

California BROADBAND COUNCIL

Success Story

The Digital 395 Middle Mile Project

The Challenge

The Eastern Sierra region of the State of California had low quality, and in many cases, no broadband communication capabilities.

The Solution

The Digital 395 Middle Mile Project (“Digital 395”) was a project jointly funded by the California Public Utilities Commission (CPUC) through its California Advanced Services Fund (CASF) program and federal legislation known as the American Recovery and Reinvestment Act of 2009. The Department of Commerce administered the ARRA program, as directed by Congress, through the National Telecommunications and Information Administration (NTIA) under its Broadband Technologies Opportunity Program (BTOP).

The Provider(s)

The project was conceived and developed jointly by:



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Planning began in February 2009 when Praxis Associates and Inyo Networks submitted an application to CASF staff for review in July of the same year. Following the CASF review, the Commission approved Resolution T-17232 on December 8, 2009 to provide 19% funding for the project. At about the same time, California Broadband Cooperative, Inc. (“CBC”) was formed to assume ownership and operational responsibilities of the network.

The Customer/Community

The project connected 251 Community Anchor Institutions (CAIs) such as schools, libraries, hospitals, public safety, and other government institutions. Among these are three military bases, seven Indian reservations, and three college campuses. The results, for example, have been that schools throughout the region upgraded their

The Goals

The purpose of the project was to improve the quality of broadband communications for the Eastern Sierra region of the State of California, with the following specific policy goals:

- 1 Provide an infrastructural basis for long-term economic development
- 2 Provide for greater public safety by creating network reliability
- 3 Create jobs to stimulate economic recovery in the context of the Great Recession

All goals were achieved.

connectivity from 3 Mbps to 1 Gbps at about half the price and all seven Indian reservations are actively served by broadband in exchange for passage through tribal lands.

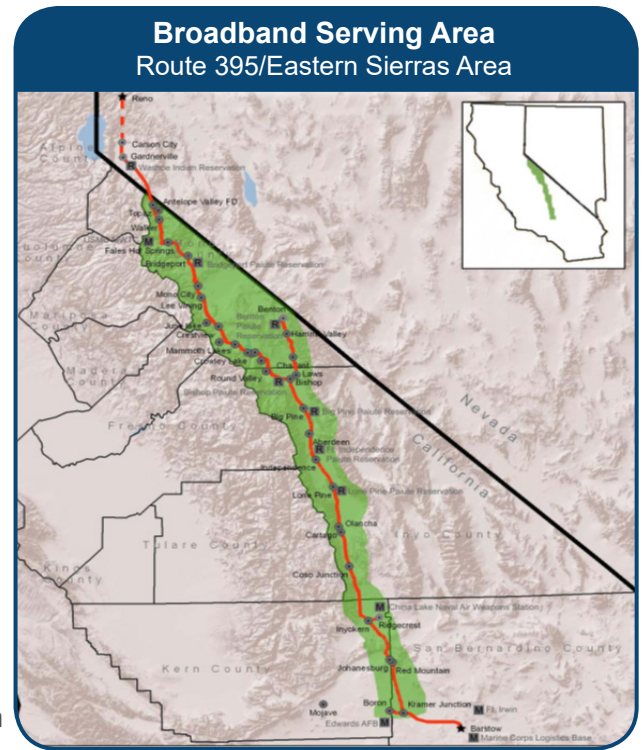
In addition to the community anchors, the project connected to other service provider (telephone, cable, wireless) networks at 65 Points of Interconnection (POIs). Where higher bandwidth was connected, not only was broadband made available to significantly more commercial and residential customers, but the speeds offered increased at least 10-fold with no change to end-user pricing.

The Implementation

On August 3, 2012, construction began. The project constructed a total of 624 linear miles of underground conduit system while connecting 251 Community Anchor Institutions (CAIs) and 65 Points of Interconnection (POIs). The project “backbone” consists of 450 miles of 432-strand fiber optic cable, 11 node shelters, and high-capacity electronics (initially commissioned on four fiber strands at 150 Gigabits per Second). At its northern and southern end-points the network connects to two major national Internet routes at Reno, Nevada and Barstow, California. The backbone was completed in November 2013 and shortly after was satisfactorily passing data – a construction interval of 15 months. The remaining 174 miles of cable were deployed as laterals to communities off the main route (Benton, June Lake, Barstow, Round Valley, Lone Pine, Inyokern) or serve as distribution facilities connecting CAIs in more than three-dozen communities targeted by the project. The last CAI was connected on February 28, 2014. There were no incidents of environmental damage at any point in the execution of the project.

Results

The Digital 395 investment had immediate impacts on communications in the Eastern Sierra and serves as a foundation for additional infrastructure investment and innovation. The development of Digital 395 led to the formation of California’s first telephone cooperative, CBC, which serves the area as a wholesale broadband service provider on a non-discriminatory basis to all CAIs and service providers. Once the network went into service in winter of 2013-2014, major communities along the route saw a significant increase in Internet adoption, a ten-fold increase in bandwidth, and service stability. All connections on the network can support gigabit service at a minimum, with most locations able to support 10 Gigabit or higher speeds. Educational and healthcare institutions are the highest users of bandwidth. Effective July 1, 2014, all schools and Boards of Education connecting to Digital 395 in the Eastern Sierra have upgraded their service connectivity to 1Gbps. All hospitals and clinics in the area subscribe to Internet speeds between 100 Mbps and 1Gbps. All seven Indian Reservations along the route are served at speeds of 50 Mbps or higher as well. And on the lower end, CAIs like community centers and fire stations subscribe at 10 Mbps or lower speeds.



Key Success Factors

- 1 Private and public sector partnership from the beginning to the end of the project.
- 2 Clear, concise and attainable goals agreed to and achieved by all parties.
- 3 The Digital 395 backbone can be expanded upon, allowing success to breed success.
- 4 A proactive culture and flexible mindset among stakeholders enabled quick resolutions to obstacles.