIFIC MAPPING SOLUTION

Jose Lovato, manager of fiber optic system engineering at KCEC, obtained the support of the CEO and board of directors to address these challenges. Lovato says, "We live in a rural and mountainous location in northern New Mexico, and there is no true broadband provider in our territory. We wanted to provide our members an opportunity equal to that of [residents of] the large cities. We believe broadband will become a utility, and it will be required at all locations." With this mission, he began to explore mapping solutions that could help Kit Carson Internet meet its requirements for planning, designing, building and managing new fiber networks for its members.

Lovato first evaluated the mapping solution the KCEC Electric Division used. However, this system was not designed for a fiber optic network and could not meet all its requirements, such as simple digitizing of new fiber routes and drops, inventorying fiber optic materials and equipment, and establishing splicing and optical paths.

Then Lovato attended a webinar offered by the Fiber Broadband Association and learned about VETRO



Sample splicing diagram in VETRO FiberMap

FiberMap, an innovative, cloud-based GIS platform purpose-built for fiber optic network mapping, inventory and management. Lovato was contacted by a VETRO FiberMap representative shortly thereafter and began to dive deeper into product features and capabilities.

"We chose VETRO FiberMap because the platform was made for a fiber optic network," says Lovato. "The team's attitude toward, knowledge of, approach to and expertise in mapping and other systems really stood out to me. VETRO FiberMap has created a great product that's really easy to use."

The onboarding process began with Lovato's sending CAD drawing files to VETRO FiberMap for conversion and data import. Then began regular calls in which Lovato explained the KCEC network configuration details and worked through the interpretation of network elements represented in the drawings. This allowed the VETRO FiberMap team to quickly clean, structure and import a GIS-ready network map and tailor the solution to Lovato's specific networks and processes. The VETRO FiberMap team then trained Lovato to verify data and make edits using his deep, firsthand network knowledge and to implement splicing and circuit paths in the mapping system. The platform was initially operational in just days, and Lovato and KCEC were able to work through the data conversion and load and become expert in VETRO in a few short months.

THE RESULTS: GREATER EFFICIENCY

By adopting VETRO FiberMap, Kit Carson Internet now has a mapping and management platform that consolidates construction and outside-plant network information into a true network management mapping platform. The platform enables Kit Carson Internet to cut in half the time for creating estimates, troubleshooting, transferring data and training. The added efficiency is helping the company meet customer service agreements and address demand for new fiber drops.

"VETRO FiberMap is helping us reduce troubleshooting time and become more efficient. We can easily share network changes or plans for new construction with our teams," says Lovato. "Working with VETRO FiberMap has been and continues to be a great experience. The platform has helped us become more efficient and meet the needs of our customers and members – and I'm able to deliver the network visibility our CEO needs."

The engineering department is currently using the platform, and Lovato plans to roll it out to technicians in early 2019, once splicing is finalized. Field crews and staff will have access to real-time network information simply by logging into the platform from any location at any time, using just a web browser.

In addition, VETRO FiberMap helps Kit Carson Internet uncover potential customers that have easy access to the network. This visibility allows the cooperative to strategically plan fiber drops to the backlog of applications it has received.

"It's hard to put a number on gaining efficiency as a company," says Lovato. "The greatest benefit of VETRO FiberMap is simply knowing your system so you can make it better, faster and more reliable. This gives our members the service they deserve and pay for."

As the cooperative looks to the future, Kit Carson Internet will continue to expand its fiber optic services to residents and businesses, living the mission of "owned by those we serve" and offering the best services in the telecommunications industry at the most affordable prices possible. ❖

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