

Broadband USA Applications Database

Applicant Name: Nevada System of Higher Education

Project Title: Nevada Rural Broadband Access Project

Project Type: Middle Mile

Executive Summary

BIP/BTOP Nevada Rural Broadband Access Project Proposal Executive Summary The Nevada System of Higher Education (NSHE) operates and maintains a statewide data/video network known as NevadaNet. This network provides statewide data/video connectivity, Internet access and video conferencing services for Higher education and K-12 distance education programs, rural telemedicine teaching education and clinical programs associated with the University of Nevada School of Medicine (UNSOM), Cooperative extension educational programs, libraries, Native American tribal educational and health programs, and educational/legal programs associated with the Nevada Department of Corrections. NevadaNet infrastructure is also jointly shared with the Nevada Department of Transportation (NDOT) who supports public safety through its statewide first responder 2-way radio system and Intelligent Traffic Sign (ITS) programs that provide road condition and Amber Alert information. The Nevada Department of Information Technology (DoIT) also shares the infrastructure to support the connectivity needs of State and local government/law enforcement entities agencies. NevadaNet does not provide services to "for-profit" entities and is considered a private network. As a result, it is the opinion of NSHE that NevadaNet is not subject to FCC commercial carrier regulation and is therefore, exempt from commercial carrier equal access requirements. Together NSHE, NDOT and DoIT serve the 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 and video capability specifically to the CAI/CCF entities we are collectively charged to support. Wide area connectivity, Internet access and video conferencing services will be the main applications that will be available at no charge to the Community Anchor Institutions (CAI) and Critical Community Facilities (CCF) supported by NSHE middle mile infrastructure and accessed via dedicated commercial or private last mile infrastructure provided by the CAI/CCF institutions themselves. The video conferencing service and real time technical support, provided free of service charges to affiliated state and local agencies, supports approximately 14,300 centrally scheduled and automated video sessions annually to over three hundred (300) sites throughout the State of Nevada. Usage is broken down as follows: NSHE Distance Education Classes (41.2%) NSHE Statewide Administration (23.4%) K-12 Classes and administration (11.5%) School of Medicine Teaching and Clinical Consults (9.3%) Cooperative Extension Programs (3.3%) Department of Corrections (2.8%) Other Ad Hoc State and local Govt use (8.5%) There is no commercially available competitive alternative for this service in Rural Nevada 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) These fiber paths, due to resource constraints, were originally installed as point to point connections which did not provide access by the communities along these fiber routes. Through cooperative and collaborative efforts with both state, and local entities some a few rural community fiber access points have been constructed, but there are several communities whose anchor institutions and critical facilities still do not have access to economical back haul transport capability. Normal monthly recurring charges of existing commercial carrier broadband service offerings include a mileage component that adds significantly to overall expense of service provision. For example, if a T1 circuit serving a supported CAI/CFF in Battle Mt. Nevada has to be provisioned and billed by a commercial provider from Reno (250 miles) it may cost \$1200 or more per month, whereas if that same circuit only runs across town to a fiber distribution point and is hauled for free to Reno, the cost might only be \$300 per month. This difference in cost has limited the ability of some entities to acquire broadband service or expand what limited capabilities they may currently be able to afford. Low or no cost long haul transport will allow more entities to take advantage of broadband service and allow for expansion of service for those already paying high costs for limited service. This project would install new or additional add/drop capability to existing NSHE operated and managed long haul fiber paths in rural communities in Fernley (pop. 8543), Fallon (pop. 7536), 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 and other capacity improvements along the routes would be added to support additional traffic load. At each proposed distribution 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 added at the location. All supported CAI/CCF long haul circuits could then be rerouted to the new distribution point for free or low cost long haul transport. The benefits to be realized include:

- Enhancing Community Anchor Institutions broadband capability would have the biggest impact to the largest number of residents in the targeted areas thereby having the biggest "bang for the buck".
- Lower monthly recurring charges to community anchor institutions would result in increasing Community Anchor Institution take rate and would lower overall operating expenses saving taxpayer dollars.
- ILECs would benefit from a greater number of CAI/CCF cross town last mile circuits terminating at the fiber breakout point due to new service provided to those entities who could not previously afford broadband service.
- This effort will strengthen the middle mile capability of the NevadaNet backbone which will also facilitate the ability of the network to integrate and collaborate with rural health proposals being developed by Nevada rural health agencies under the Health Information Technology (HIT) program. The proposed HIT projects will increase bandwidth specifically to rural health facilities to establish standardized Electronic Health Records and to implement more sophisticated clinical diagnostic services.
- The NevadaNet network has been in the optical network/transport business for nearly 10 years; we have built these facilities before and we know how to do it successfully. Total Estimated Cost is \$5.6 million