



TECHNOLOGY

Spurred by the threat of wildfires, an Estes Park broadband project moved at the speed of light

More than a dozen agencies, organizations and even competitors came together one weekend to make sure the internet would not go out as the Cameron Peak fire inched closer

Tamara Chuang 5:05 AM MST on Nov 9, 2020



As the team in Granby completed the last fiber splice to set up a new back up broadband link between Granby and Estes Park, the East Troublesome fire jumped Highway 125 and began the race towards Grand Lake and Ro



Mountain National Park, said Josh Cramer, with Trailblazer Broadband in Estes Park. Cramer captured the image on Oct. 21, 2020. (Courtesy of Josh Cramer)

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As the Cameron Peak fire burned in the distance on the morning of Oct. 17, Josh Cramer sprung into action. He worried the fire might reach Estes Park and cause a literal meltdown that could wipe out the town's internet, emergency lines and prevent reverse 9-1-1 calls.

The town needed access to backup broadband. But where? And how?

Cramer, network architect at Trailblazer Broadband, began making calls and learned the Platte River Power Authority was worried about the same thing. One possible answer lay on the other side of the Continental Divide, where a new 481-mile internet line named Project Thor offered backup broadband to western Colorado. Cramer found the contact information for Nate Walowitz, who spearheaded Project Thor, and emailed him.

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- HOW FIRE MITIGATION WORKS
- WILDFIRES AND CLIMATE CHANGE



“He calls me back 15 minutes later and we talk and he says, ‘Yeah, if you can get here, we can connect things up,’” Cramer said.

By that evening, there’d been three conference calls with dozens of people representing power companies, local governments and internet services. Getting to Project Thor’s connection in Granby required locating available fiber along the way and gaining permission from various agencies, utilities and fiber owners — something that usually takes weeks, months and sometimes years to pull together.

But something just clicked with everyone.



With the East Troublesome fire starting to stoke in the background on Oct. 21, 2020, internet fiber at the Windy Gap station in Granby was connected to new fiber line reaching to Estes Park. Josh Cramer, with Trailblazer Broadband in Estes Park, said when he left the facility, the wind was so strong, it had blown a portable toilet in between his car and another one, scraping the sides of each vehicle. The toilet had been on the left side of the facility’s door. (Courtesy of Josh Cramer)

“There was just this mass collaborative effort of everyone just pitching in whatever was needed,” Cramer said. “And by that evening, we already had splicers dispatched to Estes Park to do the Western Slope slope side. And then on Sunday, the next day, we had splicers on the other side splicing, all the way to Granby.”



At least 16 organizations got together to contribute a piece to the emergency plan. There were no permits issued. Verbal agreements were made. People worked on the weekend.

“It truly is an amazing story how we all worked together to pull this off,” said Walowitz, Regional Broadband Program Director for Northwest Colorado Council of Governments. “If any one of these partners hadn’t participated, this wouldn’t have happened.”

Cramer drove out to Granby to help, marveling the whole time at how it all came together in one weekend. By the time he returned home a few days later, his wife told him they had less than an hour to evacuate. The East Troublesome fire had jumped the Continental Divide into Rocky Mountain National Park and was spreading quickly toward Estes Park. But he felt some relief that the communications lines stayed up and now that Estes Park has more than one redundant line.

“The way I decompressed it all and thought about it is you’ve got a lot of great government agencies. They’ve got a lot of great processes. We’ve got a lot of good policies to follow,” Cramer said. “But at the end of the day, this was just humans helping humans try to survive.”

When the internet goes down

Estes Park has at least four broadband providers, including Trailblazer Broadband, which is building out gigabit service to the community. Residents voted to allow the city to consider offering its own broadband service in 2015 and the town approved a \$30 million bond to pay for it. Trailblazer is part of the city-owned Estes Park Utilities.

But if the main internet pipe into town accidentally got cut, the town would experience a complete communication outage.

That happened during the floods of 2013, when the town’s fiber was was away. A severe windstorm in 2016 caused further damage.



“Since the flood, we only had one fiber coming into town,” Cramer said. “And in 2016, a pretty good segment of that fiber was basically vaporized by a wind event and some high voltage power lines. There was another three-day blackout for folks up here where there was no 911 service, no cell service and literally no internet service in the entire town. People were back in the Stone Age, basically.”

In urban areas, there are multiple internet lines that run through cities so that if one goes down, several others step up. Typically, there’s a loop of fiber that runs in and out of a town and back to the main source. If one side gets cut, internet traffic goes the opposite direction and back to the main internet source.

But in rural areas, it’s difficult to attract private companies to build internet service when there are few people who would pay to use it. That’s why the federal government offers grants and loans to rural communities, like the recent [USDA ReConnect awards to the Yampa Valley Electric Association and Emery Telcom to expand](#) in northwest and southwest Colorado.

The state’s Department of Local Affairs also offers grants to local governments to build networks. Estes Park received one as it was researching municipal broadband, which is today’s Trailblazer Broadband.

But in emergencies, companies do seem to step up. Greg Winkler, the Northern Mountain Regional Manager for the Colorado Department of Local Affairs, credits Walowitz’s take-charge attitude and networking skills for the success of the Estes Park emergency line. And it wasn’t the only broadband project he helped with during the fires. Last week, Winkler was helping victims of the East Troublesome fire at the emergency operations center in Fraser.

“There was no good broadband service here so everyone was working at the emergency center trying to use hotspots,” Winkler said. “So I said to Nate, ‘Hey, can we do anything about better broadband?’”



Comcast stepped up and ran a fiber connection to the Grand County center last week.

“If you come to Fraser and where you see the ice skating rink, if you drive up the road, there’s orange fiber strung through the fence now,” Winkler said.



Construction workers installing Project Thor fiber on Interstate 70 in Silverthorne. Project Thor is a 481-mile internet network built by the Northwest Colorado Council of Governments. The project was completed in April 2020 for about \$2.6 million. (Provided by Northwest Colorado Council of Governments)

But rural towns able to attract decent broadband service also suffer from the lack of redundant internet. If the main line gets cut, that means there could be no internet for days. That was the impetus for Project Thor, which was dreamt up by the Northwest Colorado Council of Governments more than two years ago. Internet outages sometimes took days to fix and were costly to the businesses in those towns.



Northwest COG essentially pieced together different companies' "middle-mile" fiber, which sits between consumer internet service providers and the greater internet. It was a major task getting buy in from different organizations but the benefit was that partners could access reliable and often cheaper internet service.

And where Northwest COG couldn't find available middle-mile fiber, they built it themselves.

When Estes Park came calling on Oct. 17, Northwest COG welcomed them.

"This was an emergency. And when Nate said, 'Can we do this?' I said, 'I'm not going to get in the way,'" said Jon Stavney, Northwest COG's executive director. "The good news is Estes Park didn't burn and now they have resiliency. From an infrastructure point of view, this is why you have a coordinator like Nate."

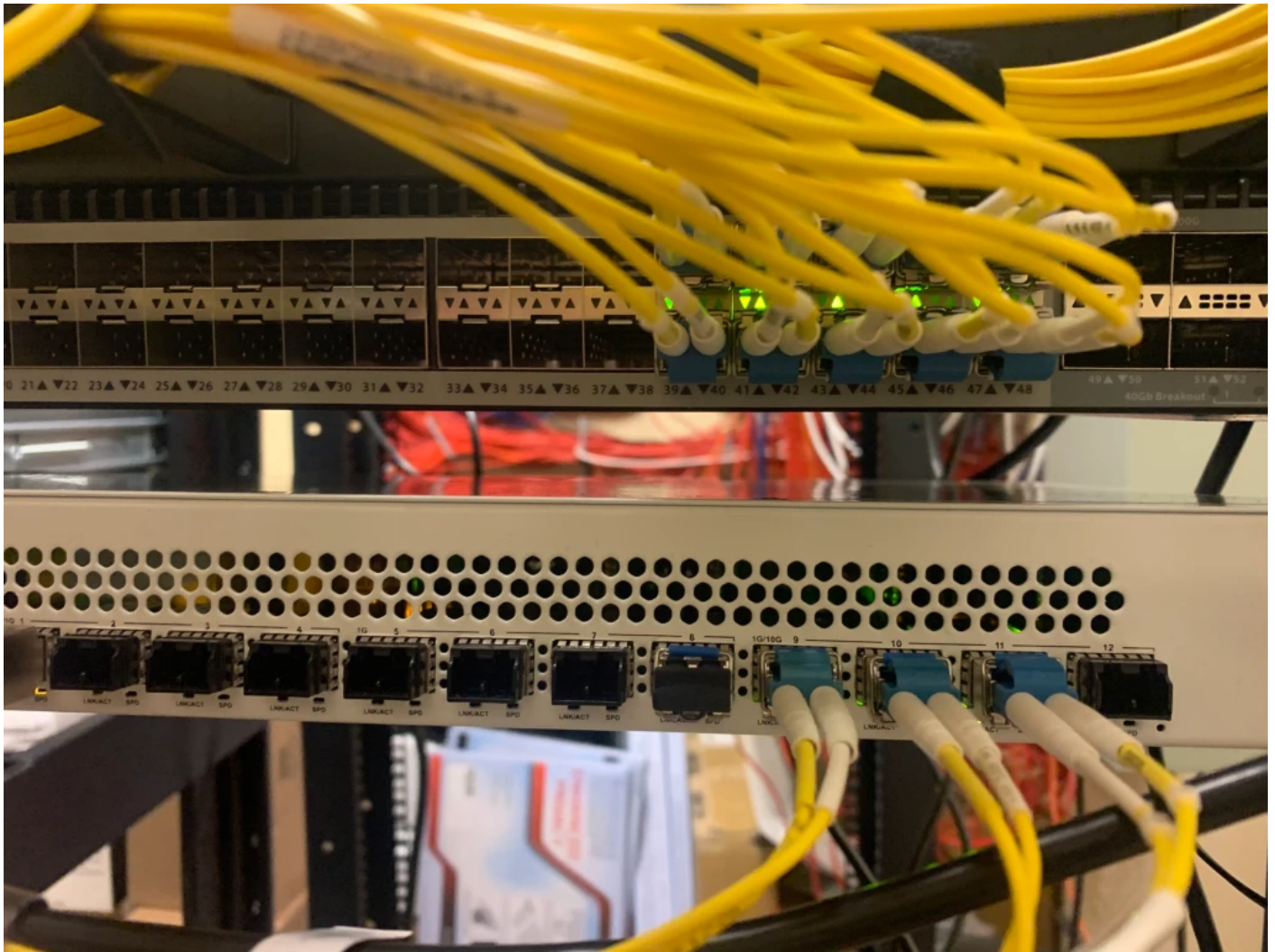
How to build broadband in an emergency

Walowitz has been helping rural communities access faster broadband for years, so he knew a lot of people.

The 481-mile Project Thor network, which went live last spring, has one of its main hubs at the Middle Park Health hospital in Granby, the closest point to Estes Park.

Connecting the two communities wound up involving more than a dozen government agencies and organizations, including several utility and power companies, a federal agency and private companies and competitors.





Josh Cramer, network architect for Trailblazer Broadband in Estes Park, said he took this picture “the moment that we first lit the circuit between Estes and Granby.” The green lights are link lights. The new back-up fiber line gave Estes Park residents, businesses and emergency personnel another line of communication in case the fires took out existing broadband. (Courtesy of Josh Cramer)

CenturyLink, which changed its name to Lumen this year, also provides internet service in Estes Park. It was already working with the Platte River Power Authority to resolve the backup problem in the event the Cameron Peak fire moves closer. The company shared with the group that it had fiber near to another line owned by the Western Area Power Administration, or WAPA, an arm of the U.S. Department of Energy that markets and delivers power generated by 57 hydropower plants to a 15-state region.

“We knew it was available but there were restrictions on commercial communications use around those facilities. However, earlier this year, WAPA relaxed those restrictions and began allowing commercial use of their fiber.”



said Tim Kunkleman, Lumen's director of government affairs, who said the company was also interested in getting redundant lines for that community.

Walowitz had been eying the WAPA fiber, which runs through the Alva B. Adams Tunnel, which runs from the east side of Grand Lake to the southwest edge of Estes Park. Accessing it would help extend Project Thor. But Walowitz said he was never able to get WAPA's attention.

"We've known about this for years, but there was never any way to really get the conversation fully engaged. And because it goes under federal land and everything else, it had some challenges," Walowitz said.

WAPA officials said the agency doesn't have the authority to allow permanent use of its fiber to commercial users — that would be up to Congress. However, it's able to support local communities in an emergency.

"We understand, we care, so during the Cameron Peak fire, we did what we could within our limited authorities to help our neighbors," said Travis Anderson, maintenance engineering manager for Rocky Mountain region at WAPA.

WAPA granted access to its fiber in the tunnel within hours of the request from Estes Park and other groups working on a backup communication path. Walowitz then worked on piecing together the other side of the tunnel to reach Granby.

"Meanwhile, on the west side of the connection over in Granby, we were working with WAPA and the local power company, Mountain Parks Electric, as well as CenturyLink, to figure out how we could connect where the WAPA fiber stops," he said, "so we can connect to the hospital, Middle Park Health."

Northern Water provided use of its fiber near Granby. The Platte River Power Authority worked with Larimer Emergency Telephone Authority and CenturyLink to support reverse 911 through the connection.



It didn't end there. They also made sure the new line through Estes Park was a loop by connecting it to the city of Fort Collins' municipal broadband service, Connexion, which in turn was connected to Project Thor's main connection in Denver.

"We created a loop," Walowitz said.

The fires never reached Estes Park, although the East Troublesome fire came close to both Estes Park and Granby. Partners in the project hope that the line is here to stay, though that will be up to WAPA.

"Now we have a redundant system that I hope everyone would see the value in and say let's make sure it stays here," Winkler said.

In this era, if the internet goes down even for a day, that means students can't log into remote learning and adults can't work remotely. It could shut down emergency lines and leave a community vulnerable, which is still the case in many rural communities. A backup line helps any community, and also can be tapped to support networks from Lumen and Project Thor.

"Getting this circuit through here is really about improving public safety and maintaining connectivity in the face of whatever might happen to us," said Cramer, who started the process in Estes Park. "There's an interest in us keeping it in place, and you can look at Grand Lake and Granby and all those communities on the other side. We can be their backup connection on this side as well. People are thinking about that because they were in the same situation as us."

More: [Stories on rural broadband in Colorado](#)

This story was updated at 5:33 p.m. on Nov. 12, 2020 to add comments from WAPA.

