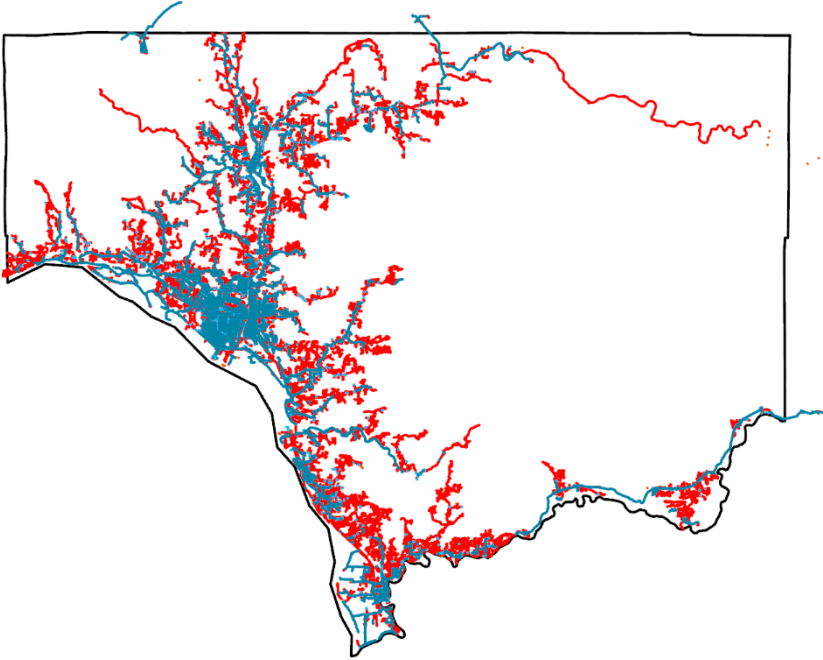


Cowlitz County Broadband Study



Prepared by:



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Scope of Work

Petrichor Broadband, LLC (Petrichor) was tasked with the following scope of work:

1. *Identify viable broadband projects that meet broadband goals of 150 Mbps symmetrical, expand/connect to existing middle mile and last mile infrastructure.*

Petrichor met with leadership to review how to use the interactive mapping tool to prioritize broadband projects could potentially meet and exceed the State speed goals. Petrichor staff will be available for any future questions.

2. *Develop and define the details of these projects, including, but not limited to, coverage area, ownership, construction, operation, maintenance, provisioning, and construction cost estimates.*

In addition to the interactive mapping tool developed, Petrichor created map books containing preliminary fiber-to-the-premise (FTTx) aerial and underground routes to every address point in Cowlitz County. With these two tools, Cowlitz County leadership can identify project areas and include estimated aerial/underground footage, number of poles, address points, and census blocks with existing provider detail. These details can be used to develop necessary materials for future federal and state funding sources.

3. *Identify funding sources and how projects fit within those frameworks and timelines to execute next steps.*

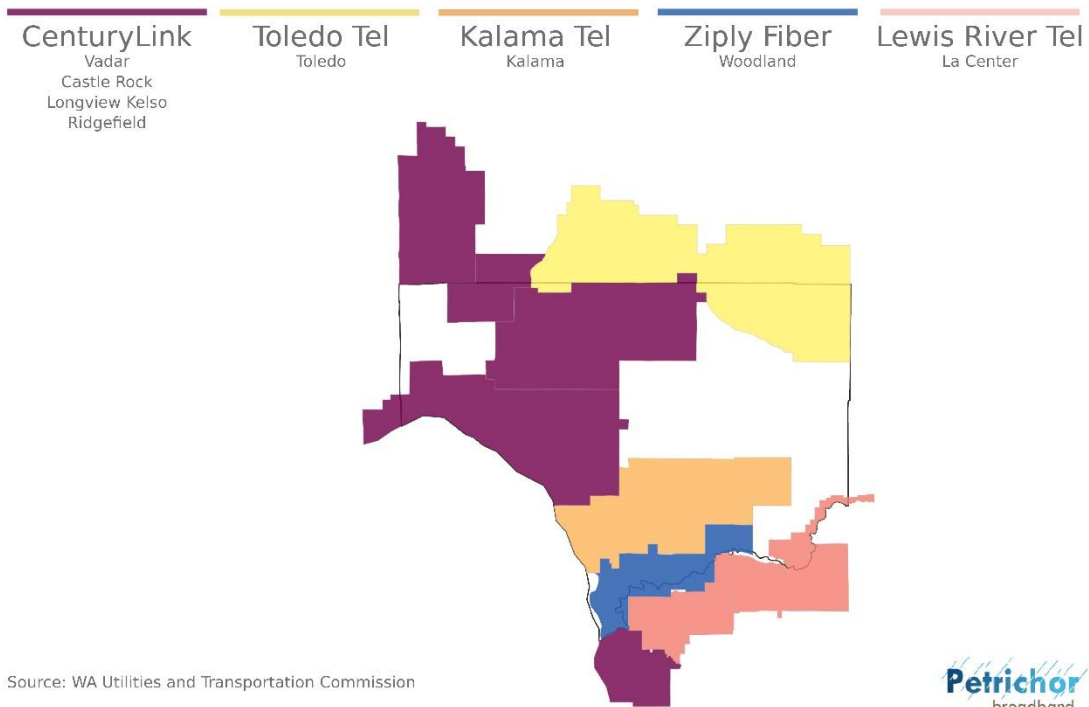
In the following report, Petrichor identifies both Federal and State funding sources in addition to resources Cowlitz County could access.

Exchange Areas

Cowlitz County is broken into five telephone company exchanges. These five companies have an obligation to serve all customers in their exchange with at least voice telephone services. This makes these companies a logical choice to partner with when possible.

Where can we partner in the future? Below is an exchange map of Cowlitz County and table identifying infrastructure owned in their exchange areas.

Exchange areas in Cowlitz County by company



EXCHANGE	COMMUNITY SERVED	FACILITIES	RURAL PARTS OF EXCHANGE
Century Link	Vadra, Castle Rock, Longview, Kelso, Ridgefield	Century Link -copper CATV/Fiber plant	Fiber plant/copper
Toledo Telephone	Toledo	Fiber	Fiber
Kalama Telephone	Kalama	Copper	Copper
Zipty Fiber	Woodland	Planned FTTH	Planned FTTH
Lewis River Telephone (TDS)	Yale, Cougar	Copper	Copper

Identified Service Area

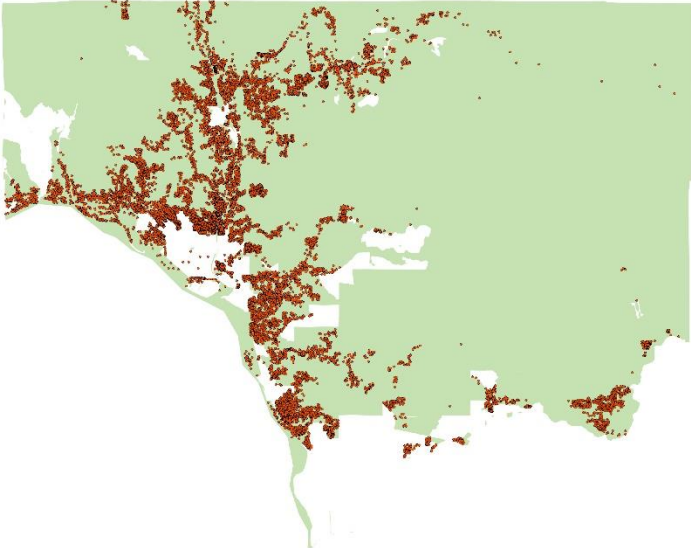
The map below indicates the “Identified Service Areas” for Cowlitz County. Using local data with boots-on-the-ground verification we identified:

- ETC Boundaries where ILECs and CLECs are actively installing fiber infrastructure
- Incorporated Areas where 25/3 Mbps broadband speeds exist (This does not meet WA State broadband goals)
- CAF II & RDOF Funded Areas

This methodology identifies unserved markets where federal and state funds will solve the rural broadband issue.

Address units for Cowlitz County by identified service area

Service Area Address Units
19,504



Source: Cowlitz County GIS Dept.

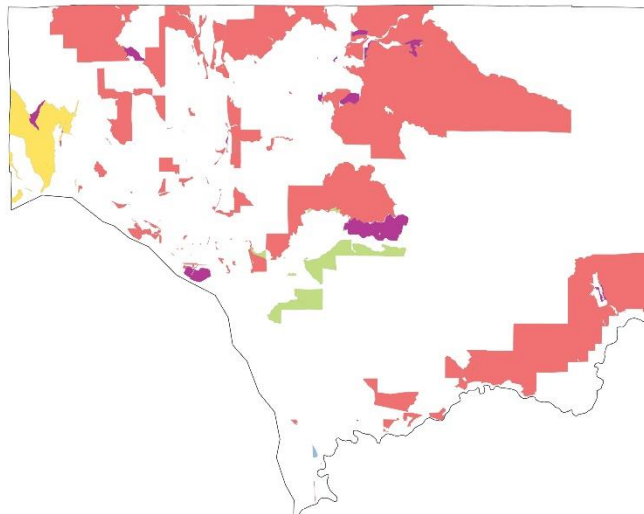
Potential Broadband Service Areas

CenturyLink:

The CenturyLink rural market is primarily North of Longview, and by federal standards, it is unserved currently. In the fall of 2020 SpaceX bid the Rural Opportunity Development Fund (RDOF) reverse auction at speeds of 100/20 via satellite. CCO Holding's bid for areas in the west side of the CenturyLink exchange came in at gigabit speeds. Previous funding by way of Connect America Round II was awarded to satellite-based company, Viasat. The Century Link and CCO Holdings federally funded areas are removed from our target services areas in the accompany mapping tool. The Satellite based services do not meet the service level threshold for being exempt from federal and state funding.

Federal funding areas in Cowlitz County by company

 CenturyLink CenturyLink, LLC RDOF; Gigabit	 CCO Holdings CCO Holdings, LLC RDOF; Gigabit	 SpaceX Space Exploration RDOF; 100/20	 Viasat Viasat, Inc CAF II; 25/3
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Source: Federal Communications Commission

Kalama Telephone:

Kalama Telephone primarily serves the incorporated area of Kalama. The exchange boundary extends east of the incorporated area into more rural parts of the county. According to the FCC, these rural areas in the exchange are underserved. Under the United States Department of Agriculture (USDA) umbrella is the Rural Utility Service (RUS) program. One of the grant loan application tools is the ReConnect program. The ReConnect program is designed for independent incumbent exchange carriers to upgrade their infrastructure. Kalama Telephone could apply for a ReConnect loan/grant combination to upgrade their infrastructure along Kalama River Rd. The Washington State Broadband Office (WSBO) hired a consulting firm, Learn Design Apply, that is charged with working with companies to complete the RUS application. The application is a large scope of work involving audited books and engineered outside plant design. Use of this consultant would be very helpful in the application. WSBO has 288 million dollars to help with broadband infrastructure. This money can be used as matching funds. Leveraging the state money with the federal money makes the project more attractive. This scenario is in development in another exchange in Washington State that we are working with. We are expecting the next grant application cycle to open in early fall 2021.

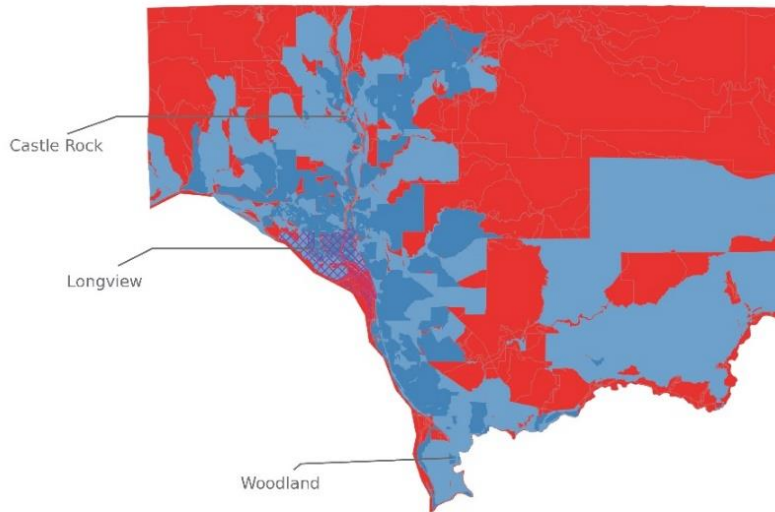
ZiPLY:

The Port of Woodland obtained funding from CERB to construct an aerial mid-mile build between Ariel and Cougar. Design and permitting are underway on this project. CERB awarded the Port additional funds in July 2021 for a FTTH project to serve the homes in the vicinity of this backbone project. The Port could enter an Irrevocable Right of Use (IRU) agreement to expand its reach in the FTTH communities along this route.

With the advent of COVID -19 getting communities and rural areas connected to a good broadband service became a national priority. Funding for this work has been appropriated at the federal and state level to accomplish this work. The speed of service delivered to a customer has been raised from 10/3 Mbps in 2018 to 25/3 Mbps in 2020 and to an unprecedented 100/20 Mbps speed in 2021 to receive federal and state grants. The rule making on these grants requires private companies and municipal infrastructure builders to work together to score high on applications. This type of collaboration is also being required by WSBO which is the applicant to federal funding. We anticipate upcoming NTIA federal programs will allow further expansion of this concept throughout this exchange area. These builds will allow open access of competitors to ZiPLY, while ZiPLY maintains the fiber for the term of the IRU (20 years). This model could also be applied to the Toledo and Lewis River Tel exchange areas.

Future rounds of the RDOF auction will also be attractive to partner with ZiPLY on building the very rural areas of the ZiPLY Exchange that have less than 5 houses per mile. Ownership and open access will need to be determined in the negotiation. The map below indicates FCC form 477 service areas. Boots-on-the-ground verification and conversations with local stakeholders indicate the need is far greater than the FCC maps indicate.

Broadband service areas in Cowlitz County by census block



Source: FCC Form 477 data and American Community Survey

Interactive Mapping Tool

Below is a link to the interactive mapping tool:

<https://entrikin.maps.arcgis.com/apps/View/index.html?appid=926cd7700aad42ea9e9c0f71ae7756d6>

You can use the Layers window on the right-hand side to toggle between the different attributes.

Layers include the following:

1. Federal Funding Winners (CAF II and RDOF)
2. Identified areas needing service
3. Address Points
4. UTC exchange boundary areas
5. American Community Survey data – High poverty areas and internet connectivity data
6. Incorporated Areas
7. Speed Test data from: Microsoft, Ookla, M-Labs and WA State Broadband Office Speed test Results
8. FCC Form 477 data at the census tract and block levels with provider detail (zoom in to see detail including internet service provider data)



ABOUT SERVICES CONTACT

Click the arrows to toggle between the different layers

