

# Okanogan County and Colville Confederated Tribes Broadband Action Team 

# Expansion of Broadband Internet 

Strategic Plan

July, 2022

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## Narrative \& Executive Summary

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## NARRATIVE AND EXECUTIVE SUMMARY

### 1.0 Introduction and Scope

The following report provides a feasibility study and business plan for a proposed broadband network to serve selected communities in Okanogan County.

This report provides cost estimates for the required construction of multiple pure fiber-to-thehome (FTTH) broadband infrastructure networks, market analysis of existing providers, local demographics, a subscriber forecast, permitting requirements, a timeline for the construction of the network, a financial proforma forecast and funding options with multiple related exhibits.

## Identify the Problems

Under a prior but recent study, the first item was to gather input from stakeholders and the relevant communities about broadband needs of the area, then to identify the gaps in existing services. This included information gathering regarding existing infrastructures, and the design and distribution of a market assessment instrument or survey to determine the interest in expanded broadband service.

One of the most frequent problems is the expense of getting fiber to the home, even if there is fiber running close by. However, it is understood fiber-to-the-home is the preferred method for long-term broadband sustainability. Therefore, the purpose of this study, it to focus purely on FTTH networks, the cost, financing opportunities and the financial forecast of such an investment.

Identify existing providers, areas of weakness and assessment of local strengths
ACRS was able to create a comprehensive list of existing providers and broadband networks that provide broadband services from DSL, to wireless, to satellite services. This list and analysis are addressed in the Market Analysis and Subscriber Forecast section of this study.

One challenge with the incumbent service providers is the accuracy, or lack thereof, in the providers' reports to the FCC. Each provider is required to submit a detailed 477 report to the FCC every six months detailing the coverage area and available speeds as well as their existing customer base. Research has shown however the accuracy of these filings is lacking and many service providers tend to overstate their speeds and coverage areas. This presents another challenge to determining unserved areas and trying to prioritize a large-scale buildout as contemplated herein.

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The reporting also tends to have a negative impact on available grant dollars or federal support dollars under the Connect America Fund and Rural Digital Opportunity Fund. Fortunately, some federal agencies such as the Rural Utilities Service are aware of this issue and when a grant application with RUS is being considered for funding, RUS will dispatch a field representative to verify any existing broadband.

The Okanogan PUD established a real-time speed test survey however where residents and businesses could log their specific location and register actual broadband speeds from said locations. The results of this survey were also used in the effort to identify the most underserved areas within the county. The results were used to identify multiple FTTH study areas within this report.

### 2.0 Proposed Service Areas

This study has identified 24 areas of primary interest for designing and deploying broadband. These Proposed Service Areas are:

| Aeneas | Brewster | Chillwist |
| :--- | :--- | :--- |
| Conconully | Crumbacher | East Omak |
| Harmony Heights | Keystone | Knob Hill |
| Loomis-Palmer | Malott | North Omak |
| Omak Flats | Orchard Grade | Oroville |
| Pateros | Riverside | S. Pine Creek Rd |
| Salmon Creek Rd | Synarep | Whitestone |
| North Okanogan County | Palmer | South Pine Creek NTIA |

Attached under Tab 2, Conceptual Plan, are maps of the 24 different service areas depicting the service area boundary and the estimated fiber cabling required for a full fiber-to-the-home deployment.

Tab 8A contains census data of each area used in the Market Analysis and Subscriber forecast. Each area has its own unique set of circumstances, from geography to the demographics that make up the population. The parameters used in the subscriber projections give us some picture of the population and its rural and economic struggles. Median age for the 24 areas ranges from 24.9 to 61.5 , poverty level ranges from a low of $11.3 \%$ of families below the poverty level to $55.7 \%$ of all families. Commute time ranges from approximately 10 minutes to over a half hour.


## Geography

All 24 of the Proposed Service Areas lay on the eastern edge of the Cascades in Washington State and abuts the Canadian border in the north. Most of the populated areas are strung out like beads on the strands of the Methow, Okanogan and Columbia Rivers. Population ranges from 154 people in the Harmony Heights and Chilwist PSA to 5330 in the Oroville PSA.

The area can offer unique construction challenges and, as shown with the most recent wildfires, come with increased maintenance requirements. Each of these were factored into the initial construction costs and recurring maintenance expenses.

### 3.0 Permitting and Licenses

### 3.1 Licenses

Providing broadband services is typically classified as deregulated services by state and federal authorities such as the Federal Communications Commission and most state corporation commissions. Voice services can be accomplished through a third-party provider or as an "over-the-top" VoIP service avoiding any required certifications should the Colville Confederated Tribes elect to pursue voice services in the future. At this time, the study herein is confined to broadband services only, allowing for a "broadband pipe" which can be used by its customers for VOIP phone service or "over-the-top" and streaming video services. The Okanogan PUD is prohibited from offering services directly to the residents of the county and is currently and projected to only offer wholesale rates to various ISPs in the area. To take advantage of future FCC support such as the current RDOF auction or the Lifeline and Link-up support from the FCC, an Eligible Telecommunications Carrier (ETC) certification will be required. This is typically applied for on a state level through the Public Utilities Service. Oftentimes, a Competitive Local Exchange Carrier (CLEC) certification is a prerequisite of obtaining ETC status. The process for obtaining CLEC and ETC designation typically takes up to six months. This is something however that could be pursued in the future.

### 3.2 Permits

Typical permitting required for broadband networks as proposed herein consist of road permits, railroad crossings, environmental clearances and pole attachments permits.

Road permits are common applications with minimal to no permitting fees. Any crossing of or parallel facilities to state highways will require a standard Department of Transportation permit. These can typically be acquired within 30 days of applying for the permit. However, the majority of all proposed fiber facilities will be installed within the existing utility corridor, which is usually within 5 feet of the road right-of-way line.

Certain funding agencies and at times DOTs, will require proof of environmental clearances. Such clearances may be required from federal and state agencies such as the list below.

- US Fish \& Wildlife Service
- State Fish \& Game
- Bureau of Land Management
- Corps of Engineers
- State Historic Preservation Office
- Bureau of Indian Affairs

Section 106 requirements for SHPO will be closely adhered to, working with state, federal and tribal offices to ensure all historical buildings are identified well in advance of construction.

As described above, due to the nature of PUD owning the existing pole line and the opportunity to work with Nespelem Valley Electric Cooperative, pole attachment agreements are not applicable in the PUD service areas and may only be a simple formality in the Nespelem tribal areas.

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### 4.0 Infrastructure Solutions

### 4.1 Existing Network

Both the Okanogan PUD and the Colville Confederated Tribes presently own and operate a limited amount of fiber facilities today. A large portion of the existing PUD network was funded and constructed under a recent ARRA BIP award. The existing PUD system utilizes its existing fiber facilities for offering FTTx services but the footprint is limited. The Colville Confederated Tribes have also made an effort over recent years to begin deployment of some fiber facilities along the main roads interconnecting some of the Colville Confederated Tribes communities. These existing facilities are proposed to be utilized where possible as middle mile backhaul points to the proposed FTTx electronics know as an Optical Line Terminal (OLT).

### 4.2 Fiber to the Home/Business (FTTx)

The Okanogan BAT and Colville Confederated Tribes propose to deploy a 100\% Fiber-to-the-Home or Fiber-to-the-Premise (FTTx) Gigabit Passive Optical Network also referred to as a GPON network. GPON is a point-to-point access mechanism utilizing passive optical splitters. The GPON network will utilize electronics capable of delivering a minimum of 2.488 Gbps downstream and 1.244 Gbps upstream with XGS-PON capable of 10Gbps symmetrical services. The bandwidth is shared among subscribers with a typical optical splitter ratio of $1 \times 32$. Smaller or larger split ratios can be deployed in the field as bandwidth and subscriber demand.

The GPON standard was developed in conjunction with two industry standards bodies, Full Service Access Network (FSAN) and International Telecommunications Union (ITU). Today the standard proposed herein is known as the ITU-T G. 984 Gigabit capable Passive Optical Network standard.

Fiber to the x (FTTx) is a generic term for broadband network architecture using all fiber optical cable in place of the usual metal (Copper or Coax) cable used for telecommunications. While there are a great number of ways to deploy fiber into the network, fiber is often said to be "future proof" because the data rate of the connection is usually limited by the terminal equipment rather than the fiber, permitting broadband

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speed improvements through upgrading the electronics without the need to replace the fiber itself.


Typical GPON FTTH Network

Utilizing the dynamic bandwidth allocation capabilities within the GPON electronics, or bypassing the splitters for point-to-point connections, GPON service providers are capable of offering 1 Gbps services to customer locations well above the FCC's 2015 Report adopting a new benchmark for broadband of 25 Mbps download and 3 Mbps upload as well as the State of Washington's 2028 mandate for 150 Mbps symmetrical services.

With the schools, hospitals, county and tribal facilities all proposing to utilize this fiber network, redundancy is a critical requirement. The post study engineering and design should be conducted in a manner as to incorporate additional, redundant bandwidth connections in case of an outage of the existing circuits in place today as part of the PUD solution. The proposed Colville Confederated Tribes and PUD expansions could also be developed in a ring configuration in which case if one circuit was cut to the outside world, all traffic would be rerouted. In this scenario, a customer could be utilizing the

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broadband network and would be oblivious to the rerouting of their traffic with zero loss of service.

### 5.0 Cost Estimates

Detailed cost estimates were developed for the fiber-to-the-home systems as described above. All design and cost estimates and financial forecasts assume a data only deployment. Future services of voice and/or video however could easily be overlaid and added as an additional service.

Three cost estimates were developed as part of this study, these include the 24 identified service areas, the NE Okanogan County and Palmer service areas, and a larger version of the S. Pine Creek service area. Each of these were used in the financial forecasts as described in the 9.0 Pro Forma section below.

The total cost estimates are listed below with a copy of the detailed Cost Estimates contained under Tab 3 of this report.

24 Okanogan \& CCT Service Areas
NE Okanogan County \& Palmer Service Areas
S. Pine Creek (NTIA) Service Area
\$92.80M
\$14.31M
\$5.57M

It should be noted that all costs were based on recent competitive bids from construction contractors for broadband deployments and recent quotes from multiple equipment suppliers. Adjustments were made to the outside plant construction costs to accommodate the local terrain in the BAT area. A copy of some of this pricing can be viewed within the enclosed exhibits. Additionally, the cost estimates above provide for fiber to the curb to $100 \%$ of the businesses and households passed.

### 6.0 Construction Timeline

Subsequent to the allocation of the necessary funds, each project will commence with a more detailed engineering review of requirements on the central office and core fiber facilities. Construction of the outside plant facilities can occur parallel to the delivery and installation of the central office electronics. It is anticipated that a typical service area or group of service areas can be fully engineered and constructed within 15 months.

A sample timeline is contained under Tab 7 of this report.

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### 7.0 Market Survey

From researching the FCC databases, the usual mobile wireless service providers in the area, including Verizon, AT\&T, and US Cellular are claiming broadband speeds from around 1 Mbps to 10Mbps. However, the cellular coverage in a lot of the areas selected for broadband expansion is at times limited and the cost of the data plans with most wireless service providers makes using a cell phone for broadband in the home or at a business unrealistic for most.

From researching the FCC Broadband Deployment Map, a small portion of the service areas are served with broadband by CenturyLink. This is the regulated Local Exchange Carrier (LEC) offering limited DSL over aging twisted pair copper infrastructure. A search shows one other provider in the area, Frontier Communications, also offering limited DSL.

There is one cable service provider in the area, Charter Communications, which offers a higher speed broadband service of 120 Mbps down and 10 Mbps up. It should be noted however that there is a bottleneck in their data capabilities and during peak demand times like in the evenings when multiple subscribers are attempting to access the network, slower speeds are experienced by all.

In addition, there are several fixed wireless providers offering line-of-site broadband service. Most of these types of providers however are small locally owned service providers of which most use partially or wholly the existing PUD wireless infrastructure. The line-of-site requirement in the rugged terrain and heavy foliage is also problematic with these types of networks making it difficult to offer reliable service. As a result, the focus of this study is centered on a fiber-to-the-home solution.

As mentioned above, several areas have wireless and fiber services available from providers who are resellers for Public Utility District \#1, and their prices and speeds vary from area to area.

Tab 4 contains a complete market analysis with the related narrative research of all existing service providers contained within the exhibits.

Below is a summary of the data service plans proposed by this broadband expansion and the recurring rates used within the financial pro forma. It should be noted however, the BAT management team may elect to reduce the number of service plans eliminating the $25 / 3 \mathrm{Mbps}$ plan and offering the 100 Mbps plan or the State's future

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mandated 150/150Mbps service requirement at this same price. This will have little impact on the overall cost of the system yet may help increase the subscriber take rate.

| Residential |  |  |
| :---: | :---: | :---: |
| Bronze | 25/3 Mbps | \$35.00 |
| Silver | 100/10 Mbps | \$59.95 |
| Gold | 250/25 Mbps | \$79.95 |
| Platinum | 1,000/100 Gbps | \$99.00 |
| Business |  |  |
| Bronze | 25/3 Mbps | \$49.95 |
| Silver | 100/10 Mbps | \$69.95 |
| Gold | 250/25 Mbps | \$89.95 |
| Platinum | 1,000/100 Gbps | \$149.95 |

### 8.0 Marketing Plan

The price per Megabit offered under this broadband expansion will generally be lower than the competition in the underserved market and in line with national statistics. Customers are also eager to do business with a local provider giving the PUD ISPs and the Colville Confederated Tribes a leg up on the national LECs and cable providers.

## Advertisement and Promotions

The new broadband services have the potential to offer a single consolidated invoice to its customers. Local technicians will be a part of the community for which he or she is responsible to handle service calls and installations and familiar faces to the local residents. The residents will know the technician by name. National surveys conducted by research groups like J.D. Power and others confirmed through market research that customers, whether in Metropolitan or Rural communities, prefer to deal with a local technician.

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The promotion and marketing plan is based on local media and references. Some of these may not apply to the PUD offering wholesale services only but should be considered by the Colville Confederated Tribes.

- Referrals: Consider offering a discount for referrals as word of mouth coupled with a monetary reward is sometimes the most effective means of advertising.
- Local Bulletins and Flyers: Upon the acquisition of funds, post flyers and bulletins throughout the service area and issue flyers through the mail to its existing customer base to commence creating a buzz within the community and hopefully prevent some of the potential subscribers from executing a long-term contract with another service provider.
- Local Newspapers and Media Services: Consider advertising in local papers and media services. In addition, utilize many other publications that are local in nature, community papers or bulletins for the residents of the community, and other sources in which they will start announcing and advertising these services to the residents.
- Meetings with Local Offices: The local technicians should participate in town meetings and other community events. Existing relationships will be strengthened with local businesses, community centers, and local administrations.
- Website Marketing Tools: Upon receipt of financing, there should be plans to launch a state-of-the-art new website for the new services as well as advertising on other social media sites. The sites will enhance the broadband company's customer service and tech support offerings as well as feature several marketing-promotion tools to supplement the traditional sales and marketing efforts.

The cost for marketing and sales was included within the financial forecast and discussed in more detailed under the assumptions in Tab 6 of this report.

### 9.0 Pro Forma

Five-year financial forecasts, or pro formas, were developed based on the cost estimates for the network, the subscriber forecast, revenues, expenses and general assumptions as we have discussed above.

A pro forma was developed for comparing the returns of two different scenarios. As could be expected, each of these demonstrate a negative net income but if successfully completed with grant dollars, they would begin to accumulate cash. Many of the service

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areas should qualify for various grants due to their rural unserved nature. We therefore ran one scenario with $100 \%$ loan financing using a $3 \%$ cost of money and one with $100 \%$ grant financing.

One item not demonstrated in the proformas are cost savings which could be realized by the PUD and the Nespelem Co-Op under a partnership with the Colville Confederated Tribes. Such benefits would be seen through the connection of all substations, remote meter reading and disconnects and reconnects and reduced uncollectables.

The results of each study are summarized below.

## 100\% Loan

\$5M negative net annual income in year 5
Begins to breakeven in terms of accumulated cash without depreciation expense
$\$ 6 \mathrm{M}$ in year 5 expenses is a result of depreciation

## 100\% Grant

$\$ 2.38 \mathrm{M}$ negative net annual income in year 5 due to depreciation expense
Accumulates significant cash in year 2
$\$ 6 \mathrm{M}$ in year 5 expenses is a result of depreciation

A copy of each five-year pro forma is attached under Tab 5 and contains a summary of all projections, a summary of the subscriber forecasts and revenues, a list of all assumptions, depreciation and a summary of all capital expenditures.

Other revenue generating possibilities are also not considered in the forecast but elaborated on in the following section.

### 10.0 Additional Revenue Opportunities

There are numerous other revenue opportunities that should be considered in the analysis of this feasibility study. To take a more conservative approach in the financial analysis, the majority of these additional revenue opportunities were not included as a guaranteed revenue stream but should be considered during the initial engineering and marketing phases of the project.

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One such revenue stream that is sweeping across our nation and that was part of the forecasted revenue stream is the need for additional bandwidth at cellular towers sites. As more and more cellular users utilize their mobile phones for messaging and streaming video, this need will continue to increase. Cellular carriers are not only paying a premium for this additional bandwidth, but in many cases, they are paying aid to construction to extend the fiber facilities to the tower sites. A quick search of the FCC website however reveals several registered tower sites in the Proposed Service Areas. This additional revenue stream is the only additional revenue assumed in this study beyond the basic residential and business data subscribers.

Another service and opportunity to sell more broadband connections is the offering of femtocell technology. Femtocells are devices that can be placed inside of a residence that acts as a repeater of cellular phone services. The technology rather than operating wirelessly over the cellular towers extends the cell phone coverage over the proposed broadband pipe to the femtocell which then connects to the user's cellular phone. This again is something to market to the potential customers as a way to improve their cell phone coverage. This is particularly attractive if management elects to not promote a landline voice offering where femtocell service could be viewed as competition to the traditional landline voice service.

Other possible revenues may involve other local business like offering the monitoring of oil and gas sites. Monitoring of these sites and the accuracy and accountability of the wells with increasing environmental concerns is making constant monitoring the of wells common place. One requirement in monitoring wells is a broadband connection. This project could help fulfill this requirement and may be the only option for the oil companies.

Once the fiber network is complete with connections to the major carriers, middle mile opportunities are also possible over the fiber network with the option to lease either dark fibers or bandwidth. Such requests could come from state agencies, schools, hospitals, electric cooperatives, cable providers, CLECs or ILECs seeking additional bandwidth or alternate routes for redundancy. One such potential customer is FirstNet, the First Responder Network Authority. Signed into law on February 22, 2012, the Middle Class Tax Relief and Job Creation Act created FirstNet. The law gives FirstNet the mission to build, operate and maintain the first high-speed, nationwide wireless broadband network dedicated to public safety. FirstNet will provide a single interoperable platform for emergency and daily public safety communications. This broadband network will fulfill a fundamental need of the public safety community as well as the last remaining recommendation of the 9/11 Commission. FirstNet will bring 21st century tools to millions of organizations and individuals that respond to emergencies at the local, state, tribal and federal levels.

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Other services may be considered by the Colville Confederated Tribes such as voice services to offer the triple play solution mentioned above. Two options are available as far as the technical solution to offer voice services. They can elect to purchase and deploy their own voice softswitch or utilize a third party for the switching services. Interconnects with the Public Switched Telephone Network (PSTN) will be required. This can be a time-consuming process and many service providers therefore elect to utilize a third-party switch provider on an interim basis until they can deploy their own switch and obtain the necessary PSTN interconnections. As mentioned above, regulated voice providers are also required to have ETC designations, offer Lifeline and Linkup to low income families, obtain their own 1,000 number blocks, offer local number portability (LNP) and coordinate with 911 PSAP centers. These are all factors to consider and why many providers elect to use a third party even long term for their voice switching solutions.

Another potential revenue stream is related to video services. As with voice services, there are a couple of options related to offering video services. The first two options are to either construct your own video headend which can easily cost $\$ 1 \mathrm{M}$ or more or obtain the video content from another local provider. With providing your own headend additional negotiations are required with the content providers. The cost of a new digital headend is a substantial investment with small profit margins and the cost of the video content continues to rise. Many cannot justify the initial investment and are therefore eager to partner with another video provider.

Another video related service that is taking the country by storm is over the top video. Companies are now offering nationwide service with more of an a la carte channel selection and simply utilizing broadband pipes for the delivery mechanism. Dish Network is now offering a solution marketed as Sling TV starting at $\$ 30$ per month and includes major channels like ESPN. Again, these can be viewed by a subscriber on any broadband device including mobile phones. This is another reason why many broadband companies including the long time traditional rural telephone companies are having to shift their mindset to becoming more and more of a broadband pipe provider and allowing the end user to use this broadband pipe for video over the top or VoIP or Skype type communications. It may require additional negotiations with the content providers or other local video service providers but the Sling TV type video service should be explored as another service and revenue opportunity and could potentially expand the market from one rural community to a nationwide footprint.

Another growing service that is sweeping our nation is in the area of smart home and security technology. There are companies that specialize in these types of solutions and can assist with setting up the core system and offering ongoing support. Smart homes go well beyond security and power consumption. Today's smart home technology allows one to remotely monitor and control any and virtually all electrical appliances, thermostats, water,

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lighting and much more. This is a growing industry and will someday be a given for all new home construction. Major telephone and broadband companies like AT\&T are now pushing this industry through major marketing campaigns. Offering these types of services is not only an additional revenue stream but the opportunity to bundle these services with the proposed data plan should help in the subscriber take rate of the core data service offerings.

The management team may also want to consider offering computer networking and troubleshooting services with reseller opportunities for networking and computer equipment similar to the Geek Squad services. With nearly 2,500 additional subscribers projected over the next 3-5 years, beyond the existing PUD customers, this could be another company all to itself with a substantial revenue stream and additional job opportunities.

Last but not least we must consider the other job opportunities and trickle-down effect on the local economy. Bringing gigabit type broadband service to the region will have a significant impact on retaining existing businesses and attracting new businesses to the area. The growing trend today among many of the major corporations is allowing its employees to work from home. According to a 2012 report generated by the US Census Bureau, $9.5 \%$ of all workers worked at least one day per week from home while $6.6 \%$ of all workers worked exclusively from home. Recent developments in the world have most likely changed this. With many more people working from home due to the Covid pandemic, the already taxed speeds and availability is made worse. It is imperative that fast, reliable broadband is available.

Among the fastest growing businesses in the country are those started by individuals out of their own homes. According to the same BLS report, of the 20.7 million who worked from home, nearly $23 \%$ were self-employed who had no other place of business. To make either of these employment options a legitimate possibility, broadband connections are a must.

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### 11.0 Executive Summary

In addition to the financial feasibility of the project, there are the numerous indirect but positive economic impacts. However, in addition to the economic impacts of the proposed project, one must consider the other benefits to the community related to public safety, healthcare and education which is never more evident than in today's crisis with the COVID pandemic.

A broadband system as the one proposed herein, could also be used to provide internal communications among the public safety officials, medical responders and other city officials and departments.

Other advantages of high-speed broadband networks are for educational and medical reasons. The network could be used to connect with neighboring communities or metropolitan areas establishing a link between the local schools and libraries to major universities resulting in a distance learning network. This network would allow students and even adults to take college or vocational courses remotely without ever having to leave the area. Homeschooling continues to grow nationwide and is expected to grow exponentially after the COVID crisis is resolved. However, this again requires adequate broadband service.

Similar to the distance learning, the community could establish a more reliable and faster connection from the local medical clinics and hospitals to the major metropolitan hospitals providing a way to share medical records and for patients to be remotely examined by a specialist via telemedicine technology. More and more hospitals and doctors are now conducting virtual office visits where the patient uses their cell phone. With an adequate broadband connection in the patient's home and a home Wi-Fi network, the patient can use this for their virtual office visit. Through construction of the broadband network, this capability could also be expanded to mobile medical units and mobile nursing operations bringing state of the art medical facilities and examinations to the homes of all residents. As described further in this report, grant funding is also available for such telemedicine systems.

Typical of greenfield broadband networks, the pro forma predicts negative net income in the initial years and without grant dollars to assist, it will be difficult to ever show a positive cash flow. Searching for ways however to cut operating costs and to pursue the additional revenue streams discussed above, the proposed projects can achieve and surpass a breakeven analysis.

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The PUD or Colville Confederated Tribes can utilize both the PUD and Nespelem Valley CoOp experience and staffing to help reduce the operating costs and alleviate some of the difficulties with any new start-up.

The immediate and long-term employment and financial impact on the area cannot be overlooked with the ability to offer job opportunities to work for a major corporation from their home, or to establish a lucrative home-based business. Neither of these however are possible without broadband service.

As discussed in the attached, there are numerous low interest loan and grant opportunities for this proposed project. In most cases it is not simply a matter of obtaining a single grant to construct the entire network but it is a matter of prioritizing the service areas based on a cost benefit analysis and available funding and applying for multiple grants to construct the network over time. A detailed list of various funding opportunities is attached along with our best effort at a priority scoring system based on the factors above.

## Funding Opportunities

## FUNDING OPTIONS RESEARCH

Multiple funding sources were investigated as part of this study including low interest loans, grants and other funding mechanisms. The funding sources are each unique in their applicant eligibility requirements, eligible purposes and terms. Below is a summary of the various funding agencies and programs available to the Okanogan County/Colville Confederated Tribes Broadband Action Team (BAT) for the deployment of the proposed broadband network.

Also attached is a ranking and recommendation of different funding opportunities for each of the 18 service areas. In some cases, more than one funding opportunity may apply or even be required to fulfill the complete buildout of an area.

A study was conducted utilizing the Rural Utilities Service Broadband Eligibility Map. With the exception of the BIP award to the Okanogan PUD, the only existing RUS borrower is Skyline Telecom Company, for a small area south of Oroville.

## Funding Agency:

Rural Utilities Service - United States Department of Agriculture (USDA)

## Programs:

Rural Broadband Loan Program
Telecommunications Infrastructure Loan Program
Community Connect Grant Program
ReConnect Loan \& Grant Program
Distance Learning Telemedicine Grant Program
Electric Loan Program

## Rural Broadband Access Loan Program

- Low interest loan program
- This program is an annual program. Applications can be submitted at any time and will be evaluated and reviewed by RUS on a first come first serve basis. However, at this time, the program is on hold pending funding. Some of the requirements and eligibility bullet items below are therefore based on prior funding periods and certain program changes may be presented under the next round of funding.
- Single applications can range up to $\$ 20,000,000$ and cover multiple service areas.
- Amortization Period is based on the composite economic life of the facilities being financed plus 3 years. One year deferred principle payments.
- Interest rates are set on the treasury rate and referred to as "cost-of-money" loans and set at the time of each advance. Also available are direct 4\% loans or a combination of the two.
- The applicant must also be able to demonstrate a $10 \%$ existing equity on their financials or additional cash support. The applicant must also show cash support for the sum of any years reflecting a negative cash balance over the five year forecast. For start-up companies or companies without two years of historical positive cash flow, only $50 \%$ of the revenues will be used to determine the additional cash support required.
- RUS also requires the first lien on all applicant assets and revenue. The first lien can be shared with other lenders.
- General eligibility requirements are as follows:
- Applicant
- For profit or non-profit organization and must be either an LLC, corporation, cooperative organization, federally recognized Indian tribe or tribal organization, or a state or local government or governmental agency
- Service Areas
- The proposed service areas must be rural by definition with a population of less than 20,000.
- At least $15 \%$ of the households are "unserved" meaning they have no access to broadband service and no more than two service providers anywhere in the proposed service areas.
- Incumbent broadband providers are those offering service at a 25Mbps download and 3Mbps upload speeds.
- The service area must not overlap with an existing RUS borrower or grantee or pending applicant
- Eligible Purposes
- Facilities to provide broadband service at the lending speed of 25Mbps download and 3Mbps upload.
- Capital leases of up to three years for facilities to provide service at the broadband lending speed
- Pre-loan expenses of up to $5 \%$ of the total loan
- Acquisitions limited to $50 \%$ of the total loan amount
- Ineligible Purposes
- Operating Expenses
- Any cost incurred prior to the application being deemed complete other than "pre-loan" expenses
- Acquisition of stock or facilities of an affiliate
- Vehicles not for construction
- Facilities leased under an operating lease
- In general, CPE equipment not owned by the applicant
- The Broadband Loan program is one option for funding the construction of a broadband network for the BAT. The program can fund $100 \%$ of the network, pre and post grant engineering efforts, customer premise equipment as well as construction vehicles and equipment and allow for a long term amortization period. The downside to this program is the difficulty for a start-up company and the additional cash support required depending on who is determined to be the actual applicant. The regulations above are also based on previous fiscal years and are subject to change. Future funding announcements are pending.


## Telecommunications Infrastructure Loan Program

- Low interest loan program
- This program is an annual program. Applications can be submitted at any time and will be evaluated and reviewed by RUS on a first come first serve basis.
- Minimum loan amount is $\$ 50,000$
- Amortization Period is typically based on the composite economic life of the facilities plus three years. Generally principle payments begin two years after the date of the note.
- Interest rates are set based on the time of loan and are all fixed rates
- Cost of money loans based on the Current Cost of money to the Federal Government at the time of each draw and is based on the Federal Treasury Rate
- Hardship loans are provided at a fixed rate of $5 \%$.
- Guaranteed Loans for applicants who request an RUS loan guarantee. The rate is agreed upon by the borrower and the lender.
- The applicant must demonstrate to RUS it has sufficient assets to support and secure the loan.
- RUS also requires the first lien on all applicant assets and revenue. The first lien can be shared with other lenders.
- General eligibility requirements are as follows:
- Applicant
- Entities providing, or who may hereafter provide, telephone service in rural areas;
- Public bodies providing telephone service in rural areas as of October 28, 1949; and
- Cooperative, nonprofit, limited dividend or mutual associations.
- Must have sufficient authority to carry out the purposes of the RE Act; and
- Must be incorporated or a limited liability company.
- The applicant if in a state that regulates telecommunications services, must obtain a certificate of convenience and necessity from the state (as part of RUS' non-duplication policy)
- Purposes
- Improvements
- Expansions
- Construction
- Acquisitions (in certain cases)
- Refinancing (in certain cases)
- Pre and post-loan engineering
- Ineligible purposes
- Duplication of Telecommunications Services
- Video equipment and services
- Used or refurbished equipment
- SUTA provisions would apply with the opportunity to serve tribal lands.
- The Infrastructure loan program is the most common funding source for rural Incumbent Local Exchange Carriers. As with all RUS funding programs, this provides for a defense mechanism in that RUS will not loan to more than one borrower in a single service area. This program will fund $100 \%$ of the network and unlike the Broadband Loan program, no additional credit support would be required. However, the applicant is required to possess a Certificate of Convenience and Necessity from the State to serve the proposed funded service areas. It would be a difficult task for the Okanogan/Colville BAT to acquire the Incumbent Local Exchange Carrier (ILEC) status and become the regulated service provider but this may be an opportunity for the Colville Tribes territory. ACRS assisted more than one tribal nation with acquiring this status and takin over as the regulated ILEC telephone provider and acquiring and upgrading the existing facilities from the existing ILEC.


## Community Connect Grant Program

- Competitive grant program design for low income, low populated areas void of any existing broadband service. The Community Connect Grant program will fund a single Proposed Funding Service Area (PFSA) per application. The PFSA must be a contiguous area that may encompass several communities.
- This program is an annual program. Applications are only accepted once a year with a specific deadline typically 60 days after the Notice of Funds Availability. Fiscal year 2021 was just announced with applications due December 23, 2021.
- The annual fiscal year budget in most recent years has been around $\$ 25$ million with the average size application around $\$ 750,000$. Applications are limited to $\$ 3,000,000$ and one award per applicant per fiscal year.
- Matching requirements are a minimum of $15 \%$ of the total budget. The match must be in cash.
- Scoring is based on a total of 100 possible points. The scoring criteria are based on:
- Challenges within a PFSA, including economic, educational, health and public safety issues, (50 points)
- Local participation of the proposed service area residents and businesses, (40 points)
- Management experience (10 points)
- Other considerations in making a decision include, but are not limited to, persistent poverty, out-migration, rurality of the PFSA, speeds offered, and a high rate of disability among the residents.
- General eligibility requirements are as follows:
- Applicant
- Must be a legally organized incorporated organization, Indian Tribe or Tribal organization, state or local unit of the government, cooperative, private organization or a limited liability company.
- The applicant must have the legal authority to own and operate a broadband system.
- The applicant may NOT be an individual or partnership.
- The applicant must operate a community center for residents' access to broadband for a period of 2 years.
- Purposes
- The grant requires free broadband service to all "Critical Community Facilities" such as police, fire, schools, hospitals, etc. for at least two years.
- Existing broadband under this program is defined as 10 Mbps down/1Mbps up with the minimum grant speed by the recipient being $25 / 3 \mathrm{Mbps}$. One change to this year's program is the exclusion of mobile/cellular service as existing service.
- Ineligible purposes
- Duplication of existing broadband service
- Facilities to provide local exchange telecommunications services
- Pre-grant and application preparation costs
- The Community Connect Grant Program is for a specific target area. The program will only fund one PFSA per application and to be successful, the application must show economic, educational, health and public safety needs. The other major hurdle is the absence of any type of existing broadband service. This is an excellent program but the challenge is locating eligible service areas.


## Broadband ReConnect Program

- The ReConnect program is a competitive loan and grant program that provides funds for the cost of construction, improvement, or acquisition of facilities and equipment to provide broadband service in eligible rural areas.
- Loan or grant, or a combination loan/grant application are accepted during the window of opportunity. The 2020 window has closed, and there is not yet an announcement for the next funding window.
- Funding Limits
- $\mathbf{1 0 0}$ Percent Grant.

Up to $\$ 200,000,000$ is expected for grants. The maximum amount that can be requested in an application is $\$ 25,000,000$.

- 50 Percent Loan / 50 Percent Grant.

Up to $\$ 200,000,000$ is expected for loan/grant combinations. The maximum amount that can be requested in an application is $\$ 25,000,000$ for the loan and $\$ 25,000,000$ for the grant. Loan and grant amounts will always be equal.

- 100 Percent Loan.

Up to $\$ 200,000,000$ is expected for loans. The maximum amount that can be requested in an application is $\$ 50,000,000$.

- General Eligibility Requirements:
- Cooperatives, non-profits, or mutual associations
- For-profit corporations or limited liability companies
- States, local governments, or any agency, subdivision, instrumentality, or political subdivision thereof
- A territory or possession of the United States
- An Indian tribe (as defined in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. § 450b)).
- Eligible Funding Purposes:
- To fund the construction or improvement of buildings, land, and other facilities that are required to provide broadband service.
- To fund reasonable pre-application expenses.
- To fund the acquisition and improvement of an existing system that is currently providing insufficient broadband service (100 percent loan request only)
- To fund terrestrial-based facilities that support the provision of satellite broadband service.


## Distance Learning Telemedicine (DLT) Grant Program

- Competitive grant program for the specific purpose of funding equipment for telemedicine and distance learning networks. Loan and combination loan/grants have also been available in previous years. However, the availability of grant vs. loan dollars has varied over the years. In recent years only the grant program is available.
- This grant program is an annual program. Applications are only accepted once a year with a specific deadline typically 60 days after the Notice of Funds Availability. Announcement of the program is typically sometime in the $1^{\text {st }}$ or $2^{\text {nd }}$ quarter but this also varies from year to year. The loan programs and combination loan/grants are accepted year round.
- The budget varies from year to year. Grant applications can range from \$50,000 to $\$ 500,000$.
- Matching requirements are a minimum of $15 \%$ of the total budget. Matching can be any eligible grant purpose and met through cash or in-kind support.
- With the DLT program, the higher the matching, the higher the score.
- General eligibility requirements are as follows:
- Applicant
- Must be a legally organized incorporated organization, Indian Tribe or Tribal organization, state or local unit of the government, cooperative, private organization or a limited liability company.
- The applicant must have the legal authority to own and operate a broadband system.
- The applicant may NOT be an individual or partnership.
- Purposes


## - Purposes Eligible for $\mathbf{1 0 0 \%}$ Grant

- Acquisition of eligible capital assets:
- Interactive video equipment
- Audio and video equipment
- Terminal equipment
- Data terminal equipment
- Inside wiring
- Computer hardware and software
- Computer network components
- Other facilities that further DLT services
- Acquisition of instructional programming that is a capital asset
- Acquisition of technical assistance \& instruction for using eligible equipment
- $10 \%$ of the grant amount may be used for the construction of the broadband infrastructure.
- Ineligible purposes
- Operating expenses for the grant program.
- The grant program will not fund the bandwidth or telecommunications services for the delivery of the distance learning and telemedicine content.
- Pre-grant and application preparation costs
- The DLT program is ideal for funding equipment required for schools and hospitals or medical clinics. The program is limited on what it will fund but for established facilities in need of these types of services or equipment for these services, this program can be an excellent solution.


## Program:

## Other USDA Programs

## SUTA - substantially Underserved Trust Areas

- The SUTA program is not a standalone program but more of a proposed rule within the USDA Rural Development that could affect the qualification and scoring of the programs above and starting with the 2021 fiscal year, this includes the Community Connect program. The ruling is focused on applications proposing to serve Trust lands.
- Examples of some impacts on the existing programs are potentially waiving the nonduplication rule of the Rural Utilities Service and eliminating or reducing the matching and cash support requirements.
- Applications filed under SUTA guidelines will also be giving first priority over other applications during the review process.


## Community Facilities Loan \& Grant

- This is another program under the USDA Rural Development for the funding of constructing anchor institutions.
- The program is for non-profit organizations, municipalities and tribal governments.
- The program will also pay for some of the broadband connections and some public safety related equipment.
- Scoring for grants are partially based on low income and rural communities.


## Funding Agency:

Department of the Interior - Bureau of Indian Affairs

## Programs:

## BIA Loan Guarantee Fund

- Bureau of Indian Affairs (BIA) provides guaranteed/insured loans to Federally Recognized Indian Tribal Governments, Native American Organizations, and individual American Indians in obtaining financing from private sources to promote business development initiatives on or near Federally Recognized Indian Reservations.
- The financial assistance must be used on or near an Indian Reservation.
- This program has been used in the past in conjunction with obtaining a long term Infrastructure loan from the Rural Utilities Service.
- Economic enterprises must demonstrate a reasonable prospect for repayment, must be organized for profit, and be at least $51 \%$ Indian owned and actively managed.
- Project must provide economic development to a federally recognized Indian reservation.
- Maximum percentage of guaranty is $90 \%$ of unpaid principal and interest. Borrower must have $20 \%$ equity in business being financed. Loan guarantees are limited 30year terms.
- Range of Financial Assistance: For individuals and tribal enterprises, \$2,500 to $\$ 500,000$. For Federally Recognized Tribal Governments and Native American Organizations, $\$ 10,000$ to $\$ 7$ million.
- Applications for loan guarantees should be submitted by the lender at the local Bureau of Indian Affairs Agency or Tribal Loan Administration Office. Lenders should contact the local office for information on documentation needed to complete an application.
- Action approving or disapproving loans is taken at various levels pursuant to delegated authority. The Bureau of Indian Affairs Regional or Field Office or Tribal Loan Administration Office notifies applicants of action taken on applications within 15 to 30 days.


## Miscellaneous BIA Grant Programs

There are multiple BIA grant programs available to Tribes, many of which could potential be combined in an effort to fund portions of the proposed broadband network. Below is a brief summary of several of these programs which should be investigated further and pursued where possible upon implementation of the network.

Aid to Tribal Government (15.020) - This program is design to support general tribal government operations, maintain up to date tribal enrollment, tribal elections, etc.

Indian Law Enforcement (15.030) - This program provides funding opportunities to tribal governments to operate police department and detention facilities. The program covers the costs associated with salaries and related expenses of officers and dispatchers among other related positions.

## Funding Agency:

Federal Communications Commission (FCC)

## Programs:

The Federal Communications Commission (FCC), as directed by Congress and with the help of the Universal Service Administrative Company (USAC), administers the federal Universal Service Fund (USF).

The federal USF pays for four programs. They are:

- Lifeline/Link-Up. This program provides discounts on monthly service and initial telephone installation or activation fees for primary residences to income-eligible consumers.
- High-Cost. This program ensures that consumers in all regions of the nation have access to telecommunications services at rates that are affordable and reasonably comparable to those in urban areas.
- Schools and Libraries. This program makes discounts available to eligible schools and libraries for eligible telecommunications services, Internet access and internal connections so that schools and libraries may have access to affordable telecommunications and information services.
- Rural Health Care. This program helps link health care providers located in rural areas to urban medical centers so that patients living in rural America will have access to the same advanced diagnostic and other medical services that are enjoyed in urban communities.

The FCC recently voted unanimously to reform the USF fund. The fund recently provided for the Connect America Fund (CAF Auction) which subsidized carriers for the deployment of broadband services rather than the traditional USF fund focusing on traditional telephone service

As part of the USF reform to the Connect America Fund, the FCC conducted Rural Broadband Experiments in 2015 and more recently completed the CAF II auction.

The program essentially offers support to rural broadband service providers in price cap carrier areas such as Windstream and AT\&T where broadband is not available and where the price cap carriers have declined the support to upgrade their rural networks. The funds were available through a reverse auction type arrangement and are structured by census blocks from a map generated largely on FCC 477 reporting. The federal support is for 10 years to help subsidize serving rural areas and is not intended to be grant money to construct the entire network. The support can in some areas however come to $\$ 50$ per household per month in additional revenues.

One requirement from the 2015 experimental round was acquiring eligible telecommunications carrier status. Under the experimental round, the ETC designation could be obtained subsequent to being awarded the funding.

## Rural Digital Opportunity Fund (RDOF)

The Rural Digital Opportunity Fund is the FCC's next step in bridging the digital divide to efficiently fund the deployment of broadband networks in rural America and is essentially the next round of a revamped CAF auction. Through a two-phase reverse auction mechanism, the FCC will direct up to $\$ 20.4$ billion over ten years to finance up to gigabit speed broadband networks in unserved rural areas, connecting millions of American homes and businesses to digital opportunity.

The RDOF Phase I auction short forms application deadline has passed and the FCC, as of the time of this report, is currently working to approve all applicants for participation in the auction. The auction is scheduled to begin on October 29, 2020 and will target over six million homes and businesses in census blocks that are entirely unserved by voice and broadband with speeds of at least $25 / 3 \mathrm{Mbps}$. Phase II will cover locations in census blocks that are partially served, as well as locations not funded in Phase I.

## 5G Fund for Rural America

The Federal Communications Commission has adopted rules creating the 5G Fund for Rural America, which will distribute up to $\$ 9$ billion over the next decade to bring 5G wireless broadband connectivity to rural America. 5G represents the latest advance in mobile wireless technology, promising increased speeds, reduced latency, and better security than 4G LTE networks. The 5G Fund will use multi-round reverse auctions in two phases to target support from the Commission's Universal Service Fund to eligible areas based upon the improved mobile broadband coverage data gathered in the Commission's Digital Opportunity Data Collection proceeding. Establishing the 5G Fund further secures United States leadership in 5G and will close the digital divide and bring economic opportunities to rural America.

Phase I of the 5G Fund will target up to $\$ 8$ billion of support nationwide to areas lacking unsubsidized 4G LTE or 5G mobile broadband, with $\$ 680$ million specifically set aside for bidders offering to serve Tribal lands. To determine eligible areas, the auction will use granular, precise mobile broadband coverage data developed in the Digital Opportunity Data Collection proceeding, allowing the Commission to more efficiently target funding to areas of the country where support is most needed, while ensuring support is spent as efficiently as possible. Phase II will provide at least an additional $\$ 1$ billion, along with any unawarded funds from Phase I, to specifically target the deployment of technologically innovative 5G networks that facilitate precision agriculture.

## STATE FUNDING OPPORTUNITIES:

## Washington State Dept. of Commerce

CERB Rural Broadband Program
CERB provides low-interest loan/grant packages to local governments and federally-recognized Indian tribes, financing the cost to build infrastructure to provide high-speed, open-access broadband service, to rural underserved communities, for the purpose of community economic development. CERB offers loans at $\$ 2$ million maximum per project. Grants are available up to $50 \%$ of the total award, determined by the underwriting process and debt service coverage ratio (DSCR). Applicants must provide a cash match of $25 \%$ of the total project cost and demonstrate feasibility with a supporting study. Interest rates vary from 1 to $3 \%$, and the term is up to 20 years.

## Eligible Activities

Eligible projects are those that encourage, foster, develop, and improve broadband within the state in order to:

- Drive job creation, promote innovation, and expand markets for local businesses; or - Serve the ongoing and growing needs of local education systems, health care systems, public safety systems, industries and businesses, governmental operations, and citizens; and - Improve accessibility for underserved communities and populations.

Ineligible Activities
CERB may not finance projects which:

- Result in retail development
- Facilitate gambling
- Displace jobs from one part of the state to another
- Are outside the applicant's jurisdiction
- Are for equipment which would enable a public entity to provide retail telecommunications services or services that the entity is not authorized by statute to provide.
- Are for the deployment of publicly-owned telecommunication network infrastructure ("backbone") solely for the sake of creating competitive, publicly-owned telecommunication network infrastructure.
https://www.commerce.wa.gov/building-infrastructure/community-economic-revitalization-board/rural-broadband/


## Washington State Public Works Board

The Washington State Public Works Board has funds available for low-interest loans and grants to bring broadband to unserved Washington communities for broadband infrastructure construction projects.

Cities, towns, counties, public port districts, special purpose districts, quasi-municipal corporations, tribes, nonprofit organizations, cooperative associations, limited liability corporations organized for the purpose of expanding broadband access, and incorporated businesses or partnerships are eligible to apply.

State law (RCW 43.155 .160 (5) (o)) requires applicants to contact local Internet service providers (ISPs) near the proposed project area at least six weeks prior to submitting an application for funding. Applicants must request the ISP's plan to upgrade broadband service in the project area to speeds that meet or exceed the state's definition of broadband service, within the time frame of the proposed project. Applicants must submit documentation of this interaction with their application.
https://www.commerce.wa.gov/building-infrastructure/pwb-broadband/

## OTHER FEDERAL OPPORTUNITIES:

## Dept. of Homeland Security

## Tribal Homeland Security Grant Program (THSGP)

THSGP provides funding directly to eligible tribes to strengthen their capacities to prevent, prepare for, protect against, and respond to potential terrorist attacks. There are three areas that are of the most concern: enhancing cybersecurity, enhancing the protection of soft targets/crowded places and addressing emerging threats such as transnational criminal organizations, weapons of mass destruction and unmanned aerial systems.

There are several enduring security needs that are part of a comprehensive approach to securing communities, and are labeled as priorities by this funding program:

1. Effective planning
2. Training and awareness campaigns
3. Equipment and capital projects
4. Exercises

Addressing any or all of these increases an applicant's chance of securing a grant under this funding program.
https://www.fema.gov/media-collection/tribal-homeland-security-grant

## EDA Public Works

## Economic Adjustment Assistance Programs including CARES Act Funding

Under this NOFO, EDA solicits applications from applicants in order to provide investments that support construction, non-construction, planning, technical assistance, and revolving loan fund projects under EDA's Public Works program and EAA program (which includes Assistance to Coal Communities and Nuclear Closure Communities). Grants and cooperative agreements made under these programs are designed to leverage existing regional assets and support the implementation of economic development strategies that advance new ideas and creative approaches to advance economic prosperity in distressed communities, including those negatively impacted by changes to the coal economy and nuclear power plant closures.

There are no submission deadlines under this opportunity. Applications will be accepted on an ongoing basis until the publication of a new PWEAA NOFO.

## Eligible Applicants

County governments
Nonprofits that do not have a 501(c)(3) status with the IRS, other than institutions of higher education

Special district governments
Native American tribal governments (Federally recognized)
Public and State controlled institutions of higher education
Nonprofits having a 501(c)(3) status with the IRS, other than institutions of higher education
City or township governments
State governments
Private institutions of higher education

Award Ceiling: $\quad \$ 30,000,000$
Award Floor: $\quad \$ 100,000$
https://www.grants.gov/web/grants/view-opportunity.html?oppld=321695

## Partnerships \& Private Investors

Another option is to partner with either private investors or with existing service providers. The advantage of partnering with an existing provider can be numerous as the overhead, expertise and many other challenges can be avoided while still benefiting from the branding of the product and sharing in the revenues and profits.

In this case, the Nespelem Valley Electric Cooperative serving the Colville tribes territories has already expressed an interest in being a partner in the deployment of broadband services. One option is, as an existing RUS Borrower under the Electric program, to be the primary borrower for a broadband loan. Other option is a joint venture where the electric cooperative offers free pole attachments in exchange for either dark fiber, broadband and/or a portion of the revenues.

## Service Area Priorities

Okanogan-Colville Broadband
Service Area Prioritization

|  |  | Prioritization Score |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Service Area | Existing Service Providers | Funding Opportunities/ <br> Lack of <br> Service | Subscribers/ Benefits | Cost/Required Investment | Total Composite Score |
| Aeneas | 1 | 2 | 8 | 1 | 11 |
| Brewster | 2 | 2 | 9 | 4 | 15 |
| Chillwisp | 1 | 5 | 1 | 8 | 14 |
| Conconully | 1 | 5 | 5 | 6 | 16 |
| Crumbacher | 1 | 5 | 4 | 9 | 18 |
| East Omak | 3 | 1 | 8 | 7 | 16 |
| Harmony Heights | 3 | 1 | 1 | 7 | 9 |
| Keystone | 1 | 5 | 3 | 8 | 16 |
| Knob Hill | 2 | 2 | 8 | 1 | 11 |
| Loomis-Palmer | 0 | 10 | 7 | 3 | 20 |
| Malott | 2 | 2 | 8 | 5 | 15 |
| NE Okanogan County | 1 | 5 | 8 | 1 | 14 |
| North Omak | 1 | 5 | 7 | 6 | 18 |
| Omak Flats | 1 | 5 | 9 | 2 | 16 |
| Orchard Grade | 1 | 5 | 7 | 4 | 16 |
| Oroville | 3 | 1 | 10 | 1 | 12 |
| Palmer | 0 | 10 | 5 | 5 | 20 |
| Pateros | 2 | 2 | 8 | 5 | 15 |
| Riverside | 1 | 5 | 3 | 7 | 15 |
| S. Pine Creek NTIA | 1 | 5 | 6 | 3 | 14 |
| S. Pine Creek Rd. | 1 | 5 | 2 | 5 | 12 |
| Salmon Creek Rd. | 2 | 2 | 3 | 6 | 11 |
| Synarep | 1 | 5 | 4 | 4 | 13 |
| Whitestone | 1 | 5 | 6 | 6 | 17 |
|  |  |  |  |  |  |

NOTES:
Scoring System 1-10, 10 being highest priority

## Broadband Needs/Issues Identified

OKANOGAN COUNTY
BROADBAND ISSUES/PROBLEMS/SOLUTIONS

## Background on Existing Service

The Okanogan County PUD currently offers broadband to the communities from the Canadian border to Pateros and from Pateros to the Methow and from the Methow back central county. They also have service into Pine Creek, Poor Man Creek, Palmer Lake, and Loomis, all school districts and hospitals. Every mile and half they have fiber access node appearances up Highway 97 and over to the Methow. The PUD desires to extend fiber to Chesaw and Omak Mountain.

Ron Gadeberg stated that the PUD currently has about 450 direct fiber connections and 2,500 wireless connections. Tim Andrist with NCIData stated that they have 80 towers and get a couple of inquires a week, but the cost is what currently prevents people from signing up.

## Needs Identified in BAT Meetings

Below are a few highlights and comments from some of the BAT meetings.

David Grooms stated that fiber is critical to US Electro Dynamics. He also stated that they are not interested in 5G, but CBand and KA Band.

Scott Graham stated that the hospitals need more broadband to meet the needs of patients and also the requirement of the government. They are going to see more robotics and want to be able to access 5G.

Brett Reiley with Wenatchee Valley College stated that they need broadband for all students to access. Most students in Omak are highly grant dependent so most do not even have access to broadband at home.

How broadband might be used to improve emergency communication systems.

- Burn ban regulations
- Implantation through internet and social media
- Dependent on internet for government regulations, without it you are impaired

Okanogan PUD needs:

- Last mile opportunity grants
- Connection to home/business
- Redundancy/Resiliency's and bolstering within county middle mile projects


## Local Business:

- Educational Services/Libraries: Internal is good, 33-50\% of kids do not have access to internet
- There is a lot more we can do if we/students had access-livability
- Apprenticeship opportunities, building skills, the tools are there we just have to be able to have the bandwidth to access
- Technology-educational opportunities that will need to happen if people have it
- K-12 career development and geography is a big issue virtual reality could be used. Interactive websites
- Infrastructure-lay fiber (synergy with county and construction projects)
- Medical Services: Fiber run from Tonasket to Omak and importance of redundancy. Telemedicine and recruiting new doctors.

Tribal needs:

- They currently have limited broadband and maps, they want to get off of casinos network and get the Government Center on its own network.
- Crossing bridges are a challenge
- Challenges with the soil and ground while using the micro trencher.
- There is a gap between Paschal Sherman Indian School and Nespelem that is a 20 mile stretch that is without fiber on Disautel Pass.

City/County/Tribe:

- Public Safety-radio
- Data for GPS locations - large incidents have GPS requirements
- Vehicles
- Video from 911 network, fire service


## Medical Services:

- 3 Rivers-bandwidth and redundancy, expand and offer telehealth with end user access
- Most patients have issues with accessing their records due to lack of wireless and broadband access
- Telemedicine. Employees who live far out cannot connect due to their lack of Internet capacity


## Needs Identified in Service Provider Surveys

As part of our outreach and research of the existing services and network capabilities vs. the needs of the area, individual interviews were conducted with several of the existing service providers who utilize the PUD network. Below is a summary of some their comments with many of these being a common theme. The items below should provide value to the PUD and Colville Tribes and offer insight as to a direction and priority for network upgrades and expansions and other ways to improve the existing service.

- Gaps in the service areas
- County regulations too strict on towers and even for shorter towers and tower colocations and even colocations on grain elevators
- No ability to expand on the tribal areas due to tribal regulation 4-22 and the tribal fees related to towers and tower colocations
- Employment requirements and lease land are obstacles
- Foliage is an issue with the wireless technology
- In the wireless areas: biggest problem is the congestion of the wireless spectrum
- PUD only goes up to around 20 Mbps due to congestion
- Other competitors with their own network offer higher speeds and therefore it is hard to compete
- Would like to see more fiber to the existing towers
- Very limited last mile FTTH facilities
- Would be great if PUD extended their FTTH network
- High cost of bandwidth and data usage and can only offer 100 Mbps
- Cost is too high to extend fiber to a house off of the exiting mainline fiber and for the customer install
- Very little profit after paying the PUD fees


## Needs Identified in Customer Surveys

A survey conducted via Survey Monkey elicited a number of responses regarding the biggest problems, needs, issues with broadband in the area. Respondents came from all over the area, and represent many industries. Over $60 \%$ checked "other" service provider, indicating that over $60 \%$ of the area residents do not have access to local service providers. When asked is your data service reliable, 40.3\% said yes, the remainder ( $59.7 \%$ ) said either no ( $37.31 \%$ ) or had a negative response to their service reliability.

Most respondents (48.48\%) were happy with the quality of customer service, $21 \%$ were neutral, and $30.31 \%$ responded negatively about the quality of customer service.

The survey offered an opportunity for respondents to comment about their current services, to share any issues they have or gaps they see in the current system/services and to state their personal goals for the planning study.

The survey responses and a map showing where the respondents are from are attached to this section as an exhibit.

## Conceptual Plan






## Chillwist



Crumbacher
















## S. Pine Creek - NTIA

| LEGEND |  |
| :--- | :--- |
| PROPOSED SVC AREA |  |
| PROPOSED FIBER | - |
| EXISTING FIBER |  |

## Okanogan Reconnect II



## Cost Estimates

|  |  | Unit Cost | Service Area <br> Aeneas |  | Service Area <br> Brewster |  | Service Area Chillwist |  | Service Area Coconully |  | Service Area Crumbacher |  | Service Area <br> East Omak |  | Service Area <br> Harmony Heights |  | Service Area <br> Keystone |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | aNTY | COST | QNTY | COST | anty | COST | anty | COST | anty | COST | anty | COST | anty | COST | ONTY | COST |
| NETWORK AND ACCESS EQUIPMENT |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Routing |  | : | $\cdots$ | \$ | $\cdots$ | \$ | $\div$ | \$ | $\cdots$ | ${ }_{\text {s }}^{\text {s }}$ | $\cdots$ | \$ | $\div$ | \$ | $\cdots$ |  | $\cdots$ |  |
|  |  |  |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | s |  | ${ }_{\text {s }}$ |
| Transport |  |  |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | ${ }_{\text {s }}$ |
|  |  |  |  | \$ |  | \$ |  | ${ }_{\text {¢ }}$ |  | \$ |  | \$ |  | \$ |  | ¢ |  | ¢ |
| Access / Network Distribution | OLT - Opitical Line Terminals | 75,000.00 | 2.00 | 150,000.00 | 1.00 | 75,000.00 | 1.00 | \$ 75,000.00 | 1.00 | ${ }_{\text {\$ }}^{\text {\$ }}$ | 1.00 | 75,000.00 | 1.00 | 75,000.00 | 1.00 | 75,000.00 | 1.00 | ${ }^{75,000.00}$ |
|  |  |  |  |  |  |  |  | S 5,0000 |  | , |  | 75,00.00 |  | 7,000.00 |  | 7,000.00 |  | 5,000.0. |
|  |  |  |  |  |  | \$ 50 |  | \$ |  | \$ |  |  |  | \$ |  | ${ }^{\text {¢ }}$ |  | ${ }^{\text {s }}$ |
| Fiber Patch Panels, <br> Splitters \& Jumpers | Rack with patch panels, spititers 8 jumpers | 50,000.00 | 2.00 | 100,000.00 | 1.00 | 50,000.00 | 1.00 | 50,000.00 | 1.00 | 50,000.00 | 1.00 | 50,000.00 | 1.00 | 50,000.00 | 1.00 | 50,000.00 | 1.00 | 50,000.00 |
|  |  |  | $\cdots$ | \$ |  |  |  | ${ }_{\text {¢ }}^{\text {¢ }}$ |  | ${ }_{\text {\$ }}^{\text {\$ }}$ |  | ${ }_{\text {S }}^{5}$ |  | ${ }_{\$}^{\$}$ |  |  |  |  |
| OUTSIDE PLANT |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Cables | Aerial Cable (Distribution) | 32,000.00 |  | \$ 3,072,000.00 | 21.00 | 672,000.00 | 16.00 | \$ 512,000.00 |  | \$ 416,000.00 | 6.00 | \$ 192,000.00 | 11.00 | \$ 352,000.00 | 9.00 | 288,000.00 | 17.00 | 544,000.00 |
|  | $\frac{\text { Buried Cable (iistribution) }}{\text { Fiber Backhaul }}$ | $65,000.00$ 20,00000 | 6.00 | ${ }_{\text {\$ }}^{\text {\$ }}$ 390,000.00 | 9.00 | ${ }_{\text {\$ }}^{\text {\$ }}$ 585,000.00 | 5.00 | ${ }_{\text {\$ }}^{\text {\$ }} 325.000 .00$ | 3.00 21.00 | \$ 195,.00.00 | 6.00 | ${ }_{\text {\$ }}^{\text {\$ }}$ 390,000.00 | 3.00 | ${ }_{\text {\$ }}{ }_{\text {\$ }} 195.000 .00$ | $\xrightarrow{10.00}$ | \$ <br> $\$ 850.000 .00$ <br> 65000.00 | 3.00 | ${ }_{\text {\$ }}^{\$} 1955.000 .00$ |
|  | 144 \& 288 PoN Cabinets \& Spliters | 12,500.00 | 8 | ${ }^{\text {\$ }}$ 100,000.00 | 11 | 137,500.00 |  | ${ }_{\text {\$ }} 12,500.00$ |  | \$ 50,000.00 |  | 25,000.00 |  | 62,500.00 |  | 12,50000 |  | \$ 12,500.00 |
|  | Cable Relcocations | 200.00 | 384.00 | \$ 76,800.00 | 84.00 | \$ 16,800.00 | 64.00 | \$ 12,800.00 | 52.00 | \$ 10,400.00 | 24.00 | \$ 4,800.00 | 44.00 | \$ 8,800.00 | 36.00 | 7,200.00 | 68.00 | \$ 13,600.00 |
| Make Ready | Pole Replacements | 3,500.00 | 1,450.00 | \$ 5,075,000.00 | 133.00 | \$ 465,500.00 | 50.00 | \$ 175,000.00 | 179.00 | \$ 626,500.00 |  | \$ 70,000.00 | 11.00 | \$ 38,500.00 | 113.00 | 395,500.00 | 30.00 | \$ 105,000.00 |
|  | Aeral Irops -ave. 200 |  |  | 3557,150.00 |  | 512,200.00 |  |  |  | 198,900.00 |  |  |  | 200,700.00 |  |  |  |  |
| Smart Grop Cable | Buried Drops - ave. 200' | 1,250.00 | 286 | ${ }^{\text {\$ }}$ 357,500.00 | ${ }^{424}$ | 533,000.00 | 33 | 41,250.00 | 165 | 206,250.00 | 59 | 73,50.00 | 171 | 213,750.00 | 28 | 35,000.00 | 53 | 66,250.00 |
|  |  | . | - | \$ . |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |
|  |  | . | $\cdots$ | . |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | ¢ |  |  |
|  |  | : | - | - |  | \$ |  | ${ }_{\text {¢ }}^{\text {¢ }}$ |  | ${ }_{\text {¢ }}$ |  | \$ |  | \$ |  | ¢ |  | \$ |
|  |  | - |  | \$ |  | \$ |  | s |  | S |  | \$ |  | \$ |  | ${ }_{\text {S }}$ |  | \$ |
|  |  | - | $\cdots$ | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  |  |  | \$ |
|  |  | - |  |  |  | \$ |  | ¢ |  | \$ |  | \$ |  |  |  |  |  |  |
|  |  | - | $\cdots$ | \$ |  | \$ |  | \$ |  | ¢ |  | \$ |  | S |  | \$ |  | \$ |
| LAND, BUILIINGS \& TOWERS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( New Building |  | : | $\cdots$ | \$ | . | ${ }_{\text {¢ }}$ | . | \$ | - | \$ |  | \$ | . | ${ }_{\$}^{\$}$ | - | ${ }_{\text {¢ }}^{\text {¢ }}$ |  | ${ }_{\text {¢ }}$ |
|  |  |  |  | ${ }^{\text {\$ }}$ |  |  |  |  |  | ${ }^{\text {¢ }}$ |  | ${ }_{5}$ |  | \$ - |  |  |  |  |
| Pre-Fab Huts | Pre-fab hut, power, HVAC | 50,000.00 | 2.00 | \$ 100,000.00 | 1.00 | \$ 50.000 .00 |  | \$ 50,000.00 |  | \$ 50.000.00 | 1.00 | \$ 50.000.00 | 1.00 | ${ }^{50.000000}$ | 1.00 | ${ }^{50.000 .00}$ | 1.00 1 | 50,000.00 |
|  | Land or thus | 10,000.00 |  |  |  | ${ }^{\text {s }}$ 8 10.000 .00 |  |  |  |  |  | \$ 10,000.00 |  |  |  |  | 1.00 |  |
| Building <br>  <br> Renovation |  | - | - | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  |  |
|  |  | : | $\cdots$ | \$ |  | ${ }_{\text {¢ }}^{\text {¢ }}$ |  | \$ |  | ${ }_{\text {¢ }}^{\text {¢ }}$ |  | \$ |  | ${ }_{8}$ |  | S |  | ¢ |
| Towers |  | - |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |
|  |  | - |  | S |  |  |  | \$ |  | ${ }^{\text {s }}$ |  | \$ |  |  |  |  |  |  |
| CUSTOMER PREMISE EQUIPMENT |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Etth onts | Indoor ONT | 450.00 | 817 | \$ 367,650.00 | 1,212 | \$ 545,400.00 | 93 | \$ 41,850.00 | 471 | \$ 211,950.00 | 170 | 76,500.00 | 489 | 220,050.00 | 79 | 35,550.00 | 152 | 68,400.00 |
|  |  |  |  | S |  |  |  | ${ }_{\text {\$ }}$ - |  |  |  |  |  |  |  |  |  |  |
| BILLING AND OPERATIONAL SUPPORT SYSTEMS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Billing Support <br> Systems | Accounting \& Billing Sotware \& Fiber Mapping | 750,000.00 | $\cdots$ | \$ |  | \$ |  | S |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |
|  |  | : |  | \$ |  |  |  | \$ |  | \$ |  | \$ |  | \$ |  | $\stackrel{\text { ¢ }}{\text { ¢ }}$ |  | \$ |
| $\begin{aligned} & \text { Customer Care } \\ & \text { Systems } \end{aligned}$ |  | . |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |
|  |  | - |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | s |  | \$ |
|  |  | - | $\cdots$ | \$ |  | \$ |  | \$ |  | ${ }_{\text {¢ }}$ ¢ |  | ¢ |  | \$ |  | ${ }^{\text {¢ }}$ |  | \$ |
| Other Support |  | . |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |
|  |  | - |  | \$ |  |  |  | \$ |  | \$ |  |  |  | \$ |  | S |  |  |
| OPERATING EQUIPMENT |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Vehicles |  | $30,000.00$ $58,000.00$ |  |  | $\cdots$ | \$ |  | \$ |  | $\stackrel{\text { ¢ }}{\text { ¢ }}$ |  | \$ |  | \$ |  | $\stackrel{\text { ¢ }}{\text { ¢ }}$ |  |  |
|  | Bucket Truck Versalit - Ford f 550 | 145,000.00 |  | \$ - |  | ${ }_{\text {\$ }}$ - |  | ${ }_{\text {\$ }}$ - |  | ${ }_{\text {S }}$ |  | \$ |  | \$ |  | ${ }_{\$}^{5}$ |  | ${ }_{\text {s }}$ |
| $\begin{aligned} & \text { Other } \\ & \text { Equipment/ } \end{aligned}$ | Spilice Traier | 25,000.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | $\frac{\text { NOC-CSR Furnitur }}{\text { NOC - CSR Computers }}$ | $\xrightarrow{2,000000}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Furniture |  |  |  | \$ | - | \$ |  |  |  | \$ |  | ${ }^{5}$ |  | \$ |  | ¢ |  | \$ |
| Other | Technician Tools/Fusion Splicer \& Test Gear Fusion Splicer | $\frac{40,000.00}{11,000.00}$ |  | \$ | $\cdots$ | \$ |  | $\stackrel{\text { \$ }}{\text { \$ }}$ |  | $\stackrel{\text { ¢ }}{\text { \$ }}$ |  | \$ | - | \$ |  | \$ |  |  |
|  |  | , |  | s | - | \$ | . | \$ |  | \$ | . | \$ | . | \$ |  | \$ |  | \$ |
| PROFESSSIONAL SERVIICES |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Engineering <br> Design | FTXX System Engineering | . |  | ${ }_{\text {\$ }}^{\text {\$ }}$ 1,223,306 |  | 388,000 |  | 162,819 |  | 288,506 |  | 126,588 |  | ${ }_{\text {\$ }}{ }_{\text {S }}$ 157,781 |  | 208,919 |  | 148,213 |
|  |  |  |  | \$ | - | \$ | - | \$ |  | \$ . | . | \$ | . | ¢ | - | \$ | - |  |
| Project <br> Management | Project Management | 75,000.00 |  | \$ |  | ${ }_{\text {¢ }}$ |  | \$ |  |  |  | \$ |  | \$ |  | \$ |  | \$ |
|  |  |  |  | ${ }^{\text {s }}$ | - | \$ | - | \$ |  | \$ | - | \$ | - | \$ | - | ${ }_{\text {\$ }}$ |  | ${ }_{\$}$ |
| Consulting |  |  |  | S |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |
|  |  | : |  | 5 | $\cdots$ | \$ |  | \$ | - | ¢ | - | \$ | - | ¢ | - | $\stackrel{\text { s }}{ }$ | - | \$ |
| Other |  | - | - | \$ | - | \$ | . | S | - | \$ | - | \$ | - | S | - | \$ | - | s |
|  |  | . |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |
| Total Cost |  |  |  | \$ 11,377,406.00 |  | \$ 4,037,400.00 |  | \$ 1,507,219.00 |  | \$ 2,808,506.00 |  | ${ }^{\text {s }} 1,215,788.00$ |  | \$ 1,640,081.00 |  | \$ 1,915,899.00 |  | \$ 1,402,313.00 |
|  |  |  |  | Aeneas |  | Brewster |  | Chillvist |  | Coconully |  | Crumbacher |  | East Omak |  | Harmony Heights |  | Keystone |


|  |  | Service Area <br> Knob Hill |  | Service Area <br> Loomis Palmer |  | $\begin{gathered} \text { Service Area } \\ \text { Malott } \end{gathered}$ |  | Service Area NE Okanogan County |  | Service Area North Omak |  | Service Area <br> Omak Flats |  | Service Area <br> Orchard Grade |  | Service Area <br> Oroville |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | anty | Cost | anty | Cost | QNTY | Cost | ату | Cost | anty | Cost | anty | cost | anty | cost | anty | Cost |
| NETWORK AND ACCE | SS EQUIPMENT |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Routing |  |  | \$ |  | \$ |  | \$ | - | s |  | \$ |  | \$ |  | \$ - |  |  |
|  |  |  | \$ |  | \$ |  | ${ }_{\text {\$ }}^{\text {\$ }}$ | $\cdots$ | \$ |  | ${ }_{\$}^{\$}$ |  | ${ }_{\text {¢ }}^{\text {¢ }}$ |  | \$ | - | \$ |
| Transport |  | - | \$ |  |  |  | \$ | - | \$ | - |  | - |  |  |  | - |  |
|  |  | $\cdots$ | \$ | - | \$ | $\cdots$ | ${ }^{\text {s }}$ | $\cdots$ | \$ | - | \$ | . | \$ |  |  | - | \$ |
| Access / Network Distribution | OLT - Opitical Line Terminals | 1.00 | 75,000.00 | 1.00 | ${ }_{\text {S }}$ \$ 75,000.00 | 1.00 | ${ }_{\text {s }}$ ¢ 75,000.00 | 3.00 | ${ }_{\text {\$ }}$ 225,000.00 | 1.00 | 75,000.00 | 1.00 | 75,000.00 | 1.00 | 75,000.00 | 1.00 | 75,000.00 |
|  |  |  | S |  | ${ }_{\text {s }}$ |  | ${ }^{\text {s }}$ |  |  |  |  |  |  |  |  |  |  |
| Fiber Patch Panels, Splitters \& Jumpers | Rack with patch panels, spiliters \& jumpers | 1.00 | \$ 50,000.00 | 1.00 | \$ 50,000.00 | 1.00 | ${ }_{\text {¢ }}$ 50,000.00 | 3.00 | \$ 150,000.00 | 1.00 | 50,000.00 | 1.00 | 50,000.00 | 1.00 | 50,000.00 | 1.00 | 50,000.00 |
|  |  |  | \$ |  | S |  | , |  | \$ |  | , |  | , |  | \$ |  | 50,00.00 |
|  |  |  | s |  |  |  |  | - |  |  | ¢ |  |  |  |  |  |  |
| OUTSIDE PLANT | Aerial Cable (Distribution) | 159.00 | 5,088,000.00 | 76.00 | \$ 2,432,000.00 | 28.00 | \$ 896,000.00 |  | \$ 6,272,000.00 |  | 576,000.00 | 65.00 | \$ 2,080,000.00 | 53.00 | 1,696,000.00 |  | 4.000.000.00 |
| Cables | Buried Cable (isistriutuion) | 32.00 | \$ 2,080,000.00 | 21.00 | \$ 1,365.000.00 | 5.00 | \$ 325,000.00 | 10.00 | \$ 650.000 .00 | 5.00 | 325,000.00 | 18.00 | \$ 1,170,000.00 | 6.00 | 390,000.00 | 62.00 | \$4,030,000.00 |
|  | Fiber Backhaul | 2.50 | 50,000.00 |  |  |  |  |  |  |  | \$ |  |  |  | \$ |  |  |
|  | $144 \& 288$ PoN Cabinets \& Spilters |  | 100,000.00 |  | \$ 62,500.00 |  | \$ 62,500.00 |  | \$ 75,000.00 |  | 37,500.00 |  | 137,500.00 |  | 50,000.00 |  | \$ 312,500.00 |
| Make Ready | Cable Relcooations | 636.00 | ${ }^{127,200000}$ | 304.00 | \$ 60,800.00 |  | \$ 22,400.00 | 784.00 | \$ 156,800.00 | 72.00 | 14,400.00 | 260.00 | \$ 52,000.00 | 212.00 | 42,400.00 | 500.00 | \$ 100,000.00 |
|  | Pole Replacements | 810.00 | 2,835,000.00 | 150.00 | \$ 525,000.00 | 148.00 | \$ 518,000.00 | 392.00 | \$ 1,372,000.00 | 250.00 | 875,000.00 | 450.00 | \$ 1,575,000.00 | 300.00 | 1,050,000.00 | 1016.00 | \$ 3,556,000.00 |
|  | Aerial Drops -ave. $200^{\prime}$ | 537 | \$ 349,050.00 | 329 | ${ }_{\text {¢ }}{ }^{\text {¢ }}$ \$ $213,850.00$ | 382 | \$ $248,300.00$ | ${ }_{223} 2$ | \$ $274,950.00$ | $\stackrel{243}{131}$ | \$ $157,950.00$ | 768 413 | 499,200.00 | - ${ }_{\text {273 }}^{147}$ | $177,450.00$ 183500 | 1,789 | \$ 1,162,850.00 |
| Drapt Crid |  |  |  |  |  |  |  |  |  |  | 165,750.00 |  |  |  |  |  |  |
|  |  |  | \$ |  | \$ |  | \$ | $\cdots$ | \$ |  | \$ |  | \$ |  | \$ |  | \$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  | \$ |  | \$ |  | \$ | - | \$ |  | \$ |  | \$ |  | \$ |  | ${ }_{\text {s }}$ |
|  |  |  | \$ |  | \$ |  | \$ | - | \$ |  | \$ |  | \$ |  | \$ |  | ¢ |
|  |  |  | \$ |  | \$ |  |  |  |  |  |  |  |  |  | ¢ |  | ¢ |
|  |  |  | \$ |  | \$ |  | \$ | $\cdots$ | S |  | ¢ |  | \$ |  | ${ }_{\text {¢ }}$ |  | ${ }_{5}$ |
|  |  |  | \$ |  | \$ . |  | \$ | - | \$ |  | \$ - |  | \$ |  | ${ }_{\text {s }}$ |  | ${ }_{\text {S }}$ |
| LAND, BUILDINGS \& TOWERS | OWERS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| New Building Construction |  |  |  |  |  |  | \$ |  | \$ |  | \$ |  | ¢ |  | \$ |  |  |
|  |  |  | ${ }_{\text {¢ }}^{\text {¢ }}$ |  |  |  | ${ }_{\$}^{\text {\$ }}$ | $\cdots$ |  |  | ${ }_{\text {¢ }}{ }^{\text {¢ }}$ |  | \$ |  |  |  |  |
| Pre-Fab Huts | Pre fab hut, power, HVAC | 1.00 | 50,000.00 | 1.00 | 50,000.00 | 1.00 | 50,000.00 | 3.00 | \$ 150,000.00 | 1.00 | 50,000.00 | 1.00 | 50,000.00 | 1.00 | 50,000.00 | 1.00 | 50,000.00 |
|  | Land tor Huts | 1.00 | 10,000.00 | 1.00 | 10,000.00 | 1.00 | \$ 10,000.00 | 3.00 | \$ 30,000.00 | 1.00 | 10,000.00 | 1.00 | 10,000.00 | 1.00 | 10,000.00 | 1.00 | 10,000.00 |
| Building <br>  <br> Renovation |  |  | \$ |  | \$ |  | \$ | - | \$ |  | \$ |  | \$ |  | $\stackrel{5}{8}$ |  | ${ }_{5}$ |
|  |  |  | \$ |  | \$ |  | \$ | $\cdots$ | \$ |  | \$ |  | ${ }_{\$}$ |  | \$ |  | \$ |
|  |  |  | \$ |  | \$ |  | \$ |  | \$ |  | ${ }_{\text {¢ }}$ |  | \$ |  | \$ |  |  |
| Towers |  |  | \$ |  | \$ - |  | \$ |  | \$ |  |  |  |  |  | \$ |  |  |
|  |  |  | \$ |  |  |  | \$ |  |  |  | \$ . |  | \$ . |  | \$ |  | \$ |
| CUSTOMER PREMISE EQUIPMENT |  | 826 | \$ 371,700.00 | 506 | \$ 227,700.00 | 587 | \$ 264, 150.00 | 651 | \$ 293,139.00 | 374 | 168,300.00 | ${ }^{1,181}$ | 531, 450.00 | 420 | 189.000.00 | 2.752 | \$ 1,238.400.00 |
| ftth onts |  |  | 0.00 |  | \$ |  |  |  |  |  |  |  |  |  | \$ |  |  |
|  |  |  | \$ |  | \$ |  | \$ | - | \$ |  | \$ |  | \$ |  | \$ |  | \$ |
| BILLING AND OPERATIONAL SUPPORT SYSTEMS | IONAL SUPPORT SYSTEMS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Siling Support <br> Systems | Accounting \& Biling Software \& Fiber Mapping |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | ${ }_{8}^{\text {¢ }}$ |  | ${ }_{\$}^{8}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Customer CareSystems |  |  | \$ |  | \$ |  | \$ | $\cdots$ | \$ |  | \$ |  | \$ |  | \$ |  |  |
|  |  |  |  |  | ${ }_{\text {¢ }}$ ¢ |  | \$ | - | ${ }_{\text {\$ }}$ - |  |  |  | § |  | \$ |  |  |
| Other Support |  |  |  |  | ¢ |  | \$ | $\cdots$ | \$ |  | \$ |  | ¢ |  |  |  |  |
|  |  |  | \$ |  | ${ }_{\$}^{\$}$ |  | \$ | $\div$ | ${ }_{\$}$ |  | \$ |  | \$ |  | \$ |  | ${ }_{\text {¢ }}^{\text {¢ }}$ |
| OPERATING EQUIPMENT |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Venicles | Instalation-Maint Vehicles-Geek Squad Van | - | \$ | - | \$ | - | \$ | - | \$ | . | \$ |  | \$ |  | \$ |  | \$ |
|  | Manager venicle ${ }^{\text {a }}$ - |  |  |  | ${ }_{\$}^{\$}$ |  | $\stackrel{\text { s }}{\text { s }}$ | $\cdots$ | ${ }_{\text {¢ }}{ }^{\text {S }}$ |  | $\stackrel{\text { ¢ }}{\text { ¢ }}$ |  | ${ }_{\text {\$ }}^{\text {\$ }}$ |  | \$ |  | ${ }_{\text {¢ }}^{\text {¢ }}$ |
|  | Splice Trailer |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{aligned} & \hline \text { Other } \\ & \text { Equipment/ } \end{aligned}$ | $\begin{array}{\|l\|l\|} \hline \text { NOC - CSR Furniture } \\ \hline \text { NOC - CSR Computers } \end{array}$ | $\cdots$ | \$ |  | ${ }_{\text {\$ }}^{\$}$ |  | \$ |  | \$ |  | ${ }_{\text {\$ }}^{\text {\$ }}$ |  | ${ }_{\$}^{\$}$ |  | \$ | - | ${ }_{\$}^{\text {¢ }}$ |
|  |  |  | \$ |  | ${ }_{\text {¢ }}$ | - | \$ | - | \$ |  | ${ }_{\text {¢ }}$ |  | \$ |  | \$ |  | \$ |
| Other | Teechicien Tols FFusion Splicer \& Test Gear |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  | s |  | \$ |  |  |
|  | Fusion Splicer |  | \$ |  | ${ }_{\text {¢ }}$ - |  | \$ |  |  |  |  |  | \$ |  | ${ }_{\text {s }}^{\text {s }}$ |  | ${ }_{\text {\$ }}^{\text {\$ }}$ |
| PROFESSIONAL SERVICES | IICES |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Engineering <br> Design | FTTx System Engineering |  | 1,396,938 |  | 633,175 |  | 314,181 | - | \$ 1,205,159 |  | 291.825 |  | 776,869 |  | 471,825 |  | 1.818,763 |
|  |  | $\cdots$ | $\stackrel{\text { ¢ }}{\text { \$ }}$ |  | $\stackrel{\text { \$ }}{\text { \$ }}$ |  | ${ }_{\text {s }}$ | $\cdots$ | \$ | - | \$ | . | ${ }_{\text {¢ }}$ |  | \$ | - | $\stackrel{\text { ¢ }}{5}$ |
| ProjectManagement | Project Management | . | \$ |  |  |  | \$ | - | \$ |  |  |  |  |  |  |  | \$ |
|  |  |  |  |  | \$ |  | \$ |  | \$ |  |  |  |  |  |  |  |  |
|  |  |  | \$ |  | \$ |  | \$ |  | \$ |  | \$ |  |  |  | ¢ |  |  |
| Consulting |  | - | \$ |  | \$ |  | \$ | - | \$ |  | ${ }_{\text {s }}$ |  | ${ }_{\text {S }}$ |  | \$ | . | \$ |
|  |  |  |  |  |  |  |  | - | \$ |  | ${ }_{\text {¢ }}^{\text {¢ }}$ | - | ${ }_{\text {¢ }}^{\text {¢ }}$ | , | \$ | - | \$ |
| Other |  |  |  |  | \$ | - | \$ | - | \$ | - | \$ | - |  | - |  | - | \$ |
|  |  | $\checkmark$ | \$ | $\bigcirc$ | \$ | - | \$ - | $\bigcirc$ | \$ | - |  | - | \$ - | - | \$ | - | \$ |
| Total Cost |  |  | $\$ 12,944,138.00$ |  | $\$ 5,926,275.00$ |  | $\begin{array}{\|l\|} \hline \$ 3,091,781.00 \\ \hline \text { Malott } \\ \hline \end{array}$ |  | \$11,139,573.00 |  | \$ 2,794,725.00 |  | \$ 7,523,269.00 |  | \$ 4,435,425.00 |  | \$17,607,263.00 <br> Orovill |



Market Analysis \& Subscriber Forecast

Okanogan County/Colville Confederated Tribes
Broadband Action Team
Expansion of Broadband Internet

## MARKET ANALYSIS \& SUBSCRIBER FORECAST

The following is a summary of the results of all demographic data research conducted for the proposed service areas and the research of the Okanogan County/Colville Confederated Tribes Broadband Action Team (BAT) competition, i.e. the existing broadband service providers. This research was used to develop the following Market Analysis and Subscriber Forecast.

## Demographic Research Data

Multiple sources of data were used to compile variables for developing the subscriber penetration rates for each service area. One data source is the publicly available American Fact Finder website which is a product of the US Census Bureau using the most recent 5-year Census estimates from 2013-2017 and the 2010 Census, there is still limited data available in this format from the 2020 Census. Data related to age, income, household size and commute time to work were all obtained from the census data. Copies of this U.S. Census Bureau data is included in the Feasibility Study exhibits.

## Demographic Variables

The following is a list of the variables or factors used in the formula to develop the forecasted subscriber take rate. The tables are used with the research data described above for selecting unique factors for each service area.

For areas not listed as a Census Designated Place, default values are also included in the tables below.

Age Factor
(National Median Age 37.6)

| Median Age | Factor |
| :---: | :---: |
| $<40$ | 1.1 |
| $40-65$ | 1.0 |
| $>65$ | 0.9 |
| Non CDP | 1.0 |

Okanogan County/Colville Confederated Tribes
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Income
(National Average Families Below Poverty Level 11.3\%)

| Families Below <br> Poverty Level | Factor |
| :---: | :---: |
| $<5 \%$ | 1.2 |
| $5-15 \%$ | 1.1 |
| $15-20 \%$ | 1.0 |
| $20-30 \%$ | 0.9 |
| $>30 \%$ | 0.8 |
| Non CDP | 1.0 |

Average Household Size
(National Average 2.65)

| Average Size | Factor |
| :---: | :---: |
| $<1.9$ | 0.9 |
| $1.9-2.5$ | 1.0 |
| $>2.5$ | 1.1 |
| Non CDP | 1.0 |

Mean Travel Time to Work (National Average 25.9 Minutes)

| Mean Time | Factor |
| :---: | :---: |
| $<20$ | 1.0 |
| $20-45$ | 1.1 |
| $>45$ | 1.15 |
| Non CDP | 1.1 |

Okanogan County/Colville Confederated Tribes
Broadband Action Team
Expansion of Broadband Internet


## Competition

The number of existing providers or more accurately the number of service provider types such as cable operators using cable modem technology, landline telephone operators offering Digital Subscriber Line service or Fiber-to-the-Home service, and fixed wireless operators is used to obtain a Competition factor. Although multiple fixed wireless companies may claim to offer service in an area, these were only counted once for the purpose of a Competition factor. Mobile wireless or cellular carriers and satellite carriers were not considered in this calculation as the use of such technologies for in-home or business data needs is rare.

The total number of existing service providers, as discussed within the Narrative \& Executive Summary was taken from a combination of knowledge of the area and those registered in the National Broadband Map published by the FCC. A copy of the results from the National Broadband Map and all existing service provider offerings is attached. This research on existing service providers was not only used for developing the BAT forecasted penetration rate into each service area but could aid in the development of future proposed service plans. Additionally, a spreadsheet of all existing providers with their speeds, tiers of service and rates is attached as an exhibit to this section.

The competition factor used in the penetration rate formula is taken from the table below.

## Broadband Competition

| Competitors | Factor |
| :--- | :--- |
| None | 1.0 |
| One Service Provider | 0.75 |
| Two Service Providers | 0.66 |
| Three Service Providers | 0.5 |

## Statewide Penetration

In addition to demographic data from the U.S. Census Bureau website and the competition factor, the final factor in developing the penetration rate is the overall statewide internet usage. This percentage of use was obtained from a national report and indicates the Washington statewide penetration rate to be $72 \%$. A copy of this report may be viewed under in the exhibits.

Okanogan County/Colville Confederated Tribes
Broadband Action Team
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## Forecasted Penetration Rates

The forecasted penetration rates are based upon all factors discussed above and are ultimately used in the subscriber forecast. A formula was developed using each of these factors to result in a more scientific methodology rather than pure conjecture or relying solely on national or local statistics. In addition, a second subscriber forecast was generated to account for existing subscribers with the Okanogan PUD. The results show the potential subscribers to be gained with the proposed upgrades. This additional subscriber forecast is attached as an exhibit in this section.

The formula used for developing the local penetration rates for each service area is as follows:

## Age x Income x Household Size x Commute Time x Competition x State Penetration Rate = Local Penetration Rate

## Households Passed \& Businesses

To develop an actual subscriber forecast, an accurate count of the number of households passed and businesses is also required. This number was obtained primarily from electric meter counts for both residential and business customers of the Okanogan PUD. Additional business data is based on internet research, county and chambers of commerce websites and local knowledge of the area.

## Subscriber Forecast

The ultimate subscriber forecast and formula is based upon a local penetration rate for each service area and the number of residential and business establishments.

The formula is as follows:

## Local Penetration Rate x Households Passed \& Businesses = Subscriber Forecast

We have conservatively estimated the final subscriber forecast for the BAT with an overall average take rate of $51.2 \%$ for all residences and $66.8 \%$ for all businesses. The take rates vary from service area to service area depending on all of the factors above.

A copy of the actual subscriber projections and calculations can be viewed in the attached.

## Subscriber Forecast

| Service Area | COUNTY | STATE | Median Age | Poverty Level | $\begin{aligned} & \text { HH } \\ & \text { Size } \end{aligned}$ | Commute Time | Population | \# of Businesses | Total HHP | \#-Type of Service Providers |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Aeneas | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 1,719 | 63 | 754 | 1 |
| Brewster CDP | Okanogan | WA | 24.9 | 17.6 | 3.05 | 14.6 | 2,871 | 277 | 935 | 2 |
| Chillwist | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 154 | 7 | 86 | 1 |
| Conconully CDP | Okanogan | WA | 59.6 | 11.3 | 1.5 | 31.3 | 544 | 54 | 363 | 2 |
| Crumbacker | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 404 | 7 | 163 | 2 |
| East Omak | Okanogan | WA | 37.1 | 21.3 | 2.32 | 20.4 | 1,018 | 15 | 368 | 3 |
| Harmony Heights | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 154 | 6 | 73 | 3 |
| Keystone | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 367 | 12 | 140 | 1 |
| Knob Hill | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 1,227 | 47 | 779 | 1 |
| Loomis-Palmer | Okanogan | WA | 61.5 | 23.2 | 2.23 | 17.5 | 817 | 38 | 468 | 1 |
| Malott | Okanogan | WA | 27.2 | 55.7 | 3.96 | 22.3 | 1,289 | 122 | 465 | 2 |
| NE Okanogan County | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 1,912 | 130 | 521 | 1 |
| North Omak | Okanogan | WA | 37.1 | 21.3 | 2.32 | 20.4 | 773 | 41 | 333 | 1 |
| Omak Flats | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 2,296 | 197 | 994 | 1 |
| Orchard Grade | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 913 | 25 | 395 | 1 |
| Oroville | Okanogan | WA | 39.1 | 32.9 | 2.22 | 10.2 | 5,330 | 351 | 2,401 | 3 |
| Palmer | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 500 | 22 | 186 | 0 |
| Pateros CDP | Okanogan | WA | 27 | 13.1 | 2.82 | 11.9 | 1,410 | 95 | 500 | 2 |
| Riverside | Okanogan | WA | 43.7 | 14.4 | 2.27 | 20.0 | 388 | 21 | 171 | 1 |
| S. Pine Creek Rd. | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 273 | 11 | 118 | 1 |
| S. Pine Creek NTIA | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 603 | 55 | 261 | 1 |
| Salmon Creek Rd. | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 314 | 10 | 136 | 2 |
| Synarep | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 485 | 12 | 210 | 1 |
| Whitestone | Okanogan | WA | 37.9 | 17.0 | 2.31 | 17.5 | 688 | 10 | 298 | 1 |
|  |  |  |  |  |  |  |  |  |  |  |
| Note: where no census data for the area existed, County data was used |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  | 1,628 | 11,118 |  |


|  | Factors |  |  |  |  | State Penetration Rate | Forecasted Local Penetration Rate (Data) | Businesses |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Age Factor | Income Factor | Household Size Factor | Commute Time | Competition |  |  | \# of Businesses | Competition | State Penetration Rate | Composite Business Penetration Rate |
| Aeneas | 1.10 | 1.00 | 1.00 | 1.00 | 0.75 | 72\% | 59.40\% | 63 | 0.75 | 100\% | 75\% |
| Brewster CDP | 1.10 | 1.00 | 1.10 | 1.00 | 0.66 | 72\% | 57.50\% | 277 | 0.66 | 100\% | 66\% |
| Chillwist | 1.10 | 1.00 | 1.00 | 1.00 | 0.75 | 72\% | 59.40\% | 7 | 0.75 | 100\% | 75\% |
| Conconully CDP | 1.00 | 1.10 | 0.90 | 1.10 | 0.66 | 72\% | 51.75\% | 54 | 0.66 | 100\% | 66\% |
| Crumbacker | 1.10 | 1.00 | 1.00 | 1.00 | 0.66 | 72\% | 52.27\% | 7 | 0.66 | 100\% | 66\% |
| East Omak | 1.10 | 0.90 | 1.00 | 1.00 | 0.50 | 72\% | 35.64\% | 15 | 0.50 | 100\% | 50\% |
| Harmony Heights | 1.10 | 1.00 | 1.00 | 1.00 | 0.50 | 72\% | 39.60\% | 6 | 0.50 | 100\% | 50\% |
| Keystone | 1.10 | 1.00 | 1.00 | 1.00 | 0.75 | 72\% | 59.40\% | 12 | 0.75 | 100\% | 75\% |
| Knob Hill | 1.10 | 1.00 | 1.00 | 1.00 | 0.75 | 72\% | 59.40\% | 47 | 0.75 | 100\% | 75\% |
| Loomis-Palmer | 1.00 | 0.90 | 1.00 | 1.00 | 0.75 | 72\% | 48.60\% | 38 | 0.75 | 100\% | 75\% |
| Malott | 1.10 | 0.80 | 1.10 | 1.00 | 0.66 | 72\% | 46.00\% | 122 | 0.66 | 100\% | 66\% |
| NE Okanogan County | 1.10 | 1.00 | 1.00 | 1.00 | 0.75 | 72\% | 59.40\% | 130 | 0.75 | 100\% | 75\% |
| North Omak | 1.10 | 0.90 | 1.00 | 1.00 | 0.75 | 72\% | 53.46\% | 41 | 0.75 | 100\% | 75\% |
| Omak Flats | 1.10 | 1.00 | 1.00 | 1.00 | 0.75 | 72\% | 59.40\% | 197 | 0.75 | 100\% | 75\% |
| Orchard Grade | 1.10 | 1.00 | 1.00 | 1.00 | 0.75 | 72\% | 59.40\% | 25 | 0.75 | 100\% | 75\% |
| Oroville | 1.10 | 0.80 | 1.00 | 1.00 | 0.50 | 72\% | 31.68\% | 351 | 0.50 | 100\% | 50\% |
| Palmer | 1.10 | 1.00 | 1.00 | 1.00 | 1.00 | 72\% | 79.20\% | 22 | 1.00 | 100\% | 100\% |
| Pateros CDP | 1.10 | 1.10 | 1.10 | 1.00 | 0.66 | 72\% | 63.25\% | 95 | 0.66 | 100\% | 66\% |
| Riverside | 1.00 | 1.10 | 1.00 | 1.00 | 0.75 | 72\% | 59.40\% | 21 | 0.75 | 100\% | 75\% |
| S. Pine Creek Rd. | 1.10 | 1.00 | 1.00 | 1.00 | 0.75 | 72\% | 59.40\% | 11 | 0.75 | 100\% | 75\% |
| S. Pine Creek NTIA | 1.10 | 1.00 | 1.00 | 1.00 | 0.75 | 72\% | 59.40\% | 55 | 0.75 | 100\% | 75\% |
| Salmon Creek Rd. | 1.10 | 1.00 | 1.00 | 1.00 | 0.66 | 72\% | 52.27\% | 10 | 0.66 | 100\% | 66\% |
| Synarep | 1.10 | 1.00 | 1.00 | 1.00 | 0.75 | 72\% | 59.40\% | 12 | 0.75 | 100\% | 75\% |
| Whitestone | 1.10 | 1.00 | 1.00 | 1.00 | 0.75 | 72\% | 59.40\% | 10 | 0.75 | 100\% | 75\% |
| 0 |  |  |  |  |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |  |  |  |  |
| Average Penetration Rate |  |  |  |  |  |  | 55\% | Average Pen | netration Rate |  | 71\% |

Okanogan-Colville Subscriber Projections Census Data

|  | Residential |  |  | Business |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Households | Forecasted Local Penetration Rates | Fifth Year Residential Subscriber Projections | Businesses | Forecasted <br> Local <br> Penetration Rates | Fifth Year Business Subscriber Projections | Total Fifth Year Subscriber Projections |
|  |  | Data | Data |  | Data | Data | Data |
| Aeneas | 754 | 59.40\% | 448 | 63 | 0.75 | 47 | 495 |
| Brewster CDP | 935 | 57.50\% | 538 | 277 | 0.66 | 183 | 721 |
| Chillwist | 86 | 59.40\% | 51 | 7 | 0.75 | 5 | 56 |
| Conconully CDP | 363 | 51.75\% | 188 | 54 | 0.66 | 36 | 224 |
| Crumbacker | 163 | 52.27\% | 85 | 7 | 0.66 | 5 | 90 |
| East Omak | 368 | 35.64\% | 131 | 15 | 0.50 | 8 | 139 |
| Harmony Heights | 73 | 39.60\% | 29 | 6 | 0.50 | 3 | 32 |
| Keystone | 140 | 59.40\% | 83 | 12 | 0.75 | 9 | 92 |
| Knob Hill | 779 | 59.40\% | 463 | 47 | 0.75 | 35 | 498 |
| Loomis-Palmer | 468 | 48.60\% | 227 | 38 | 0.75 | 29 | 256 |
| Malott | 465 | 46.00\% | 214 | 122 | 0.66 | 81 | 295 |
| NE Okanogan County | 521 | 59.40\% | 309 | 130 | 0.75 | 98 | 407 |
| North Omak | 333 | 53.46\% | 178 | 41 | 0.75 | 31 | 209 |
| Omak Flats | 994 | 59.40\% | 590 | 197 | 0.75 | 148 | 738 |
| Orchard Grade | 395 | 59.40\% | 235 | 25 | 0.75 | 19 | 254 |
| Oroville | 2,401 | 31.68\% | 761 | 351 | 0.50 | 176 | 937 |
| Palmer | 186 | 79.20\% | 147 | 22 | 1.00 | 22 | 169 |
| Pateros CDP | 500 | 63.25\% | 316 | 95 | 0.66 | 63 | 379 |
| Riverside | 171 | 59.40\% | 102 | 21 | 0.75 | 16 | 118 |
| S. Pine Creek Rd. | 118 | 59.40\% | 70 | 11 | 0.75 | 8 | 78 |
| S. Pine Creek NTIA | 261 | 59.40\% | 155 | 55 | 0.75 | 41 | 196 |
| Salmon Creek Rd. | 136 | 52.27\% | 71 | 10 | 0.66 | 7 | 78 |
| Synarep | 210 | 59.40\% | 125 | 12 | 0.75 | 9 | 134 |
| Whitestone | 298 | 59.40\% | 177 | 10 | 0.75 | 8 | 185 |
|  |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |
| Total 5th Year Subscribers Total Composite Subscriber Take Rate |  |  | 5,693 |  |  | 1,087 | 6,780 |
|  |  |  | 51.21\% |  |  | 66.77\% |  |

Competitive Analysis

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Aeneas | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Aeneas | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Aeneas | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Aeneas | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Aeneas | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Aeneas | King Street Wireless, LLC | Fixed Wireless | 10 | 2 | Data |  |  |  |  |
| Aeneas | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Aeneas | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Aeneas | NCl Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Aeneas | NCl Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Aeneas | NCl Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Aeneas | NCl Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Aeneas | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Aeneas | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Aeneas | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Aeneas | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |


| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Brewster | Frontier Communications Corp | ADSL | 6 | 1 | Data | Simply Broadband Core | \$27.99 | Residential |  |
| Brewster | Frontier Communications Corp | ADSL | 25 | 2 | Data | Frontier Preferred | \$34.99 | Residential |  |
| Brewster | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Brewster | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Brewster | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Brewster | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Brewster | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Brewster | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Brewster | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Brewster | NCl Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Brewster | NCl Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Brewster | NCl Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Brewster | NCl Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential |  |
| Brewster | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Brewster | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Brewster | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Brewster | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Chillwist | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Chillwist | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Chillwist | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Chillwist | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Chillwist | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Chillwist | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | does not provide this speed in fixed wireless in Okanogan Co. |
| Chillwist | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | does not provide this speed in fixed wireless in Okanogan Co. |
| Chillwist | NCl Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | does not provide this speed in fixed wireless in Okanogan Co. |
| Chillwist | NCl Datacom | Fixed Wireless | 7 | 2 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Chillwist | NCI Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | does not provide this speed in fixed wireless in Okanogan Co. |
| Chillwist | NCI Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | does not provide this speed in fixed wireless in Okanogan Co. |
| Chillwist | NCl Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential | does not provide this speed in fixed wireless in Okanogan Co. |
| Chillwist | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Chillwist | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Chillwist | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Chillwist | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | $\begin{aligned} & \text { Residential/B } \\ & \text { usiness } \end{aligned}$ | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conconully | CenturyLink, Inc. | ADSL | 1.5 | 0.896 | Data |  | \$50.00 | Residential |  |
| Conconully | CommunityNet | Wireless | 3 | 1 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Conconully | Community Net | Wireless | 7 | 2 | Data |  | \$53.00 | Residential | Reseller for PUD \#1 |
| Conconully | Community Net | Wireless | 12 | 3 | Data |  | \$61.00 | Residential | Reseller for PUD \#1 |
| Conconully | CommunityNet | Wireless | 20 | 5 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Conconully | Highland Internet | Wireless | 3 | 1 | Data |  | \$40.00 | Residential | Reseller for PUD \#1 |
| Conconully | Highland Internet | WIFI | 3 | 1 | Data |  | \$40.00 | Residential | Reseller for PUD \#1 |
| Conconully | Highland Internet | Wireless | 7 | 3 | Data |  | \$50.00 | Residential | Reseller for PUD \#1 |
| Conconully | Highland Internet | WIFI | 7 | 3 | Data |  | \$48.00 | Residential | Reseller for PUD \#1 |
| Conconully | Highland Internet | WIFI | 10 | 5 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| Conconully | Highland Internet | Wireless | 12 | 6 | Data |  | \$65.00 | Residential | Reseller for PUD \#1 |
| Conconully | Highland Internet | WIFI | 12 | 6 | Data |  | \$65.00 | Residential | Reseller for PUD \#1 |
| Conconully | Highland Internet | WIFI | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Conconully | Highland Internet | Fiber |  |  |  |  |  |  | Also reseller for PUD |
| Conconully | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Conconully | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Conconully | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Conconully | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Conconully | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Conconully | LocalTel | Fiber | 100 | 10 | Data |  | 51.44 | Residential | Reseller for PUD \#1 |
| Conconully | LocalTel | Fiber | 100 | 100 | Data |  | 71.64 | Residential | Reseller for PUD \#1 |
| Conconully | LocalTel | Fiber | 1000 | 100 | Data |  | 74.95 | Residential | Reseller for PUD \#1 |
| Conconully | Methownet | Fixed Wireless | 3 | 1 | Data |  | \$49.00 | Residential | Reseller for PUD \#1 |
| Conconully | Methownet | Fixed Wireless | 7 | 2 or 3 | Data |  | \$59.00 | Residential | Reseller for PUD \#1 |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conconully | Methownet | Fixed Wireless | 12 | 3 or 6 | Data |  | \$79.00 | Residential | Reseller for PUD \#1 |
| Conconully | Methownet | Fixed Wireless | 20 | 5 or 10 | Data |  | \$99.00 | Residential | Reseller for PUD \#1 |
| Conconully | NCI Datacom | Fixed Wireless | 3 | 1 | Data |  | \$35.00 | Residential | Reseller for PUD \#1 |
| Conconully | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Conconully | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Conconully | NCl Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Conconully | NCI Datacom | Fixed Wireless | 7 | 2 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Conconully | NCI Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Conconully | NCI Datacom | Fixed Wireless | 12 | 3 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| Conconully | NCl Datacom | Fixed Wireless | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Conconully | NCI Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Conconully | NCl Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Conconully | PC Telecom | Wireless | 1 |  | Data |  | 29.99 | Residential | Reseller for PUD \#1 |
| Conconully | PC Telecom | Wireless | 3 |  | Data |  | 39.99 | Residential | Reseller for PUD \#1 |
| Conconully | PC Telecom | Wireless | 5 |  | Data |  | 49.99 | Residential | Reseller for PUD \#1 |
| Conconully | PC Telecom | Fiber | 5 |  | Data |  | 59.99 | Residential | Reseller for PUD \#1 |
| Conconully | PC Telecom | Wireless | 7 |  | Data |  | 59.99 | Residential | Reseller for PUD \#1 |
| Conconully | PC Telecom | Wireless | 10 |  | Data |  | 69.99 | Residential | Reseller for PUD \#1 |
| Conconully | PC Telecom | Fiber | 10 |  | Data |  | 69.99 | Residential | Reseller for PUD \#1 |
| Conconully | PC Telecom | Fiber | 20 |  | Data |  | 79.99 | Residential | Reseller for PUD \#1 |
| Conconully | PC Telecom | Fiber | 50 |  | Data |  | 89.99 | Residential | Reseller for PUD \#1 |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conconully | PC Telecom | Fiber | 100 |  | Data |  | 99.99 | Residential | Reseller for PUD \#1 |
| Conconully | Startouch |  |  |  |  |  |  |  | Carrier \& Business solutions only |
| Conconully | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Conconully | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Conconully | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Conconully | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |
| Conconully | WillConnect | Wireless | 3 | 1 | Data |  | \$40.00 | Residential | Reseller for PUD \#1 |
| Conconully | WillConnect | Wireless | 7 | 2 | Data |  | \$50.00 | Residential | Reseller for PUD \#1 |
| Conconully | WillConnect | Wireless | 12 | 3 | Data |  | \$65.00 | Residential | Reseller for PUD \#1 |
| Conconully | WillConnect | Wireless | 20 | 5 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Crumbacher | CenturyLink, Inc. | ADSL | 40 | 2 | Data |  | \$55.00 | Residential |  |
| Crumbacher | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Crumbacher | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Crumbacher | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Crumbacher | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Crumbacher | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Crumbacher | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Crumbacher | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Crumbacher | NCl Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Crumbacher | NCI Datacom | Fixed Wireless | 7 | 2 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Crumbacher | NCI Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Crumbacher | NCl Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Crumbacher | NCl Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Crumbacher | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Crumbacher | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Crumbacher | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Crumbacher | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| East Omak | CenturyLink, Inc. | ADSL | 10 | 1 | Data |  | \$50.00 | Residential |  |
| East Omak | Charter Communications | Cable | 120 | 10 | Voice/Video/Data | Triple play select | \$99.97 | Residential | 125 Channels |
| East Omak | Charter Communications | Cable | 120 | 10 | Voice/Video/Data | Triple play silver | \$119.99 | Residential | 175 Channels |
| East Omak | Charter Communications | Cable | 120 | 10 | Voice/Video/Data | Triple play gold | \$139.97 | Residential | 200 Channels |
| East Omak | Charter Communications | Cable | 120 | 10 | Data | Internet | \$44.99 | Residential |  |
| East Omak | Hughes Network <br> Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| East Omak | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| East Omak | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| East Omak | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| East Omak | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| East Omak | King Street Wireless, LLC | Fixed Wireless | 10 | 2 | Data |  |  |  |  |
| East Omak | NCI Datacom | Fiber | 100 | 20 | Data |  | \$95.00 | Residential | Reseller for PUD \#1 |
| East Omak | NCl Datacom | Fiber | 100 | 100 | Data |  | \$120.00 | Residential | Reseller for PUD \#1 |
| East Omak | NCI Datacom | Fiber | 100 | 20 | Data |  | \$105.00 | Business | Reseller for PUD \#1 |
| East Omak | NCI Datacom | Fiber | 100 | 100 | Data |  | \$130.00 | Business | Reseller for PUD \#1 |
| East Omak | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| East Omak | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| East Omak | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| East Omak | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed <br> up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Harmony Heights | Frontier <br> Communications Corp | ADSL | 6 | 1 | Data | Simply Broadband Core | \$27.99 | Residential |  |
| Harmony Heights | Frontier <br> Communications Corp | ADSL | 25 | 2 | Data | Frontier Preferred | \$34.99 | Residential |  |
| Harmony Heights | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Harmony Heights | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Harmony Heights | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Harmony Heights | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Harmony Heights | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Harmony Heights | NCl Datacom | Fiber | 100 | 20 | Data |  | \$95.00 | Residential | Reseller for PUD \#1 |
| Harmony Heights | NCl Datacom | Fiber | 100 | 100 | Data |  | \$120.00 | Residential | Reseller for PUD \#1 |
| Harmony Heights | NCl Datacom | Fiber | 100 | 20 | Data |  | \$105.00 | Business | Reseller for PUD \#1 |
| Harmony Heights | NCl Datacom | Fiber | 100 | 100 | Data |  | \$130.00 | Business | Reseller for PUD \#1 |
| Harmony Heights | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Harmony Heights | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Harmony Heights | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Harmony Heights | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Keystone | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Keystone | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Keystone | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Keystone | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Keystone | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Keystone | NCl Datacom | Fiber | 100 | 20 | Data |  | \$95.00 | Residential | Reseller for PUD \#1 |
| Keystone | NCl Datacom | Fiber | 100 | 100 | Data |  | \$120.00 | Residential | Reseller for PUD \#1 |
| Keystone | NCl Datacom | Fiber | 100 | 20 | Data |  | \$105.00 | Business | Reseller for PUD \#1 |
| Keystone | NCl Datacom | Fiber | 100 | 100 | Data |  | \$130.00 | Business | Reseller for PUD \#1 |
| Keystone | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Keystone | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Keystone | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Keystone | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Knob Hill | CenturyLink, Inc. | ADSL | 10 | 1 | Data |  | \$50.00 | Residential |  |
| Knob Hill | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Knob Hill | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Knob Hill | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Knob Hill | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Knob Hill | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Knob Hill | NCl Datacom | Fiber | 100 | 20 | Data |  | \$95.00 | Residential | Reseller for PUD \#1 |
| Knob Hill | NCl Datacom | Fiber | 100 | 100 | Data |  | \$120.00 | Residential | Reseller for PUD \#1 |
| Knob Hill | NCl Datacom | Fiber | 100 | 20 | Data |  | \$105.00 | Business | Reseller for PUD \#1 |
| Knob Hill | NCI Datacom | Fiber | 100 | 100 | Data |  | \$130.00 | Business | Reseller for PUD \#1 |
| Knob Hill | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Knob Hill | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Knob Hill | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Knob Hill | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | $\begin{gathered} \text { Residential/B } \\ \text { usiness } \end{gathered}$ | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Loomis-Palmer | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Loomis-Palmer | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Loomis-Palmer | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Loomis-Palmer | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Loomis-Palmer | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Loomis-Palmer | NCI Datacom | Fiber | 100 | 20 | Data |  | \$95.00 | Residential | Reseller for PUD \#1 |
| Loomis-Palmer | NCI Datacom | Fiber | 100 | 100 | Data |  | \$120.00 | Residential | Reseller for PUD \#1 |
| Loomis-Palmer | NCI Datacom | Fiber | 100 | 20 | Data |  | \$105.00 | Business | Reseller for PUD \#1 |
| Loomis-Palmer | NCI Datacom | Fiber | 100 | 100 | Data |  | \$130.00 | Business | Reseller for PUD \#1 |
| Loomis-Palmer | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Loomis-Palmer | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Loomis-Palmer | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Loomis-Palmer | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | $\begin{array}{\|c} \text { Residential/B } \\ \text { usiness } \end{array}$ | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Malott | CenturyLink, Inc. | ADSL | 60 | 5 | Data |  | \$55.00 | Residential |  |
| Malott | CommunityNet | Wireless | 3 | 1 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Malott | Community Net | Wireless | 7 | 2 | Data |  | \$53.00 | Residential | Reseller for PUD \#1 |
| Malott | CommunityNet | Wireless | 12 | 3 | Data |  | \$61.00 | Residential | Reseller for PUD \#1 |
| Malott | Community Net | Wireless | 20 | 5 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Malott | Highland Internet | Wireless | 3 | 1 | Data |  | \$40.00 | Residential | Reseller for PUD \#1 |
| Malott | Highland Internet | WIFI | 3 | 1 | Data |  | \$40.00 | Residential | Reseller for PUD \#1 |
| Malott | Highland Internet | Wireless | 7 | 3 | Data |  | \$50.00 | Residential | Reseller for PUD \#1 |
| Malott | Highland Internet | WIFI | 7 | 3 | Data |  | \$48.00 | Residential | Reseller for PUD \#1 |
| Malott | Highland Internet | WIFI | 10 | 5 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| Malott | Highland Internet | Wireless | 12 | 6 | Data |  | \$65.00 | Residential | Reseller for PUD \#1 |
| Malott | Highland Internet | WIFI | 12 | 6 | Data |  | \$65.00 | Residential | Reseller for PUD \#1 |
| Malott | Highland Internet | WIFI | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Malott | Highland Internet | Fiber |  |  |  |  |  |  | Also reseller for PUD |
| Malott | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Malott | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Malott | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Malott | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Malott | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Malott | King Street Wireless, LLC | Fixed Wireless | 10 | 2 | Data |  |  |  |  |
| Malott | LocalTel | Fiber | 100 | 10 | Data |  | 51.44 | Residential | Reseller for PUD \#1 |
| Malott | LocalTel | Fiber | 100 | 100 | Data |  | 71.64 | Residential | Reseller for PUD \#1 |
| Malott | LocalTel | Fiber | 1000 | 100 | Data |  | 74.95 | Residential | Reseller for PUD \#1 |
| Malott | Methownet | Fixed Wireless | 3 | 1 | Data |  | \$49.00 | Residential | Reseller for PUD \#1 |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Malott | Methownet | Fixed Wireless | 7 | 2 or 3 | Data |  | \$59.00 | Residential | Reseller for PUD \#1 |
| Malott | Methownet | Fixed Wireless | 12 | 3 or 6 | Data |  | \$79.00 | Residential | Reseller for PUD \#1 |
| Malott | Methownet | Fixed Wireless | 20 | 5 or 10 | Data |  | \$99.00 | Residential | Reseller for PUD \#1 |
| Malott | NCI Datacom | Fixed Wireless | 3 | 1 | Data |  | \$35.00 | Residential | Reseller for PUD \#1 |
| Malott | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Malott | NCI Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Malott | NCl Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Malott | NCl Datacom | Fixed Wireless | 7 | 2 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Malott | NCl Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Malott | NCI Datacom | Fixed Wireless | 12 | 3 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| Malott | NCI Datacom | Fixed Wireless | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Malott | NCl Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Malott | NCl Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Malott | NCl Datacom | Fiber | 40 | 8 | Data |  | \$79.00 | Residential | Reseller for PUD \#1 |
| Malott | NCl Datacom | Fiber | 40 | 40 | Data |  | \$99.00 | Residential | Reseller for PUD \#1 |
| Malott | NCl Datacom | Fiber | 40 | 8 | Data |  | \$89.00 | Business | Reseller for PUD \#1 |
| Malott | NCl Datacom | Fiber | 40 | 40 | Data |  | \$109.00 | Business | Reseller for PUD \#1 |
| Malott | NCl Datacom | Fiber | 100 | 20 | Data |  | \$95.00 | Residential | Reseller for PUD \#1 |
| Malott | NCI Datacom | Fiber | 100 | 100 | Data |  | \$120.00 | Residential | Reseller for PUD \#1 |
| Malott | NCl Datacom | Fiber | 100 | 20 | Data |  | \$105.00 | Business | Reseller for PUD \#1 |
| Malott | NCl Datacom | Fiber | 100 | 100 | Data |  | \$130.00 | Business | Reseller for PUD \#1 |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Malott | PC Telecom | Wireless | 1 |  | Data |  | 29.99 | Residential | Reseller for PUD \#1 |
| Malott | PC Telecom | Wireless | 3 |  | Data |  | 39.99 | Residential | Reseller for PUD \#1 |
| Malott | PC Telecom | Wireless | 5 |  | Data |  | 49.99 | Residential | Reseller for PUD \#1 |
| Malott | PC Telecom | Fiber | 5 |  | Data |  | 59.99 | Residential | Reseller for PUD \#1 |
| Malott | PC Telecom | Wireless | 7 |  | Data |  | 59.99 | Residential | Reseller for PUD \#1 |
| Malott | PC Telecom | Wireless | 10 |  | Data |  | 69.99 | Residential | Reseller for PUD \#1 |
| Malott | PC Telecom | Fiber | 10 |  | Data |  | 69.99 | Residential | Reseller for PUD \#1 |
| Malott | PC Telecom | Fiber | 20 |  | Data |  | 79.99 | Residential | Reseller for PUD \#1 |
| Malott | PC Telecom | Fiber | 50 |  | Data |  | 89.99 | Residential | Reseller for PUD \#1 |
| Malott | PC Telecom | Fiber | 100 |  | Data |  | 99.99 | Residential | Reseller for PUD \#1 |
| Malott | Startouch |  |  |  |  |  |  |  | Carrier \& Business solutions only |
| Malott | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Malott | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Malott | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Malott | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |
| Malott | WillConnect | Wireless | 3 | 1 | Data |  | \$40.00 | Residential | Reseller for PUD \#1 |
| Malott | WillConnect | Wireless | 7 | 2 | Data |  | \$50.00 | Residential | Reseller for PUD \#1 |
| Malott | WillConnect | Wireless | 12 | 3 | Data |  | \$65.00 | Residential | Reseller for PUD \#1 |
| Malott | WillConnect | Wireless | 20 | 5 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NE Okanogan County | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| NE Okanogan County | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| NE Okanogan County | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| NE Okanogan County | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| NE Okanogan County | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| NE Okanogan County | NCI Datacom | Fiber | 100 | 20 | Data |  | \$95.00 | Residential | Reseller for PUD \#1 |
| NE Okanogan County | NCI Datacom | Fiber | 100 | 100 | Data |  | \$120.00 | Residential | Reseller for PUD \#1 |
| NE Okanogan County | NCI Datacom | Fiber | 100 | 20 | Data |  | \$105.00 | Business | Reseller for PUD \#1 |
| NE Okanogan County | NCI Datacom | Fiber | 100 | 100 | Data |  | \$130.00 | Business | Reseller for PUD \#1 |
| NE Okanogan County | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| NE Okanogan County | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| NE Okanogan County | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| NE Okanogan County | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |


| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | $\begin{array}{\|c\|} \hline \text { Residential/B } \\ \text { usiness } \end{array}$ | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| N. Omak | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| N. Omak | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| N. Omak | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| N. Omak | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| N. Omak | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| N. Omak | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| N. Omak | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| N. Omak | NCI Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| N. Omak | NCl Datacom | Fixed Wireless | 7 | 2 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| N. Omak | NCI Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| N. Omak | NCI Datacom | Fixed Wireless | 12 | 3 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| N. Omak | NCI Datacom | Fixed Wireless | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| N. Omak | NCl Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| N. Omak | NCl Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| N. Omak | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| N. Omak | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| N. Omak | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| N. Omak | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |


| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Omak Flats | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Omak Flats | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Omak Flats | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Omak Flats | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Omak Flats | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Omak Flats | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Omak Flats | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Omak Flats | NCl Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Omak Flats | NCI Datacom | Fixed Wireless | 7 | 2 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Omak Flats | NCl Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Omak Flats | NCl Datacom | Fixed Wireless | 12 | 3 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| Omak Flats | NCl Datacom | Fixed Wireless | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Omak Flats | NCl Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Omak Flats | NCI Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Omak Flats | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Omak Flats | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Omak Flats | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Omak Flats | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |


| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Orchard Grade | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Orchard Grade | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Orchard Grade | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Orchard Grade | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Orchard Grade | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Orchard Grade | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Orchard Grade | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Orchard Grade | NCI Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Orchard Grade | NCl Datacom | Fixed Wireless | 7 | 2 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Orchard Grade | NCI Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Orchard Grade | NCI Datacom | Fixed Wireless | 12 | 3 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| Orchard Grade | NCI Datacom | Fixed Wireless | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Orchard Grade | NCl Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Orchard Grade | NCl Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Orchard Grade | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Orchard Grade | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Orchard Grade | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Omak Flats | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |


| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Oroville | CenturyLink, Inc. | ADSL | 20 | 2 | Data |  | \$50.00 | Residential |  |
| Oroville | Charter Communications | Cable | 120 | 10 | Voice/Video/Data | Triple play select | \$99.97 | Residential | 125 Channels |
| Oroville | Charter Communications | Cable | 120 | 10 | Voice/Video/Data | Triple play silver | \$119.99 | Residential | 175 Channels |
| Oroville | Charter Communications | Cable | 120 | 10 | Voice/Video/Data | Triple play gold | \$139.97 | Residential | 200 Channels |
| Oroville | Charter Communications | Cable | 120 | 10 | Data | Internet | \$44.99 | Residential |  |
| Oroville | CommunityNet | Wireless | 3 | 1 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Oroville | CommunityNet | Wireless | 7 | 2 | Data |  | \$53.00 | Residential | Reseller for PUD \#1 |
| Oroville | CommunityNet | Wireless | 12 | 3 | Data |  | \$61.00 | Residential | Reseller for PUD \#1 |
| Oroville | CommunityNet | Wireless | 20 | 5 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Oroville | Highland Internet | Wireless | 3 | 1 | Data |  | \$40.00 | Residential | Reseller for PUD \#1 |
| Oroville | Highland Internet | WIFI | 3 | 1 | Data |  | \$40.00 | Residential | Reseller for PUD \#1 |
| Oroville | Highland Internet | Wireless | 7 | 3 | Data |  | \$50.00 | Residential | Reseller for PUD \#1 |
| Oroville | Highland Internet | WIFI | 7 | 3 | Data |  | \$48.00 | Residential | Reseller for PUD \#1 |
| Oroville | Highland Internet | WIFI | 10 | 5 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| Oroville | Highland Internet | Wireless | 12 | 6 | Data |  | \$65.00 | Residential | Reseller for PUD \#1 |
| Oroville | Highland Internet | WIFI | 12 | 6 | Data |  | \$65.00 | Residential | Reseller for PUD \#1 |
| Oroville | Highland Internet | WIFI | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Oroville | Highland Internet | Fiber |  |  |  |  |  |  | Also reseller for PUD |
| Oroville | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Oroville | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Oroville | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Oroville | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Oroville | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Oroville | LocalTel | Fiber | 100 | 10 | Data |  | 51.44 | Residential | Reseller for PUD \#1 |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | $\begin{array}{\|c\|} \hline \text { Residential/B } \\ \text { usiness } \end{array}$ | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Oroville | LocalTel | Fiber | 100 | 100 | Data |  | 71.64 | Residential | Reseller for PUD \#1 |
| Oroville | LocalTel | Fiber | 1000 | 100 | Data |  | 74.95 | Residential | Reseller for PUD \#1 |
| Oroville | Methownet | Fixed Wireless | 3 | 1 | Data |  | \$49.00 | Residential | Reseller for PUD \#1 |
| Oroville | Methownet | Fixed Wireless | 7 | 2 or 3 | Data |  | \$59.00 | Residential | Reseller for PUD \#1 |
| Oroville | Methownet | Fixed Wireless | 12 | 3 or 6 | Data |  | \$79.00 | Residential | Reseller for PUD \#1 |
| Oroville | Methownet | Fixed Wireless | 20 | 5 or 10 | Data |  | \$99.00 | Residential | Reseller for PUD \#1 |
| Oroville | NCl Datacom | Fixed Wireless | 3 | 1 | Data |  | \$35.00 | Residential | Reseller for PUD \#1 |
| Oroville | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Oroville | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Oroville | NCI Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Oroville | NCI Datacom | Fixed Wireless | 7 | 2 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Oroville | NCl Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Oroville | NCl Datacom | Fixed Wireless | 12 | 3 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| Oroville | NCl Datacom | Fixed Wireless | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Oroville | NCl Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Oroville | NCl Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Oroville | NCl Datacom | Fiber | 40 | 8 | Data |  | \$79.00 | Residential | Reseller for PUD \#1 |
| Oroville | NCl Datacom | Fiber | 40 | 40 | Data |  | \$99.00 | Residential | Reseller for PUD \#1 |
| Oroville | NCl Datacom | Fiber | 40 | 8 | Data |  | \$89.00 | Business | Reseller for PUD \#1 |
| Oroville | NCI Datacom | Fiber | 40 | 40 | Data |  | \$109.00 | Business | Reseller for PUD \#1 |
| Oroville | NCl Datacom | Fiber | 100 | 20 | Data |  | \$95.00 | Residential | Reseller for PUD \#1 |


| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | $\begin{gathered} \text { Residential/B } \\ \text { usiness } \\ \hline \end{gathered}$ | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Oroville | NCI Datacom | Fiber | 100 | 100 | Data |  | \$120.00 | Residential | Reseller for PUD \#1 |
| Oroville | NCI Datacom | Fiber | 100 | 20 | Data |  | \$105.00 | Business | Reseller for PUD \#1 |
| Oroville | NCI Datacom | Fiber | 100 | 100 | Data |  | \$130.00 | Business | Reseller for PUD \#1 |
| Oroville | PC Telecom | Wireless | 1 |  | Data |  | 29.99 | Residential | Reseller for PUD \#1 |
| Oroville | PC Telecom | Wireless | 3 |  | Data |  | 39.99 | Residential | Reseller for PUD \#1 |
| Oroville | PC Telecom | Wireless | 5 |  | Data |  | 49.99 | Residential | Reseller for PUD \#1 |
| Oroville | PC Telecom | Fiber | 5 |  | Data |  | 59.99 | Residential | Reseller for PUD \#1 |
| Oroville | PC Telecom | Wireless | 7 |  | Data |  | 59.99 | Residential | Reseller for PUD \#1 |
| Oroville | PC Telecom | Wireless | 10 |  | Data |  | 69.99 | Residential | Reseller for PUD \#1 |
| Oroville | PC Telecom | Fiber | 10 |  | Data |  | 69.99 | Residential | Reseller for PUD \#1 |
| Oroville | PC Telecom | Fiber | 20 |  | Data |  | 79.99 | Residential | Reseller for PUD \#1 |
| Oroville | PC Telecom | Fiber | 50 |  | Data |  | 89.99 | Residential | Reseller for PUD \#1 |
| Oroville | PC Telecom | Fiber | 100 |  | Data |  | 99.99 | Residential | Reseller for PUD \#1 |
| Oroville | Startouch |  |  |  |  |  |  |  | Carrier \& Business solutions only |
| Oroville | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Oroville | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Oroville | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Oroville | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |
| Oroville | WillConnect | Wireless | 3 | 1 | Data |  | \$40.00 | Residential | Reseller for PUD \#1 |
| Oroville | WillConnect | Wireless | 7 | 2 | Data |  | \$50.00 | Residential | Reseller for PUD \#1 |
| Oroville | WillConnect | Wireless | 12 | 3 | Data |  | \$65.00 | Residential | Reseller for PUD \#1 |
| Oroville | WillConnect | Wireless | 20 | 5 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Palmer | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Palmer | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Palmer | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Palmer | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Palmer | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Palmer | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Palmer | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Palmer | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Palmer | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pateros | CenturyLink, Inc. | ADSL | 20 | 2 | Data |  | \$50.00 | Residential |  |
| Pateros | CommunityNet | Wireless | 3 | 1 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Pateros | CommunityNet | Wireless | 7 | 2 | Data |  | \$53.00 | Residential | Reseller for PUD \#1 |
| Pateros | CommunityNet | Wireless | 12 | 3 | Data |  | \$61.00 | Residential | Reseller for PUD \#1 |
| Pateros | CommunityNet | Wireless | 20 | 5 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Pateros | Highland Internet | Wireless | 3 | 1 | Data |  | \$40.00 | Residential | Reseller for PUD \#1 |
| Pateros | Highland Internet | WIFI | 3 | 1 | Data |  | \$40.00 | Residential | Reseller for PUD \#1 |
| Pateros | Highland Internet | Wireless | 7 | 3 | Data |  | \$50.00 | Residential | Reseller for PUD \#1 |
| Pateros | Highland Internet | WIFI | 7 | 3 | Data |  | \$48.00 | Residential | Reseller for PUD \#1 |
| Pateros | Highland Internet | WIFI | 10 | 5 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| Pateros | Highland Internet | Wireless | 12 | 6 | Data |  | \$65.00 | Residential | Reseller for PUD \#1 |
| Pateros | Highland Internet | WIFI | 12 | 6 | Data |  | \$65.00 | Residential | Reseller for PUD \#1 |
| Pateros | Highland Internet | WIFI | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Pateros | Highland Internet | Fiber |  |  |  |  |  |  | Also reseller for PUD |
| Pateros | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Pateros | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Pateros | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Pateros | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Pateros | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Pateros | LocalTel | Fiber | 100 | 10 | Data |  | 51.44 | Residential | Reseller for PUD \#1 |
| Pateros | LocalTel | Fiber | 100 | 100 | Data |  | 71.64 | Residential | Reseller for PUD \#1 |
| Pateros | LocalTel | Fiber | 1000 | 100 | Data |  | 74.95 | Residential | Reseller for PUD \#1 |
| Pateros | Methownet | Fixed Wireless | 3 | 1 | Data |  | \$49.00 | Residential | Reseller for PUD \#1 |
| Pateros | Methownet | Fixed Wireless | 7 | 2 or 3 | Data |  | \$59.00 | Residential | Reseller for PUD \#1 |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | $\begin{array}{\|c\|} \hline \text { Residential/B } \\ \text { usiness } \end{array}$ | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pateros | Methownet | Fixed Wireless | 12 | 3 or 6 | Data |  | \$79.00 | Residential | Reseller for PUD \#1 |
| Pateros | Methownet | Fixed Wireless | 20 | 5 or 10 | Data |  | \$99.00 | Residential | Reseller for PUD \#1 |
| Pateros | NCI Datacom | Fixed Wireless | 3 | 1 | Data |  | \$35.00 | Residential | Reseller for PUD \#1 |
| Pateros | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | does not provide this speed in fixed wireless in Okanogan Co. |
| Pateros | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Pateros | NCl Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Pateros | NCI Datacom | Fixed Wireless | 7 | 2 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Pateros | NCl Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Pateros | NCl Datacom | Fixed Wireless | 12 | 3 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| Pateros | NCl Datacom | Fixed Wireless | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Pateros | NCI Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Pateros | NCI Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Pateros | PC Telecom | Wireless | 1 |  | Data |  | 29.99 | Residential | Reseller for PUD \#1 |
| Pateros | PC Telecom | Wireless | 3 |  | Data |  | 39.99 | Residential | Reseller for PUD \#1 |
| Pateros | PC Telecom | Wireless | 5 |  | Data |  | 49.99 | Residential | Reseller for PUD \#1 |
| Pateros | PC Telecom | Fiber | 5 |  | Data |  | 59.99 | Residential | Reseller for PUD \#1 |
| Pateros | PC Telecom | Wireless | 7 |  | Data |  | 59.99 | Residential | Reseller for PUD \#1 |
| Pateros | PC Telecom | Wireless | 10 |  | Data |  | 69.99 | Residential | Reseller for PUD \#1 |
| Pateros | PC Telecom | Fiber | 10 |  | Data |  | 69.99 | Residential | Reseller for PUD \#1 |
| Pateros | PC Telecom | Fiber | 20 |  | Data |  | 79.99 | Residential | Reseller for PUD \#1 |
| Pateros | PC Telecom | Fiber | 50 |  | Data |  | 89.99 | Residential | Reseller for PUD \#1 |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pateros | PC Telecom | Fiber | 100 |  | Data |  | 99.99 | Residential | Reseller for PUD \#1 |
| Pateros | Startouch |  |  |  |  |  |  |  | Carrier \& Business solutions only |
| Pateros | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Pateros | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Pateros | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Pateros | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |
| Pateros | WillConnect | Wireless | 3 | 1 | Data |  | \$40.00 | Residential | Reseller for PUD \#1 |
| Pateros | WillConnect | Wireless | 7 | 2 | Data |  | \$50.00 | Residential | Reseller for PUD \#1 |
| Pateros | WillConnect | Wireless | 12 | 3 | Data |  | \$65.00 | Residential | Reseller for PUD \#1 |
| Pateros | WillConnect | Wireless | 20 | 5 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |


| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Riverside | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Riverside | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Riverside | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Riverside | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Riverside | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Riverside | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Riverside | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Riverside | NCI Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Riverside | NCl Datacom | Fixed Wireless | 7 | 2 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Riverside | NCI Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Riverside | NCI Datacom | Fixed Wireless | 12 | 3 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| Riverside | NCI Datacom | Fixed Wireless | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Riverside | NCl Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Riverside | NCl Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Riverside | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Riverside | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Riverside | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Riverside | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |


| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S. Pine Creek Rd. | Charter Communications | Cable | 120 | 10 | Voice/Video/Data | Triple play select | \$99.97 | Residential | 125 Channels |
| S. Pine Creek Rd. | Charter Communications | Cable | 120 | 10 | Voice/Video/Data | Triple play silver | \$119.99 | Residential | 175 Channels |
| S. Pine Creek Rd. | Charter Communications | Cable | 120 | 10 | Voice/Video/Data | Triple play gold | \$139.97 | Residential | 200 Channels |
| S. Pine Creek Rd. | Charter Communications | Cable | 120 | 10 | Data | Internet | \$44.99 | Residential |  |
| S. Pine Creek Rd. | Frontier Communications Corp | ADSL | 6 | 1 | Data | Simply Broadband Core | \$27.99 | Residential |  |
| S. Pine Creek Rd. | Frontier Communications Corp | ADSL | 12 | 1 | Data | Simply Broadband Ultra | \$34.99 | Residential |  |
| S. Pine Creek Rd. | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| S. Pine Creek Rd. | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| S. Pine Creek Rd. | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| S. Pine Creek Rd. | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| S. Pine Creek Rd. | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| S. Pine Creek Rd. | King Street Wireless, LLC | Fixed Wireless | 10 | 2 | Data |  |  |  |  |
| S. Pine Creek Rd. | NCl Datacom | Fiber | 100 | 20 | Data |  | \$95.00 | Residential |  |
| S. Pine Creek Rd. | NCl Datacom | Fiber | 100 | 100 | Data |  | \$120.00 | Residential | Reseller for PUD \#1 |
| S. Pine Creek Rd. | NCl Datacom | Fiber | 100 | 20 | Data |  | \$105.00 | Business | Reseller for PUD \#1 |
| S. Pine Creek Rd. | NCl Datacom | Fiber | 100 | 100 | Data |  | \$130.00 | Business | Reseller for PUD \#1 |
| S. Pine Creek Rd. | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| S. Pine Creek Rd. | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| S. Pine Creek Rd. | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| S. Pine Creek Rd. | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |


| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S. Pine Creek Rd NTIA | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| S. Pine Creek Rd NTIA | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| S. Pine Creek Rd NTIA | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| S. Pine Creek Rd NTIA | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| S. Pine Creek Rd NTIA | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| S. Pine Creek Rd NTIA | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| S. Pine Creek Rd NTIA | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| S. Pine Creek Rd NTIA | NCl Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| S. Pine Creek Rd NTIA | NCI Datacom | Fixed Wireless | 7 | 2 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| S. Pine Creek Rd NTIA | NCl Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| S. Pine Creek Rd NTIA | NCl Datacom | Fixed Wireless | 12 | 3 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| S. Pine Creek Rd NTIA | NCl Datacom | Fixed Wireless | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| S. Pine Creek Rd NTIA | NCl Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| S. Pine Creek Rd NTIA | NCl Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| S. Pine Creek Rd NTIA | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| S. Pine Creek Rd NTIA | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| S. Pine Creek Rd NTIA | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| S. Pine Creek Rd NTIA | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |

Okanogan County/Colville Confederated Tribes
COMPETITIVE ANALYSIS

| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Salmon Creek Rd. | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Salmon Creek Rd. | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Salmon Creek Rd. | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Salmon Creek Rd. | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Salmon Creek Rd. | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Salmon Creek Rd. | King Street Wireless, LLC | Fixed Wireless | 10 | 2 | Data |  |  |  |  |
| Salmon Creek Rd. | NCl Datacom | Fiber | 100 | 20 | Data |  | \$95.00 | Residential | Reseller for PUD \#1 |
| Salmon Creek Rd. | NCI Datacom | Fiber | 100 | 100 | Data |  | \$120.00 | Residential | Reseller for PUD \#1 |
| Salmon Creek Rd. | NCI Datacom | Fiber | 100 | 20 | Data |  | \$105.00 | Business | Reseller for PUD \#1 |
| Salmon Creek Rd. | NCI Datacom | Fiber | 100 | 100 | Data |  | \$130.00 | Business | Reseller for PUD \#1 |
| Salmon Creek Rd. | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Salmon Creek Rd. | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Salmon Creek Rd. | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Salmon Creek Rd. | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |


| PFSA | Provider | Technology | Speed down | Speed <br> up | Service | Description | Cost | Residential/B usiness | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Synarep | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Synarep | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Synarep | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Synarep | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Synarep | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Synarep | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Synarep | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Synarep | NCl Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Synarep | NCl Datacom | Fixed Wireless | 7 | 2 | Data |  | \$45.00 | Residential | Reseller for PUD \#1 |
| Synarep | NCl Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Synarep | NCl Datacom | Fixed Wireless | 12 | 3 | Data |  | \$60.00 | Residential | Reseller for PUD \#1 |
| Synarep | NCl Datacom | Fixed Wireless | 20 | 10 | Data |  | \$75.00 | Residential | Reseller for PUD \#1 |
| Synarep | NCl Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Synarep | NCl Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Synarep | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Synarep | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Synarep | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Synarep | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |


| PFSA | Provider | Technology | Speed down | Speed up | Service | Description | Cost | $\begin{gathered} \text { Residential/B } \\ \text { usiness } \end{gathered}$ | Notes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Whitestone | Frontier Communications Corp | ADSL | 6 | 1 | Data | Simply Broadband Core | \$27.99 | Residential |  |
| Whitestone | Frontier Communications Corp | ADSL | 25 | 2 | Data | Frontier Preferred | \$34.99 | Residential |  |
| Whitestone | Hughes Network Systems | Satellite | 25 | 3 | Data | 10GB | \$59.99 | Residential |  |
| Whitestone | Hughes Network Systems | Satellite | 25 | 3 | Data | 20GB | \$69.99 | Residential |  |
| Whitestone | Hughes Network Systems | Satellite | 25 | 3 | Data | 30GB | \$99.99 | Residential |  |
| Whitestone | Hughes Network Systems | Satellite | 25 | 3 | Data | 50GB | \$149.99 | Residential |  |
| Whitestone | Hughes Network Systems | Satellite | 25 | 3 | Data | Business 35 | \$69.99 | Business |  |
| Whitestone | NCl Datacom | Fixed Wireless | 5 | 1 | Video/Data | Essential | \$35.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Whitestone | NCl Datacom | Fixed Wireless | 5 | 1.5 | Video/Data | Swift Stream | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Whitestone | NCl Datacom | Fixed Wireless | 7 | 2 | Video/Data | Swift Stream | \$60.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Whitestone | NCl Datacom | Fixed Wireless | 10 | 2.5 | Video/Data | Advantage | \$45.00 | Residential | FCC site says 100 down/10 up. NCI website does not provide this speed in fixed wireless in Okanogan Co. |
| Whitestone | NCI Datacom | Fixed Wireless | 25 | 4 | Video/Data | Family | \$60.00 | Residential | FCC site says 100 down/10 up. NCl website does not provide this speed in fixed wireless in Okanogan Co. |
| Whitestone | NCI Datacom | Fixed Wireless | 40 | 6 | Video/Data | Ultimate | \$75.00 | Residential |  |
| Whitestone | ViaSat, Inc. | Satellite | 35 | 3 | Data | Unlimited Gold 30 | \$150.00 | Residential |  |
| Whitestone | ViaSat, Inc. | Satellite | 35 | 4 | Data | Business Unlimited 35 | \$175.00 | Business |  |
| Whitestone | ViaSat, Inc. | Satellite |  |  | Video | Select | \$35.00 | Residential |  |
| Whitestone | VSAT Systems, LLC | Satellite | 2 | 1.3 | Data |  |  |  | Managed network service for business |

USDA Rural Development Map Data

## RUS MAP DATA

| Service Area Name | Population | Housing Units | Households | Businesses | Square Miles |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Aeneas | 1,719 | 1,460 | 765 | 152 | 297.32 |
| Brewster | 2,871 | 923 | 856 | 110 | 4.83 |
| Chilliwest | 154 | 103 | 74 | 6 | 14.19 |
| Conconully | 277 | 330 | 135 | 132 | 10.94 |
| Crumbacher | 404 | 188 | 164 | 137 | 2.28 |
| East Omak | 1,018 | 397 | 368 | 389 | 1.73 |
| Harmony Heights | 154 | 86 | 63 | 110 | 8.37 |
| Keystone | 367 | 184 | 156 | 148 | 6.92 |
| Knob Hill | 1,227 | 1,103 | 595 | 229 | 178.59 |
| Loomis Palmer | 817 | 541 | 330 | 232 | 155.17 |
| Malott | 1,289 | 518 | 457 | 244 | 10.74 |
| North Omak | 1,500 | 536 | 506 | 261 | 5.35 |
| Omak Flatts | 2,506 | 1,038 | 940 | 400 | 19.02 |
| Orchard Grade | 1,377 | 666 | 546 | 404 | 44.85 |
| Oroville | 4,015 | 2,258 | 1,645 | 229 | 103.92 |
| Pateros | 1010 | 503 | 378 | 142 | 6.35 |
| Riverside | 559 | 260 | 228 | 272 | 3.47 |
| S. Pine Creek | 304 | 178 | 130 | 276 | 28.41 |
| Salmon Creek | 399 | 182 | 165 | 128 | 10.96 |
| Synarep | 322 | 373 | 157 | 417 | 169.03 |
| Whitestone | 802 | 325 | 268 | 229 | 12.62 |
| Pine Creek NTIA | 365 | 191 | 148 | 137 | 36.81 |

Financial Pro Forma

## Okanogan-Colville Broadband

Pro Forma Summary

|  |  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7/8/2022 9:30 |  |  |  |  |  |  |
| INCOME STATEMENT |  |  |  |  |  |  |
| 1 | REVENUE | 556,426 | 2,212,531 | 3,295,250 | 4,340,190 | 4,561,446 |
| 2 | BAD DEBT | $(2,782)$ | $(11,063)$ | $(16,476)$ | $(21,701)$ | $(22,807)$ |
| 3 | EXPENSES | 2,015,795 | 4,385,418 | 6,572,880 | 8,680,515 | 10,452,496 |
| 4 | PROFIT BEFORE TAX | $(1,462,151)$ | $(2,183,950)$ | $(3,294,107)$ | (4,362,025) | $(5,913,857)$ |
| 5 | tax rate | 7.85\% | 7.85\% | 7.85\% | 7.85\% | 7.85\% |
| 6 | TAX | $(114,779)$ | $(171,440)$ | $(258,587)$ | $(342,419)$ | $(464,238)$ |
| 7 | NET PROFIT AFTER TAX | $(1,347,372)$ | (2,012,510) | $(3,035,519)$ | $(4,019,606)$ | $(5,449,619)$ |
|  |  |  |  |  |  |  |
| CASH FLOW STATEMENT |  |  |  |  |  |  |
| 9 | CASH RECIEPTS | 553,644 | 2,201,468 | 3,278,773 | 4,318,489 | 4,538,639 |
| 0 | OPERATING EXPENSES | 881,487 | 1,907,463 | 2,838,674 | 3,690,059 | 4,371,597 |
| 1 | LESS RECIEVABLES | $(4,637)$ | $(13,801)$ | $(13,660)$ | $(22,509)$ | $(15,503)$ |
| 2 | PLUS PAYABLES | 16,798 | 19,747 | 35,027 | 37,310 | 49,794 |
| 3 | PRINCIPAL PAYMENTS | 0 | 0 | 2,791,807 | 3,950,986 | 5,174,221 |
| 14 | NET PROFIT AFTER TAX | $(1,347,372)$ | $(2,012,510)$ | $(3,035,519)$ | $(4,019,606)$ | $(5,449,619)$ |
| 15 | DIVIDENDS PAID | 0 | 0 | 0 | 0 | 0 |
| 16 | RETAINED CASH | $(315,682)$ | 299,951 | ( $2,330,341$ ) | $(3,307,754)$ | $(4,972,889)$ |
| 17 | CAPITAL EXPENDITURES | 22,940,548 | 24,391,366 | 23,811,039 | 23,811,039 | 22,650,384 |
| 18 | DEBT FINANCING | 22,940,548 | 24,391,366 | 23,811,039 | 23,811,039 | 22,650,384 |
| 19 | EQUITY FINANCING | 315,682 | 0 | 2,330,341 | 3,307,754 | 4,972,889 |
| 20 | ACCUMULATED CASH | 0 | 299,951 | 299,951 | 299,951 | 299,951 |
|  |  |  |  |  |  |  |
|  | BALANCE SHEET |  |  |  |  |  |
| 21 | CASH | 0 | 299,951 | 299,951 | 299,951 | 299,951 |
| 22 | FIXED ASSETS LESS DEPRECIATI | 21,806,240 | 43,719,651 | 63,796,484 | 82,617,066 | 99,186,552 |
| 23 | TOTAL ASSETS | 21,806,240 | 44,019,601 | 64,096,434 | 82,917,017 | 99,486,503 |
| 24 | LOAN DEBT LESS PRINCIPLE | 22,940,548 | 47,331,914 | 68,351,145 | 88,211,198 | 105,687,361 |
| 5 | OWNERS' EQUITY | $(1,134,308)$ | $(3,312,312)$ | $(4,254,711)$ | $(5,294,180)$ | $(6,200,858)$ |
| 26 | TOTAL LIABILITY | 21,806,240 | 44,019,601 | 64,096,434 | 82,917,017 | 99,486,503 |
| 28 OWNER PROCEEDS $0 \quad 0 \quad 0 \quad 0$ |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 29 | CAPITAL DEPLOYMENT <br> Yearly \% of Loan | 22,940,548 | 47,331,914 | 71,142,952 | 94,953,991 | 117,604,375 |
| 30 | Yearly Deployment | 22,940,548 | 24,391,366 | 23,811,039 | 23,811,039 | 22,650,384 |
| 31 | Yearly Depreciation | 1,134,308 | 2,477,955 | 3,734,206 | 4,990,456 | 6,080,898 |
| 32 | Yearly Interest | 688,216 | 1,419,957 | 2,134,289 | 2,764,866 | 3,325,847 |
| 33 | Yearly Principal Paid | 0 | 0 | 2,791,807 | 3,950,986 | 5,174,221 |
|  |  |  |  |  |  |  |
| 34 | REVENUE | 556,426 | 2,212,531 | 3,295,250 | 4,340,190 | 4,561,446 |
| 35 | BROADBAND Revenue | 545,466 | 2,178,611 | 3,266,290 | 4,307,971 | 4,534,706 |
|  | Installation Revnue | 10,960 | 21,919 | 10,960 | 8,220 | 2,740 |
| 38 | VoIP Revenue | - | - | - | - | - |
| 41 | Video | 0 | 0 | 0 | 0 | 0 |
| 53 | NRC \& Other Revenue \$K | 0 | 12,000 | 18,000 | 24,000 | 24,000 |
|  |  |  |  |  |  |  |
| 54 | EXPENSES | 2,015,795 | 4,385,418 | 6,572,880 | 8,680,515 | 10,452,496 |
| 55 | Depreciation | 1,134,308 | 2,477,955 | 3,734,206 | 4,990,456 | 6,080,898 |
| 56 | Vehicles | - | - | - | - | - |
| 57 | Insurance | - | 6,851 | 10,585 | 14,537 | 14,973 |
| 58 | Interest | 688,216 | 1,419,957 | 2,134,289 | 2,764,866 | 3,325,847 |
| 59 | Rent/Lease | - | - | - | - | - |
| 60 | Salary | - | 133,900 | 206,876 | 284,109 | 292,632 |
| 62 | Repairs/Maintenance | 114,703 | 236,660 | 355,715 | 474,770 | 588,022 |
|  | Office Furniture |  | - | 0 | 0 | 0 |
|  | Computers \& Office Equipment | - | - | 0 | 0 | 0 |
| 63 | Software Systems | - | - | - | - | - |
| 64 | Marketing | 18,000 | 18,000 | 12,000 | 12,000 | 6,000 |
|  | Wholesale Voice, Bandwidth \& |  |  |  |  |  |
| 65 | Video Content | 42,000.00 | 42,000.00 | 42,000.00 | 42,000.00 | 42,000.00 |
| 66 | General Office Supplies | - | - | - | - | - |
| 67 | Accounting, Banking, Legal, Misc. | 9,000 | 9,000 | 15,000 | 15,000 | 15,000 |
| 68 | Billing | 9,568 | 39,110 | 59,085 | 78,402 | 82,528 |
| 69 | Call Center Expense | - | - | - | - | - |
|  | Meter Reading | - | - | - | - | - |
| 70 | Annual Property Tax | 0 | 0 | 0 | 0 | 0 |
|  | Pole Attachment Fees | 0 | 0 | 0 | 0 | 0 |
|  | Utilities | - | 1,985 | 3,126 | 4,376 | 4,595 |

## Assumptions Operating Expenses

All Inputs are Highlighted

PAYROLL
5 Number of Executives Broadband Manager
6 Number of Admin Assistants
7 Number of Network Technicians
8 Billing Manager
9 Billing Assistant
10 Finance Administrator
11 Mgr. of Customer Relations
12 Regional Sales Manager
13 Outside Sales
14 Shift Supervisor
15 Marketing Manager
16 Technician Manager
17 Infrastructure Manager
18 Project Manager
19 IT Engineers
20 Tech Support Supervisors
21 Number of Customer Service

## SALARIES

22 Average Executive
23 Average Broadband Manager
24 Average Admin. Assistant
25 Average Network Technician
26 Average Billing Manager
27 Average Billing Assistant
28 Average Finance Administrator
29 Average Mgr. of Customer Relations
30 Average Regional Sales Manager
31 Average Outside Sales
32 Average Shift Supervisor
33 Average Marketing Manager
34 Average Technician Manager
35 Average Infrastructure Manager
36 Average Project Manager
37 Average IT Engineers
38 Average Tech Support Supervisors
39 Average Customer Service
40 Annual Escalator
41 Benefit Factor
42 Bonus Factor
43 Total Salaries
44 Benefits
45 Bonuses
46 Total Payroll Compensation

|  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 2 |  | 3 |  | 4 |  | 4 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | - |  | - |  | - |  | - |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | 75,000 | \$ | 75,000 | \$ | 77,250 | \$ | 79,568 | \$ | 81,955 | \$ | 84,413 |
| \$ | 35,000 | \$ | 35,000 | \$ | 36,050 | \$ | 37,132 | \$ | 38,245 | \$ | 39,393 |
| \$ | 50,000 | \$ | 50,000 | \$ | 51,500 | \$ | 53,045 | \$ | 54,636 | \$ | 56,275 |
| \$ | 50,000 | \$ | 50,000 | \$ | 51,500 | \$ | 53,045 | \$ | 54,636 | \$ | 56,275 |
| \$ | 28,000 | \$ | 28,000 | \$ | 28,840 | \$ | 29,705 | \$ | 30,596 | \$ | 31,514 |
| \$ | 55,000 | \$ | 55,000 | \$ | 56,650 | \$ | 58,350 | \$ | 60,100 | \$ | 61,903 |
| \$ | 55,000 | \$ | 55,000 | \$ | 56,650 | \$ | 58,350 | \$ | 60,100 | \$ | 61,903 |
| \$ | 55,000 | \$ | 55,000 | \$ | 56,650 | \$ | 58,350 | \$ | 60,100 | \$ | 61,903 |
| \$ | 35,000 | \$ | 35,000 | \$ | 36,050 | \$ | 37,132 | \$ | 38,245 | \$ | 39,393 |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | 60,000 | \$ | 60,000 | \$ | 61,800 | \$ | 63,654 | \$ | 65,564 | \$ | 67,531 |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | 55,000 | \$ | 55,000 | \$ | 56,650 | \$ | 58,350 | \$ | 60,100 | \$ | 61,903 |
| \$ | 55,000 | \$ | 55,000 | \$ | 56,650 | \$ | 58,350 | \$ | 60,100 | \$ | 61,903 |
| \$ | 35,000 | \$ | 35,000 | \$ | 36,050 | \$ | 37,132 | \$ | 38,245 | \$ | 39,393 |
|  | 1.030 |  | 1.030 |  | 1.030 |  | 1.030 |  | 1.030 |  | 1.030 |
|  | 0.300 |  | 0.300 |  | 0.300 |  | 0.300 |  | 0.300 |  | 0.300 |
|  | 0.030 |  | 0.030 |  | 0.030 |  | 0.030 |  | 0.030 |  | 0.030 |
| \$ | - | \$ | - | \$ | 103,000 | \$ | 159,135 | \$ | 218,545 | \$ | 225,102 |
| \$ | - | \$ | - | \$ | 30,900 | \$ | 47,741 | \$ | 65,564 | \$ | 67,531 |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | - | \$ | - | \$ | 133,900 | \$ | 206,876 | \$ | 284,109 | \$ | 292,632 |

LEVEL 1 SUPPORT
47 Amount per subscriber
48 Subscribers
49 Total Level 1 Support (Outsourced)


## Assumptions Operating Expenses

TOWER LEASE
50 Number of Tower Co. Sites
51 Number of Municiple/Private Sites
52 Average Lease Per Tower Co./Mo.
53 Ave. Municipality/Private Lease/Mo.
54 Annual Escalator
55 Tower Co. Leasing
56 Municipality/Private Leasing
57 Total Tower Lease Costs

|  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 750 |  | 750 |  | 750 |  | 750 |  | 750 |  | 750 |
|  | 300 |  | 300 |  | 300 |  | 300 |  | 300 |  | 300 |
|  | 1.00 |  | 1.00 |  | 1.00 |  | 1.00 |  | 1.00 |  | 1.00 |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |

REAL ESTATE LEASE

| 58 Number of square feet leased |  | - |  | - |  | - |  | - |  | - |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 59 Price per Square Foot | \$ | 15 | \$ | 16 | \$ | 17 | \$ | 17 | \$ | 18 | \$ | 19 |
| 60 Annual Escalator |  | 1.05 |  | 1.05 |  | 1.05 |  | 1.05 |  | 1.05 |  | 1.05 |
| 61 Total Real Estat | \$ |  | \$ | - | \$ |  | \$ |  | \$ |  | \$ |  |

VEHICLE EXPENSE

| 62 Number of Technician Vehicles | 0 | 0 | 0 | 0 | 0 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 63 Number of company cars | 0 | 0 | 0 | 0 | 0 | 0 |
| Vehicle Lease | 0 | 0 | 0 | 0 | 0 | 0 |
| 64 Ave. mo. fuel per tech vehicle | 450 | 457 | 464 | 471 | 478 | 485 |
| 65 Ave. mo. fuel per company car | 225 | 228 | 232 | 235 | 239 | 242 |
| 66 Ave. yr. tag and tax per vehicle | 100 | 102 | 103 | 105 | 106 | 108 |
| 67 Ave. yr. maintenance per vehicle | 250 | 254 | 258 | 261 | 265 | 269 |
| 68 Annual rate of cost increase | 1.015 | 0.015 | 0.015 | 0.015 | 0.015 | 0.015 |

INSURANCE
70 Policy Premium per Auto
71 General Liability
72 Hazard (property)
73 Fixed Assets Insured
74 Worker's Comp
75 Umbrella Policy
76 Director's Insurance

| 77 Annual rate of cost increase | 1.1 | 1.1 | 1.1 | 1.1 |  | 1.1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |

79 ANNUAL PROPERTY TAX

| WHOLESALE VOICE COSTS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 84 Voice Subscribers |  |  |  | - | - | - |
| 85 Third Party voice costs cost per sub | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 |
| 86 Total Wholesale Voice Costs |  | 0 | 0 | 0 | 0 | 0 |
| BANDWIDTH \& Fiber Costs |  |  |  |  |  |  |
| Fiber IRU | - | - | - | - | - | - |
| 87 Ave. Cost per 1 Gbps Link | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 |
| 88 Ave. Cost per 10 Gig Link | 3,500 | 3,500 | 3,500 | 3,500 | 3,500 | 3,500 |
| 89 No. of 1 Gbps Links | 0 | - | - | - | - | - |
| 90 No. of 10 Gig Links | 1 | 1 | 1 | 1 | 1 | 1 |
| 99 Total Bandwidth Costs | 42,000 | 42,000 | 42,000 | 42,000 | 42,000 | 42,000 |

## Assumptions Operating Expenses

VIDEO CONTENT
Video Subscribers
Ave. cost of Content per Sub Total Video Content Cost

| $(5)$ | $(5)$ | $(5)$ | $(5)$ | $(5)$ | $(5)$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | - | - | - | - | - |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## UTILITIES

101 Number of tower sites
102 Number of offices
103 Number of cell phones
104 Utility Rate per tower site/ mo.
105 Utility Rate per office / mo.
106 Average Cell Phone Cost / mo.
107 Utility Rate Increase
108 Utility Expense
109 Cell Phone Expense
110 Total Utilities Expense

| 0 | 0 | 0 | 0 | 0 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 2 | 3 | 4 | 4 |
| 100 | 105 | 110 | 116 | 122 | 128 |
| 500 | 525 | 551 | 579 | 608 | 638 |
| 75 | 79 | 83 | 87 | 91 | 96 |
| 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 |
| - | - | - | - | - | - |
| - | - | 165 | 260 | 365 | 383 |
| - | - | 1,985 | 3,126 | 4,376 | 4,595 |

OFFICE SUPPLIES
111 Furniture
112 Office Supplies
113 Computers \& Office Equipment
114 Software
114A Misc
115 Total Supplies
PLANT REPAIRS \& MAINTENANCE
116 Invested Fixed Assets
117 Maintenance Rate
118 Annual Repairs \& Maintenance


119
120 MARKETING
121 Monthly Investment
122 Total Marketing Investment

| $\$$ | - | $\$$ | 1,500 | $\$$ | 1,500 | $\$$ | 1,000 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  | 18,000 | 18,000 | 12,000 | 1,000 | $\$$ | 12,000 |

## BILLING

| Annual Billing Cost @ \$1.00/sub/mo | $\$ 1.00$ | 9,568 | 39,110 | 59,085 | 78,402 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Meter Reading <br> meters | $\$ 0.00$ | 0 | 0 | 0 | 0 |

PROFESSIONAL FEES
123 Engineering
124 Accounting/Financial
125 Legal
126 Total Professional Fees

| - | - | - | 6,000 | 6,000 | 6,000 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| - | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 |
| - | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 |
| - | 9,000 | 9,000 | 15,000 | 15,000 | 15,000 |

## Subscriber Revenue Projections



| Annual Revenue Projections DATA SERVICES | MONTHLY | Year 1 |  | Year 2 | Year 3 |  | Year 4 | Year 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RESIDENTIAL BRONZE 25/3 Mbps | \$35.00 |  | \$109,268 |  | \$491,705 | \$764,874 | \$1,038,043 | \$1,092,677 |
| RESIDENTIAL SILVER 100/10 Mbps | \$59.95 |  | \$166,364 |  | \$748,640 | \$1,164,551 | \$1,580,462 | \$1,663,644 |
| RESIDENTIAL GOLD 250/25 Mbps | \$79.95 |  | \$72,106 |  | \$324,478 | \$504,744 | \$685,010 | \$721,063 |
| RESIDENTIAL PLATINUM 1,000/100 Mbps | \$99.00 |  | \$13,737 |  | \$61,814 | \$96,156 | \$130,497 | \$137,365 |
| Total Residential Data Annual Revenue |  |  | \$361,475 |  | \$1,626,637 | \$2,530,324 | \$3,434,012 | \$3,614,749 |
| BUS BROADBAND Non-Profit 25/3 Mbps | \$49.95 |  | \$52,554 |  | \$157,662 | \$210,216 | \$249,631 | \$262,770 |
| BUS BROADBAND SILVER 100/10 Mbps | \$69.95 |  | \$64,397 |  | \$193,191 | \$257,588 | \$305,886 | \$321,985 |
| BUS BROADBAND GOLD 250/25 Mbps | \$89.95 |  | \$27,599 |  | \$82,796 | \$110,395 | \$131,094 | \$137,994 |
| BUS BROADBAND PLATINUM 1/100 Mbps | \$149.95 |  | \$39,442 |  | \$118,325 | \$157,767 | \$187,348 | \$197,209 |
| Total Business Data Annual Revenue |  |  | \$183,991 |  | \$551,974 | \$735,966 | \$873,959 | \$919,957 |
| Total Annual Revenue |  |  | \$545,466 |  | \$2,178,611 | \$3,266,290 | \$4,307,971 | \$4,534,706 |
| Total Voice Annual Revenue (ARPU) | \$0.00 |  | \$0 |  | \$0 | \$0 | \$0 | \$0 |
| Total Video Annual Revenue (ARPU) | \$0.00 |  | \$0 |  | \$0 | \$0 | \$0 | \$0 |
| Total Annual Res Intallation Revenue | \$50.00 |  | \$28,907 |  | \$101,174 | \$72,267 | \$72,267 | \$14,453 |
| Total Annual Bus Intallation Revenue | \$50.00 |  | \$10,960 |  | \$21,919 | \$10,960 | \$8,220 | \$2,740 |
| Total Facility Revenue Savings | \$0.00 |  | \$0 |  | \$0 | \$0 | \$0 | \$0 |
| Total cell site revenues (\$500/mo/tower) | \$6,000.00 |  | \$0 |  | \$12,000 | \$18,000 | \$24,000 | \$24,000 |
| Total dark fiber \& Bandwidth Rev. | \$0.00 |  | \$0 |  | \$0 | \$0 | \$0 | \$0 |
| Total Smart Home \& Security Rev. | \$0.00 |  | \$0 |  | \$0 | \$0 | \$0 | \$0 |
| Total Annual Other Revenue |  |  | \$0 |  | \$12,000 | \$18,000 | \$24,000 | \$24,000 |


| Total HHP | 11,118 |
| :---: | :---: |
| Total 5 yr residential data subs |  |
| 5,781 | $52.00 \%$ |
|  |  |
| Total Businesses | 1,628 |
| Total 5 yr bus data subs |  |
| 1,096 |  |

## YEAR 1 INVESTMENT

Network Access Equipment
Outside Plant \& Towers
Buildings \& Land
Customer Premise Equipment
Billing \& Operations Support
Operating Equipment
Engineering \& Professional Services
Testing
Site Preparation

Total

| Life | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7 | 96,429 | 96,429 | 96,429 | 96,429 | 96,429 |
| 20 | 942,162 | 942,162 | 942,162 | 942,162 | 942,162 |
| 25 | 10,400 | 10,400 | 10,400 | 10,400 | 10,400 |
| 7 | 82,904 | 82,904 | 82,904 | 82,904 | 82,904 |
| 15 | 2,413 | 2,413 | 2,413 | 2,413 | 2,413 |
| 10 | - | - | - | - | - |
| 15 | - | - | - | - | - |
| 15 | - | - | - | - | - |
| 25 | - | - | - | - | - |
|  | 1,134,308 | 1,134,308 | 1,134,308 | 1,134,308 | 1,134,308 |
| YEAR 2 INVESTMENT |  |  |  |  |  |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| 7 |  | 96,429 | 96,429 | 96,429 | 96,429 |
| 20 |  | 942,162 | 942,162 | 942,162 | 942,162 |
| 25 |  | 12,480 | 12,480 | 12,480 | 12,480 |
| 7 |  | 290,164 | 290,164 | 290,164 | 290,164 |
| 15 |  | 2,413 | 2,413 | 2,413 | 2,413 |
| 10 |  | - | - | - | - |
| 15 |  | - | - | - | - |
| 15 |  | - | - | - | - |
| 25 |  | - | - | - | - |
|  |  | 1,343,648 | 1,343,648 | 1,343,648 | 1,343,648 |
| YEAR 3 INVESTMENT |  |  |  |  |  |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| 7 |  |  | 96,429 | 96,429 | 96,429 |
| 20 |  |  | 942,162 | 942,162 | 942,162 |
| 25 |  |  | 10,400 | 10,400 | 10,400 |
| 7 |  |  | 207,260 | 207,260 | 207,260 |
| 15 |  |  | 0 | - | - |
| 10 |  |  | 0 | - | - |
| 15 |  |  | 0 | - | - |
| 15 |  |  | 0 | - | - |
| 25 |  |  | 0 | - | - |
|  |  |  | 1,256,250 | 1,256,250 | 1,256,250 |
| YEAR 4 INVESTMENT |  |  |  |  |  |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| 7 |  |  |  | 96,429 | 96,429 |
| 20 |  |  |  | 942,162 | 942,162 |
| 25 |  |  |  | 10,400 | 10,400 |
| 7 |  |  |  | 207,260 | 207,260 |
| 15 |  |  |  | - | - |
| 10 |  |  |  | - | - |
| 15 |  |  |  | - | - |
| 15 |  |  |  | - | - |
| 25 |  |  |  | - | - |
|  |  |  |  | 1,256,250 | 1,256,250 |
| YEAR 5 INVESTMENT |  |  |  |  |  |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| 7 |  |  |  |  | 96,429 |
| 20 |  |  |  |  | 942,162 |
| 25 |  |  |  |  | 10,400 |
| 7 |  |  |  |  | 41,452 |
| 15 |  |  |  |  | - |
| 10 |  |  |  |  | - |
| 15 |  |  |  |  | - |
| 15 |  |  |  |  | - |
| 25 |  |  |  |  | - |
|  |  |  |  |  | 1,090,443 |


|  | TOTAL PROJECT DEPRECIATION |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| Network Access Equipment | 7 | 96,429 | 192,857 | 289,286 | 385,714 | 482,143 |
| Outside Plant \& Towers | 20 | 942,162 | 1,884,324 | 2,826,486 | 3,768,648 | 4,710,810 |
| Buildings \& Land | 25 | 10,400 | 22,880 | 33,280 | 43,680 | 54,080 |
| Customer Premise Equipment | 7 | 82,904 | 373,067 | 580,327 | 787,587 | 829,039 |
| Billing \& Operations Support | 10 | 2,413 | 4,827 | 4,827 | 4,827 | 4,827 |
| Operating Equipment | 10 | - | - | - | - | - |
| Engineering \& Professional Services | 10 | - | - | - | - | - |
| Testing | 10 | - | - | - | - |  |
| Site Preparation | 25 | - | - | - | - | - |
| Total |  | 1,134,308 | 2,477,955 | 3,734,206 | 4,990,456 | 6,080,898 |

## Okanogan-Colville Broadband

## Debt Amortization

| Green are only inputs (cell references) |  |
| :--- | ---: | ---: |
| CAPX - Year 1 | $22,940,548$ |
| Term | 20 |
| Interest | $3.00 \%$ |
| Monthly Payment | 127,228 |


|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Annual Interest | 688,216 | 688,216 | 688,216 | 663,061 | 637,151 |
| Annual Principle | - | - | 838,516 | 863,672 | 889,582 |
| Loan Balance | 22,940,548 | 22,940,548 | 22,102,032 | 21,238,360 | 20,348,778 |
| CAPX - Year 2 |  | 24,391,366 |  |  |  |
| Term |  | 19 |  |  |  |
| Interest |  | 3.00\% |  |  |  |
| Monthly Payment |  | 140,480 |  |  |  |
|  |  | Year 2 | Year 3 | Year 4 | Year 5 |
| Annual Interest |  | 731,741 | 731,741 | 703,120 | 673,641 |
| Annual Principle |  | - | 954,018 | 982,638 | 1,012,118 |
| Loan Balance |  | 24,391,366 | 23,437,348 | 22,454,709 | 21,442,592 |
| CAPX - Year 3 |  |  | 23,811,039 |  |  |
| Term |  |  | 18 |  |  |
| Interest |  |  | 3.00\% |  |  |
| Monthly Payment |  |  | 142,800 |  |  |
|  |  |  | Year 3 | Year 4 | Year 5 |
| Annual Interest |  |  | 714,331 | 684,353 | 653,475 |
| Annual Principle |  |  | 999,273 | 1,029,251 | 1,060,129 |
| Loan Balance |  |  | 22,811,766 | 21,782,514 | 20,722,386 |
| CAPX - Year 4 |  |  |  | 23,811,039 |  |
| Term |  |  |  | 17 |  |
| Interest |  |  |  | 3.00\% |  |
| Monthly Payment |  |  |  | 149,146 |  |
|  |  |  |  | Year 4 | Year 5 |
| Annual Interest |  |  |  | 714,331 | 682,068 |
| Annual Principle |  |  |  | 1,075,425 | 1,107,687 |
| Loan Balance |  |  |  | 22,735,614 | 21,627,926 |
| CAPX - Year 5 |  |  |  |  | 22,650,384 |
| Term |  |  |  |  | 16 |
| Interest |  |  |  |  | 3.00\% |
| Monthly Payment |  |  |  |  | 148,685 |


| Annual Interest |  |  |  |  | Year 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 679,512 |
| Annual Principle |  |  |  |  | 1,104,705 |
| Loan Balance |  |  |  |  | 21,545,679 |
| CAPX - Total |  |  |  |  | 117,604,375 |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| Annual Interest | 688,216 | 1,419,957 | 2,134,289 | 2,764,866 | 3,325,847 |
| Annual Principle | - | - | 2,791,807 | 3,950,986 | 5,174,221 |
| Loan Balance | 22,940,548 | 47,331,914 | 68,351,145 | 88,211,198 | 105,687,361 |


| Prior Years | Year 1 | Year 2 | Year 3 | Year 4 | Total |  | Replacement Costs |  |  |  |  | Year 10 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Year 1 \$675,000.00 |  | \$675,000.00 | \$675,000.00 | \$675,000.00 | Project Cost ${ }_{\text {\$3,375,000.00 }}$ | Year 6 | Year 7 | Year 8 ${ }_{\text {8 }}$ 875,000.00 | ar 9 |  |  |  |
|  | \$18,843,240.00 | \$18,843,240.00 | \$18,843,240.00 | \$18,843,240.00 | \$18,843,240.00 | \$94,216,200.00 |  |  |  |  |  |  |  |
|  | \$260,000.00 | \$260,000.00 | \$260,000.00 | \$260,000.00 | \$260,000.00 | \$1,300,000.00 |  |  |  |  |  |  |  |
|  | \$52,000.00 | \$52,000.00 | \$52,000.00 | \$52,000.00 | \$52,000.00 | \$260,000.00 |  |  |  |  |  |  |  |
|  | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | $\$ 0.00$ |  |  |  |  |  |  |  |
|  | \$580,327.20 | \$2,031,145.20 | \$1,450,818.00 | \$1,450,818.00 | \$290,163.60 | \$5,803,272.00 |  |  | \$5,803,272.00 |  |  |  |  |
|  | \$36,200.00 | \$36,200.00 | \$36,200.00 | \$36,200.00 | \$36,200.00 | \$181,000.00 |  |  |  |  |  |  |  |
|  | \$2,493,780.60 | \$2,493,780.60 | \$2,493,780.60 | \$2,493,780.60 | \$2,493,780.60 | \$12,468,903.00 |  |  |  |  |  |  |  |
|  | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | $\$ 0.00$ |  |  |  |  |  |  |  |
|  | \$22,940,547.80 | \$24,391,365.80 | \$23,811,038.60 | \$23,811,038.60 | \$22,650,384.20 | \$117,604,375.00 |  |  | \$9,178,272.00 |  |  |  |  |
| Prior Years | Year 1 <br> Loan Funds | Non-Loan Funds | Year 2 <br> Loan Fu | Non-Loan Funds | $\text { Year } 3$Loan Fu | Non-Loan Funds | Year 4 | Non-Loan Funds | Year 5 <br> Loan Funds | Non-Loan Funds | Total <br> Loan Funds | Project Cost |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0 | - \$675,000.00 | \$0.00 | \$675,000.00 | \$0.00 | \$675,000.00 | \$0.00 | \$675,000.00 | \$0.00 | \$675,000.00 | \$0.00 | \$3,375,000.00 | \$0.00 | \$3,375,000.00 |
| 0 | \$18,843,240.00 | \$0.00 | \$18,843,240.00 | \$0.00 | \$18,843,240.00 | \$0.00 | \$18,843,240.00 | \$0.00 | \$18,843,240.00 | \$0.00 | \$94,216,200.00 | \$0.00 | \$94,216,200.00 |
| 0 | \$260,000.00 | \$0.00 | \$260,000.00 | \$0.00 | \$260,000.00 | \$0.00 | \$260,000.00 | \$0.00 | \$260,000.00 | \$0.00 | \$1,300,000.00 | \$0.00 | \$1,300,000.00 |
| 0 | \$52,000.00 | \$0.00 | \$52,000.00 | \$0.00 | \$52,000.00 | \$0.00 | \$52,000.00 | \$0.00 | \$52,000.00 | \$0.00 | \$260,000.00 | \$0.00 | \$260,000.00 |
| 0 | \$ $\$ 0.00$ | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 0 | - \$580,327.20 | \$0.00 | \$2,031,145.20 | \$0.00 | \$1,450,818.00 | \$0.00 | \$1,450,818.00 | \$0.00 | \$290,163.60 | \$0.00 | \$5,803,272.00 | \$0.00 | \$5,803,272.00 |
| 0 | \$36,200.00 | \$0.00 | \$36,200.00 | \$0.00 | \$36,200.00 | \$0.00 | \$36,200.00 | \$0.00 | \$36,200.00 | \$0.00 | \$181,000.00 | \$0.00 | \$181,000.00 |
| 0 | - \$2,493,780.60 | \$0.00 | \$2,493,780.60 | \$0.00 | \$2,493,780.60 | \$0.00 | \$2,493,780.60 | \$0.00 | \$2,493,780.60 | \$0.00 | \$12,468,903.00 | \$0.00 | \$12,468,903.00 |
| - | - \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | - $\$ 0.00$ | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 0 | \$22,940,547.80 | \$0.00 | \$24,391,365.80 | \$0.00 | \$23,811,038.60 | \$0.00 | \$23,811,038.60 | \$0.00 | \$22,650,384.20 | \$0.00 | \$117,604,375.00 | \$0.00 | \$117,604,375.00 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total Funded CAPX Funded CAPX |  |  |  |  |  |  |  |  |  |  |  |  |
| \$3,375,000.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| \$94,216,200.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\$ 260,000.00$$\$ 0.00$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| \$5,803,272.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\$ 12,468,903.00$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| \$117,604,375.00 |  | \$0.00 |  |  |  |  |  |  |  |  |  |  |  |
| CAPX buildout timeline |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 20\% | 0\% | 20\% | 0\% | 20\% | 0\% | 20\% | 0\% | 20\% |  |  |  |  |

## Okanogan-Colville Broadband

Pro Forma Summary

|  |  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7/8/2022 9:33 |  |  |  |  |  |  |
| INCOME STATEMENT |  |  |  |  |  |  |
| 1 | REVENUE | 556,426 | 2,212,531 | 3,295,250 | 4,340,190 | 4,561,446 |
| 2 | BAD DEBT | $(2,782)$ | $(11,063)$ | $(16,476)$ | $(21,701)$ | $(22,807)$ |
| 3 | EXPENSES | 1,327,578 | 2,965,461 | 4,438,591 | 5,915,649 | 7,126,648 |
| 4 | PROFIT BEFORE TAX | (773,935) | $(763,993)$ | $(1,159,818)$ | (1,597,160) | (2,588,010) |
| 5 | tax rate | 7.85\% | 7.85\% | 7.85\% | 7.85\% | 7.85\% |
| 6 | TAX | $(60,754)$ | $(59,973)$ | $(91,046)$ | $(125,377)$ | $(203,159)$ |
| 7 | NET PROFIT AFTER TAX | $(713,181)$ | $(704,020)$ | $(1,068,772)$ | $(1,471,783)$ | (2,384,851) |
|  |  |  |  |  |  |  |
| CASH FLOW STATEMENT |  |  |  |  |  |  |
| 9 | CASH RECIEPTS | 553,644 | 2,201,468 | 3,278,773 | 4,318,489 | 4,538,639 |
| 0 | OPERATING EXPENSES | 193,271 | 487,506 | 704,386 | 925,193 | 1,045,750 |
| 1 | LESS RECIEVABLES | $(4,637)$ | $(13,801)$ | $(13,660)$ | $(22,509)$ | $(15,503)$ |
| 2 | PLUS PAYABLES | 11,063 | 13,649 | 23,339 | 25,958 | 33,431 |
| 3 | PRINCIPAL PAYMENTS | 0 | 0 | 0 | 0 | 0 |
| 14 | NET PROFIT AFTER TAX | $(713,181)$ | $(704,020)$ | (1,068,772) | $(1,471,783)$ | $(2,384,851)$ |
| 15 | DIVIDENDS PAID | 0 | 0 | 0 | 0 | 0 |
| 16 | RETAINED CASH | 366,799 | 1,713,810 | 2,584,067 | 3,396,745 | 3,510,816 |
| 17 | CAPITAL EXPENDITURES | 22,940,548 | 24,391,366 | 23,811,039 | 23,811,039 | 22,650,384 |
| 18 | GRANT FINANCING | 22,940,548 | 24,391,366 | 23,811,039 | 23,811,039 | 22,650,384 |
| 19 | EQUITY FINANCING | 0 | 0 | 0 | 0 | 0 |
| 20 | ACCUMULATED CASH | 366,799 | 2,080,610 | 4,664,677 | 8,061,422 | 11,572,239 |
|  |  |  |  |  |  |  |
|  | BALANCE SHEET |  |  |  |  |  |
| 21 | CASH | 366,799 | 2,080,610 | 4,664,677 | 8,061,422 | 11,572,239 |
| 22 | FIXED ASSETS LESS DEPRECIATI | 21,806,240 | 43,719,651 | 63,796,484 | 82,617,066 | 99,186,552 |
| 23 | TOTAL ASSETS | 22,173,039 | 45,800,260 | 68,461,161 | 90,678,489 | 110,758,791 |
| 24 | LOAN DEBT LESS PRINCIPLE | 22,940,548 | 47,331,914 | 71,142,952 | 94,953,991 | 117,604,375 |
| 5 | OWNERS' EQUITY | $(767,508)$ | $(1,531,653)$ | $(2,681,792)$ | $(4,275,502)$ | $(6,845,584)$ |
| 26 | TOTAL LIABILITY | 22,173,039 | 45,800,260 | 68,461,161 | 90,678,489 | 110,758,791 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| 29 | CAPITAL DEPLOYMENT | 22,940,548 | 47,331,914 | 71,142,952 | 94,953,991 | 117,604,375 |
|  | Yearly \% of Loan |  |  |  |  |  |
| 30 | Yearly Deployment | 22,940,548 | 24,391,366 | 23,811,039 | 23,811,039 | 22,650,384 |
| 31 | Yearly Depreciation | 1,134,308 | 2,477,955 | 3,734,206 | 4,990,456 | 6,080,898 |
| 32 | Yearly Interest |  | - | - | - |  |
| 33 | Yearly Principal Paid | 0 | 0 | 0 | 0 | 0 |
|  |  |  |  |  |  |  |
| 34 | REVENUE | 556,426 | 2,212,531 | 3,295,250 | 4,340,190 | 4,561,446 |
| 35 | BROADBAND Revenue | 545,466 | 2,178,611 | 3,266,290 | 4,307,971 | 4,534,706 |
|  | Installation Revnue | 10,960 | 21,919 | 10,960 | 8,220 | 2,740 |
| 38 | VoIP Revenue | - | - | - | - | - |
| 41 | Video | 0 | 0 | 0 | 0 | 0 |
| 53 | NRC \& Other Revenue \$K | 0 | 12,000 | 18,000 | 24,000 | 24,000 |
|  |  |  |  |  |  |  |
| 54 | EXPENSES | 1,327,578 | 2,965,461 | 4,438,591 | 5,915,649 | 7,126,648 |
| 55 | Depreciation | 1,134,308 | 2,477,955 | 3,734,206 | 4,990,456 | 6,080,898 |
| 56 | Vehicles | - | - | - | - | - |
| 57 | Insurance | - | 6,851 | 10,585 | 14,537 | 14,973 |
| 58 | Interest | - | - | - | - |  |
| 59 | Rent/Lease | - | - | - | - |  |
| 60 | Salary | - | 133,900 | 206,876 | 284,109 | 292,632 |
| 62 | Repairs/Maintenance | 114,703 | 236,660 | 355,715 | 474,770 | 588,022 |
|  | Office Furniture |  | - | 0 | 0 | 0 |
|  | Computers \& Office Equipment | - | - | 0 | 0 | 0 |
| 63 | Software Systems | - | - | - | - | - |
| 64 | Marketing | 18,000 | 18,000 | 12,000 | 12,000 | 6,000 |
|  | Wholesale Voice, Bandwidth \& |  |  |  |  |  |
| 65 | Video Content | 42,000.00 | 42,000.00 | 42,000.00 | 42,000.00 | 42,000.00 |
| 66 | General Office Supplies | - | - | - | - | - |
| 67 | Accounting, Banking, Legal, Misc. | 9,000 | 9,000 | 15,000 | 15,000 | 15,000 |
| 68 | Billing | 9,568 | 39,110 | 59,085 | 78,402 | 82,528 |
| 69 | Call Center Expense | - | - | - | - | - |
|  | Meter Reading | - | - | - | - | - |
| 70 | Annual Property Tax | 0 | 0 | 0 | 0 | 0 |
|  | Pole Attachment Fees | 0 | 0 | 0 | 0 | 0 |
| 71 | Utilities | - | 1,985 | 3,126 | 4,376 | 4,595 |

## Assumptions Operating Expenses

All Inputs are Highlighted

PAYROLL
5 Number of Executives Broadband Manager
6 Number of Admin Assistants
7 Number of Network Technicians
8 Billing Manager
9 Billing Assistant
10 Finance Administrator
11 Mgr. of Customer Relations
12 Regional Sales Manager
13 Outside Sales
14 Shift Supervisor
15 Marketing Manager
16 Technician Manager
17 Infrastructure Manager
18 Project Manager
19 IT Engineers
20 Tech Support Supervisors
21 Number of Customer Service

## SALARIES

22 Average Executive
23 Average Broadband Manager
24 Average Admin. Assistant
25 Average Network Technician
26 Average Billing Manager
27 Average Billing Assistant
28 Average Finance Administrator
29 Average Mgr. of Customer Relations
30 Average Regional Sales Manager
31 Average Outside Sales
32 Average Shift Supervisor
33 Average Marketing Manager
34 Average Technician Manager
35 Average Infrastructure Manager
36 Average Project Manager
37 Average IT Engineers
38 Average Tech Support Supervisors
39 Average Customer Service
40 Annual Escalator
41 Benefit Factor
42 Bonus Factor
43 Total Salaries
44 Benefits
45 Bonuses
46 Total Payroll Compensation

|  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 2 |  | 3 |  | 4 |  | 4 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 0 |  | - |  | - |  | - |  | - |  | - |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | 75,000 | \$ | 75,000 | \$ | 77,250 | \$ | 79,568 | \$ | 81,955 | \$ | 84,413 |
| \$ | 35,000 | \$ | 35,000 | \$ | 36,050 | \$ | 37,132 | \$ | 38,245 | \$ | 39,393 |
| \$ | 50,000 | \$ | 50,000 | \$ | 51,500 | \$ | 53,045 | \$ | 54,636 | \$ | 56,275 |
| \$ | 50,000 | \$ | 50,000 | \$ | 51,500 | \$ | 53,045 | \$ | 54,636 | \$ | 56,275 |
| \$ | 28,000 | \$ | 28,000 | \$ | 28,840 | \$ | 29,705 | \$ | 30,596 | \$ | 31,514 |
| \$ | 55,000 | \$ | 55,000 | \$ | 56,650 | \$ | 58,350 | \$ | 60,100 | \$ | 61,903 |
| \$ | 55,000 | \$ | 55,000 | \$ | 56,650 | \$ | 58,350 | \$ | 60,100 | \$ | 61,903 |
| \$ | 55,000 | \$ | 55,000 | \$ | 56,650 | \$ | 58,350 | \$ | 60,100 | \$ | 61,903 |
| \$ | 35,000 | \$ | 35,000 | \$ | 36,050 | \$ | 37,132 | \$ | 38,245 | \$ | 39,393 |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | 60,000 | \$ | 60,000 | \$ | 61,800 | \$ | 63,654 | \$ | 65,564 | \$ | 67,531 |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | 55,000 | \$ | 55,000 | \$ | 56,650 | \$ | 58,350 | \$ | 60,100 | \$ | 61,903 |
| \$ | 55,000 | \$ | 55,000 | \$ | 56,650 | \$ | 58,350 | \$ | 60,100 | \$ | 61,903 |
| \$ | 35,000 | \$ | 35,000 | \$ | 36,050 | \$ | 37,132 | \$ | 38,245 | \$ | 39,393 |
|  | 1.030 |  | 1.030 |  | 1.030 |  | 1.030 |  | 1.030 |  | 1.030 |
|  | 0.300 |  | 0.300 |  | 0.300 |  | 0.300 |  | 0.300 |  | 0.300 |
|  | 0.030 |  | 0.030 |  | 0.030 |  | 0.030 |  | 0.030 |  | 0.030 |
| \$ | - | \$ | - | \$ | 103,000 | \$ | 159,135 | \$ | 218,545 | \$ | 225,102 |
| \$ | - | \$ | - | \$ | 30,900 | \$ | 47,741 | \$ | 65,564 | \$ | 67,531 |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | - | \$ | - | \$ | 133,900 | \$ | 206,876 | \$ | 284,109 | \$ | 292,632 |

LEVEL 1 SUPPORT
47 Amount per subscriber
48 Subscribers
49 Total Level 1 Support (Outsourced)


## Assumptions Operating Expenses

TOWER LEASE
50 Number of Tower Co. Sites
51 Number of Municiple/Private Sites
52 Average Lease Per Tower Co./Mo.
53 Ave. Municipality/Private Lease/Mo.
54 Annual Escalator
55 Tower Co. Leasing
56 Municipality/Private Leasing
57 Total Tower Lease Costs

|  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |  | 0 |
|  | 750 |  | 750 |  | 750 |  | 750 |  | 750 |  | 750 |
|  | 300 |  | 300 |  | 300 |  | 300 |  | 300 |  | 300 |
|  | 1.00 |  | 1.00 |  | 1.00 |  | 1.00 |  | 1.00 |  | 1.00 |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |
| \$ | - | \$ | - | \$ | - | \$ | - | \$ | - | \$ | - |

REAL ESTATE LEASE

| 58 Number of square feet leased |  | - |  | - |  | - |  | - |  | - |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 59 Price per Square Foot | \$ | 15 | \$ | 16 | \$ | 17 | \$ | 17 | \$ | 18 | \$ | 19 |
| 60 Annual Escalator |  | 1.05 |  | 1.05 |  | 1.05 |  | 1.05 |  | 1.05 |  | 1.05 |
| 61 Total Real Estat | \$ |  | \$ | - | \$ |  | \$ |  | \$ |  | \$ |  |

VEHICLE EXPENSE

| 62 Number of Technician Vehicles | 0 | 0 | 0 | 0 | 0 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 63 Number of company cars | 0 | 0 | 0 | 0 | 0 | 0 |
| Vehicle Lease | 0 | 0 | 0 | 0 | 0 | 0 |
| 64 Ave. mo. fuel per tech vehicle | 450 | 457 | 464 | 471 | 478 | 485 |
| 65 Ave. mo. fuel per company car | 225 | 228 | 232 | 235 | 239 | 242 |
| 66 Ave. yr. tag and tax per vehicle | 100 | 102 | 103 | 105 | 106 | 108 |
| 67 Ave. yr. maintenance per vehicle | 250 | 254 | 258 | 261 | 265 | 269 |
| 68 Annual rate of cost increase | 1.015 | 0.015 | 0.015 | 0.015 | 0.015 | 0.015 |

INSURANCE
70 Policy Premium per Auto
71 General Liability
72 Hazard (property)
73 Fixed Assets Insured
74 Worker's Comp
75 Umbrella Policy
76 Director's Insurance

| 77 Annual rate of cost increase | 1.1 | 1.1 | 1.1 | 1.1 |  | 1.1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |

79 ANNUAL PROPERTY TAX

| WHOLESALE VOICE COSTS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 84 Voice Subscribers |  |  |  | - | - | - |
| 85 Third Party voice costs cost per sub | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 | 10.00 |
| 86 Total Wholesale Voice Costs |  | 0 | 0 | 0 | 0 | 0 |
| BANDWIDTH \& Fiber Costs |  |  |  |  |  |  |
| Fiber IRU | - | - | - | - | - | - |
| 87 Ave. Cost per 1 Gbps Link | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 | 2,100 |
| 88 Ave. Cost per 10 Gig Link | 3,500 | 3,500 | 3,500 | 3,500 | 3,500 | 3,500 |
| 89 No. of 1 Gbps Links | 0 | - | - | - | - | - |
| 90 No. of 10 Gig Links | 1 | 1 | 1 | 1 | 1 | 1 |
| 99 Total Bandwidth Costs | 42,000 | 42,000 | 42,000 | 42,000 | 42,000 | 42,000 |

## Assumptions Operating Expenses

VIDEO CONTENT
Video Subscribers
Ave. cost of Content per Sub Total Video Content Cost

| $(5)$ | $(5)$ | $(5)$ | $(5)$ | $(5)$ | $(5)$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | - | - | - | - | - |
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## UTILITIES

101 Number of tower sites
102 Number of offices
103 Number of cell phones
104 Utility Rate per tower site/ mo.
105 Utility Rate per office / mo.
106 Average Cell Phone Cost / mo.
107 Utility Rate Increase
108 Utility Expense
109 Cell Phone Expense
110 Total Utilities Expense

| 0 | 0 | 0 | 0 | 0 | 0 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 2 | 3 | 4 | 4 |
| 100 | 105 | 110 | 116 | 122 | 128 |
| 500 | 525 | 551 | 579 | 608 | 638 |
| 75 | 79 | 83 | 87 | 91 | 96 |
| 1.05 | 1.05 | 1.05 | 1.05 | 1.05 | 1.05 |
| - | - | - | - | - | - |
| - | - | 165 | 260 | 365 | 383 |
| - | - | 1,985 | 3,126 | 4,376 | 4,595 |

OFFICE SUPPLIES
111 Furniture
112 Office Supplies
113 Computers \& Office Equipment
114 Software
114A Misc
115 Total Supplies
PLANT REPAIRS \& MAINTENANCE
116 Invested Fixed Assets
117 Maintenance Rate
118 Annual Repairs \& Maintenance


119
120 MARKETING
121 Monthly Investment
122 Total Marketing Investment

| $\$$ | - | $\$$ | 1,500 | $\$$ | 1,500 | $\$$ | 1,000 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  | 18,000 | 18,000 | 12,000 | 1,000 | $\$$ | 12,000 |

## BILLING

| Annual Billing Cost @ \$1.00/sub/mo | $\$ 1.00$ | 9,568 | 39,110 | 59,085 | 78,402 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Meter Reading <br> meters | $\$ 0.00$ | 0 | 0 | 0 | 0 |

PROFESSIONAL FEES
123 Engineering
124 Accounting/Financial
125 Legal
126 Total Professional Fees

| - | - | - | 6,000 | 6,000 | 6,000 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| - | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 |
| - | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 |
| - | 9,000 | 9,000 | 15,000 | 15,000 | 15,000 |

## Subscriber Revenue Projections



| Annual Revenue Projections DATA SERVICES | MONTHLY | Year 1 |  | Year 2 | Year 3 |  | Year 4 | Year 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RESIDENTIAL BRONZE 25/3 Mbps | \$35.00 |  | \$109,268 |  | \$491,705 | \$764,874 | \$1,038,043 | \$1,092,677 |
| RESIDENTIAL SILVER 100/10 Mbps | \$59.95 |  | \$166,364 |  | \$748,640 | \$1,164,551 | \$1,580,462 | \$1,663,644 |
| RESIDENTIAL GOLD 250/25 Mbps | \$79.95 |  | \$72,106 |  | \$324,478 | \$504,744 | \$685,010 | \$721,063 |
| RESIDENTIAL PLATINUM 1,000/100 Mbps | \$99.00 |  | \$13,737 |  | \$61,814 | \$96,156 | \$130,497 | \$137,365 |
| Total Residential Data Annual Revenue |  |  | \$361,475 |  | \$1,626,637 | \$2,530,324 | \$3,434,012 | \$3,614,749 |
| BUS BROADBAND Non-Profit 25/3 Mbps | \$49.95 |  | \$52,554 |  | \$157,662 | \$210,216 | \$249,631 | \$262,770 |
| BUS BROADBAND SILVER 100/10 Mbps | \$69.95 |  | \$64,397 |  | \$193,191 | \$257,588 | \$305,886 | \$321,985 |
| BUS BROADBAND GOLD 250/25 Mbps | \$89.95 |  | \$27,599 |  | \$82,796 | \$110,395 | \$131,094 | \$137,994 |
| BUS BROADBAND PLATINUM 1/100 Mbps | \$149.95 |  | \$39,442 |  | \$118,325 | \$157,767 | \$187,348 | \$197,209 |
| Total Business Data Annual Revenue |  |  | \$183,991 |  | \$551,974 | \$735,966 | \$873,959 | \$919,957 |
| Total Annual Revenue |  |  | \$545,466 |  | \$2,178,611 | \$3,266,290 | \$4,307,971 | \$4,534,706 |
| Total Voice Annual Revenue (ARPU) | \$0.00 |  | \$0 |  | \$0 | \$0 | \$0 | \$0 |
| Total Video Annual Revenue (ARPU) | \$0.00 |  | \$0 |  | \$0 | \$0 | \$0 | \$0 |
| Total Annual Res Intallation Revenue | \$50.00 |  | \$28,907 |  | \$101,174 | \$72,267 | \$72,267 | \$14,453 |
| Total Annual Bus Intallation Revenue | \$50.00 |  | \$10,960 |  | \$21,919 | \$10,960 | \$8,220 | \$2,740 |
| Total Facility Revenue Savings | \$0.00 |  | \$0 |  | \$0 | \$0 | \$0 | \$0 |
| Total cell site revenues (\$500/mo/tower) | \$6,000.00 |  | \$0 |  | \$12,000 | \$18,000 | \$24,000 | \$24,000 |
| Total dark fiber \& Bandwidth Rev. | \$0.00 |  | \$0 |  | \$0 | \$0 | \$0 | \$0 |
| Total Smart Home \& Security Rev. | \$0.00 |  | \$0 |  | \$0 | \$0 | \$0 | \$0 |
| Total Annual Other Revenue |  |  | \$0 |  | \$12,000 | \$18,000 | \$24,000 | \$24,000 |


| Total HHP | 11,118 |
| :---: | :---: |
| Total 5 yr residential data subs |  |
| 5,781 | $52.00 \%$ |
|  |  |
| Total Businesses | 1,628 |
| Total 5 yr bus data subs |  |
| 1,096 |  |

## YEAR 1 INVESTMENT

Network Access Equipment
Outside Plant \& Towers
Buildings \& Land
Customer Premise Equipment
Billing \& Operations Support
Operating Equipment
Engineering \& Professional Services
Testing
Site Preparation

Total

| Life | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7 | 96,429 | 96,429 | 96,429 | 96,429 | 96,429 |
| 20 | 942,162 | 942,162 | 942,162 | 942,162 | 942,162 |
| 25 | 10,400 | 10,400 | 10,400 | 10,400 | 10,400 |
| 7 | 82,904 | 82,904 | 82,904 | 82,904 | 82,904 |
| 15 | 2,413 | 2,413 | 2,413 | 2,413 | 2,413 |
| 10 | - | - | - | - | - |
| 15 | - | - | - | - | - |
| 15 | - | - | - | - | - |
| 25 | - | - | - | - | - |
|  | 1,134,308 | 1,134,308 | 1,134,308 | 1,134,308 | 1,134,308 |
| YEAR 2 INVESTMENT |  |  |  |  |  |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| 7 |  | 96,429 | 96,429 | 96,429 | 96,429 |
| 20 |  | 942,162 | 942,162 | 942,162 | 942,162 |
| 25 |  | 12,480 | 12,480 | 12,480 | 12,480 |
| 7 |  | 290,164 | 290,164 | 290,164 | 290,164 |
| 15 |  | 2,413 | 2,413 | 2,413 | 2,413 |
| 10 |  | - | - | - | - |
| 15 |  | - | - | - | - |
| 15 |  | - | - | - | - |
| 25 |  | - | - | - | - |
|  |  | 1,343,648 | 1,343,648 | 1,343,648 | 1,343,648 |
| YEAR 3 INVESTMENT |  |  |  |  |  |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| 7 |  |  | 96,429 | 96,429 | 96,429 |
| 20 |  |  | 942,162 | 942,162 | 942,162 |
| 25 |  |  | 10,400 | 10,400 | 10,400 |
| 7 |  |  | 207,260 | 207,260 | 207,260 |
| 15 |  |  | 0 | - | - |
| 10 |  |  | 0 | - | - |
| 15 |  |  | 0 | - | - |
| 15 |  |  | 0 | - | - |
| 25 |  |  | 0 | - | - |
|  |  |  | 1,256,250 | 1,256,250 | 1,256,250 |
| YEAR 4 INVESTMENT |  |  |  |  |  |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| 7 |  |  |  | 96,429 | 96,429 |
| 20 |  |  |  | 942,162 | 942,162 |
| 25 |  |  |  | 10,400 | 10,400 |
| 7 |  |  |  | 207,260 | 207,260 |
| 15 |  |  |  | - | - |
| 10 |  |  |  | - | - |
| 15 |  |  |  | - | - |
| 15 |  |  |  | - | - |
| 25 |  |  |  | - | - |
|  |  |  |  | 1,256,250 | 1,256,250 |
| YEAR 5 INVESTMENT |  |  |  |  |  |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| 7 |  |  |  |  | 96,429 |
| 20 |  |  |  |  | 942,162 |
| 25 |  |  |  |  | 10,400 |
| 7 |  |  |  |  | 41,452 |
| 15 |  |  |  |  | - |
| 10 |  |  |  |  | - |
| 15 |  |  |  |  | - |
| 15 |  |  |  |  | - |
| 25 |  |  |  |  | - |
|  |  |  |  |  | 1,090,443 |


|  | TOTAL PROJECT DEPRECIATION |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| Network Access Equipment | 7 | 96,429 | 192,857 | 289,286 | 385,714 | 482,143 |
| Outside Plant \& Towers | 20 | 942,162 | 1,884,324 | 2,826,486 | 3,768,648 | 4,710,810 |
| Buildings \& Land | 25 | 10,400 | 22,880 | 33,280 | 43,680 | 54,080 |
| Customer Premise Equipment | 7 | 82,904 | 373,067 | 580,327 | 787,587 | 829,039 |
| Billing \& Operations Support | 10 | 2,413 | 4,827 | 4,827 | 4,827 | 4,827 |
| Operating Equipment | 10 | - | - | - | - | - |
| Engineering \& Professional Services | 10 | - | - | - | - | - |
| Testing | 10 | - | - | - | - |  |
| Site Preparation | 25 | - | - | - | - | - |
| Total |  | 1,134,308 | 2,477,955 | 3,734,206 | 4,990,456 | 6,080,898 |

## Okanogan-Colville Broadband

## Debt Amortization

| Green are only inputs (cell references) |  |
| :--- | ---: | ---: |
| CAPX - Year 1 | $22,940,548$ |
| Term | 20 |
| Interest | $3.00 \%$ |
| Monthly Payment | 127,228 |


|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Annual Interest | 688,216 | 688,216 | 688,216 | 663,061 | 637,151 |
| Annual Principle | - | - | 838,516 | 863,672 | 889,582 |
| Loan Balance | 22,940,548 | 22,940,548 | 22,102,032 | 21,238,360 | 20,348,778 |
| CAPX - Year 2 |  | 24,391,366 |  |  |  |
| Term |  | 19 |  |  |  |
| Interest |  | 3.00\% |  |  |  |
| Monthly Payment |  | 140,480 |  |  |  |
|  |  | Year 2 | Year 3 | Year 4 | Year 5 |
| Annual Interest |  | 731,741 | 731,741 | 703,120 | 673,641 |
| Annual Principle |  | - | 954,018 | 982,638 | 1,012,118 |
| Loan Balance |  | 24,391,366 | 23,437,348 | 22,454,709 | 21,442,592 |
| CAPX - Year 3 |  |  | 23,811,039 |  |  |
| Term |  |  | 18 |  |  |
| Interest |  |  | 3.00\% |  |  |
| Monthly Payment |  |  | 142,800 |  |  |
|  |  |  | Year 3 | Year 4 | Year 5 |
| Annual Interest |  |  | 714,331 | 684,353 | 653,475 |
| Annual Principle |  |  | 999,273 | 1,029,251 | 1,060,129 |
| Loan Balance |  |  | 22,811,766 | 21,782,514 | 20,722,386 |
| CAPX - Year 4 |  |  |  | 23,811,039 |  |
| Term |  |  |  | 17 |  |
| Interest |  |  |  | 3.00\% |  |
| Monthly Payment |  |  |  | 149,146 |  |
|  |  |  |  | Year 4 | Year 5 |
| Annual Interest |  |  |  | 714,331 | 682,068 |
| Annual Principle |  |  |  | 1,075,425 | 1,107,687 |
| Loan Balance |  |  |  | 22,735,614 | 21,627,926 |
| CAPX - Year 5 |  |  |  |  | 22,650,384 |
| Term |  |  |  |  | 16 |
| Interest |  |  |  |  | 3.00\% |
| Monthly Payment |  |  |  |  | 148,685 |


| Annual Interest |  |  |  |  | Year 5 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 679,512 |
| Annual Principle |  |  |  |  | 1,104,705 |
| Loan Balance |  |  |  |  | 21,545,679 |
| CAPX - Total |  |  |  |  | 117,604,375 |
|  | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| Annual Interest | 688,216 | 1,419,957 | 2,134,289 | 2,764,866 | 3,325,847 |
| Annual Principle | - | - | 2,791,807 | 3,950,986 | 5,174,221 |
| Loan Balance | 22,940,548 | 47,331,914 | 68,351,145 | 88,211,198 | 105,687,361 |


| Prior Years | Year 1 | Year 2 | Year 3 | Year 4 | Total |  | Year 6 | Year 7 | Replacement Costs |  | Year 10 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Year 5 | Project Cost |  |  | Year 8 | Year 9 |  |  |  |
|  | \$18,843,240.00 | \$18,843,240.00 | \$18,843,240.00 | \$18,843,240.00 | \$18,843,2400.00 | \$3,375,000.00 |  |  | \$3,375,000.00 |  |  |  |  |
|  | \$260,000.00 | \$260,000.00 | \$260,000.00 | \$260,000.00 | \$260,000.00 | \$1,300,000.00 |  |  |  |  |  |  |  |
|  | \$52,000.00 | \$52,000.00 | \$52,000.00 | \$52,000.00 | \$52,000.00 | \$260,000.00 |  |  |  |  |  |  |  |
|  | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |  |  |  |  |  |  |  |
|  | \$580,327.20 | \$2,031,145.20 | \$1,450,818.00 | \$1,450,818.00 | \$290,163.60 | \$5,803,272.00 |  |  | \$5,803,272.00 |  |  |  |  |
|  | \$36,200.00 | \$36,200.00 | \$36,200.00 | \$36,200.00 | \$36,200.00 | \$181,000.00 |  |  |  |  |  |  |  |
|  | \$2,493,780.60 | \$2,493,780.60 | \$2,493,780.60 | \$2,493,780.60 | \$2,493,780.60 | \$12,468,903.00 |  |  |  |  |  |  |  |
|  | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |  |  |  |  |  |  |  |
|  | \$22,940,547.80 | \$24,391,365.80 | \$23,811,038.60 | \$23,811,038.60 | \$22,650,384.20 | \$117,604,375.00 |  |  | \$9,178,272.00 |  |  |  |  |
| Prior Years | Year 1 |  |  |  |  |  |  |  |  |  |  | Total <br> Project Cost |  |
|  |  | Non-Loan Funds | Year 2 <br> Loan Funds | Non-Loan Funds | Year 3 <br> Loan Funds | Non-Loan Funds | Year 4 <br> Loan Funds | Non-Loan Funds | Year 5 <br> Loan Funds | Non-Loan Funds | Total <br> Loan Funds | Non-Loan | t Cost |
| 0 | Loan \$675,000.00 | \$0.Loan $\$ 0.00$ | L675,000.00 | Non-Loan \$0.00 | \$6675,000.00 | Non-Loan \$0.00 | L6an5,000.00 | Non-Loan \$0.00 | \$675,000.00 | Non-Loan \$0.00 | \$3,375,000.00 | Non-Loan | \$3,375,000.00 |
| 0 | \$18,843,240.00 | \$0.00 | \$18,843,240.00 | \$0.00 | \$18,843,240.00 | \$0.00 | \$18,843,240.00 | \$0.00 | \$18,843,240.00 | \$0.00 | \$94,216,200.00 | \$0.00 | \$94,21, 200.00 |
| 0 | \$260,000.00 | \$0.00 | \$260,000.00 | \$0.00 | \$260,000.00 | \$0.00 | \$260,000.00 | \$0.00 | \$260,000.00 | \$0.00 | \$1,300,000.00 | \$0.00 | \$1,300,000.00 |
| 0 | \$52,000.00 | \$0.00 | \$52,000.00 | \$0.00 | \$52,000.00 | \$0.00 | \$52,000.00 | \$0.00 | \$52,000.00 | \$0.00 | \$260,000.00 | \$0.00 | \$260,000.00 |
| 0 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| 0 | \$580,327.20 | \$0.00 | \$2,031,145.20 | \$0.00 | \$1,450,818.00 | \$0.00 | \$1,450,818.00 | \$0.00 | \$290, 163.60 | \$0.00 | \$5,803,272.00 | \$0.00 | \$5,803,272.00 |
| 0 | \$36,200.00 | \$0.00 | \$36,200.00 | \$0.00 | \$36,200.00 | \$0.00 | \$36,200.00 | \$0.00 | \$36,200.00 | \$0.00 | \$181,000.00 | \$0.00 | \$181,000.00 |
| 0 | \$2,493,780.60 | \$0.00 | \$2,493,780.60 | \$0.00 | \$2,493,780.60 | \$0.00 | \$2,493,780.60 | \$0.00 | \$2,493,780.60 | \$0.00 | \$12,468,903.00 | \$0.00 | \$12,468,903.00 |
|  | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
|  | \$22,940,547.80 | \$0.00 | \$24,391,365.80 | \$0.00 | \$23,811,038.60 | \$0.00 | \$23,811,038.60 | \$0.00 | \$22,650,384.20 | \$0.00 | \$117,604,375.00 | \$0.00 | \$117,604,375.00 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Total Funded CAPX Founded CAPX |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota ${ }^{\text {3,3735,000.00 }}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| \$94,216,200.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{r} \$ 1,300,000.00 \\ \$ 260,000.00 \end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| \$5,803,272.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | \$181,000.00 |  |  |  |  |  |  |  |  |  |  |  |  |
| \$12,468,903.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| \$117,604,375.00 \$0.00 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CAPX buildout timeline |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 20\% | 0\% | 20\% | 0\% | 20\% | 0\% | 20\% | 0\% | 20\% | 0\% |  |  |  |

## Assumptions

# Broadband FTTx Study 

Financial Pro Forma Assumptions

## ASSUMPTIONS

The following assumptions were used in the Okanogan - Colville Tribes Broadband Action Team (BAT) Feasibility Study and financial pro forma. The assumptions are based on a combination of industry standards, recent comparable labor costs and actual material quotes.

## A. Cost Estimates

## Labor Costs

All labor costs were based on recent competitively bid proposals for similar projects.

1. Aerial Fiber Cable Installation - An average labor and material cost of $\$ 32,000$ per mile was used in the budget and financial pro forma.
2. Aerial Make Ready - It was assumed average cable relocations and pole replacements would run $\$ 200$ and $\$ 3,500$ Respectively. Cable relocations are based on 4 per mile with pole replacements varying based on feedback form the PUD and electric coops.
3. Buried Fiber Cable Installation - An average labor and material cost of $\$ 65,000$ per mile was used in the budget and financial pro forma.
4. Aerial Fiber Drop Cable Installation - An average length of 200 ' was assumed with an average aerial drop cost of $\$ 650$ inclusive of all labor and material.
5. Buried Fiber Drop Cable Installation - An average length of 200' was assumed with an average buried drop cost of $\$ 1,250$ Inclusive of all labor and materials.
6. Electronics Installation - Installation costs for all FTTH related electronics are based on industry standards for turnkey labor and recent material pricing from equipment vendors and included in the total unit costs reflected of the Detailed Costs with a copy recent quotes contained herein under the exhibits.

# Broadband FTTx Study 

Financial Pro Forma Assumptions

## Material Costs

1. Fiber Cable - Actual material quotes for all fiber optic cable at various cable sizes were obtained and contained herein under the exhibits.
2. Fiber Drop Cable - Actual material quotes were obtained and contained herein under the exhibits.
3. Broadband Electronics - The costs contained within the pro forma are part of the total unit costs depicted on the Detail Costs schedule which are inclusive of all labor and material, shipping, taxes and related cost estimates. These are based on recent comparable projects similar to the one proposed by the BST
4. Microwave Backhaul - N/A
5. Wireless Distribution $-N / A$

## B. Subscriber Forecast

A subscriber forecast is contained under Tab 4. Accompanying the forecast is a Market Survey describing the basis for the forecasted projections. As described within the Market Survey, the projections are based on a combination of census data and local knowledge of the area including a total count of households passed, businesses, local demographics for the area and a customer survey of the local residents and businesses. National statistics, take rates for comparable broadband projects and information related to existing service providers were also factored into the BAT study subscriber projections.

Local knowledge of the area along with census data and information from the BAT were all utilized to obtain an accurate count of the households passed and businesses for the proposed service area.

# Broadband FTTx Study 

Financial Pro Forma Assumptions

The FCC's National Broadband Map and local knowledge of the area was used to obtain a list of existing broadband providers. Additional research was necessary to obtain detailed service plan information.

The US Census website was used to obtain demographic information like family income, household size and commute time to work. Each of these factors and more is part of the subscriber projections with a copy of the results contained in the attached exhibit.

Each of these factors was used to develop an actual formula to predict the total 5year subscriber projections. The final results yielded a residential take rate of $52 \%$ and $67 \%$.

Additional factors were needed however to accurately project the revenue streams from the forecasted subscribers such as the growth rate over the 5-year ultimate forecast and the subscription breakdown of the various service offerings. Each of these last two factors was taken from actual statistics of a similar broadband project.

The growth rate of the final 5-year penetration rate is as follows:
Year $1 \quad 10 \%$
Year 2 45\%
Year 3 70\%
Year 4 95\%
Year 5 100\%

The breakdown of services taken by each subscriber is heavily dependent on the pricing of each plan with $45 \%$ of all subscribers electing to subscribe to the least expensive plan.

## C. Pro Forma

## Revenues

1. Local Voice Service Revenues - Not applicable. No voice services are proposed at this time.

# Broadband FTTx Study 

## Financial Pro Forma Assumptions

2. Broadband Data Revenues - Multiple service plans will be offered with the following breakdown.

Residential
Bronze $\quad 25 / 3 \mathrm{Mbps} \quad \$ 35.00$
Silver $\quad 100 / 10 \mathrm{Mbps} \quad \$ 59.95$
Gold $\quad 250 / 25 \mathrm{Mbps} \quad \$ 79.95$
Platinum $\quad 1,000 / 100 \mathrm{Gbps} \quad \$ 99.00$

Business
Bronze $\quad 25 / 3 \mathrm{Mbps} \quad \$ 49.95$
Silver $\quad 100 / 10 \mathrm{Mbps} \quad \$ 69.95$
Gold $\quad 250 / 25 \mathrm{Mbps} \quad \$ 89.95$

Platinum $\quad 1,000 / 100 \mathrm{Gbps} \quad \$ 149.95$
3. Video Service Revenues - Not applicable. No video services are proposed at this time.
4. Middle Mile Revenues - No middle mile revenues are forecasted herein.
5. Universal Service Fund - Neither regulated telecommunications services nor participation in the Universal Service Fund/Connect America Fund was contemplated herein.
6. Toll Service/Long Distance Voice - N/A. Voice services are not proposed as part of this study.
7. Installation Revenues - Consists of a one-time service call charge averaging $\$ 50.00$ for all services as part of the typical truck roll for the initial installation of service.
8. Amortized Grant Revenues - Not applicable.
9. Other Operating Revenues - Although other services may be offered and available over time such as Geek Squad type services, additional static IP addresses, and specialty services such as smart home/security system and cell site bandwidth, to name a few. A conservative approach was taken however, with only the standard broadband services, installation fees and some cell site services taken into account.

# Broadband FTTx Study 

## Financial Pro Forma Assumptions

10. Uncollectable Revenues - Based on historical statistics of similar operating companies, an average rate of $0.5 \%$ of revenues was used to forecast uncollectable revenue.

## Expenses

1. $\underline{\text { Salaries }- \text { Salaries were based on national statistics and local rates. A detailed list }}$ of all projected personnel is contained within the pro forma under the "Assumptions Operating Expenses". It was determined existing BAT and tribal IT personnel would be capable of accomplishing the majority of all functions and staffing needs. Only some additional supporting staff primarily related to technician and customer service representatives were added.
2. Tower Colocation Lease Fees - N/A
3. Real Estate- N/A. It was assumed all required floor space is existing today and will utilize existing PUD and Colville Tribes facilities.
4. Company Vehicles - The acquisition of new company vehicles was assumed for all new field technicians.
5. Insurance - Auto, General Liability, Hazard/Property, Workers Comp and an Umbrella policy were all estimated with a detailed breakdown of each provided under "Assumptions \& Operating Expenses".
6. Property Tax - N/A
7. Wholesale Voice Costs - Not applicable.
8. Bandwidth - The cost for bandwidth and backhaul facilities is expressed within the detailed line item expenses of the pro forma. Recent circuit pricing was used for one 10 Gbps link for $\$ 3,500$ per month per circuit.
9. Video Content - Not applicable
10. Pole Attachment Fees - N/A - All proposed poles attachments will be on PUD or Nespelem Valley Electric owned poles.

Financial Pro Forma Assumptions
11. Utilities - Varies from year to year but covers office utilities, cell phone charges and tower site electric service.
12. Office Supplies - A monthly expense of $\$ 250$ was assumed for all miscellaneous office supplies.
13. Plant Repairs \& Maintenance- The total cost is based on a $0.005 \%$ rate of total assets.
14. Sales \& Marketing - A monthly investment of $\$ 1,500$ was assumed for the initial two years with this tapering off to $\$ 1,000$ per month for the subsequent two years and then down to $\$ 500$ for year five.
15. Customer Billing - A total cost of $\$ 1.00$ per month per subscriber was used in the pro forma.

Timeline

| Okanogan－Colville Tribes Broadband Project |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ID | 0 | Task Name |  |  | Duration | Start | Finish | Predecessors | Half 2，202Half 1，202Falf 2， 2023 |
| 1 |  | Okanogan－Colville Sample Single Project Broadband Timeline |  |  | 326 days | Mon 10／3／22 | Mon 1／1／24 |  |  |
| 2 | 閭 | Acquisition of Financing |  |  | 90 days | Mon 10／3／22 | Fri 2／3／23 |  | 10／3 2／3 |
| 3 |  | FTTH \＆Transmission Electronics |  |  | 236 days | Mon 2／6／23 | Mon 1／1／24 |  |  |
| 4 | 閭 | Review of Requirements |  |  | 15 days | Mon 2／6／23 | Fri 2／24／23 |  | 2／6 2／24 |
| 5 |  | Plans \＆Specs |  |  | 30 days | Mon 2／27／23 | Fri 4／7／23 |  | 2／27 4／7 |
| 6 | 闣 | Bid Process |  |  | 21 days | Mon 4／10／23 | Mon 5／8／23 | 5 | 4／10 5／8 |
| 7 | 闣 | Order \＆Installation \＆Configuration |  |  | 90 days | Tue 6／20／23 | Mon 10／23／23 | 6FS＋30 days | $6 / 20$－ 10 |
| 8 |  | Friendly Customer Installs |  |  | 10 days | Tue 10／24／23 | Mon 11／6／23 | 7，17SS＋5 days | 10／24•11 |
| 9 |  | Trial Billing \＆Troublshooting Network |  |  | 20 days | Tue 11／7／23 | Mon 12／4／23 | 8 | 11／7 |
| 10 |  | Commence with Full Commercial Deployment |  |  | 5 days | Tue 12／26／23 | Mon 1／1／24 | 9FS＋15 days | 12／26 |
| 11 |  | Outside Plant Fiber Cable |  |  | 186 days | Mon 2／6／23 | Mon 10／23／23 | 2 | － |
| 12 | 閭 | Initial Design \＆Review of Requirements |  |  | 20 days | Mon 2／6／23 | Fri 3／3／23 |  | 2／6 3／3 |
| 13 |  | Staking Process－Multiple Contracts or Amendments |  |  | 45 days | Mon 3／6／23 | Fri 5／5／23 |  | $3 / 6 \times 5 / 5$ |
| 14 |  | OSP Plans \＆Specifications－Multiple Contracts or Amendments |  |  | 20 days | Tue 4／4／23 | Mon 5／1／23 | 13SS＋21 days | 4／4－5／1 |
| 15 |  | Bid Process |  |  | 15 days | Tue 4／18／23 | Mon 5／8／23 | 14SS＋10 days | 4／18） $5 / 8$ |
| 16 |  | Construction Process |  |  | 90 days | Tue 5／30／23 | Mon 10／2／23 | 15SS＋30 days | 30，$\frac{10}{1}$ |
| 17 | 閭 | Drop Construction |  |  | 90 days | Tue 6／20／23 | Mon 10／23／23 | 16SS＋15 days | 6／20 10 |
| Project：Okanogan PUD \＆Colville Trib Date：Fri 7／8／22 |  |  | Task | Split |  |  | Manual Summary Rollup |  |  |
|  |  |  | Critical Task | External Tasks |  |  | Manual Summ | mary |  |
|  |  |  | Milestone | －Project Summary |  |  | Start－only |  |  |
|  |  |  | Summary | External Milestone |  |  | Finish－only |  |  |
|  |  |  | Rolled Up Task | Inactive Milestone |  |  | External Tasks | s |  |
|  |  |  | Rolled Up Critical Task | Inactive Summary |  |  | External Milest | tone |  |
|  |  |  | Rolled Up Milestone | $\triangleright$ Manual Task |  | $\bigcirc$ | Progress |  |  |
|  |  |  | Rolled Up Progress | Duration－only |  |  | ，Deadline | $\Omega$ |  |


#### Abstract

Exhibits


## A. U.S. Census Bureau Demographic Data

| Censlis | Brewster city, <br> Washington |  | Conconully town, Washington |  | Coulee Dam town, Washington |  | Disautel CDP, Washington |  | Elmer City town, Washington |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Estimate | Percent | Estimate | Percent | Estimate | Percent | Estimate | Percent | Estimate | Percent |
| EMPLOYMENT STATUS |  |  |  |  |  |  |  |  |  |  |
| Population 16 years and over | 1,711 | 1,711 | 197 | 197 | 969 | 969 | 16 | 16 | 285 | 285 |
| In labor force | 1,253 | 73.2\% | 90 | 45.7\% | 526 | 54.3\% | 0 | 0.0\% | 145 | 50.9\% |
| Civilian labor force | 1,218 | 71.2\% | 90 | 45.7\% | 526 | 54.3\% | 0 | 0.0\% | 145 | 50.9\% |
| Employed | 1,148 | 67.1\% | 80 | 40.6\% | 514 | 53.0\% | 0 | 0.0\% | 132 | 46.3\% |
| Unemployed | 70 | 4.1\% | 10 | 5.1\% | 12 | 1.2\% | 0 | 0.0\% | 13 | 4.6\% |
| Armed Forces | 35 | 2.0\% | 0 | 0.0\% | 0 | 0.0\% | 0 | 0.0\% | 0 | 0.0\% |
| Not in labor force | 458 | 26.8\% | 107 | 54.3\% | 443 | 45.7\% | 16 | 100.0\% | 140 | 49.1\% |
| Civilian labor force | 1,218 | 1,218 | 90 | 90 | 526 | 526 | 0 | 0 | 145 | 145 |
| Unemployment Rate | (X) | 5.7\% | (X) | 11.1\% | (X) | 2.3\% | (X) |  | (X) | 9.0\% |
| Females 16 years and over | 820 | 820 | 96 | 96 | 473 | 473 | 16 | 16 | 155 | 155 |
| In labor force | 567 | 69.1\% | 36 | 37.5\% | 242 | 51.2\% | 0 | 0.0\% | 73 | 47.1\% |
| Civilian labor force | 567 | 69.1\% | 36 | 37.5\% | 242 | 51.2\% | 0 | 0.0\% | 73 | 47.1\% |
| Employed | 567 | 69.1\% | 28 | 29.2\% | 236 | 49.9\% | 0 | 0.0\% | 68 | 43.9\% |
| Own children of the householder under 6 years | 280 | 280 | 0 | 0 | 83 | 83 | 0 | 0 | 25 | 25 |
| All parents in family in labor force | 249 | 88.9\% | 0 | - | 49 | 59.0\% | 0 |  | 19 | 76.0\% |
| Own children of the householder 6 to 17 years | 697 | 697 | 4 | 4 | 174 | 174 | 0 | 0 | 35 | 35 |
| All parents in family in labor force | 681 | 97.7\% | 2 | 50.0\% | 147 | 84.5\% | 0 |  | 29 | 82.9\% |
| COMMUTING TO WORK |  |  |  |  |  |  |  |  |  |  |
| Workers 16 years and over | 1,118 | 1,118 | 78 | 78 | 503 | 503 | 0 | 0 | 130 | 130 |
| Car, truck, or van -- drove alone | 784 | 70.1\% | 62 | 79.5\% | 409 | 81.3\% | 0 | - | 112 | 86.2\% |
| Car, truck, or van -- carpooled | 198 | 17.7\% | 7 | 9.0\% | 61 | 12.1\% | 0 |  | 11 | 8.5\% |
| Public transportation (excluding taxicab) | 4 | 0.4\% | 0 | 0.0\% | 0 | 0.0\% | 0 | - | 0 | 0.0\% |
| Walked | 83 | 7.4\% | 7 | 9.0\% | 18 | 3.6\% | 0 |  | 1 | 0.8\% |
| Other means | 29 | 2.6\% | 0 | 0.0\% | 6 | 1.2\% | 0 |  | 2 | 1.5\% |
| Worked at home | 20 | 1.8\% | 2 | 2.6\% | 9 | 1.8\% | 0 | - | 4 | 3.1\% |
| Mean travel time to work (minutes) | 14.6 | (X) | 31.3 | (X) | 17.3 | (X) | - | (X) | 14.2 | (X) |
| INCOME AND BENEFITS (IN 2018 INFLATIONADJUSTED DOLLARS) |  |  |  |  |  |  |  |  |  |  |
| Total households | 832 | 832 | 135 | 135 | 544 | 544 | 16 | 16 | 171 | 171 |
| Less than \$10,000 | 75 | 9.0\% | 9 | 6.7\% | 24 | 4.4\% | 0 | 0.0\% | 14 | 8.2\% |
| \$10,000 to \$14,999 | 39 | 4.7\% | 6 | 4.4\% | 21 | 3.9\% | 0 | 0.0\% | 13 | 7.6\% |
| \$15,000 to \$24,999 | 85 | 10.2\% | 34 | 25.2\% | 41 | 7.5\% | 16 | 100.0\% | 16 | 9.4\% |
| \$25,000 to \$34,999 | 108 | 13.0\% | 16 | 11.9\% | 42 | 7.7\% | 0 | 0.0\% | 19 | 11.1\% |
| \$35,000 to \$49,999 | 193 | 23.2\% | 15 | 11.1\% | 128 | 23.5\% | 0 | 0.0\% | 37 | 21.6\% |
| \$50,000 to \$74,999 | 223 | 26.8\% | 28 | 20.7\% | 91 | 16.7\% | 0 | 0.0\% | 31 | 18.1\% |
| \$75,000 to \$99,999 | 64 | 7.7\% | 17 | 12.6\% | 79 | 14.5\% | 0 | 0.0\% | 23 | 13.5\% |
| \$100,000 to \$149,999 | 45 | 5.4\% | 10 | 7.4\% | 95 | 17.5\% | 0 | 0.0\% | 14 | 8.2\% |
| \$150,000 to \$199,999 | 0 | 0.0\% | 0 | 0.0\% | 19 | 3.5\% | 0 | 0.0\% | 4 | 2.3\% |
| \$200,000 or more | 0 | 0.0\% | 0 | 0.0\% | 4 | 0.7\% | 0 | 0.0\% | 0 | 0.0\% |
| Median household income (dollars) | 46,442 | (X) | 37,639 | (X) | 53,269 | (X) | - | (X) | 43,672 | (X) |
| Mean household income (dollars) | 45,960 | (X) | 44,417 | (X) | 66,008 | (X) | N | N | 52,042 | (X) |
| PERCENTAGE OF FAMILIES AND PEOPLE WHOSE INCOME IN THE PAST 12 MONTHS IS BELOW THE POVERTY LEVEL |  |  |  |  |  |  |  |  |  |  |
| All families | (X) | 16.8\% | (X) | 5.3\% | (X) | 7.8\% | (X) |  | (X) | 16.7\% |
| All people | (X) | 17.6\% | (X) | 11.3\% | (X) | 14.5\% | (X) | 0.0\% | (X) | 19.2\% |


| United States Census | SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| American Community Survey | Brewster city, Washington |  | Conconully town, Washington |  | Coulee Dam town, <br> Washington |  | Disautel CDP, Washington |  | Elmer City town, Washington |  |
|  | Estimate | Percent | Estimate | Percent | Estimate | Percent | Estimate | Percent | Estimate | Percent |
| HOUSEHOLDS BY TYPE |  |  |  |  |  |  |  |  |  |  |
| Total households | 832 | 832 | 135 | 135 | 544 | 544 | 16 | 16 | 171 | 171 |
| Average household size | 3.05 | (X) | 1.5 | (X) | 2.26 | (X) | - | (X) | 2.02 | (X) |
| Average family size | 3.73 | (X) | 2.09 | (X) | 2.7 | (X) |  | (X) | 2.32 | (X) |
| SCHOOL ENROLLMENT |  |  |  |  |  |  |  |  |  |  |
| Population 3 years and over enrolled in school | 889 | 889 | 11 | 11 | 281 | 281 | 0 | 0 | 62 | 62 |
| Nursery school, preschool | 27 | 3.00\% | 0 | 0.00\% | 29 | 10.30\% | 0 | - | 8 | 12.90\% |
| Kindergarten | 85 | 9.60\% | 2 | 18.20\% | 19 | 6.80\% | 0 | - | 2 | 3.20\% |
| Elementary school (grades 1-8) | 514 | 57.80\% | 2 | 18.20\% | 128 | 45.60\% | 0 | - | 28 | 45.20\% |
| High school (grades 9-12) | 191 | 21.50\% | 2 | 18.20\% | 69 | 24.60\% | 0 | - | 12 | 19.40\% |
| College or graduate school | 72 | 8.10\% | 5 | 45.50\% | 36 | 12.80\% | 0 | - | 12 | 19.40\% |
| EDUCATIONAL ATTAINMENT |  |  |  |  |  |  |  |  |  |  |
| Population 25 years and over | 1,292 | 1,292 | 178 | 178 | 843 | 843 | 16 | 16 | 236 | 236 |
| Less than 9th grade | 447 | 34.60\% | 6 | 3.40\% | 18 | 2.10\% | 0 | 0.00\% | 0 | 0.00\% |
| 9th to 12th grade, no diploma | 194 | 15.00\% | 4 | 2.20\% | 69 | 8.20\% | 9 | 56.30\% | 17 | 7.20\% |
| High school graduate (includes equivalency) | 199 | 15.40\% | 76 | 42.70\% | 224 | 26.60\% | 0 | 0.00\% | 72 | 30.50\% |
| Some college, no degree | 198 | 15.30\% | 46 | 25.80\% | 242 | 28.70\% | 7 | 43.80\% | 61 | 25.80\% |
| Associate's degree | 34 | 2.60\% | 20 | 11.20\% | 125 | 14.80\% | 0 | 0.00\% | 23 | 9.70\% |
| Bachelor's degree | 163 | 12.60\% | 20 | 11.20\% | 102 | 12.10\% | 0 | 0.00\% | 38 | 16.10\% |
| Graduate or professional degree | 57 | 4.40\% | 6 | 3.40\% | 63 | 7.50\% | 0 | 0.00\% | 25 | 10.60\% |
| High school graduate or higher | 651 | 50.40\% | 168 | 94.40\% | 756 | 89.70\% | 7 | 43.80\% | 219 | 92.80\% |
| Bachelor's degree or higher | 220 | 17.00\% | 26 | 14.60\% | 165 | 19.60\% | 0 | 0.00\% | 63 | 26.70\% |
| DISABILITY STATUS OF THE CIVILIAN NONINSTITUTIONALIZED POPULATION |  |  |  |  |  |  |  |  |  |  |
| Total Civilian Noninstitutionalized Population | 2,501 | 2,501 | 203 | 203 | 1,230 | 1,230 | 16 | 16 | 345 | 345 |
| With a disability | 232 | 9.30\% | 49 | 24.10\% | 211 | 17.20\% | 0 | 0.00\% | 66 | 19.10\% |
| Under 18 years | 1,026 | 1,026 | 7 | 7 | 290 | 290 | 0 | 0 | 69 | 69 |
| With a disability | 31 | 3.00\% | 0 | 0.00\% | 9 | 3.10\% | 0 | - | 2 | 2.90\% |
| 18 to 64 years | 1,328 | 1,328 | 118 | 118 | 681 | 681 | 7 | 7 | 190 | 190 |
| With a disability | 114 | 8.60\% | 16 | 13.60\% | 94 | 13.80\% | 0 | 0.00\% | 28 | 14.70\% |
| 65 years and over | 147 | 147 | 78 | 78 | 259 | 259 | 9 | 9 | 86 | 86 |
| With a disability | 87 | 59.20\% | 33 | 42.30\% | 108 | 41.70\% | 0 | 0.00\% | 36 | 41.90\% |
| COMPUTERS AND INTERNET USE |  |  |  |  |  |  |  |  |  |  |
| Total households | 832 | 832 | 135 | 135 | 544 | 544 | 16 | 16 | 171 | 171 |
| With a computer | 657 | 79.00\% | 114 | 84.40\% | 469 | 86.20\% | 7 | 43.80\% | 144 | 84.20\% |
| With a broadband Internet subscription | 508 | 61.10\% | 83 | 61.50\% | 435 | 80.00\% | 7 | 43.80\% | 129 | 75.40\% |


| Censited Stas |  |  |
| :---: | :---: | :---: |
| Colville Reservation | Colville Reservation and Off Reservation Trust Land, WA |  |
|  | Estimate | Percent |
| EMPLOYMENT STATUS |  |  |
| Population 16 years and over | 5,693 | 5,693 |
| In labor force | 3,030 | 53.2\% |
| Civilian labor force | 3,030 | 53.2\% |
| Employed | 2,685 | 47.2\% |
| Unemployed | 345 | 6.1\% |
| Armed Forces | 0 | 0.0\% |
| Not in labor force | 2,663 | 46.8\% |
| Civilian labor force | 3,030 | 3,030 |
| Unemployment Rate | (X) | 11.4\% |
| Females 16 years and over | 2,880 | 2,880 |
| In labor force | 1,494 | 51.9\% |
| Civilian labor force | 1,494 | 51.9\% |
| Employed | 1,364 | 47.4\% |
| Own children of the householder under 6 years | 557 | 557 |
| All parents in family in labor force | 323 | 58.0\% |
| Own children of the householder 6 to 17 years | 922 | 922 |
| All parents in family in labor force | 640 | 69.4\% |
| COMMUTING TO WORK |  |  |
| Workers 16 years and over | 2,614 | 2,614 |
| Car, truck, or van -- drove alone | 1,980 | 75.7\% |
| Car, truck, or van -- carpooled | 395 | 15.1\% |
| Public transportation (excluding taxicab) | 20 | 0.8\% |
| Walked | 103 | 3.9\% |
| Other means | 21 | 0.8\% |
| Worked at home | 95 | 3.6\% |
| Mean travel time to work (minutes) | 20.4 | (X) |
| OCCUPATION |  |  |
| Civilian employed population 16 years and over | 2,685 | 2,685 |
| Management, business, science, and arts occupations | 873 | 32.5\% |
| Service occupations | 639 | 23.8\% |
| Sales and office occupations | 444 | 16.5\% |
| Natural resources, construction, and maintenance occupations | 425 | 15.8\% |


| United States Census |  |  |
| :---: | :---: | :---: |
| Colville Reservation | Colville Re Reservation | n and Land, |
| Production, transportation, and material moving occupations | 304 | 11.3\% |
| INDUSTRY |  |  |
| Civilian employed population 16 years and over | 2,685 | 2,685 |
| Agriculture, forestry, fishing and hunting, and mining | 209 | 7.8\% |
| Construction | 166 | 6.2\% |
| Manufacturing | 95 | 3.5\% |
| Wholesale trade | 34 | 1.3\% |
| Retail trade | 221 | 8.2\% |
| Transportation and warehousing, and utilities | 76 | 2.8\% |
| Information | 22 | 0.8\% |
| Finance and insurance, and real estate and rental and leasing | 47 | 1.8\% |
| Professional, scientific, and management, and administrative and waste management services | 170 | 6.3\% |
| Educational services, and health care and social assistance | 618 | 23.0\% |
| Arts, entertainment, and recreation, and accommodation and food services | 273 | 10.2\% |
| Other services, except public administration | 54 | 2.0\% |
| Public administration | 700 | 26.1\% |
| CLASS OF WORKER |  |  |
| Civilian employed population 16 years and over | 2,685 | 2,685 |
| Private wage and salary workers | 1,037 | 38.6\% |
| Government workers | 1,483 | 55.2\% |
| Self-employed in own not incorporated business workers | 157 | 5.8\% |
| Unpaid family workers | 8 | 0.3\% |
| DOLLARS) |  |  |
| Total households | 2,910 | 2,910 |
| Less than \$10,000 | 306 | 10.5\% |
| \$10,000 to \$14,999 | 306 | 10.5\% |
| \$15,000 to \$24,999 | 304 | 10.4\% |
| \$25,000 to \$34,999 | 313 | 10.8\% |
| \$35,000 to \$49,999 | 565 | 19.4\% |
| \$50,000 to \$74,999 | 480 | 16.5\% |
| \$75,000 to \$99,999 | 260 | 8.9\% |
| \$100,000 to \$149,999 | 241 | 8.3\% |





Colville Reservation and Off-Reservation Trust Land, WA

| CUnitedStates |
| :--- | :--- | :--- | :--- | :--- | :---: |

Table: ACSDP5Y2020.DP02

|  | Loomis CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| HOUSEHOLDS BY TYPE |  |  |  |  |
| Total households | 38 | $\pm 29$ | 38 | (X) |
| Married-couple household | 27 | $\pm 26$ | 71.1\% | $\pm 32.7$ |
| With children of the householder under 18 years | (X) | (X) | (X) | (X) |
| Cohabiting couple household | 5 | $\pm 8$ | 13.2\% | $\pm 20.8$ |
| With children of the householder under 18 years | (X) | (X) | (X) | (X) |
| Male householder, no spouse/partner present | 0 | $\pm 13$ | 0.0\% | $\pm 51.7$ |
| With children of the householder under 18 years | (X) | (X) | (X) | (X) |
| Householder living alone | 0 | $\pm 13$ | 0.0\% | $\pm 51.7$ |
| 65 years and over | 0 | $\pm 13$ | 0.0\% | $\pm 51.7$ |
| Female householder, no spouse/partner present | 6 | $\pm 9$ | 15.8\% | $\pm 27.5$ |
| With children of the householder under 18 years | (X) | (X) | (X) | (X) |
| Householder living alone | 0 | $\pm 13$ | 0.0\% | $\pm 51.7$ |
| 65 years and over | 0 | $\pm 13$ | 0.0\% | $\pm 51.7$ |
| Households with one or more people under 18 years | 6 | $\pm 10$ | 15.8\% | $\pm 26.4$ |
| Households with one or more people 65 years and over | 26 | $\pm 25$ | 68.4\% | $\pm 31.8$ |
| Average household size | 2.66 | $\pm 1.20$ | (X) | (X) |
| Average family size | 2.73 | $\pm 1.39$ | (X) | (X) |
| RELATIONSHIP |  |  |  |  |
| Population in households | 101 | $\pm 76$ | 101 | (X) |
| Householder | 38 | $\pm 29$ | 37.6\% | $\pm 16.5$ |

Table: ACSDP5Y2020.DP02

|  | Loomis CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Spouse | 32 | $\pm 29$ | 31.7\% | $\pm 12.5$ |
| Unmarried partner | 6 | $\pm 9$ | 5.9\% | $\pm 9.3$ |
| Child | 23 | $\pm 32$ | 22.8\% | $\pm 23.7$ |
| Other relatives | 2 | $\pm 3$ | 2.0\% | $\pm 3.8$ |
| Other nonrelatives | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| MARITAL STATUS |  |  |  |  |
| Males 15 years and over | 45 | $\pm 37$ | 45 | (X) |
| Never married | 11 | $\pm 17$ | 24.4\% | $\pm 28.7$ |
| Now married, except separated | 27 | $\pm 26$ | 60.0\% | $\pm 29.2$ |
| Separated | 0 | $\pm 13$ | 0.0\% | $\pm 47.5$ |
| Widowed | 0 | $\pm 13$ | 0.0\% | $\pm 47.5$ |
| Divorced | 7 | $\pm 9$ | 15.6\% | $\pm 21.1$ |
| Females 15 years and over | 56 | $\pm 40$ | 56 | (X) |
| Never married | 12 | $\pm 17$ | 21.4\% | $\pm 22.5$ |
| Now married, except separated | 32 | $\pm 29$ | 57.1\% | $\pm 24.5$ |
| Separated | 0 | $\pm 13$ | 0.0\% | $\pm 42.6$ |
| Widowed | 12 | $\pm 14$ | 21.4\% | $\pm 27.0$ |
| Divorced | 0 | $\pm 13$ | 0.0\% | $\pm 42.6$ |
| FERTILITY |  |  |  |  |
| Number of women 15 to 50 years old who had a birth in the past 12 months | 0 | $\pm 13$ | 0 | (X) |
| Unmarried women (widowed, divorced, and never married) | 0 | $\pm 13$ | - | ** |
| Per 1,000 unmarried women | 0 | $\pm 920$ | (X) | (X) |

Table: ACSDP5Y2020.DP02

|  | Loomis CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Per 1,000 women 15 to 50 years old | 0 | $\pm 679$ | (X) | (X) |
| Per 1,000 women 15 to 19 years old | 0 | $\pm 920$ | (X) | (X) |
| Per 1,000 women 20 to 34 years old | - | ** | (X) | (X) |
| Per 1,000 women 35 to 50 years old | 0 | $\pm 1,000$ | (X) | (X) |
| GRANDPARENTS |  |  |  |  |
| Number of grandparents living with own grandchildren under 18 years | 0 | $\pm 13$ | 0 | (X) |
| Grandparents responsible for grandchildren | 0 | $\pm 13$ | - | ** |
| Years responsible for grandchildren |  |  |  |  |
| Less than 1 year | 0 | $\pm 13$ | - | ** |
| 1 or 2 years | 0 | $\pm 13$ | - | ** |
| 3 or 4 years | 0 | $\pm 13$ | - | ** |
| 5 or more years | 0 | $\pm 13$ | - | ** |
| Number of grandparents responsible for own grandchildren under 18 years | 0 | $\pm 13$ | 0 | (X) |
| Who are female | 0 | $\pm 13$ | - | ** |
| Who are married | 0 | $\pm 13$ | - | ** |
| SCHOOL ENROLLMENT |  |  |  |  |
| Population 3 years and over enrolled in school | 23 | $\pm 32$ | 23 | (X) |
| Nursery school, preschool | 0 | $\pm 13$ | 0.0\% | $\pm 66.4$ |
| Kindergarten | 0 | $\pm 13$ | 0.0\% | $\pm 66.4$ |

Table: ACSDP5Y2020.DP02

|  | Loomis CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Elementary school (grades 1-8) | 0 | $\pm 13$ | 0.0\% | $\pm 66.4$ |
| High school (grades 9-12) | 23 | $\pm 32$ | 100.0\% | $\pm 66.4$ |
| College or graduate school | 0 | $\pm 13$ | 0.0\% | $\pm 66.4$ |
| EDUCATIONAL ATTAINMENT |  |  |  |  |
| Population 25 years and over | 78 | $\pm 58$ | 78 | (X) |
| Less than 9th grade | 2 | $\pm 3$ | 2.6\% | $\pm 4.6$ |
| 9th to 12th grade, no diploma | 16 | $\pm 23$ | 20.5\% | $\pm 29.3$ |
| High school graduate (includes equivalency) | 25 | $\pm 27$ | 32.1\% | $\pm 22.4$ |
| Some college, no degree | 22 | $\pm 25$ | 28.2\% | $\pm 18.8$ |
| Associate's degree | 6 | $\pm 9$ | 7.7\% | $\pm 14.8$ |
| Bachelor's degree | 0 | $\pm 13$ | 0.0\% | $\pm 35.8$ |
| Graduate or professional degree | 7 | $\pm 10$ | 9.0\% | $\pm 13.2$ |
| High school graduate or higher | 60 | $\pm 52$ | 76.9\% | $\pm 28.2$ |
| Bachelor's degree or higher | 7 | $\pm 10$ | 9.0\% | $\pm 13.2$ |
| VETERAN STATUS |  |  |  |  |
| Civilian population 18 years and over | 90 | $\pm 65$ | 90 | (X) |
| Civilian veterans | 14 | $\pm 21$ | 15.6\% | $\pm 18.4$ |
| DISABILITY STATUS OF THE CIVILIAN NONINSTITUTIONALIZED POPULATION |  |  |  |  |
| Total Civilian Noninstitutionalized Population | 101 | $\pm 76$ | 101 | (X) |
| With a disability | 20 | $\pm 24$ | 19.8\% | $\pm 21.1$ |

Table: ACSDP5Y2020.DP02

|  | Loomis CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Under 18 years | 11 | $\pm 17$ | 11 | (X) |
| With a disability | 0 | $\pm 13$ | 0.0\% | $\pm 96.0$ |
| 18 to 64 years | 42 | $\pm 39$ | 42 | (X) |
| With a disability | 6 | $\pm 9$ | 14.3\% | $\pm 30.4$ |
| 65 years and over | 48 | $\pm 48$ | 48 | (X) |
| With a disability | 14 | $\pm 22$ | 29.2\% | $\pm 25.6$ |
| RESIDENCE 1 YEAR AGO |  |  |  |  |
| Population 1 year and over | 101 | $\pm 76$ | 101 | (X) |
| Same house | 101 | $\pm 76$ | 100.0\% | $\pm 30.1$ |
| Different house (in the U.S. or abroad) | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Different house in the U.S. | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Same county | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Different county | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Same state | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Different state | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Abroad | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| PLACE OF BIRTH |  |  |  |  |
| Total population | 101 | $\pm 76$ | 101 | (X) |
| Native | 95 | $\pm 70$ | 94.1\% | $\pm 8.5$ |
| Born in United States | 89 | $\pm 67$ | 88.1\% | $\pm 11.4$ |
| State of residence | 63 | $\pm 44$ | 62.4\% | $\pm 14.9$ |
| Different state | 26 | $\pm 28$ | 25.7\% | $\pm 15.8$ |
| Born in Puerto Rico, U.S. Island areas, or born abroad to American parent(s) | 6 | $\pm 9$ | 5.9\% | $\pm 9.3$ |
| Foreign born | 6 | $\pm 10$ | 5.9\% | $\pm 8.5$ |
| U.S. CITIZENSHIP STATUS |  |  |  |  |
| Foreign-born population | 6 | $\pm 10$ | 6 | (X) |
| Naturalized U.S. citizen | 6 | $\pm 10$ | 100.0\% | $\pm 100.0$ |

Table: ACSDP5Y2020.DP02

|  | Loomis CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Not a U.S. citizen | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| YEAR OF ENTRY |  |  |  |  |
| Population born outside the United States | 12 | $\pm 14$ | 12 | (X) |
| Native | 6 | $\pm 9$ | 6 | (X) |
| Entered 2010 or later | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| Entered before 2010 | 6 | $\pm 9$ | 100.0\% | $\pm 100.0$ |
| Foreign born | 6 | $\pm 10$ | 6 | (X) |
| Entered 2010 or later | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| Entered before 2010 | 6 | $\pm 10$ | 100.0\% | $\pm 100.0$ |
| WORLD REGION OF BIRTH OF FOREIGN BORN |  |  |  |  |
| Foreign-born population, excluding population born at sea | 6 | $\pm 10$ | 6 | (X) |
| Europe | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| Asia | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| Africa | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| Oceania | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| Latin America | 6 | $\pm 10$ | 100.0\% | $\pm 100.0$ |
| Northern America | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| LANGUAGE SPOKEN AT HOME |  |  |  |  |
| Population 5 years and over | 101 | $\pm 76$ | 101 | (X) |
| English only | 95 | $\pm 70$ | 94.1\% | $\pm 8.5$ |
| Language other than English | 6 | $\pm 10$ | 5.9\% | $\pm 8.5$ |
| Speak English less than "very well" | 6 | $\pm 10$ | 5.9\% | $\pm 8.5$ |
| Spanish | 6 | $\pm 10$ | 5.9\% | $\pm 8.5$ |
| Speak English less than "very well" | 6 | $\pm 10$ | 5.9\% | $\pm 8.5$ |

Table: ACSDP5Y2020.DP02

|  | Loomis CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Other Indo-European languages | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Speak English less than "very well" | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Asian and Pacific Islander languages | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Speak English less than "very well" | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Other languages | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Speak English less than "very well" | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| ANCESTRY |  |  |  |  |
| Total population | 101 | $\pm 76$ | 101 | (X) |
| American | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Arab | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Czech | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Danish | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Dutch | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| English | 49 | $\pm 49$ | 48.5\% | $\pm 35.0$ |
| French (except Basque) | 33 | $\pm 46$ | 32.7\% | $\pm 34.1$ |
| French Canadian | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| German | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Greek | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Hungarian | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Irish | 6 | $\pm 9$ | 5.9\% | $\pm 9.3$ |
| Italian | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Lithuanian | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Norwegian | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Polish | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Portuguese | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |

Table: ACSDP5Y2020.DP02

|  | Loomis CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Russian | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Scotch-Irish | 8 | $\pm 12$ | 7.9\% | $\pm 11.5$ |
| Scottish | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Slovak | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Subsaharan African | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Swedish | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Swiss | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| Ukrainian | 5 | $\pm 8$ | 5.0\% | $\pm 8.4$ |
| Welsh | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| West Indian (excluding Hispanic origin groups) | 0 | $\pm 13$ | 0.0\% | $\pm 30.1$ |
| COMPUTERS AND INTERNET USE |  |  |  |  |
| Total households | 38 | $\pm 29$ | 38 | (X) |
| With a computer | 38 | $\pm 29$ | 100.0\% | $\pm 51.7$ |
| With a broadband Internet subscription | 38 | $\pm 29$ | 100.0\% | $\pm 51.7$ |

Loomis CDP, Washington

Total population
AGE
Under 5 years
5 to 9 years
10 to 14 years
15 to 19 years
20 to 24 years
25 to 29 years
30 to 34 years
35 to 39 years
40 to 44 years
45 to 49 years
50 to 54 years
55 to 59 years
60 to 64 years
65 to 69 years
70 to 74 years
75 to 79 years
80 to 84 years
85 years and over
SELECTED AGE CATEGORIES
5 to 14 years
15 to 17 years
Under 18 years
18 to 24 years
15 to 44 years
16 years and over
18 years and over
21 years and over
60 years and over
62 years and over
65 years and over
75 years and over

|  |  | Percent |  |  |
| :--- | :--- | :--- | :--- | :--- |
| Total | Percent | Male | Male | Female |
| Estimate | Estimate | Estimate | Estimate | Estimate |
| 125 (X) |  | 73 (X) |  | 52 |


| $000 \%$ | $00.0 \%$ | 0 |
| :---: | :---: | ---: |
| $00.0 \%$ | $00.0 \%$ | 0 |
| $00.0 \%$ | $00.0 \%$ | 0 |
| $3124.8 \%$ | $1317.8 \%$ | 18 |
| $00.0 \%$ | $00.0 \%$ | 0 |
| $00.0 \%$ | $00.0 \%$ | 0 |
| $00.0 \%$ | $00.0 \%$ | 0 |
| $00.0 \%$ | $00.0 \%$ | 0 |
| $129.6 \%$ | $00.0 \%$ | 12 |
| $00.0 \%$ | $00.0 \%$ | 0 |
| $64.8 \%$ | $68.2 \%$ | 0 |
| $108.0 \%$ | $45.5 \%$ | 6 |
| $75.6 \%$ | $79.6 \%$ | 0 |
| $2822.4 \%$ | $2838.4 \%$ | 0 |
| $00.0 \%$ | $00.0 \%$ | 0 |
| $00.0 \%$ | $00.0 \%$ | 0 |
| $3124.8 \%$ | $1520.5 \%$ | 16 |
| $00.0 \%$ | $00.0 \%$ | 0 |


| $00.0 \%$ | $00.0 \%$ | 0 |
| :---: | :---: | ---: |
| $1310.4 \%$ | $1317.8 \%$ | 0 |
| $1310.4 \%$ | $1317.8 \%$ | 0 |
| $1814.4 \%$ | $00.0 \%$ | 18 |

$4334.4 \% \quad 1317.8 \% \quad 30$

125 100.0\% 73 100.0\% 52
$11289.6 \% \quad 6082.2 \% \quad 52$
$9475.2 \% \quad 6082.2 \% \quad 34$
$6652.8 \% \quad 5068.5 \% \quad 16$
$5947.2 \% \quad 4358.9 \% \quad 16$
59 47.2\% 43 58.9\% 16
$3124.8 \% \quad 15$ 20.5\% 16

## SUMMARY INDICATORS



Malott CDP, Washington

| Percent |  | Percent | Percent |
| :---: | :---: | :---: | :---: |
| Female | Total Percent | Male Male | Female Female |
| Estimate | Estimate Estimate | Estimate Estimate | Estimate Estimate |
| (X) | 808 (X) | 412 (X) | 396 (X) |
| 0.0\% | 64 7.9\% | 17 4.1\% | 47 11.9\% |
| 0.0\% | 91 11.3\% | 38 9.2\% | 53 13.4\% |
| 0.0\% | 106 13.1\% | 67 16.3\% | 39 9.8\% |
| 34.6\% | 57 7.1\% | 37 9.0\% | 20 5.1\% |
| 0.0\% | 40 5.0\% | 40 9.7\% | 0 0.0\% |
| 0.0\% | 66 8.2\% | $317.5 \%$ | 35 8.8\% |
| 0.0\% | 0 0.0\% | 0 0.0\% | 0 0.0\% |
| 0.0\% | 130 16.1\% | 45 10.9\% | 85 21.5\% |
| 23.1\% | 11 1.4\% | 0 0.0\% | 11 2.8\% |
| 0.0\% | 58 7.2\% | 36 8.7\% | 22 5.6\% |
| 0.0\% | 46 5.7\% | 14 3.4\% | 32 8.1\% |
| 11.5\% | 33 4.1\% | 33 8.0\% | 0 0.0\% |
| 0.0\% | 54 6.7\% | 20 4.9\% | 34 8.6\% |
| 0.0\% | 25 3.1\% | 25 6.1\% | 0 0.0\% |
| 0.0\% | 8 1.0\% | 0 0.0\% | 8 2.0\% |
| 0.0\% | 9 1.1\% | 9 2.2\% | 0 0.0\% |
| 30.8\% | 10 1.2\% | 0 0.0\% | 10 2.5\% |
| 0.0\% | 0 0.0\% | 0 0.0\% | 0 0.0\% |
| 0.0\% | 197 24.4\% | 105 25.5\% | 92 23.2\% |
| 0.0\% | 37 4.6\% | 29 7.0\% | 8 2.0\% |
| 0.0\% | 298 36.9\% | 151 36.7\% | 147 37.1\% |
| 34.6\% | 60 7.4\% | 48 11.7\% | 12 3.0\% |
| 57.7\% | 304 37.6\% | 153 37.1\% | 151 38.1\% |
| 100.0\% | 518 64.1\% | 261 63.3\% | 257 64.9\% |
| 100.0\% | 510 63.1\% | 261 63.3\% | 249 62.9\% |
| 65.4\% | 490 60.6\% | 253 61.4\% | 237 59.8\% |
| 30.8\% | 106 13.1\% | 54 13.1\% | 52 13.1\% |
| 30.8\% | 66 8.2\% | 48 11.7\% | 18 4.5\% |
| 30.8\% | 52 6.4\% | 34 8.3\% | 18 4.5\% |
| 30.8\% | 19 2.4\% | 9 2.2\% | 10 2.5\% |


| $(X)$ | $27.2(X)$ | $25.9(X)$ |  | $36.1(X)$ |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
| $(X)$ | $104(X)$ | $(X)$ | $(X)$ | $(X)$ | $(X)$ |
| $(X)$ | $76.4(X)$ | $(X)$ | $(X)$ | $(X)$ | $(X)$ |
| $(X)$ | $11.4(X)$ | $(X)$ | $(X)$ | $(X)$ | $(X)$ |
| $(X)$ | $65.1(X)$ | $(X)$ | $(X)$ | $(X)$ | $(X)$ |
|  |  |  |  |  |  |
| $(X)$ | $(X)$ | $1.0 \%$ | $(X)$ | $(X)$ | $(X)$ |
| $(X)$ | $(X)$ | $0.0 \%$ | $(X)$ | $(X)$ | $(X)$ |


|  | Loomis CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Total |  | Male |  |
|  |  | Margin of |  | Margin of |
|  | Estimate | Error | Estimate | Error |
| Workers 16 years and over |  | $18+/-28$ |  | $6+/-11$ |
| MEANS OF TRANSPORTATION TO I |  |  |  |  |
| Car, truck, or van | 100.0\% | +/-69.9 | 100.0\% | +/-100.0 |
| Drove alone | 100.0\% | +/-69.9 | 100.0\% | +/-100.0 |
| Carpooled | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| In 2-person carpool | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| In 3-person carpool | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| In 4-or-more person carpool | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| Workers per car, truck, or van | N | N | N | N |
| Public transportation (excluding ta | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| Walked | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| Bicycle | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| Taxicab, motorcycle, or other mea | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| Worked at home | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| PLACE OF WORK |  |  |  |  |
| Worked in state of residence | 100.0\% | +/-69.9 | 100.0\% | +/-100.0 |
| Worked in county of residence | 100.0\% | +/-69.9 | 100.0\% | +/-100.0 |
| Worked outside county of residen | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| Worked outside state of residence | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| Living in a place | 100.0\% | +/-69.9 | 100.0\% | +/-100.0 |
| Worked in place of residence | 33.3\% | +/-26.6 | 100.0\% | +/-100.0 |
| Worked outside place of residence | 66.7\% | +/-26.6 | 0.0\% | +/-100.0 |
| Not living in a place | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| Living in 12 selected states | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| Worked in minor civil division of $r \in$ | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| Worked outside minor civil divisior | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| Not living in 12 selected states | 100.0\% | +/-69.9 | 100.0\% | +/-100.0 |
| Workers 16 years and over who di |  | $18+/-28$ |  | $6+/-11$ |
| TIME LEAVING HOME TO GO TO W |  |  |  |  |
| 12:00 a.m. to 4:59 a.m. | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 5:00 a.m. to 5:29 a.m. | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 5:30 a.m. to 5:59 a.m. | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 6:00 a.m. to 6:29 a.m. | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |


| 6:30 a.m. to 6:59 a.m. | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| :---: | :---: | :---: | :---: | :---: |
| 7:00 a.m. to 7:29 a.m. | 33.3\% | +/-26.6 | 100.0\% | +/-100.0 |
| 7:30 a.m. to 7:59 a.m. | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 8:00 a.m. to 8:29 a.m. | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 8:30 a.m. to 8:59 a.m. | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 9:00 a.m. to 11:59 p.m. | 66.7\% | +/-26.6 | 0.0\% | +/-100.0 |
| TRAVEL TIME TO WORK |  |  |  |  |
| Less than 10 minutes | 33.3\% | +/-26.6 | 100.0\% | +/-100.0 |
| 10 to 14 minutes | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 15 to 19 minutes | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 20 to 24 minutes | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 25 to 29 minutes | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 30 to 34 minutes | 66.7\% | +/-26.6 | 0.0\% | +/-100.0 |
| 35 to 44 minutes | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 45 to 59 minutes | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 60 or more minutes | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| Mean travel time to work (minutes N VEHICLES AVAILABLE |  | N | N | N |
|  |  |  |  |  |
| Workers 16 years and over in hous |  | $18+/-28$ |  | $6+/-11$ |
| No vehicle available | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 1 vehicle available | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| 2 vehicles available | 100.0\% | +/-69.9 | 100.0\% | +/-100.0 |
| 3 or more vehicles available | 0.0\% | +/-69.9 | 0.0\% | +/-100.0 |
| PERCENT ALLOCATED |  |  |  |  |
| Means of transportation to work | 0.0\% | (X) | (X) | (X) |
| Private vehicle occupancy | 0.0\% | (X) | (X) | (X) |
| Place of work | 0.0\% | (X) | (X) | (X) |
| Time leaving home to go to work | 0.0\% | (X) | (X) | (X) |
| Travel time to work | 0.0\% | (X) | (X) | (X) |
| Vehicles available | 0.0\% | (X) | (X) | (X) |


| Female | Malott CDP, Washington |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total |  | Male |  |
| Estimate | Margin of |  | Margin of |  | Margin of |
|  | Error | Estimate | Error | Estimate | Error |
|  | $12+/-19$ | $253+/-131$ |  | $140+/-81$ |  |
| 100.0\% | +/-85.6 | 89.7\% | +/-12.2 | 81.4\% | +/-20.5 |
| 100.0\% | +/-85.6 | 65.6\% | +/-28.5 | 37.9\% | +/-35.7 |
| 0.0\% | +/-85.6 | 24.1\% | +/-26.4 | 43.6\% | +/-38.8 |
| 0.0\% | +/-85.6 | 18.2\% | +/-21.9 | 32.9\% | +/-35.2 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.0 | 0.0\% | +/-20.5 |
| 0.0\% | +/-85.6 | 5.9\% | +/-14.9 | 10.7\% | +/-25.4 |
| N | N | $1.19+/-0.29$ |  | $1.43+/-0.72$ |  |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.0 | 0.0\% | +/-20.5 |
| 0.0\% | +/-85.6 | 4.7\% | +/-10.3 | 8.6\% | +/-18.3 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.0 | 0.0\% | +/-20.5 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.0 | 0.0\% | +/-20.5 |
| 0.0\% | +/-85.6 | 5.5\% | +/-9.6 | 10.0\% | +/-17.1 |
| 100.0\% | +/-85.6 | 100.0\% | +/-12.0 | 100.0\% | +/-20.5 |
| 100.0\% | +/-85.6 | 96.0\% | +/-7.1 | 92.9\% | +/-13.1 |
| 0.0\% | +/-85.6 | 4.0\% | +/-7.1 | 7.1\% | +/-13.1 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.0 | 0.0\% | +/-20.5 |
| 100.0\% | +/-85.6 | 100.0\% | +/-12.0 | 100.0\% | +/-20.5 |
| 0.0\% | +/-85.6 | 15.4\% | +/-19.6 | 20.7\% | +/-29.0 |
| 100.0\% | +/-85.6 | 84.6\% | +/-19.6 | 79.3\% | +/-29.0 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.0 | 0.0\% | +/-20.5 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.0 | 0.0\% | +/-20.5 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.0 | 0.0\% | +/-20.5 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.0 | 0.0\% | +/-20.5 |
| 100.0\% | +/-85.6 | 100.0\% | +/-12.0 | 100.0\% | +/-20.5 |
|  | $12+/-19$ | $239+/-130$ |  | 126 +/-79 |  |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.7 | 0.0\% | +/-22.5 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.7 | 0.0\% | +/-22.5 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.7 | 0.0\% | +/-22.5 |
| 0.0\% | +/-85.6 | 5.9\% | +/-9.8 | 11.1\% | +/-19.9 |


| 0.0\% | +/-85.6 | 4.2\% | +/-7.6 | 7.9\% | +/-14.7 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0\% | +/-85.6 | 37.2\% | +/-35.0 | 42.9\% | +/-39.2 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.7 | 0.0\% | +/-22.5 |
| 0.0\% | +/-85.6 | 20.1\% | +/-20.5 | 9.5\% | +/-19.7 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.7 | 0.0\% | +/-22.5 |
| 100.0\% | +/-85.6 | 32.6\% | +/-22.2 | 28.6\% | +/-34.6 |
| 0.0\% | +/-85.6 | 11.3\% | +/-17.8 | 21.4\% | +/-29.4 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.7 | 0.0\% | +/-22.5 |
| 0.0\% | +/-85.6 | 16.7\% | +/-20.4 | 31.7\% | +/-34.6 |
| 0.0\% | +/-85.6 | 33.9\% | +/-19.4 | 35.7\% | +/-32.5 |
| 0.0\% | +/-85.6 | 18.8\% | +/-18.0 | 0.0\% | +/-22.5 |
| 100.0\% | +/-85.6 | 0.0\% | +/-12.7 | 0.0\% | +/-22.5 |
| 0.0\% | +/-85.6 | 13.4\% | +/-17.2 | 0.0\% | +/-22.5 |
| 0.0\% | +/-85.6 | 5.9\% | +/-9.8 | 11.1\% | +/-19.9 |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.7 | 0.0\% | +/-22.5 |
| N | N |  | $22.3+/-6.9$ |  | $17.6+/-7.5$ |
|  | $12+/-19$ |  | $238+/-126$ |  | $125+/-73$ |
| 0.0\% | +/-85.6 | 0.0\% | +/-12.7 | 0.0\% | +/-22.6 |
| 0.0\% | +/-85.6 | 10.9\% | +/-17.1 | 0.0\% | +/-22.6 |
| 100.0\% | +/-85.6 | 40.3\% | +/-34.4 | 48.8\% | +/-36.4 |
| 0.0\% | +/-85.6 | 48.7\% | +/-33.0 | 51.2\% | +/-36.4 |
| (X) | (X) | 11.9\% | (X) | (X) | (X) |
| (X) | (X) | 13.2\% | (X) | (X) | (X) |
| (X) | (X) | 17.8\% | (X) | (X) | (X) |
| (X) | (X) | 12.6\% | (X) | (X) | (X) |
| (X) | (X) | 12.6\% | (X) | (X) | (X) |
| (X) | (X) | 0.0\% | (X) | (X) | (X) |

Female

| Estimate | Margin of |
| :---: | :---: |
|  | Error |
|  | +/-78 |


| $100.0 \%$ | $+/-24.6$ |
| :--- | ---: |
| $100.0 \%$ | $+/-24.6$ |
| $0.0 \%$ | $+/-24.6$ |
| $0.0 \%$ | $+/-24.6$ |
| $0.0 \%$ | $+/-24.6$ |
| $0.0 \%$ | $+/-24.6$ |
|  | $0.98+/-0.07$ |
| $0.0 \%$ | $+/-24.6$ |
| $0.0 \%$ | $+/-24.6$ |
| $0.0 \%$ | $+/-24.6$ |
| $0.0 \%$ | $+/-24.6$ |
| $0.0 \%$ | $+/-24.6$ |


| $100.0 \%$ | $+/-24.6$ |
| :--- | :--- |
| $100.0 \%$ | $+/-24.6$ |

0.0\% $+/-24.6$
0.0\% $+/-24.6$
100.0\% +/-24.6
8.8\% +/-17.9
91.2\% $+/-17.9$
0.0\% $+/-24.6$
0.0\% $+/-24.6$
0.0\% $+/-24.6$
0.0\% $+/-24.6$
$100.0 \% \quad+/-24.6$
$113+/-78$
$0.0 \% \quad+/-24.6$
$0.0 \% \quad+/-24.6$
$0.0 \% \quad+/-24.6$
$0.0 \% \quad+/-24.6$

| $0.0 \%$ | $+/-24.6$ |
| :--- | ---: |
| $31.0 \%$ | $+/-38.7$ |
| $0.0 \%$ | $+/-24.6$ |
| $31.9 \%$ | $+/-36.7$ |
| $0.0 \%$ | $+/-24.6$ |
| $37.2 \%$ | $+/-34.1$ |
|  |  |
| $0.0 \%$ | $+/-24.6$ |
| $0.0 \%$ | $+/-24.6$ |
| $0.0 \%$ | $+/-24.6$ |
| $31.9 \%$ | $+/-36.7$ |
| $39.8 \%$ | $+/-38.3$ |
| $0.0 \%$ | $+/-24.6$ |
| $28.3 \%$ | $+/-33.2$ |
| $0.0 \%$ | $+/-24.6$ |
| $0.0 \%$ | $+/-24.6$ |
|  | 27.7 |
|  | $+/-6.0$ |


|  | $113+/-78$ |
| :--- | ---: |
| $0.0 \%$ | $+/-24.6$ |
| $23.0 \%$ | $+/-32.9$ |
| $31.0 \%$ | $+/-38.7$ |
| $46.0 \%$ | $+/-39.0$ |


| $(X)$ | $(X)$ |
| :--- | :--- |
| $(X)$ | $(X)$ |
| $(X)$ | $(X)$ |
| $(X)$ | $(X)$ |
| $(X)$ | $(X)$ |
| $(X)$ | $(X)$ |

Table: ACSDP5Y2020.DP02

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| HOUSEHOLDS BY TYPE |  |  |  |  |
| Total households | 220 | $\pm 73$ | 220 | (X) |
| Married-couple household | 68 | $\pm 53$ | 30.9\% | $\pm 18.8$ |
| With children of the householder under 18 years | (X) | (X) | (X) | (X) |
| Cohabiting couple household | 13 | $\pm 22$ | 5.9\% | $\pm 9.5$ |
| With children of the householder under 18 years | (X) | (X) | (X) | (X) |
| Male householder, no spouse/partner present | 65 | $\pm 40$ | 29.5\% | $\pm 16.4$ |
| With children of the householder under 18 years | (X) | (X) | (X) | (X) |
| Householder living alone | 34 | $\pm 26$ | 15.5\% | $\pm 12.3$ |
| 65 years and over | 13 | $\pm 20$ | 5.9\% | $\pm 9.4$ |
| Female householder, no spouse/partner present | 74 | $\pm 42$ | 33.6\% | $\pm 18.6$ |
| With children of the householder under 18 years | (X) | (X) | (X) | (X) |
| Householder living alone | 28 | $\pm 26$ | 12.7\% | $\pm 12.5$ |
| 65 years and over | 17 | $\pm 19$ | 7.7\% | $\pm 8.9$ |
| Households with one or more people under 18 years | 57 | $\pm 43$ | 25.9\% | $\pm 17.0$ |
| Households with one or more people 65 years and over | 106 | $\pm 61$ | 48.2\% | $\pm 21.1$ |
| Average household size | 1.86 | $\pm 0.34$ | (X) | (X) |
| Average family size | 2.15 | $\pm 0.41$ | (X) | (X) |
| RELATIONSHIP |  |  |  |  |
| Population in households | 410 | $\pm 144$ | 410 | (X) |
| Householder | 220 | $\pm 73$ | 53.7\% | $\pm 9.6$ |

Table: ACSDP5Y2020.DP02

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Spouse | 59 | $\pm 45$ | 14.4\% | $\pm 9.5$ |
| Unmarried partner | 14 | $\pm 25$ | 3.4\% | $\pm 6.0$ |
| Child | 77 | $\pm 56$ | 18.8\% | $\pm 10.7$ |
| Other relatives | 31 | $\pm 34$ | 7.6\% | $\pm 7.7$ |
| Other nonrelatives | 9 | $\pm 16$ | 2.2\% | $\pm 3.6$ |
| MARITAL STATUS |  |  |  |  |
| Males 15 years and over | 153 | $\pm 57$ | 153 | (X) |
| Never married | 94 | $\pm 47$ | 61.4\% | $\pm 21.4$ |
| Now married, except separated | 59 | $\pm 39$ | 38.6\% | $\pm 21.4$ |
| Separated | 0 | $\pm 13$ | 0.0\% | $\pm 21.5$ |
| Widowed | 0 | $\pm 13$ | 0.0\% | $\pm 21.5$ |
| Divorced | 0 | $\pm 13$ | 0.0\% | $\pm 21.5$ |
| Females 15 years and over | 187 | $\pm 74$ | 187 | (X) |
| Never married | 53 | $\pm 39$ | 28.3\% | $\pm 17.8$ |
| Now married, except separated | 81 | $\pm 59$ | 43.3\% | $\pm 20.7$ |
| Separated | 8 | $\pm 13$ | 4.3\% | $\pm 7.0$ |
| Widowed | 17 | $\pm 19$ | 9.1\% | $\pm 10.7$ |
| Divorced | 28 | $\pm 22$ | 15.0\% | $\pm 13.2$ |
| FERTILITY |  |  |  |  |
| Number of women 15 to 50 years old who had a birth in the past 12 months | 8 | $\pm 14$ | 8 | (X) |
| Unmarried women (widowed, divorced, and never married) | 8 | $\pm 14$ | 100.0\% | $\pm 100.0$ |
| Per 1,000 unmarried women | 125 | $\pm 214$ | (X) | (X) |

Table: ACSDP5Y2020.DP02

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Per 1,000 women 15 to 50 years old | 96 | $\pm 161$ | (X) | (X) |
| Per 1,000 women 15 to 19 years old | - | ** | (X) | (X) |
| Per 1,000 women 20 to 34 years old | 111 | $\pm 191$ | (X) | (X) |
| Per 1,000 women 35 to 50 years old | 0 | $\pm 960$ | (X) | (X) |
| GRANDPARENTS |  |  |  |  |
| Number of grandparents living with own grandchildren under 18 years | 8 | $\pm 13$ | 8 | (X) |
| Grandparents responsible for grandchildren | 8 | $\pm 13$ | 100.0\% | $\pm 100.0$ |
| Years responsible for grandchildren |  |  |  |  |
| Less than 1 year | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| 1 or 2 years | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| 3 or 4 years | 8 | $\pm 13$ | 100.0\% | $\pm 100.0$ |
| 5 or more years | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| Number of grandparents responsible for own grandchildren under 18 years | 8 | $\pm 13$ | 8 | (X) |
| Who are female | 8 | $\pm 13$ | 100.0\% | $\pm 100.0$ |
| Who are married | 8 | $\pm 13$ | 100.0\% | $\pm 100.0$ |
| SCHOOL ENROLLMENT |  |  |  |  |
| Population 3 years and over enrolled in school | 50 | $\pm 37$ | 50 | (X) |
| Nursery school, preschool | 17 | $\pm 19$ | 34.0\% | $\pm 32.6$ |
| Kindergarten | 0 | $\pm 13$ | 0.0\% | $\pm 45.1$ |

Table: ACSDP5Y2020.DP02

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Elementary school (grades 1-8) | 21 | $\pm 23$ | 42.0\% | $\pm 33.8$ |
| High school (grades 9-12) | 0 | $\pm 13$ | 0.0\% | $\pm 45.1$ |
| College or graduate school | 12 | $\pm 18$ | 24.0\% | $\pm 32.3$ |
| EDUCATIONAL ATTAINMENT |  |  |  |  |
| Population 25 years and over | 301 | $\pm 110$ | 301 | (X) |
| Less than 9th grade | 0 | $\pm 13$ | 0.0\% | $\pm 11.7$ |
| 9th to 12th grade, no diploma | 42 | $\pm 40$ | 14.0\% | $\pm 12.5$ |
| High school graduate (includes equivalency) | 109 | $\pm 67$ | 36.2\% | $\pm 19.0$ |
| Some college, no degree | 105 | $\pm 84$ | 34.9\% | $\pm 21.6$ |
| Associate's degree | 4 | $\pm 9$ | 1.3\% | $\pm 3.0$ |
| Bachelor's degree | 31 | $\pm 18$ | 10.3\% | $\pm 6.8$ |
| Graduate or professional degree | 10 | $\pm 16$ | 3.3\% | $\pm 5.5$ |
| High school graduate or higher | 259 | $\pm 103$ | 86.0\% | $\pm 12.5$ |
| Bachelor's degree or higher | 41 | $\pm 21$ | 13.6\% | $\pm 7.7$ |
| VETERAN STATUS |  |  |  |  |
| Civilian population 18 years and over | 340 | $\pm 116$ | 340 | (X) |
| Civilian veterans | 34 | $\pm 32$ | 10.0\% | $\pm 8.7$ |
| DISABILITY STATUS OF THE CIVILIAN NONINSTITUTIONALIZED POPULATION |  |  |  |  |
| Total Civilian Noninstitutionalized Population | 410 | $\pm 144$ | 410 | (X) |
| With a disability | 140 | $\pm 58$ | 34.1\% | $\pm 11.6$ |

Table: ACSDP5Y2020.DP02

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Under 18 years | 70 | $\pm 54$ | 70 | (X) |
| With a disability | 6 | $\pm 11$ | 8.6\% | $\pm 12.2$ |
| 18 to 64 years | 192 | $\pm 88$ | 192 | (X) |
| With a disability | 68 | $\pm 49$ | 35.4\% | $\pm 17.8$ |
| 65 years and over | 148 | $\pm 99$ | 148 | (X) |
| With a disability | 66 | $\pm 45$ | 44.6\% | $\pm 23.9$ |
| RESIDENCE 1 YEAR AGO |  |  |  |  |
| Population 1 year and over | 403 | $\pm 140$ | 403 | (X) |
| Same house | 403 | $\pm 140$ | 100.0\% | $\pm 8.9$ |
| Different house (in the U.S. or abroad) | 0 | $\pm 13$ | 0.0\% | $\pm 8.9$ |
| Different house in the U.S. | 0 | $\pm 13$ | 0.0\% | $\pm 8.9$ |
| Same county | 0 | $\pm 13$ | 0.0\% | $\pm 8.9$ |
| Different county | 0 | $\pm 13$ | 0.0\% | $\pm 8.9$ |
| Same state | 0 | $\pm 13$ | 0.0\% | $\pm 8.9$ |
| Different state | 0 | $\pm 13$ | 0.0\% | $\pm 8.9$ |
| Abroad | 0 | $\pm 13$ | 0.0\% | $\pm 8.9$ |
| PLACE OF BIRTH |  |  |  |  |
| Total population | 410 | $\pm 144$ | 410 | (X) |
| Native | 388 | $\pm 130$ | 94.6\% | $\pm 8.1$ |
| Born in United States | 388 | $\pm 130$ | 94.6\% | $\pm 8.1$ |
| State of residence | 359 | $\pm 126$ | 87.6\% | $\pm 12.3$ |
| Different state | 29 | $\pm 27$ | 7.1\% | $\pm 6.0$ |
| Born in Puerto Rico, U.S. Island areas, or born abroad to American parent(s) | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Foreign born | 22 | $\pm 36$ | 5.4\% | $\pm 8.1$ |
| U.S. CITIZENSHIP STATUS |  |  |  |  |
| Foreign-born population | 22 | $\pm 36$ | 22 | (X) |
| Naturalized U.S. citizen | 22 | $\pm 36$ | 100.0\% | $\pm 67.9$ |

Table: ACSDP5Y2020.DP02

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Not a U.S. citizen | 0 | $\pm 13$ | 0.0\% | $\pm 67.9$ |
| YEAR OF ENTRY |  |  |  |  |
| Population born outside the United States | 22 | $\pm 36$ | 22 | (X) |
| Native | 0 | $\pm 13$ | 0 | (X) |
| Entered 2010 or later | 0 | $\pm 13$ | - | ** |
| Entered before 2010 | 0 | $\pm 13$ | - | ** |
| Foreign born | 22 | $\pm 36$ | 22 | (X) |
| Entered 2010 or later | 0 | $\pm 13$ | 0.0\% | $\pm 67.9$ |
| Entered before 2010 | 22 | $\pm 36$ | 100.0\% | $\pm 67.9$ |
| WORLD REGION OF BIRTH OF FOREIGN BORN |  |  |  |  |
| Foreign-born population, excluding population born at sea | 22 | $\pm 36$ | 22 | (X) |
| Europe | 0 | $\pm 13$ | 0.0\% | $\pm 67.9$ |
| Asia | 22 | $\pm 36$ | 100.0\% | $\pm 67.9$ |
| Africa | 0 | $\pm 13$ | 0.0\% | $\pm 67.9$ |
| Oceania | 0 | $\pm 13$ | 0.0\% | $\pm 67.9$ |
| Latin America | 0 | $\pm 13$ | 0.0\% | $\pm 67.9$ |
| Northern America | 0 | $\pm 13$ | 0.0\% | $\pm 67.9$ |
| LANGUAGE SPOKEN AT HOME |  |  |  |  |
| Population 5 years and over | 367 | $\pm 126$ | 367 | (X) |
| English only | 361 | $\pm 124$ | 98.4\% | $\pm 2.9$ |
| Language other than English | 6 | $\pm 11$ | 1.6\% | $\pm 2.9$ |
| Speak English less than "very well" | 0 | $\pm 13$ | 0.0\% | $\pm 9.7$ |
| Spanish | 0 | $\pm 13$ | 0.0\% | $\pm 9.7$ |
| Speak English less than "very well" | 0 | $\pm 13$ | 0.0\% | $\pm 9.7$ |

Table: ACSDP5Y2020.DP02

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Other Indo-European languages | 0 | $\pm 13$ | 0.0\% | $\pm 9.7$ |
| Speak English less than "very well" | 0 | $\pm 13$ | 0.0\% | $\pm 9.7$ |
| Asian and Pacific Islander languages | 0 | $\pm 13$ | 0.0\% | $\pm 9.7$ |
| Speak English less than "very well" | 0 | $\pm 13$ | 0.0\% | $\pm 9.7$ |
| Other languages | 6 | $\pm 11$ | 1.6\% | $\pm 2.9$ |
| Speak English less than "very well" | 0 | $\pm 13$ | 0.0\% | $\pm 9.7$ |
| ANCESTRY |  |  |  |  |
| Total population | 410 | $\pm 144$ | 410 | (X) |
| American | 14 | $\pm 25$ | 3.4\% | $\pm 6.0$ |
| Arab | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Czech | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Danish | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Dutch | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| English | 9 | $\pm 16$ | 2.2\% | $\pm 3.6$ |
| French (except Basque) | 9 | $\pm 16$ | 2.2\% | $\pm 3.6$ |
| French Canadian | 15 | $\pm 24$ | 3.7\% | $\pm 6.1$ |
| German | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Greek | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Hungarian | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Irish | 11 | $\pm 17$ | 2.7\% | $\pm 4.2$ |
| Italian | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Lithuanian | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Norwegian | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Polish | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Portuguese | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |

Table: ACSDP5Y2020.DP02

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Russian | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Scotch-Irish | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Scottish | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Slovak | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Subsaharan African | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Swedish | 38 | $\pm 39$ | 9.3\% | $\pm 9.1$ |
| Swiss | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Ukrainian | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Welsh | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| West Indian (excluding Hispanic origin groups) | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| COMPUTERS AND INTERNET USE |  |  |  |  |
| Total households | 220 | $\pm 73$ | 220 | (X) |
| With a computer | 171 | $\pm 66$ | 77.7\% | $\pm 17.4$ |
| With a broadband Internet subscription | 171 | $\pm 66$ | 77.7\% | $\pm 17.4$ |

Table: ACSDP5Y2020.DP03

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| EMPLOYMENT STATUS |  |  |  |  |
| Population 16 years and over | 340 | $\pm 116$ | 340 | (X) |
| In labor force | 129 | $\pm 65$ | 37.9\% | $\pm 14.5$ |
| Civilian labor force | 129 | $\pm 65$ | 37.9\% | $\pm 14.5$ |
| Employed | 129 | $\pm 65$ | 37.9\% | $\pm 14.5$ |
| Unemployed | 0 | $\pm 13$ | 0.0\% | $\pm 10.4$ |
| Armed Forces | 0 | $\pm 13$ | 0.0\% | $\pm 10.4$ |
| Not in labor force | 211 | $\pm 89$ | 62.1\% | $\pm 14.5$ |
| Civilian labor force | 129 | $\pm 65$ | 129 | (X) |
| Unemployment Rate | (X) | (X) | 0.0\% | $\pm 24.8$ |
| Females 16 years and over | 187 | $\pm 74$ | 187 | (X) |
| In labor force | 73 | $\pm 44$ | 39.0\% | $\pm 21.5$ |
| Civilian labor force | 73 | $\pm 44$ | 39.0\% | $\pm 21.5$ |
| Employed | 73 | $\pm 44$ | 39.0\% | $\pm 21.5$ |
| Own children of the householder under 6 years | 49 | $\pm 34$ | 49 | (X) |
| All parents in family in labor force | 31 | $\pm 33$ | 63.3\% | $\pm 42.2$ |
| Own children of the householder 6 to 17 years | 21 | $\pm 23$ | 21 | (X) |
| All parents in family in labor force | 21 | $\pm 23$ | 100.0\% | $\pm 69.5$ |
| COMMUTING TO WORK |  |  |  |  |
| Workers 16 years and over | 129 | $\pm 65$ | 129 | (X) |
| Car, truck, or van -- drove alone | 111 | $\pm 65$ | 86.0\% | $\pm 17.4$ |
| Car, truck, or van -- carpooled | 18 | $\pm 22$ | 14.0\% | $\pm 17.4$ |
| Public transportation (excluding taxicab) | 0 | $\pm 13$ | 0.0\% | $\pm 24.8$ |
| Walked | 0 | $\pm 13$ | 0.0\% | $\pm 24.8$ |

Table: ACSDP5Y2020.DP03

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Other means | 0 | $\pm 13$ | 0.0\% | $\pm 24.8$ |
| Worked from home | 0 | $\pm 13$ | 0.0\% | $\pm 24.8$ |
| Mean travel time to work (minutes) | 16.4 | $\pm 6.3$ | (X) | (X) |
| OCCUPATION |  |  |  |  |
| Civilian employed population 16 years and over | 129 | $\pm 65$ | 129 | (X) |
| Management, business, science, and arts occupations | 41 | $\pm 33$ | 31.8\% | $\pm 24.8$ |
| Service occupations | 38 | $\pm 49$ | 29.5\% | $\pm 29.0$ |
| Sales and office occupations | 28 | $\pm 29$ | 21.7\% | $\pm 20.3$ |
| Natural resources, construction, and maintenance occupations | 4 | $\pm 9$ | 3.1\% | $\pm 7.3$ |
| Production, transportation, and material moving occupations | 18 | $\pm 24$ | 14.0\% | $\pm 18.0$ |
| INDUSTRY |  |  |  |  |
| Civilian employed population 16 years and over | 129 | $\pm 65$ | 129 | (X) |
| Agriculture, forestry, fishing and hunting, and mining | 0 | $\pm 13$ | 0.0\% | $\pm 24.8$ |
| Construction | 24 | $\pm 35$ | 18.6\% | $\pm 26.0$ |
| Manufacturing | 0 | $\pm 13$ | 0.0\% | $\pm 24.8$ |
| Wholesale trade | 0 | $\pm 13$ | 0.0\% | $\pm 24.8$ |
| Retail trade | 18 | $\pm 24$ | 14.0\% | $\pm 18.0$ |
| Transportation and warehousing, and utilities | 4 | $\pm 9$ | 3.1\% | $\pm 7.3$ |
| Information | 0 | $\pm 13$ | 0.0\% | $\pm 24.8$ |

Table: ACSDP5Y2020.DP03

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Finance and insurance, and real estate and rental and leasing | 0 | $\pm 13$ | 0.0\% | $\pm 24.8$ |
| Professional, scientific, and management, and administrative and waste management services | 14 | $\pm 21$ | 10.9\% | $\pm 15.8$ |
| Educational services, and health care and social assistance | 17 | $\pm 20$ | 13.2\% | $\pm 17.0$ |
| Arts, entertainment, and recreation, and accommodation and food services | 39 | $\pm 38$ | 30.2\% | $\pm 21.5$ |
| Other services, except public administration | 0 | $\pm 13$ | 0.0\% | $\pm 24.8$ |
| Public administration | 13 | $\pm 22$ | 10.1\% | $\pm 14.0$ |
| CLASS OF WORKER |  |  |  |  |
| Civilian employed population 16 years and over | 129 | $\pm 65$ | 129 | (X) |
| Private wage and salary workers | 97 | $\pm 51$ | 75.2\% | $\pm 20.1$ |
| Government workers | 32 | $\pm 33$ | 24.8\% | $\pm 20.1$ |
| Self-employed in own not incorporated business workers | 0 | $\pm 13$ | 0.0\% | $\pm 24.8$ |
| Unpaid family workers | 0 | $\pm 13$ | 0.0\% | $\pm 24.8$ |
| INCOME AND BENEFITS (IN 2020 INFLATION-ADJUSTED DOLLARS) |  |  |  |  |
| Total households | 220 | $\pm 73$ | 220 | (X) |

Table: ACSDP5Y2020.DP03

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Less than \$10,000 | 25 | $\pm 30$ | 11.4\% | $\pm 12.9$ |
| \$10,000 to \$14,999 | 68 | $\pm 41$ | 30.9\% | $\pm 17.6$ |
| \$15,000 to \$24,999 | 0 | $\pm 13$ | 0.0\% | $\pm 15.6$ |
| \$25,000 to \$34,999 | 0 | $\pm 13$ | 0.0\% | $\pm 15.6$ |
| \$35,000 to \$49,999 | 54 | $\pm 38$ | 24.5\% | $\pm 16.8$ |
| \$50,000 to \$74,999 | 35 | $\pm 41$ | 15.9\% | $\pm 15.7$ |
| \$75,000 to \$99,999 | 0 | $\pm 13$ | 0.0\% | $\pm 15.6$ |
| \$100,000 to \$149,999 | 38 | $\pm 36$ | 17.3\% | $\pm 16.1$ |
| \$150,000 to \$199,999 | 0 | $\pm 13$ | 0.0\% | $\pm 15.6$ |
| \$200,000 or more | 0 | $\pm 13$ | 0.0\% | $\pm 15.6$ |
| Median household income (dollars) | 39,375 | $\pm 21,672$ | (X) | (X) |
| Mean household income (dollars) | 41,972 | $\pm 14,884$ | (X) | (X) |
| With earnings | 128 | $\pm 55$ | 58.2\% | $\pm 19.3$ |
| Mean earnings (dollars) | 40,205 | $\pm 14,711$ | (X) | (X) |
| With Social Security | 131 | $\pm 63$ | 59.5\% | $\pm 19.9$ |
| Mean Social Security income (dollars) | 19,788 | $\pm 5,473$ | (X) | (X) |
| With retirement income | 38 | $\pm 41$ | 17.3\% | $\pm 16.7$ |
| Mean retirement income (dollars) | 31,226 | $\pm 3,930$ | (X) | (X) |
| With Supplemental Security Income | 19 | $\pm 17$ | 8.6\% | $\pm 7.5$ |
| Mean Supplemental Security Income (dollars) | N | N | (X) | (X) |
| With cash public assistance income | 12 | $\pm 18$ | 5.5\% | $\pm 7.9$ |
| Mean cash public assistance income (dollars) | N | N | (X) | (X) |

Table: ACSDP5Y2020.DP03

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| With Food Stamp/SNAP benefits in the past 12 months | 97 | $\pm 52$ | 44.1\% | $\pm 18.3$ |
| Families | 145 | $\pm 74$ | 145 | (X) |
| Less than \$10,000 | 17 | $\pm 26$ | 11.7\% | $\pm 17.4$ |
| \$10,000 to \$14,999 | 24 | $\pm 26$ | 16.6\% | $\pm 16.7$ |
| \$15,000 to \$24,999 | 0 | $\pm 13$ | 0.0\% | $\pm 22.5$ |
| \$25,000 to \$34,999 | 14 | $\pm 21$ | 9.7\% | $\pm 14.8$ |
| \$35,000 to \$49,999 | 34 | $\pm 32$ | 23.4\% | $\pm 21.8$ |
| \$50,000 to \$74,999 | 22 | $\pm 36$ | 15.2\% | $\pm 21.6$ |
| \$75,000 to \$99,999 | 0 | $\pm 13$ | 0.0\% | $\pm 22.5$ |
| \$100,000 to \$149,999 | 34 | $\pm 37$ | 23.4\% | $\pm 23.4$ |
| \$150,000 to \$199,999 | 0 | $\pm 13$ | 0.0\% | $\pm 22.5$ |
| \$200,000 or more | 0 | $\pm 13$ | 0.0\% | $\pm 22.5$ |
| Median family income (dollars) | 39,479 | $\pm 16,663$ | (X) | (X) |
| Mean family income (dollars) | 47,919 | $\pm 19,355$ | (X) | (X) |
| Per capita income (dollars) | 20,174 | $\pm 8,101$ | (X) | (X) |
| Nonfamily households | 75 | $\pm 43$ | 75 | (X) |
| Median nonfamily income (dollars) | 13,831 | $\pm 10,856$ | (X) | (X) |
| Mean nonfamily income (dollars) | 29,217 | $\pm 15,761$ | (X) | (X) |
| Median earnings for workers (dollars) | 30,804 | $\pm 12,088$ | (X) | (X) |
| Median earnings for male fulltime, year-round workers (dollars) | - | ** | (X) | (X) |

Table: ACSDP5Y2020.DP03

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Median earnings for female fulltime, year-round workers (dollars) | 33,125 | $\pm 11,938$ | (X) | (X) |
| HEALTH INSURANCE COVERAGE |  |  |  |  |
| Civilian noninstitutionalized population | 410 | $\pm 144$ | 410 | (X) |
| With health insurance coverage | 350 | $\pm 114$ | 85.4\% | $\pm 9.8$ |
| With private health insurance | 105 | $\pm 49$ | 25.6\% | $\pm 11.9$ |
| With public coverage | 290 | $\pm 113$ | 70.7\% | $\pm 11.9$ |
| No health insurance coverage | 60 | $\pm 51$ | 14.6\% | $\pm 9.8$ |
| Civilian noninstitutionalized population under 19 years | 70 | $\pm 54$ | 70 | (X) |
| No health insurance coverage | 0 | $\pm 13$ | 0.0\% | $\pm 38.1$ |
| Civilian noninstitutionalized population 19 to 64 years | 192 | $\pm 88$ | 192 | (X) |
| In labor force: | 105 | $\pm 61$ | 105 | (X) |
| Employed: | 105 | $\pm 61$ | 105 | (X) |
| With health insurance coverage | 91 | $\pm 59$ | 86.7\% | $\pm 19.9$ |
| With private health insurance | 60 | $\pm 41$ | 57.1\% | $\pm 25.6$ |
| With public coverage | 31 | $\pm 32$ | 29.5\% | $\pm 22.7$ |
| No health insurance coverage | 14 | $\pm 21$ | 13.3\% | $\pm 19.9$ |
| Unemployed: | 0 | $\pm 13$ | 0 | (X) |

Table: ACSDP5Y2020.DP03

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| With health insurance coverage | 0 | $\pm 13$ | - | ** |
| With private health insurance | 0 | $\pm 13$ | - | ** |
| With public coverage | 0 | $\pm 13$ | - | ** |
| No health insurance coverage | 0 | $\pm 13$ | - | ** |
| Not in labor force: | 87 | $\pm 58$ | 87 | (X) |
| With health insurance coverage | 63 | $\pm 37$ | 72.4\% | $\pm 23.2$ |
| With private health insurance | 0 | $\pm 13$ | 0.0\% | $\pm 33.4$ |
| With public coverage | 63 | $\pm 37$ | 72.4\% | $\pm 23.2$ |
| No health insurance coverage | 24 | $\pm 29$ | 27.6\% | $\pm 23.2$ |
| PERCENTAGE OF FAMILIES AND PEOPLE WHOSE INCOME IN THE PAST 12 MONTHS IS BELOW THE POVERTY LEVEL |  |  |  |  |
| All families | (X) | (X) | 28.3\% | $\pm 21.5$ |
| With related children of the householder under 18 years | (X) | (X) | 61.4\% | $\pm 37.1$ |
| With related children of the householder under 5 years only | (X) | (X) | 68.0\% | $\pm 56.5$ |
| Married couple families | (X) | (X) | 0.0\% | $\pm 38.6$ |
| With related children of the householder under 18 years | (X) | (X) | - | ** |

Table: ACSDP5Y2020.DP03

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| With related children of the householder under 5 years only | (X) | (X) | - | ** |
| Families with female householder, no spouse present | (X) | (X) | 52.2\% | $\pm 41.3$ |
| With related children of the householder under 18 years | (X) | (X) | 45.0\% | $\pm 46.3$ |
| With related children of the householder under 5 years only | (X) | (X) | 0.0\% | $\pm 100.0$ |
| All people | (X) | (X) | 33.9\% | $\pm 18.2$ |
| Under 18 years | (X) | (X) | 48.6\% | $\pm 44.5$ |
| Related children of the householder under 18 years | (X) | (X) | 48.6\% | $\pm 44.5$ |
| Related children of the householder under 5 years | (X) | (X) | 46.5\% | $\pm 41.2$ |
| Related children of the householder 5 to 17 years | (X) | (X) | 51.9\% | $\pm 51.9$ |
| 18 years and over | (X) | (X) | 30.9\% | $\pm 17.2$ |
| 18 to 64 years | (X) | (X) | 44.8\% | $\pm 21.2$ |
| 65 years and over | (X) | (X) | 12.8\% | $\pm 16.7$ |
| People in families | (X) | (X) | 28.5\% | $\pm 21.9$ |
| Unrelated individuals 15 years and over | (X) | (X) | 51.0\% | $\pm 29.9$ |

Table: ACSDP5Y2020.DP05

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| SEX AND AGE |  |  |  |  |
| Total population | 410 | $\pm 144$ | 410 | (X) |
| Male | 216 | $\pm 79$ | 52.7\% | $\pm 7.1$ |
| Female | 194 | $\pm 77$ | 47.3\% | $\pm 7.1$ |
| Sex ratio (males per 100 females) | 111.3 | $\pm 32.5$ | (X) | (X) |
| Under 5 years | 43 | $\pm 28$ | 10.5\% | $\pm 5.1$ |
| 5 to 9 years | 20 | $\pm 24$ | 4.9\% | $\pm 5.2$ |
| 10 to 14 years | 7 | $\pm 11$ | 1.7\% | $\pm 2.4$ |
| 15 to 19 years | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| 20 to 24 years | 39 | $\pm 49$ | 9.5\% | $\pm 11.4$ |
| 25 to 34 years | 82 | $\pm 58$ | 20.0\% | $\pm 11.4$ |
| 35 to 44 years | 30 | $\pm 26$ | 7.3\% | $\pm 6.6$ |
| 45 to 54 years | 16 | $\pm 17$ | 3.9\% | $\pm 4.6$ |
| 55 to 59 years | 17 | $\pm 21$ | 4.1\% | $\pm 5.1$ |
| 60 to 64 years | 8 | $\pm 13$ | 2.0\% | $\pm 3.2$ |
| 65 to 74 years | 78 | $\pm 77$ | 19.0\% | $\pm 18.5$ |
| 75 to 84 years | 60 | $\pm 53$ | 14.6\% | $\pm 11.8$ |
| 85 years and over | 10 | $\pm 16$ | 2.4\% | $\pm 3.7$ |
| Median age (years) | 37.5 | $\pm 31.6$ | (X) | (X) |
| Under 18 years | 70 | $\pm 54$ | 17.1\% | $\pm 10.4$ |
| 16 years and over | 340 | $\pm 116$ | 82.9\% | $\pm 10.4$ |
| 18 years and over | 340 | $\pm 116$ | 82.9\% | $\pm 10.4$ |
| 21 years and over | 327 | $\pm 109$ | 79.8\% | $\pm 10.6$ |
| 62 years and over | 148 | $\pm 99$ | 36.1\% | $\pm 20.6$ |
| 65 years and over | 148 | $\pm 99$ | 36.1\% | $\pm 20.6$ |
| 18 years and over | 340 | $\pm 116$ | 340 | (X) |
| Male | 153 | $\pm 57$ | 45.0\% | $\pm 8.8$ |
| Female | 187 | $\pm 74$ | 55.0\% | $\pm 8.8$ |

Table: ACSDP5Y2020.DP05

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Sex ratio (males per 100 females) | 81.8 | $\pm 30.0$ | (X) | (X) |
| 65 years and over | 148 | $\pm 99$ | 148 | (X) |
| Male | 57 | $\pm 43$ | 38.5\% | $\pm 14.0$ |
| Female | 91 | $\pm 65$ | 61.5\% | $\pm 14.0$ |
| Sex ratio (males per 100 females) | 62.6 | $\pm 38.6$ | (X) | (X) |
| RACE |  |  |  |  |
| Total population | 410 | $\pm 144$ | 410 | (X) |
| One race | 383 | $\pm 134$ | 93.4\% | $\pm 8.9$ |
| Two or more races | 27 | $\pm 39$ | 6.6\% | $\pm 8.9$ |
| One race | 383 | $\pm 134$ | 93.4\% | $\pm 8.9$ |
| White | 85 | $\pm 51$ | 20.7\% | $\pm 10.1$ |
| Black or African American | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| American Indian and Alaska Native | 276 | $\pm 99$ | 67.3\% | $\pm 13.7$ |
| Cherokee tribal grouping | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Chippewa tribal grouping | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Navajo tribal grouping | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Sioux tribal grouping | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Asian | 22 | $\pm 36$ | 5.4\% | $\pm 8.1$ |
| Asian Indian | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Chinese | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Filipino | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Japanese | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Korean | 22 | $\pm 36$ | 5.4\% | $\pm 8.1$ |
| Vietnamese | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Other Asian | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Native Hawaiian and Other Pacific Islander | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |

Table: ACSDP5Y2020.DP05

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Native Hawaiian | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Chamorro | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Samoan | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Other Pacific Islander | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Some other race | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Two or more races | 27 | $\pm 39$ | 6.6\% | $\pm 8.9$ |
| White and Black or African American | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| White and American Indian and Alaska Native | 27 | $\pm 39$ | 6.6\% | $\pm 8.9$ |
| White and Asian | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Black or African American and American Indian and Alaska Native | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Race alone or in combination with one or more other races |  |  |  |  |
| Total population | 410 | $\pm 144$ | 410 | (X) |
| White | 112 | $\pm 63$ | 27.3\% | $\pm 11.1$ |
| Black or African American | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| American Indian and Alaska Native | 303 | $\pm 111$ | 73.9\% | $\pm 13.1$ |
| Asian | 22 | $\pm 36$ | 5.4\% | $\pm 8.1$ |
| Native Hawaiian and Other Pacific Islander | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Some other race | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| HISPANIC OR LATINO AND RACE |  |  |  |  |
| Total population | 410 | $\pm 144$ | 410 | (X) |
| Hispanic or Latino (of any race) | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Mexican | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |

Table: ACSDP5Y2020.DP05

|  | North Omak CDP, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Puerto Rican | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Cuban | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Other Hispanic or Latino | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Not Hispanic or Latino | 410 | $\pm 144$ | 100.0\% | $\pm 8.7$ |
| White alone | 85 | $\pm 51$ | 20.7\% | $\pm 10.1$ |
| Black or African American alone | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| American Indian and Alaska Native alone | 276 | $\pm 99$ | 67.3\% | $\pm 13.7$ |
| Asian alone | 22 | $\pm 36$ | 5.4\% | $\pm 8.1$ |
| Native Hawaiian and Other Pacific Islander alone | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Some other race alone | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Two or more races | 27 | $\pm 39$ | 6.6\% | $\pm 8.9$ |
| Two races including Some other race | 0 | $\pm 13$ | 0.0\% | $\pm 8.7$ |
| Two races excluding Some other race, and Three or more races | 27 | $\pm 39$ | 6.6\% | $\pm 8.9$ |
| Total housing units | 238 | $\pm 74$ | (X) | (X) |
| CITIZEN, VOTING AGE POPULATION |  |  |  |  |
| Citizen, 18 and over population | 340 | $\pm 116$ | 340 | (X) |
| Male | 153 | $\pm 57$ | 45.0\% | $\pm 8.8$ |
| Female | 187 | $\pm 74$ | 55.0\% | $\pm 8.8$ |


| Cenisis | Okanogan County, Washington |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Percent | Male | Percent Male | Female | Percent Female |
|  | Estimate | Estimate | Estimate | Estimate | Estimate | Estimate |
| Total population | 41,638 | (X) | 21,061 | (X) | 20,577 | (X) |
| AGE |  |  |  |  |  |  |
| Under 5 years | 2,608 | 6.3\% | 1,371 | 6.5\% | 1,237 | 6.0\% |
| 5 to 9 years | 2,663 | 6.4\% | 1,344 | 6.4\% | 1,319 | 6.4\% |
| 10 to 14 years | 2,737 | 6.6\% | 1,458 | 6.9\% | 1,279 | 6.2\% |
| 15 to 19 years | 2,368 | 5.7\% | 1,244 | 5.9\% | 1,124 | 5.5\% |
| 20 to 24 years | 2,236 | 5.4\% | 1,185 | 5.6\% | 1,051 | 5.1\% |
| 25 to 29 years | 2,152 | 5.2\% | 1,072 | 5.1\% | 1,080 | 5.2\% |
| 30 to 34 years | 2,246 | 5.4\% | 1,150 | 5.5\% | 1,096 | 5.3\% |
| 35 to 39 years | 2,358 | 5.7\% | 1,126 | 5.3\% | 1,232 | 6.0\% |
| 40 to 44 years | 2,304 | 5.5\% | 1,243 | 5.9\% | 1,061 | 5.2\% |
| 45 to 49 years | 2,264 | 5.4\% | 1,132 | 5.4\% | 1,132 | 5.5\% |
| 50 to 54 years | 2,553 | 6.1\% | 1,280 | 6.1\% | 1,273 | 6.2\% |
| 55 to 59 years | 3,210 | 7.7\% | 1,413 | 6.7\% | 1,797 | 8.7\% |
| 60 to 64 years | 3,313 | 8.0\% | 1,740 | 8.3\% | 1,573 | 7.6\% |
| 65 to 69 years | 3,012 | 7.2\% | 1,666 | 7.9\% | 1,346 | 6.5\% |
| 70 to 74 years | 2,340 | 5.6\% | 1,100 | 5.2\% | 1,240 | 6.0\% |
| 75 to 79 years | 1,477 | 3.5\% | 727 | 3.5\% | 750 | 3.6\% |
| 80 to 84 years | 1,124 | 2.7\% | 556 | 2.6\% | 568 | 2.8\% |
| 85 years and over | 673 | 1.6\% | 254 | 1.2\% | 419 | 2.0\% |
| SELECTED AGE CATEGORIES |  |  |  |  |  |  |
| 5 to 14 years | 5,400 | 13.0\% | 2,802 | 13.3\% | 2,598 | 12.6\% |
| 15 to 17 years | 1,556 | 3.7\% | 802 | 3.8\% | 754 | 3.7\% |
| Under 18 years | 9,564 | 23.0\% | 4,975 | 23.6\% | 4,589 | 22.3\% |
| 18 to 24 years | 3,048 | 7.3\% | 1,627 | 7.7\% | 1,421 | 6.9\% |
| 15 to 44 years | 13,664 | 32.8\% | 7,020 | 33.3\% | 6,644 | 32.3\% |
| 16 years and over | 33,122 | 79.5\% | 16,631 | 79.0\% | 16,491 | 80.1\% |
| 18 years and over | 32,074 | 77.0\% | 16,086 | 76.4\% | 15,988 | 77.7\% |
| 21 years and over | 30,992 | 74.4\% | 15,536 | 73.8\% | 15,456 | 75.1\% |
| 60 years and over | 11,939 | 28.7\% | 6,043 | 28.7\% | 5,896 | 28.7\% |
| 62 years and over | 10,802 | 25.9\% | 5,438 | 25.8\% | 5,364 | 26.1\% |
| 65 years and over | 8,626 | 20.7\% | 4,303 | 20.4\% | 4,323 | 21.0\% |


| 75 years and over | 3,274 | $7.9 \%$ | 1,537 | $7.3 \%$ | 1,737 | $8.4 \%$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| SUMMARY INDICATORS |  |  |  |  |  |  |
| Median age (years) | 42.9 | $(X)$ | 42.4 | $(X)$ | 43.9 | $(X)$ |
| Sex ratio (males per 100 females) | 102.4 | $(X)$ | $(X)$ | $(X)$ | $(X)$ | $(X)$ |
| Age dependency ratio | 77.6 | $(X)$ | $(X)$ | $(X)$ | $(X)$ | $(X)$ |
| Old-age dependency ratio | 36.8 | $(X)$ | $(X)$ | $(X)$ | $(X)$ | $(X)$ |
| Child dependency ratio | 40.8 | $(X)$ | $(X)$ | $(X)$ | $(X)$ | $(X)$ |
| PERCENT ALLOCATED |  |  |  |  |  |  |
| Sex | $(X)$ | $0.0 \%$ | $(X)$ | $(X)$ | $(X)$ | $(X)$ |
| Age | $(X)$ | $2.0 \%$ | $(X)$ | $(X)$ | $(X)$ | $(X)$ |

## QuickFacts

Okanogan County, Washington; United States
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## Table

| Families \& Living Arran... | Okanogan <br> County, <br> Washington | United States |
| :--- | :--- | :--- | :--- |

## Value Notes

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 row in TABLE view to learn about sampling error

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(c) Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data

Value Flags
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## QuickFacts

## Okanogan County, Washington; United States

QuickFacts provides statistics for all states and counties, and for cities and towns with a population of 5,000 or more.

## Table

| All Topics | Okanogan County, Washington | United States |
| :---: | :---: | :---: |
| Population, Census, April 1, 2010 | 41,120 | 308,745,538 |
| 2 PEOPLE |  |  |
| Population |  |  |
| Population estimates, July 1, 2019, (V2019) | 42,243 | 328,239,523 |
| Population estimates base, April 1, 2010, (V2019) | 41,117 | 308,758,105 |
| Population, percent change - April 1, 2010 (estimates base) to July 1, 2019, (V2019) | 2.7\% | 6.3\% |
| Population, Census, April 1, 2010 | 41,120 | 308,745,538 |
| Age and Sex |  |  |
| Persons under 5 years, percent | A $6.2 \%$ | A $6.1 \%$ |
| Persons under 18 years, percent | B $23.2 \%$ | B $22.4 \%$ |
| Persons 65 years and over, percent | B $21.6 \%$ | B $16.0 \%$ |
| Female persons, percent | A $49.7 \%$ | B $50.8 \%$ |
| Race and Hispanic Origin |  |  |
| White alone, percent | B $81.5 \%$ | A $76.5 \%$ |
| Black or African American alone, percent (a) | A 0.9\% | - $13.4 \%$ |
| American Indian and Alaska Native alone, percent (a) | - $13.0 \%$ | - 1.3\% |
| Asian alone, percent (a) | ( $1.2 \%$ | ( $5.9 \%$ |
| Native Hawaiian and Other Pacific Islander alone, percent (a) | A 0.3\% | ( $0.2 \%$ |
| Two or More Races, percent | A 3.1\% | - $2.7 \%$ |
| Hispanic or Latino, percent (b) | A $20.5 \%$ | B $18.3 \%$ |
| White alone, not Hispanic or Latino, percent | B $64.7 \%$ | B $60.4 \%$ |
| Population Characteristics |  |  |
| Veterans, 2014-2018 | 3,501 | 18,611,432 |
| Foreign born persons, percent, 2014-2018 | 10.3\% | 13.5\% |
| Housing |  |  |
| Housing units, July 1, 2019, (V2019) | 23,516 | 139,684,244 |
| Owner-occupied housing unit rate, 2014-2018 | 66.2\% | 63.8\% |
| Median value of owner-occupied housing units, 2014-2018 | \$173,500 | \$204,900 |
| Median selected monthly owner costs -with a mortgage, 2014-2018 | \$1,185 | \$1,558 |
| Median selected monthly owner costs -without a mortgage, 2014-2018 | \$378 | \$490 |
| Median gross rent, 2014-2018 | \$681 | \$1,023 |
| Building permits, 2019 | 156 | 1,386,048 |
| Families \& Living Arrangements |  |  |
| Households, 2014-2018 | 17,527 | 119,730,128 |
| Persons per household, 2014-2018 | 2.31 | 2.63 |
| Living in same house 1 year ago, percent of persons age 1 year+, 2014-2018 | 84.2\% | 85.5\% |
| Language other than English spoken at home, percent of persons age 5 years+, 2014-2018 | 17.9\% | 21.5\% |
| Computer and Internet Use |  |  |
| Households with a computer, percent, 2014-2018 | 84.4\% | 88.8\% |
| Households with a broadband Internet subscription, percent, 2014-2018 | 73.7\% | 80.4\% |
| Education |  |  |
| High school graduate or higher, percent of persons age 25 years+, 2014-2018 | 83.5\% | 87.7\% |
| Bachelor's degree or higher, percent of persons age 25 years+, 2014-2018 | 19.0\% | 31.5\% |
| Health |  |  |
| With a disability, under age 65 years, percent, 2014-2018 | 12.0\% | 8.6\% |
| Persons without health insurance, under age 65 years, percent | - $14.4 \%$ | - $10.0 \%$ |

## Economy

| In civilian labor force, total, percent of population age 16 years + , 2014-2018 | 54.7\% | 62.9\% |
| :---: | :---: | :---: |
| In civilian labor force, female, percent of population age 16 years+, 2014-2018 | 53.1\% | 58.2\% |
| Total accommodation and food services sales, 2012 (\$1,000) (c) | 54,794 | 708,138,598 |
| Total health care and social assistance receipts/revenue, 2012 (\$1,000) (c) | 143,831 | 2,040,441,203 |
| Total manufacturers shipments, 2012 ( $\$ 1,000$ ) (c) | 123,688 | 5,696,729,632 |
| Total merchant wholesaler sales, 2012 ( $\$ 1,000$ ) (c) | D | 5,208,023,478 |
| Total retail sales, 2012 (\$1,000) (c) | 446,957 | 4,219,821,871 |
| Total retail sales per capita, 2012 (c) | \$10,829 | \$13,443 |
| Transportation |  |  |
| Mean travel time to work (minutes), workers age 16 years+, 2014-2018 | 17.5 | 26.6 |
| Income \& Poverty |  |  |
| Median household income (in 2018 dollars), 2014-2018 | \$45,808 | \$60,293 |
| Per capita income in past 12 months (in 2018 dollars), 2014-2018 | \$23,961 | \$32,621 |
| Persons in poverty, percent | - 17.0\% | - 11.8\% |
| 14 BUSINESSES |  |  |
| Businesses |  |  |
| Total employer establishments, 2017 | 1,143 | 7,860,674 |
| Total employment, 2017 | 8,194 | 128,591,812 |
| Total annual payroll, 2017 (\$1,000) | 276,115 | 6,725,346,754 |
| Total employment, percent change, 2016-2017 | -4.8\% | 1.5\% |
| Total nonemployer establishments, 2018 | 2,387 | 26,485,532 |
| All firms, 2012 | 3,182 | 27,626,360 |
| Men-owned firms, 2012 | 1,601 | 14,844,597 |
| Women-owned firms, 2012 | 892 | 9,878,397 |
| Minority-owned firms, 2012 | 228 | 7,952,386 |
| Nonminority-owned firms, 2012 | 2,735 | 18,987,918 |
| Veteran-owned firms, 2012 | 440 | 2,521,682 |
| Nonveteran-owned firms, 2012 | 2,436 | 24,070,685 |
| \# GEOGRAPHY |  |  |
| Geography |  |  |
| Population per square mile, 2010 | 7.8 | 87.4 |
| Land area in square miles, 2010 | 5,267.98 | 3,531,905.43 |
| FIPS Code | 53047 | 1 |

## Value Notes

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| Median household income (in 2018 dollars), 2014-2018 | \$45,808 | \$60,293 |
| Per capita income in past 12 months (in 2018 dollars), 2014-2018 | \$23,961 | \$32,621 |
| Persons in poverty, percent | B 17.0\% | B $11.8 \%$ |

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Table

| Transportation | Okanogan <br> County, <br> Washington | United States |
| :--- | :--- | :--- | :--- |

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| United States | SELECTED SOCIAL CHARACTERISTICS IN THE UNITED STATES |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| American Community Survey | Okanogan city, Washington |  | Omak city, Washington |  | Pateros city, Washington |  |
|  | Estimate | Percent | Estimate | Percent | Estimate | Percent |
| HOUSEHOLDS BY TYPE |  |  |  |  |  |  |
| Total households | 988 | 988 | 2,049 | 2,049 | 213 | 213 |
| Average household size | 2.33 | (X) | 2.32 | (X) | 2.82 | (X) |
| Average family size | 2.97 | (X) | 2.79 | (X) | 3.7 | (X) |
| SCHOOL ENROLLMENT |  |  |  |  |  |  |
| Population 3 years and over enrolled in school | 665 | 665 | 1,082 | 1,082 | 210 | 210 |
| Nursery school, preschool | 48 | 7.20\% | 52 | 4.80\% | 12 | 5.70\% |
| Kindergarten | 13 | 2.00\% | 75 | 6.90\% | 15 | 7.10\% |
| Elementary school (grades 1-8) | 360 | 54.10\% | 543 | 50.20\% | 87 | 41.40\% |
| High school (grades 9-12) | 177 | 26.60\% | 237 | 21.90\% | 85 | 40.50\% |
| College or graduate school | 67 | 10.10\% | 175 | 16.20\% | 11 | 5.20\% |
| EDUCATIONAL ATTAINMENT |  |  |  |  |  |  |
| Population 25 years and over | 1,685 | 1,685 | 3,111 | 3,111 | 311 | 311 |
| Less than 9th grade | 170 | 10.10\% | 225 | 7.20\% | 90 | 28.90\% |
| 9th to 12th grade, no diploma | 173 | 10.30\% | 185 | 5.90\% | 48 | 15.40\% |
| High school graduate (includes equivalency) | 534 | 31.70\% | 1,229 | 39.50\% | 76 | 24.40\% |
| Some college, no degree | 340 | 20.20\% | 802 | 25.80\% | 45 | 14.50\% |
| Associate's degree | 174 | 10.30\% | 355 | 11.40\% | 14 | 4.50\% |
| Bachelor's degree | 149 | 8.80\% | 194 | 6.20\% | 29 | 9.30\% |
| Graduate or professional degree | 145 | 8.60\% | 121 | 3.90\% | 9 | 2.90\% |
| High school graduate or higher | 1,342 | 79.60\% | 2,701 | 86.80\% | 173 | 55.60\% |
| Bachelor's degree or higher | 294 | 17.40\% | 315 | 10.10\% | 38 | 12.20\% |
| DISABILITY STATUS OF THE CIVILIAN NONINSTITUTIONALIZED POPULATION |  |  |  |  |  |  |
| Total Civilian Noninstitutionalized Population | 2,298 | 2,298 | 4,762 | 4,762 | 601 | 601 |
| With a disability | 527 | 22.90\% | 1,003 | 21.10\% | 72 | 12.00\% |
| Under 18 years | 699 | 699 | 1,391 | 1,391 | 212 | 212 |
| With a disability | 55 | 7.90\% | 15 | 1.10\% | 0 | 0.00\% |
| 18 to 64 years | 1,265 | 1,265 | 2,590 | 2,590 | 337 | 337 |
| With a disability | 297 | 23.50\% | 551 | 21.30\% | 54 | 16.00\% |
| 65 years and over | 334 | 334 | 781 | 781 | 52 | 52 |
| With a disability | 175 | 52.40\% | 437 | 56.00\% | 18 | 34.60\% |
| COMPUTERS AND INTERNET USE |  |  |  |  |  |  |
| Total households | 988 | 988 | 2,049 | 2,049 | 213 | 213 |
| With a computer | 878 | 88.90\% | 1,701 | 83.00\% | 168 | 78.90\% |
| With a broadband Internet subscription | 781 | 79.00\% | 1,400 | 68.30\% | 129 | 60.60\% |

Table: ACSDP5Y2020.DP02

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| HOUSEHOLDS BY TYPE |  |  |  |  |
| Total households | 182 | $\pm 59$ | 182 | (X) |
| Married-couple household | 47 | $\pm 26$ | 25.8\% | $\pm 15.4$ |
| With children of the householder under 18 years | (X) | (X) | (X) | (X) |
| Cohabiting couple household | 21 | $\pm 18$ | 11.5\% | $\pm 8.9$ |
| With children of the householder under 18 years | (X) | (X) | (X) | (X) |
| Male householder, no spouse/partner present | 39 | $\pm 21$ | 21.4\% | $\pm 13.3$ |
| With children of the householder under 18 years | (X) | (X) | (X) | (X) |
| Householder living alone | 25 | $\pm 16$ | 13.7\% | $\pm 10.2$ |
| 65 years and over | 5 | $\pm 7$ | 2.7\% | $\pm 4.1$ |
| Female householder, no spouse/partner present | 75 | $\pm 56$ | 41.2\% | $\pm 20.2$ |
| With children of the householder under 18 years | (X) | (X) | (X) | (X) |
| Householder living alone | 25 | $\pm 20$ | 13.7\% | $\pm 11.3$ |
| 65 years and over | 13 | $\pm 12$ | 7.1\% | $\pm 6.6$ |
| Households with one or more people under 18 years | 94 | $\pm 59$ | 51.6\% | $\pm 18.0$ |
| Households with one or more people 65 years and over | 36 | $\pm 17$ | 19.8\% | $\pm 9.7$ |
| Average household size | 2.18 | $\pm 0.38$ | (X) | (X) |
| Average family size | 2.42 | $\pm 0.62$ | (X) | (X) |
| RELATIONSHIP |  |  |  |  |
| Population in households | 396 | $\pm 120$ | 396 | (X) |
| Householder | 182 | $\pm 59$ | 46.0\% | $\pm 8.5$ |

Table: ACSDP5Y2020.DP02

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Spouse | 51 | $\pm 27$ | 12.9\% | $\pm 6.6$ |
| Unmarried partner | 22 | $\pm 14$ | 5.6\% | $\pm 3.4$ |
| Child | 86 | $\pm 47$ | 21.7\% | $\pm 8.8$ |
| Other relatives | 40 | $\pm 33$ | 10.1\% | $\pm 6.5$ |
| Other nonrelatives | 15 | $\pm 18$ | 3.8\% | $\pm 4.5$ |
| MARITAL STATUS |  |  |  |  |
| Males 15 years and over | 121 | $\pm 34$ | 121 | (X) |
| Never married | 35 | $\pm 23$ | 28.9\% | $\pm 15.9$ |
| Now married, except separated | 47 | $\pm 24$ | 38.8\% | $\pm 17.8$ |
| Separated | 2 | $\pm 3$ | 1.7\% | $\pm 2.5$ |
| Widowed | 13 | $\pm 12$ | 10.7\% | $\pm 9.4$ |
| Divorced | 24 | $\pm 15$ | 19.8\% | $\pm 13.2$ |
| Females 15 years and over | 161 | $\pm 65$ | 161 | (X) |
| Never married | 29 | $\pm 25$ | 18.0\% | $\pm 15.1$ |
| Now married, except separated | 53 | $\pm 26$ | 32.9\% | $\pm 19.2$ |
| Separated | 1 | $\pm 4$ | 0.6\% | $\pm 2.3$ |
| Widowed | 42 | $\pm 49$ | 26.1\% | $\pm 22.9$ |
| Divorced | 36 | $\pm 24$ | 22.4\% | $\pm 14.2$ |
| FERTILITY |  |  |  |  |
| Number of women 15 to 50 years old who had a birth in the past 12 months | 11 | $\pm 11$ | 11 | (X) |
| Unmarried women (widowed, divorced, and never married) | 11 | $\pm 11$ | 100.0\% | $\pm 96.0$ |
| Per 1,000 unmarried women | 229 | $\pm 225$ | (X) | (X) |

Table: ACSDP5Y2020.DP02

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Per 1,000 women 15 to 50 years old | 133 | $\pm 134$ | (X) | (X) |
| Per 1,000 women 15 to 19 years old | 0 | $\pm 1,000$ | (X) | (X) |
| Per 1,000 women 20 to 34 years old | 379 | $\pm 346$ | (X) | (X) |
| Per 1,000 women 35 to 50 years old | 0 | $\pm 442$ | (X) | (X) |
| GRANDPARENTS |  |  |  |  |
| Number of grandparents living with own grandchildren under 18 years | 9 | $\pm 11$ | 9 | (X) |
| Grandparents responsible for grandchildren | 6 | $\pm 10$ | 66.7\% | $\pm 51.1$ |
| Years responsible for grandchildren |  |  |  |  |
| Less than 1 year | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| 1 or 2 years | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| 3 or 4 years | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| 5 or more years | 6 | $\pm 10$ | 66.7\% | $\pm 51.1$ |
| Number of grandparents responsible for own grandchildren under 18 years | 6 | $\pm 10$ | 6 | (X) |
| Who are female | 6 | $\pm 10$ | 100.0\% | $\pm 100.0$ |
| Who are married | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| SCHOOL ENROLLMENT |  |  |  |  |
| Population 3 years and over enrolled in school | 108 | $\pm 61$ | 108 | (X) |
| Nursery school, preschool | 5 | $\pm 6$ | 4.6\% | $\pm 5.5$ |
| Kindergarten | 18 | $\pm 23$ | 16.7\% | $\pm 18.0$ |

Table: ACSDP5Y2020.DP02

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Elementary school (grades 1-8) | 68 | $\pm 41$ | 63.0\% | $\pm 16.4$ |
| High school (grades 9-12) | 1 | $\pm 4$ | 0.9\% | $\pm 3.9$ |
| College or graduate school | 16 | $\pm 15$ | 14.8\% | $\pm 10.4$ |
| EDUCATIONAL ATTAINMENT |  |  |  |  |
| Population 25 years and over | 267 | $\pm 72$ | 267 | (X) |
| Less than 9th grade | 11 | $\pm 10$ | 4.1\% | $\pm 3.5$ |
| 9th to 12th grade, no diploma | 21 | $\pm 16$ | 7.9\% | $\pm 5.4$ |
| High school graduate (includes equivalency) | 70 | $\pm 22$ | 26.2\% | $\pm 9.8$ |
| Some college, no degree | 112 | $\pm 59$ | 41.9\% | $\pm 13.4$ |
| Associate's degree | 26 | $\pm 14$ | 9.7\% | $\pm 5.3$ |
| Bachelor's degree | 5 | $\pm 6$ | 1.9\% | $\pm 2.5$ |
| Graduate or professional degree | 22 | $\pm 16$ | 8.2\% | $\pm 6.1$ |
| High school graduate or higher | 235 | $\pm 66$ | 88.0\% | $\pm 7.5$ |
| Bachelor's degree or higher | 27 | $\pm 16$ | 10.1\% | $\pm 6.3$ |
| VETERAN STATUS |  |  |  |  |
| Civilian population 18 years and over | 280 | $\pm 77$ | 280 | (X) |
| Civilian veterans | 21 | $\pm 14$ | 7.5\% | $\pm 5.0$ |
| DISABILITY STATUS OF THE CIVILIAN NONINSTITUTIONALIZED POPULATION |  |  |  |  |
| Total Civilian Noninstitutionalized Population | 396 | $\pm 120$ | 396 | (X) |
| With a disability | 93 | $\pm 76$ | 23.5\% | $\pm 15.4$ |

Table: ACSDP5Y2020.DP02

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Under 18 years | 116 | $\pm 58$ | 116 | (X) |
| With a disability | 18 | $\pm 23$ | 15.5\% | $\pm 16.4$ |
| 18 to 64 years | 234 | $\pm 73$ | 234 | (X) |
| With a disability | 48 | $\pm 54$ | 20.5\% | $\pm 19.0$ |
| 65 years and over | 46 | $\pm 20$ | 46 | (X) |
| With a disability | 27 | $\pm 15$ | 58.7\% | $\pm 25.8$ |
| RESIDENCE 1 YEAR AGO |  |  |  |  |
| Population 1 year and over | 385 | $\pm 115$ | 385 | (X) |
| Same house | 335 | $\pm 110$ | 87.0\% | $\pm 8.6$ |
| Different house (in the U.S. or abroad) | 50 | $\pm 34$ | 13.0\% | $\pm 8.6$ |
| Different house in the U.S. | 50 | $\pm 34$ | 13.0\% | $\pm 8.6$ |
| Same county | 15 | $\pm 11$ | 3.9\% | $\pm 3.1$ |
| Different county | 35 | $\pm 35$ | 9.1\% | $\pm 8.7$ |
| Same state | 33 | $\pm 35$ | 8.6\% | $\pm 8.6$ |
| Different state | 2 | $\pm 3$ | 0.5\% | $\pm 0.8$ |
| Abroad | 0 | $\pm 13$ | 0.0\% | $\pm 9.3$ |
| PLACE OF BIRTH |  |  |  |  |
| Total population | 396 | $\pm 120$ | 396 | (X) |
| Native | 388 | $\pm 120$ | 98.0\% | $\pm 1.8$ |
| Born in United States | 388 | $\pm 120$ | 98.0\% | $\pm 1.8$ |
| State of residence | 305 | $\pm 106$ | 77.0\% | $\pm 8.2$ |
| Different state | 83 | $\pm 35$ | 21.0\% | $\pm 7.7$ |
| Born in Puerto Rico, U.S. Island areas, or born abroad to American parent(s) | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Foreign born | 8 | $\pm 7$ | 2.0\% | $\pm 1.8$ |
| U.S. CITIZENSHIP STATUS |  |  |  |  |
| Foreign-born population | 8 | $\pm 7$ | 8 | (X) |
| Naturalized U.S. citizen | 3 | $\pm 4$ | 37.5\% | $\pm 47.4$ |

Table: ACSDP5Y2020.DP02

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Not a U.S. citizen | 5 | $\pm 5$ | 62.5\% | $\pm 47.4$ |
| YEAR OF ENTRY |  |  |  |  |
| Population born outside the United States | 8 | $\pm 7$ | 8 | (X) |
| Native | 0 | $\pm 13$ | 0 | (X) |
| Entered 2010 or later | 0 | $\pm 13$ | - | ** |
| Entered before 2010 | 0 | $\pm 13$ | - | ** |
| Foreign born | 8 | $\pm 7$ | 8 | (X) |
| Entered 2010 or later | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| Entered before 2010 | 8 | $\pm 7$ | 100.0\% | $\pm 100.0$ |
| WORLD REGION OF BIRTH OF FOREIGN BORN |  |  |  |  |
| Foreign-born population, excluding population born at sea | 8 | $\pm 7$ | 8 | (X) |
| Europe | 6 | $\pm 6$ | 75.0\% | $\pm 35.5$ |
| Asia | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| Africa | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| Oceania | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| Latin America | 2 | $\pm 3$ | 25.0\% | $\pm 35.5$ |
| Northern America | 0 | $\pm 13$ | 0.0\% | $\pm 100.0$ |
| LANGUAGE SPOKEN AT HOME |  |  |  |  |
| Population 5 years and over | 375 | $\pm 115$ | 375 | (X) |
| English only | 368 | $\pm 113$ | 98.1\% | $\pm 2.7$ |
| Language other than English | 7 | $\pm 11$ | 1.9\% | $\pm 2.7$ |
| Speak English less than "very well" | 2 | $\pm 3$ | 0.5\% | $\pm 0.8$ |
| Spanish | 7 | $\pm 11$ | 1.9\% | $\pm 2.7$ |
| Speak English less than "very well" | 2 | $\pm 3$ | 0.5\% | $\pm 0.8$ |

Table: ACSDP5Y2020.DP02

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Other Indo-European languages | 0 | $\pm 13$ | 0.0\% | $\pm 9.5$ |
| Speak English less than "very well" | 0 | $\pm 13$ | 0.0\% | $\pm 9.5$ |
| Asian and Pacific Islander languages | 0 | $\pm 13$ | 0.0\% | $\pm 9.5$ |
| Speak English less than "very well" | 0 | $\pm 13$ | 0.0\% | $\pm 9.5$ |
| Other languages | 0 | $\pm 13$ | 0.0\% | $\pm 9.5$ |
| Speak English less than "very well" | 0 | $\pm 13$ | 0.0\% | $\pm 9.5$ |
| ANCESTRY |  |  |  |  |
| Total population | 396 | $\pm 120$ | 396 | (X) |
| American | 67 | $\pm 48$ | 16.9\% | $\pm 11.2$ |
| Arab | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Czech | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Danish | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Dutch | 21 | $\pm 31$ | 5.3\% | $\pm 7.6$ |
| English | 9 | $\pm 11$ | 2.3\% | $\pm 2.8$ |
| French (except Basque) | 8 | $\pm 10$ | 2.0\% | $\pm 2.7$ |
| French Canadian | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| German | 77 | $\pm 48$ | 19.4\% | $\pm 10.7$ |
| Greek | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Hungarian | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Irish | 33 | $\pm 34$ | 8.3\% | $\pm 8.1$ |
| Italian | 2 | $\pm 3$ | 0.5\% | $\pm 0.8$ |
| Lithuanian | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Norwegian | 6 | $\pm 7$ | 1.5\% | $\pm 1.9$ |
| Polish | 2 | $\pm 4$ | 0.5\% | $\pm 1.0$ |
| Portuguese | 6 | $\pm 10$ | 1.5\% | $\pm 2.7$ |

Table: ACSDP5Y2020.DP02

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Russian | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Scotch-Irish | 4 | $\pm 6$ | 1.0\% | $\pm 1.6$ |
| Scottish | 2 | $\pm 5$ | 0.5\% | $\pm 1.2$ |
| Slovak | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Subsaharan African | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Swedish | 8 | $\pm 9$ | 2.0\% | $\pm 2.3$ |
| Swiss | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Ukrainian | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Welsh | 5 | $\pm 7$ | 1.3\% | $\pm 2.0$ |
| West Indian (excluding Hispanic origin groups) | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| COMPUTERS AND INTERNET USE |  |  |  |  |
| Total households | 182 | $\pm 59$ | 182 | (X) |
| With a computer | 175 | $\pm 60$ | 96.2\% | $\pm 4.6$ |
| With a broadband Internet subscription | 129 | $\pm 34$ | 70.9\% | $\pm 19.2$ |

Table: ACSDP5Y2020.DP03

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| EMPLOYMENT STATUS |  |  |  |  |
| Population 16 years and over | 280 | $\pm 77$ | 280 | (X) |
| In labor force | 179 | $\pm 49$ | 63.9\% | $\pm 14.8$ |
| Civilian labor force | 179 | $\pm 49$ | 63.9\% | $\pm 14.8$ |
| Employed | 162 | $\pm 46$ | 57.9\% | $\pm 13.2$ |
| Unemployed | 17 | $\pm 12$ | 6.1\% | $\pm 4.5$ |
| Armed Forces | 0 | $\pm 13$ | 0.0\% | $\pm 12.5$ |
| Not in labor force | 101 | $\pm 57$ | 36.1\% | $\pm 14.8$ |
| Civilian labor force | 179 | $\pm 49$ | 179 | (X) |
| Unemployment Rate | (X) | (X) | 9.5\% | $\pm 6.4$ |
| Females 16 years and over | 159 | $\pm 65$ | 159 | (X) |
| In labor force | 82 | $\pm 29$ | 51.6\% | $\pm 19.9$ |
| Civilian labor force | 82 | $\pm 29$ | 51.6\% | $\pm 19.9$ |
| Employed | 77 | $\pm 30$ | 48.4\% | $\pm 19.9$ |
| Own children of the householder under 6 years | 18 | $\pm 14$ | 18 | (X) |
| All parents in family in labor force | 14 | $\pm 14$ | 77.8\% | $\pm 35.9$ |
| Own children of the householder 6 to 17 years | 59 | $\pm 40$ | 59 | (X) |
| All parents in family in labor force | 44 | $\pm 35$ | 74.6\% | $\pm 33.6$ |
| COMMUTING TO WORK |  |  |  |  |
| Workers 16 years and over | 162 | $\pm 46$ | 162 | (X) |
| Car, truck, or van -- drove alone | 116 | $\pm 41$ | 71.6\% | $\pm 14.0$ |
| Car, truck, or van -- carpooled | 33 | $\pm 23$ | 20.4\% | $\pm 12.9$ |
| Public transportation (excluding taxicab) | 0 | $\pm 13$ | 0.0\% | $\pm 20.5$ |
| Walked | 2 | $\pm 3$ | 1.2\% | $\pm 2.1$ |

Table: ACSDP5Y2020.DP03

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Other means | 0 | $\pm 13$ | 0.0\% | $\pm 20.5$ |
| Worked from home | 11 | $\pm 12$ | 6.8\% | $\pm 7.7$ |
| Mean travel time to work (minutes) | 20.0 | $\pm 2.9$ | (X) | (X) |
| OCCUPATION |  |  |  |  |
| Civilian employed population 16 years and over | 162 | $\pm 46$ | 162 | (X) |
| Management, business, science, and arts occupations | 33 | $\pm 20$ | 20.4\% | $\pm 12.8$ |
| Service occupations | 45 | $\pm 25$ | 27.8\% | $\pm 12.3$ |
| Sales and office occupations | 32 | $\pm 19$ | 19.8\% | $\pm 10.5$ |
| Natural resources, construction, and maintenance occupations | 40 | $\pm 25$ | 24.7\% | $\pm 12.2$ |
| Production, transportation, and material moving occupations | 12 | $\pm 11$ | 7.4\% | $\pm 6.8$ |
| INDUSTRY |  |  |  |  |
| Civilian employed population 16 years and over | 162 | $\pm 46$ | 162 | (X) |
| Agriculture, forestry, fishing and hunting, and mining | 32 | $\pm 24$ | 19.8\% | $\pm 12.5$ |
| Construction | 5 | $\pm 6$ | 3.1\% | $\pm 3.9$ |
| Manufacturing | 5 | $\pm 6$ | 3.1\% | $\pm 4.0$ |
| Wholesale trade | 0 | $\pm 13$ | 0.0\% | $\pm 20.5$ |
| Retail trade | 32 | $\pm 16$ | 19.8\% | $\pm 9.3$ |
| Transportation and warehousing, and utilities | 2 | $\pm 3$ | 1.2\% | $\pm 1.6$ |
| Information | 0 | $\pm 13$ | 0.0\% | $\pm 20.5$ |

Table: ACSDP5Y2020.DP03

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Finance and insurance, and real estate and rental and leasing | 0 | $\pm 13$ | 0.0\% | $\pm 20.5$ |
| Professional, scientific, and management, and administrative and waste management services | 5 | $\pm 8$ | 3.1\% | $\pm 5.1$ |
| Educational services, and health care and social assistance | 37 | $\pm 22$ | 22.8\% | $\pm 12.1$ |
| Arts, entertainment, and recreation, and accommodation and food services | 4 | $\pm 9$ | 2.5\% | $\pm 5.0$ |
| Other services, except public administration | 2 | $\pm 3$ | 1.2\% | $\pm 2.1$ |
| Public administration | 38 | $\pm 26$ | 23.5\% | $\pm 15.0$ |
| CLASS OF WORKER |  |  |  |  |
| Civilian employed population 16 years and over | 162 | $\pm 46$ | 162 | (X) |
| Private wage and salary workers | 100 | $\pm 39$ | 61.7\% | $\pm 15.8$ |
| Government workers | 57 | $\pm 28$ | 35.2\% | $\pm 15.0$ |
| Self-employed in own not incorporated business workers | 5 | $\pm 8$ | 3.1\% | $\pm 5.1$ |
| Unpaid family workers | 0 | $\pm 13$ | 0.0\% | $\pm 20.5$ |
| INCOME AND BENEFITS (IN 2020 INFLATION-ADJUSTED DOLLARS) |  |  |  |  |
| Total households | 182 | $\pm 59$ | 182 | (X) |

Table: ACSDP5Y2020.DP03

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Less than \$10,000 | 18 | $\pm 13$ | 9.9\% | $\pm 8.3$ |
| \$10,000 to \$14,999 | 2 | $\pm 3$ | 1.1\% | $\pm 1.6$ |
| \$15,000 to \$24,999 | 29 | $\pm 18$ | 15.9\% | $\pm 9.9$ |
| \$25,000 to \$34,999 | 47 | $\pm 50$ | 25.8\% | $\pm 21.0$ |
| \$35,000 to \$49,999 | 29 | $\pm 20$ | 15.9\% | $\pm 9.7$ |
| \$50,000 to \$74,999 | 33 | $\pm 20$ | 18.1\% | $\pm 11.5$ |
| \$75,000 to \$99,999 | 8 | $\pm 9$ | 4.4\% | $\pm 5.0$ |
| \$100,000 to \$149,999 | 6 | $\pm 10$ | 3.3\% | $\pm 5.5$ |
| \$150,000 to \$199,999 | 7 | $\pm 11$ | 3.8\% | $\pm 6.2$ |
| \$200,000 or more | 3 | $\pm 5$ | 1.6\% | $\pm 2.9$ |
| Median household income (dollars) | 33,438 | $\pm 20,007$ | (X) | (X) |
| Mean household income (dollars) | 48,331 | $\pm 13,261$ | (X) | (X) |
| With earnings | 122 | $\pm 32$ | 67.0\% | $\pm 20.6$ |
| Mean earnings (dollars) | 47,657 | $\pm 12,866$ | (X) | (X) |
| With Social Security | 78 | $\pm 54$ | 42.9\% | $\pm 19.0$ |
| Mean Social Security income (dollars) | 9,497 | $\pm 4,426$ | (X) | (X) |
| With retirement income | 56 | $\pm 51$ | 30.8\% | $\pm 20.7$ |
| Mean retirement income (dollars) | 8,916 | $\pm 3,121$ | (X) | (X) |
| With Supplemental Security Income | 3 | $\pm 5$ | 1.6\% | $\pm 2.7$ |
| Mean Supplemental Security Income (dollars) | 5,800 | $\pm 5,336$ | (X) | (X) |
| With cash public assistance income | 10 | $\pm 13$ | 5.5\% | $\pm 6.8$ |
| Mean cash public assistance income (dollars) | 4,300 | $\pm 353$ | (X) | (X) |

Table: ACSDP5Y2020.DP03

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| With Food Stamp/SNAP benefits in the past 12 months | 21 | $\pm 13$ | 11.5\% | $\pm 7.7$ |
| Families | 125 | $\pm 61$ | 125 | (X) |
| Less than \$10,000 | 12 | $\pm 13$ | 9.6\% | $\pm 10.3$ |
| \$10,000 to \$14,999 | 1 | $\pm 2$ | 0.8\% | $\pm 1.8$ |
| \$15,000 to \$24,999 | 13 | $\pm 14$ | 10.4\% | $\pm 10.3$ |
| \$25,000 to \$34,999 | 51 | $\pm 50$ | 40.8\% | $\pm 24.9$ |
| \$35,000 to \$49,999 | 15 | $\pm 15$ | 12.0\% | $\pm 12.2$ |
| \$50,000 to \$74,999 | 13 | $\pm 10$ | 10.4\% | $\pm 8.2$ |
| \$75,000 to \$99,999 | 6 | $\pm 9$ | 4.8\% | $\pm 7.0$ |
| \$100,000 to \$149,999 | 6 | $\pm 10$ | 4.8\% | $\pm 7.9$ |
| \$150,000 to \$199,999 | 7 | $\pm 11$ | 5.6\% | $\pm 8.9$ |
| \$200,000 or more | 1 | $\pm 3$ | 0.8\% | $\pm 2.2$ |
| Median family income (dollars) | 29,964 | $\pm 11,835$ | (X) | (X) |
| Mean family income (dollars) | 48,055 | $\pm 17,687$ | (X) | (X) |
| Per capita income (dollars) | 21,550 | $\pm 5,059$ | (X) | (X) |
| Nonfamily households | 57 | $\pm 24$ | 57 | (X) |
| Median nonfamily income (dollars) | - | ** | (X) | (X) |
| Mean nonfamily income (dollars) | 42,554 | $\pm 20,147$ | (X) | (X) |
| Median earnings for workers (dollars) | 26,429 | $\pm 2,845$ | (X) | (X) |
| Median earnings for male fulltime, year-round workers (dollars) | 29,875 | $\pm 18,440$ | (X) | (X) |

Table: ACSDP5Y2020.DP03

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Median earnings for female fulltime, year-round workers (dollars) |  | ** | (X) | (X) |
| HEALTH INSURANCE COVERAGE |  |  |  |  |
| Civilian noninstitutionalized population | 396 | $\pm 120$ | 396 | (X) |
| With health insurance coverage | 356 | $\pm 112$ | 89.9\% | $\pm 7.0$ |
| With private health insurance | 134 | $\pm 45$ | 33.8\% | $\pm 12.4$ |
| With public coverage | 270 | $\pm 112$ | 68.2\% | $\pm 12.5$ |
| No health insurance coverage | 40 | $\pm 30$ | 10.1\% | $\pm 7.0$ |
| Civilian noninstitutionalized population under 19 years | 117 | $\pm 58$ | 117 | (X) |
| No health insurance coverage | 1 | $\pm 2$ | 0.9\% | $\pm 1.6$ |
| Civilian noninstitutionalized population 19 to 64 years | 233 | $\pm 73$ | 233 | (X) |
| In labor force: | 167 | $\pm 45$ | 167 | (X) |
| Employed: | 151 | $\pm 42$ | 151 | (X) |
| With health insurance coverage | 130 | $\pm 37$ | 86.1\% | $\pm 11.3$ |
| With private health insurance | 91 | $\pm 34$ | 60.3\% | $\pm 14.7$ |
| With public coverage | 57 | $\pm 26$ | 37.7\% | $\pm 15.3$ |
| No health insurance coverage | 21 | $\pm 19$ | 13.9\% | $\pm 11.3$ |
| Unemployed: | 16 | $\pm 12$ | 16 | (X) |

Table: ACSDP5Y2020.DP03

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| With health insurance coverage | 4 | $\pm 6$ | 25.0\% | $\pm 36.1$ |
| With private health insurance | 0 | $\pm 13$ | 0.0\% | $\pm 79.6$ |
| With public coverage | 4 | $\pm 6$ | 25.0\% | $\pm 36.1$ |
| No health insurance coverage | 12 | $\pm 11$ | 75.0\% | $\pm 36.1$ |
| Not in labor force: | 66 | $\pm 54$ | 66 | (X) |
| With health insurance coverage | 60 | $\pm 54$ | 90.9\% | $\pm 16.4$ |
| With private health insurance | 6 | $\pm 6$ | 9.1\% | $\pm 11.8$ |
| With public coverage | 54 | $\pm 53$ | 81.8\% | $\pm 21.4$ |
| No health insurance coverage | 6 | $\pm 9$ | 9.1\% | $\pm 16.4$ |
| PERCENTAGE OF FAMILIES AND PEOPLE WHOSE INCOME IN THE PAST 12 MONTHS IS BELOW THE POVERTY LEVEL |  |  |  |  |
| All families | (X) | (X) | 14.4\% | $\pm 9.9$ |
| With related children of the householder under 18 years | (X) | (X) | 12.8\% | $\pm 11.3$ |
| With related children of the householder under 5 years only | (X) | (X) | 12.5\% | $\pm 35.2$ |
| Married couple families | (X) | (X) | 21.3\% | $\pm 18.6$ |
| With related children of the householder under 18 years | (X) | (X) | 19.2\% | $\pm 27.3$ |

Table: ACSDP5Y2020.DP03

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| With related children of the householder under 5 years only | (X) | (X) | - | ** |
| Families with female householder, no spouse present | (X) | (X) | 11.1\% | $\pm 19.2$ |
| With related children of the householder under 18 years | (X) | (X) | 10.3\% | $\pm 21.5$ |
| With related children of the householder under 5 years only | (X) | (X) | - | ** |
| All people | (X) | (X) | 17.5\% | $\pm 10.1$ |
| Under 18 years | (X) | (X) | 20.6\% | $\pm 19.7$ |
| Related children of the householder under 18 years | (X) | (X) | 19.8\% | $\pm 19.6$ |
| Related children of the householder under 5 years | (X) | (X) | 30.0\% | $\pm 53.6$ |
| Related children of the householder 5 to 17 years | (X) | (X) | 18.7\% | $\pm 21.6$ |
| 18 years and over | (X) | (X) | 16.4\% | $\pm 8.1$ |
| 18 to 64 years | (X) | (X) | 16.2\% | $\pm 8.8$ |
| 65 years and over | (X) | (X) | 17.4\% | $\pm 22.3$ |
| People in families | (X) | (X) | 17.2\% | $\pm 12.4$ |
| Unrelated individuals 15 years and over | (X) | (X) | 18.8\% | $\pm 12.8$ |

Table: ACSDP5Y2020.DP05

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| SEX AND AGE |  |  |  |  |
| Total population | 396 | $\pm 120$ | 396 | (X) |
| Male | 195 | $\pm 61$ | 49.2\% | $\pm 9.7$ |
| Female | 201 | $\pm 81$ | 50.8\% | $\pm 9.7$ |
| Sex ratio (males per 100 females) | 97.0 | $\pm 36.3$ | (X) | (X) |
| Under 5 years | 21 | $\pm 13$ | 5.3\% | $\pm 3.1$ |
| 5 to 9 years | 43 | $\pm 29$ | 10.9\% | $\pm 5.3$ |
| 10 to 14 years | 50 | $\pm 34$ | 12.6\% | $\pm 6.8$ |
| 15 to 19 years | 3 | $\pm 7$ | 0.8\% | $\pm 1.9$ |
| 20 to 24 years | 12 | $\pm 16$ | 3.0\% | $\pm 3.9$ |
| 25 to 34 years | 45 | $\pm 20$ | 11.4\% | $\pm 5.7$ |
| 35 to 44 years | 54 | $\pm 30$ | 13.6\% | $\pm 6.9$ |
| 45 to 54 years | 62 | $\pm 34$ | 15.7\% | $\pm 8.1$ |
| 55 to 59 years | 40 | $\pm 49$ | 10.1\% | $\pm 10.7$ |
| 60 to 64 years | 20 | $\pm 12$ | 5.1\% | $\pm 3.3$ |
| 65 to 74 years | 15 | $\pm 13$ | 3.8\% | $\pm 3.2$ |
| 75 to 84 years | 19 | $\pm 16$ | 4.8\% | $\pm 4.3$ |
| 85 years and over | 12 | $\pm 11$ | 3.0\% | $\pm 2.9$ |
| Median age (years) | 39.6 | $\pm 6.1$ | (X) | (X) |
| Under 18 years | 116 | $\pm 58$ | 29.3\% | $\pm 8.3$ |
| 16 years and over | 280 | $\pm 77$ | 70.7\% | $\pm 8.3$ |
| 18 years and over | 280 | $\pm 77$ | 70.7\% | $\pm 8.3$ |
| 21 years and over | 279 | $\pm 77$ | 70.5\% | $\pm 8.3$ |
| 62 years and over | 58 | $\pm 22$ | 14.6\% | $\pm 6.1$ |
| 65 years and over | 46 | $\pm 20$ | 11.6\% | $\pm 5.6$ |
| 18 years and over | 280 | $\pm 77$ | 280 | (X) |
| Male | 121 | $\pm 34$ | 43.2\% | $\pm 11.2$ |
| Female | 159 | $\pm 65$ | 56.8\% | $\pm 11.2$ |

Table: ACSDP5Y2020.DP05

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Sex ratio (males per 100 females) | 76.1 | $\pm 34.6$ | (X) | (X) |
| 65 years and over | 46 | $\pm 20$ | 46 | (X) |
| Male | 18 | $\pm 12$ | 39.1\% | $\pm 21.4$ |
| Female | 28 | $\pm 16$ | 60.9\% | $\pm 21.4$ |
| Sex ratio (males per 100 females) | 64.3 | $\pm 56.2$ | (X) | (X) |
| RACE |  |  |  |  |
| Total population | 396 | $\pm 120$ | 396 | (X) |
| One race | 360 | $\pm 111$ | 90.9\% | $\pm 7.6$ |
| Two or more races | 36 | $\pm 33$ | 9.1\% | $\pm 7.6$ |
| One race | 360 | $\pm 111$ | 90.9\% | $\pm 7.6$ |
| White | 318 | $\pm 106$ | 80.3\% | $\pm 9.6$ |
| Black or African American | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| American Indian and Alaska Native | 40 | $\pm 28$ | 10.1\% | $\pm 7.0$ |
| Cherokee tribal grouping | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Chippewa tribal grouping | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Navajo tribal grouping | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Sioux tribal grouping | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Asian | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Asian Indian | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Chinese | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Filipino | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Japanese | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Korean | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Vietnamese | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Other Asian | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Native Hawaiian and Other Pacific Islander | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |

Table: ACSDP5Y2020.DP05

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Native Hawaiian | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Chamorro | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Samoan | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Other Pacific Islander | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Some other race | 2 | $\pm 3$ | 0.5\% | $\pm 0.8$ |
| Two or more races | 36 | $\pm 33$ | 9.1\% | $\pm 7.6$ |
| White and Black or African American | 4 | $\pm 7$ | 1.0\% | $\pm 1.7$ |
| White and American Indian and Alaska Native | 32 | $\pm 31$ | 8.1\% | $\pm 7.3$ |
| White and Asian | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Black or African American and American Indian and Alaska Native | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Race alone or in combination with one or more other races |  |  |  |  |
| Total population | 396 | $\pm 120$ | 396 | (X) |
| White | 354 | $\pm 116$ | 89.4\% | $\pm 6.9$ |
| Black or African American | 4 | $\pm 7$ | 1.0\% | $\pm 1.7$ |
| American Indian and Alaska Native | 72 | $\pm 42$ | 18.2\% | $\pm 9.8$ |
| Asian | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Native Hawaiian and Other Pacific Islander | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Some other race | 2 | $\pm 3$ | 0.5\% | $\pm 0.8$ |
| HISPANIC OR LATINO AND RACE |  |  |  |  |
| Total population | 396 | $\pm 120$ | 396 | (X) |
| Hispanic or Latino (of any race) | 33 | $\pm 40$ | 8.3\% | $\pm 9.4$ |
| Mexican | 33 | $\pm 40$ | 8.3\% | $\pm 9.4$ |

Table: ACSDP5Y2020.DP05

|  | Riverside town, Washington |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Label | Estimate | Margin of Error | Percent | Percent Margin of Error |
| Puerto Rican | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Cuban | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Other Hispanic or Latino | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Not Hispanic or Latino | 363 | $\pm 110$ | 91.7\% | $\pm 9.4$ |
| White alone | 290 | $\pm 98$ | 73.2\% | $\pm 11.5$ |
| Black or African American alone | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| American Indian and Alaska Native alone | 35 | $\pm 24$ | 8.8\% | $\pm 6.4$ |
| Asian alone | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Native Hawaiian and Other Pacific Islander alone | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Some other race alone | 2 | $\pm 3$ | 0.5\% | $\pm 0.8$ |
| Two or more races | 36 | $\pm 33$ | 9.1\% | $\pm 7.6$ |
| Two races including Some other race | 0 | $\pm 13$ | 0.0\% | $\pm 9.0$ |
| Two races excluding Some other race, and Three or more races | 36 | $\pm 33$ | 9.1\% | $\pm 7.6$ |
| Total housing units | 187 | $\pm 60$ | (X) | (X) |
| CITIZEN, VOTING AGE POPULATION |  |  |  |  |
| Citizen, 18 and over population | 275 | $\pm 77$ | 275 | (X) |
| Male | 118 | $\pm 33$ | 42.9\% | $\pm 11.3$ |
| Female | 157 | $\pm 65$ | 57.1\% | $\pm 11.3$ |


| Label | Total / <br> Estimate | $\begin{array}{\|l} \hline \text { Percent } \\ \text { / } \\ \text { Estimate } \\ \hline \end{array}$ | Male / <br> Estimate | Percent <br> Male / <br> Estimate | Female / <br> Estimate | Percent <br> Female / <br> Estimate |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total population | 328239523 | (X) | 161588973 | (X) | 166650550 | (X) |
| AGE |  |  |  |  |  |  |
| Under 5 years | 19404835 | 5.9 | 9938937 | 6.2 | 9465898 | 5.7 |
| 5 to 9 years | 19690437 | 6 | 10033518 | 6.2 | 9656919 | 5.8 |
| 10 to 14 years | 21423479 | 6.5 | 10987313 | 6.8 | 10436166 | 6.3 |
| 15 to 19 years | 21353524 | 6.5 | 10903653 | 6.7 | 10449871 | 6.3 |
| 20 to 24 years | 21468680 | 6.5 | 11014460 | 6.8 | 10454220 | 6.3 |
| 25 to 29 years | 23233299 | 7.1 | 11817829 | 7.3 | 11415470 | 6.8 |
| 30 to 34 years | 22345176 | 6.8 | 11281470 | 7 | 11063706 | 6.6 |
| 35 to 39 years | 21728259 | 6.6 | 10892040 | 6.7 | 10836219 | 6.5 |
| 40 to 44 years | 20186586 | 6.1 | 10028675 | 6.2 | 10157911 | 6.1 |
| 45 to 49 years | 20398226 | 6.2 | 10079567 | 6.2 | 10318659 | 6.2 |
| 50 to 54 years | 20464881 | 6.2 | 10075795 | 6.2 | 10389086 | 6.2 |
| 55 to 59 years | 21484060 | 6.5 | 10440265 | 6.5 | 11043795 | 6.6 |
| 60 to 64 years | 20984053 | 6.4 | 10051170 | 6.2 | 10932883 | 6.6 |
| 65 to 69 years | 17427013 | 5.3 | 8191111 | 5.1 | 9235902 | 5.5 |
| 70 to 74 years | 14148548 | 4.3 | 6529918 | 4 | 7618630 | 4.6 |
| 75 to 79 years | 9759764 | 3 | 4367764 | 2.7 | 5392000 | 3.2 |
| 80 to 84 years | 6380474 | 1.9 | 2671396 | 1.7 | 3709078 | 2.2 |
| 85 years and over | 6358229 | 1.9 | 2284092 | 1.4 | 4074137 | 2.4 |
| SELECTED AGE CATEGORIES |  |  |  |  |  |  |
| 5 to 14 years | 41113916 | 12.5 | 21020831 | 13 | 20093085 | 12.1 |
| 15 to 17 years | 12449034 | 3.8 | 6361859 | 3.9 | 6087175 | 3.7 |
| Under 18 years | 72967785 | 22.2 | 37321627 | 23.1 | 35646158 | 21.4 |
| 18 to 24 years | 30373170 | 9.3 | 15556254 | 9.6 | 14816916 | 8.9 |
| 15 to 44 years | 130315524 | 39.7 | 65938127 | 40.8 | 64377397 | 38.6 |
| 16 years and over | 263534161 | 80.3 | 128496159 | 79.5 | 135038002 | 81 |
| 18 years and over | 255271738 | 77.8 | 124267346 | 76.9 | 131004392 | 78.6 |
| 21 years and over | 241886206 | 73.7 | 117407269 | 72.7 | 124478937 | 74.7 |
| 60 years and over | 75058081 | 22.9 | 34095451 | 21.1 | 40962630 | 24.6 |
| 62 years and over | 66395660 | 20.2 | 29927016 | 18.5 | 36468644 | 21.9 |
| 65 years and over | 54074028 | 16.5 | 24044281 | 14.9 | 30029747 | 18 |
| 75 years and over | 22498467 | 6.9 | 9323252 | 5.8 | 13175215 | 7.9 |


|  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Label | Total / Estimate | Percent <br> / <br> Estimate | Male / <br> Estimate | Percent <br> Male / <br> Estimate | Female / <br> Estimate | Percent <br> Female / <br> Estimate |
| SUMMARY INDICATORS |  |  |  |  |  |  |
| Median age (years) | 38.5 | (X) | 37.2 | (X) | 39.8 | (X) |
| Sex ratio (males per 100 females | 97 | (X) | (X) | (X) | (X) | (X) |
| Age dependency ratio | 63.1 | (X) | (X) | (X) | (X) | (X) |
| Old-age dependency ratio | 26.9 | (X) | (X) | (X) | (X) | (X) |
| Child dependency ratio | 36.3 | (X) | (X) | (X) | (X) | (X) |
| PERCENT ALLOCATED |  |  |  |  |  |  |
| Sex | (X) | 0.1 | (X) | (X) | (X) | (X) |
| Age | (X) | 1.7 | (X) | (X) | (X) | (X) |

## B. FCC Fixed Broadband Deployment Service Provider Reporting

## Fixed Broadband at a Location

Address - Aeneas, Washington, United States

© Mapbox © OpenStreetMap

## All Providers Reporting Service

O 1

## Number of Fixed Residential Broadband Providers



## Fixed Broadband at a Location


© Mapbox © OpenStreetMap

## All Providers Reporting Service

O 1

Census block ID: 530479708003047

## Number of Fixed Residential Broadband Providers



Fixed Broadband at a Location

| Coordinates • Chillwist | $\mathbf{Q}$ |
| :--- | :--- | :--- |




## Fixed Broadband at a Location

| Address - Conconully, Washington, United States | $\mathbf{Q}$ |
| :--- | :--- | :--- |


© Mapbox © OpenStreetMap

## All Providers Reporting Service

O 1

Census block ID: 530479705003105

## Number of Fixed Residential Broadband Providers



Fixed Broadband at a Location



Fixed Broadband at a Location


## All Providers Reporting Service

Census block ID: 530479402003005

|  | 1 | 1 |  | 1 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0 | 1 | 2 | 3 | 4 | 6 | 12 or more |

Broadband
Technology
ADSL, Cable, Fiber, Fixed Wireless, Satellite, Other
Speed
$\geq 25 / 3 \mathrm{Mbps}$
Date
June 2019 (latest public release)

| Provider - | Tech | Down <br> (Mbps) | $\underset{\text { (Mbps) }}{\text { Up }}$ |
| :---: | :---: | :---: | :---: |
| - CenturyLink, Inc. CenturyLink | ADSL | 10 | 1 |
| - Charter Communications Charter Communications, Inc. Charter Communications Inc | Cable | 120 | 10 |
| - Hughes Network Systems, LLC HNS License Sub, LLC HughesNet | Satellite | 25 | 3 |
| - King Street Wireless, LP King Street Wireless, L.P. King Street Wireless L.P. | Fixed Wireless | 10 | 2 |
| - NCI Datacom NCl | Fixed Wireless | 100 | 20 |
| - ViaSat, Inc. Viasat Inc | Satellite | 35 | 3 |
| - VSAT Systems, LLC Skycasters | Satellite | 2 | 1.3 |
| Okanogan County PUD No. 1 | Fixed Wireless | 20 | 10 |

Fixed Broadband at a Location


All Providers Reporting Service
Census block ID: 530479708004023

|  | 1 | 1 |  | 1 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0 | 1 | 2 | 3 | 4 | 6 | 12 or more |

Broadband
Technology
ADSL, Cable, Fiber, Fixed Wireless, Satellite, Other
Speed
$\geq 25 / 3 \mathrm{Mbps}$
Date
June 2019 (latest public release)

| Provider | Tech | Down <br> (Mbps) | $\underset{\text { (Mbps) }}{\text { Up }}$ |
| :---: | :---: | :---: | :---: |
| Okanogan County PUD No. 1 | Fiber | 100 | 100 |
| - NCI Datacom NCl | Fixed Wireless | 100 | 20 |
| - ViaSat, Inc. Viasat Inc | Satellite | 35 | 3 |
| Frontier Communications Corporation | ADSL | 25 | 2 |
| Frontier Communications Corporation | ADSL | 25 | 2 |
| - Hughes Network Systems, LLC HNS License Sub, LLC HughesNet | Satellite | 25 | 3 |
| Okanogan County PUD No. 1 | Fixed Wireless | 20 | 10 |
| Frontier Communications Corporation | ADSL | 6 | 1 |
| -VSAT Systems, LLC Skycasters | Satellite | 2 | 1.3 |

Fixed Broadband at a Location

| Coordinates • Keystone | $\mathbf{Q}$ |
| :--- | :--- | :--- |




Fixed Broadband at a Location


All Providers Reporting Service
O 1

Census block ID: 530479703004000


Fixed Broadband at a Location



Fixed Broadband at a Location



## Fixed Broadband at a Location


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## All Providers Reporting Service

## Number of Fixed Residential Broadband Providers

|  | 1 |  | 1 |  | $\mid$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 0 | 1 | 2 | 3 | 4 | 6 |

## Broadband

## Technology

ADSL, Cable, Fiber, Fixed Wireless, Satellite, Other
Speed
$\geq 25 / 3 \mathrm{Mbps}$
Date
June 2019 (latest public release)

| Provider | Tech | Down <br> (Mbps) | $\underset{\text { (Mbps) }}{\text { Up }}$ |
| :---: | :---: | :---: | :---: |
| Okanogan County PUD No. 1 | Fiber | 100 | 100 |
| e NCI Datacom NCl | Fixed Wireless | 100 | 20 |
| - CenturyLink, Inc. CenturyLink | ADSL | 60 | 5 |
| - ViaSat, Inc. Viasat Inc | Satellite | 35 | 3 |
| - Hughes Network Systems, LLC HNS License Sub, LLC HughesNet | Satellite | 25 | 3 |
| Okanogan County PUD No. 1 | Fixed Wireless | 20 | 10 |
| - King Street Wireless, LP King Street Wireless, L.P. King Street Wireless L.P. | Fixed Wireless | 10 | 2 |
| eVSAT Systems, LLC Skycasters | Satellite | 2 | 1.3 |

Fixed Broadband at a Location

```
Address ` NE Okanogan County Q
```




Fixed Broadband at a Location

| Coordinates • North Omak | $\mathbf{Q}$ |
| :--- | :--- | :--- |


© Mapbox © OpenStreetMap

## All Providers Reporting Service



Fixed Broadband at a Location

| Coordinates • Omak Flats | $\mathbf{Q}$ |
| :--- | :--- | :--- |




Fixed Broadband at a Location

| Coordinates • Orchard Grade | $\mathbf{Q}$ |
| :--- | :--- | :--- |




## Fixed Broadband at a Location

| Address - Oroville, Washington, United States | $\mathbf{Q}$ |
| :--- | :--- | :--- |


© Mapbox © OpenStreetMap

## Number of Fixed Residential Broadband Providers

|  | 1 |  | 1 |  | $\mid$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 0 | 1 | 2 | 3 | 4 | 6 |

## Broadband

Technology
ADSL, Cable, Fiber, Fixed Wireless, Satellite, Other
Speed
$\geq 25 / 3 \mathrm{Mbps}$
Date
June 2019 (latest public release)

| Provider | Tech | Down <br> (Mbps) | $\underset{(\text { (Mbps) }}{\text { Up }}$ |
| :---: | :---: | :---: | :---: |
| - Charter Communications Charter Communications, Inc. Charter Communications Inc | Cable | 120 | 10 |
| Okanogan County PUD No. 1 | Fiber | 100 | 100 |
| - NCI Datacom NCl | Fixed Wireless | 100 | 20 |
| -ViaSat, Inc. Viasat Inc | Satellite | 35 | 3 |
| - Hughes Network Systems, LLC HNS License Sub, LLC HughesNet | Satellite | 25 | 3 |
| - CenturyLink, Inc. CenturyLink | ADSL | 20 | 2 |
| Okanogan County PUD No. 1 | Fixed Wireless | 20 | 10 |
| - VSAT Systems, LLC Skycasters | Satellite | 2 | 1.3 |

Fixed Broadband at a Location

| Coordinates • Palmer | $\mathbf{Q}$ |
| :--- | :--- | :--- |




## Fixed Broadband at a Location


© Mapbox © OpenStreetMap

## All Providers Reporting Service

## Number of Fixed Residential Broadband Providers



Fixed Broadband at a Location

| Coordinates • Riverside | $\mathbf{Q}$ |
| :--- | :--- | :--- |



Census block ID: 530479402001147

Number of Fixed Residential Broadband Providers


Fixed Broadband at a Location

| Coordinates • South Pine Creek 2 | $\mathbf{Q}$ |
| :--- | :--- | :--- |



## All Providers Reporting Service

Census block ID: 530479704003085


Fixed Broadband at a Location


## All Providers Reporting Service

Census block ID: 530479704003059

|  | 1 | 1 |  | 1 | $\mid$ |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 0 | 1 | 2 | 3 | 4 | 6 | 12 or more |

## Broadband

Technology
ADSL, Cable, Fiber, Fixed Wireless, Satellite, Other
Speed
$\geq 25 / 3 \mathrm{Mbps}$
Date
June 2019 (latest public release)

| Provider | Tech | Down <br> (Mbps) |  |
| :---: | :---: | :---: | :---: |
| - Charter Communications | Cable | 120 | 10 |
| Charter Communications, Inc. |  |  |  |
| Charter Communications Inc |  |  |  |
| Okanogan County PUD No. 1 | Fiber | 100 | 100 |
| - NCI Datacom | Fixed Wireless | 100 | 20 |
| NCl |  |  |  |
| - ViaSat, Inc. | Satellite | 35 | 3 |
| Viasat Inc |  |  |  |
| - Hughes Network Systems, LLC | Satellite | 25 | 3 |
| HNS License Sub, LLC |  |  |  |
| HughesNet |  |  |  |
| Okanogan County PUD No. 1 | Fixed Wireless | 20 | 10 |
| Frontier Communications Corporation | ADSL | 12 | 1 |
| - King Street Wireless, LP | Fixed Wireless | 10 | 2 |
| King Street Wireless, L.P. |  |  |  |
| King Street Wireless L.P. |  |  |  |
| Frontier Communications Corporation | ADSL | 6 | 1 |
| Frontier Communications Corporation | ADSL | 6 | 1 |
| VSAT Systems, LLC Skycasters | Satellite | 2 | 1.3 |

Fixed Broadband at a Location



Fixed Broadband at a Location

| Coordinates • Synarep | $\mathbf{Q}$ |
| :--- | :--- | :--- |


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All Providers Reporting Service
8 ©
Census block ID: 530479705001083

Number of Fixed Residential Broadband Providers


Fixed Broadband at a Location

| Coordinates • Whitestone | $\mathbf{Q}$ |
| :--- | :--- | :--- |



## All Providers Reporting Service

Census block ID: 530479704002075

Number of Fixed Residential Broadband Providers


| Provider $\boldsymbol{4}$ | Tech | Down <br> $($ Mbps $)$ | Up <br> $(M b p s)$ |
| :--- | :--- | ---: | :--- |
| NCI Datacom | Fixed Wireless | 40 | 6 |
| VSAT Systems, LLC | Satellite | 2 | 1.3 |

C. NTCA 2016 Broadband/Internet Availability Survey Report

# NTCA 2016 BROADBAND/INTERNET AVAILABILITY SURVEY REPORT 

July 2017

DISCLAIMER: Data from the survey has been presented as reported.

To get more information on this report please contact Rick Schadelbauer at NTCA (703-351-2019, rschadelbauer@ntca.org).

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## EXECUTIVE SUMMARY

For nearly two decades, NTCA-The Rural Broadband Association has conducted its annual Broadband/Internet Availability Survey to gauge the deployment rates of advanced services by its member companies. In the spring of 2017, NTCA sent an electronic survey form to each of the companies (as reflected at the holding company level) in NTCA's email database; 172 members ( $29 \%$ ) responded.

One hundred percent of the 2016 survey respondents offer broadband to some part of their customer bases, compared with the $58 \%$ of the year 2000 survey respondents who offered the then-lower definition of broadband service. ${ }^{1}$ Respondents indicated that they use a variety of technologies within their respective serving areas to provide at least basic levels of broadband to their customers. Forty-one percent of respondents' broadband customers are served via fiber to the home (FTTH), $36 \%$ via copper loops, $12 \%$ cable modem, $9 \%$ fiber to the node (FTTN), $1 \%$ licensed and unlicensed fixed wireless, and $0.2 \%$ satellite.

Fifty-two percent of those survey respondents currently deploying fiber serve at least $50 \%$ of their customers with FTTH, while $24 \%$ serve $20 \%$ of their customers or less via such technology. Eighty-two percent of survey respondents indicated they had a longterm fiber deployment strategy. Thirty-nine percent of those respondents with a fiber deployment strategy plan to offer fiber to the node to more than $75 \%$ of their customers by year-end 2019, while $66 \%$ plan to offer fiber to the home to at least $50 \%$ of their customers over the same time frame. An additional $31 \%$ have already completed fiber deployments to all customers.

Deployment cost remains the most significant barrier to widespread deployment of fiber, followed by regulatory uncertainty, long loops, current regulatory rules, low customer demand, obtaining financing, fiber order fulfillment delays, and obtaining cost-effective equipment. Throughout the history of the survey, deployment cost has been respondents' most significant concern.

Approximately $0.3 \%$ of respondents' customers can receive a maximum downstream speed of between 768 kilobits per second (kbps) and 1.0 megabits per second (Mbps); $0.8 \% 1.0$ to $1.5 \mathrm{Mbps} ; 2 \% 1.5$ to $3.0 \mathrm{Mbps} ; 1 \% 3.0$ to $4.0 \mathrm{Mbps} ; 3 \% 4.0$ to $6.0 \mathrm{Mbps} ; 7 \%$ 6.0 to $10.0 \mathrm{Mbps} ; 20 \%$ 10.0 Mbps to 25.0 Mbps ; and $67 \%$ greater than 25.0 Mbps .

Forty-one percent of survey respondents' customers taking broadband subscribe to service greater than or equal to 10 Mbps downstream. The next most popular speed tiers

[^0]THE RURAL BROADBAND

ASSOCIATION
are 6.0 Mbps to $10.0 \mathrm{Mbps}(10 \%)$, and 4.0 Mbps to $6.0 \mathrm{Mbps}(9 \%)$. The overall take rate for broadband service is $72 \%$ (virtually unchanged from $73 \%$ last year).

The average respondent is 68 miles from its primary internet connection; the median respondent is 38 miles away. Eighty-eight percent of those who recently changed backbone providers did so for price reasons. Seventy-three percent of respondents indicated they are generally satisfied with their current backbone access provider, while $27 \%$ are generally dissatisfied.

Survey respondents indicated they face some type of competition for broadband in limited portions of their serving areas from national internet service providers (ISPs), cable companies and fixed and/or mobile wireless internet service providers (WISPs.) Respondents are taking numerous marketing steps to increase broadband take rates, including free customer premise equipment installation, bundling of services, price promotions, free introductory service, free education and training, discounted computers or tablets, and free modems.

Thirty-three percent of respondents currently offer voice over internet protocol (VoIP) service, unchanged from last year. Forty-seven percent of respondents not currently offering VoIP have plans to do so in the foreseeable future, up from 38\% last year. Seventy percent of respondents offer video service to their customers, down slightly from $72 \%$ last year.

## INTRODUCTION

In the spring of 2017, NTCA-The Rural Broadband Association surveyed its members on their activities in the areas of providing broadband services and internet availability to their members/customers. NTCA is a national association representing nearly 850 rural rate-of-return regulated operating company telecommunications providers in 45 states. All NTCA members are small carriers that are "rural telephone companies" as defined in the Communications Act of 1934, as amended by the Telecommunications Act of 1996. Only four NTCA member study areas comprise 40,000 lines or more; the largest is just over 58,000 . Population density in most member service areas is generally in the 1 to 5 customers per square mile range.

This latest broadband survey is a follow-up to similar surveys conducted in recent years by NTCA, and seeks to build upon the results of those surveys. ${ }^{2}$ This year's survey asked about technologies used to provide broadband service, broadband availability and subscription rates, prices charged, quantity and type of competition, broadband marketing

[^1]efforts, fiber deployment, emerging technologies, internet backbone connections, finance and availability of capital. The survey also provided an opportunity for respondents to provide any specific comments they wished to share.

## OVERVIEW OF SURVEY

The 2016 NTCA Broadband/Internet Availability Survey was conducted online. Every effort was made to minimize the reporting burden on the survey respondents.

The survey was composed of general questions about the respondents' current operations, competition/marketing and current and planned fiber deployment. Additional questions dealt with the internet backbone, voice over internet protocol (VoIP) and video. The survey also provided an opportunity for respondents to offer any miscellaneous thoughts.

## SURVEY RESULTS

The survey URL for each part of the survey was distributed via email to all member companies in NTCA's email database. The message contained instructions for online access to the survey. Responses were received from 172 member companies, a $29 \%$ response rate. ${ }^{3}$

Fifty-seven percent of survey respondents' service areas are 500 square miles or larger; $25 \%$ are at least 2,000 square miles. Half- $51 \%$-have customer densities in their service area of 10 residential customers per square mile or less. More than one-fifth- $22 \%$ have customer densities of two residential customers per square mile or less.

The average survey respondent serves 4,723 residential and 1,463 business voice grade access lines; a few larger companies skew these numbers upward, hence the median respondent serves 2,227 residential and 611 business lines. One hundred percent of survey respondents offer broadband service to some part of their customer base. ${ }^{4}$ Respondents indicated that they use a variety of technologies, even within individual serving areas, to offer at least basic levels of broadband to their customers: $41 \%$ of respondents' broadband customers are served via fiber to the home (FTTH), $36 \%$ via copper loops, $12 \%$ cable modem, $9 \%$ fiber to the node (FTTN), $1.1 \%$ licensed and unlicensed wireless, and $0.2 \%$ satellite. (See Figure 1.)

[^2]Fig. 1: BROADBAND CUSTOMERS SERVED BY NETWORK PLATFORM


Approximately $0.3 \%$ of respondents' customers can subscribe to a maximum speed 768 kbps to 1.0 megabits per second (Mbps) service; $0.8 \%$ to 1.0 to $1.5 \mathrm{Mbps} ; 2 \%$ to 1.5 to 3.0 Mbps; $1 \%$ to 3.0 to $4.0 \mathrm{Mbps} ; 3 \%$ to 4.0 to $6.0 \mathrm{Mbps} ; 7 \%$ to 6.0 to $10.0 \mathrm{Mbps} ; 20 \%$ to 10.0 to 25.0 Mbps ; and $67 \%$ to greater than 25 Mbps service. (See Figure 2.)

Fig. 2: MAXIMUM SPEED AVAILABILITY


Survey results indicate an overall broadband take rate from NTCA member companies of $72 \%$, approximately the same as $73 \%$ a year ago. By far, the most popular speed tier among survey respondents' broadband subscribers is between 10.0 Mbps and 25.0 Mbps-24\% of survey respondents' customers subscribe to this level of service. Next most popular is greater than $25.0 \mathrm{Mbps}(17 \%)$, followed by 6.0 Mbps to 10.0 Mbps ( $10 \%$ ), 4.0 Mbps to 6.0 Mbps ( $9 \%$ ), 3.0 to $4.0 \mathrm{Mbps}(5 \%), 1.0 \mathrm{Mbps}$ to $1.5 \mathrm{Mbps}(4 \%)$, and 1.5 Mbps to 3.0 Mbps ( $3 \%$ ) Non-broadband subscribers make up $28 \%$ of survey respondents' customer base. (See Fig. 3.)

THE RURAL

Fig. 3: BROADBAND TAKE RATES BY SPEED TIER


Typical prices charged range from $\$ 34.95$ to $\$ 44.95$ for cable modem service, $\$ 29.95$ to $\$ 49.95$ per month for DSL service, $\$ 39.95$ to $\$ 49.95$ for wireless broadband service, and $\$ 39.95$ to $\$ 59.95$ for fiber-based broadband service.

Forty-two percent of survey respondents indicated their customers may purchase socalled "stand-alone DSL"-broadband service without a voice component. Take rates for stand-alone DSL service are relatively low, however, with the majority of those respondents offering stand-alone DSL reporting take rates of $10 \%$ or less, although some have take rates between 15 and $25 \%$.

Twenty-seven percent of respondents estimate that they could bring all of their customers currently receiving service below 25 Mbps up to that speed for between $\$ 1$ million and $\$ 10$ million in additional capital investment. An additional $27 \%$ could do so for between $\$ 20$ million and $\$ 50$ million, $21 \%$ at a cost of $\$ 10$ to $\$ 20$ million, $18 \%$ for $\$ 1$ million or less, and $7 \%$ estimate the total cost would be more than $\$ 50$ million.

Survey respondents provide critically important broadband service to anchor institutions in their communities. The median respondent serves four public service entities (police,
fire, etc.); three primary/secondary schools; one public library; one hospital or medical clinic; as well as 911 call centers, post offices and city halls.

## Fiber Deployment

Fifty-two percent of those survey respondents currently deploying fiber serve at least $50 \%$ of their customers using fiber to the home (down from 55\% last year), while $24 \%$ serve $20 \%$ of their customer base or less with fiber to the home (FTTH) technology (down from $26 \%$.)

Survey respondents described their companies' plans to deploy fiber to the node (FTTN) and/or FTTH to their customers. Eighty-two percent of survey respondents indicated that they have a long-term fiber deployment strategy. Thirty-nine percent of those survey respondents with a fiber deployment strategy expect to offer fiber to the node to more than $75 \%$ of their customers by the end of 2019. Sixty-six percent of respondents expect to be able to provide FTTH to at least half of their customers by year-end 2019. An additional $31 \%$ have already completed fiber deployment to all of their customers.

Eighty-nine percent of survey respondents identified the cost of fiber deployment as a significant barrier to widespread deployment. Regulatory uncertainty was the number two barrier ( $54 \%$, down from $79 \%$ last year), followed by long loops ( $52 \%$ ), current regulatory rules ( $36 \%$, down from $56 \%$ ), obtaining financing ( $20 \%$ ), low customer demand ( $21 \%$ ), fiber order fulfillment delays (13\%) and obtaining cost-effective equipment (8\%). ${ }^{5}$ (See Figure 4.)

[^3]Fig. 4: BARRIERS TO FIBER DEPLOYMENT


## Internet Backbone

Survey respondents are, on average, 68 miles from their primary internet connection; the median distance is 38 miles. Eighty-eight percent of those respondents who recently switched internet backbone access providers did so for price reasons, while $25 \%$ switched due to quality of service concerns and $25 \%$ for other reasons, such as the ability to add redundant routes. ${ }^{6}$ Seventy-three percent of respondents indicated they are generally satisfied with their current backbone access provider, while $27 \%$ are generally dissatisfied. Fifty-five percent of all survey respondents expect to need additional backbone capacity in one year or less.

## Competition/Marketing

Virtually all survey respondents indicated that they face competition from at least one other service provider in some portion of their service area. Survey respondents typically compete with national ISPs, fixed and/or mobile wireless internet service providers

[^4](WISPs) and satellite broadband providers. Other potential competitors include cable companies, electric utilities, local ISPs and neighboring cooperatives.

Rural incumbent local exchange carriers are taking numerous steps in the marketing arena to increase broadband take rates. Eighty-seven percent are offering free installation, $84 \%$ are bundling services, $79 \%$ are offering price promotions, $44 \%$ are offering free modems, $39 \%$ are offering free service for an introductory time period (such as 30 days), $28 \%$ are offering free education/training classes, $18 \%$ are offering discounted computers or tablets, and $4 \%$ are offering free software. ${ }^{7}$ (See Figure 5.) Respondents consider their price promotions, bundling of services, and free installation to be their most effective marketing promotions.

Fig. 5: BROADBAND MARKETING PROMOTIONS


[^5]
## Other Services

- VoIP

Thirty-three percent of survey respondents currently offer VoIP service to their customers, up slightly from $31 \%$ one year ago. Forty-seven percent of those respondents not currently offering VoIP have plans to do so in the foreseeable future, up from $38 \%$ last year.

- Video

Seventy percent of survey respondents offer video service to their customers. Fourteen percent of those respondents not currently offering video ( $4 \%$ of all respondents) plan to do so by year-end 2019. The remaining $86 \%$ of those not currently offering video ( $26 \%$ of all respondents) currently have no plans to offer video service. (See Figure 6.) Seventy-eight percent of those planning a future video offering intend to offer internet protocol television (IPTV) service in the foreseeable future.

Fig. 6: OFFERING VIDEO SERVICE?


Of those respondents currently offering video services, $86 \%$ offer IPTV, and $51 \%$ offer legacy coax (CATV) service. ${ }^{8}$ Twenty-nine percent of those providing CATV service use an analog system, while $71 \%$ use a digital system. The average respondent offers their customers three "tiers" of entertainment television packages from which to choose, unchanged from last year. Seventy-eight percent of the customers of those survey respondents offering video are able to watch programming on multiple devices, both inside and outside their home (i.e., "TV everywhere"), about the same as last year.

The main barrier facing those survey respondents providing video service is access to reasonably priced programming, as cited by $98 \%$ of survey respondents. Seventy-six percent cited difficulty competing with other providers, $61 \%$ the challenge of making a business case for video service, $46 \%$ the cost of necessary equipment, $33 \%$ difficulty obtaining necessary equipment, and $2 \%$ difficulty obtaining necessary financing. ${ }^{9}$ (See Fig. 7.)


[^6]
## Miscellaneous

Survey respondents were asked what specific obstacles they have encountered in their efforts to deploy fiber to their customers, and how conditions would need to change to allow them to successfully overcome those obstacles. Their responses are presented in Appendix A of this report.

## CONCLUSIONS

Respondents' customers are subscribing to faster broadband speeds. While the overall broadband take rate is generally the same ( $72 \%$ this year versus $73 \%$ last year), subscribers are moving up to higher speeds. This year, $17 \%$ of respondents' customers subscribed to broadband service in excess of 25 Mbps , versus $8 \%$ a year ago. Sixty percent subscribe to service of 4 Mbps or greater, versus $55 \%$ a year ago. And only $12 \%$ subscribe to service between 1 and 4 Mbps , versus $16 \%$. Consumers are moving up the broadband speed chain; providers need to be prepared to offer them the level of service they demand.

While concerns about regulatory uncertainty have eased somewhat, they remain substantial. Fifty-four percent of survey respondents cited regulatory uncertainty as a significant barrier to broadband deployment, down from $79 \%$ in last year's survey. This is at least partially a result of steps taken by the FCC to attempt to ease the uncertainty. However, recent events have shown that small, rural providers are still subject to unforeseen and drastic changes to their support levels-clearly, much more remains to be done.

The pursuit of reasonably-priced video programming remains a nearly-universal struggle. Virtually all survey respondents offering video- $98 \%$-cited their ability to access affordably-priced programming as a significant impediment to their ongoing video operations. Unless this issue can be adequately addressed in the very near-term future, the ability of these providers to offer their customers high-quality, reasonably-priced video service will be seriously challenged.

Survey respondents provide critically important broadband service to community anchor institutions. These small providers serve public service entities (such as police and fire), primary and secondary schools, public libraries, hospitals and medical clinics, and numerous other important anchor institutions. In so doing, they make significant contributions to the safety, health and overall well-being of their customers. Their service helps facilitate the overall viability of rural America.

## APPENDIX A

Q: What specific obstacles have you encountered in your efforts to deploy fiber to your customers, and how would conditions need to change to allow you to successfully overcome these obstacles?

New financial dynamics (viability) given new regulatory environment.
Cost of construction, regulatory environment
If grants were available to help with cost we would deploy fiber.
Cost of construction. We are ACAM so we are spending there, but without it we would have to have a business case and that is difficult in our very rural areas.

Less regulatory constraints.
Have been $100 \%$ FTTH since 2011. Very expensive to construct and operate, but delivers the bandwidth for future services.

We have completed fiber to all customers, trying to recover the build out costs, will take time, due to increasing expense cost to provide all services.

Length of subscriber loops and cost of fiber deployment.
Cost for deployment and customers don't want to pay more for higher speeds
Large service area. Lot of money to extend our fiber plant.

## Reduced USF

It is expensive. Doing it in the rural area ( 2 customers/mile) has no hope on return on investment.

Some customers just don't want it because they feel a cell phone is enough
Cost and financing.
Once fiber is deployed, the cost of the customer premise equipment per location.
I have deployed $100 \%$ but construction costs are the biggest obstacle to deploying fiber. Increased penetration will justify costs eventually.

THE RURAL BROADBAND ASSOCIATION

Time and money is issue. Selected ACAM and working to meet obligations and offer better service.

Rate of Return rules and FCC Obstacles

Reduction in support dollars due to fiber penetration. Broadband only support not realistic. Reduction in HCLS dollars.

Obtaining sufficient and sustainable cost recovery. You need the right people who support the availability of a wired network for the benefit of Rural Consumers.

I would like the FCC to stop chipping away at my recovery. Get more money in the USF budget to fund this. My other issue is pricing standalone broadband competitively and still being able to maximize recovery/profit.

The only way to deploy fiber in rural areas is to have some level of support for cost recovery.

We are a high cost area dependent on support for infrastructure build, at the time we need the support the most it has been reduced due to inaccurate data and insufficient challenge process giving no consideration for carriers in areas with COLR obligations as well as lack of choices for the rural consumer

Money, money, money. Shorter loops or un-capped USF programs.
Cost. Long loops.
Cost, Long Loops, Time to install
Money and time
Price barriers. Customers not interested in paying higher prices for fiber rate plans with greater speeds. Copper lines provide speeds with affordable plans.

High construction costs. TVA Electric Cooperatives have very high pole attachment rates and there needs to be some way for these costs to come down to reasonable levels.

Terrain adds to costs. Budget Control Mechanisms contained in the USF reforms have cut the amount of capital we have for fiber builds. These budget controls should be removed and the FCC should full fund the program to meet the demand of rural consumers and ensure they have services that are comparable and as affordable as urban Americans.

Money
Costs due to population density and number of subscribers
We have nearly $100 \%$ build out but financing was an issue. We received stimulus funds in the form of a grant and a loan. Without financial help, it wouldn't have been possible.

Financial cost to deploy
Not having the capital resources to deploy. However, the recent FCC A-CAM Modelbased support will help us deploy fiber from $65 \%-75 \%$ of our customer service base over 10 years. Would like to see the FCC extended the Model-based program to allow companies to be able to reach $100 \%$ of their customer service base.

We have built the lease expensive customers. Now faced by longer loop costs. Limited by FCC per location limit and effect of budget control mechanism

The cost of construction, conversion costs, and the cost of additional equipment.
We average $1 / 2$ customer per square mile with extremely rough and rocky terrain. Cost of construction is prohibitive.

The sparse population in our service area when compared to the cost of deployment does not give us a business plan to do it. The regulatory environment would needs to change to cover those cost either through some mechanism.

Long loops.
We are $100 \%$ deployed

1. Difficult terrain 2. Existing utility congestion within easements. Changes needed: We need regulatory certainty that if one borrows money to complete the fiber build out, the support needed to repay that debt will not be taken away.

Regulatory uncertainty and cost recovery over time. Took the chance anyway, $\$ 10 \mathrm{M}$ for 973 customers for FTTH

Overall cost of the build and decreasing support dollars to pay back loans for that buildout

None

Having the cash flow to continue our phases of constructing and deploying FTTH. USF or any other support mechanism.

None

Increasing broadband adoption rates would help us (figuring out if it is on-line literacy, computer equipment in the home, or other factors that would increase take-rates)

Take rate and need for affordable financing options are our largest obstacles.
Cost. Additionally, as long as broadband only support remains broken we will continue to be unable to compete with encroaching cable companies like Time Warner/Spectrum.

Sufficient cost recovery is the biggest obstacle.
Rights of way is becoming harder to obtain.
Availability of fiber, cost, overcoming regulatory obstacles to serve other areas petitioning for fiber

## D. Construction Quotes

## 1. Aerial \& Buried Cable Installation

## Bid Tabulation Sheet

| Units | Quantity | Labor |  | Material | Unit Price | Total |  |
| :--- | :---: | :--- | ---: | ---: | :--- | ---: | ---: |
| BDO 288 P |  | $\$$ | - | $\$$ | - | $\$$ | - |


| CFO 48 (6M) | 1,000 | $\$$ | 1.52 | $\$$ | 1.04 | $\$$ | 2.56 | $\$$ | $2,560.00$ |
| :--- | :---: | :--- | ---: | :--- | ---: | ---: | ---: | ---: | ---: |
| CFO 48 COIL | 950 | $\$$ | 0.60 | $\$$ | 0.46 | $\$$ | 1.06 | $\$$ | $1,007.00$ |
| CFO 6 | 1,500 | $\$$ | 0.60 | $\$$ | 0.55 | $\$$ | 1.15 | $\$$ | $1,725.00$ |
| CFO 6 COIL | 250 | $\$$ | 0.60 | $\$$ | 0.31 | $\$$ | 0.91 | $\$$ | 227.50 |
| CFO 96 | 4,200 | $\$$ | 0.60 | $\$$ | 0.99 | $\$$ | 1.59 | $\$$ | $6,678.00$ |
| CFO 96 COIL | 750 | $\$$ | 0.60 | $\$$ | 0.75 | $\$$ | 1.35 | $\$$ | $1,012.50$ |
| CO 144 COIL | 0 | $\$$ | - | $\$$ | - | $\$$ | - | $\$$ | - |
| CO 288 COIL | 0 | $\$$ | - | $\$$ | - | $\$$ | - | $\$$ | - |
| CO 96 COIL | 0 | $\$$ | - | $\$$ | - | $\$$ | - | $\$$ | - |
| HAC0 (6) | 3 | $\$$ | 185.00 | $\$$ | 315.00 | $\$$ | 500.00 | $\$$ | $1,500.00$ |
| HACO(144) | 14 | $\$$ | 425.00 | $\$$ | 420.00 | $\$$ | 845.00 | $\$$ | $11,830.00$ |
| HACO(24) | 10 | $\$$ | 215.00 | $\$$ | 315.00 | $\$$ | 530.00 | $\$$ | $5,300.00$ |
| HACO(288) | 5 | $\$$ | 625.00 | $\$$ | 575.00 | $\$$ | $1,200.00$ | $\$$ | $6,000.00$ |
| HACO(48) | 3 | $\$$ | 285.00 | $\$$ | 335.00 | $\$$ | 620.00 | $\$$ | $1,860.00$ |
| HACO(96) | 3 | $\$$ | 355.00 | $\$$ | 380.00 | $\$$ | 735.00 | $\$$ | $2,205.00$ |
| HBFO (12) |  | $\$$ | - | $\$$ | - | $\$$ | - | $\$$ | - |
| HBFO(144) | 2 | $\$$ | 425.00 | $\$$ | 550.00 | $\$$ | 975.00 | $\$$ | $1,950.00$ |
| HBFO(24) | 5 | $\$$ | 215.00 | $\$$ | 465.00 | $\$$ | 680.00 | $\$$ | $3,400.00$ |
| HBFO(288) | 2 | $\$$ | 625.00 | $\$$ | 660.00 | $\$$ | $1,285.00$ | $\$$ | $2,570.00$ |
| HBFO(48) |  | $\$$ | - | $\$$ | - | $\$$ | - | $\$$ | - |
| HBFO(96) | 2 | $\$$ | 355.00 | $\$$ | 610.00 | $\$$ | 965.00 | $\$$ | $1,930.00$ |
| HO1 | 2,150 | $\$$ | 18.50 | $\$$ | 0.18 | $\$$ | 18.68 | $\$$ | $40,162.00$ |
| NPE1-2G | 70 | $\$$ | 65.00 | $\$$ | 45.00 | $\$$ | 110.00 | $\$$ | $7,700.00$ |
| NPE2-2G | 10 | $\$$ | 100.00 | $\$$ | 60.00 | $\$$ | 160.00 | $\$$ | $1,600.00$ |
| PF3-3 | 20 | $\$$ | 150.00 | $\$$ | 30.00 | $\$$ | 180.00 | $\$$ | $3,600.00$ |
| PM (AUX) | 60 | $\$$ | 13.00 | $\$$ | 11.00 | $\$$ | 24.00 | $\$$ | $1,440.00$ |
| PM11 | 80 | $\$$ | 3.30 | $\$$ | 3.45 | $\$$ | 6.75 | $\$$ | 540.00 |
| PM52 | 75 | $\$$ | 3.30 | $\$$ | 3.00 | $\$$ | 6.30 | $\$$ | 472.50 |
| PM69 | 75 | $\$$ | 75.00 | $\$$ | 28.00 | $\$$ | 103.00 | $\$$ | $7,725.00$ |

Total Project Cost \$ 278,500.00

## $\$ 91,229.89$ Estimate Buried Cost <br> \$172,920.11 Estimated Aerial Cost <br> \$76,763.95 Estimated Buried Cost per Mile <br> \$24,642.87 Estimated Aerial Cost per Mile

| Bid Tabulation Sheet |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| UNITS | QUANTITY | LABOR | MATERIALS | UNIT PRICE | TOTAL |
| BDO 288 P | 1 | \$550.00 | \$7,500.00 | \$8,050.00 | \$8,050.00 |
| BFO 144 | 24 | \$0.65 | \$0.88 | \$1.53 | \$36.72 |
| BFO 144 COIL | 30 | \$0.65 | \$0.88 | \$1.53 | \$45.90 |
| BFO 144 I | 410 | \$0.70 | \$0.91 | \$1.61 | \$660.10 |
| BFO 24 | 24 | \$0.65 | \$0.30 | \$0.95 | \$22.80 |
| BFO 24 COIL | 30 | \$0.65 | \$0.30 | \$0.95 | \$28.50 |
| BFO 241 | 455 | \$0.70 | \$0.32 | \$1.02 | \$464.10 |
| BFO 288 COIL | 850 | \$0.65 | \$1.50 | \$2.15 | \$1,827.50 |
| BFO 2881 | 10,300 | \$0.70 | \$1.53 | \$2.23 | \$22,969.00 |
| BFO 48 | 24 | \$0.65 | \$0.39 | \$1.04 | \$24.96 |
| BFO 48 COIL | 30 | \$0.65 | \$0.39 | \$1.04 | \$31.20 |
| BFO 481 | 250 | \$0.70 | \$0.42 | \$1.12 | \$280.00 |
| BFO 96 | 48 | \$0.65 | \$0.65 | \$1.30 | \$62.40 |
| BFO 96 COIL | 470 | \$0.65 | \$0.65 | \$1.30 | \$611.00 |
| BFO 961 | 565 | \$0.70 | \$0.68 | \$1.38 | \$779.70 |
| BHF(36X24X30)T | 10 | \$600.00 | \$550.00 | \$1,150.00 | \$11,500.00 |
| BM2(1/2)(5) | 11 | \$25.00 | \$16.00 | \$41.00 | \$451.00 |
| BM2A | 5 | \$2.00 | \$1.00 | \$3.00 | \$15.00 |
| BM2E | 1,270 | \$0.30 | \$0.18 | \$0.48 | \$609.60 |
| BM53F | 19 | \$25.00 | \$55.00 | \$80.00 | \$1,520.00 |
| BM60(1.25) | 12,500 | \$7.50 | \$0.43 | \$7.93 | \$99,125.00 |
| BM81 | 5 | \$10.00 | \$12.00 | \$22.00 | \$110.00 |
| BM 71 | 2,420 | \$10.00 |  | \$10.00 | \$24,200.00 |
| CFO 144 | 540 | \$1.32 | \$1.00 | \$2.32 | \$1,252.80 |
| CFO 144 COIL | 310 | \$1.32 | \$1.03 | \$2.35 | \$728.50 |
| CFO 24 | 5,340 | \$1.32 | \$0.34 | \$1.66 | \$8,864.40 |
| CFO 24 COIL | 1,230 | \$1.32 | \$0.38 | \$1.70 | \$2,091.00 |
| CFO 48 | 1,670 | \$1.32 | \$0.45 | \$1.77 | \$2,955.90 |
| CFO 48 COIL | 510 | \$1.32 | \$0.50 | \$1.82 | \$928.20 |
| CFO 96 | 10,480 | \$1.32 | \$0.70 | \$2.02 | \$21,169.60 |
| CFO 96 (6.6M) | 650 | \$1.62 | \$0.95 | \$2.57 | \$1,670.50 |
| CFO 96 COIL | 2,450 | \$1.32 | \$0.75 | \$2.07 | \$5,071.50 |
| HACO(144) | 1 | \$210.00 | \$400.00 | \$610.00 | \$610.00 |
| HACO(24) | 8 | \$210.00 | \$225.00 | \$435.00 | \$3,480.00 |
| HACO(288) | 5 | \$210.00 | \$400.00 | \$610.00 | \$3,050.00 |
| HACO(48) | 3 | \$210.00 | \$225.00 | \$435.00 | \$1,305.00 |
| HACO(96) | 12 | \$210.00 | \$225.00 | \$435.00 | \$5,220.00 |
| HBFO(24) | 1 | \$210.00 | \$225.00 | \$435.00 | \$435.00 |
| HO1 | 750 | \$16.00 | \$0.25 | \$16.25 | \$12,187.50 |
| NPE1-2G | 56 | \$45.00 | \$45.50 | \$90.50 | \$5,068.00 |
| NPE2-2G | 12 | \$55.00 | \$48.00 | \$103.00 | \$1,236.00 |
| PF3-3 | 7 | \$185.00 | \$23.00 | \$208.00 | \$1,456.00 |


| PM (AUX) | 50 | $\$ 22.00$ | $\$ 16.00$ | $\$ 38.00$ | $\$ 1,900.00$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| PM11 | 55 | $\$ 10.00$ | $\$ 4.00$ | $\$ 14.00$ | $\$ 770.00$ |
| PM52 | 49 | $\$ 10.00$ | $\$ 2.00$ | $\$ 12.00$ | $\$ 588.00$ |
| PM69 | 46 | $\$ 40.00$ | $\$ 11.00$ | $\$ 51.00$ | $\$ 2,346.00$ |
| Total Bid |  |  |  |  | $\$ 257,808.38$ |

> \$170,490.54 Estimate Buried Cost
> $\$ 79,157.84$ Estimated Aerial Cost
> $\$ 74,395.87$ Estimated Buried Cost per Mile
> $\$ 22,374.38$ Estimated Aerial Cost per Mile

## Bid Tabulation Sheet

| Units | Quantity | Labor | Material | Unit Price | Total |  |  |
| :--- | :---: | :--- | ---: | :--- | ---: | ---: | ---: |
| BFO 288 | 500 | $\$$ | 0.45 | $\$$ | 1.74 | $\$$ | 2.19 |
| BFO 288 COIL | 1,100 | $\$$ | 0.15 | $\$$ | 1.64 | $\$$ | 1.79 |
| BFO 288 I | 14,200 | $\$$ | 0.45 | $\$$ | 1.74 | $\$$ | 2.19 |

Total Project Cost \$
750,836.95
\$172,526.29 Estimate Buried Cost
$\$ 578,310.66$ Estimated Aerial Cost
\$61,968.63 Estimated Buried Cost per Mile
\$19,381.02 Estimated Aerial Cost per Mile

## D. Construction Quotes

## 2. Aerial \& Buried Drop Installation

| Aerial \& Buried Drop Installation |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Units | Quantity | Labor |  | Material |  | Unit Price |  | Total |  |
| BM2E | 500 | \$ | 7.80 | \$ | 0.20 | \$ | 8.00 | \$ | 4,000.00 |
| BM61 | 250 | \$ | 10.00 | \$ | - | \$ | 10.00 | \$ | 2,500.00 |
| BM71 | 250 | \$ | 14.00 | \$ | - | \$ | 14.00 | \$ | 3,500.00 |
| BM 80 | 10 | \$ | 50.00 | \$ | 10.00 | \$ | 60.00 | \$ | 600.00 |
| BM 83 | 48 | \$ | 11.70 | \$ | 2.40 | \$ | 14.10 | \$ | 676.80 |
| HO-1 | 146 | \$ | 49.70 | \$ | 0.30 | \$ | 50.00 | \$ | 7,300.00 |
| NID | 98 | \$ | 30.00 | \$ | 70.00 | \$ | 100.00 | \$ | 9,800.00 |
| NID4BM2 | 48 | \$ | 40.00 | \$ | 90.00 | \$ | 130.00 | \$ | 6,240.00 |
| SEBP-100 | 2 | \$ | 270.00 |  |  | \$ | 270.00 | \$ | 540.00 |
| SEBP-150 | 4 | \$ | 290.00 |  |  | \$ | 290.00 | \$ | 1,160.00 |
| SEBP-200 | 3 | \$ | 320.00 |  |  | \$ | 320.00 | \$ | 960.00 |
| SEBP-250 | 2 | \$ | 340.00 |  |  | \$ | 340.00 | \$ | 680.00 |
| SEBP-300 | 2 | \$ | 390.00 |  |  | \$ | 390.00 | \$ | 780.00 |
| SEBP-400 | 2 | \$ | 440.00 |  |  | \$ | 440.00 | \$ | 880.00 |
| SEBP-500 | 2 | \$ | 475.00 |  |  | \$ | 475.00 | \$ | 950.00 |
| SEBP-750 | 2 | \$ | 510.00 |  |  | \$ | 510.00 | \$ | 1,020.00 |
| SEBP-1000 | 2 | \$ | 550.00 |  |  | \$ | 550.00 | \$ | 1,100.00 |
| SEAP-100 | 37 | \$ | 120.00 |  |  | \$ | 120.00 | \$ | 4,440.00 |
| SEAP-150 | 15 | \$ | 140.00 |  |  | \$ | 140.00 | \$ | 2,100.00 |
| SEAP-200 | 15 | \$ | 170.00 |  |  | \$ | 170.00 | \$ | 2,550.00 |
| SEAP-250 | 5 | \$ | 190.00 |  |  | \$ | 190.00 | \$ | 950.00 |
| SEAP-300 | 5 | \$ | 220.00 |  |  | \$ | 220.00 | \$ | 1,100.00 |
| SEAP-400 | 5 | \$ | 275.00 |  |  | \$ | 275.00 | \$ | 1,375.00 |
| SEAP-500 | 5 | \$ | 325.00 |  |  | \$ | 325.00 | \$ | 1,625.00 |
| SEAP-750 | 5 | \$ | 430.00 |  |  | \$ | 430.00 | \$ | 2,150.00 |
| SEAP-1000 | 5 | \$ | 500.00 |  |  | \$ | 500.00 | \$ | 2,500.00 |
| SEABP-100 | 3 | \$ | 120.00 |  |  | \$ | 120.00 | \$ | 360.00 |
| SEABP-150 | 3 | \$ | 140.00 |  |  | \$ | 140.00 | \$ | 420.00 |
| SEABP-200 | 3 | \$ | 170.00 |  |  | \$ | 170.00 | \$ | 510.00 |
| SEABP-250 | 3 | \$ | 190.00 |  |  | \$ | 190.00 | \$ | 570.00 |
| SEABP-300 | 3 | \$ | 220.00 |  |  | \$ | 220.00 | \$ | 660.00 |
| SEABP-400 | 3 | \$ | 275.00 |  |  | \$ | 275.00 | \$ | 825.00 |
| SEABP-500 | 3 | \$ | 325.00 |  |  | \$ | 325.00 | \$ | 975.00 |
| SEABP-750 | 3 | \$ | 430.00 |  |  | \$ | 430.00 | \$ | 1,290.00 |
| SEABP-1000 | 3 | \$ | 500.00 |  |  | \$ | 500.00 | \$ | 1,500.00 |
|  |  | \$ | - | \$ | - | \$ | - | \$ | - |
|  |  | \$ | - | \$ | - | \$ | - | \$ | - |
|  |  | \$ | - | \$ | - | \$ | - | \$ | - |

## E. Cable Material Pricing <br> 1. Buried \& ADSS Fiber Cable Material Quotes

Buried Fiber Cable RFP Summary

| Ouantiy | Descripion | Cable Strand Size | $\left\lvert\, \begin{gathered}\text { company A Unit } \\ \text { cost }\end{gathered}\right.$ | $\begin{gathered} \text { Company A Total } \\ \text { Cost } \end{gathered}$ | $\begin{aligned} & \text { Company A } \\ & \text { Cable Type } \end{aligned}$ | $\begin{gathered} \text { Company B Unit } \\ \text { Cost } \end{gathered}$ | $\begin{gathered} \text { Company B Total } \\ \text { Cost } \end{gathered}$ | $\begin{aligned} & \text { Company B } \\ & \text { Cable Type } \end{aligned}$ | ${ }_{\text {compant }}^{\text {comi Conit }}$ | $\underbrace{\text { Cost }}_{\text {company C Total }}$ | $\begin{gathered} \text { Company C Cable } \\ \text { Type } \\ \hline \end{gathered}$ | $\begin{array}{\|c\|} \hline \text { Company D Unit } \\ \text { Cost } \end{array}$ <br> Cost | Company D Total Cost | $\begin{aligned} & \text { Company D } \\ & \text { Cable Type } \end{aligned}$ | $\begin{gathered} \text { Company E Unit } \\ \text { Cost } \end{gathered}$ | $\underbrace{\substack{\text { company E Total } \\ \text { cost }}}$ | $\begin{gathered} \text { Company E } \\ \text { Cable Type } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 178880 | Single armor, single PE jacket, dielectric central member, zero water pek-low water peak, $0.35 / 0.25$ db/km 1310/1550nm, dry core, gel filled buffer tubes RUS Buy American standards | 24 | 0.2810 | \$497,032.80 | 5 | 0.30922 | \$556,948.34 | 13 | 0.27547 | \$487, 251.34 | 5 | 0.3040 | \$537,715.20 | 9 | 0.29022 | \$513,341.14 |  |
| 58800 | Single armor, single PE jacket, dielectric central member, zero water pek-low water peak, RUS Buy American standards | 48 | 0.3764 | \$198,739.20 | 6 | 0.40396 | \$213,290.88 | 14 | 0.36901 | \$194,837.28 | 6 | 0.3930 | \$207,504.00 | 10 | 0.39075 | \$206,360.00 | 2 |
| 39600 | Single armor, single PE jacket, dielectric central member, zero water pek-low water peak, 0.350 .025 db/km 1310/1550 nm , dry core, gel filled buffer tubes, RUS Buy American standards | 96 | 0.6460 | \$255,816.00 | 7 | 0.72000 | \$285,120.00 | 15 | 0.63294 | \$250,644,24 | 7 | 0.6170 | \$244,332.00 | 11 | 0.68290 | \$270,428.40 |  |
| 79200 | Single armor, single PE jacket, dielectric central member, zero water pek-low water peak, $0.35 / 0.25$ RUS Buy American standards | 144 | 0.9366 | \$74,178.72 | 8 | 1.0543 | \$81,214,06 | 16 | 0.91825 | \$72,725.40 | 8 | 0.9990 | \$71,992.80 | 12 | 0.97957 | \$77,581.94 |  |
| Total Bid |  |  |  | \$1,025,76.72 |  |  | \$1,126,573.27 |  |  | \$1,005,458.26 |  |  | \$1,061,544.00 |  |  | \$1,067,667.48 |  |

Shipping Notes
Delivery Time Frame
12 weeks
Footnote Cable Type

|  | OFS light armor, single PE jacket, single armor, dielectric entral member, ALL-WAVE-SM. 35 . 25 db/km 1310/1383/1550 | АТ-3BEH2TT-024 |
| :---: | :---: | :---: |
|  | OFSS light ammor, single PEE jacket, single amor, |  |
| 2 | dielectric central member, Al dikm dioliol | АТ-38EH2TT-048 |
|  | FS light armor, single PE jacket, single armor, lectric central member, ALL-WAVE-SM .35/.25 |  |
| 3 | m 1310 |  |
| 4 | OFS light armor, single PE jacket, single armor, dielectric central member, ALL-WAVE-SM .35/. 25 $\mathrm{db} / \mathrm{km} 1310 / 1383 / 1550$ | АТ-ЗвЕНгт-144 |
|  | Corning 24iber Single Mode Ampor Gel-filed, ALTO | 2extatere |
|  |  | 024euc-44100a20 |
| 6 | LTEEAGEL-FILLED CABLE | euc-41 |
| 7 | Coming 9ifiber Singe Mode | 096euc-t410020 |
|  |  |  |

24 2strand, single mode, single armor/single eacket, 4802474EEBSLWN
$10 \quad \begin{aligned} & \text { 48 strand, single emode, sinfle armor/s ingle eacket, } \\ & \text { dry core, with gel filled buffer tubues, Rus approved }\end{aligned}$
11 96 strand, single mode, single armor/single jeacket, dry core, with gel filled buffer tubes, RUS aporoved 4809674EEBSLWN 144 strand, single mode, single armor//single jacket,






$18 |$| 48 CC |
| :--- | :--- |
| Ubege |
| 96 CT |







22 ANSIICEA S.87.-640
nm ncabled) GR-20.2., RUS CFR-17555-900,



24 ANSIICEAS-87-640

Buried Fiber Cable RFP Summary


| Quantity | ADSS Fiber Cable Material Quotes |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Description | Part Number | Company A | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { Company A Total } \\ \text { Cost } \end{array} \\ \hline \end{array}$ | $\begin{array}{\|c\|} \hline \text { Company } \\ \hline \end{array}$ | Company B Total Cost | $\begin{gathered} \text { Company } \\ \text { C } \end{gathered}$ | $\begin{array}{\|c} \text { Company C Total } \\ \text { Cost } \end{array}$ | $\begin{array}{\|c\|} \hline \text { Company } \\ \text { D } \end{array}$ | Company D Total Cost | $\underset{E}{\text { Company }}$ | $\begin{array}{\|c} \text { Company E Total } \\ \text { Cost } \end{array}$ |
|  | OFS 350 ft span |  |  |  |  |  |  |  |  |  |  |  |
| 1,176,384 | 24F 100\% DRY Single J kt PowerG uide ADSS Single PE J kt, Dielectric Central Member ALLW AVE-SM.35/.31/.25 db/km@ 1310/1385/1550 CABLE DIAMETER: 11.7 mm (. 461 in .) | AT-3BE17N6-024-CLGA | 0.2764 | \$325,093.72 | 0.2616 | \$307,718.53 | 0.2640 | \$310,565.38 | 0.2617 | \$307,859.69 | 0.26150 | \$307,624.42 |
| 1,176,384 | $\begin{aligned} & \text { 48F 100\% DRY Single J Kt PowerG uide ADS S Single } \\ & \text { PE Jkt, Dielectric Central Member ALLW AVE-SM- } \\ & .35 / .31 / 25 \text { db/km@ } 1310 / 1385 / 1550 \\ & \text { CABLE DIAMETER: } 11.7 \mathrm{~mm} \text { (. } 461 \text { in.) } \\ & \hline \end{aligned}$ | AT-3BE17NT-048-CLGA | 0.3678 | \$432,615.22 | 0.3481 | \$409,487.51 | 0.3510 | \$412,910.78 | 0.3483 | \$409,734.55 | 0.34800 | \$409,381.63 |
| 1,176,384 | 72F $100 \%$ DRY Single J Jt PowerGuide ADS S Single PE Jt, Dielectric Central Member ALLW AVE-SM- $.35 / .31 / .25$ db/km@ $1310 / 1385 / 1550$ CABLE DIAMETER: 12.7 mm (.500 in.) | AT-3BE17NT-072-CLGA | 0.5043 | \$593,262.22 | 0.4774 | \$561,546.90 | 0.4810 | \$565,840.70 | 0.4776 | \$561,841.00 | 0.47720 | \$561,370.44 |
| 1,176,384 | 96F 100\% DRY Single J kt PowerG uide ADSS Single PE Jt, Dielectric Central Member ALLW AVE-SM- $.35 / .31 / .25$ db/km@ $1310 / 1385 / 1550$ CABLE DIAMETER: $14.7 \mathrm{~mm}(.579$ in.) | AT-3BE17NT-096-CLGA | 0.6430 | \$756,438.44 | 0.6087 | \$716,006.12 | 0.6130 | \$721,123.39 | 0.6090 | \$716,417.86 | 0.60850 | \$715,829.66 |
| 1,176,384 | 144F 100\% DRY Single J kt PowerG uide ADSS Single PE Jkt, Dielectric Central Member ALLW AVE-SM-.35/.31/.25 db/km@ 1310/1385/1550 CABLE DIAMETER: 18.5 mm (. 728 in .) | AT-3BE17NT-144-CLGA | 0.9365 | \$1,101,671.85 | 0.8855 | \$1,041,688.03 | 0.8920 | \$1,049,334.53 | 0.8859 | \$1,042,158.59 | 0.88540 | \$1,041,570.39 |
|  | OFS 500 ft span |  |  |  |  | \$3,036,447.09 |  |  |  |  |  | \$3,035,776.55 |
| 1,176,384 | $\begin{aligned} & \text { 24F 100\% DRY Single J Kt PowerG uide ADS S Single } \\ & \text { PE Jkt, Dielectric Central Member ALLW AVE-SM- } \\ & .35 / .31 / 25 \text { db/km@ } 1310 / 1385 / 1550 \\ & \text { CABLE DIAMETER: } 11.8 \mathrm{~mm} \text { (. } 465 \text { in.) } \end{aligned}$ | AT-3BE17N6-024-CMEA | 0.2914 | \$342,798.30 | 0.2758 | \$324,482.00 | 0.2780 | \$327,034.75 | 0.2759 | \$324,564.35 | 0.27570 | \$324,329.07 |
| 1,176,384 | $\begin{aligned} & \text { 48F } 100 \% \text { DRY Single J kt PowerG uide ADSS Single } \\ & \text { PE J Kt, Dielectric Central Member ALLW AVE-SM- } \\ & .35 / .31 / 25 \text { db/km@ } 1310 / 138550 \\ & \text { CABLE DIAMETER: } 11.8 \mathrm{~mm} \text { (. } 465 \mathrm{in} \text { in.) } \end{aligned}$ | AT-3BE17NT-048-CMGA | 0.3936 | \$462,965.92 | 0.3725 | \$438,226.57 | 0.3750 | \$441,144.00 | 0.3727 | \$438,438.32 | 0.37240 | \$438,085.40 |
| 1,176,384 | 72F $100 \%$ DRY Single J kt PowerG uide ADS Single <br> PE Jt, Dielectric Central Member ALLW AVE-SM- <br> $.35 / .31 / .25$ db/km@ $1310 / 138551550$ <br> CABLE DIAMETER: $12.8 \mathrm{~mm}(.506$ in.) | AT-3BE17NT-072-CMIA | 0.5248 | \$617,307.50 | 0.4967 | \$584,298.17 | 0.5010 | \$589,368.38 | 0.4969 | \$584,545.21 | 0.49650 | \$584,074.66 |
| 1,176,384 | 96F $100 \%$ DRY Single J kt PowerG uide ADSS Single <br> PE Jt. Dielectric Central Member ALLW AVE-SM- <br> (35).31/.25 db/km@ $1310 / 1385 / 1550$ <br> CABLE DIAMETER: 14.8 mm (. .883 in.) | AT-3BE17NT-096-CMFA | 0.6667 | \$784,259.92 | 0.6310 | \$742,345.36 | 0.6360 | \$748,180.22 | 0.6314 | \$742,768.86 | 0.63090 | \$742,180.67 |
| 1,176,384 | 144F 100\% DRY Single Jkt P owerG uide ADSS Single PE Jkt, Dielectric Central Member ALLWAVE-SM-.35/.31/.25 db/km@ 1310/1385/1550 CABLE DIAMETER: 18.6 mm (. 732 in .) | AT-3BE17NT-144-CMEA | 0.9505 | \$1,118,200.05 | 0.8997 | \$1,058,439.74 | 0.9070 | \$1,066,980.29 | 0.9002 | \$1,058,980.88 | 0.89950 | \$1,058,157.41 |
|  | OFS 400 ft span |  |  |  |  | \$3,147,791.83 |  |  |  |  |  | \$3,146,827.20 |
| 1,176,384 | 24F 100\% DRY Single J kt PowerGuide ADSS Single PE J kt, Dielectric Central Member ALLW AVE-SM.35/.31/.25 db/km@ 1310/1385/1550 CABLE DIAMETER: 11.7 mm (. 461 in .) 400 ft span | AT-3BE17N6-024-CLGA |  | \$0.00 |  | \$0.00 |  | \$0.00 |  | \$0.00 | 0.27570 | \$324,329.07 |
| 1,176,384 | 48F 100\% DRY Single J kt PowerG uide ADSS Single PE J kt, Dielectric Central Member ALLW AVE-SM.35/.31/.25 db/km@ 1310/1385/1550 <br> CABLE DIAMETER: 11.8 mm (. 456 in .) 400 ft span | AT-3BE17NT-048-CMEA |  | \$0.00 |  | \$0.00 |  | \$0.00 |  | \$0.00 | 0.37240 | \$438,085.40 |
| 1,176,384 | 72F 100\% DRY Single Jkt PowerGuide ADSS Single PE J kt, Dielectric Central Member ALLW AVE-SM.35/.31/.25 db/km@ 1310/1385/1550 <br> CABLE DIAMETER: $12.8 \mathrm{~mm}(.504 \mathrm{in}$.) 400 ft span | AT-3BE17NT-072-CMIA |  | \$0.00 |  | \$0.00 |  | \$0.00 |  | \$0.00 | 0.49650 | \$584,074.66 |
| 1,176,384 | 96F 100\% DRY Single J kt PowerGuide ADSS Single PE J kt, Dielectric Central Member ALLW AVE-SM.35/.31/.25 db/km@ 1310/1385/1550 CABLE DIAMETER: 14.7 mm (. 579 in .) 400 ft span | AT-3BE17NT-096-CLGA |  | \$0.00 |  | \$0.00 |  | \$0.00 |  | \$0.00 | 0.63090 | \$742,180.67 |
| 1,176,384 | 144F 100\% DRY Single J kt PowerG uide ADSS Single PE J kt, Dielectric Central Member ALLW AVE SM-.35/.31/.25 db/km@ 1310/1385/1550 CABLE DIAMETER: 18.5 mm (. 738 in .) 400 ft span | AT-3BE17NT-144-CLGA |  | \$0.00 |  | \$0.00 |  | \$0.00 |  | \$0.00 | 0.89130 | \$1,048,511.06 |
| 1,176,384 | 288F 100\% DRY Single J kt PowerG uide ADSS Single PE J kt, Dielectric Central Member ALLW AVE SM-.35/.31/.25 db/km@ 1310/1385/1550 <br> CABLE DIAMETER: 18.5 mm (. 738 in .) 400 ft span | AT-3BE27DT-288-CNAB |  | \$0.00 |  | \$0.00 |  | \$0.00 |  | \$0.00 | 1.97520 | \$2,323,593.68 |
|  |  |  |  |  |  | \$0.00 |  |  |  |  |  | \$5,460,774.53 |

## E. Cable Material Pricing

2. Aerial \& Buried Fiber Drop Cable Material Quotes

## QUOTE



REMIT TO:

BILL TO:

| INSTRUCTIONS |  |  |  |
| :---: | :---: | :---: | :---: |
| SHIP POINT | SHIP VIA | SHIPPED | TAKEN BY |
| SMC Joplin | Best Way |  | jme |

Acceptance of SMC's goods/services is your acceptance of SMC's Terms and Conditions posted on www.smcelectric.com/terms.

| LNE | AND PRODUCT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NO. |  |

2-RWP FITP UNIV MDPE D/F;D/F~;

Total
873.82

Invoice Total
873.82

## Aerial Drop Cable Material RFP

| Drop Length | Quantity | Company A | Company B | Company C | Company D | Company E |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 100' | 100 | \$36.55 | \$45.40 | \$35.0628 | \$35.0628 | \$55.00 |
| 150' | 100 | \$43.33 | \$52.02 | \$41.5285 | \$41.5285 | \$65.97 |
| 200' | 100 | \$50.05 | \$58.64 | \$47.9942 | \$47.9942 | \$76.92 |
| 250' | 100 | \$57.10 | \$65.25 | \$54.4711 | \$54.4711 | \$87.89 |
| 300 | 100 | \$73.45 | \$71.87 | \$70.4617 | \$70.4617 | \$98.84 |
| 400' | 100 | \$94.25 | \$85.10 | \$81.0338 | \$90.3743 | \$120.76 |
| 500' | 50 | \$109.10 | \$98.33 | \$93.8502 | \$104.6504 | \$142.68 |
| 750' | 25 | \$161.95 | \$131.35 | \$139.2932 | \$155.3563 | \$197.47 |
| 1000' | 25 | \$199.15 | \$164.49 | \$171.2975 | \$191.0690 | \$252.36 |
| Total @ Quantities above | 700 | \$49,955.50 | \$50,140.50 | \$45,512.49 | \$47,882.41 | \$68,917.75 |

Corning ROC Fast Access cable with Corning OptiTap.


## F. Electronics Pricing \& Product Literature 1. GPON FTTH Electronics

## BUDGETARY QUOTATION

## NDKIA

Customer:
Quotation Date: May 5, 2020
Quote Number: 18.US. 844430
Delivery: 2020
Partner
Prices FCA: ORIGIN
Equipment: Nokia 7360 ISAM Equipment

7360 ISAM Equipment Summary

| ISAM Shelf Part Number | MNEM | Description | Quantity | Sale Price |  | Extended Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OLT |  |  |  |  |  |  |  |
| 3HG01392AA | Kit | Redundant FX-8 Starter Kit w/ 16-PON Card. Each kit includes: | 1 | \$ | 20,677.99 | \$ | 20,677.99 |
| 3FE64936BB |  | 7360 ISAM FX-8 shelf (ANSI variant), 48V only, incl. BFAN unit | 1 |  |  |  |  |
| 3FE67300AA |  | FX-8 Horizontal mounting kit for 19" or 23 " rack | 1 |  |  |  |  |
| 3FE61087EB |  | Fiber Routing Kit for ANSI FX-8 | 1 |  |  |  |  |
| 3FE53701BD |  | 7360 ISAM FX 480Gbps NT with ANSI T1 BITS, Synchronous Ethernet and IEEE1588 for high density/high bandwidth applications, without SFPs (ANSI variant) | 2 |  |  |  |  |
| 3FE68954AB |  | ISAM FX 16port GPON Line board | 1 |  |  |  |  |
| 3FE65651BA |  | Filler Panel for NTIO and LT, no pre-cabling | 8 |  |  |  |  |
| 3FE62600DA |  | SFP $+1310 \mathrm{~nm} 0^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C} 10 \mathrm{~km} 10 \mathrm{~dB}$ Duplex LC | 2 |  |  |  |  |
| 3FE53441AC |  | ISAM FD/FX GPON SFP OLT (I-temp) Class B+ | 1 |  |  |  |  |
| Line Cards |  |  |  |  |  |  |  |
| 3FE53441AC | SFP B+ | ISAM FD/FX GPON SFP OLT (I-temp) Class B+ | -1 | \$ | 143.61 | \$ | (143.61) |
| Sub Total ISAM Shelf |  |  |  |  |  |  | \$20,534.38 |
| Outdoor ONT for Commercial Units |  |  |  |  |  |  |  |
| Part Number | MNEM | Description | Quantity |  |  |  | nded Price |
| 3FE55691AA | G-240G-A (outdoor) | Hardened 2 POTS, 4GE, fits universal Enclosure | 0 | \$ | 98.43 |  | \$0.00 |
| 1 AB383340010 | Cable | 8' power cable (IEC 320-C5 to NEMA 5-15 [Type <br> B]) for NA applications | 0 | \$ | 4.60 |  | \$0.00 |
| 3FE47358AA | G-240W-E | WiFi GPON residential gateway,2xPOTS,4xGE UNI, $3 \times 3$ 11n+4×4 11ac, US plug | 10 |  | \$189.56 |  | \$1,895.60 |


| Sub Total Outdoor ONT for Commercial Units |  |  |  |  |  | \$1,895.60 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Element Management Software |  |  |  |  |  |  |  |
| Part Number | MNEM | Description | Quan |  |  |  | nded Price |
| SSP Kit with 3 Year Contract |  |  |  |  |  |  |  |
| 3AP38518AA | Kit | 5520/5529 A |  |  |  |  |  |
|  |  | 5520 Core |  |  |  |  |  |
|  |  | Five Operator |  |  |  |  |  |
|  |  | ISAM and GP |  |  |  |  |  |
|  |  | Cold Stadby |  |  |  |  |  |
|  |  | 5529 APC G | 1 | \$ | 11,487.78 | \$ | 11,487.78 |
|  |  | 5529 IDM G | 1 | \$ | 11,487.78 | \$ | 11,487.78 |
|  |  | 5529 OAD |  |  |  |  |  |
|  |  | Documenta |  |  |  |  |  |
|  |  | 5520 AMS S redundancy |  |  |  |  |  |


| Software Subscription Plan |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 301049607 | SSP | SSP - AMS/7330/7342/7360 per line RTU YR1 (annual charge, requires 3 year contract, see Pricing Notes) | 0 | \$ | 9.13 | \$ | - |
| 301049607 | SSP | SSP - AMS/7330/7342/7360 per line RTU YR2 (annual charge, requires 3 year contract, see Pricing Notes) | 0 | \$ | 9.13 | \$ | - |
| 301049607 | SSP | SSP - AMS/7330/7342/7360 per line RTU YR3 (annual charge, requires 3 year contract, see Pricing Notes) | 0 | \$ | 9.13 | \$ | - |
| Sub Total EMS |  |  |  |  |  |  | \$11,487.78 |
| Services |  |  |  |  |  |  |  |
| Part Number |  | Description | Quantity |  |  |  | ded Price |
| Engineering and Installation |  |  |  |  |  |  |  |
| 301036679 |  | PER SITE/ PER SURVEY | 1 |  | \$2,983.70 | \$ | 2,983.70 |
| 301036679 |  | Installation Engineering for one (1) 7360 FX-8 chassis | 1 |  | \$6,217.40 | \$ | 6,217.40 |
| 301036851 |  | 7360 FX-8 shelf installation | 1 |  | \$5,774.46 | \$ | 5,774.46 |
| Professional Services - System Integration and Turn-up |  |  |  |  |  |  |  |
| 301093985 |  | Professional Support Services, including one week on-site for system integration and turn-up and knowledge transfer (see Statement of Work for details) <br> Additional training available - see Training tab for recommended web-based and instructor led courses | 1 |  | \$20,040.76 | \$ | 20,040.76 |
| Sub Total Servi |  |  |  |  |  |  | \$35,016.32 |
| Maintenance |  |  |  |  |  |  |  |
| Part Number |  | Description | Quantity |  |  |  | ded Price |
| 301013249 |  | Technical Support - Gold YR1 | 1 |  | \$1,268.24 |  | \$1,268.24 |
| 301013249 |  | Technical Support - Gold YR2 | 1 |  | \$1,268.24 |  | \$1,268.24 |
| 301013249 |  | Technical Support - Gold YR3 | 1 |  | \$1,268.24 |  | \$1,268.24 |
| 300426210 |  | GPON Advanced Exchange (NBD) YR1 | 1 |  | \$646.19 |  | \$646.19 |
| 300426210 |  | GPON Advanced Exchange (NBD) YR2 | 1 |  | \$646.19 |  | \$646.19 |
| 300426210 |  | GPON Advanced Exchange (NBD) YR3 | 1 |  | \$646.19 |  | \$646.19 |
| Sub Total Maintenance |  |  |  |  |  |  | \$5,743.29 |
| Grand Total |  |  |  |  |  |  | \$74,677.37 |
| Options |  |  |  |  |  |  |  |
| Part Number | MNEM | Description | Quantity |  |  |  | nded Price |
| 3HG01392AA | Kit | Redundant FX-8 Starter Kit w/ 16-PON Card. Each kit includes: | 1 |  |  |  | \$20,677.99 |
| 3FE55691AA | G-240G-A (outdoor) | Hardened 2 POTS, 4GE, fits universal Enclosure | 1 |  |  |  | \$0.00 |
| Sub Total Spares |  |  |  |  |  |  | \$20,677.99 |
| Outdoor ONT for Multiple Commercial Units |  |  |  |  |  |  |  |
| Part Number | MNEM | Description | Quantity |  |  |  | nded Price |
| 3FE56074AA | G-881G-A | Outdoor ONT, 8 POTS, 8 GE, 1RF | 0 |  |  |  |  |
| 1AB383340010 | Cable | 8' power cable (IEC 320-C5 to NEMA 5-15 [Type <br> B]) for NA applications | 0 |  |  |  |  |

Indoor ONT for Multiple Commercial Units

| Part Number | MNEM | Description | Quantity | Extended Price |
| :---: | :---: | :---: | :---: | :---: |
| 3FE56074AB | G-881G-B | Indoor ONT (Rack Mount), 8 POTS, 8 GE, 1RF | 0 |  |
| 3EM23372AA | UPS | UPS 90-264VAC/48VDC, Wall Mount, 50 Watt, 20 C to +55 C for SOHO and Business ONT | 0 |  |
| 1AB383340010 | Cable | 8' power cable (IEC 320-C5 to NEMA 5-15 [Type <br> B]) for NA applications | 0 |  |
| 1AF17581ABAA | Battery | Batteries (Installation) 16.8Ah*12V_UPS | 0 |  |
| Sub Total Indoor ONT for Multiple Commercial Units |  |  |  | \$0.00 |
| Indoor Integrated ONT Gateway |  |  |  |  |
| Part Number | MNEM | Description | Quantity | Extended Price |
| 3FE47358AA | G-240W-E | WiFi GPON residential gateway,2xPOTS,4xGE UNI, $3 \times 3$ 11n+4×4 11ac, US plug | 0 |  |

- Hardware and Software warranties are 1 year
- Pricing per Alcatel-Lucent Standard Terms and Conditions
- Server(s) for the 5520 AMS are not included in pricing
- Standard product lead times: (8) weeks Forecasted, (12) weeks Unforecasted, plus shipping and processing time
- Maintenance Pricing requires a 3 yr contract.
- Software pricing assumes a SSP (Software Subscription Plan) is executed. SSP charges will be billed annually, based on number of deploved ONTs and requires a 3 vr contract.
- SW and customer documentation are downloaded at no charge from CARES.
- This pricing is for Layer 2 licenses only - it does not include any Right to Use (RTU) for Layer 3, MPLS features and associated enhanced features.


## Alcatel-Lucent 7360 Intelligent Services Access Manager FX Shelf

RELEASE 4.3

Alcatel-Lucent 7360 ISAM FX shelves are high-capacity access shelves included in the ISAM family of IP access products. These shelves address the need for mass-market, high-capacity fiber deployments by simultaneously supporting multiple Passive Optical Network (PON) technologies along with high-density point-to-point services over a non-blocking future-ready backplane architecture. High-bandwidth service throughput is guaranteed by backplane technology that enables dual $100-\mathrm{Gb} / \mathrm{s}$ backplane connections to each line termination (LT) slot.


FX-8


FX-4

With three Alcatel-Lucent 7360 ISAM FX shelf sizes to choose from, service providers have maximum flexibility for deploying in Central Office (CO), outside plant cabinet or other remote environments. All Alcatel-Lucent 7360 ISAM FX shelves are ready to support any future fiber-based access application with full flexibility for mixing 10G XG-PON, EPON, GPON and point-to-point access technologies on the same platform. As a result, operators are not locked in to a certain fiber access technology or shelf density; they can choose to deploy different options based on techno-economics, local regulations or services offered.

For operators with an Alcatel-Lucent 7302 ISAM or Alcatel-Lucent 7330 ISAM (ETSI) installed base, the Alcatel-Lucent 7360 ISAM FX shelves offer smooth complementary evolution to an increased shelf capacity when needed. All products in the Alcatel-Lucent ISAM product family, including the Alcatel-Lucent 7360 ISAM FX, are supported by the same Alcatel-Lucent

5520 Access Management System (AMS) and Alcatel-Lucent ISAM software stream, resulting in lower cost and time-to-market when deploying new ISAM technologies.

## Features

- High-capacity backplane: $2 \times 100$ Gb/s per slot
- Four-slot (FX-4), eight-slot (FX-8) and sixteen-slot (FX-16) shelf options
- Simultaneous support of multiple fiber access technologies
- High-density 10G XG-PON, EPON, GPON and point-to-point support
- Residential, mobile and business applications converge on a single platform
- IP/Ethernet access platform supporting Multi-Protocol Label Switching (MPLS)
- Application and subscriber intelligence to extract more value from the network


## Benefits

- High-bandwidth capacity to meet increasing demand
- Shelf-size options that support every application in central office (CO) or outside plant (OSP)
- One ISAM family: Any technology, any service, any deployment model
- Intuitive service provisioning practices for both fiber and copper access technologies
- Commonality of software, line cards and deployment practices across the Alcatel-Lucent ISAM shelf types (FD and FX)
- Supported existing practices and proven ISAM technology
- Allows multiple service providers to offer their services over a single network using an open access platform
- Supported by the Alcatel-Lucent 5520 AMS


## Technical specifications

## Full service platform

- Multiservice access support
$\neg$ IPTV services
$\neg$ Multimedia service
$\neg$ High-speed Internet access (HSIA)
$\neg$ Business access
$\neg$ Cell-site backhaul G.987.1:
XG-PON1 service requirements
- LT support
$\neg 4$-port 10G PON line card
$\neg 8$-port GPON line card
$\neg 8$-port Ethernet PON (EPON) line card
$\neg$ 32-port high-density point-to-point-fiber line card
$\neg$ Cell site backhaul G.987.1: XG-PON1 service requirements
- NT support: Alcatel-Lucent ISAM FANT-F NT
$\neg 480 \mathrm{~Gb} / \mathrm{s}$ switching matrix (bi-directional)
$\neg$ Active-active redundancy
$\neg 4$ configurable $10 \mathrm{~Gb} /$ s or $1 \mathrm{~Gb} / \mathrm{s}$ network links
$\neg$ Small Form Factor Pluggable (SFP)+ cages


## Management

- Fully managed by the AlcatelLucent 5520 AMS


## Eco-sustainability

- Product lifetime maximized by modular, shelf-based concept and by implementing new features and functionalities through remote software download
- Power consumption targets CoC power-consumption limits
- Compliant with the European directive 2002/95/EC on the restriction of the use of certain hazardous substances (RoHS)
- Product collection and treatment under Alcatel-Lucent responsibility complies with the national laws on product treatment applied at the end of life for Wastes from Electrical and Electronic Equipment (WEEE), implementing the European Directive (2002/96/EC)
- Product-packaging materials are free from Hydrochloroflurocarbon (HCFC)
- Plastic product-packaging material is marked according to ISO 11469, referring to ISO 1043 (97/129/EEC)


## Standards compliance

- Environmental

ᄀ ETS EN 300 019-1-1 storage Class 1.1 weather-protected, partly temperature-controlled locations
$\neg$ ETS EN 300 019-1-2 transport Class 2.3 public transportation
$\neg$ ETS EN 300 019-1-3 stationary use - Class 3.1E and Class 3.3 (assuming no condensation and icing)
$\neg$ GR-63-CORE
$\neg$ TP76200MP
$\neg$ GR-3108-CORE

- Powering
$\neg$ ETS EN 300 132-2
- Protection
$\neg$ ITU-T K. 20 enhanced and K. 45 basic
- Safety

ᄀ IEC 60950, EN60950 Class 1, AS/NZS 60950.1
$\neg$ UL/CSA 60950-1-03
ᄀ EN 60950-1

- EMC
$\neg$ ETS EN 300386 for telecommunications center installation environment
$\neg$ ETS ES 201468
$\neg$ GR-1089-CORE
$\neg$ FCC part 15 Class A
$\neg$ EN 55022
- Acoustic noise
$\neg$ ETS 300753


## Operating conditions

- Operating temperature range: $-40^{\circ} \mathrm{C}$ to $+65^{\circ} \mathrm{C}\left(-40^{\circ} \mathrm{F}\right.$ to $\left.+149^{\circ} \mathrm{F}\right)$
- Relative humidity: $5 \%$ to $93 \%$ (non-condensing)
- Over-temperature sensors and over-temperature shutdown


## Power

- Input
$\neg 48 / 60 \mathrm{~V}$ DC nominal
$\neg$ Fully redundant power feeding (branch A and B)


## Dimensions

- FX-16
$\neg$ Height: 600 mm (23.62 in.) ( $\sim 14 \mathrm{RU}$ )
$\neg$ Width: 500 mm (19.68 in.); can be used in ETSI-sized $600 \times 300 \mathrm{~mm}$ racks
$\neg$ Depth: 280 mm (11.02 in.); can be used in ETSI-sized $600 \times 300 \mathrm{~mm}$ racks
- FX-8
$\neg$ Height: 360 mm (14.17 in.) (8 RU)
$\neg$ Width: 445 mm (17.52 in.);
can be used in 19-in. racks
$\neg$ Depth: 280 mm (11.02 in.)
- FX-4
$\neg$ Height: 223 mm . ( 8.77 in .) ( 5 RU )
$\neg$ Width: 445 mm ( 17.52 in .);
can be used in 19-in. racks
$\neg$ Depth: 280 mm (11.02 in.)
- Rack-mounting pitch of 25 mm (0.984 in.)


## Construction based on FX-16

- 16 wire-speed LT slots
- 64 10G XG-PON ports per shelf: 4 ports $\times 16$ slots
- 128 GPON ports per shelf: 8 ports $\times 16$ slots


# Alcatel-Lucent 

## Alcatel-Lucent 7342 ISAM FTTU

I-24X INDOOR OPTICAL NETWORK TERMINAL (ETSI/ANSI)

The Alcatel-Lucent I-24x Indoor Optical Network Terminal (ONT) with 4 Gigabit Ethernet, 2 POTS and optional RF interfaces is part of the industry leading Alcatel-Lucent 7342 ISAM FTTU product family. It is designed to deliver triple play services with high bandwidth capacity to homes where multiple Ethernet ports are required, and terminates a Full Service Access Network (FSAN)-compliant GPON fiber interface.


## Features

- Supported interfaces: 4 Gigabit Ethernet (with 10/100/1000Base-T auto-negotiation), 2 POTS RJ-11 interfaces and optional RF interface (Type F coaxial)
- IP video with multistage IGMPv3 or IGMPv2 for channel change
- VoIP software client (SIP and H.248) for legacy POTS interworking
- All ports can be independently turned on or off
- Support for MAC and IP antispoofing support
- Connectivity Fault Management as defined in IEEE 802.1ag for continuity check, loopback and trace-route functions as well as AIS reporting
- Dynamic bandwidth management and prioritization per port, per service


## Benefits

- Large number of Gigabit Ethernet ports allows service per port configurations
- Can be readily used as the demarcation point in an open/wholesale business model
- Multistage IGMP processing enables faster IPTV channel changes, and reduces the upstream control message flow and access bandwidth requirements.
- Supports smooth migration from legacy TDM voice to VoIP
- Advanced performance management and security features
- Fine control of bandwidth and QoS for the best subscriber experience.


## Applications

The Alcatel-Lucent 7342 ISAM FTTU I-240 ONT provides four RJ-45 Gigabit Ethernet Interfaces with 10/100/ 1000Base-T auto-negotiation and two POTS (RJ-11) interfaces. The I-241 has an additional coaxial port ( 75 W F connector) for RF video distribution. Both variants are designed to deliver ultra-high bandwidth to users who need multiple Ethernet ports for port-based service separation.

This ONT is ideal for open/wholesale business models with one operator providing basic Ethernet connectivity and multiple service providers on different ports. Along with data, the Alcatel-Lucent 7342 ISAM FTTU I-24x ONT provides two legacy voice interfaces. The voice service is emulated over the GPON network and can be terminated in a Class 5 switch via the PSTN gateway. In addition, the

ONT supports SIP-based VoIP clients, and lets voice services be terminated by an NGN switch.

Both RF video overlay, using a coax interface, as well as IPTV service architectures, are supported. IPTV is supported on all Ethernet interfaces with IGMP snooping to assure banding efficiency and secure multicasting.

## Technical specifications

## GPON interface

- $2.488 \mathrm{~Gb} / \mathrm{s}$ line rate downstream and $1.244 \mathrm{~Gb} / \mathrm{s}$ line rate upstream
- Class B+ optics with 28 dB optical link loss and nominal 20 km reach
- 1490 nm wavelength downstream, 1310 nm wavelength upstream, optional 1550 nm wavelength for RF overlay
- Single mode fiber (SC/APC connector)
- GEM mode support for IP/Ethernet service traffic transport
- G. 984.3 compliant dynamic bandwidth reporting
- G.984.3 compliant Advanced Encryption System (AES) with operator enable/disable on a per port-id level
- G.984.3 compliant Forward Error Correction (FEC) in both upstream and downstream
- OMCI management and provisioning.


## POTS interface

- Voice ports compliant with GR-909-CORE
- Two RJ-11 connectors
- Loop start signaling
- DC supervisory range: 750 Ohm loops
- Minimum on-hook voltage -43 V
- Nominal loop current 25 mA
- G. 168 echo cancellation
- Balanced sinusoidal ring signal with 18 V DC offset: 42 VRMS


## Gigabit Ethernet interfaces

- IEEE 802.3 compliant 10/100/1000 Base-T ports
- 4 RJ-45 connectors
- Full/duplex operation
- Auto-negotiation or manual setting by operator of Ethernet interface line rate
- 802.1Q support
- 802.1p support
- Up to four QoS classes for traffic prioritization per Ethernet port using 802.1p
- Layer 3 DSCP to 802.1p mapping allows Layer 3 CoS over the Layer 2 network. Mapping is operator provisionable.
- IEEE 802.1x port-based authentication with enable/disable by operator


## IP video service

- IGMPv3 and IGMPv2 snooping
- G.984.3 compliant multicast using a single GEM Port-ID for all video traffic (as mandated by G.984.3)
- Up to 64 video multicast streams shared by 4 GE ports


## RF video service interface

- Optional coaxial port (75 W F connector)
- Operating wavelength range: 1550 nm to 1560 nm
- Operating RF bandwidth: 47 MHz to 870 MHz
- Video output power: 18 dBmV at 450 MHz


## Voice adaptation and signaling

- Voice loop emulation over GPON with Megaco/H. 248 signaling between PSTN gateway and ONT
- Interworking with Genband PSTN gateway with V5.2/GR-303 signaling with Class 5 switch
- SIP client software for NGN-based voice


## Power

- Local powering with 12 V DC input
- External power supply: $110 / 220 \mathrm{~V} \mathrm{AC}$ input
- Up to 8 hours with optional battery backup
- Visual status indicator
- Max power consumption: 15W
- Typical power consumption: 12W


## Dimensions

- Height: $25.32 \mathrm{~cm}(9.97 \mathrm{in})$
- Width: 19.21 cm (7.56 in.)
- Depth: 4.18 cm ( 1.65 in .)
- Weight: .95 kg (33.51 oz.) (production weight)


## Environment

- Operating temperature range: $0^{\circ} \mathrm{C}$ to $+40^{\circ} \mathrm{C}\left(32^{\circ} \mathrm{F}\right.$ to $\left.104^{\circ} \mathrm{F}\right)$
- Maximum operating altitude: 3,048 m ( $10,000 \mathrm{ft}$.)
- Maximum non-operating altitude: 12,192 m (40,000 ft.)
- Relative humidity (non-condensing) range: 5\% to $93 \%$

Regulatory/standards approvals

- CE approved and marked

The Alcatel-Lucent Intelligent Services Access Manager (ISAM) NGLT-C is a Gigabit Passive Optical Network (GPON) line termination card, with eight GPON interfaces that can serve up to 1024 Optical Network Terminals (ONTs) per card and up to 512 UNIs per PON. The NGLT-C is available in ISAM FD and ISAM FX. When used in a shelf equipped with dual Active-Active controllers, the NGLT-C supports a total non-blocking capacity of $20 \mathrm{~Gb} / \mathrm{s}$.


Each PON interface delivers $2.5 \mathrm{~Gb} / \mathrm{s}$ in downstream and $1.2 \mathrm{~Gb} / \mathrm{s}$ in upstream, and has a reach of up to 60 km ( 37.3 miles), which makes this card ideal for costeffective delivery of high-bandwidth IP services to residential and business users.

## KEY FEATURES

- 8-port GPON line card
- Class C+ optics (32 dB link loss budget) and B+ optics (28 dB link loss budget)
- Pluggable optics
- Received Signal Strength Indicator (RSSI) capable optics; Optical Time Domain Reflectometer (OTDR) HW-ready through SFP swap
- Supports IPTV and RF overlay
- Supports 1:128 split; support for 30 $\mathrm{km} / 60 \mathrm{~km}$ ( 18.6 miles/37.3 miles) reach with $\mathrm{B}+/ \mathrm{C}+$ optics
- Type B PON protection
- OISGv2 and TR-156 compliant for ONT Management and Control Interface (OMCI) interoperability
- Industrial hardened


## KEY BENEFITS

- High-density deployments due to eight ports and 1:128 split ratio
- Long reach enables wide coverage area for CO consolidation and CAPEX/OPEX savings
- Flexible deployments (B+ or C+ optics) enabled by pluggable optics
- OPEX savings with extensive RSSI troubleshooting capabilities and evolution to embedded OTDR
- Indoor/outdoor deployments


## TECHNICAL SPECIFICATIONS

## External interfaces

- 8-port GPON interfaces, using pluggable $\mathrm{B}+$ or $\mathrm{C}+$ optics, allowing 28 dB or 32 dB optical loss budget respectively, based on:
$\neg$ G.984.1 (GPON service requirements)
$\neg$ G.984.2 (GPON PMD Layer)
ᄀ G.984.2 (GPON PMD Layer) Amendment 1
$\neg$ G.984.3 (GPON TC Layer - GEM based)
ᄀ G.984.3 (GPON TC Layer) Amendments 1 and 2
$\neg$ G. 988 (GPON OMCI) Appendixes I and II
$\rightarrow$ TR-156
- Support for:
$\neg$ Advanced Encryption Standard (AES)
$\neg$ Forward Error Correction (FEC)
$\neg$ Dynamic Bandwidth Allocation (DBA)
$\neg$ Configurable Delay Tolerance


## Forwarding

- L2 Forwarding - Generic: Ethernet packet types include Ethernet II Encapsulation on Ethernet and LLC/SNAP on Ethernet; any combination of untagged/priority/ single-tagged packets; selective IPoE/ PPPoE protocol filtering; VLAN assignment for untagged/priority-tagged packets based on port- and protocol-default VLAN, Multi-VLAN support at UNI
- L2 Forwarding - CC mode: VLAN stacking (S-VLAN CC and S-VLAN/C-VLAN CC)
- L2 Forwarding - RB mode: VLAN stacking (S-iBridge), selective broadcast
- L3 Multicast: High-performance Internet Group Management Protocol (IGMP) processing, IGMP proxy, immediate leave, source-specific multicast/any-source multicast (SSM/ASM)
- Active-Active load sharing for up to $2 \times 10 \mathrm{~Gb} / \mathrm{s}$ bidirectional aggregate


## Protocols

- Management using SNMP, CLI, and TL1
- Provisioning and surveillance interface between Optical Line Terminal (OLT) and ONT is assured using standard OMCI
- User access protocols: ARP, IEEE 802.1X authentication, DHCP Option 82 insertion, PPPoE relay tag


## OoS

- QoS classification based on L2/L3/L4 multi-field classification
- Priority bit (re)marking
- Connection Admission Control (CAC) at various levels of aggregation
- Policing
- Flexible Traffic Manager combining TD/WRED buffer admission, SP/WFQ scheduling and shaping at various levels
- In-field upgradable, fully programmable packet processing
- Advanced Traffic Management capabilities for SLA execution


## Security

- Protection against malicious MAC-move
- Assignment of virtual MAC address
- Proxies to avoid downstream multicast/ broadcast (ARP)
- IPv4/IPv6 address anti-spoofing for user data packets/ARP/IGMP/DHCP
- Access Control List (ACL) based on L2/L3/ L4 multi-field classification
- Rate control of control packets


## Standards compliance

## Environmental

- ETS 300 019-1-1 storage - Class 1.1 (weather-protected, partly temperaturecontrolled locations)
- ETS 300 019-1-2 transport - Class 2.3 (packed, public transportation)
- ETS 300 019-1-3 stationary use - Class 3.1E (temperature-controlled locations), when used in fully populated ISAM FD racks
- ETS 300 019-1-3 stationary use - Class 3.3 (not temperature-controlled locations), when used in standalone ISAM shelves


## Protection

- ITU-T K.20/K. 45


## Safety

- IEC 60950-1/EN 60950-1
- EMC and ESD: ETS 300386 V1.3.3 (2005-04) for telecommunication network equipment
- European directive 2002/95/EC on the restriction of the use of certain hazardous substances (RoHS)


## Operation conditions

- $-5^{\circ} \mathrm{C}$ to $+45^{\circ} \mathrm{C}\left(23^{\circ} \mathrm{F}\right.$ to $\left.113^{\circ} \mathrm{F}\right)$ inlet/ ambient temperature range, when used in fully populated ISAM racks (with more than one shelf)
- $-40^{\circ} \mathrm{C}$ to $+65^{\circ} \mathrm{C}\left(-40^{\circ} \mathrm{F}\right.$ to $\left.+149^{\circ} \mathrm{F}\right)$ inlet/ ambient temperature range, when used in standalone ISAM shelf
- Over-temperature sensors and overtemperature shutdown
- Humidity: $10 \%$ to $95 \%$ (non-condensing)


## Dimensions

- Height: 405 mm (15.94 in.)
- Width

ᄀ Top: 225 mm (8.85 in.)
ᄀ Bottom: 205 mm (8.07 in.)

- Board-to-board pitch: 25 mm (0.98 in.)


[^0]:    ${ }^{1}$ Beginning with the 2015 survey, broadband was defined as throughput of at least 3 Mbps in one direction. This was an update from earlier NTCA Broadband Surveys, which defined broadband as throughput of at least 768 kbps (from 2009 through 2014) or 200 kbps (from 2000 through 2008) in one direction.

[^1]:    ${ }^{2}$ Copies of this and previous NTCA survey reports may be downloaded from the NTCA web site, www.ntca.org/survey-reports/survey-reports.html.

[^2]:    ${ }^{3}$ Based on the sample size, results of this survey can be assumed to be accurate to within $\pm 6 \%$ at the $95 \%$ confidence level.
    ${ }^{4}$ For the purpose of this survey, broadband is defined as throughput of at least 3 Mbps in one direction.

[^3]:    ${ }^{5}$ Totals exceed $100 \%$ as respondents were allowed to select more than one barrier.

[^4]:    ${ }^{6}$ Totals exceed $100 \%$ as respondents were allowed to select more than one reason for switching providers.

[^5]:    ${ }^{7}$ Totals exceed $100 \%$ as respondents' companies may be offering more than one marketing promotion.

[^6]:    ${ }^{8}$ Totals exceed $100 \%$ as respondents may offer more than one type of video service.
    ${ }^{9}$ Totals exceed $100 \%$ as respondents may be facing more than one barrier.

