

Committee Recommendation

The Community Connectivity Committee recommendation to the Pend Oreille County leadership is for the deployment of fiber optics along the Public Utility District's three-phase infrastructure, establishing redundancy in the system where possible; to use the District's bonding capacity to pay for the deployment, capitalize on partnership opportunities and to move as quickly as possible to implement this recommendation.

The leadership in Pend Oreille County should plan for broadband services to serve all of Pend Oreille County. Recognize the installation of network infrastructure may need to be phased over time given limited resources. The short-term should be viewed as the next three to five years. Long-term is the timeframe beyond five years.

The major population concentrations are found along the north south highway corridor. The short-term effort should focus on expanding the fiber backbone and establishing redundancy where feasible. It is estimated approximately 80% of the population in Pend Oreille County resides in this corridor and the remaining 20% in the very rural areas of the county. The 20% of the population in rural areas are the focus of the long-term deployment strategy. Recognize the deployment of broadband services to each household may involve a mix of broadband technologies especially for the 'last mile' of the infrastructure.

Capitalize on partnership opportunities. Third party service providers are a critical provider of "last mile" technology. Businesses and individuals could also be partners in the deployment of a community fiber network.

Recognize the opportunity for including fiber along the three phase electrical lines of the Public Utility District. Work with the Public Utility District's bonding capacity for the financial resources needed to build out the system.

Deploy the infrastructure as quickly as possible.

Do it, but do it right!

Community Connectivity Committee

At the request of the Pend Oreille County leadership a citizen's advisory group was created to provide a recommendation regarding broadband deployment. The Public Utility District agreed to provide the leadership and staff support for the Committee's work.

Committee members are:

Laura Merrill – Pend Oreille County Commissioner
Nancy Lotze – Education Selkirck School District Superintendent
Fred Willenbrock – Business Owner - Newport Miner
Bill Fountain – Citizen, Agriculture
Dan Reiner – Citizen - Technology
Peggy McDaniel – Business – Saddle Mountain Ranch
Matt Becvarov - Libraries

Bob Geddes, Executive Director; John Jordan, Finance Manager; and Joe Onley, Community Network System Manager for the Public Utility District provided the Committee with technical and operational support throughout the process. The Committee discussion and process was facilitated by Bob Geddes and Leslie Jones, Executive Director for Tri County Economic Development District.

The Committee met monthly for the last five months to arrive at a recommendation based on the initial questions or purpose for which the Committee was established.

1. Is fiber optics the preferred broadband technology for the future of Pend Oreille County?
2. Where should the technology be?
3. How should the network system be paid for?

Meeting agendas, summaries, interim discussion documentation, financing options, and other documentation considered by the Committee are included for reference.

Broadband Technologies

The Committee involved themselves in understanding the different types of broadband technology, the opportunities and challenges of each, the existing telecommunications infrastructure in Pend Oreille County, the need for broadband technology, and best practices for the deployment and operations of a broadband network.

The regulatory environment surrounding the Public Utility District and the third party service providers led to the Committee to conclude the real need to consider public private partnerships as part of the recommendation. The Utility District is prohibited from providing retail services. The District is a wholesaler of electrical service. Retail services businesses respond to market demands.

Understanding the various broadband technologies and their application established a common language and understanding for Committee members. Technologies discussed included wireless, fiber, cable, DSL and satellite.

Wireless systems use airwaves to deliver the signal. A cable modem system uses two-way coax cable to provide service through a TV system. Digital Subscriber Line (DSL) uses phone lines for signal delivery. Fiber optic cable is a collection of glass strands that carry light to provide a signal. Delivery speeds, data capabilities, and cost are some of the factors the Committee considered.

Delivery speed also known as bandwidth is the measure of the capacity of the "pipeline." Bandwidth is measured in bits per second (bps). The bandwidth available is technology dependent and ranges from .04 Mbps for dial-up service to near infinite Mbps for fiber. Cable, wireless and DSL offer speeds generally less than 10 Mbps. In terms of data capabilities fiber optic cable provides the long-term opportunity of all the technologies described.

The Committee discussed the definition of system build out. The group agreed build out means the provision of service to each home in the County. The group would prefer to have broadband service to 80% of the population in a three to five year timeframe. The remaining 20% may take several more years.

The committee considered the appropriate technology for each segment of infrastructure necessary to connect a home. A simplistic understanding of each segment is provided by way of illustration. The "backbone" of the system provides the base on which an entire system can be developed. Nodes or points of presence connect to the backbone and serve as a distribution or concentration point in the system. From these points to a pole which may serve to further distribute and concentrate and finally a "drop" to the outside of a home is made. The home owner then has the opportunity to select the type of technology to use inside the home; however, choices in rural areas are often limited.

The Committee realizes that full build out of a broadband network system may take years to complete but believe this system is the infrastructure of the future and it is not too late to get started. Further, the Committee has recognized that the same technology may not work in all locations or circumstances in Pend Oreille County and therefore support the concept of mixed technologies, especially for the "last mile" connections.

Deployment

The deployment of the entire broadband network will require a public private partnership(s). The partnership which could involve a number of entities will need to sort out ownership, operational, and leasing arrangements for the network system.

The deployment of a fiber optic network has real operational implications for the Public Utility District. The use of technology in the operations, monitoring and security of the electric system is becoming the standard. The use of technology in this type of application can reduce costs, save energy, enhance customer service capabilities and provide other benefits to the District and the rate payers. Further, the existing assets of the District including right-of-way, lines, poles, equipment should remain the priority.

Since the Public Utility District has an existing fiber backbone it is likely the most effective beginning for the deployment of the entire network. A series of nodes located in each

community expands the network and provides for future possibilities. Several mechanisms for the distribution and concentration of the network beginning with these key elements place the reality of a county-wide fiber network ever closer.

What needs to be considered as the missing links in the backbone, node and pole connections are built is the need to establish redundancy for the system. The Committee recognizes the opportunity to work with Seattle City Light to establish redundant systems for both organizations. There is support from the Committee for the deployment of fiber to complete the logical loops and lines for connectivity.

The next emphasis on deployment is around the existing community nodes and the highly populated areas of the county. As mentioned before this approach could reach 80% of the population in a relatively short timeframe.

The Committee did consider the idea of deploying fiber to a “demonstration” area to show the public the benefits of the fiber connectivity. However, the Committee believes the focus should be on the deployment for the entire county.

Financing

A large portion of the Committee discussion was focused on financing. The PUD staff provided the Committee with some estimated costs, different financing mechanisms and scenarios for discussion purposes only. Thirty-five million dollars is the discussion estimate to build out a fiber system in Pend Oreille County. Differing financing amounts were considered from the \$35 million to “as the financial resources become available.” A great deal of discussion was held around the \$10 to \$15 million dollar range for reaching the 80% of the population.

The “Financing Options” white paper prepared by Mr. Jordan discusses the various funding options that might be available for the deployment of the broadband network system. User fees, bonding, private and public investments, and others were discussed by the Committee. Some option would not result in sufficient funding for a rapid deployment of a network. The group discussed at length the funding options that would require voter approval. The Committee believes any ballot measure to increase taxes for the deployment of the network will most likely fail, especially given recent experience at the ballot box. The examination bonding for the financial resources shows very little bonding capacity remaining with local governments. The Public Utility District can use bonding as a financing mechanism.

The re-licensing of the Boundary Dam may result in rates increases for the Public Utility District to cover the significant costs of this effort. This may cause the District to take a more conservative approach when considering the financing of a broadband network. The District does believe it would be capable of maintaining and operating the network system.

Combining other existing sources of revenue, such as the .09 funding from Pend Oreille County, would not meet the Committee expectation for rapid deployment or raise sufficient capital to build the system.

The Pend Oreille County Leadership has been approached by a county resident who is willing to provide some resources for the project which may include funding and/or services. This offer is made with contingencies regarding the commitment of the Public Utility District to build out the fiber optic network. Specifics and details of the offer have not yet been negotiated, but indications are that design and engineering for the network will be provided.

Bonding the project seemed to be the most likely approach because large amounts of capital can be obtained and the project could be built relatively quickly using this approach. However, the servicing of the debt over a period of time might be problematic. For example, \$10 million dollars at 5% interest for 20 years will require approximately \$800,000 dollars annually for debt service.

Other

The Community Connectivity Committee notebook contains the background information, meeting summaries, financing options, maps and other information considered by the Committee throughout the process and should be referred to for specific details.

The Committee appreciates the opportunity to provide feedback to the leadership in Pend Oreille County regarding broadband deployment. The support and information provided by the Public Utility District staff was very responsive to the Committee needs throughout the process. The Committee sincerely hopes a commitment to the future of Pend Oreille County will be made through the deployment of a fiber optic network.