Executive Summary

Clackamas County encompasses 1,879 square miles in northwestern Oregon. The northwestern part of the county contains the most population, due to its close proximity to the city of Portland. Central and southern Clackamas County contains smaller towns that are rural in nature and which make up the underserved areas of the county. Most of the eastern portion of the county consists of the Mt. Hood National Forest. Included in this immediate vicinity are the communities of Sandy, Welches and Rhododendron, which lie along Highway 26, the main route to Mt. Hood from the Portland area. Despite the fact that Mt. Hood is one of the major tourist destinations in the Pacific Northwest, these areas remain underserved by broadband providers. The towns of Estacada, Colton, Molalla, and Canby are also removed from the population centers and are in rural areas. The county's economy is in transition. Traditionally the timber industry has provided a significant base for jobs; however many of these jobs have been eliminated in recent years and the rural areas of the county are therefore experiencing double-digit unemployment. The county needs desperately to stimulate economic development by bringing in modern, higher-paying, and sustainable jobs. Without expanding the local economy through newer industries the county’s economic base will continue to weaken. From a broadband perspective, the county is served in piecemeal fashion by over 20 broadband providers. These consist of tier-one voice and data carriers, large cable TV MSOs, independent telephone companies, and locally owned cable franchises. Service in the rural areas is generally regarded to be 'slow and unreliable' 'too narrow for our needs' and substandard.' With each provider serving small pockets of the county, there is no synergy or economy of scale contributing to the growth of broadband county-wide. A perfect example of this problem is SandyNet, which is a small ISP operated by the City of Sandy, and also a Round 1 BIP last-mile award recipient. With no available middle-mile infrastructure available in Clackamas County, SandyNet's backbone connection suffers due to lack of capacity and redundancy. Quoting from SandyNet's letter of support, the new Clackamas Middle Mile network 'will provide a critical connection to the Internet for our ISP, allowing for redundancy and additional capacity to meet future growth. This additional middle mile capacity is critical to our ability to accommodate our anticipated new customers.' To address this critical shortage of readily available broadband transport throughout the county, the County’s master communications planning exercise resulted in the development of the Clackamas Broadband Innovation Initiative (CBII), which forms the basis of this application. The proposed fiber optic middle mile network will provide badly needed infrastructure in the areas of the County where more bandwidth is significantly needed, and it will link the rural parts of the county with the non-rural areas. In keeping with the goals of BTOP's Round 2 emphasis on 'Comprehensive Community Infrastructure', the project links together a total of 158 community anchor institutions including schools,
a Community College, public safety facilities, hospitals, and other government facilities. Just as important, the project will also offer dark fiber capacity to the various local broadband providers at very affordable rates. By offering a county-wide redundant fiber optic ring, the county will enable providers from within the county and beyond to access a previously unreachable customer base. Doing so will truly make Clackamas County a more Comprehensive Community. A new county-wide middle mile infrastructure is expected to provide immediate benefits. The county's Business and Economic Development group has voiced strong support of the project: 'This project will be instrumental to our business recruitment and marketing efforts [and is] critical to level the playing field for our rural communities to compete and attract employers without the location and infrastructure advantages offered by the Portland Metro Area.' The application also includes letters from two private-sector employers explaining how the new infrastructure will immediately improve their ability to do business and compete with companies in more urban areas. One of these is a developer who would like to expand an industrial park by an additional 125 acres in the Estacada area, which would result in an immediate influx of new jobs. The project has received full support from all of the anchor institutions and government facilities in the County. Most prominent among these has been the Clackamas Education Service District (ESD) which operates and oversees 91 schools (k-12 as well as a community colleges) in Clackamas County. Clackamas ESD has provided much-needed expertise and leadership in the network design. It has also offered a connection into its newly-renovated and expanded 4000 square-foot data center. By establishing a peering point at the ESD's data center, the CBII will have access to not only all the schools in the county, but will also be collocated with ESDs in Portland and Multnomah County. The data center also hosts peering points for service providers such as Qwest, Comcast, and Integra, as well as corporations such as Google, Yahoo, Microsoft, and Akamai. The contributions of Clackamas ESD provide real value to the feasibility of the network and represent a perfect example of how the ARRA can foster cooperation of local government agencies working together. In addition to Clackamas ESD, the other anchor institutions have also contributed as partners by including their own cost to fund the network gear required to light the backbone fiber. It should be noted that this represents a significant revision and improvement over the previous application submitted for Round 1. The Round 1 infrastructure consisted of dark fiber only, without network connections, but the Round 2 application provides in-kind matching for the cost of the network electronics. The CBII will provide 108 pairs of fiber on the ring and 72 pairs of fiber on the spur portion of the network. Initially the County will deploy a 10 Gigabit backbone with Gigabit service to several County facilities. The City of Sandy's public broadband wireless system, SandyNet, will initially provision a 1 Gigabit connection to the public internet for backhaul purposes. The Clackamas ESD will be able to provide schools higher speed access to the Internet and all of the high capacity applications that can be realized from more bandwidth. Included in these are distance learning and virtual classroom applications. Higher capacity data connectivity and online video training can be provided between fire stations and police locations, enabling greater access to graphic-intensive data, and the ability for greater sharing of information between the County and the municipalities. The Oregon Department of Transportation will be provided with fiber pathways needed to implement Intelligent Transportation System traffic monitoring and video monitoring along high traffic corridors. The County will implement the CBII through the resources of its Technology Services unit. The department has a headcount of over 50 employees, and an annual budget of over $12 Million. Technical Services has demonstrated
capabilities in providing network administrative services, project management, budgeting, procurement, billing, and client services. The County's TS unit also provides a variety of technical infrastructure and service support, including call center, security, central operations, network transport and communications, maintenance and service response. The CBII will meet all of the NOFA's nondiscrimination and interconnection requirements. The County's Network Management Policies will be nondiscriminatory and focused on uniform help desk support for all users of the CBII and quick service response in the event of any fiber cuts or infrastructure problems. Additionally, all of the policies and its commitment to meet all nondiscrimination and interconnect requirements will be prominently posted on the County's CBII Web site with notification to all users of any changes in these policies prior to any effect of such changes. The middle mile service area which the CBII addresses is estimated to contain 97,834 households and 3,651 businesses. The project is estimated to cost $11,148,130, covering 180 miles. It is expected that over 120 direct and indirect jobs will be created from the construction of the project and its initial operation. Once the fiber is built out and connected to the anchor institutions, it is conservatively estimated that dark fiber leases by service providers will lead to an indirect subscriber count of approximately 20,000 subscribers over an 8-year period.