



Broadband & Digital Equity **LOCAL ACTION PLAN**

Submitted by:

Port of Bellingham

and

Whatcom PUD

ArrowLeaf Consulting



Introduction

Vision Statement

The Whatcom Broadband Access Team (BAT) and Digital Equity (DE) team seek to guide policy and decisions related to broadband infrastructure, services, and education in Whatcom County. We seek to provide an open-access fiber broadband network that will result in affordable and reliable high-speed internet to community members throughout Whatcom County.

Demographics

The following demographics are intended to provide a brief snapshot of Whatcom County and its residents. These characteristics serve as the lens through which we interpret and analyze the information collected through Whatcom County 5-year broadband action plan and the digital equity and inclusion plan outlined in this document. See Appendix A for more information on the topics below.

1. Geography

Whatcom County is a small-sized county located in upper-western Washington State, north of Skagit County, west of Okanogan County, and south of British Columbia, Canada. The county encompasses 2,108 square miles, including portions of the Fraser Lowland and the Cascade Range.

The Lummi Nation manages approximately 13,000 acres of tidelands on the Lummi Reservation, which is located west of Bellingham and south of Ferndale. The Nooksack Tribe is located in Deming, a small town east of Bellingham and just south of the Canadian border.

FIGURE 1 | *Whatcom County*



2. Population

The total population of Whatcom County was estimated at 231,650 people in 2022 according to the Office of Financial Management for the State of Washington.

a. Growth

The total population of Whatcom County grew 14.7% cumulatively from 2010 to 2022, In the same time period, Washington grew 15.8% and the US grew 8.7% (Table 1, Figure 2).

b. Rural vs. Urban

Throughout the county, 93,130 residents or roughly 40.2% of all residents live in unincorporated areas (Table 2). The largest city in the county is Bellingham, with 93,910 residents, followed by Lynden, with 16,150 residents, and Ferndale, with 15,970 residents. The overall population density is about 107.6 persons per square mile.

Whatcom's estimated population is 226,847, of which 161,998 (71.41%) is urban and 64,849 (28.59%) is rural. Overall, Whatcom County has more rural residents than Washington; approximately 83.4% of Washington's population is urban and 16.6% is rural. In the 2020 Census, approximately U.S. 80% of the population lived in urban areas and 20.0% lived in rural areas.

c. Disability Status

Approximately 12.7% of the population in Whatcom County are classified as disabled and 30.5% of the senior population is disabled (Table 3).

3. Race and Ethnicity

About 77.5% of Whatcom County residents identify as white alone and not Hispanic or Latino. About 2.4% of county residents identify as American Indian or Alaska Native, compared to 1.2% in Washington and 0.9% in the U.S. overall. Other significant populations include Hispanic and Latino (9.9% of total population), multiracial (7.2%), and Asian (4.2%) residents.

Whatcom County is home to the Lummi Nation and the Nooksack Indian Tribe. The Lummi Nation is the third largest tribe in Washington State, with more than 5,000 members. The Nooksack Indian Tribe has approximately 2,000 enrolled members.

4. English as a Second Language

Approximately 11.7% of the Whatcom population spoke a language other than English at home and 3.3% did not speak English "very well" (Table 5).

5. Industry

The largest industry in 2022 was government (16,055 jobs) with an approximate gross regional product of \$1.67 billion. This was followed by health care and social assistance (12,754 jobs), and retail trade (11,134 jobs) (Table 6).

Whatcom County had an average unemployment rate of 5.1% from 2017 to 2022. Educational services are the largest employment sector in Whatcom County, providing 23.4% of all jobs,

followed by manufacturing (10.7%) and retail trade (10.6%). Median earnings are \$62,764 for males and \$46,467 for females.

The largest employers in Whatcom County are Western Washington University, PeaceHealth, BP, Whatcom Community College, and Bellingham Public Schools (Table 7).

The lowest paying industry in Whatcom County is Arts, Entertainment, and Recreation, which represents 1.8% of the total jobs (Table 8). The highest paying industry is the government, which pays \$91,885 in wages and benefits on average. Government makes up 16% of total jobs.

Over the past five years, several large businesses have moved into Whatcom County, including Corvis Energy, Vicinity Motor Corporation, Evil Bike and Silfab Solar.

An estimated 13,386 people living in Whatcom County are veterans.

6. Income

The US Census Bureau reports that in 2021, median household income in Whatcom County was \$70,011. This is lower than Washington median household income (\$82,400) but higher than the U.S. median household income (\$69,021). The county's per capita income (\$36,504) was below both the U.S. average (\$37,638) and that of Washington State (\$43,817).

7. Poverty

Overall, Whatcom County's poverty rate (13.4%) was higher than both the U.S. (12.6%) and Washington State (10.0%) (Table 9). Females were more likely to live in poverty than the overall population (14.5%); however, aging populations were less likely (7.6%) to be living at or below 100% of the poverty line (Table 10).

Many racial and ethnic minority groups in Whatcom County experience elevated rates of poverty (Table 11). These include Hispanics/Latinos (22.1%), American Indians/Alaska Natives (19.2%), more than one race (18.4%), Black or African Americans (14.9%), and Asians (14.6%). On the Lummi Nation Reservation, the poverty rate is 14.3%; on the Nooksack Reservation, it is 27.8%.

8. Housing

Housing prices have increased sharply in Whatcom County as measured by Zillow, increasing from about \$312,492 in June 2016 to \$569,207 in April of 2023, or an 82% increase (Figure 3).

9. Education

Approximately 2.1% of the population of Whatcom County has less than a 9th grade education, 21.8% have a high school education, 22.4% have a bachelor's degree or equivalent, and 14.0% have a professional degree or higher (Table 12).

Among those who work in Whatcom County, 19.4% have a bachelor's degree, 8.4% have an associate degree, and 12.1% have a graduate or professional degree (American Community Survey 2014-2019). Whatcom County is home to several higher education institutions: Western Washington University (15,197 students in 2022), Whatcom Community College, Bellingham Technical College, and Northwest Indian College. These institutions provide Whatcom County

with a strong academic and vocational-technical base. Meeting industry demand for skilled workforce is a high priority of area education institutions.

10. Incarceration

According to the Prison Policy Initiative, Whatcom has approximately 392 people in prison in 2020, which represents 173/100,000 population. The U.S. incarceration rate is 698/100,000 and Washington has a 455/100,000 incarceration rate.

State of the County

Where is Whatcom County Thriving?

Whatcom County is fortunate in that it is a place where people want to live, work and play. It is well known for its beautiful landscapes and diversity of outdoor activities, from kayaking in the Salish Sea to mountain biking on Galbraith Mountain. Whatcom County is also located on the I-5 corridor between Seattle and Vancouver, British Columbia, which makes it a strategic location for companies doing business in both the U.S. and Canada. Tourism is also an essential market in Whatcom County; tourism spending in Whatcom County went up 30.5 % from 2021 to \$688.3 million. Whatcom County is home to several higher education institutions that provide both academic and technical training programs. Because of this, Whatcom County benefits from a well-educated work force.

Whatcom's economic wellbeing is also heavily influenced by the situation in lower mainland British Columbia. In the past, a strong Canadian dollar, as well as other cost differentials in goods, has benefited retail activity in the county. Due to the COVID-19 outbreak, the US-Canadian Border was closed to non-commercial activity from March 21, 2020 to August 9, 2021. This 19-month closure has hit border cities and communities in Whatcom County hard. However, with the reopening many sectors that rely upon Canadians for consumption-based visits such as package parcels, milk, gas, and tourism are in recovery. The Canadian dollar slightly weakened compared to the U.S. dollar and is currently around \$0.75 US. Canadian manufacturers continue to show interest in expanding into the county to access US markets.

Where is Whatcom County Struggling?

In recent years, Whatcom County has seen explosive population growth. This has led to increases in housing costs, costs of living, and demand for social and other services. The housing market, especially the rental market, is quite strained because of this growth in urban areas of the county. In the city of Bellingham, 52% of renters are cost burdened, meaning they pay more than 30% of their income on rent.

The lack of infrastructure in rural areas is evident in the disparity between internet access in the cities and rural parts of Whatcom County. Many rural community members do not have access to reliable or affordable broadband.

This Report

This document was prepared with input from a wide variety of contributors who regularly attend the Whatcom County Broadband Action Team (BAT) meetings. The local coordinator for the BAT is Gina Stark, Economic Development/Broadband Director, Port of Bellingham.

Input has been solicited and received from numerous community institutions, service providers, and government representatives, including Senator Patty Murray, Senator Maria Cantwell, Representative Rick Larsen, Senator Sharon Shewmake, Representative Alicia Rule, Representative Joe Timmons, the Washington State Broadband Office and Washington State University Extension. This executive summary is a living document and will be revised as additional information becomes available.

Abstract

Broadband

Whatcom County currently has an estimated 7,828 unserved premises, primarily in the rural, eastern regions of the county. Broadband expansion is challenging in these areas due to environmental barriers such as steep rocky slopes, thick forests, and riverways. Additionally, workforce shortages, policy barriers, funding shortages, and a lack of general community awareness continue to prevent some populations from accessing broadband services.

Whatcom County has several upcoming and/or ongoing projects that could allow for future conduit/fiber/infrastructure placement, including projects to expand the fiber networks in East Nooksack and North Mosquito Lake Road, north Lynden, and north Ferndale, as well as a dark fiber-to-the-premises in Point Roberts. Additional funding opportunities are being pursued on the county, tribal, and local level with the goal of ultimately expanding broadband service to all Whatcom County residents. Key partners in the continuation of such projects include Whatcom County, the Port of Bellingham, the City of Bellingham, and Whatcom Public Utility District.

Whatcom County is home to an active BAT that is professionally staffed by employees from the county, the Port of Bellingham and Whatcom Public Utility District. Public entities who work in broadband and private sector broadband providers attend meetings regularly. In building this plan, the Whatcom County BAT has enriched its relationship with nonprofits, ISPs, and other service providers throughout the county. The Whatcom County BAT continues to seek engagement from both public and private partners.

Digital Equity

The eastern part of the county faces the greatest obstacles to access digital equity services. The predominately rural population living in eastern Whatcom County has higher poverty rates than their more urban counterparts in the western areas of the county.

The most prominent barriers to digital equity include the physical topography of the county and lack of awareness in rural communities. Rural residents represent the largest single demographic facing barriers to digital equity access and availability, as long and difficult travel often prevents the provision of in-person services. There is also a lack of understanding for many rural sectors in the applicability of digital equity. Much of Whatcom County's existing digital equity resources remain centralized in Bellingham, further creating barriers for rural residents. Other key demographics that face barriers to digital equity include residents living in poverty throughout the county, the unhoused, and residents who speak English as a Second Language.

Key project partners in providing digital equity services include the Whatcom County BAT, Evergreen Goodwill and Goodwill Connect, Whatcom County Libraries, the Nooksack Indian Tribe, Lydia's Place, Ferndale School District, the Lummi Nation, and the Opportunity Council. The Whatcom County BAT continues to seek partnerships with public and private organizations to expand digital equity services to residents, especially those that target currently underserved populations.

Existing work that can be leveraged includes several regular digital literacy workshops hosted by the Lummi Nation in conjunction with T3 and the Whatcom County Library System, and Whatcom County

Goodwill's digital equity bus, which provides classes for people whose first language is not English, including ESL classes and training on how to use computers for job searches.

Broadband Infrastructure Summary

I. Broadband Base Map Review

The Federal Communications Commission (FCC) National Broadband map, or fabric map, shows broadband internet coverage as reported by Internet Service Providers (ISPs) across the country. The information from this map is being used for eligibility for Broadband Equity, Access, and Deployment (BEAD) funding. If there are no ISPs offering internet speeds of 100Mbps download and 20Mbps upload, an area qualifies for BEAD funding.

Inaccuracies & Eligibility Issues

Whatcom County's local service providers are reflected somewhat accurately on the map, but verification work needs to continue due to the many address location inaccuracies. The map does not reflect our local providers PogoZone or CSS. The map also shows that Point Roberts receives Verizon service but doesn't show Whidbey Telephone.

There are 4,949 challenges reported on the FCC map within Whatcom County. A challenge is a user-reported tool, notifying the FCC whether the service providers or speeds service providers offer on the map are accurate and offered at those addresses. A challenge does not mean that there is not an ISP providing a cable/fiber option above 100/20 Mbps, but there are areas that are where this is the case.

FIGURE 4 | Challenges to the FCC fabric map

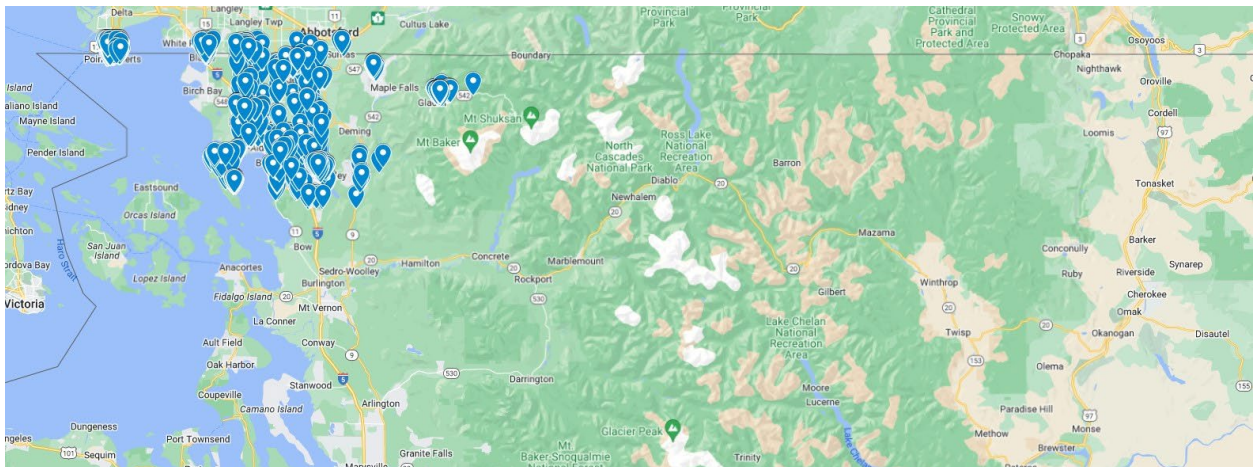
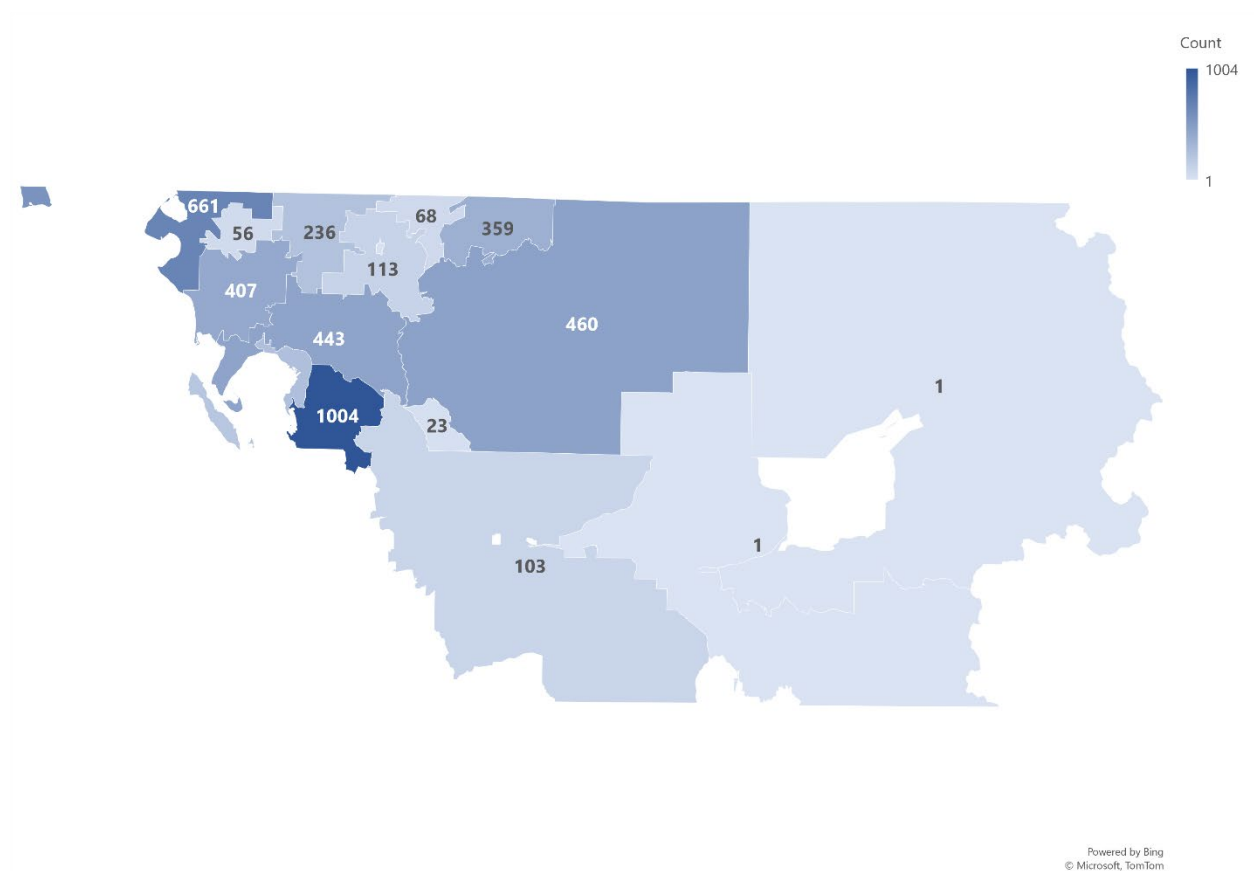


FIGURE 5 | Heat map of challenges to the FCC fabric map



In response, the Whatcom County Broadband Action Team (BAT) created an outreach plan to identify and engage with constituents and address inaccuracies and service provisions with the FCC. Educational flyers distributed in these areas show the step-by-step process for address and service verification through the FCC website. Outreach and education surrounding this issue is an ongoing topic at BAT meetings.

Ookla, Microsoft, and WSBO speed test data vary by location in the county. More rural areas and people without service offerings tend to have fewer speed tests to collect as data points. Many people in urban areas report poor service even when good service offerings are present.

Currently, there are missing digital equity characteristics that are significant to our community and tribal area. This map doesn't include any information about the local community college, who provides digital equity services to our community. The local hospital is included, but the community clinic is not. There are many other resources missing in the digital equity layer as well.

II. Local Broadband Asset Inventory

There are several local entities that operate broadband assets in Whatcom County; however, service is concentrated close to larger incorporated towns and cities like Bellingham.

The greatest growth potential lies in the eastern portion of the county and areas outside city limits in the western portion.

Constraints to future broadband development in eastern Whatcom County include geography (mountains and waterways), cost, and policy (zoning). These areas are sparsely populated which can make building new broadband infrastructure prohibitively expensive. Communities located in these areas also often make up the most severely underserved or unserved areas in the county.

Service Providers

The following organizations responded to the survey of local broadband assets or were identified via GIS information, and currently serve communities in Whatcom County with broadband assets:

- **Port of Bellingham:** Operates dark fiber and broadband networks.
- **City of Bellingham:** Operates dark fiber and broadband networks.
- **Nooksack Indian Tribe:** Operates select assets but declined to specify.
- **Whatcom Public Utility District:** Has unspecified fiber assets that could potentially be utilized for expansion of future projects.

Upcoming Projects

Whatcom County has several infrastructure projects that have been funded and are either under construction or are in the planning process (Figures 6 and 7). The Port of Bellingham and Whatcom County Public Utility District are taking the lead in completing these projects.

The projects focus on underserved areas with broadband speeds of 25/3 Mbps and are located in the county's most rural communities. They are a significant step forward in working toward closing the digital divide in our community.

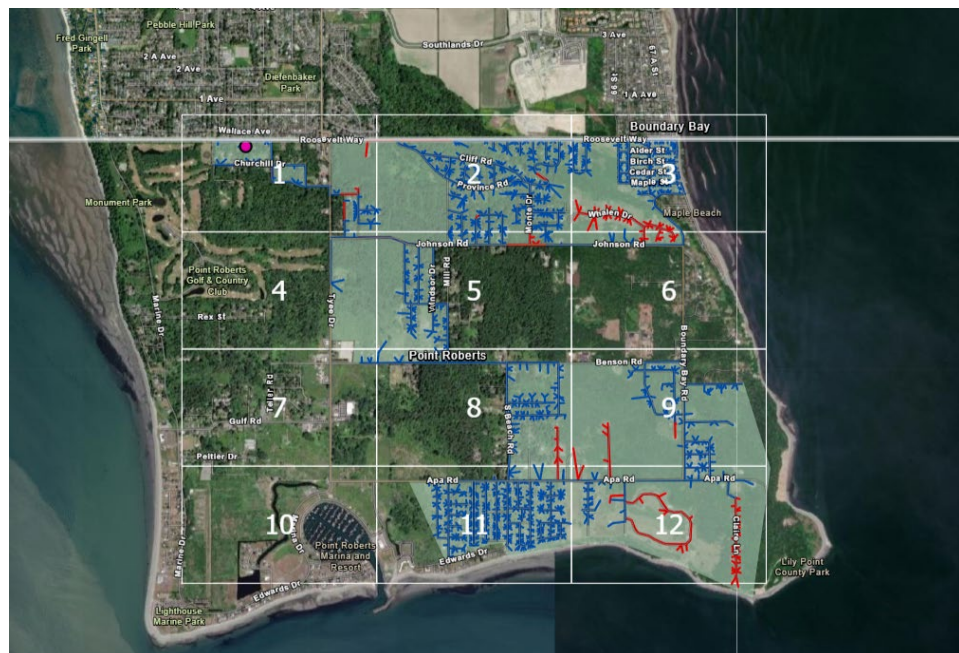
Specific upcoming projects include:

- **East Nooksack and North Mosquito Lake Road:** This project is funded by County Economic Development Investment (EDI) and Community Economic Revitalization Board (CERB) and is currently under construction. This project is being led by the Port of Bellingham. This is a 47-mile fiber-to-the-premises project with 450 home passes. This project is expected to be completed by the end of Summer 2023.
- **North Lynden Project:** This project is funded by EDI and CERB. It is a 45-mile fiber-to-the-premise GPON lit system and will pass 450 homes. This project is being led by the Port of Bellingham.
- **North Ferndale Project:** This project is funded by EDI and the Washington State Broadband Office (WSBO). This project is 30 miles and passes 950 homes. This is a fiber-to-the-premise GPON lit system. This project is led by the Port of Bellingham.
- **Point Roberts:** This project is funded by Whatcom County ARPA and WSBO funding. It is 26 miles and is a dark fiber-to-the-premises that will pass 1,274 homes.

FIGURE 6 | Project infrastructure locations for North Ferndale, North Lynden, and East Nooksack, and North Mosquito Lake Road projects



FIGURE 7 | Point Roberts FFTP project



Well-served Community Anchor Institutions

The Whatcom BAT conducted a survey of CAIs in Spring 2023. Seven organizations responded to the survey. Of these seven, three (Whatcom County Fire District #14, Whatcom County Fire District #16, and Glacier Fire and Rescue) reported being satisfied with their current service. Two (Shannon Point Marine Center and the Whatcom County Library System) reported being somewhat satisfied. Two (Nooksack Indian Tribe and Sherwood Community Services) reported being unsatisfied.

Local Internet Service Providers (ISPs)

Whatcom County is currently being served by six active Internet Service Providers (ISPs) and two satellite providers. The following organizations currently serve communities in the county with broadband assets:

- **Ziply:** The Incumbent Local Exchange Carrier provided for Whatcom County. Acquired Frontier and all their assets, which are mostly copper lines.
- **Astound:** Started as a small company known as Blackrock Cable. They have built a large portion of the middle mile and backbone throughout the county, some of it with Broadband Technology Opportunity Program (BTOP) funding.
- **Comcast:** Services most of our densely populated cities such as Bellingham, Ferndale, and Lynden.
- **PogoZone:** A locally-owned ISP that was predominantly a fixed wireless company. They have been working with the Port of Bellingham on construction of the East Nooksack fiber project and will be partnering with the Port on their remaining broadband projects.
- **CenturyLink / Lumen:** Has a presence in Whatcom County but it is limited to mostly the City of Bellingham.
- **CSS Cable:** A small community company that mostly services areas of the Lummi Nation.
- **HughesNet:** Serves very few customers in Whatcom County, most of whom are in rural areas.
- **Starlink:** Relatively new service provider in Whatcom County. Capacity is limited because of tower signal. High initial sign-up cost is out of reach for many who are currently unserved.

Partnerships

This is critical work that cannot be done without key partnerships. The Port, PUD, and County have made the decision to partner together on critical policy and funding decisions.

The Broadband Action Team has established relationships with the various ISPs that provide service to the community, and these are vital to maintain moving forward. The Broadband Team has made the commitment to build where there are gaps and when the ISPs are not willing or able. We can do this because of the relationships we have built with the local ISPs. The Port of Bellingham is currently working with local ISP PogoZone to help extend their network via the East Nooksack and North Mosquito Lake Road projects mentioned earlier in this document. After the network is built, PogoZone will operate and maintain the XGPON network and provide the

NOC services. The system is designed to be an open access system, and we plan to include other ISPs in the future. We have also built and partnered with our local ISPs on grants and feasibility studies.

Community Broadband Map

The organizations listed below responded to the local asset inventory, community anchor institution inventory, or the ISP outreach form to provide data for the community broadband map.

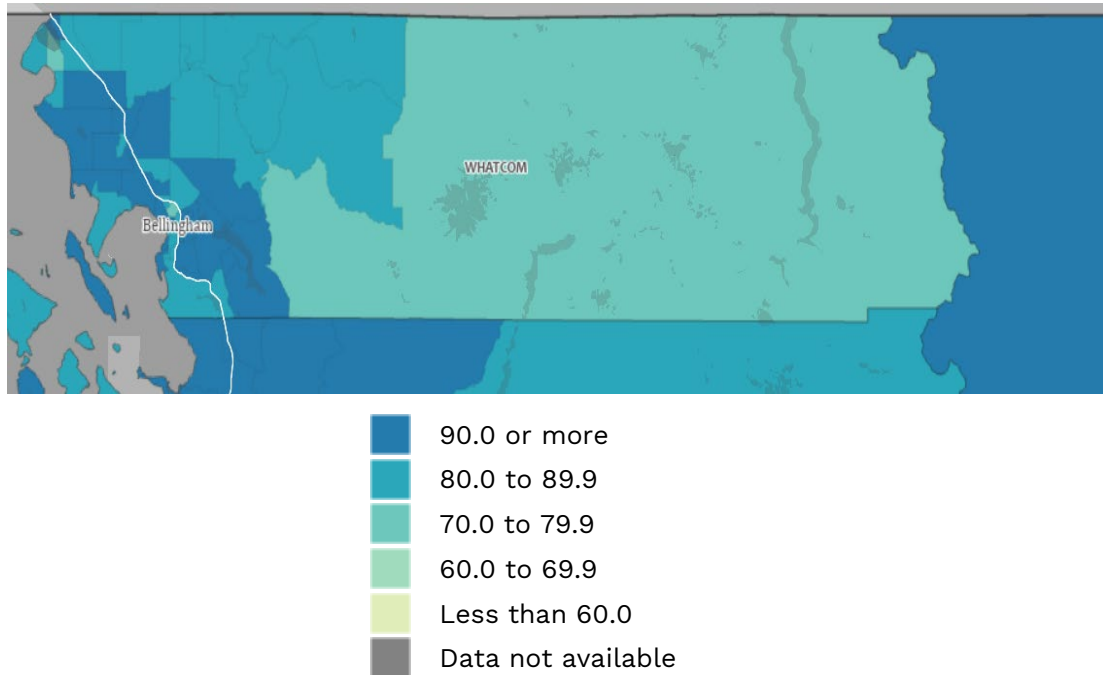
TABLE 13 | *Organizations providing data for community broadband map*

Organization	Notes on Internet Speeds
Whatcom County Fire District 16	“About 40”
Whatcom County Fire District 14	Not provided
Glacier Fire and Rescue	200 Mbps
Ziplay	1 Gigabit symmetrical reported
Port of Bellingham	Not provided
Astound Communications	1.2 Gbps/20 Mbps
Comcast	Not provided
PogoZone	Varies: offers fiber internet, cable internet, and fixed wireless, depending on the location \$35+ per month
Lumen / CenturyLink	Not provided
Whatcom Public Utility District	Not provided
City of Bellingham	Not provided
Nooksack Indian Tribe	Not provided
Sherwood Community Services	19.5
Shannon Point Marine Center	100 Mbps/20 Mbps
Starlink	Not provided
HughesNet	Not provided
San Juan Cable / CSS Integration	Up to 1 Gbps

III. Broadband Infrastructure Needs Assessment

The Whatcom County BAT conducted a broadband infrastructure needs assessment in early 2023. While there seems to be adequate coverage in the more populated regions of western Whatcom County in and around Bellingham and Ferndale, the northern and eastern portions of the county and other outlying areas hold both the most opportunity and greatest challenges to improving and expanding broadband services.

FIGURE 8 | *Percentage of households reporting a broadband internet subscription of any type*

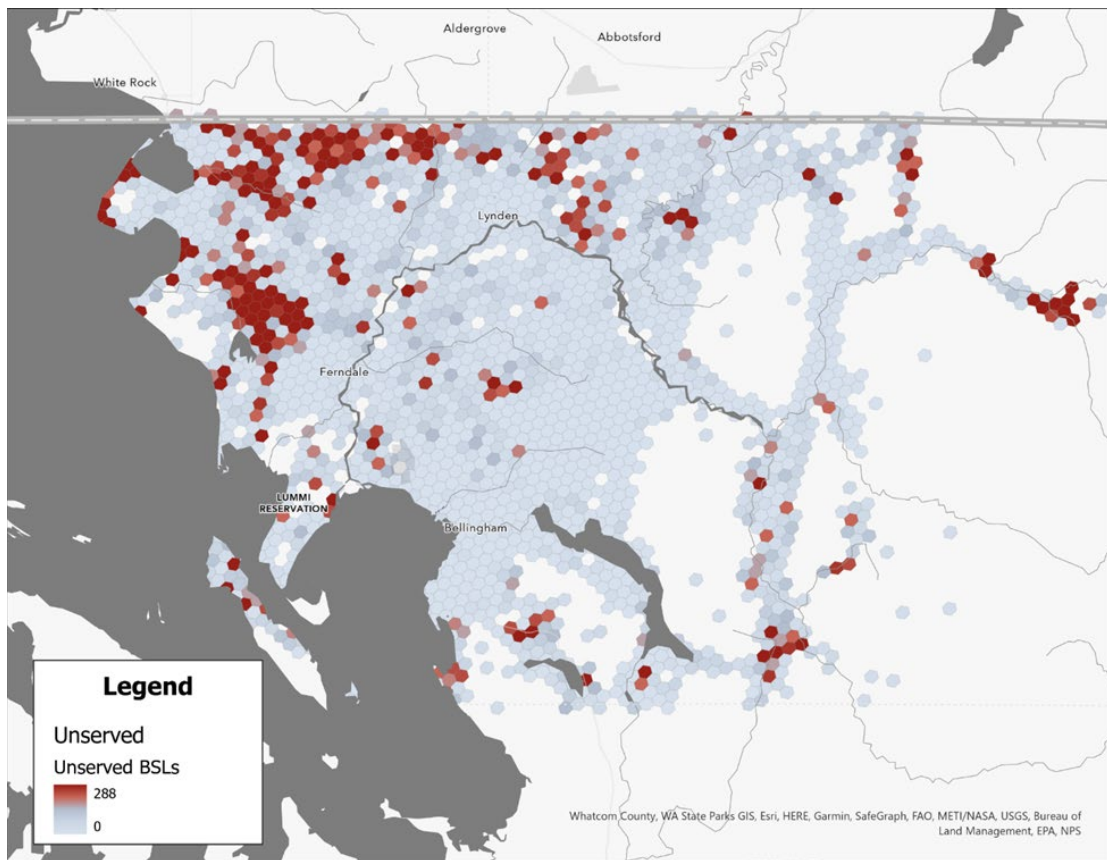


Source: 2017-2021 5-Year American Community Survey (ACS) Estimates, U.S. Census Bureau.

Areas Lacking Access to Broadband

Working with the Port of Bellingham and Whatcom PUD staff and utilizing GIS tools, speed test results, and mapping of provider service areas and federally funded areas, the BAT has identified 6,639 underserved and 7,828 unserved locations in Whatcom County. The table below shows the granular data used by the BAT and community partners to identify areas of greatest need.

FIGURE 9 | *Unserved BSLs*



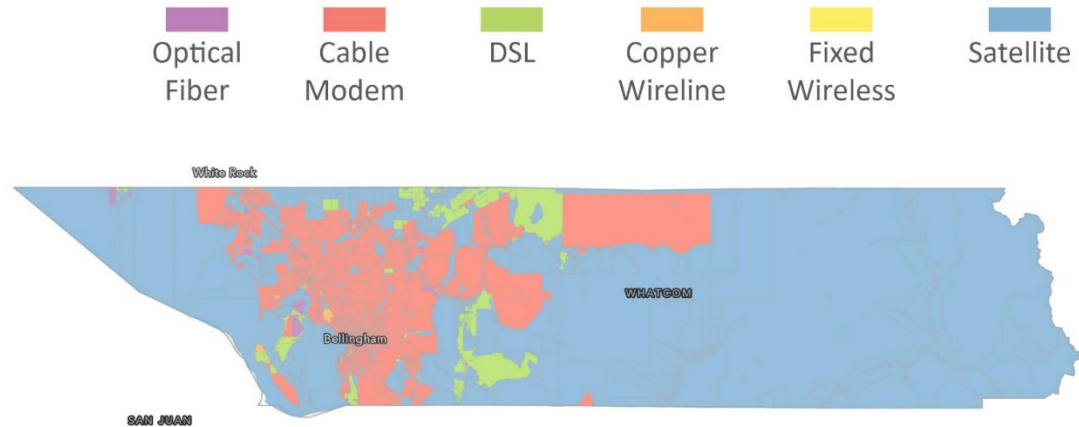
Areas Where Costs to Households May Be Too High

Overall, the northern and remote eastern part of the county faces the greatest obstacles to broadband accessibility and affordability. The predominately rural population living in eastern Whatcom County has higher poverty rates than their more urban counterparts in the Bellingham area.

The lower population density and mountainous topography of eastern Whatcom County cause any build-out projects to be much more expensive than other areas. Historically, community members in eastern Whatcom County have reported paying higher broadband fees compared to those in Bellingham. They are also more likely to rely on more expensive services such as satellites like HughesNet or Starlink (Figure 10). Some community members reported paying over \$160 per month for internet services when previous surveys were conducted in 2019.

The heavily wooded and sometimes mountainous terrain presents particularly strong challenges to wireless internet providers, whose technology relies on line-of-sight. These geographic challenges, when coupled with higher poverty rates and low population density, make it nearly impossible to make a valid business case for expanding broadband services.

FIGURE 10 | *Predominant download technology transmission technology*



Source: FCC 477 data

IV. Obstacles And Barriers to Broadband Infrastructure Deployment

While Whatcom County as a whole currently has a variety of broadband options, challenging topography, workforce shortages, policy barriers, and a lack of general community awareness continue to prevent some populations from accessing broadband services. Many of these barriers are concentrated in the eastern half and other outlying areas of the county, where the rurality of the population poses significant challenges to the further development of broadband infrastructure.

Challenges to Deployment

There are a variety of challenges faced when trying to deploy quality broadband in Whatcom County. These challenges range from access to funding, to policy, to the general cost of doing business. The majority of assets are located in and around Bellingham, where the population density is much higher. Deploying broadband in the eastern mountainous parts of the county is much more difficult logically and in terms of demand.

Financial Gaps

Prior to the American Rescue Plan Act (ARPA) and Coronavirus State and Local Fiscal Recovery Funds (SLRF), broadband infrastructure funding was limited to state funding provided through Community Revitalization Funds (CERB) and the Public Works Board (PWB). With the development of the State Broadband Office and ARPA funding, we anticipated a significant increase in available funding and ability to process these funds. However, we quickly realized that with the increase in funding also came an increase in demand as each grant round became over-prescribed.

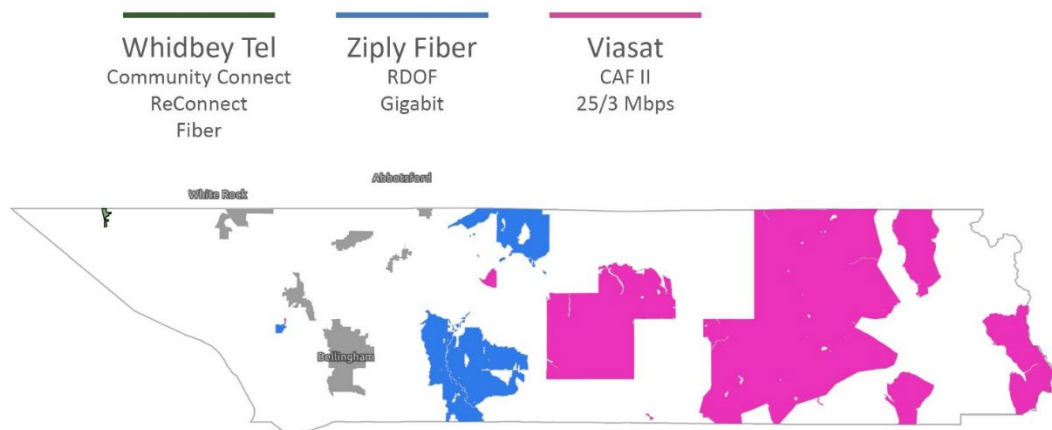
Whatcom County has been successful in our bid for most of our grant applications, but not all, possibly due to a lack of available funds. Each missed opportunity leads to longer wait times for communities who have already been waiting for too long for reliable internet connection. BEAD funds are another future avenue for broadband expansion but given the time it will take to go through the rule making process and grant cycle timeline, we anticipate projects funded by BEAD may not be ready to break ground for up to three years.

At the writing of this plan, the PWB has \$13.5 Million in loan funds available. While this is a valuable resource, the reality is that most public entities like Whatcom County do not have the ability to take on debt in order to build out broadband networks. Many of the networks needed to service unserved and underserved populations will operate on a break-even basis or very small profit margin. Adding a loan repayment to this financial forecast is not feasible.

Our team has been successful in acquiring match funding from our county for our three currently funded projects. We were able to receive matching funds from our Economic Development Investment Fund (EDI). Most other rural counties refer to this funding as their .09 tax, which is a local option sales tax that can be used for publicly owned infrastructure. However, there is some concern that at some point this funding source will not be available for broadband.

The Washington State Broadband Office requested and was awarded \$50 Million in capital funding to be used as matching funds for the federal BEAD grant. They will be requesting another \$150 Million in the upcoming legislative session to be used as additional grant matching funding. The concern once again is that this pool will be limited by the sheer level of demand for financial assistance in underserved and unserved areas of the state, and BEAD grants require entities to provide this match.

FIGURE 11 | *Federal funding areas in Whatcom County by company*



Source: Federal Communications Commission

Workforce gaps

With the advent of American Rescue Plan Act (ARPA), Coronavirus State and Local Fiscal Recovery Funds (SLRF) and Broadband Equity, Access and Deployment (BEAD) funds, billions of dollars are flowing into communities to build broadband infrastructure. The acceleration of funds is creating a supply chain problem as the nation rushes to purchase fiber and equipment. This is compounded by the inflationary environment we are currently in globally.

Labor costs have increased upwards of 15% per year since the COVID-19 pandemic for construction services in these sectors. Shortages in workforce and specialized training further exacerbate this issue and prohibit widespread infrastructural developments. However, a unique opportunity exists in Whatcom County to partner with local education institutions to expand training programs.

The demand for qualified experts to guide communities through the process of building this broadband infrastructure has skyrocketed, making it nearly impossible to access this highly specialized, technical knowledge on a consistent basis.

Policy Barriers

The main policy barriers to broadband infrastructure deployment in Whatcom County are:

- Zoning: Issues related to the zoning in place for building or maintaining towers (whether restrictive or underdeveloped) pose policy barriers for many areas of the county.
- ISP & Broadband Provider Challenge Process: The current process that allows ISPs and broadband providers to challenge grant application awards does not require them to commit to building the additional needed infrastructure if they are successful in their challenge of a grant award. A successful challenge creates an environment where an entity awarded funds to implement an infrastructure project will have those funds rescinded, but the provider is not contractually obligated to build the project area or required to bond the project. The result of a challenge could be an awarded project area not being built, resulting in no change to the existing infrastructure if a successful challenger walks away from the project.
- Environmental and Cultural Review: Agencies are facing a shortage of staff members available to process environmental and cultural review applications, due to the high number of documents/applications that have been generated by the new federal broadband funding. This has made the entire process of environmental and cultural review more difficult for those trying to implement projects in a timely manner.
- Franchises and Licensing: For broadband providers to move into a market or community, they often need to establish franchises and obtain business licenses. Franchises require the payment of a percentage of the gross revenue earned to the community under franchise terms. The public process associated with obtaining a franchise involves passing legal review and gathering input at public meetings where company business practices can be reviewed by elected officials. These additional administrative tasks increase project time as well as the overall cost of doing business.
- Make Ready: Make Ready is a policy in which new service providers must pay to attach new telecommunication fibers to the poles. This is a logistical and technical process that

can become very expensive for those that are last to attach to a pole. In early 2022 the FCC ruled that the new attacher does not have to pay for previous attachers' pre-existing safety violations. This can significantly delay a project and there is no policy or incentive to have the situation addressed in a timely manner.

Lack of Community Awareness

The Whatcom County Broadband Action Team strives to keep the community informed of current and upcoming opportunities. Team members often attend other community groups and engage and ask questions with a variety of stakeholders.

The Port of Bellingham and Whatcom PUD have recently conducted two feasibility studies, both of which included extensive community outreach components. Both digital and paper surveys were distributed with assistance from local school districts and public libraries. Staff also traveled throughout the county to hold public meetings in the areas where unserved and underserved populations reside. These meetings provided opportunities to discuss currently funded projects, recently identified areas of need, and address any gaps residents see.

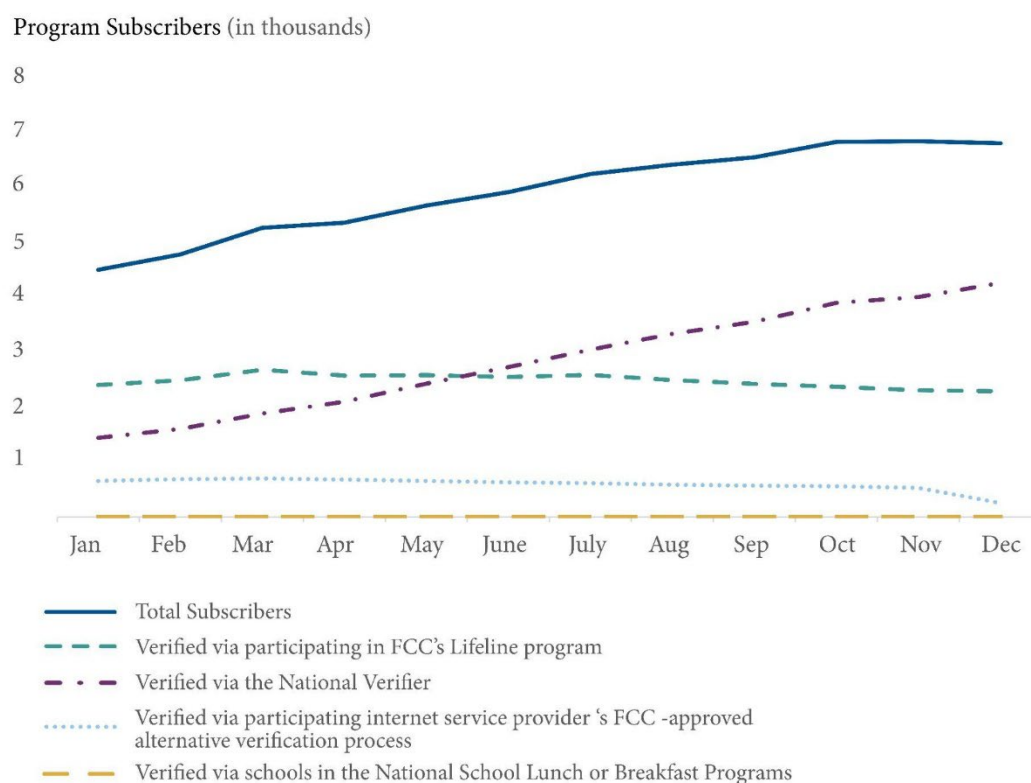
Affordable Connectivity Program

The FCC's Affordable Connectivity Program (ACP) was developed to address the cost burden of broadband services to lower income community members. The program provides \$30 per month toward an individual's internet plan and \$75 per month for qualifying individuals living on tribal land. Eligible households can also receive a one-time discount of up to \$100 to purchase a laptop, desktop computer, or tablet from participating providers if they contribute more than \$10 and less than \$50 toward the purchase price. This program was anticipated to help many households in need; however, adoption of the program has remained extremely low.

Data shows that areas with the highest level of need and eligibility have the lowest enrollment rate. Possible reasons for this include:

- The \$30 discount isn't enough to make the internet plan affordable for some individuals.
- Residents do not have access to quality broadband service.
- Enrolling in the program is more challenging than the \$30 discount is worth.

FIGURE 12 | Enrollment in the FCC's ACP by Method Used to Verify Program Eligibility, January to December 2022 for Whatcom County



Geographic and environmental issues

Several areas in Whatcom County have terrain that makes broadband infrastructure expansion difficult. The eastern two-thirds of the county have mountainous terrain, including areas of North Cascades National Park, as well as a low population density. With the ground being mostly composed of rock, construction is much more expensive and time-consuming than other, more densely populated areas. Many private companies are thus unwilling to invest in expanding infrastructure in this area of Whatcom County.

Although Whatcom County is not officially designated a rural county, there are pockets of rural areas surrounding the population centers of Bellingham and Ferndale. Incorporated communities in these areas sometimes have populations of less than 500, and many others living in unincorporated areas. It is quite common in these rural areas to have 5 or fewer homes per square mile. This low housing density makes fiber builds incredibly expensive. In addition, many of these rural homes are located far from the main road and away from available power poles, which increases the cost of fiber-to-the-premises even more.

V. Potential Paths Forward

Despite the challenges facing expansion of broadband infrastructure into the unserved areas of Whatcom County, the BAT team is steadily working to find viable paths forward.

Planned Expansion Areas

The Port of Bellingham currently has a future project area of 150 miles and 2,000 homes to be served that was identified through its 2022 feasibility study. Within this larger polygon there are three Fiber-to-the-Premise (FTTX) projects that have secured funding; the Port is currently working in an area east of Blaine that will pass approximately 250 homes.

As the Broadband Action Team looks toward servicing more rural areas, building broadband infrastructure will become more logistically challenging and expensive to complete. This will also make it more difficult to find funding, even though these most difficult projects will service those most in need of access to broadband.

Possible Funding Sources

The BAT team has reviewed a variety of possible funding sources for broadband infrastructure deployment, a summary of which is included below.

WSU Planning Funds

Washington State University Extension continues to assist communities across Washington in accessing funds from WSBO and providing other funding support. Whatcom County has applied for the 5-year planning and digital equity and digital inclusion funding.

Local Funding

County EDI funding has been used as a local source for matching funds and potentially will continue to be used as such. It's important to note that these funds are intended to be used as leverage with larger funding sources, not as a sole source of project implementation funding.

Whatcom County has identified a portion of the ARPA funding to be dedicated to broadband. With the time delay until the BEAD funding can be deployed to state and local entities this may be the only available funding for the next three to four years.

State Broadband Sources

We plan to work with state agencies that have received funding to administer broadband grants, including the Community Revitalization Board (CERB), which is offering up to \$50,000 for planning grants, and the Public Works Board (PWB), which is accepting pre-applications for its \$13.5 Million construction loan pool until July 18th, 2023. Our team has used CERB funding twice in the past to fund feasibility studies, allowing us to better understand the needs and gaps present in Whatcom County and providing the foundation for our current and future project areas.

Federal Sources

It's anticipated that the National Telecommunication Information Administration (NTIA) will have additional funding to release another round of grant funding for middle mile projects. In the

past, grant funds have been used for the construction, improvement, or acquisition of middle mile infrastructure.

Other Sources

Several households throughout Whatcom County qualify for reduced and free internet through the Affordable Connectivity Program (ACP). Public institutions such as schools and libraries may also qualify for the E-Rate program.

Local Leadership

Whatcom County has a strong leadership team between the Port, PUD, and County. Each entity has developed an interlocal agreement to form our Broadband Team. This team also includes leadership from the local Commissions and the Council. The team's mission is to implement the recommendations of the feasibility studies, determine broadband policies, identify funding sources, and move infrastructure projects forward.

Workforce Solutions

As the deployment of broadband infrastructure increases across the state, the state will be requiring that construction crews have the necessary directional drilling training, certification, and experience. The Whatcom County BAT is working with several agencies and nonprofits that have expressed an interest in digital navigator work, including the Whatcom County Library System, the City of Bellingham, and Evergreen Goodwill. This work is currently in the information gathering stage.

Policy Solutions

Rural Digital Opportunity Fund

The FCC's 2020 Rural Digital Opportunity Fund (RDOF) auction prioritized networks with higher speeds, greater usage allowances, and lower latency. A portion of eastern Whatcom County was awarded to Frontier Communications, LLC, which does business in Whatcom County as Ziply Fiber. The current coverage in this area is 25/3 Mbps at best. This award was made in 2019, but Ziply Fiber has yet to make any improvements within the project area. This has left this area of the county ineligible for federal funding in the upcoming Broadband Equity Access Deployment (BEAD) funding because they show up in the mapping as "to be served", effectively stranding residents for the next several years, if not the next decade. We hope to assist in the development of policy solutions that would benefit those who would remain without broadband after RDOF.

Pole Attachment Policy

The ability to streamline pole attachment permitting and policies would help reduce costs and accelerate timelines for new broadband deployment.

Make Ready Policy

NTIA and others have been exploring the idea of a one-touch make ready policy. This would be of great benefit to our projects and many others in rural areas. The concept is that one contractor performs all make ready tasks at one time, rather than the pole owner and provider each performing their own tasks sequentially. Implementation of a one touch policy would save money, reduce the required manpower, and reduce barriers for new entrants to the market.

Dig Once Policy

Whatcom County is currently developing a dig once notification policy. The draft proposal currently under consideration would require an entity opening up the roadway for the purpose of putting in infrastructure to send out a notice to all interested parties, allowing the placement of conduit or fiber at the same time. Housing developers would also be required to notify possible interested parties as they build. Finally, the draft proposal also suggests a five-year moratorium on reopening the right-of-way.

Digital Equity Summary

I. Demographic Base Map Review

For this project we are using the NoaNet map to review demographic information. The map has a variety of layers such as poverty level, internet access, access to computers, the Digital Divide Index and more that we can use to help identify areas within the county that are most in need.

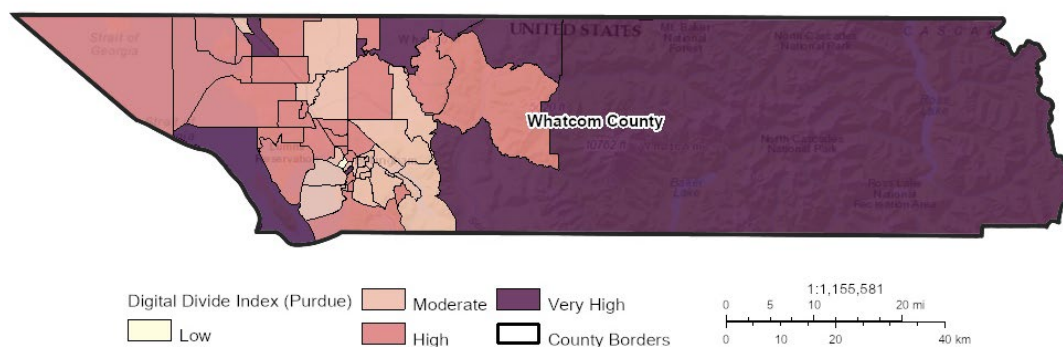
Data Inaccuracies

On a general level, public demographic data accurately reflects local population characteristics. However, there are several inaccuracies in ISP information on the map. It does not reflect local providers like PogoZone and CSS. It also shows Verizon as serving Point Roberts, but it does not show Whidbey Telecom, who is the main broadband provider there. Most of the data about other ISPs is user-reported. The general location for each of the dots is correct. In some locations, there should be more dots. Primarily, Comcast serves the cities of Bellingham, Ferndale, Lynden, Blaine, Sumas. Zply is slowly getting out into the eastern areas of the county and is serving places like Nooksack, Everson, and Glacier.

Areas Lacking Digital Equity Resources

After conducting the Digital Equity Assets Inventory, it is evident that the majority of digital equity services are available in Bellingham or other towns on the western side of the county, nearer to the I-5 corridor. Internet connectivity access also tends to be higher in these areas. A screenshot of the DDI shading of the county is included below (Figure 13).

FIGURE 13 | *Whatcom County Digital Divide Index*



“Covered Populations” Prevalent in our Community

After reviewing the data provided by the NoaNet map, the following groups of covered populations occur in significant numbers in our county:

Rural Residents. Over 93,000 individuals, or 40% of the total population in Whatcom County, live in unincorporated areas.

Ethnic or Racial Minorities. One in ten residents of Whatcom County identify as Hispanic or Latino.

Disabled Residents. Over 28,300 individuals, or 13% of the total population in Whatcom County are individuals living with a disability to 31% of seniors.

Poverty. Almost 30,000 individuals, or 13% of the total population, in Whatcom County are individuals living in poverty. Children experience poverty at higher rates: 15% of children residing in the county live below poverty level. There are also a significant number of seniors who are likely to be living between 100 and 149 percent of the poverty level, qualifying them for the ACP program. American Indian/Alaska Native and Hispanic and Latino residents of any race are at particular risk of poverty in Whatcom County. These populations experience rates of poverty higher than both national and statewide averages.

Increasing Basemap Accuracy

We consider the basemap to be only a nascent tool. While less than comprehensive, it is the result of outreach to our community and a reflection of the responses received thus far. The plan is to continue updating the map for the next 18 months and possibly further.

II. Digital Equity Asset Inventory

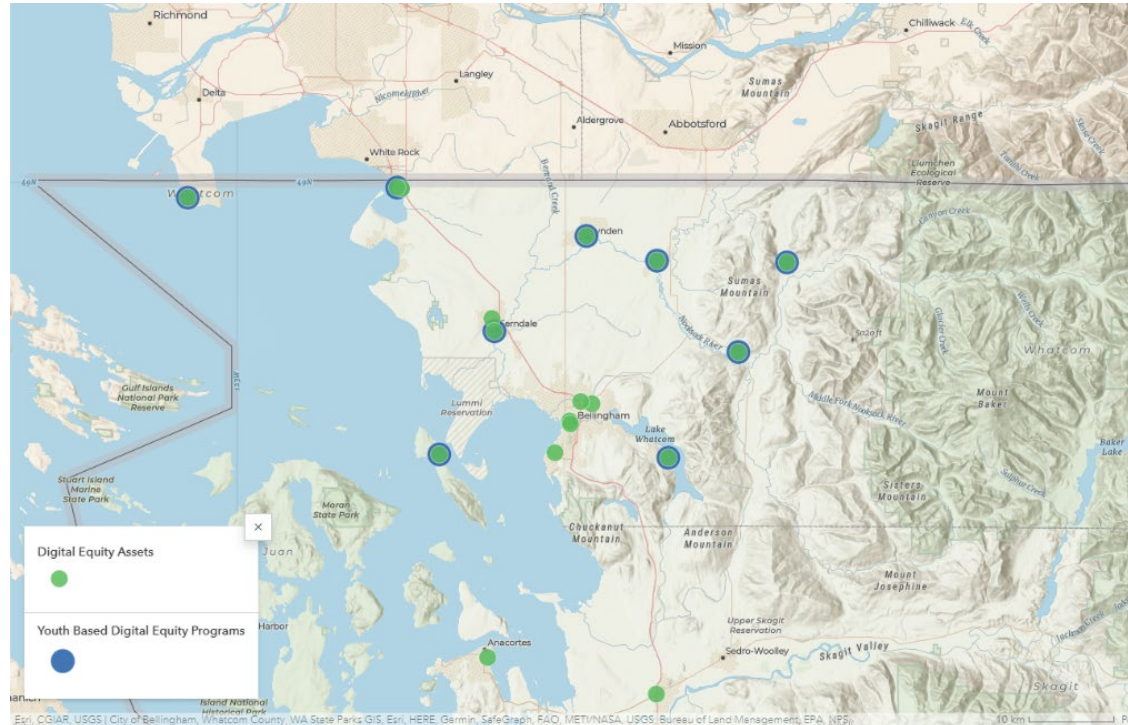
Seven organizations serving individuals in Whatcom County responded to our survey in the spring of 2023. Many are serving in at least some capacity as digital navigators for their program participants, providing public workstations and/or device lending programs, offering meeting space for other digital equity events, and communication channels available for sharing digital equity information relevant to those they serve.

TABLE 14 | *Digital equity services offered by community organizations*

Organization	Highlighted Services
Ferndale School District	Communication channels to share digital equity information; Meeting space available for classes, training, or meetings; 1:1 student devices for grades 2-12
Bellingham Library	Communication channels to share digital equity information; Classes and/or trainings to support digital literacy/skills; Meeting space available for classes, trainings, or meetings; Public computer workspaces; Public Wi-Fi; Mobile hotspot or device lending programs
Northwest Educational Service District 189	Communications channels to share digital equity information; Meeting space available for classes, trainings, or meetings
Whatcom County Library System	Communications channels to share digital equity information; Classes and/or trainings to support digital

	literacy/skills; Meeting space available for classes, trainings, or meetings; Public computer workspaces; Public Wi-Fi; Mobile hotspot or device lending programs
Interfaith Coalition	Communications channels to share digital equity information; Meeting space available for classes, trainings, or meetings; Assistance for Affordable Connectivity Programs enrollment
Evergreen Goodwill	Classes and/or trainings to support digital literacy/skills; Meeting space available for classes, trainings, or meetings; Programs to support privacy and cybersecurity needs of individuals; Public computer workspaces, Public Wi-Fi; Mobile hotspot or device lending programs; Assistance for Affordable Connectivity Programs enrollment; Programs to provide affordable devices; Digital Navigator Program
Opportunity Council	Communications channels (such as newsletter) to share digital equity information, Assistance for Affordable Connectivity Programs enrollment, Programs to provide affordable devices.

FIGURE 14 | Digital Equity Asset Map



Upcoming Digital Equity Events

A few organizations throughout Whatcom County offer regularly scheduled classes aimed at expanding digital equity opportunities to covered populations. A robust system of local government and non-profit service organizations exists to continue this momentum as the county's broadband network expands.

The BAT also has strong partnerships with others in the community. We worked closely with the superintendents of Whatcom County School Districts during the pandemic to purchase hotspots with CARES funding that we distributed to all students in need throughout the county. We continue to work with the school districts to assess the needs of their students and how to best provide support. One of the many ways that they continue to contribute to digital equity is to provide meeting space for the community and access to Wi-Fi.

Other valued partners have been our libraries for the City of Bellingham and the Whatcom County Library System. They each participated in helping us distribute and collect information on broadband needs from the community. They provide vital services around digital education to our community, especially in rural areas. Once a month they hold Tech Hour where they help adults with technology issues and teach them about how to navigate the library system. They often hold classes for community members on the basic function of the computer and how to navigate the internet. We will continue to partner with the libraries on how to expand their digital equity efforts.

Whatcom County Goodwill is a key partner in digital equity efforts. They own and operate a digital equity bus which seats nine and provides classes for people whose first language is not English, including ESL classes and training on how to use computers for job searches. This digital equity bus tends to go out to our most underserved and rural areas in eastern Whatcom County. They also have meeting rooms and computer labs in their facilities in Bellingham. They also receive funding from Department of Commerce and serve as a Digital Navigator.

Organizations Serving Our Community But Not Offering Digital Equity Services

Several non-profit organizations have indicated to BAT or our partners that they understand the importance of digital equity and would like to provide digital equity services, but lack the funding, staff capacity, and/or other resources to do so.

Partnerships between BAT members and non-profits are an ongoing and growing area of interest. We identified many regional nonprofits whose work could be enhanced or supported with digital equity services with whom we hope to partner in the future. These organizations are listed below in Table 14.

TABLE 15 | Organizations offering community services, but not digital equity

Organization/Program	Community Service
Lydia Place	Providing housing to unhoused women
Skookum Kids	Providing services to foster youth
GRACE program	Find solution for those who high utilizers of emergency services and criminal justice system
East Whatcom Regional Center	Services rural and ESL populations
South Fork Community Center	Provides services to community member in East County our most rural area
The Chardi Kala Project	Connecting Sikh to non-Sikh
Growing Veterans	End isolation for veterans through food, community and each other
Nooksack Tribal Veteran Services	Providing service to Nooksack tribal veterans
Lummi Veteran Services	Providing services to Lummi Nation veterans
Christian Health Care Center	Provides services to elderly in Whatcom County

Youthnet, Northwest Educational Service District #189, and Northwest Youth Services are all youth-serving organizations that are active in Whatcom County, but not currently engaged in activities directly aimed at increasing digital equity.

Community Engagement Resources

Several organizations in Whatcom County have expressed interest in providing meeting space for classes, trainings, and other events related to promoting digital equity.

TABLE 16 | Organizations offering meeting space in Whatcom County

Organization	Location
Bellingham Public Library	Bellingham, WA
Whatcom County Library System	Birch Bay, Blaine, Deming, Everson, Ferndale, Lummi Island, Lynden, Maple Falls, Bellingham, Pt. Roberts, and Sumas, WA
Northwest Educational Service District 189	Anacortes, WA
Interfaith Coalition	Bellingham, WA
Evergreen Goodwill	Bellingham, WA

III. Digital Equity Needs Assessment

Regions That Face Barriers to Access or Availability

After conducting the Digital Equity Assets Inventory, it is evident that the majority of digital equity services are available in Bellingham or other towns on the western side of the county, nearer to the I-5 corridor. Internet connectivity access also tends to be higher in these areas. These regions also tend to be more remote and more difficult to access, with mountainous and heavily forested terrain that makes building broadband infrastructure costly and difficult. The focus of the Whatcom BAT's efforts has been on increasing internet availability in these regions.

Demographics or Populations Facing Barriers to Access or Availability

Whatcom County has a relatively high rate of poverty, especially among racial and ethnic minorities. As the costs of living and housing increase, the rate of homelessness in Whatcom County is also increasing. According to the City of Bellingham, at least 742 people in Whatcom County are homeless on any given night, and 1 out of 4 residents can't afford their basic needs. The barriers to access faced by urban populations are unique and require different solutions than rural barriers to access. These vulnerable populations may struggle with both limited access to internet-connected devices and limited access or ability to pay for broadband services. Digital Navigators and organizational support dedicated to ensuring the digital access of those living in poverty and experiencing homelessness is essential.

Additional organizational support is needed to ensure that culturally competent, linguistically diverse digital literacy information and tools to residents of all backgrounds. For example, several organizations reported offering *some* digital equity services in Spanish, but most did not offer all their services in languages other than English.

People living in remote and rural areas of Whatcom County are also significantly underserved by current broadband services. Although only 29% of Whatcom County is considered Rural, 40% of residents (n = 93,130) live in unincorporated areas, and 60% of residents (N = 137,740) live outside of the county's major urban center of Bellingham. What's more, people living in these remote areas of the county often need internet to access basic services that are predominately offered to rural communities online, such as telehealth, mental health services, distance learning, etc. Extending the reach of broadband into these rural areas is essential to closing the digital divide in Whatcom County.

FIGURE 16 | Internet Access by Income: In Whatcom County, approximately 9.5% of households are without an internet subscription.

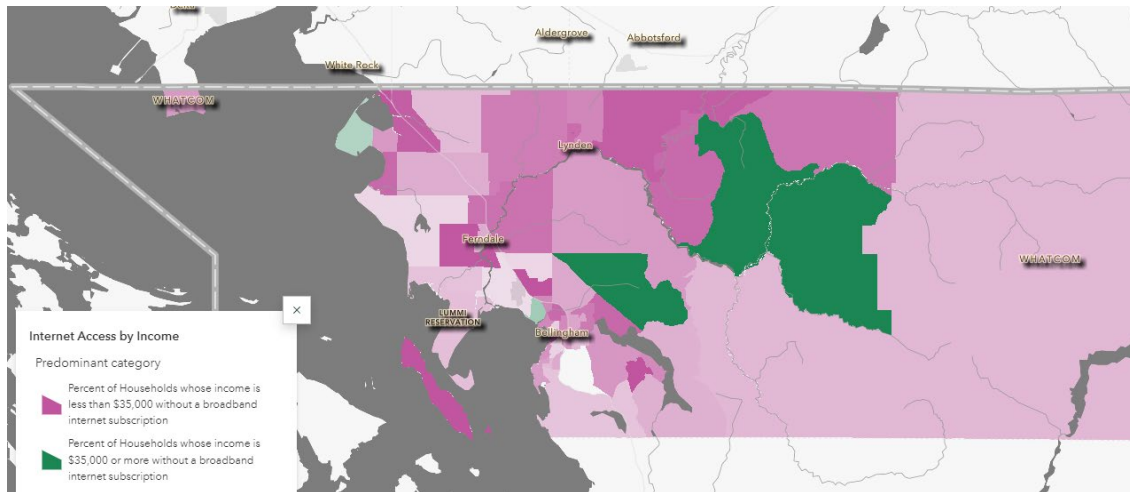


FIGURE 17 | Internet Access by Education: Approximately 4.4% of the population who are high school graduates or have some college degree are in households that have no computer.

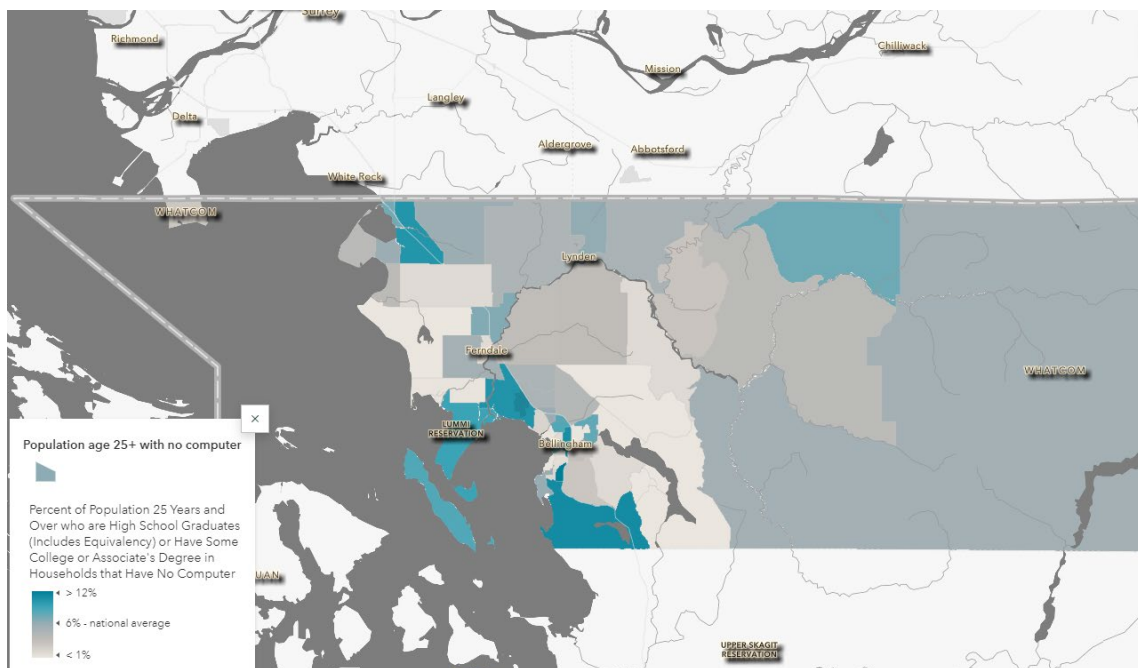


FIGURE 18 | Internet Access by Age: Population 18-64 years in households that have no computer is 2,453.

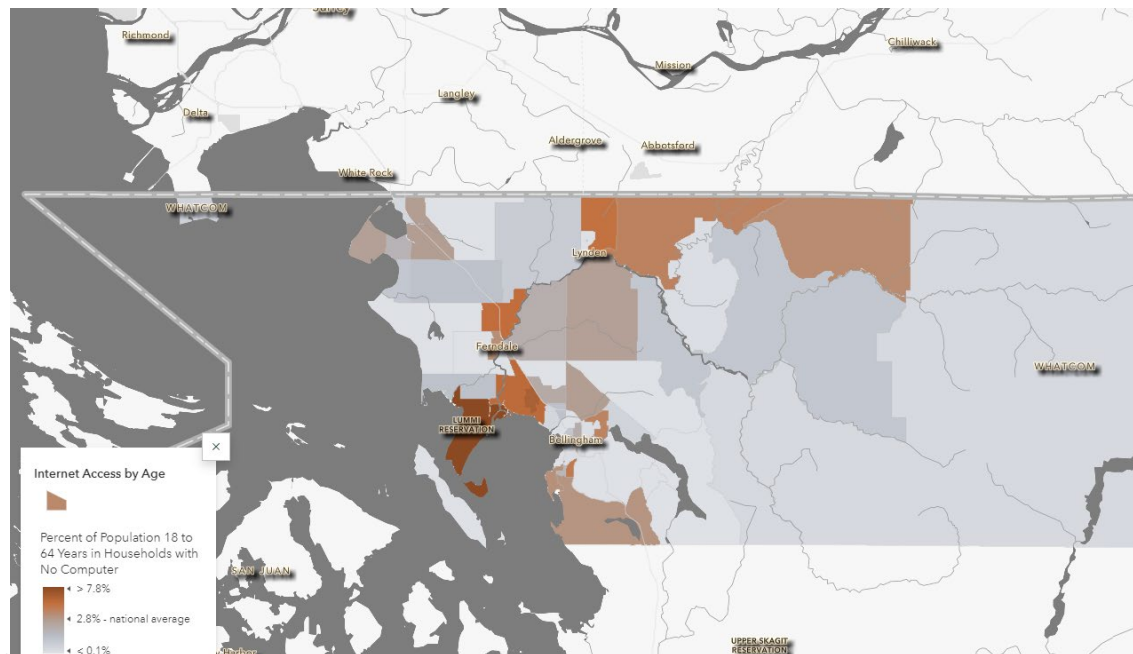


FIGURE 19 | Households with no internet: An estimated 7,465 households county-wide have no internet connection, which is approximately 8.4% of all households.

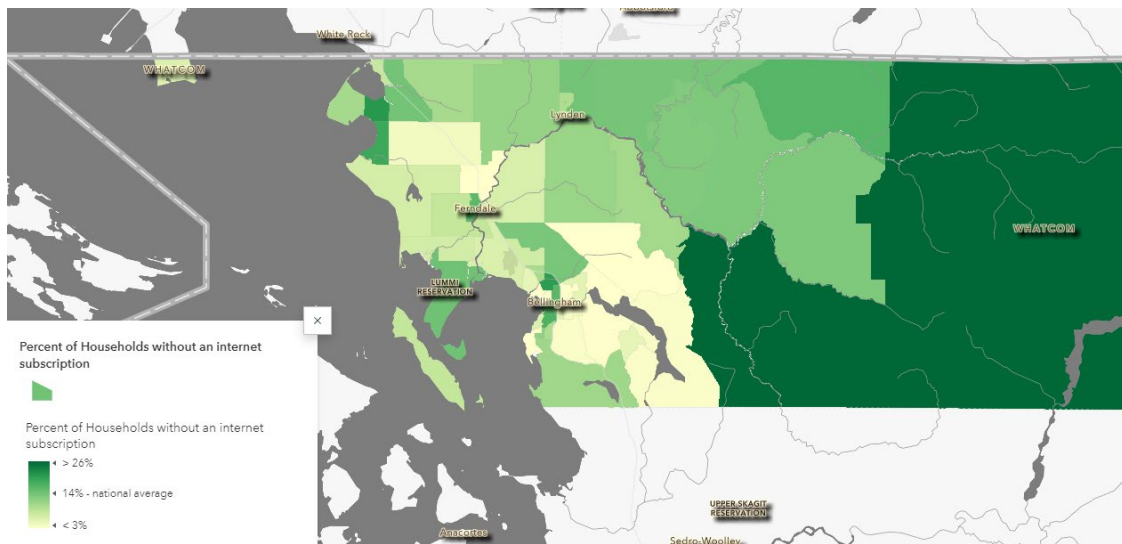


FIGURE 20 | Internet Access by Race

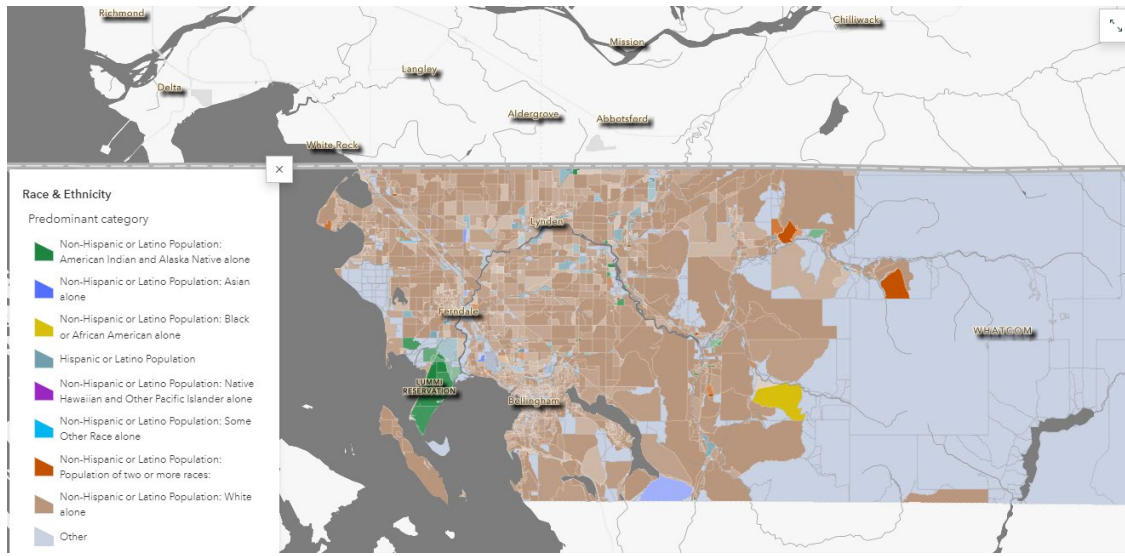


FIGURE 21 | Households with cellular data only: An estimated 8,834 county-wide households have a cellular data plan with no other type of internet subscription. This makes up 9.83% of all households.

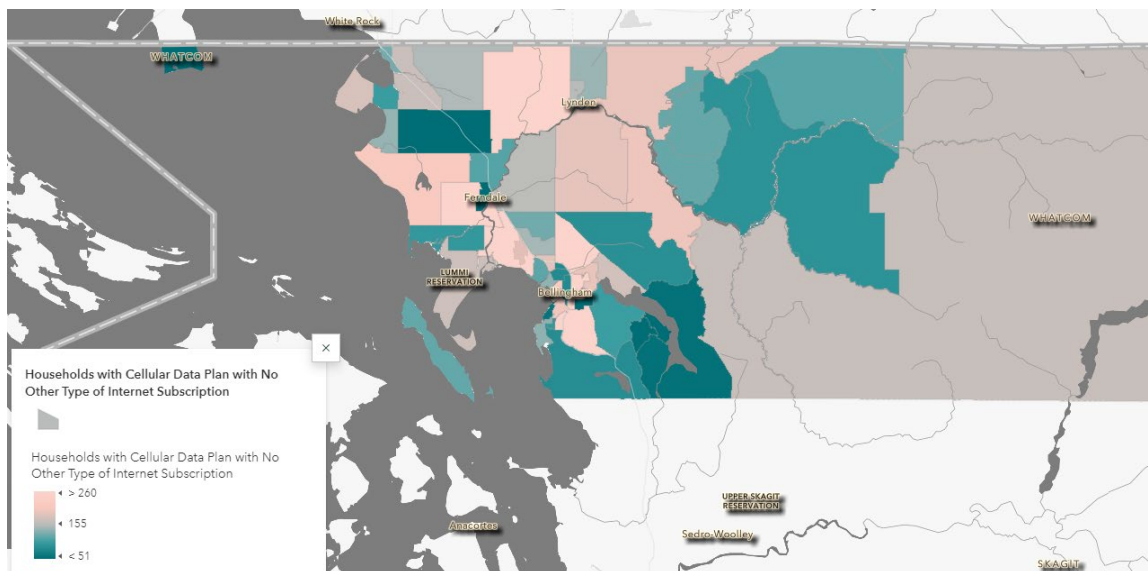
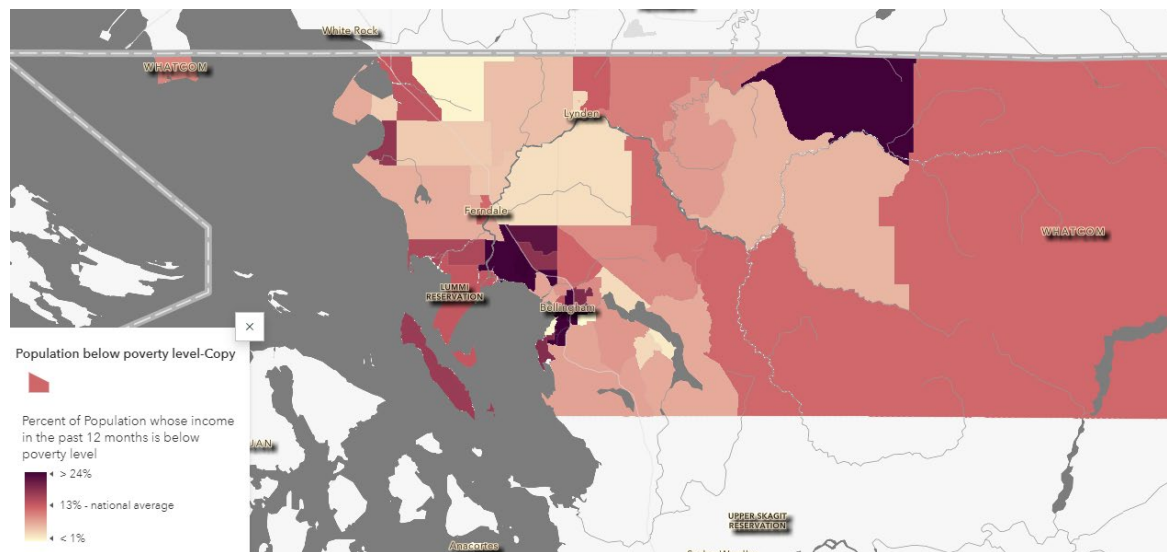


FIGURE 22 | Population Below Poverty level:In Whatcom County, there are an estimated 30,358 people below the Federal poverty line (approximately 13.9%). An estimated 5,247 are children.



Sectors Facing Barriers to Access or Availability

The majority of services in Whatcom County are located on the western side of the county, in or near the population centers of Bellingham, Ferndale, Lynden. Many public sector services are only or are predominately offered on the western side of the county. For example, the Whatcom Public Library System only has four libraries away from the I-5 corridor. Public libraries, which usually have internet access, internet-connected devices, and staff who can assist with digital navigation, are essential to closing the digital divide. Service provision is also limited by internet connectivity and increased rates of poverty (many jurisdictions may not have funding to commit to these services).

IV. Barriers to Digital Equity

Whatcom County currently faces several barriers to digital equity. The eastern area of the county has mountainous, forested terrain which makes infrastructural additions and improvements difficult, and a lack of awareness in rural communities throughout the county continues to inhibit the adoption of technology, despite its economic and social utility.

Barriers Preventing Access, Adoption and Use of the Internet

Physical Topography. The physical topography of Whatcom County poses a significant barrier to terrestrial construction and wireless transmission. Eastern Whatcom County is mountainous with dense, large forests. Most of the underserved rural communities are in areas where the ground is primarily rock or unstable riverbeds. These topographical challenges increase construction costs and prevent infrastructural improvements and

additions, especially in rural areas where low population densities and high poverty rates suggest little profit for private companies.

Need for internet-connected devices: Sumas public library was damaged in a flood in 2022 and now no longer offers in-person library services, including internet access and computer use. Within Bellingham, WWU offers a device lending program, but you cannot check devices out overnight or use them off-campus.

Lack of funding: In order to effectively reach people, especially targeted populations, more outreach and communication, including in-person contact with a digital navigator, is needed. This kind of hands-on work requires additional dedicated staff capacity and expertise that is not currently available.

Lack of Awareness. In rural communities throughout the eastern half of the county, a high area of need and the potential of digital skills in enhancing a person's life and where to gain those skills is challenging due to the lack of resources. Due to their remoteness it is challenging to get the necessary information out to this area. In this part of the county, approximately 50% of the population lives below 200% of the poverty line, qualifying them for ACP. However, in 2022, only about 3,000 Whatcom County residents filed claims for ACP benefits, suggesting a lack of knowledge of and/or motivation to apply for ACP programs and benefits. Internet access provides opportunities for residents to obtain relevant job skills, connect with regional social services, and gain knowledge. The current barriers to access in rural Whatcom County create a positive feedback loop; residents lack knowledge of programs to improve internet access due to a deficit of resources to access these programs.

Barriers Preventing Provision of Digital Equity Support Services

The largest barrier to the provision of digital equity support services throughout our region is the lack of funding for outreach to area residents. A lack of funding prevents the cultivation of larger outreach programs that would more effectively reach target populations throughout the county, especially in more rural areas.

Barriers Inhibiting Utilization of Digital Equity Resources

The primary issue inhibiting digital equity resources from being utilized in our area is the lack of access, especially in rural areas. Additionally, people don't always see the value in obtaining new technology for work and economic purposes. Rural populations also often face transportation issues, especially in winter, due to difficult travel conditions, making it more difficult to access all manner of services (mental health, public safety, education, workforce development, and job searches).

Barriers to Assessing Digital Equity Landscape of the Community

The Port of Bellingham, PUD, and local ISPs have significant experience working to expand broadband infrastructure in the county, but explicitly addressing and assessing equity needs is a new area. One crucial step to moving forward with this work is to continue forming partnerships with other service organizations in the county. Partnering with these agencies and services will help the team get a better understanding of the needs of the community and provide direct access to digital equity tools to these groups.

V. Potential Paths Forward

Possible Funding Mechanisms

Funding opportunities currently being pursued to support broadband deployment include:

Local Funding

County EDI funding has been used as a local source for matching funds and potentially will continue to be used as such. It's important to note that these funds are intended to be used as leverage with larger funding sources, not as a sole source of project implementation funding.

Whatcom County .09 Economic Development Funds are also available for supporting broadband infrastructure.

Whatcom County has identified a portion of the ARPA funding to be dedicated to broadband. With the time delay until the BEAD funding can be deployed to state and local entities this may be the only available funding for the next three to four years.

State Broadband Sources

We plan to work with state agencies that have received funding to administer broadband grants, including the Community Revitalization Board (CERB), which is offering up to \$50,000 for planning grants. Our team has used CERB funding twice in the past to fund feasibility studies, allowing us to better understand the needs and gaps present in Whatcom County and providing the foundation for our current and future project areas.

Federal Sources

Opportunities for federal funding support include the BEAD grant fund, which is expected in Winter 2024.

Other Sources

Several households throughout Whatcom County qualify for reduced and free internet through the Affordable Connectivity Program (ACP). Public institutions such as schools and libraries may also qualify for the E-Rate program.

Private Foundations

Local and regional community and health foundations are another possible source of support for digital equity services pursued in collaboration with housing, mental health, public health, and other social service agencies to help identify and bridge service gaps for vulnerable populations in our communities.

Entities Providing Leadership

Whatcom County has a strong leadership team between the Port, PUD, and county. Each entity has developed an Interlocal agreement to form our Broadband Team. This team also includes leadership from the local Commissions and the Council. Additionally, many local entities,

including Ferndale School District, Whatcom County Library System, and Bellingham Library, have expressed interest in taking more of a leadership role in digital equity efforts.

Whatcom County Goodwill is a key partner in digital equity efforts. They provide the digital equity bus, which travels to underserved areas of the county to provide internet access and digital literacy classes and offer meeting rooms and computer labs in their facilities in Bellingham. They also receive funding from Determent of Commerce and serve as a Digital Navigator.

Regions & Populations of High Significance for Outreach

Unserved populations throughout the county are of the highest priority when creating outreach plans. The highest priority groups currently are rural residents, especially those experiencing poverty and those living on the east side of the state.

Local ISPs Interested in Digital Equity Work

During this process, we engaged many of our ISP partners and many expressed interest in participating in digital equity efforts.

Upcoming Programs or Projects to Support Digital Equity Work

Bellingham Library and Evergreen Goodwill regularly offer digital literacy skill classes. The Lummi Nation has also partnered with T3 to offer regular digital literacy courses.

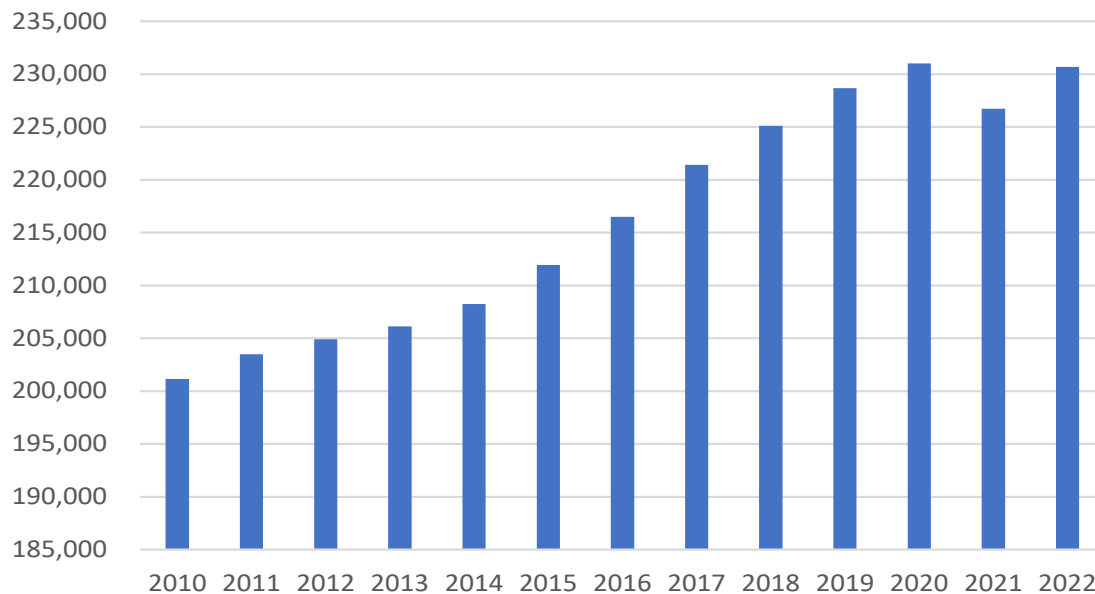
Appendix A: Demographic Tables & Figures

TABLE 1 | Population growth comparisons, 2010-2022

Region	Growth
United States	8.7%
Washington	15.8%
Whatcom County	14.7%

Source: U.S. Census. (2022). *ACS Demographic and Housing Estimates, 2010-2022 American Community Survey 1-year Estimates*. Retrieved from <https://data.census.gov/ACSDP5Y2021.DP05>

FIGURE 2 | Population in Whatcom County, 2010-2022



Source: U.S. Census. (2022). *ACS Demographic and Housing Estimates, 2010-2022 American Community Survey 1-year Estimates*. Retrieved from <https://data.census.gov/ACSDP5Y2021.DP05>

TABLE 2 | Population in Whatcom County by city

Region	2020	2021	2022
Whatcom County	226,847	226,300	231,650
Unincorporated	92,660	92,730	93,130
Incorporated	134,187	133,570	138,520
Bellingham	91,482	89,860	93,910
Blaine	5,884	6,020	6,130
Everson	2,888	2,935	3,060
Ferndale	15,048	15,570	15,970
Lynden	15,749	15,930	16,150
Nooksack	1,471	1,515	1,560
Sumas	1,665	1,740	1,740

Source: Office of Financial Management, State of Washington. (2022, April 1). *Population of Cities, Towns and Counties Used for Allocation of Selected State Revenues*.

https://ofm.wa.gov/sites/default/files/public/dataresearch/pop/april1/ofm_april1_population_final.pdf

TABLE 3 | Whatcom County Disability Status

Disability Status	Whatcom County	U.S.	Washington State
Civilian Noninstitutionalized Population	223,197	317,941,631	7,502,835
With Any Disability	12.7%	12.6%	12.7%
No Disability	87.3%	87.4%	87.3%
65 Years And Over	38,727	51,705,726	1,159,144
With Any Disability	30.5%	33.4%	33.9%
No Disability	69.5%	66.6%	66.1%

Source: U.S. Census Bureau. (2021). *Disability status in the past 12 months, 2017-2021 American Community Survey 5-year Estimates*. Retrieved from <https://data.census.gov/ACSST5Y2021.S0103>

TABLE 4 | Race and ethnicity rates

Race and Hispanic or Latino origin	Whatcom County	U.S.	Washington State
One race	92.8%	93.0%	91.4%
White	81.3%	68.2%	71.7%
Black or African American	1.0%	12.6%	3.9%
American Indian and Alaska Native	2.4%	0.8%	1.2%
Asian	4.2%	5.7%	9.0%
Native Hawaiian and Other Pacific Islander	0.3%	0.2%	0.7%
Some other race	3.7%	5.6%	5.0%
Two or more races	7.2%	7.0%	8.6%
Hispanic or Latino origin (of any race)	9.9%	18.4%	13.2%
White alone, not Hispanic or Latino	77.5%	59.4%	66.5%

Source: U.S. Census Bureau. (2021). *Selected Characteristics of the Native and Foreign-Born Populations*. Retrieved from <https://data.census.gov/ACSST5Y2021.S0501>

TABLE 5 | English as a Second Language

Language Spoken at Home	Whatcom County	U.S.	Washington State
Population 5 years and over	213,185	310,302,360	7,167,821
English only	88.3%	78.3%	79.7%
Language other than English	11.7%	21.7%	20.3%
Speak English less than "very well"	3.3%	8.2%	7.6%

Source: U.S. Census Bureau. (2021). *Language Spoken at Home, 2017-2021 American Community Survey 5-year Estimates*. Retrieved from <https://data.census.gov/ACSST5Y2021.S0103>

TABLE 6 | Industry Job Growth in Whatcom County by sector

Description	2012 Jobs	2022 Jobs	2012-2022 # Change	2012-2022 % Change	2022 GRP
Agriculture, Forestry	4,705	4,385	-320	-7%	\$456,878,413
Mining,	139	143	4	3%	\$50,833,331
Utilities	154	161	7	5%	\$152,787,515
Construction	6,681	9,411	2,730	41%	\$1,091,073,783
Manufacturing	8,957	9,347	389	4%	\$4,134,687,139
Wholesale Trade	2,626	2,959	333	13%	\$838,556,252
Retail Trade	10,707	11,134	428	4%	\$1,109,652,858
Transportation and Warehousing	2,165	2,277	112	5%	\$264,544,932
Information	1,884	1,272	612	32%	\$394,853,782
Finance and Insurance	2,135	2,771	636	30%	\$771,439,322
Real Estate a	1,033	1,418	384	37%	\$525,117,951
Professional, Scientific Services	3,234	4,233	998	31%	\$652,434,469
Management of Companies	489	365	123	25%	\$45,479,478
Waste Management and Remediation	3,131	4,176	1,045	33%	\$326,236,623
Educational Services	1,158	1,389	232	20%	\$59,552,300
Health Care and Social Assistance	11,165	12,754	1,589	14%	\$1,172,264,163
Arts, Entertainment, and Recreation	1,665	1,811	146	9%	\$108,324,706
Accommodation and Food Services	7,414	9,058	1,644	22%	\$500,609,949
Other Services	5,102	5,074	-28	-1%	\$302,524,618
Government	15,931	16,055	123	1%	\$1,668,292,489
Total	90,476	100,193	9,717	11%	\$14,626,144,074

Source: Lightcast. (2022). Retrieved from <https://lightcast.io/>

TABLE 7 | Whatcom County Largest Employer Job Profiles

Firm/Entity	Job Profiles
Western Washington University	2,571
PeaceHealth	1,233
BP	594
Whatcom Community College	446
Bellingham Public Schools	423
City Of Bellingham	354
Bellingham Technical College	318
T-Mobile US	265
Whatcom Educational Credit Union	239
Bellingham School District	231

Source: Lightcast. (2022). Retrieved from <https://lightcast.io/>

TABLE 8 | Average Wage and Benefits by Industry

Description	2022 Jobs	Avg Salary/Benefits Per Job	Percent Jobs
Arts, Entertainment, and Recreation	1,811	\$26,305	1.8%
Accommodation and Food Services	9,058	\$29,919	9.0%
Educational Services	1,389	\$34,296	1.4%
Other Services	5,074	\$40,973	5.1%
Retail Trade	11,134	\$49,509	11.1%
Agriculture, Forestry	4,385	\$50,588	4.4%
Waste Management and Remediation	4,176	\$54,943	4.2%
Real Estate a	1,418	\$61,117	1.4%
Transportation and Warehousing	2,277	\$70,141	2.3%
Health Care and Social Assistance	12,754	\$73,145	12.7%
Wholesale Trade	2,959	\$79,414	3.0%
Construction	9,411	\$88,529	9.4%
Government	16,055	\$91,885	16.0%
Professional, Scientific Services	4,233	\$93,355	4.2%
Manufacturing	9,347	\$95,620	9.3%
Management of Companies	365	\$96,242	0.4%
Information	1,272	\$105,022	1.3%
Finance and Insurance	2,771	\$107,697	2.8%
Mining,	143	\$112,961	0.1%
Utilities	161	\$204,903	0.2%
Total	100,193	\$70,908	100.0%

Source: Lightcast. (2022). Retrieved from <https://lightcast.io/>

TABLE 9 | Poverty Metrics Whatcom County, U.S., and Washington State

Poverty Measures (Population)	Whatcom County	U.S.	Washington State
Total population	218,983	321,897,703	7,478,757
Below 100 percent of the poverty level	13.4%	12.6%	10.0%
100 to 149 percent of the poverty level	7.0%	8.1%	6.4%
At or above 150 percent of the poverty level	79.5%	79.3%	83.6%
65 years and over	38,727	51,705,664	1,159,144
Below 100 percent of the poverty level	7.6%	9.6%	7.6%
100 to 149 percent of the poverty level	6.7%	8.7%	6.8%
At or above 150 percent of the poverty level	85.7%	81.8%	85.6%

Source: U.S. Census Bureau. (2021). *Poverty status in the past 12 months, 2017-2021 American Community Survey 5-year Estimates*. Retrieved from <https://data.census.gov/ACSST5Y2021.S1701> Retrieved from <https://data.census.gov/ACSST5Y2021.S0103>

TABLE 10 | Poverty rate by Age and Sex

Population/Group	U.S.	Washington	Whatcom County
Overall Population	12.6%	10.0%	13.4%
Under 18 years	17.0%	12.4%	14.6%
Under 5 years	18.5%	13.2%	16.2%
5 to 17 years	16.5%	12.2%	14.0%
Related children	16.7%	12.1%	14.1%
18 to 64 years	11.8%	9.7%	14.7%
18 to 34 years	14.9%	12.4%	23.4%
35 to 64 years	10.0%	8.1%	8.5%
60 years and over	9.9%	8.0%	7.9%
65 years and over	9.6%	7.6%	7.6%

Source: U.S. Census Bureau. (2021). *Poverty status in the past 12 months, 2017-2021 American Community Survey 5-year Estimates*. Retrieved from <https://data.census.gov/ACSST5Y2021.S1701>

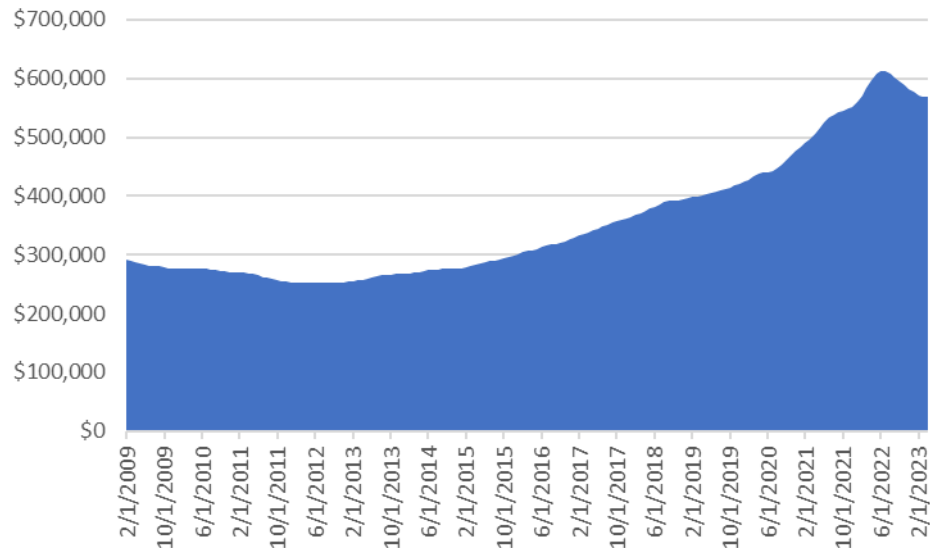
TABLE 11 | Poverty rate by Ethnicity

Race And Hispanic or Latino Origin	U.S.	Washington	Whatcom County
White alone	10.3%	8.7%	12.6%
Black or African American alone	21.7%	17.5%	14.9%
American Indian/Alaska Native alone	23.4%	20.8%	19.2%
Asian alone	10.3%	8.7%	14.6%
Native Hawaiian/ Other Pacific Islander alone	16.7%	14.1%	4.9%
Some other race alone	19.1%	18.1%	17.7%
Two or more races	14.9%	12.3%	18.4%
Hispanic or Latino origin (of any race)	17.7%	16.5%	22.1%

White alone, not Hispanic or Latino	9.2%	8.2%	12.1%
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Source: U.S. Census Bureau. (2021). *Poverty status in the past 12 months, 2017-2021 American Community Survey 5-year Estimates*. Retrieved from <https://data.census.gov/ACSST5Y2021.S1701>

FIGURE 3 | Typical Housing Price in Whatcom, WA



Source: [Housing Data - Zillow Research](#)

TABLE 12 | Levels of Education for the population 25 years and over

Population by Level of Education	Whatcom County	U.S.	Washington State
Less than 9th grade	2.1%	4.8%	3.5%
9th to 12th grade, no diploma	4.7%	6.3%	4.6%
High school graduate (includes equivalency)	21.8%	26.5%	21.8%
Some college, no degree	24.0%	20.0%	22.7%
Associate's degree	11.0%	8.7%	10.2%
Bachelor's degree	22.4%	20.6%	23.1%
Graduate or professional degree	14.0%	13.1%	14.2%

Source: U.S. Census Bureau. (2021). *Educational attainment, 2017-2021 American Community Survey 5-year Estimates*. Retrieved from <https://data.census.gov/ACSST5Y2021.S0103>