Plug Into Your Future
September 20, 2017
Where we are now

How we got here

Future Options
  • Opportunities & Challenges
Where we are now
Includes use of fibers acquired through agreements:

- Pacific Northwest National Laboratories
- Bonneville Power Administration
- City of Richland
- Department of Energy
- Energy Northwest
- Franklin PUD
Benton PUD Fiber
- Anchor Institutions
- Healthcare
- Economic Development
- Quality of Life
Benton PUD Fiber
- Anchor Institutions
- Healthcare
- Economic Development
- Quality of Life
- Smart Grid

Smart Grid Begins
- Fiber Backhaul for AMI
- Fiber to Substations

SCADA
Remote Monitoring & Control
+3,000 Miles of Fiber
Fiber presence in every county
Benton PUD 1 of 10 owners

Seattle & Portland Internet Hubs

Network Hub
Tri-Cities

Network Operations Center
Spokane
Welcome to NoaNet

Northwest Open Access Network (NoaNet) is a wholesale only telecommunications provider. With a world that is becoming ever more digital, it is critical for communities to have access to high quality telecommunications technology that is affordable. We engage our mission to serve as a platform provider for the State by consistently looking for new opportunities to expand in Washington in meaningful ways that bridge the digital divide. Our goal is to be innovative and meet the changing needs of the Washington community. As our CEO Greg Marney said, “Broadband for everyone, everywhere.”

NoaNet's vision is to bridge the digital divide by bringing state of the art fiber optic technology to both rural and metropolitan areas. NoaNet's mission from creation has been to bring high-speed telecommunication services into under-served communities for utility uses and use by their constituents.

NoaNet currently operates a fiber network throughout Washington state, connecting the local PUDs and other independent communications networks to each other and to the major carrier connection points in Seattle, Spokane and Portland. This network now supports 61 last-mile providers that serve more than 260,000 customers, many of whom have never before had access to advanced telecommunication services.

Our dynamic team of professionals imagine and implement creative solutions bringing technology to under-served communities. Through an ever-developing range of services, NoaNet will continue to innovate and maintain a progressive approach to the services we offer. Should a new need arise, NoaNet will aim to meet it.

Check our site frequently to see how our product offerings are changing to serve the needs of our customers.

NoaNet is committed to supporting broadband adoption in the state of Washington. If your community is interested in expanding high-speed broadband infrastructure please contact us at info@noanet.net.
NoaNet was founded by Public Utility Districts

Public utility districts were created to provide utilities to the unserved and underserved. Our members had the foresight to expand that mission to broadband. We continue to work to provide service to our members supporting their communities and utility operations.
NoaNet – Statewide Network

Our current members are:

- Benton County PUD #1
- Pend Oreille County PUD #1
- Clallam County PUD #1
- Jefferson County PUD #1
- Energy Northwest
- Franklin County PUD #1
- Okanogan County PUD #1
- Pacific County PUD #2
- Kitsap County PUD #1
- Mason County PUD #3
NoaNet & Benton PUD
(Network Coordinated Services)

NoaNet NCS Services for Benton PUD

- Management, Administration & Sales
- Network Engineering & Sales Engineering
- Network Operations
- Outside Plant Management
- Estimating, Design and Construction Management
- Customer Billing
Statewide Presence & Partnerships Enables 4G

“The most recent partnership between Benton PUD, NoaNet and private cellular telephone carriers in Benton County is a testimony to the reliability, speed and extent of NoaNet and Benton PUD’s fiber-optic networks and to the ongoing value of public broadband networks in our community,” said Dunn.

+400 Sites on NoaNet Statewide
70 Sites on BPUD Network
Broadband Services

- Transport
  - Fiber Premium Service
  - Up to 1,000 Mbps: MRC = $800

- Access Internet (NEW)
  - 100/150 Mbps: MRC = $100/$150
  - 75 Mbps Multi Tenant: MRC = $75

- Fixed Wireless
  - Residential/Small Business
  - Best Effort Service
  - Declining customer base

- Internet
  - Wholesale Customers

- Point-to-Point Wireless

- Dark Fiber
  - Limited Offering
Net Cash Funding of Broadband

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Revenue</th>
<th>Annual O&amp;M Expense</th>
<th>Net Capital Expense</th>
<th>Net Cash to/(from) Electric</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>1,183,519</td>
<td>(709,660)</td>
<td>(738,743)</td>
<td>(405,962)</td>
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<tr>
<td>2011</td>
<td>1,581,991</td>
<td>(671,688)</td>
<td>(679,036)</td>
<td>292,200</td>
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<tr>
<td>2012</td>
<td>1,618,726</td>
<td>(691,317)</td>
<td>(430,646)</td>
<td>623,852</td>
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<tr>
<td>2013</td>
<td>1,972,125</td>
<td>(885,425)</td>
<td>(708,512)</td>
<td>376,696</td>
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<tr>
<td>2014</td>
<td>2,188,813</td>
<td>(979,511)</td>
<td>(648,005)</td>
<td>545,262</td>
</tr>
<tr>
<td>2015</td>
<td>2,023,220</td>
<td>(1,021,403)</td>
<td>(773,532)</td>
<td>223,167</td>
</tr>
<tr>
<td>2016</td>
<td>2,046,069</td>
<td>(931,788)</td>
<td>(757,500)</td>
<td>352,917</td>
</tr>
<tr>
<td>2017</td>
<td>2,099,412</td>
<td>(819,866)</td>
<td>(943,616)</td>
<td>317,234</td>
</tr>
</tbody>
</table>

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### Where we are now - Financials

<table>
<thead>
<tr>
<th></th>
<th>Total Inception To-Date (12/16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Revenues</td>
<td>$16,238,616</td>
</tr>
<tr>
<td>Operating Costs*</td>
<td>$ 9,796,292</td>
</tr>
<tr>
<td>Capital Investment</td>
<td>$20,719,472</td>
</tr>
<tr>
<td>Capital Contributions (Others)</td>
<td>$ 7,099,252</td>
</tr>
<tr>
<td><strong>Net Cash Funding (Ratepayers)</strong> **</td>
<td>$10,454,226</td>
</tr>
</tbody>
</table>

* Does not include depreciation expense: $9,800,600

** Includes NoaNet Assessments and Support: $3,276,329
Where we are now

- Covering O&M and Capital Costs
  - Incremental customer growth & revenue preservation

- Limited and Focused Capital investment
  - Multi-tenant/cellular /access-internet
  - Line Extension Credit = 75% x MRC x Term

- Partnerships & Strategic Agreements

- NoaNet NCS – Comprehensive Services

- NoaNet Momentum (20.72% ownership)
  - Total NoaNet Assets: $98.7M
  - 2017 Projected Revenues: $35M
  - Long term debt paid off in 2016
  - +3,000 miles of fiber; present in every county
How we got here
Telecommunications facilities—Purposes—Limitations—Provision of wholesale telecommunications services—Eminent domain.

(1) A public utility district in existence on June 8, 2000, may construct, purchase, acquire, develop, finance, lease, license, handle, provide, add to, contract for, interconnect, alter, improve, repair, operate, and maintain any telecommunications facilities within or without the district's limits for the following purposes:
   (a) For the district's internal telecommunications needs; and
   (b) For the provision of wholesale telecommunications services within the district and by contract with another public utility district.

Nothing in this subsection shall be construed to authorize public utility districts to provide telecommunications services to end users.

(2) A public utility district providing wholesale telecommunications services shall ensure that rates, terms, and conditions for such services are not unduly or unreasonably discriminatory or preferential. Rates, terms, and conditions are discriminatory or preferential when a public utility district offering rates, terms, and conditions to an entity for wholesale telecommunications services does not offer substantially similar rates, terms, and conditions to all other entities seeking substantially similar services.

(3) A public utility district providing wholesale telecommunications services shall not be required to but may establish a separate utility system or function for such purpose. In either case, a public utility district providing wholesale telecommunications services shall separately account for any revenues and expenditures for those services according to standards established by the state auditor pursuant to its authority in chapter 43.09 RCW and consistent with the provisions of this title. Any revenues received from the provision of wholesale telecommunications services must be dedicated to costs incurred to build and maintain any telecommunications facilities constructed, installed, or acquired to provide such services, including payments on debt issued to finance such services, until such time as any bonds or other financing instruments executed after June 8, 2000, and used to finance such telecommunications facilities are discharged or retired.

(4) When a public utility district provides wholesale telecommunications services, all telecommunications services rendered to the district for the district's internal telecommunications needs shall be allocated or charged at its true and full value. A public utility district may not charge its nontelecommunications operations rates that are preferential or discriminatory compared to those it charges entities purchasing wholesale telecommunications services.

(5) A public utility district shall not exercise powers of eminent domain to acquire telecommunications facilities or contractual rights held by any other person or entity to telecommunications facilities.

(6) Except as otherwise specifically provided, a public utility district may exercise any of the powers granted to it under this title and other applicable laws in carrying out the powers authorized under this section. Nothing in chapter 81, Laws of 2000 limits any existing authority of a public utility district under this title.
How we got here: Original Mission
(View in year 2000)

- Broadband is the “Next Utility”
  - Bridge the “Digital Divide”
  - Businesses and public entities under served
  - Limited access and high costs

- Enhance Livability of the Community
  - Schools, hospitals, libraries, city services

- Promote Economic Development

- Link BPUD Operations Together
  - Also link with NoaNet and other PUDs across the state
Retail Service Providers

- Benton REA/POWERNET
- Columbia Basin Information Technology
- Day Wireless Systems
- Desert Winds Wireless
- Noel Communications
- One World Telecommunications
- PocketiNet
- Telco Wiring & Repair
- XYTEL.NET
- Others (without a local presence)

https://www.bentonpud.org/Services/Other-Services/Broadband
Future Options
Future Options

- **Current Plans**
  - Cover O&M and capital expenses
  - Revenue preservation transitioning to growth
    - Access-internet; small and medium businesses
    - Cellular expansion to small cell and 5G

- **Aggressive – “Legacy Investment”**
  - Invest more (FTTx)

- **Partnerships and/or Sell Assets**
Commoditization of Services
- Faster/Cheaper with Increasing Competition

Constrained Market/Revenue Saturation
- “Incremental customer growth” may not increase revenue
- New revenue streams needed
  - Fund continued reliable operation of core network
  - Preserve original purpose
  - If additional return on investment is desired

Capital Investment
- Diminishing Appetite – District and Customers
- Core Network Built/Costly Line Extensions
Opportunities & Challenges
(Businesses Need Fiber Services)

Cloud Computing with
Amazon Web Services

Amazon Web Services (AWS) is a secure cloud services platform, offering compute power, database storage, content delivery and other functionality to help businesses scale and grow. Explore how millions of customers are currently leveraging AWS cloud products and solutions to build sophisticated applications with increased flexibility, scalability and reliability.

Get Started for Free

Create a Free Account
Benton PUD
Access-Internet Promotional
(Small & Medium Businesses)

- 75 Mbps Access Internet
  - Multi-Tenant Buildings with two or more customers
  - $75 per month
- 100 Mbps Access Internet for $100 per month
- 150 Mbps Access Internet for $150 per month
- 1-5 phone lines $25 each
- Up to $10K credit towards construction
- 2 year contract
- $500k total spending cap
- 60 day initial promo; expanded to year end 2017
Opportunities & Challenges
(Residential Demand for Fiber Services)
Opportunities & Challenges

- Cloud Based Services Growing
  - Streaming Requires High Speed Broadband – Upload and Download
  - Reliability Expectations Increasing

- Benton PUD Fixed Wireless
  - Managed ramp down
    - Best Effort System – Cannot Handle Multiple Streaming Sessions
    - Retail Service Provider networks competing and covering gaps
    - “Fiber Rich”/Coaxial Hybrid and DSL Networks
      - Fast and Reliable?
      - Customer Service?

- Demand for Fiber-to-the-Home in Benton PUD Service Territory?
  - Regular Inquiries
    - Confusion regarding services provided by Benton PUD
  - People want broadband faster and cheaper…..but
    - Value proposition for fiber-based services seems to be increasing
  - Cellular and satellite technology advancements
    - Just buying time until fiber is built or permanent long term solution?
Get started now:
Where would you like high-speed open-access Internet?

Select the Area closest to your desired Service Location:
- Bainbridge Island
- Burton/Olalla
- East Bremerton
- North Kitsap
- Port Orchard
- Poulsbo
- Scabeck
- Silverdale
- South Kitsap
- West Bremerton
Get faster Internet first
By taking our survey and ordering services, you show us where demand for our services is greatest. If our technical assessment ensures feasibility, we will build first to those who want it most.

Read more

Benefits of fiber-optics
Fiber-optics is the best technology for delivering Internet service to homes and businesses. Fiber Internet is more than 100x faster than what most people have today.

Read more

Getting fiber is a team effort
We need pre-committed customers to justify building our network in your neighborhood. The best way to get service faster is to spread the word among your neighbors.

Read more
Fiber-to-the-Home
(What some PUDs are doing)

Get PUD 3 Fiber Internet First!

We’re expanding access to our fiber optic network into designated “Fiberhoods”. However, we’re building it based on demand, which means you and your neighbors have to prove you want it first! If you’re in a Fiberhood, sign-up on this site, then help your neighbors to sign up.

**Once 75% of a Fiberhood lets us know you want it, we’ll put you on the construction list.**

Enter your Address to get started:

- Address (Street #, Street)
- Zip code

Select Zone from List

**STEP 1**
SHOW YOUR INTEREST

**STEP 2**
SIGN UP

**STEP 3**
CONSTRUCTION

**STEP 4**
CONNECTED
Fiber-to-the-Home
(What some PUDs are doing)

Fiberhoods

We're expanding access to our fiber optic network into designated "Fiberhoods".  
We’ve heard you! Everyone wants PUD 3 fiber, so let's get started.

We're building out the network based on demand, which means you and your neighbors have to prove you want it!

If you're in a Fiberhood, signup through the site linked below, then help your neighbors to sign up.  
Once 75% of a Fiberhood lets us know you want it, we'll put you on the construction list.

Sign Up In Your PUD 3 Fiberhood Here

[Map of Fiberhood]
Questions?
Reference Maps
Prosser Fiber Network