The Road to Broadband

A Planning Guide for Your Community Broadband Network

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NoaNet has built a vast toolkit that is used to evaluate local communities and their broadband infrastructure needs in the past 20 years and have leveraged that toolkit to create this Road to Broadband guide for communities.

Use The Road to Broadband to guide your community plan and get the ball rolling on some key questions. Follow the path one step at a time and you'll be on your way to a successful broadband project. NoaNet is just a call or email away- let us know if we can help you and your community define a path forward to make world-class broadband access a reality.

The Market Analysis

NoaNet has been providing high-speed open-access broadband services for nearly twenty years. During this time, NoaNet has built a vast toolkit that is used to evaluate local communities and their broadband infrastructure needs. We have leveraged that toolkit to create this Road to Broadband guide for communities.

Engaging in a broadband plan can feel like stepping into an unknown world. Don't fret — just follow the path one step at a time and you'll be on your way to a successful broadband project. NoaNet is here to help along the way. To get things going, we'll need to evaluate what information you already have and the information you need to collect.

Getting Started

☐ **Identify Existing Infrastructure**

Many communities already have fiber in place for managing traffic signals, monitoring wells, or connecting electrical substations. Before delving deep into this process, find out if any of these assets already exist in the community and if they could be leveraged toward a community broadband network.

☐ **Find Out Who the Service Providers in the Area Are**

Many public Washington entities are restricted from selling telecommunications services. If your organization is one of them, finding retail partners is key! If there are service providers in the area, find out if they want to join your effort. They may be facing financial hurdles to widespread deployment that you can overcome as a team.

☐ **Identify Possible Funding Mechanisms**

Evaluate if your area qualifies for State and Federal loan and grant programs, see if local funds are available from stakeholders, etc.

☐ **Estimate Network Cost**

NoaNet's engineers will do a high-level evaluation of a network to serve your community so we have a ballpark idea what kind of build cost might be, and what technologies could work.

☐ **Engage Anchor Institutions**

Talk with your area's schools, libraries, hospitals, government buildings, and any major businesses to get a sense of the general opinion of their current services. Are their needs are being met? If they are, how? If not, what do they need?

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Survey Your Community

Time to do some research! It is critical to discern if you have a community who needs and wants improved broadband infrastructure, as opposed to just a vocal few. NoaNet recommends ditching the "if we build it, they will come" mentality and trade it in for a "If they come, we will build it" strategy. NoaNet has inexpensive tools to help you get the information you need to make an informed decision.

Steps to Take

☐ **Talk With Your Community**

Organizing community meetings is a great way to start the conversation. Educate folks about why broadband is important, and why your organization is looking into making sure there is adequate broadband service in your area.

☐ **Identify Broadband Champions**

Your community champions will be pivotal in engaging these meetings, talking with neighbors, and spreading the word about the project that is being explored.

☐ **Engage a NoaNet Project Manager**

Your PM at NoaNet will help keep your data gathering project affordable and efficient through leveraging all of the resources in our broadband arsenal, give your champions tools, and help you organize your thoughts on this complicated topic.

☐ **Launch a Community Survey**

NoaNet has a statewide system in place for community surveys, information tracking, champion engagement and demand aggregation. Your project manager will help you design, launch, maintain and understand results from your community survey.

☐ **Find Out What Services Are Currently Available**

If there are incumbent service providers, find out what services they are selling and the price they are advertising. Also check in with community members to find out what their experience is. Are these rates affordable and providing bandwidth and reliability the consumer requires? You can ask for this feedback through the survey portal.

NoaNet's Community Broadband Solutions Program

Often, community resources for this type of project are limited. As part of NoaNet's Community Broadband Solutions Program, we will set up a designated project manager within our organization who will oversee the ongoing processes related to your community broadband project. Your Project Manager will provide the framework for development and monitoring of the project scope as you learn what your community's needs are, as well as serve as an experienced guide to answer questions, concerns, and help explore your community's unique situation with you.

Analyze Data and Draw Conclusions

Your community outreach and data collection is complete. Now it's time to look at the data and decide if there is sufficient need to warrant additional investment in planning a municipal broadband network for your community.

Questions to Consider

☐ **What Does The Data Say**

As a public entity, it is crucial that any project using public funds is needed and will be used effectively. Now you have the data to help you understand the needs of your area.

☐ **Does this need warrant further public investigation and/or investment?**

☐ **Is there enough interest to create a fiscally-reasonable infrastructure investment?**

☐ **Is there sufficient broadband access to support my community's economic viability today and in the future?**

☐ **Are there ISPs who would participate in an open-access broadband network?**

If the survey data suggests that your community is adequately served, the CBS program stops here. You have investigated the broadband landscape of your community with minimal investment, been responsive to your constituents, and have collected a lot of useful data and resources for future conversations. Well done!

If You Find There is Need to Invest….

NoaNet is here to help!

As part of the Community Broadband Solutions program, NoaNet will write up a white paper of your community's market analysis, survey data results and economic impact data. This will help you make a data-driven decision to continue to investigate a municipal open-access network, or facilitate conversations with your area ISPs to enhance services if public buildout is not warranted.

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Define Network Purpose and Function

Your data determined that your community's broadband needs are not being met and you have decided to move forward with looking at a municipal network — Congratulations!

Broadband Network Plans are not one-size-fits all. In fact, almost no two are alike. There are a lot of questions you should think through thoroughly as the next steps down the road in your broadband network planning…

Questions to Consider

☐ **Why are you wanting to build this network? Do you view broadband as a utility?**

The commodity and the utility way of thinking about broadband infrastructure are different worlds — and will inform how you move forward.

☐ **Who are you intending to serve with this network?**

Are you aiming to serve the business district for economic development purposes? The anchor institutions (schools, libraries, hospitals)? Are you intending to connect residences? All of these?

☐ **Who will provide services over this network?**

NoaNet encourages the deployment of Open Access networks. An open access network describes where the network infrastructure all the way to the end user is made available to multiple Internet Service Providers (ISPs) equally. This is shown to increase market competition, resulting in lower prices, higher speeds, and happier end users. Your market analysis will have given you the base for this data. Now it's time to learn if they want to participate on an open access network.

☐ **Are there local policies that enable current or future investment?**

In the meantime, consider adopting a "dig once" policy in your area and engage anyone developing real estate in our area to install conduit. That way, when it's time to deploy fiber, the costs will be greatly reduced because the conduit will already be in place. Also look into pole attachment policies to ease deployment.

Develop A Business Plan

It's time to take all of your data, outreach efforts, champions, and put it together in a business plan. NoaNet's Community Broadband Solutions Program is prepared to walk with you through this process. We recommend that rather than taking the entire project all at once, or looking at each neighborhood as a case-by-case business decision, you define ROI metrics that are acceptable, and if those metrics are met by the defined area, the project is funded.

Steps to Take

☐ **Consider Partnerships and Rural Cooperatives**

Reach out to nearby communities to discuss the possibility of a multi-community partnership. For small communities, regional networks that include several municipalities or local governments provide the strength of collaboration and expanded access to funding sources.

☐ **Find Out If Service Providers Are Interested in Partnerships**

Nobody likes overbuilding anyone. Often, rural service providers are facing the same big challenge most networks face: high infrastructure costs. With the goal of buildout in mind, there are friends to be made in ISPs who will also benefit from a wider network reach. In an open-access network environment, you will likely have several ISPs who meet your specific Service Level Agreements (SLAs) operating on the network.

☐ **Engineering the Network**

It's time to get detailed construction estimates so you can understand the ROI threshold for your service area(s). This is NoaNet's engineering team's wheelhouse. A detailed buildout pan will include make-ready work, easement and permit identification and prep, cost for materials including fiber, splice cases, vaults, and any other needed equipment, as well as construction labor.

☐ **Business Modeling**

A business plan will need be created with the network costs defined, wholesale pricing established, and factor in anticipated take rates, ISP fees as well as projected costs for ongoing operations and maintenance.

☐ **Calculate Your Ongoing Operations and Maintenance Costs**

NoaNet can help assist with outlining all aspects of Network Operations, including engineering, outside plant, network operations, call center, and optical networks .

☐ **Start Getting Pre-Commitments From Community Members**

If utilizing NoaNet's demand aggregation tool, we can build your ROI data into your survey portal and get pre-committal from community members who want to sign onto the community network. This will help identify a starting point for buildout, so that areas with highest commitment and need can be prioritized and get online quickly.

☐ **Keep Funding On Everyone's Mind**

Throughout these conversations, continue to engage your community over the issue of cost. If you are approaching broadband as a utility infrastructure, there is often a connection cost associated with utility services.

☐ **Applications for Grants and Loans**

If federal, state or private grants and loans are part of the funding plan, now is the time to get those applications rolling. NoaNet can help.

☐ **Is This Network Something Your Organization Will Want to Own and/or Maintain?**

There are pros and cons to owning the network infrastructure. You'll want to think through what is the right solution for your organization. Do you intend to hire staff? Do you plan to contract for operations and maintenance? How about customer service?

☐ **What Broadband Technology is the Right Fit for Your Community?**

Research and evaluate different network components and design. NoaNet can help with this as well. We have built many different types of networks and are creative problem solvers for each unique situation.

Some Possible Funding Models

REVENUE BONDS
How It Works:

A local government or utility issues bonds to private investors that are repaid over many years with revenues from the network. Certificates of Participation work along similar principles. Fewer than 2% of municipal networks have defaulted on bonds .

Examples: Lafayette, Louisiana; Cedar Falls, Iowa; Longmont, Colorado

AVOIDED COSTS
How It Works

Local government redirects existing funds used to lease connections from an existing provider to build and operate its own network, often resulting in faster connections at lower prices. If payback is longer than one year, bonds may be issued and repaid with the budget that had been used to lease lines. This approach is most common with smaller networks built incrementally.

Examples: Santa Monica, California; Scott County, Minnesota

INTERNAL LOANS
How It Works

A department within the local government loans another department the necessary capital for building the network. Many states regulate the minimum interest rate and requirements for such a loan.

Examples: Chattanooga, Tenn.; Spanish Fork, Utah; Auburn, Indiana

Construction: You're Doing It!

All that hard work has paid off and it's time to start building the network. With all of the preparation you've done, your construction and engineering teams will know exactly what to do with the plans you've created.

Steps to Take

☐ **If you utilized NoaNet's Survey System**

Your survey portal can be leveraged for signups, and utilized as a customer-facing portal to track construction. This leaves your team more time and resources to focus on buildout.

☐ **Pick your construction team**

NoaNet has a proven record of timely quality network construction oversight practices across Washington State. We will leverage our relationships and resources to bring this experience and expertise to the construction of each community network through a competitive bidding process.

☐ **Things your construction team will be responsible for**

☐ Staking

☐ Pole Attachment Make Ready work and Prep

☐ Utility Contact and Engagement

☐ Submittal of Pole Attachment Applications for Processing and Delivery to Utilities and Application Tracking and Follow Up

☐ Utility Walk Out and Guidance for Maximum Reduction of Costs and/or Improvement of Build Schedule

☐ Review of Utility Make Ready Estimates for Accuracy

☐ Public ROW Permits

☐ Construction Bid Evaluation

☐ Construction Phase Services

☐ Conduct Pre-Construction Meeting

☐ Monitoring and recording construction activities

☐ Periodic monitoring of fiber splicing

☐ Periodic monitoring of fiber testing

☐ Daily tabulation of completed construction as recorded by inspectors;

☐ Addressing questions or concerns regarding contract construction requirements

☐ Preparing and submitting weekly progress reports. The form documents quantity of cable placed, quantity tested and accepted, quantity with access points placed and quantity spliced. These quantities are compared to the scheduled progress. The report will also note any problems encountered and the resolution as well as any weather-related delays.

☐ Preparing a construction discrepancy list to be given to the contractor upon completion of the construction activities

☐ Construction Inspections

Operations and Maintenance

Once your network is up and running — we want to make sure it stays that way. Let's ensure that through a plan to make sure that your bright and shiny network stays in optimal condition with a well-thought out operations and maintenance plan.

Steps to Take

☐ **Decide Who Will Operate Your Network**

Unless you are planning to hire a staff for monitoring and operating your network, you'll need to hire someone for this. NoaNet has a 24x7x365 Network Operations Center located in Spokane who can be the eyes and ears for your network.

☐ **Initiate Operations and Maintenance Contracts**

☐ **Initiate break/fix contracts if not in-house**

☐ **Engage stakeholders with a project review session to see how things went**

☐ **Gather community feedback on process and services**

Take time to engage with the community after the project is complete to see how things are going. If there are still people who are having issues, we can work together to find a solution.

☐ **Identify possible expansion opportunities for the future**

It's never to early to start thinking "what's next"? Keep the conversation going with your community champions about ways that continued expansion could benefit your community.

NoaNet's Network Operations Center

NoaNet can be the eyes and ears on your Network to ensure that your customers have world-class network reliability. Our Network Operations Center (NOC) has been in operation since 2009 in Spokane, Washington where dedicated staff focused on monitoring the network 24 hours a day, 7 days a week, 365 days a year. In the event of a problem, we act immediately to troubleshoot the issue, notify the appropriate personnel and minimize the amount of downtime.

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Brought to you by Northwest Open Access Network

Northwest Open Access Network (NoaNet) is a not-for-profit wholesale telecommunications mutual corporation that has been serving Washington State since 2000. As a mission-driven organization, NoaNet focuses on bringing world-class telecommunications technology to hard-to-reach communities which lack access to high-speed affordable broadband services.

NoaNet's Mission Statement

Leverage relationships and resources to develop and operate a world class open access information technology platform and network that enhances people's lives and business opportunities in the state of Washington and facilitates member utility operations.

For more information visit us at www.noanet.net
or contact our Community Outreach Liaison, Claire Ward at cward@noanet.net