Broadband USA Applications Database

**Applicant Name:** BEND CABLE COMMUNICATIONS, LLC

**Project Title:** Central Oregon Fiber Alliance

**Project Type:** Comprehensive Community Infrastructure

_______________________ Executive Summary _______________________

At the heart of Central Oregon, there is an island of broadband opportunity. The City of Bend, now the largest city in Oregon east of the Cascades, has emerged as a technology oasis as a result of the foresight and investment of its locally-owned cable operator, BendBroadband. BendBroadband has always been a small operator with big plans. It was the first cable operator in Oregon to offer cable modem service in 1997, and at the close of 2008 it became the first traditional cable operator in the continental United States to deploy a fully-digital network. An even bigger first in 2009, it launched the fastest wireless broadband service in the United States. Its HSPA+ wireless protocol has demonstrated lab speeds of up to 21 mbps downstream and 5.6 mbps upstream, and is positioned for a seamless upgrade path to Long Term Evolution (LTE) with potential future capacity of 100 mbps. BendBroadband’s investments have fueled economic diversity and opportunity in its Bend area footprint, but the surrounding areas of Central Oregon lack adequate middle mile broadband connectivity to this oasis, to each other, and to the Internet beyond. The four underserved communities of Madras, Prineville, Sunriver and La Pine have joined together with BendBroadband and key health, educational, public safety, and business development partners to form the Central Oregon Fiber Alliance, a public-private partnership, to propose a Comprehensive Community Infrastructure plan that will bring sustainable, reliable and scalable broadband to regional anchor institutions and business in underserved areas across Deschutes, Crook and Jefferson Counties. Compared to most BTOP awards in the first round, this project is small in dollars requested, but not in ambition. It would create a comprehensive, regional 40 Gbs fiber ring infrastructure spanning an area nearly the size of New Jersey. Using this ring, the Project delivers all seven of the CCI priority criteria. Every major community anchor location and business district would be connected with the ability to purchase 100 mbps or even 1 Gbs services, at rates far lower than are currently available from the stagnant incumbent telephone company, if they are even available at all. The establishment of ubiquitous connectivity to a survivable 40 Gbs fiber ring as the backbone between these communities and the Internet will set a foundation for sustainability, economic growth and job creation. Using 2000 census data, the project will pass a population of 201,191 over three counties in addition to the cities of La Pine, Prineville, Sunriver and Madras. The largest city, according to the 2000 census data, is Prineville with a population of 8,908. The counties covered by this project encompass 7,797 Square Miles with a population density of 26 persons per square mile. While some of the areas have some minimal last-mile and middle-mile services, the current broadband architecture does not provide cost effective bandwidth needed for key anchor tenants and business development. Bandwidth intensive solutions will be dependent upon each anchor tenant with a service capacity up to 1Gbs symmetric. For instance, telemedicine to regional, state and national health providers will be
empowered by the Central Oregon Fiber Alliance initiative. For the community college it becomes feasible to provide distance education from the main college campus to rural campuses across the three county region. For the schools in Madras, connectivity for distance education to the state Virtual Classrooms enables specialized classes from the virtual multimedia archive. Finally, for economic development, this project will fund passive optical networks (PON) to each locality’s business sector and business park with affordable capacity up to 100Mbs. There will be decades of value for the region with this investment across the Central Oregon Fiber Alliance. BendBroadband subscribes to and supports NTIA’s policies of non-discrimination and open interconnection. Currently, BendBroadband peers with multiple regional and state Internet providers in a non-discriminatory fashion to create the best possible regional network at many regional and state interconnection points. BendBroadband would deploy a mix of technologies, including dense wave division multiplexing (DWDM), reconfigurable optical drop/add multiplexers (ROADM), and Gigabit Ethernet over Passive Optical Networks (GePON). These technologies brings cost effective enhancements for scalability to optical middle-mile investment with speeds by the terabits per second. This solution provides the best-of-breed solutions for performance, reliability and scalability in the optical middle-mile network that matches best practices of long-haul network transit providers worldwide. Each fiber ring will be terminated at a regional ROADM device. The capacity of the ROADM device is 40Gbs of technology neutral fiber transport with the capability to terminate transport Ethernet, SONET, Fiber Channel and finally native wavelengths. Even though the initial implementation will be for Ethernet, ROADM can scale to provide many optical termination solutions and is upgradable up to 80Gbs backbone. Each fiber lateral, to each anchor tenant, will initially be scaled to provide up to 1Gbs of service. That stated, each anchor tenant termination can scale up to 10Gbs with upgrade of equipment. Finally, passive optical network (GePON) will be utilized with the initial ability of bringing up to 100Mbs of service to each business. This technology is upgradeable to 1Gbs to the business. With the largest fiber construction and maintenance team in the tri-county region, BendBroadband is the logical choice to build and maintain this regional fiber initiative for the Central Oregon Fiber Alliance. BendBroadband brings at minimum a decade of data transport experience to the region and is proud to be a key partner in creating the data transport foundation for the 21st century. BendBroadband has years of experience in middle-mile and last-mile fiber transport. The total project costs will be $6.3M. BendBroadband will fund of 30% of the project cost for a match of $1.9M. The construction of the network will keep 14 fiber technicians fully employed for over a year and will create two full time, permanent BendBroadband positions. The project will create 59 full time positions for the duration of the build. We estimate that 115 permanent jobs will be created as a result of the improved regional connectivity. BendBroadband firmly believes in bringing state of the art and affordable optical transport to our region as part of the Central Oregon Fiber Alliance. This grant will lay the data transport foundation for the region, for decades to come, for health, education, public safety and economic development. The proposed optical infrastructure is key not only to Central Oregon but to the entire State of Oregon as the state makes efforts to build the infrastructure needed for the 21st century and overcome stubborn unemployment.