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## **Need for speed: Broadband comes to rural areas**

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### **The Spokesman-Review**

Think of the fastest Internet speed you experience. Now multiply that by 10, 50 or even 100.

It's coming ... to Pend Oreille County.

Most rural communities lag in the type of broadband Internet service available in urban areas. But northeast of Spokane, in Newport and the surrounding hills and valleys, around 5,000 homes and businesses have the chance to connect soon to a fiber-optic system with lightning-fast speed.

The network being built by the Pend Oreille Public Utility District will allow users to download and upload data all the way up to 1,000 megabits, or 1 gigabit, per second – far faster than the 10 to 20 megabits that is a popular consumer choice today.

It will rival the Google Fiber system rolling out in the Kansas City area and is fast enough to download a movie in seconds, conduct video conferencing at home, and watch multiple high-definition TV programs simultaneously online.

“We believe it’s kind of the footprint for the future of rural communities,” said Joe Onley, manager of the Community Network System for the Pend Oreille PUD.

The digital divide has begun to blur, at least geographically. No longer is it a simple equation of the haves in cities and the have-nots in small towns and homes scattered across remote areas.

Steady expansion of broadband coverage through government backing and private investment has put Internet via broadband within reach of almost 97 percent of Americans, who are using it at home and on smartphones and tablet computers

everywhere they go. Only 15 percent had such access a decade ago, according to a recent report by the Federal Communications Commission.

In Eastern Washington, fiber networks – just one of half a dozen technologies that deliver broadband – have sprouted up in some unlikely places: in Whitman County south of Spokane, around Ephrata in Grant County, snaking out from Ellensburg across Kittitas County, and running up through Chelan, Omak and Tonasket in Douglas and Okanogan counties.

This ever-widening web of fiber, heavily subsidized by the federal Recovery Act, is boosting economic development, enhancing Internet connections in schools and libraries, improving health care delivery and wiring homes and small businesses in isolated places that major broadband providers have been slow to reach.

Ten public utility districts in Washington are leading this digital charge together as NoaNet, the Northwest Open Access Network. The nonprofit, wholesale provider of broadband has more than 1,800 fiber miles serving nearly 260,000 people in rural and underserved areas.

Thanks to an infusion of \$140 million in federal stimulus grants, NoaNet is expanding to nearly 3,000 fiber miles. By next August the network is expected to reach more than 170 communities and 2,000 schools, hospitals, emergency responders, libraries, colleges and universities.

One of NoaNet's most notable successes is along the Columbia River in the center of the state. That's where fiber lines to Quincy – along with the lure of cheap hydropower – brought in Microsoft, Yahoo and other firms to build large server farms.

The digital landscape is changing dramatically, bringing broader coverage and greater speeds, said Will Saunders, broadband policy and program manager for the Washington State Broadband Office.

More than \$500 million in public and private money has been invested in strengthening the backbone of the state's broadband network, and another \$400 million is planned.

"We now have a lot more infrastructure and a lot more network service available out there," Saunders said. "The question is what are we going to do with them."

### **Filling in the gaps**

Nationally, 19 million people have no broadband access, with 14.5 million of them living in rural America, the FCC says.

Nearly a third of residents on tribal lands lack access to fixed broadband networks, including those on Colville Confederated Tribes land northwest of Spokane.

Yet broadband is widely available across most of Washington, which ranks 10th among all states in a common measure of high-speed Internet access: how much of the population lives in areas served with broadband at speeds greater than 3 megabits per second. The state has 98.7 percent of its population meeting that benchmark, compared to 91 percent in Idaho (which ranks 44th) and the national average of 96.7 percent.

Some of the last places in Washington without high-speed Internet are in the mountainous and sparsely populated regions north of Spokane.

Ferry County has stood out as the least connected county in Washington, with about 70 percent of households without broadband. Okanogan, Stevens and Pend Oreille counties also rank high in broadband inaccessibility.

Federal money also is helping fill in the remaining gaps in coverage in those areas.

EcliptixNet Broadband Inc., a wireless Internet service provider, has received more than \$20 million in stimulus grants to extend broadband to 90 percent of rural properties in Ferry, Stevens and Spokane counties.

Using a series of radio links, broadband will be offered to more than 47,000 households, 3,600 businesses and 300 community institutions across nearly 2,000 square miles by spring 2014, EcliptixNet owner Jeff Tamietti said.

“They’re extremely excited and can’t really wait for us to be there,” he said.

The Spokane-based company broke ground earlier this month on the first of 18 communications towers it will build, in addition to 31 existing towers it plans to use. The new tower, on Five Sisters Mountain west of Deer Park, will serve the Williams Valley area beginning late this fall.

The service will be comparable to that offered by cellular companies Verizon and AT&T, with download speeds as high as 12 to 15 megabits per second, Tamietti said.

### **A digital revolution**

Pend Oreille County PUD is racing to complete its \$34 million fiber network expansion by a March 31, 2013, deadline.

Fiber in this county of 13,000 residents dates to 1999, when the public utility district chose that technology to keep its electric system safe and reliable.

From a 125-mile backbone, stretching from Spokane to the Canadian border, the district gradually has extended fiber connections to school districts, libraries, government offices, the Newport hospital and some major industries.

“For a decade we’ve been doing stuff that other people are just now starting to do because of the NoaNet project,” Onley said.

The 2009 federal stimulus sought to accelerate deployment of broadband in unserved and underserved areas. The Pend Oreille PUD received \$27 million – one of the largest such grants in the nation – through the Commerce Department to help build out its fiber network in the southern third of the county.

“We think we had quite a track record of running a system, running it competently, and some vision,” Onley said.

The district has installed close to 450 miles of fiber so far and has another 100 miles to complete in the next six months. The goal is to run it to 5,000 homes and businesses from Usk south to the county line. So far, about 3,500 customers have agreed to hook into the network.

The PUD will offer use of the fiber to Internet service providers and phone companies at a wholesale rate of \$35 per month per connection. It’s not yet known what the retail rates will be.

Onley believes the technology will revolutionize how county residents live and work.

“Once you have fiber to the premise, we’re better than everybody. We’re better than the DSL, we’re better than the cable. It’s incredibly robust, and I think a real future-proof technology,” he said.

It will take some work to teach users about the potential of ultra-fast broadband, Onley said, much like Americans had to be shown how to operate refrigerators and ovens when electricity first came to rural areas.

In a converted car dealership in Newport, the Community Network System office features a model house where visitors can visualize the benefits of super-fast broadband, such as streaming programming on a 50-inch touch-screen plasma TV.

Many of the customers coming in to check it out are in their 60s and 70s, Onley said.

“They’re very interested in what this can do. They’ll be able to have dinner with their grandkids that live 600 miles away through some type of video connection,” he said. “We have a lot of snowbird-type people; they’ll be able to monitor their home for security reasons when they’re down in Phoenix.”

And instead of driving an hour or more to their doctor’s office, residents may be able to consult with medical professionals using two-way video, he said.

“My focus naturally is getting that infrastructure up,” Onley said. “Then I want to sit back and take a deep breath: What kind of exciting things can we do as a community?”

The fiber network, coupled with the PUD’s hydropower and water services, could make the county another destination for companies that house computer systems, backup power supplies and special security devices, said Saunders with the State Broadband Office.

“The speeds they’re deploying there are really quite remarkable,” he said. “It gives me and others the opportunity to talk about Pend Oreille as a great place to build a data center or a great place to locate a business.”

### **Going it alone**

Broadband also is expanding in the Northwest without huge government subsidies.

The tiny town of Marlin, 23 miles northeast of Moses Lake, had dial-up Internet service as recently as 2008. Isolated and tucked down into a draw, residents there had no cable, fiber or wireless service.

“They were definitely behind the times,” said Marlon Schafer, owner of Odessa Office Equipment, a wireless Internet provider.

His firm worked out a deal with a local grain company to place a repeater on a grain elevator in Marlin to get broadband to around a dozen customers, who now pay \$36 a month for Internet speeds of about 10 megabits per second.

Odessa Office Equipment has established about 50 such sites to extend its network to about 800 customers across 8,000 square miles in central Washington, all without state or federal grants.

“Most of what we have done is worked with individuals who have houses on hills, grain companies with their elevators,” Schafer said. “Or in some cases those old TV towers that everyone likes to tear down; we’ll use those as a spot to put a repeater to get a little farther out into the community.”

In North Idaho, the Panhandle Area Council – the economic development agency for the five northern counties – twice fell short of meeting federal criteria for stimulus money for a proposed fiber-to-the-home project in Bonner and Boundary counties.

Instead, the council opted to pursue a bond-financed project modeled after a public-private partnership in Powell, Wyo. Officials hope to break ground soon and within two years bring fiber to the doorsteps of about 6,000 homes and 1,000 businesses in Sandpoint, Dover, Kootenai and Ponderay, said Karl Dye, executive director of the Bonner County Economic Development Corp.

“This is a go or no-go situation for us,” Dye said. “This is critical infrastructure. Without this, our ability to attract or help existing companies expand is severely limited.”

Just as small towns bypassed by interstate highways in the 1950s and ’60s languished, communities without vigorous broadband systems can’t compete today, he said.

“The bottom line is if you don’t have state-of-the-art connections for your business community, you’re going to lag behind,” Dye said.

“Bringing true high-speed Internet to rural America is just as important today as bringing electricity and telephone to rural America was 100 years ago.”

### **Speed bumps**

Rural residents have less access to high-speed Internet than those in urban areas. In Washington, where one in six residents lives in a rural area, access is much higher than in Idaho, a state with almost one in three rural residents.

*Rural access to broadband download speeds of 3 megabits per second or higher.*

- Washington, 92.2 percent
- Idaho, 72.6 percent
- National, 87.1 percent

Source: Federal Communications Commission

### **Usage**

*Washington was the third-most-wired state in 2010, based on a survey of broadband Internet use at home, while Idaho ranked 15th:*

- Washington: 77 percent
- Idaho: 72 percent

*In rural areas, Washington ranks fifth in home broadband use and Idaho ranked 18th:*

- Washington: 68 percent
- Idaho: 62 percent

Source: U.S. Department of Commerce

### **Read more**

The Seattle Times explores rural broadband access from the West Side perspective [here](#).

Multiple views of broadband coverage, service and speed in the Northwest are available online for [Washington](#) and [Idaho](#).