

Rio Blanco County Stays Relevant With Broadband

The three-tier municipal broadband model in Rio Blanco County, Colorado, is unusual, as is the county's goal of "maintaining relevancy" and its support for community anchor institutions.

By Masha Zager / *Broadband Communities*

Colorado became a hotbed of community broadband activity several years ago when dozens of cities and counties began voting to override restrictive state legislation and take control of their broadband destinies. In November 2016 alone, 26 localities held broadband referenda; all 26 referenda passed, most of them by wide margins.

Rio Blanco County, a rural county in northwestern Colorado with a population of less than 7,000, held an override vote in 2014 and is now connecting customers to Rio Blanco Broadband, a network that will deliver fiber or wireless broadband access to nearly all premises. However, its story began much earlier, in 1999, when the school district in Meeker, the county seat, linked its buildings with fiber. Once the school network was up and running, the town of Meeker, the local library and the county hospital all requested to use the school district's dark fiber – and the Meeker Metropolitan Area Network (Meeker MAN) was born. "It ran for a decade and a half, and we had an abnormal amount of IT cooperation," says Blake Mobley, who was the IT director of the school district during that period.

In 2014, when the county decided to implement a modern broadband system, it recruited Mobley to be the county IT director because of his experience with the Meeker MAN. "It was the perfect storm," Mobley says.

"There was grassroots desire for broadband, the county commissioners were on board, the county had money to proceed and I had some experience with broadband."

The county set a goal of obtaining the fastest internet access it could for as many people as it could and offering it at Google-type pricing (\$70 for gigabit service). Formulating the policy goal in this way – rather than setting goals in terms of economic development or return on investment – was the first unique aspect of the project.

Mobley explains, "One way a project can fail is if you set a publicly stated goal, such as return on investment, the number of years it takes to get your money back or a specific take rate. As soon as you make a public statement like that, you can be held up as an example of failure. So we chose a different approach: Our goal was to build a modern infrastructure so the community would have an option. ... We had to look at this as a purchase, not an investment." The county's website explains that broadband isn't about "getting ahead as a community" as much as "maintaining relevancy as a community."

GETTING STARTED

The county published a broadband plan in June 2014 calling for fiber to the home in the two towns of Meeker and Rangely and wireless broadband (at least in the short term) for the remaining one-third of county residents who



Rio Blanco County chose to install a modern broadband system to provide options for county residents.

live far from any population centers. A referendum in November 2014 gained 82 percent approval, and the county allocated money from its general fund to start the project. The following month, the Colorado Department of Local Affairs (DOLA) set aside money for networks that would connect community anchor institutions, and Rio Blanco County was one of two counties awarded first-round funding.

The county originally intended to find a single partner that could build and operate the network and deliver services to residents. This approach might have worked for a larger municipality, but as it turned out, Mobley says, “there wasn’t really a single company that could do all this in a small market.” After some rethinking, Rio Blanco County decided to split up the project and work with several private partners.

CONSTRUCTING THE NETWORK

First, the county decided to contract directly with several construction partners. In July 2015, it hired Circle H Construction to build fiber to the curb in the towns of Meeker and Rangely. That construction project is nearly finished. The county also entered into an IRU, or long-term lease, for two strands of fiber between Meeker and Rangely, which are about 60 miles apart. The link

between the two cities enables them to share a middle-mile connection.

In spring 2016, the county contracted with Centerline Solutions to design and engineer the rural wireless network. With help from a second DOLA grant, construction of the wireless network began a few months later with the building of several new towers and the repurposing of several existing county towers. A final construction phase, which will include more than 20 small towers to reach the most remote parts of the county, is still pending approval by the commission and possible state support. “It’s a modular solution,” Mobley says. “We may change the implementation timeline and approach.”

The towers will support fixed wireless broadband with a 25 Mbps/5 Mbps top speed offering, using Cambium equipment operating on either unlicensed or lightly licensed frequencies. In addition, the towers are already being used by private carriers to improve cellular reception, and eventually they will be used for emergency communications as well.

Another task the county took on was to create data centers in Rangely and Meeker. An empty building in Rangely became the central office and network operations center; the remodeling of the courthouse in Meeker will make room for a data center in 2017. Calix

equipment is being used in the central office and at customer premises.

IT TAKES A COMMUNITY

To build the fiber drops, operate and maintain the network, obtain wholesale internet bandwidth and recruit and manage retail service providers, the county turned to the Colorado Fiber Community (CFC). CFC is a consortium that consists of project manager OHIvey, Blue Tail Consulting and Beehive Broadband, a Utah ISP, along with several (mostly local) design and construction partners.

The county wanted to give customers a choice of retail service providers, so CFC approached the two fixed wireless broadband providers in the county, Local Access Internet and Cimarron Telecommunications, and invited them to deliver services on Rio Blanco Broadband. Both jumped at the chance. Says Paul Recanzone of CFC, “We’ll allow as many providers as the market will support, but at the moment, that’s two. ... A handful of others in Colorado were interested, but we have indicated to them what the market conditions are, and they will wait.”

The retail providers were trained to install optical network terminals (ONTs) at customer premises and are now adding customers in Meeker and Rangely. In part because they already had wireless customers in the two towns and had name recognition, they

As Rio Blanco County builds fiber to business premises, it has begun receiving inquiries from businesses looking to move there.

achieved a 67 percent take rate right out of the gate with little or no marketing.

Though the two retail service providers are off to a strong start, CFC is aware that open-access networks are vulnerable to sudden exits of service providers. (For example, the Utah open-access network UTOPIA lost several service providers in its early years.) Keeping that experience in mind, Beehive Broadband, the CFC partner that serves as network operator, is prepared to step in as a backup service provider if necessary to ensure that customers won't be stranded.

CFC's role as wholesaler of internet services transformed the economics of broadband in the county. Neither of the two retail service providers had the market power to buy backhaul or wholesale services at competitive rates. CFC (through Beehive Broadband) supplies internet backhaul to the retailers at about one-fifth the price the retailers pay as independent WISPs. Because CFC can also acquire other services at reasonable rates, the retailers should soon be able to offer such services as voice, IPTV and home security.

Mobley says that CFC may not need to continue supplying wholesale services as the system matures (though it will continue to operate the network). He comments, "It's definitely our goal to get to that more common model of open access where the network is the transport layer and the value-added resellers [retailers] can go out and secure their own services."

SHARING THE PROFITS

The county's agreement with CFC is an unusual one based on profit sharing. According to Recanzone, CFC subtracts certain operational costs from the revenue stream each month and then keeps 40 percent of

the remainder, remitting the other 60 percent to the county.

To make matters more complicated, the county wants to own the drop cables and ONTs – which is important if it ever needs to replace the network operator – but CFC is responsible for incurring the \$1,100 per customer cost to purchase and install this infrastructure. So, at present, the county's revenue share is applied toward repayment of CFC's installation expenses, which will continue until the repayment is complete.

According to Recanzone, CFC did everything possible, and then some, to minimize startup costs, and it reached operational breakeven after only four months, in October 2016. It has already begun applying the county's share of profits to accruals for the drop infrastructure, and it expects to apply its own share to debt service for the next five years or so. (No one ever said building rural broadband was easy.)

SUPPORT FOR ANCHOR INSTITUTIONS

Because the public anchor institutions in Meeker had a long history of cooperating on the Meeker MAN, Mobley wanted to replicate that spirit of cooperation on the Rio Blanco Broadband network – not just in Meeker but countywide. Rather than run a single strand of fiber to each community anchor institution, Rio Blanco Broadband ran four strands to each and aggregated the fibers in the data center. It also reserved half the data center space for these institutions to use as they chose, rent free. "There was no way they could afford anything like this," Mobley says, "but our added cost to implement it was a very small percentage of the total cost."

The anchor institutions have a range of options in using these resources. For example, Mobley says, they could

create private networks to link multiple facilities, locate core switches in the data centers, share resources (such as firewall equipment) with other institutions or trade space with an institution in the other data center to locate backup equipment.

In addition, the anchor institutions will be able to purchase engineering, maintenance or technical expertise from Rio Blanco Broadband. Mobley expects most of the public anchor institutions in the county to take advantage of these opportunities.

ECONOMIC DEVELOPMENT

Even without specific economic development goals for the network, county officials are keenly aware of its potential to attract, retain and support businesses. Fiber was laid several miles beyond the town limits of Meeker and Rangely to connect businesses outside the towns, and Mobley says it could be extended farther if the county can obtain funding to do so (or if profit-sharing remittances from the current network become available). "I see the network as a negotiating tool," says Katelin Cook, the county economic development director. "If getting fiber to the door will seal the deal, we'll do everything in our power to do that."

Cook says the county hopes to encourage economic diversification by attracting individuals and small businesses that are location neutral and attracted by Rio Blanco County's quality of life. Data centers and data backup facilities are also good candidates for recruitment. In partnership with the Chamber of Commerce, Cook is helping companies already located in the county explore how they can use the network to enhance their businesses.

Rio Blanco County is already showing up on site selectors' lists. Cook says that, before even starting a formal marketing program, she has fielded inquiries from about a dozen companies. "For me, that's exciting," she says. "We're now being seen as a viable business option." ❖

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