

Measuring Point Roberts Broadband Availability

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PUBLIC UTILITY
DISTRICT No. 1
of Whatcom County

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Executive Summary

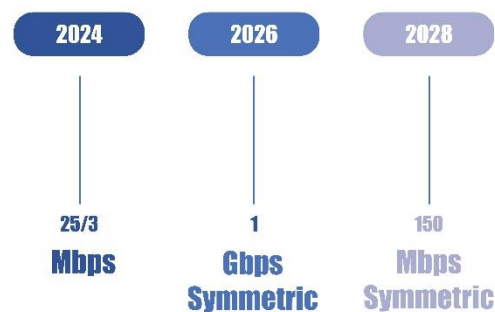
Look back just three years. In February of 2019 the Port of Bellingham completed the *Broadband Feasibility Study for Rural Whatcom County*. The study made sound recommendations, was comprehensive, and built upon stakeholder outreach. The study addressed the major components of countywide broadband policy – deployment, competition, anchor institutions and digital divide.

What we didn't realize was that COVID-19 would irreversibly alter the local Point Roberts community, causing health, economic, and social catastrophes, resulting in large-scale economic setback the community has seen in decades and exposing a connectivity dilemma that spanned businesses and residents alike, threatening to further split Whatcom County and inevitably, Point Roberts. The New York Times article "I am Stuck Until That Border Opens" provides insight into the significance of the issue.

From the time Whatcom County saw the first cases of coronavirus in early 2020 to now, we further recognize the value of broadband as a vehicle for making our society more equal, inclusive, and long-term sustainable.

High-speed broadband access is a critical component of a more equitable Point Roberts, a healthy society, and an economy that provides true opportunity for everyone. How do we prioritize broadband projects that could potentially meet and exceed the State of Washington speed goals (See Figure 1 below)?

WA State Broadband Speed Goals



- All businesses and residences have access to broadband at 25 Mbps download + 3 Mbps upload**
- All communities have access to 1Gbps symmetric service at schools, libraries, hospitals and gov't buildings**
- All businesses and residences have access to broadband at 150 Mbps symmetric service**

Figure 1: [WA State Broadband Office \(WSBO\) Speed Goals](#)

Point Roberts is a pene-exclave of Washington on the southernmost tip of the Tsawwassen peninsula, south of Vancouver, Canada. The location makes many of the lower-cost technologies to reach end users unfeasible.

New technologies, such as low-orbit, low-latency satellite services and the incumbent exchange carrier that have won federal funding awards, will bring much of Point Roberts urban-rate pricing and better speeds of broadband services. These developments are new and ongoing. However, these developments will not bring large areas of the community 150/150 Mbps symmetrical service, Washington State’s goal in 2028. Fiber-to-the-home or fiber-to-the-access point with new generation wireless equipment will be able to meet these requirements. Figure 2 below indicates wireless alone is not an adequate substitute for wireline technology.

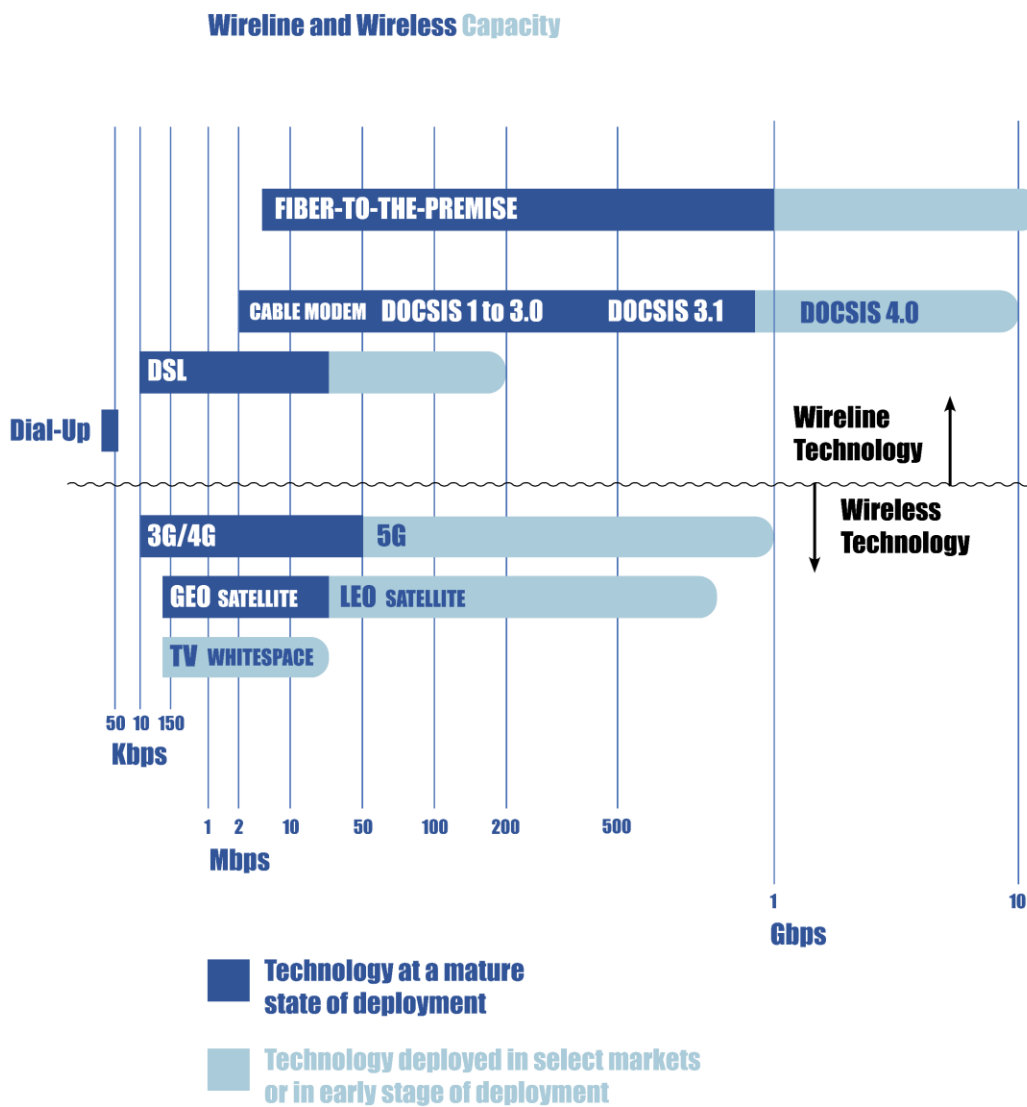


Figure 2: Wireless alone is not an adequate substitute for wireline technology



Measuring Broadband via Transmission Technology

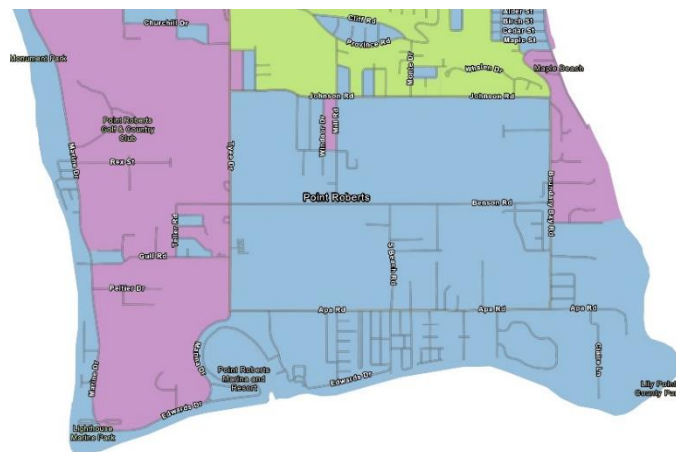
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Point Roberts is served by one telephone company exchange, Whidbey Tel. This company has historically served all customers in the Point Roberts area with at least voice telephone services. This makes the company a logical choice to partner with when possible.

Where can we partner in the future? The map below illustrates the predominant download technology in Point Roberts. The following map shows existing fiber optic and cable modem infrastructure identifying infrastructure owned in the Whidbey Tel exchange area at the census block level.

Predominant download technology in Point Roberts

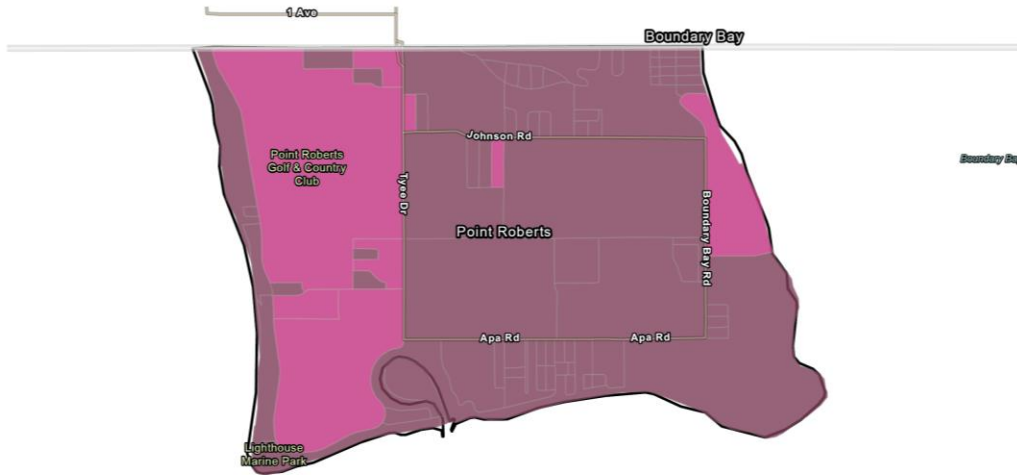
Predominant Download Technology



Cable Modem and Fiber Optics for Point Roberts

Whidbey Tel
Fiber Optics

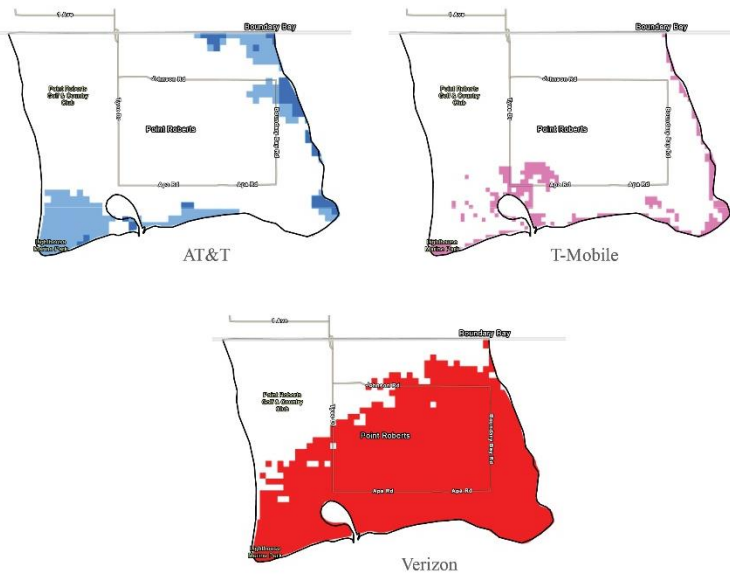
Whidbey Tel
No Cable or Fiber



Source: Federal Communications Commission (FCC)

Wireless 4G LTE coverage maps show many areas within Point Roberts lacking access to a mobile connection.

Mobile LTE coverage by provider in Point Roberts



Source: Federal Communications Commission

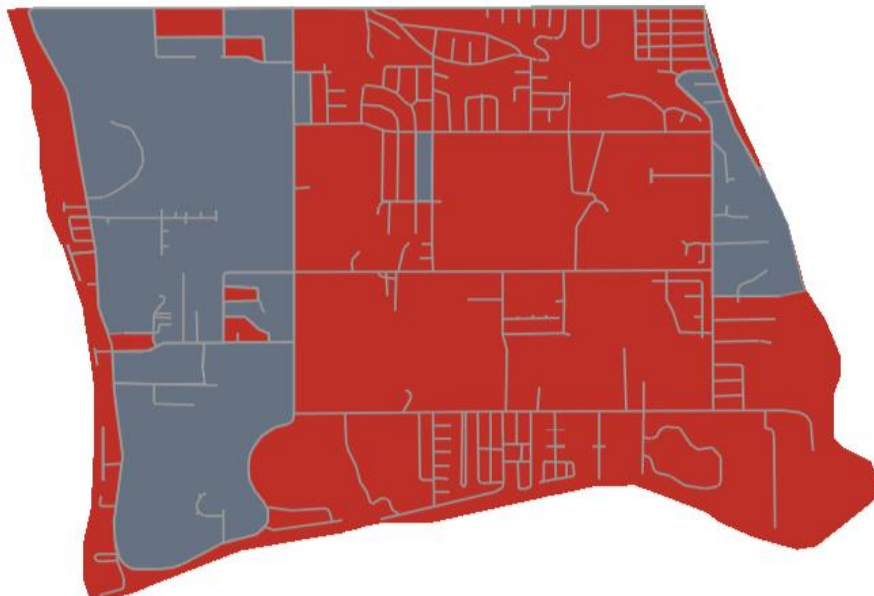


Measuring Broadband via Speed Based Metrics

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 the Washington State Broadband Office (WSBO) which is the applicant to federal funding. The National Telecommunications and Information Administration (NTIA) federal programs may allow further expansion of this concept throughout this exchange area. These builds will allow open access of competitors.

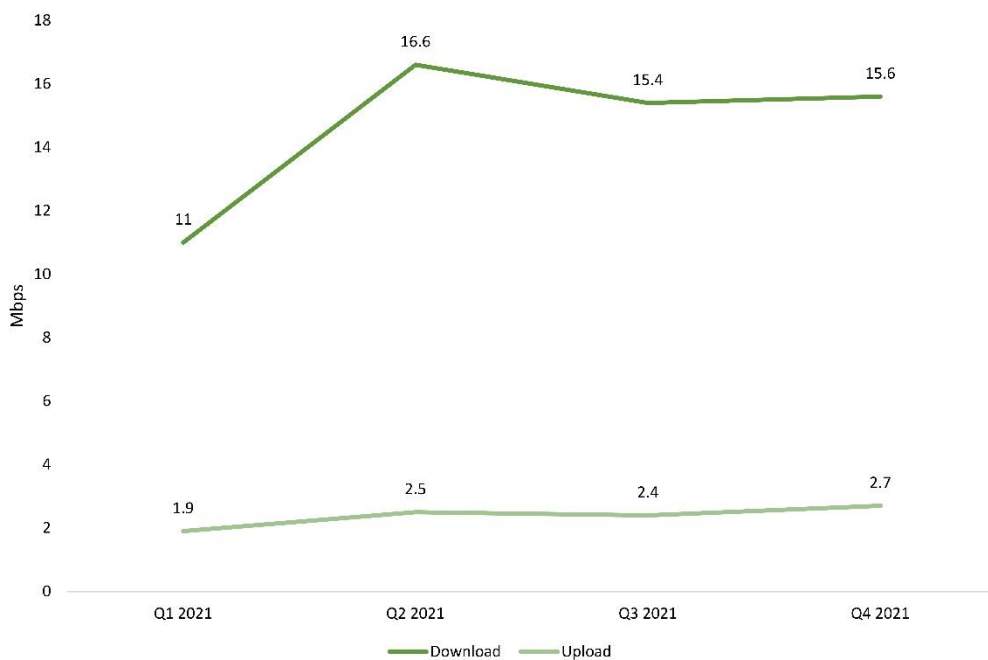
The map below indicates FCC form 477 service areas by census block. Verification of third party crowd source data indicate the need is far greater than the FCC maps indicate.

Maximum advertised consumer speeds in Point Roberts

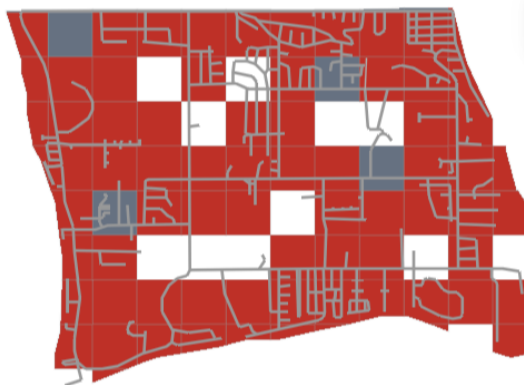


Leveraging publicly available datasets such as Ookla fixed network performance tiles and the State of Washington Speed Test Results paint a much dire picture of the need for improved broadband services in the Point Roberts market. According to Ookla data, the median download/upload speed increased from 11/1.9 Mbps in Q1 2021 to 15.6/2.7 Mbps at the end of Q4 2021. These speeds are well below the State and Federal definitions of reliable broadband services.

Fixed Network Performance, Point Roberts WA
Ookla® Open Datasets | Q1-Q4 2021



Ookla Speed Test Results



Data is projected in tiles. Download speed, upload speed, and latency are collected via the Speedtest by Ookla applications for Android and iOS and averaged for each tile. Measurements are filtered to results containing GPS-quality location accuracy. Tiles with average speeds below 100/20 are shown in **red**, tiles with average speeds above 100/20 Mbps are shown in **grey**. The median download speed is 14.5 Mbps and the median upload speed is 2.7 Mbps. Results based on 362 tests.

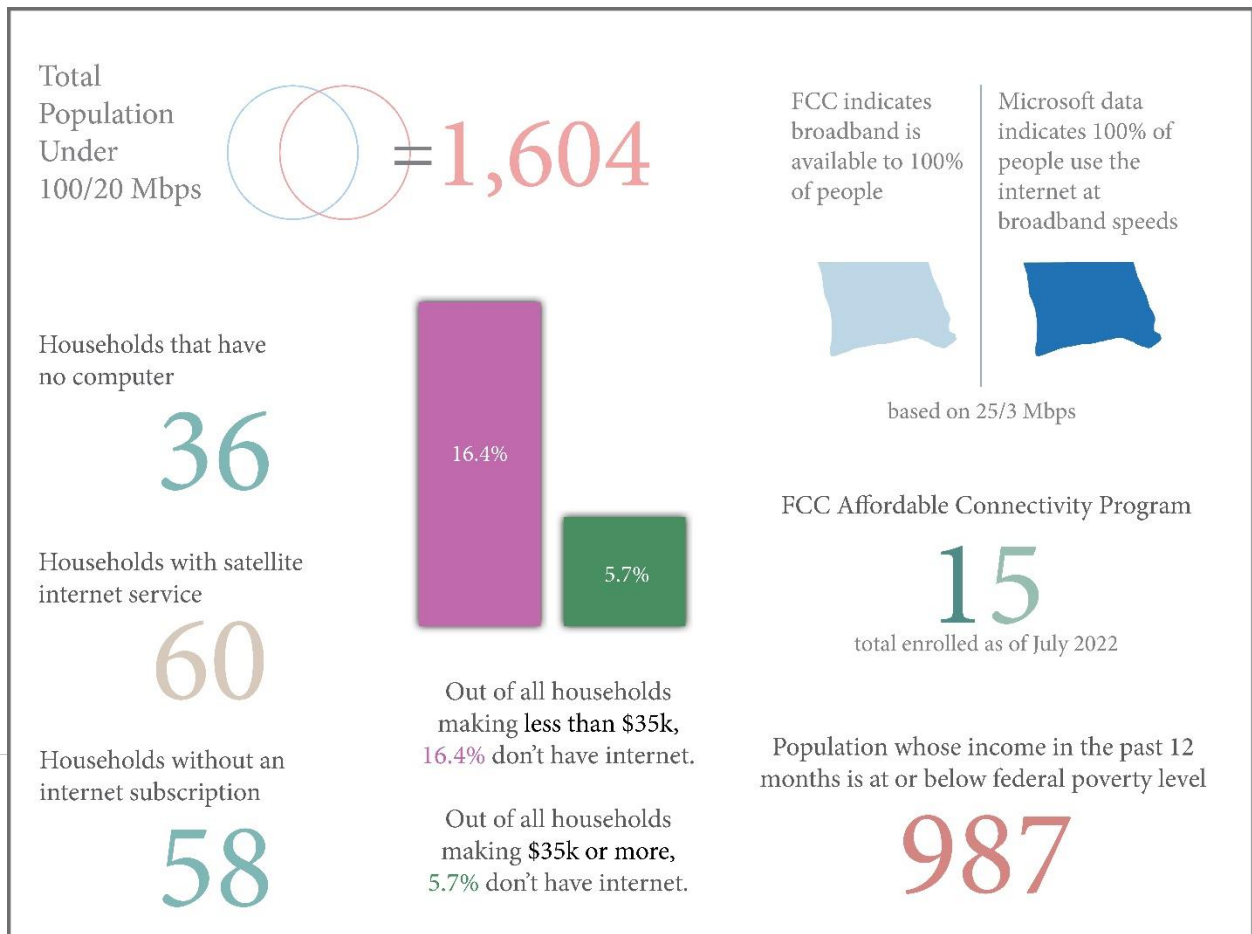
Washington State Speed Test Results

The Washington State Broadband Office mapping initiative helps identify gaps in high-speed internet service and areas of broadband infrastructure needs in order to advance the state's goal to have universal broadband access in Washington by 2024. This data represents the Washington State crowd-sourced broadband project. Locations below 100/20 Mbps are shown in **red** and locations above 100/20 Mbps are shown in **grey**. The median download speed is 9 Mbps and the median upload speed is 2.3 Mbps. Results based on 100 tests.



Measuring Digital Equity

A review of populations above and below 100/20 Mbps found that **All** census blocks with predominant race other than White Alone do not have access to high-speed *broadband*.

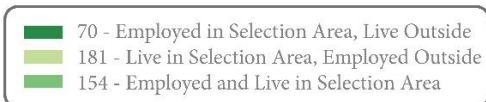
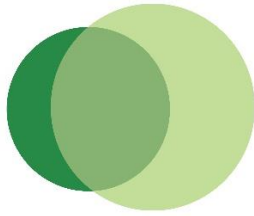


Demographics

In 2020, the area had a population of 1,100 people. The median age was 57.6 and 58% of the population were between the ages of 18 and 64. The median household income was \$52,692. The largest ethnic groups in Point Roberts are White (Non-Hispanic) (90.4%), White (Hispanic) (3%), Two+ (Hispanic) (1.82%), Asian (Non-Hispanic) (1.36%), and American Indian & Alaska Native (Non-Hispanic) (1.27%). 79.8% of the residents in Point Roberts are U.S. citizens.

In 2020, the median property value in Point Roberts, WA was \$264,800, and the homeownership rate was 82.9%. Most people drove alone to work, and the average commute time was 27.8 minutes. The average car ownership was 2 cars per household.

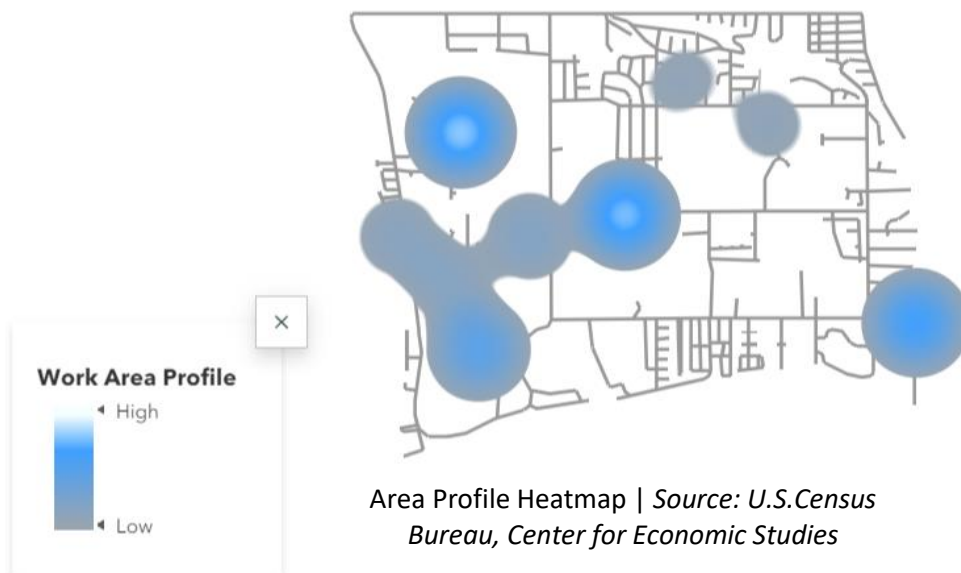
According to data pulled from the United States Census Bureau, 70 employees are employed in Point Roberts but live outside the area, 181 live in Point Roberts and are employed outside of Point Roberts and 154 are employed and live in Point Roberts.



Inflow/Outflow Job Counts in 2019 /
Source: U.S. Census Bureau, Center for
Economic Studies

View the full Inflow/Outflow report [Here](#) and the Work Area Profile report [Here](#)

A review of jobs per square mile is shown below in the Work Area Profile heatmap. Details reveal total number of jobs in the area, workers age, earnings and jobs by sex.



Area Profile Heatmap | Source: U.S. Census Bureau, Center for Economic Studies



Potential Service Area

Our analysis found that fiber-to-the-premise (FTTP) offers the best solution that can achieve Washington State’s goal of 100% coverage of high-performance broadband at speeds of 150 Mbps symmetrical by 2028 and provide infrastructure that grant dollars are paying for in these areas with federal and state funding. A proven methodology can identify potential project service areas.

Federal Funded Areas

To begin, we identify any State and/or Federal funding awards. In Point Roberts, Whidbey Tel is the recipient of two federal broadband grants. **Community Connect** (\$1M for 358 locations) and **ReConnect II** (\$596k for 144 locations). See map below.

Federal funding areas in Point Roberts by source

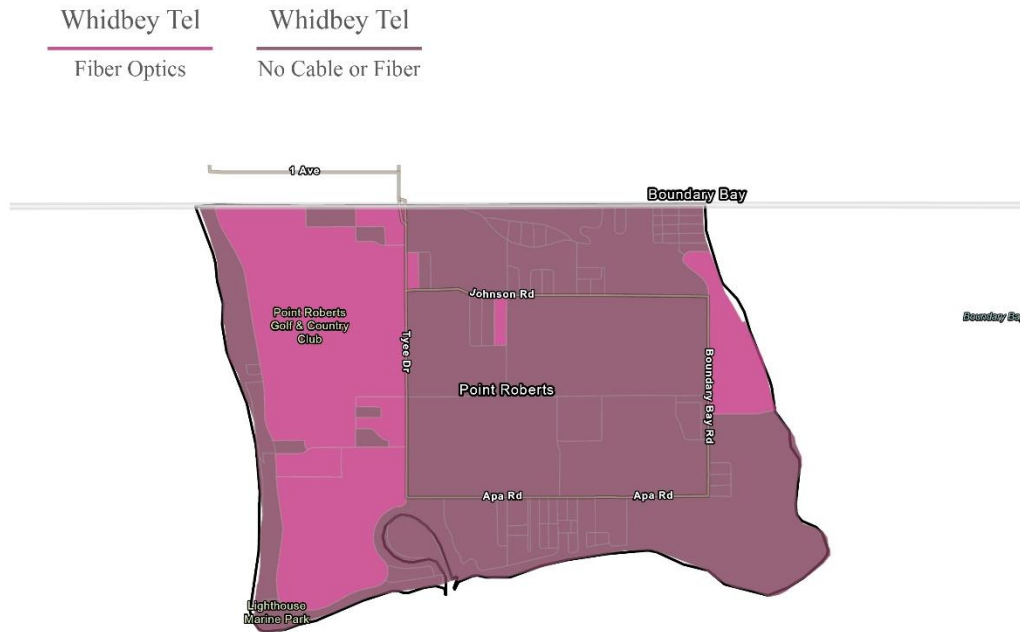


Source: USDA

Existing Internet Service Provider Footprint

We identify existing provider footprint at the census block level. In the map below we can see fiber optics in portions of the community. The remaining census blocks are served by either DSL or satellite technology

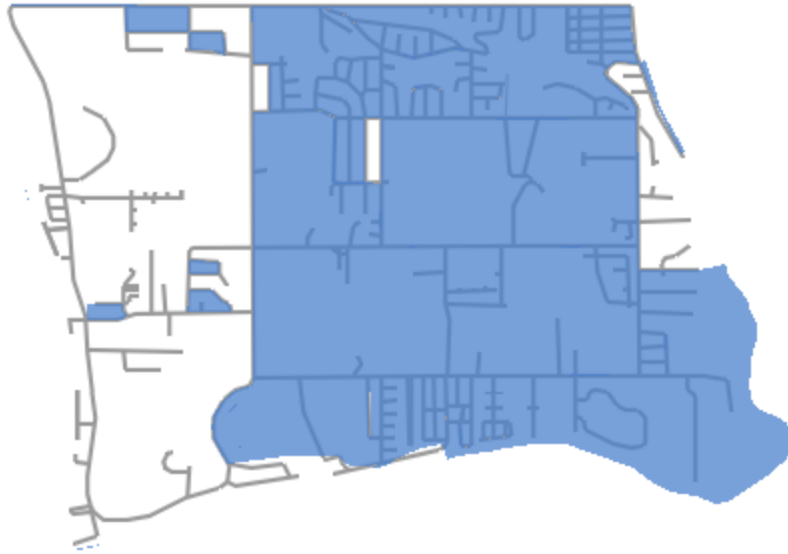
Cable Modem and Fiber Optics for Point Roberts



Source: Federal Communications Commission (FCC)

Identified Service Area

The Identified Service area is comprised of census blocks where provider(s) self-report having no fiber optic or cable infrastructure *and* provide no access to 100/20 Mbps speeds. These census blocks are then verified using third party crowd source speed test data as well as "boots-on-the-ground" verification of existing infrastructure. Additionally, the Identified Service Area polygon does not include previously funded (Federal or State) areas. This strategy ensures there is no potential for overbuilding and paves the way for successful public-private partnerships.



See the full report here: <https://storymaps.arcgis.com/stories/e5a8a9057c504545b4e6e5436bf637c4>

Cover Photo by [chris robert](#) on [Unsplash](#)