



**State of Washington Broadband Consortium  
NTIA BTOP Round 2 Grant Application  
Executive Summary**

Today's Internet is a principal integrating force in the economic, educational, and social life of the United States. Information is the new commodity and providing access to that information is critical. On a national scale we must have the infrastructure necessary to handle the flow of information if America is to continue to compete globally. In the short term, programs and strategies that help create jobs, promote education, and improve criminal justice and public health services are essential. The greater long-term benefit is the production of a generation of active participants better prepared to meet the challenges of the future, whether those individuals are from a large metropolitan area or a small rural community.

In the state of Washington, challenging geographic barriers make it difficult to bring broadband to many of the state's remote communities. Prohibitive construction costs prevent private telecom companies from offering broadband services in many regions of the state. Natural features both east and west of the Cascade mountain range, foothills, ridges, canyons, gorges, national forests, and complex waterways have thus denied vulnerable populations access to the Internet services deemed essential today, from searching and applying for jobs online to live streaming for medical consultations. The goal of this Broadband Technology Opportunities Program proposal is to bring new or improved Internet connectivity to these historically vulnerable populations. The project extends Washington State's backbone network and the newly funded NTIA BTOP Round 1 network to support additional middle mile and last mile builds to unserved and under-served areas of the state. The grant will provide broadband access to more than 55 economically depressed communities, passing 538,559 households, and 103,230 businesses.

Our proposal is headed by the Northwest Open Access Network (NoaNet), a not-for-profit organization with a proven record of success. NoaNet has created a strong and synergistic alliance of public, non-profit and private organizations in support of this proposal. Our anchor institutions include the Washington State Library, Washington Courts, the State of Washington Superintendent of Public Schools, Tulalip Tribes, Washington State Parks, the Washington Military Department-Emergency Management Division Enhanced 9-1-1 (E911) Program, King County, the Washington State Board for Community and Technical Colleges, and the Washington State Department of Health. Additional key stakeholders in the project include five community college, 42 libraries, 6 Native American tribes, the Washington Rural Broadband Cooperative (WA-RBC), 98 schools, 7 PUDs, 1 private power company, a software consulting company, 2 private telecommunications carriers, 2 small or disadvantaged businesses and 11 city and county governments. Matching funds are being provided by 25 different entities.

The proposed infrastructure will bring a minimum of 100Mbps or higher connectivity to anchor institutions, a minimum of 10Mbps to participating organizations, and the ability to scale beyond 10Gbps for the entire system. Middle mile components include 283



anchor institutions over more than 450 miles of fiber and microwave infrastructure. Last mile deployments include two dual-band radio public safety projects, bringing high capacity mobile data to first responders and affordable access to a low income population.

The new grant will support Washington's struggling schools, colleges, libraries, state parks, and public health and safety agencies, many of which are located outside the heavily populated Interstate 5 corridor. In areas where mining or timber operations once thrived, unemployment can be greater than 13%. Businesses are reluctant to relocate or expand in towns that provide no broadband connectivity, further reducing employment opportunities for residents whose natural resource-based jobs have been lost. Schools, community colleges, and libraries are often the only places in small communities with hope for adequate connectivity to the Internet due to cost of deployment in rural areas. The limited number of public workstations at schools and libraries, heavy demand, and crippling speeds slow down or block Internet access entirely in some areas. Students at one-fourth of Washington's school districts are impeded by slow Internet connection speeds. Internet access is so precious in the mountainous parts of the state that residents sit in their cars far into the evening to access their library's wireless network. In five rural counties surveyed in a 2009 study by the Washington UTC, 24% of the population was still using dial-up connectivity. Broadband access is sorely needed to expand STEM (science, technology, engineering, and mathematics (STEM) education to areas of the state where AP course curricula and access to professionals in these areas is difficult. As a result, NoaNet has created strategic alliances with the state, tribes, schools, and local government to work together to find solutions. The need for broadband is also acute at community college branches in the Olympic Peninsula, the mountainous areas north of Spokane, and coastal Washington addressed in this proposal. Each of these sites is currently saddled with a maximum connectivity speed of 1.5 Mbps (T1). With broadband connectivity, the branches could serve as powerful equalizers for the fragile communities they serve.

There is an urgent need to improve communications for Washington's public safety agencies. Enhanced 911 dialing is now available statewide, but much of the system still relies on 56K-capable voice grade circuits. Currently, remote areas often have only the most rudimentary capabilities needed to share critical information among fire, police, hospitals and first responders during joint operations.

Washington's health care providers struggle with the limitations imposed by restricted connectivity options, given that a properly connected Public Health physician can serve as many as three counties. The proposed connectivity would permit remote diagnosis, enhance professional training with reduced travel, and make it possible to provide immediate assessment and guidance to emergency workers via videoconferencing. Our proposal will provide critical infrastructure for the state's police, sheriff, fire, and E911 services. The ability to transfer real-time data over wireless networks will allow EMTs to communicate with hospital physicians en route from injury sites. Firefighters travelling to trouble spots will be able to download building plans and hazardous material information from county GIS systems reducing risk to the responder while improving



response times. This capability will help reduce property damage and injuries resulting in lower costs to the citizens.

Broadband emerges as the only available method for work for many if a natural disaster disrupts travel by ferry or bridge in Puget Sound. Portions of the sound's 22,000 acre Tulalip Indian are served by the tribe's own Tulalip Data Services, but many remote areas in the region have little or no connectivity. The annual median income for Tulalip families is \$10,000. Paying for broadband service at the current rates would amount to 24% of their disposable income an entirely prohibitive cost.

Broadband is needed by state civil/criminal law and justice systems, including tribal courts. In the Olympic Peninsula's Jefferson County, Spanish interpreters require more than five hours of travel time for a half-hour hearing. The new connectivity would make it possible to conduct hearings via video, enable access to pro bono services and self-help web sites, and promote timelier information sharing among the state's law enforcement agencies.

The proposed \$79,002,417 project will promote education, ensure safety, and improve the quality of life for tens of thousands subscribers across the state of Washington. When combined with the infrastructure from round 1 of the BTOP program this proposal creates a seamless consortia of broadband entities reaching more than 170 communities and 2000+ anchor institutions in rural and underserved areas.

The Consortia have all been engaged in their respective businesses since 2000 or before. NoaNet and the consortia operate an extensive network today which will be expanded by this proposal. This project is a natural extension of current successful businesses. We expect 732 jobs years to be created or preserved.

NoaNet is an open and non-discriminatory network and will meet or exceed FCC 05-151 requirements. NoaNet will offer interconnection to facilities where technically feasible without exceeding current or reasonably anticipated capacity limitations, on reasonable rates and terms to be negotiated with requesting parties. Grant participants will negotiate in good faith with all parties making a bona fide request for access to the public Internet.