The Nevada System of Higher Education (NSHE), the Nevada Department of Transportation (NDOT), and the Nevada Department of Information Technology (DoIT) jointly operate and maintain statewide network infrastructure that provides critical broadband services and support to the vast majority of Community Anchor Institutions (CAI’s) throughout Nevada. NSHE provides statewide, fiber based data/video connectivity, Internet access and video conferencing services for higher education academic and research applications, K-12 distance education programs and Internet access, rural telemedicine teaching, education and clinical programs associated with the University of Nevada School of Medicine (UNSOM), Cooperative Extension educational programs, public libraries, Native American tribal K-12 educational and health programs, as well as video conferencing support for the educational programs and the legal/judicial administrative activities associated with the Nevada Department of Corrections. NDOT supports public safety through its statewide first responder 2-way radio system and Intelligent Traffic Sign (ITS) programs that provide such services as road condition and Amber Alert information. DoIT provides fiber and microwave based services to State and local government/law enforcement entities agencies.

Barriers to Rural CAI Broadband Adoption From a historical perspective there are two main barriers to broadband adoption in rural Nevada communities. The first issue is service availability and the second is affordability. Due to the extremely low population densities and large distances involved in serving rural communities in Nevada, it has not proven economically viable in many cases for major service providers to establish infrastructure to sustain services in many of these communities. The result has been that there is either no broadband service locally available or if it is available, it is provided by served providers whose rates are unaffordable by most rural CAI’s. With regard to affordability, the reason broadband rates in many small rural Nevada Communities are so high is that the rate structure of commercial service providers typically includes a mileage component that, due to the large distance involved in Nevada, amount to a significant percentage of the overall service cost. Without a large enough market to foster competition in many of these rural communities, there is additionally no competitive pressure placed on local service providers to keep rates low. Understandably, limited rural markets, due to their population densities cannot always provide an environment conducive to competition, but there is a remedy for mileage based charges and that is to eliminate or significantly reduce the mileage component of broadband service provision for CAI’s. The Opportunity NSHE, NDOT and DoIT serve specific key rural Community Anchor Institutions (CAI’s) and Critical Community Facilities (CCF’s) on a statewide basis utilizing a commercial based, but privately run network that has been put together to provide economical broadband transport/backhaul capability specifically to the CAI/CCF entities they are collectively charged to support. Approximately 730 miles of jointly shared long haul
dark fiber exists across the State of Nevada along the U.S. 50 corridor through the middle of Nevada and along the I-80 corridor across northern Nevada. These fiber routes have been lit and are currently managed and maintained by the Nevada System of Higher Education. Initially, due to financial constraints, these fiber routes were point to point long haul transport connections that did not allow access to the fiber infrastructure by the rural communities through which the fiber passed. Over the last ten years, NSHE, NDOT, and DoIT have been working both together and with local community entities to leverage the assets of all involved to construct intermediate fiber distribution along the fiber routes points that allow for Community Anchor Institutions to have access to low or no cost middle mile backhaul. The result has been that approximately eighty (80) CAI’s in ten (10) communities can now lease a relatively inexpensive cross town broadband connection from a local commercial carrier or provide their own wireless last mile connection from the customer premise to a State provisioned long haul access point that provides no or low cost backhaul anywhere that the State backbone network goes. Rural CAI’s in the communities served have been able receive broadband service they could not previously afford or realize significant savings on service they already subscribe to. This approach has also provided an economic stimulus to local commercial providers who have obtained new last mile customers they otherwise would not have had due to the high cost of service. The proposed project would add four (4) additional sites, upgrade one existing site, and add additional backbone capacity necessary to support the additional load. NSHE, DoIT, and NDOT would each have constituencies that would be affected on the shared infrastructure, but an additional Thirty-eight (38) potential CAI’s could be served from NSHE alone. Nevada's economic situation, like in many other states is bleak. Based budgetary projections, funding will be extremely tight for the foreseeable future. There is little or no chance that what little resources are available in these rural communities will be redirected to support broadband adoption. If BTOP funding is not available, this project will simply not go forward. Rural CAI’s will forego broadband adoption altogether rather than face layoffs and furloughs of public safety employees and discontinuation of other key services. The result will be a stagnation of broadband adoption and utilization. The Proposal The portion of the NevadaNet network encompassed by this application utilizes two commercially provided dark fiber paths that are lit and managed by NSHE; One along the I-80 corridor between Reno and Wendover NV (410 miles) and a second along the U.S. 50 corridor from Reno to Ely NV. (320 miles). The joint middle mile dark fiber infrastructure utilized by NSHE, DoIT, and NDOT that serves as the basis for this project is comprised of long haul dark fiber which was procured via long term (25 year) lease from commercial carriers. This project would install new or additional add/drop capability to existing NSHE operated and managed long haul fiber paths in rural communities of Fernley (pop. 8543), Austin (pop. 340), Lovelock (pop. 2003), and Wells (pop. 1346) Nevada. In addition an upgrade to an existing facility in Ely (pop. 4041) Nevada would also be completed. Backbone capacity improvements along the routes have also been included to support additional anticipated traffic load. At each proposed location, a small, prefabricated equipment enclosure complete with AC power, HVAC, and backup generation will be installed along existing right-of-way in the communities selected. The facility will be located at pre-existing community level 'hand hole' locations designed to access the long haul fiber infrastructure. Some minor trenching will be required along the right-of-way to connect the hand hole splice to the equipment shelter, and add/drop optical equipment will need to be relocated and/or added at the location. All supported CAI long haul circuits could then be rerouted to the new distribution point for free or low cost long haul transport.
Total anticipated cost will be $6.5 million with $1.51 million of this amount (23%) being supplied by cash and in-kind match from NDOT and NSHE.