

Prepared for:

Tillamook **Lightwave**



Tillamook County Broadband Study:

Market Assessment and Public Outreach Report

August 2021



Executive Summary

This report includes a Market Assessment and a Public Outreach Briefing – consisting of results from a public survey of the County and stakeholder interviews.

In developing baseline understandings of broadband in Tillamook County, a Market Assessment provides an initial finding of broadband coverage as reported in publicly available sources of data.

One of the beginning points of understanding broadband in a community is to research the industry reported data. As part of licensing, broadband providers are required to provide certain data for the customers they serve. That data is available from the FCC and other secondary sources that provide additional insight.

This is helpful information, but it is known to be flawed. The shortcomings of this data are:

- There is a reporting and displaying cycle that can, in some instances, make the data one to two years old before it is available.
- There are not significant repercussions for inaccurate reporting and inaccurate entering of the data.
- There can be secondary incentives for some providers to overstate their coverage (grants may not be available to potential competitors if coverage appears to be adequate)
- Data is recorded at the census block level – in a given census block, the highest coverage is generalized to the entire census block.

Because of these problems in the data, a high-level market assessment cannot be fully relied upon, but it does provide a beginning point to understand coverage and it can also point out areas that need to be compared to the actual data that comes from the surveys. It is why the Market Assessment data is supplemented with a Survey to the community and community stakeholder interviews.

This report details internet service provisions across Tillamook County. The Market Assessment will show large-scale coverage of all the zip codes in the county by two or more providers. However, the public data does not fully represent the quality of connectivity between different areas. The survey results demonstrate a complex patchwork of service capacity in both urban and rural areas. The stakeholder interviews confirm the difficulties in getting a reliable broadband subscription in much of the county. Many residents and local business-owners express frustration at the lack of broadband in the county, particularly in many difficult-to-reach terrain areas.

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Chapter 1: Introduction

About Tillamook Lightwave

Tillamook Lightwave was created to help bring the benefits of high-speed, low-cost telecommunications to Tillamook County.

Working for public benefit and with the private sector where possible, Tillamook Lightwave (TLW) has built a fiber optic communication infrastructure in Tillamook County that runs from north of Wheeler to south of Tillamook, with redundant connections off the coast to the major metro centers in Oregon.

The mission of TLW is to provide affordable broadband telecommunication services through public/private partnerships to benefit the communities we serve. The goal is to create a high-speed telecommunication system that will promote economic development, distance learning and telemedicine opportunities in Tillamook County; and improve the overall connectivity to Tillamook County.

Tillamook County's high quality of life, coupled with global connectivity, will contribute to economic diversity, seasonal stability and better youth opportunities. The standard of living will be improved for our county, no longer leaving us on the dark side of the "Digital Divide."

Providing low-cost, high-speed telecommunications access will not only attract industry but will provide access to business and educational opportunities that could ultimately improve financial conditions and livability in Tillamook County. State-of-the-art telecommunications services will bring high speed Internet access, distance learning, video conferencing, and medical image transfer, to name a few, to Tillamook County. The extended availability of these state-of-the-art services will prepare us for the future and allow existing businesses to remain competitive and participate in the global economy.

(<https://tillamooklightwave.com/>)

Tillamook County Broadband Study

Tillamook County touches the west coast of the United States where the Pacific Ocean flows into numerous delta and rivers. The water enables tall, dense forests full of Douglas Fir and Spruce Hemlock. Tillamook's coastal towns receive an influx of visitors during the summer. The population of 27 thousand residents can swell up to four times during popular summer events. Part-time residents with vacation properties come back, visitors rent out coastal properties, and town centers are booming with commerce and tourism revenue.

The same reasons that make Tillamook a beautiful place to visit, also create difficulties in building infrastructure. As with many rural communities, low population density in remote areas precludes infrastructure investment by many incumbents. Challenges with broadband infrastructure are closely related to the county's terrain. However, Tillamook also has a rich and unique history of facilitating global communications because the County hosts the largest hub of transcontinental undersea fiber cables on the west coast. This broadband report will help provide the County with information about its current connectivity and potential needs, before the next steps in the broader study.

Chapter 2: Internet Service Provider Market Assessment

Broadband coverage availability has transformed from being more of a convenience to becoming a quality of life issue. Education, working from home, economic development, keeping youth in the area, telemedicine, etc. all need good connectivity.

We begin the task of understanding coverage in Tillamook County with a Market Assessment. Competitive analysis of the availability of coverage is challenging due to the fluidity of market pricing, products offered and differences in the various sectors that need to be understood. This Market Assessment is an analysis of industry data that shows what providers report as their coverage areas and available subscription plans.

A second step to verify this data is focused feedback. In Tillamook County, this comparative data has been achieved through surveys of residences and businesses and through meetings with key stakeholders. The information obtained in these focused feedback processes shed light on the actual practice of providers and, more importantly, on pricing and satisfaction, as well as determining what needs are in demand and are either not supplied by the marketplace or underserve the market. The responses to the survey and information from the stakeholder meetings are detailed in Chapter 3 below.

Throughout this document, broadband is defined as internet services that meet the Federal Communications Commission definition of Advanced Telecommunication Services. The FCC defines broadband as the delivery of services to customers at the minimum of 25 Megabits per second (Mbps) download speed and 3 Mbps upload speed.

Introduction

At present, according to the industry data, residents and businesses in Tillamook County can obtain internet access services from a variety of Internet Service Providers (ISPs) via DSL (over copper), cable, fiber, point to point microwave and satellite.

This section describes consumer internet offerings available to residents and businesses from the ten established ISPs. Its goal is to draw a representative picture of the internet market in Tillamook County and catalogue the providers that serve their customers via copper (DSL), cable, fiber, and satellite.

The following statistics describe internet availability by transport medium (DSL, cable, etc.) in the County with some of the data drawn from BroadbandNow (<https://broadbandnow.com/>). BroadbandNow is an industry respected organization that accesses and analyzes the data that ISP's self-report to the FCC.

Internet Service Market

According to BroadbandNow, approximately 1,000 people in Tillamook County do not have access to any wired internet. They also report from the ISP data:

- Almost 93% of consumers in Oregon have access to a wired connection with true broadband speeds faster than 25mbps.
- The average internet download speed in Oregon is 85.48 Mbps.
- There are 246 internet providers in all of Oregon.

The BroadbandNow competition map in TLW indicates a number of providers in most of Tillamook County, see **Figure 1** below:

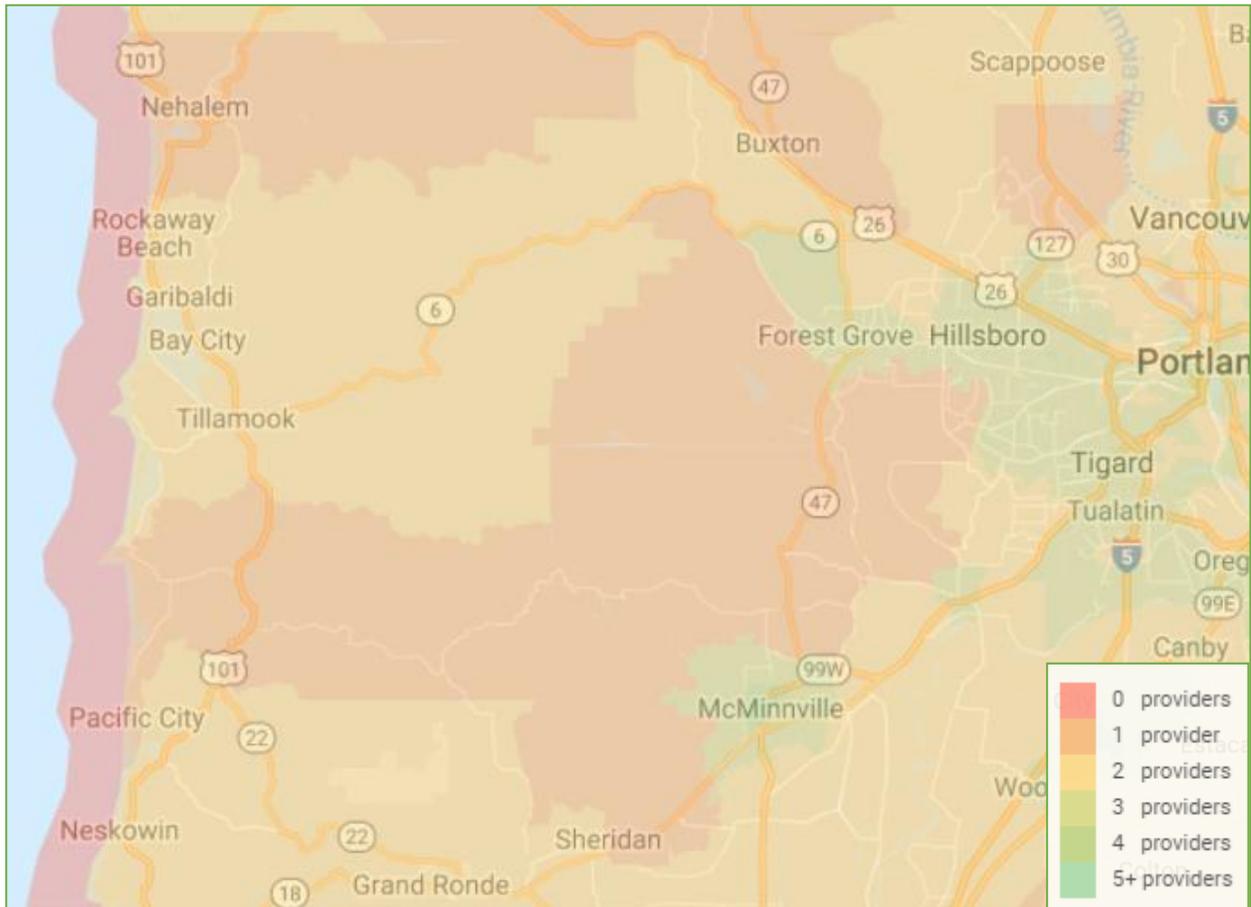


Figure 1: Public Records Map of Coverage in Tillamook County

Tillamook County includes 14 zip codes:

ZipCode	Area
97107	Bay City
97108	Beaver
97112	Cloverdale
97118	Garibaldi
97122	Hebo
97130	Manzanita
97131	Nehalem
97149	Neskowin
97143	Netarts
97134	Oceanside
97135	Pacific City
97136	Rockaway
97141	Tillamook

Residential Internet Service Providers

Residential ISPs in Tillamook County include:

- 2 DSL providers – CenturyLink, RTI
- 1 Cable Providers – Charter (Spectrum)
- 2 Fiber providers – Wave, CenturyLink Business
- 3 Satellite providers – HughesNet, ViaSat

Since broadband data is typically only available per zip code, the following service offerings are provided for each zip code.

Zip Code	Area	Provider	Coverage	Advertised Data Rate (Mbps)	Price
97107	Bay City	CenturyLink (DSL)	98.1	40	\$49
97107	Bay City	Charter (Spectrum)	98.6	940	\$49.99
97108	Beaver	CenturyLink (DSL)	22.5%	20	\$49
97108	Beaver	Charter (Spectrum)	66.3	940	\$49.99
97112	Cloverdale	CenturyLink (DSL)	67.6%	40	\$49
97112	Cloverdale	Charter (Spectrum)	88.4	940	\$49.99
97118	Garibaldi	CenturyLink (DSL)	97.3	40	\$49
97118	Garibaldi	Charter (Spectrum)	100	940	\$49.99
97122	Hebo	CenturyLink (DSL)	93.9%	40	\$49
97122	Hebo	Charter (Spectrum)	92.8%	940	\$49.99
97130	Manzanita	Charter (Spectrum)	100	940	\$49.99
97130	Manzanita	RTI	61.6	60	\$39.95
97131	Nehalem	Charter (Spectrum)	83.9	940	\$49.99
97131	Nehalem	RTI	26.6	60	\$39.95
97149	Neskowin	CenturyLink (DSL)	99.1	40	\$49
97149	Neskowin	Charter (Spectrum)	98.3	940	\$49.99
97149	Neskowin	Wave	36.6%	940	\$19.95
97143	Netarts	CenturyLink (DSL)	99.5%	20	\$49
97143	Netarts	Charter (Spectrum)	100	940	\$49.99
97134	Oceanside	CenturyLink (DSL)	58.9%	20	\$49
97134	Oceanside	Charter (Spectrum)	100	940	\$49.99
97135	Pacific City	CenturyLink (DSL)	95	40	\$49
97135	Pacific City	Charter (Spectrum)	100	940	\$49.99
97136	Rockaway	CenturyLink (DSL)	91%	20	\$49
97136	Rockaway	Charter (Spectrum)	98.9	940	\$49.99
97141	Tillamook	CenturyLink (DSL)	92.3%	40	\$49
97141	Tillamook	Charter (Spectrum)	94.1	940	\$49.99
97141	Tillamook	Wave G	17.3%	1,000	\$60
97141	Tillamook	Wave	2%	940	\$19.95

97147	Wheeler	Charter (Spectrum)	100	940	\$49.99
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All of the zip codes are also 100% served by two satellite providers:

Provider	Data Rate	Monthly Price
Viasat (Exede)	100 Mbps	\$65
HughesNet	25 Mbps	\$60

The majority of internet subscribers in Tillamook County are served either by Charter (Spectrum) or CenturyLink. DSL is the only wired network choice that has substantial availability for residents and businesses of Tillamook County. DSL Internet is delivered through telephone lines, which is why it almost always is provided by telephone operators like CenturyLink.

In addition, there are 4 potential television providers, including Charter and CenturyLink which also provide internet service, and DirectTV and Dish, satellite TV providers without internet service.

Business Internet Service Providers

Business Internet service providers (ISPs) in Tillamook County:

- 2 DSL providers – CenturyLink Business (DSL), RTI
- 1 Cable Providers – Charter (Spectrum) Business
- 2 Fiber providers – Wave Business, CenturyLink Business (Fiber)
- 3 Satellite providers – HughesNet, ViaSat

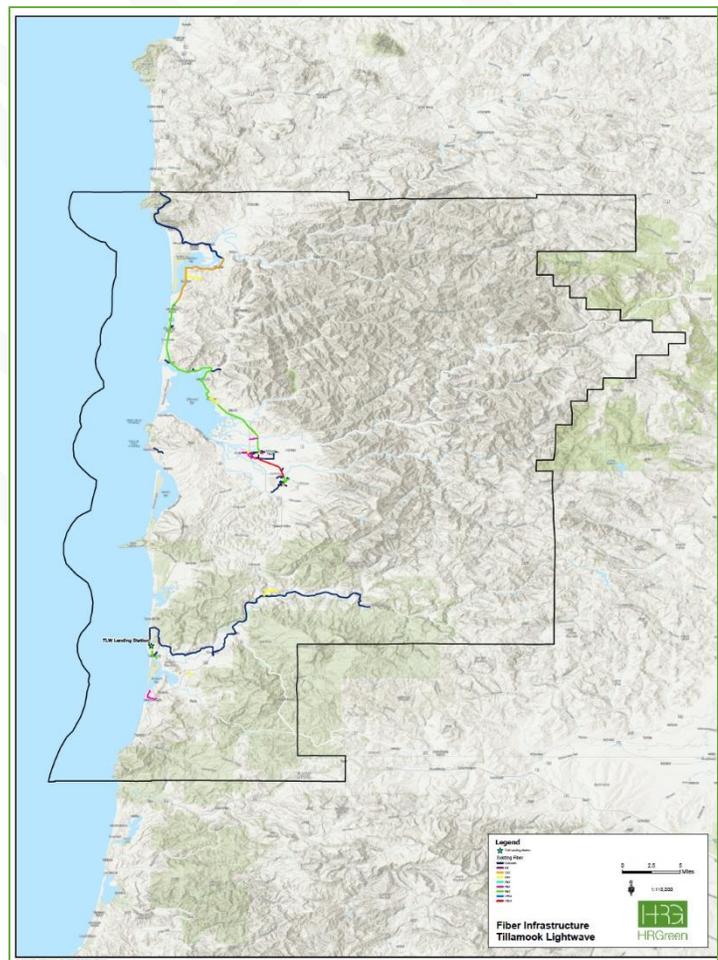
Zip Code	Area	Provider	Coverage	Advertised Data Rate	Price
97107	Bay City	CenturyLink Business	100%	40mbps	\$49
97107	Bay City	Charter (Spectrum) Business	68.1%	940mbps	\$64.99
97108	Beaver	CenturyLink Business	21.8%	40mbps	\$49
97108	Beaver	Charter (Spectrum) Business	68.7%	940mbps	\$64.99
97108	Cloverdale	CenturyLink Business	81.5%	40mbps	\$49
97112	Cloverdale	CenturyLink Business	21.3%	1,000mbps	\$49
97112	Cloverdale	Charter (Spectrum) Business	100%	940mbps	\$64.99
97118	Garibaldi	CenturyLink Business	71.8%	40mbps	\$49
97118	Garibaldi	Charter (Spectrum) Business	100%	940mbps	\$64.99
97122	Hebo	CenturyLink Business	100%	40mbps	\$49
97122	Hebo	Charter (Spectrum) Business	83.8%	940mbps	\$64.99
97130	Manzanita	Charter (Spectrum) Business	100%	940mbps	\$64.99
97130	Manzanita	RTI	8.2%	50mbps	\$49.95
97131	Nehalem	Charter (Spectrum) Business	100%	940mbps	\$64.99
97131	Nehalem	CenturyLink Business	2.7%	940mbps	\$49
97131	Nehalem	RTI	2.4%	50mbps	\$49.95
97149	Neskowin	CenturyLink Business	87.2%	40mbps	\$49

97149	Neskowin	Charter (Spectrum) Business	100%	940mbps	\$64.99
97149	Neskowin	Wave Business	46.8%	940mbps	\$49.95
97143	Netarts	CenturyLink Business	98.4%	40mbps	\$49
97143	Netarts	Charter (Spectrum) Business	99%	940mbps	\$64.99
97134	Oceanside	CenturyLink Business	21.3%	40mbps	\$49
97134	Oceanside	Charter (Spectrum) Business	100%	940mbps	\$64.99
97134	Oceanside	CenturyLink Business	21.3%	1,000mbps	\$49
97135	Pacific City	CenturyLink Business	54.1%	40mbps	\$49
97135	Pacific City	Charter (Spectrum) Business	100%	940mbps	\$64.99
97136	Rockaway	CenturyLink Business	54.1%	40mbps	\$49
97136	Rockaway	Charter (Spectrum) Business	100%	940mbps	\$64.99
97141	Tillamook	CenturyLink Business	79.9%	40mbps	\$49
97141	Tillamook	Charter (Spectrum) Business	100%	940mbps	\$64.99
97141	Tillamook	Wave Business	4.2%	940mbps	\$49.95
97147	Wheeler	Charter (Spectrum) Business	100%	940mbps	\$64.99

Background Information on Providers

Tillamook Lightwave & Wave / CoastCom

Tillamook Lightwave’s incorporation originated with an Oregon ORS Chapter 190 Intergovernmental Agreement between Tillamook People’s Utility District (PUD), the Port of Tillamook Bay, and Tillamook County on November 1, 2000 organized to advance broadband connectivity in Tillamook County for public benefit. By late 2000s, Tillamook Lightwave’s stretched from north of Wheeler to south of Tillamook, with redundancy off the coast to the major metro centers. The project was built for public benefit in partnership with the private sector where possible. The fiber network shown in **Figure 2**, has been operated and managed by CoastCom since 2005. In 2010, TLW purchased the Pacific City cable landing station that facilitates the National Science Foundation’s Ocean Observatories Initiative to monitor for earthquakes and underwater volcanic activity.



The CoastCom partnership allowed Tillamook to offer business service to the Tillamook Community and

Figure 2: Tillamook Lightwave's Existing Fiber Network

thereby spur economic development and growth for new corporate and local businesses. In 2016, CoastCom went from being a private local exchange carrier to being acquired by a much larger company, and now operates as Wave. According to public sources, Wave has invested in excess of \$100 million to rebuild and upgrade its distribution network and related transmission equipment. In 2015, CoastCom built over 1,500 miles of new fiber routes, and in 2017, Wave completed a self-healing 97-mile Nestucca Route backhaul network from the Oregon Coast to Hillsboro supporting undersea fiber cable connections,¹ as shown in **Figure 3** below.

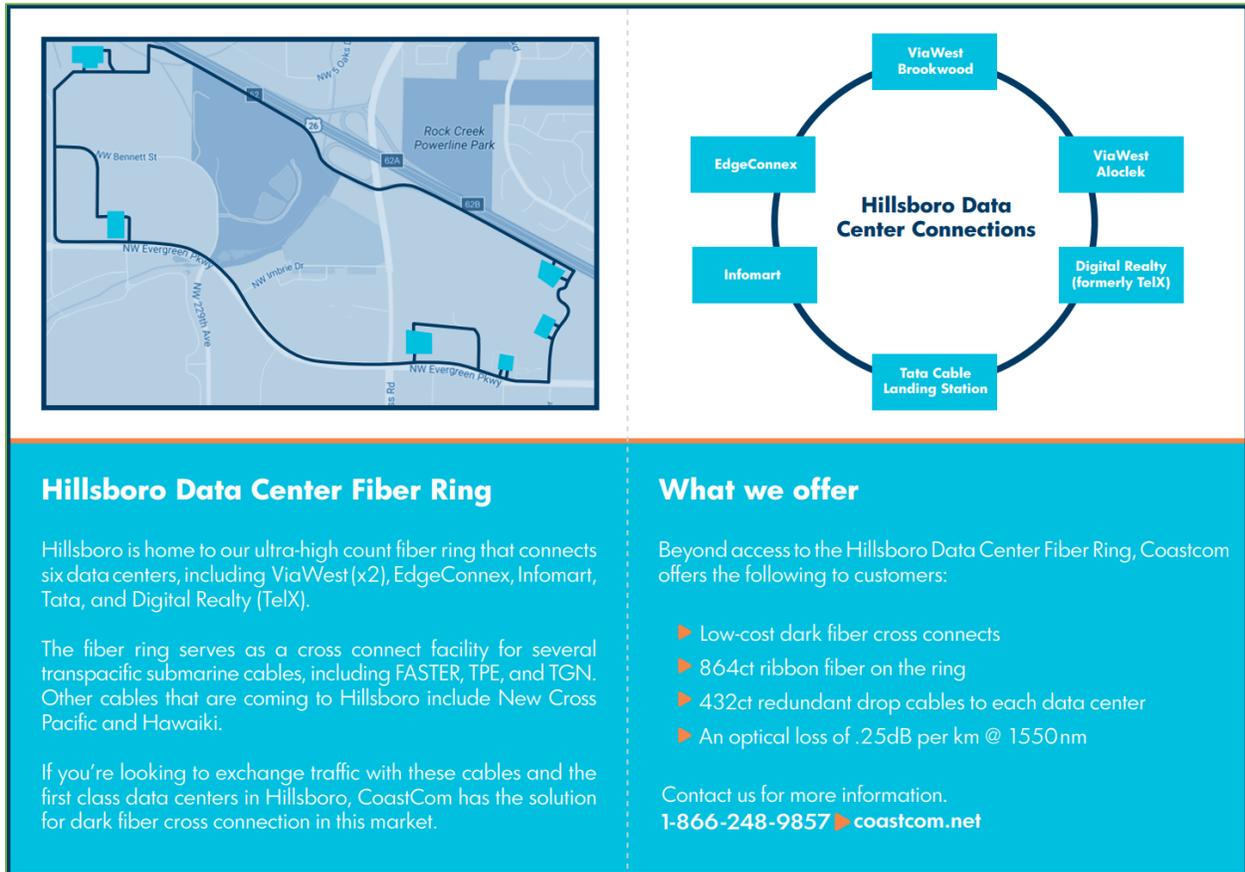


Figure 3: Extension of the Tillamook Lightwave Network into the Hillsboro Data Center

CenturyLink

With its headquarters based out of Monroe, Louisiana, CenturyLink provides Internet and phone services to customers in 36 different states. CenturyLink is the 3rd largest telecommunications business in the United States, providing telecommunication services to the Government, businesses, and residents throughout the country. CenturyLink was founded in 1930.

¹ Wave completes Oregon Coast underground fiber route, links undersea cable landing station, six data centers. (October, 2017). FierceTelecom. <https://www.fiercetelecom.com/telecom/wave-completes-oregon-coast-underground-fiber-route-links-undersea-cable-landing-station>

Charter (Spectrum)

Charter Communications Inc., with its corporate headquarters located in Stamford, Connecticut, is an American telecommunications and mass media company that offers its services to residents and businesses under the branding of Spectrum. Providing services to over 26 million customers in 41 states, it is the second-largest cable operator in the United States by subscribers, just behind Comcast, and third largest pay TV operator behind Comcast and AT&T. It is the fifth largest telephone provider based upon residential subscriber line count.

RTI

Rural Telecom Inc. (RTI) was founded in 1979 and now offers service in Idaho, Washington, Nevada, and Oregon. It serves residents and businesses with DSL internet services, and is currently working to install fiber in all of its service areas. In 2004, it purchased Nehalem Telecommunications, originally founded in 1904, to provide service throughout northern Tillamook County, particularly Nehalem and Manzanita.

HughesNet

Hughes Network Systems, LLC (formerly Hughes Communications) was founded in 1971. It is a wholly owned subsidiary of EchoStar (DirecTV). Hughes Network Systems is headquartered in Germantown, Maryland and provides a high-speed satellite internet service, HughesNet.

ViaSat (formerly Exede)

ViaSat Inc. (formerly Exede) was founded in May 1986. It is based in Carlsbad, California, with additional operations across the United States and worldwide. ViaSat is a provider of high-speed satellite broadband services and secure networking systems covering military and commercial markets.

References:

1. <https://broadbandnow.com>
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9. <https://www.centurylink.com/small-business/>

Chapter 3: Public Community Survey

Introduction

The initial step of the Study was the development and implementation of a community engagement program. Since the available data on broadband speeds and coverage is known to be poorly representative of the reality of broadband in many locations, a public broadband survey was launched to the public to facilitate full understanding of the broadband situation in Tillamook County. This survey of residents and business owners helps decision makers better understand community needs. The large-scale statistically significant public survey asked questions to determine the community's internet services, usage patterns, current market conditions and deficiencies, cost and budgeting statistics, and desire for improved service in the community. Identifying questions were also asked about the household composition: do they have children, do they work at home, and demographic questions.

Some of the questions asked what is important to them personally, what do they value about communications services, and what is important to the community; and, most importantly, what they think the County should do. The survey garnered 700 responses, see **Figure 4** of a breakdown between residential and business responders. For the full list of survey questions, please

see **Appendix B**, and for a full list of results **Appendix C**.

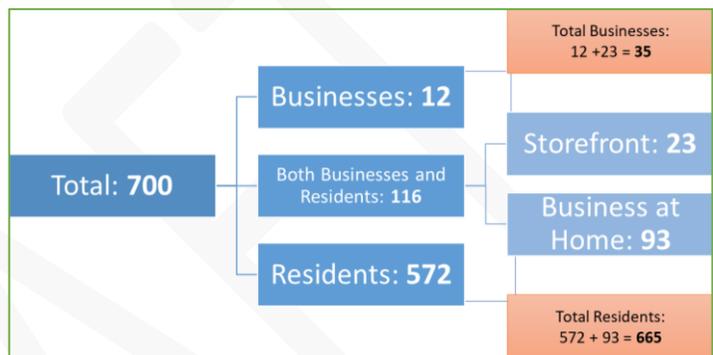


Figure 4: Breakdown of Survey Responses

These findings help to illustrate the challenging conditions today and indicate a need for more robust broadband services in the future in the community. Identification of needs in the survey results will facilitate the development of network model alternatives that may be helpful to mitigate some of the most significant gaps between the community's capabilities and needs. For each of these network alternatives, the questions relating to pricing and willingness to pay will contribute to a predicted take rate and an optimum monthly cost for service users. The questions relating to the community's broadband vision will facilitate an understanding of what role Tillamook Lightwave could take in providing the service.

Survey Findings

Apart from Charter (Spectrum) Offerings, True Broadband is Rare in Tillamook County

When measured against the federal definition of Broadband, the residents of Tillamook County report significant gaps. The survey respondents were asked to take a speed test through an online tool and report their actual speeds. While this method is reliant on variables such as the quality of in-home networking equipment, the results are generally accurate to show actual speed of service received, if not precise to the Mbps level.

Residents across the County indicated that more than fifty (50%) subscribe to Charter (Spectrum), followed by CenturyLink and satellite providers. RTI is only available in select areas of the state, so few residents have the option to sign up (please see **Figures 5 and 6**).

Those residents who have chosen to subscribe to Charter (Spectrum) services and the rare individuals who have direct access to fiber optics (this could be a mis-report based on the relatively low reported speed for this type of service), are receiving service that meets the federal definition.

By contrast, state of Oregon maps show ninety-three (93%) of residents in the state have access to Broadband service at 25Mbps or faster. This finding represents a meaningful gap for the residents of Tillamook County, despite the presence of multiple providers in the community.

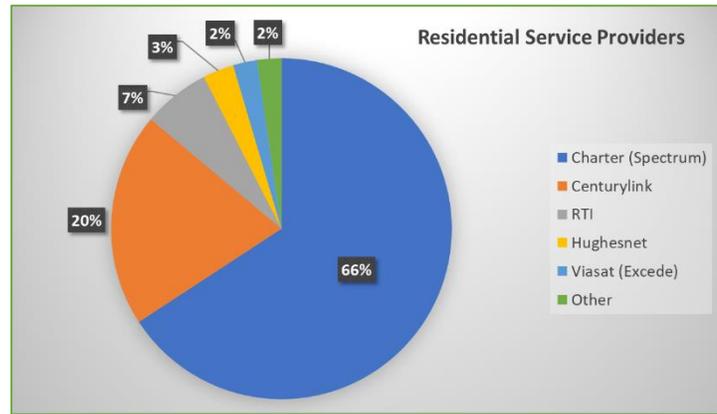


Figure 5: Subscriptions to Residential Service Providers Among Respondents

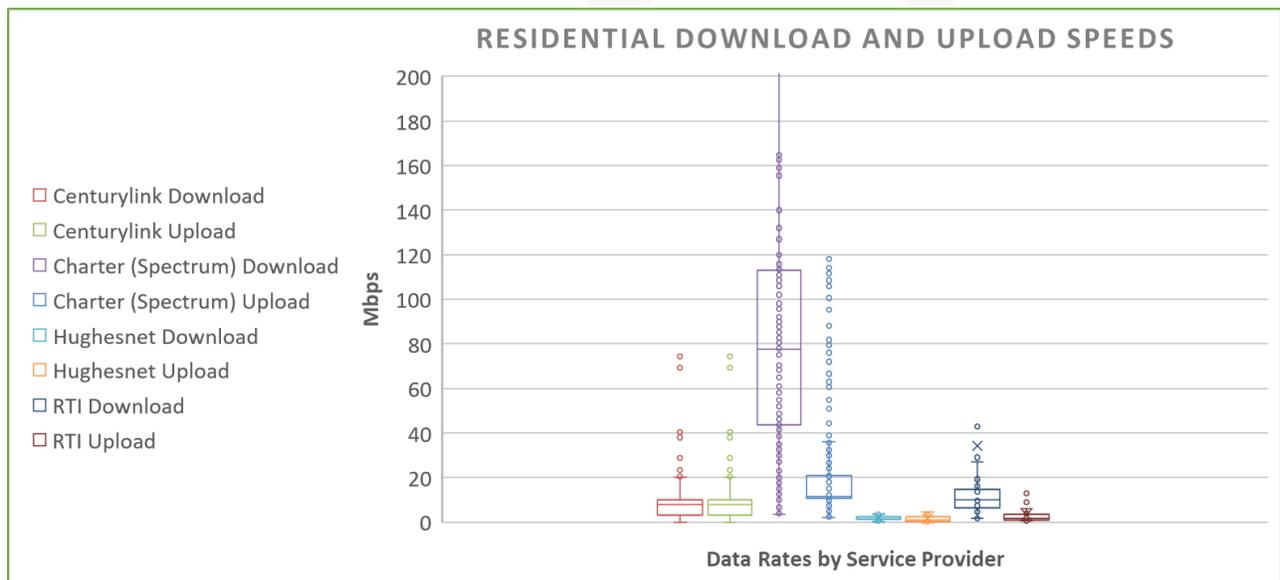


Figure 6: Most Common Residential Service Providers' Download and Upload Speeds - Spread of Responses in Quantiles

The case is largely similar with business subscribers. Charter (Spectrum) Business service remains the largest and most accessible broadband offering in the area. It also has the highest data rates among the most common providers (please see *Figures 7 and 8*).

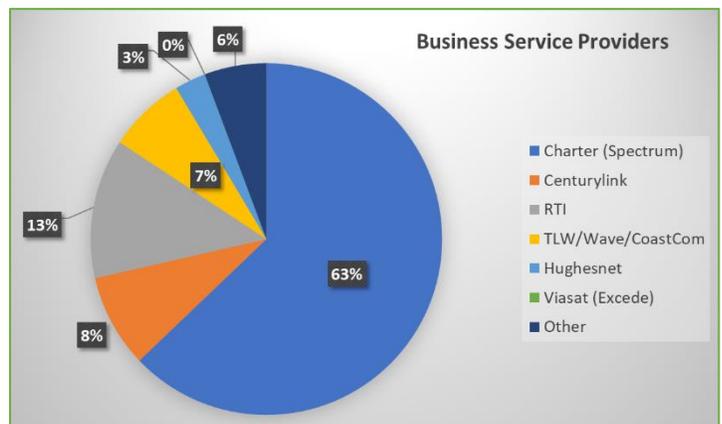


Figure 7: Subscriptions to Business Service Providers Among Respondents

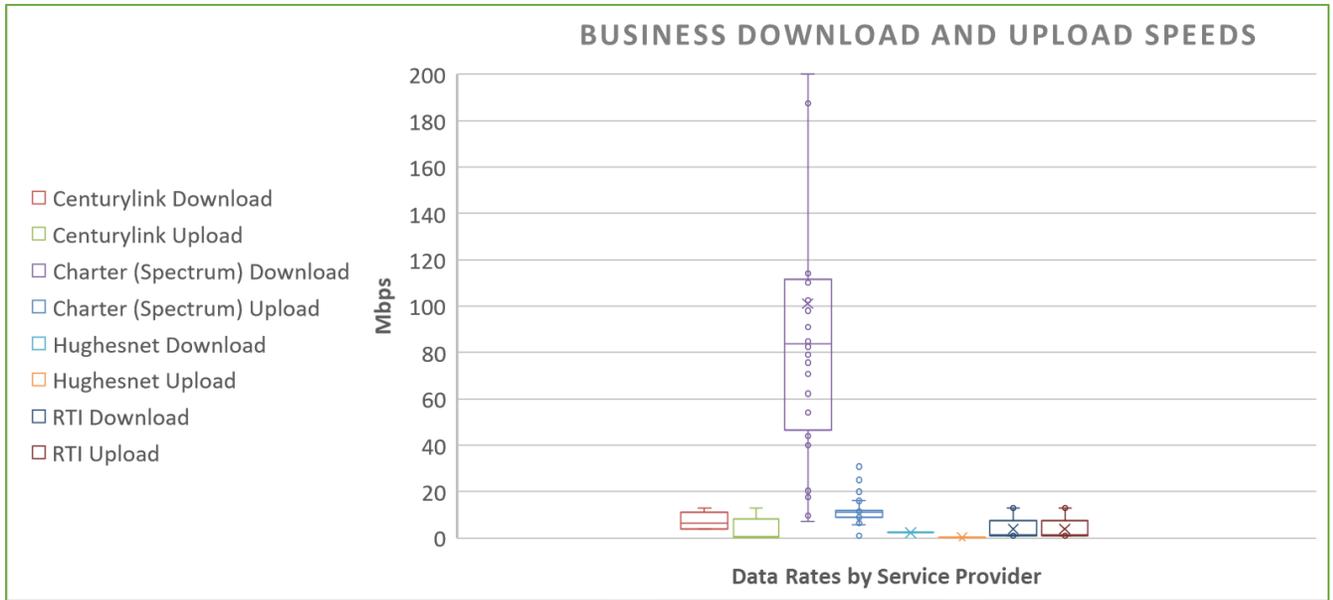


Figure 8: Most Common Business Service Providers' Download and Upload Speeds - Spread of Responses in Quantiles

Residents Appear Underwhelmed by Current Options

For those residential respondents that do not have service, forty-three (43%) said it was because it is not available in the area, and thirty (30%) said it was outside of their budget (see **Figure 9**).

The survey asked residents to evaluate five key components of customer satisfaction. The five areas rated were Service Reliability; Speed as Advertised; Customer and Technical Support; Relevant Service Offerings; and Price or Value for Services Received. **Figure 10** below shows that respondents think that customer service experience and data allowances are okay (Mean of 3 equates to the option 'It's OK' in the questionnaire), but the price, reliability, and data rate category ratings generally range from Dissatisfied to Very Dissatisfied.

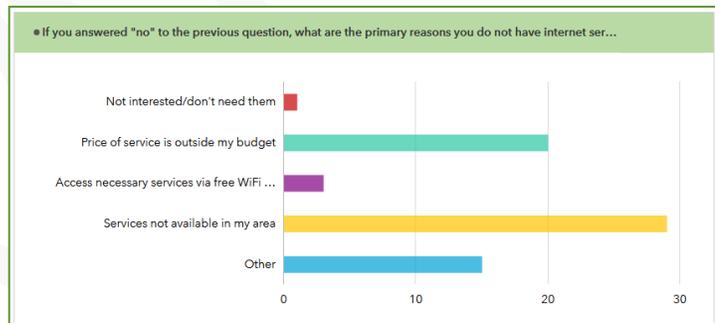


Figure 9: Reasons Residents do not Subscribe to Internet Service



Figure 10: Spread of Satisfaction Ratings for Customers in Quantiles

Internet Service During the Pandemic has Been Poor for Some

The survey asked questions related to the current pandemic, including the new reality of work-from-home for many employees and online education for students. Findings demonstrate that there have been challenges with both. Approximately half of the respondents that work from home indicate that their internet connection has met their needs, while almost a quarter of the respondents say it has definitively not met their needs, and another quarter say it has somewhat

met their needs (see **Figure 11**).

Even worse, for students that have been learning from home during the pandemic, only a quarter say that their internet has met their education needs. Three-quarters of respondents say it has not met student needs or somewhat on a limited basis (see **Figure 12**).

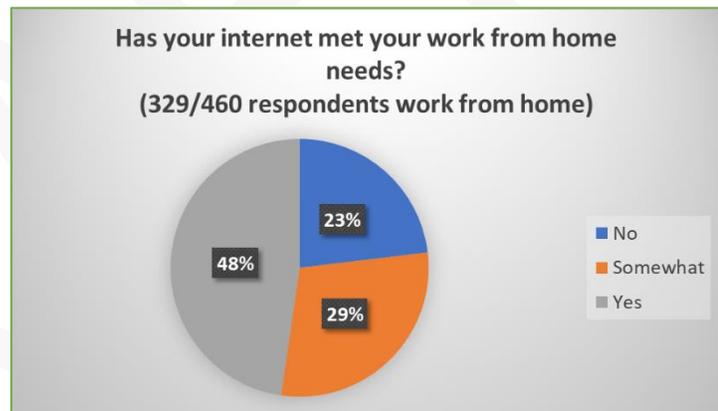


Figure 11: Work from Home Internet Quality Satisfaction

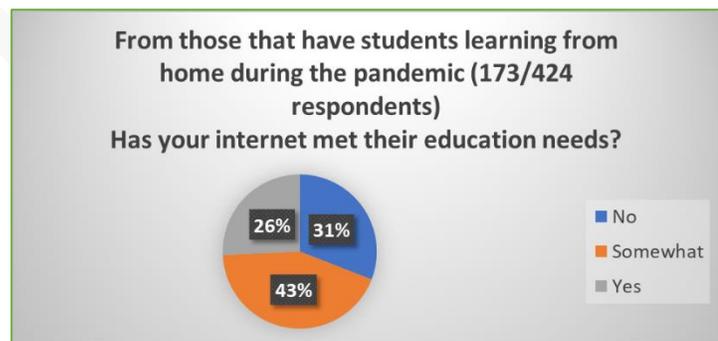


Figure 12: Remote Education Internet Quality Satisfaction

Service Interruptions are Manageable in Tillamook County

Many survey respondents indicated that service interruptions are not relatively common. Sixty-one (61%) of residential service subscribers and seventy-one (71%) of business service subscribers have outages for an hour or less a month. Although still a significant percentage – thirty-nine (39%) of residential service subscribers and twenty-nine (29%) of business service subscribers have experienced an outage for an hour or less a week, with seven (7%) and three (3%), respectively, experiencing them more than one hour a day (see **Figure 13**).

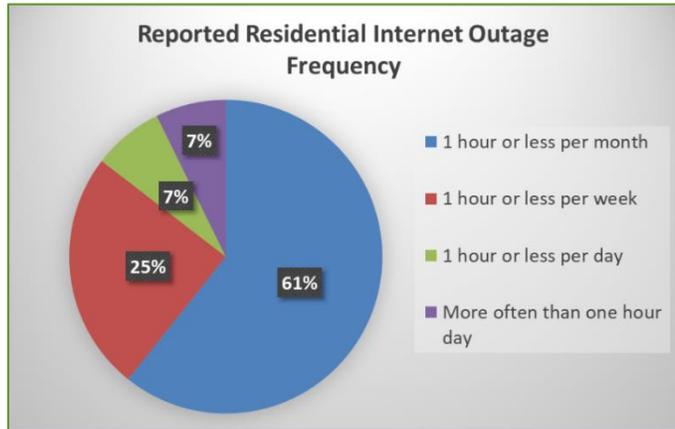


Figure 13: Frequency of Outages in Residential Service

Most internet service providers (ISPs) attempt to attain a ninety-nine (99.999%) (commonly referred to as “five nines”) of network availability. This equates to total service outages of time, meaning a total service outage goal of just five minutes per YEAR of service (see **Figure 14**).

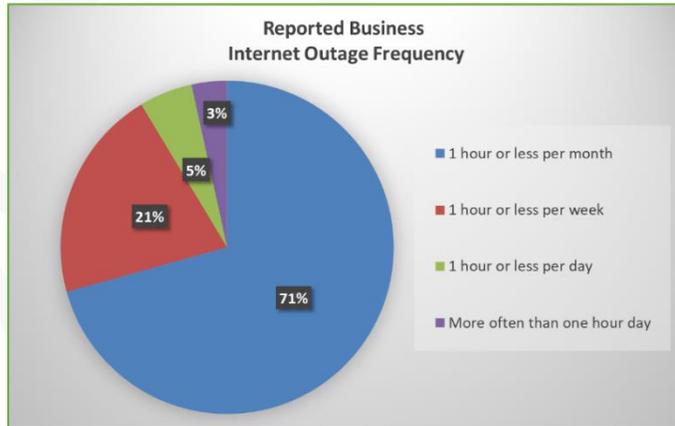


Figure 14: Frequency of Outages in Business Service

Demographics of Respondents

Most of the respondents to this survey live in Tillamook year-round, with about sixteen (16%) percent indicating they have a second home (**Figure 15**). The demographics of respondents were characterized by a relatively even split between men and women, a largely older demographic (See **Figure 16**), and a relatively higher income and level of education than the average population (**Figures 17 and 18**).

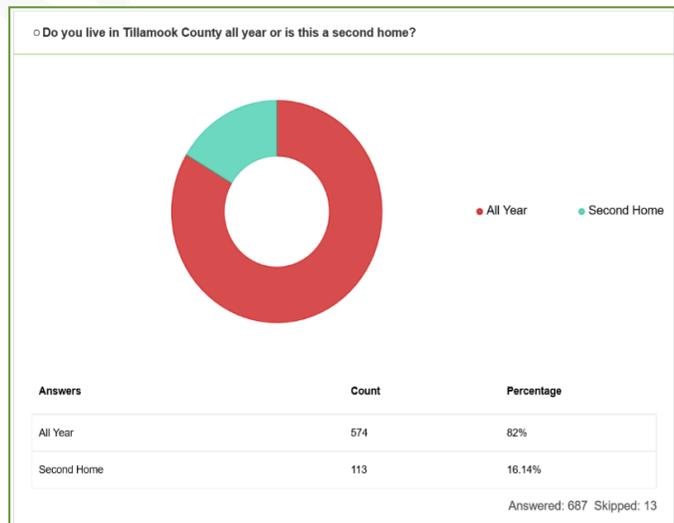


Figure 15: First or Second Home in Tillamook

There is widespread support for Community Involvement

Survey respondents were questioned to determine their support for a potential municipal alternative to privately provided services. Survey results indicated quite strong support for some sort of public involvement to solve the challenges faced in the community.

- Ninety-five (95.29%) of respondents feel that Internet is an Essential Utility
- Eighty-six (86.85%) were Likely or Very Likely to purchase an offering if the local government helped facilitate broadband (see *Figure 19*).
- On a scale of 1-10, eighty-two (82.71%) said a likelihood of 8, 9, or 10 that they would be likely to switch providers if a new provider built a fiber network offering superior service in Tillamook County (see *Figure 20*).

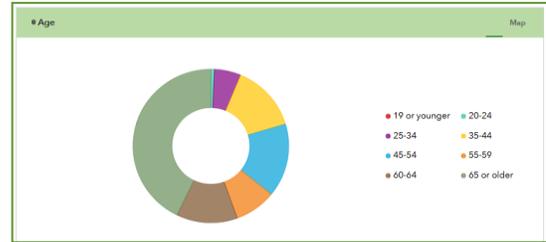


Figure 16: Respondents were in a Generally Older Demographic

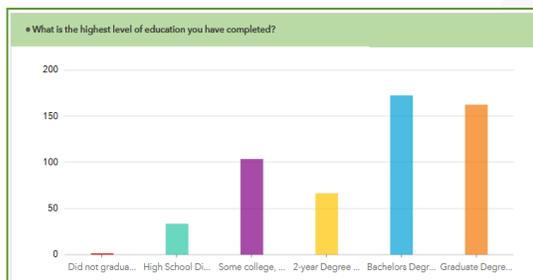


Figure 18: Respondents were Relatively More Educated

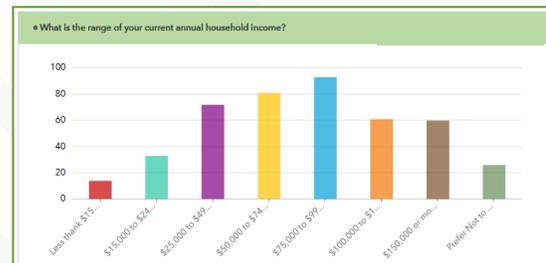


Figure 17: Respondents had Generally Higher Levels of Income

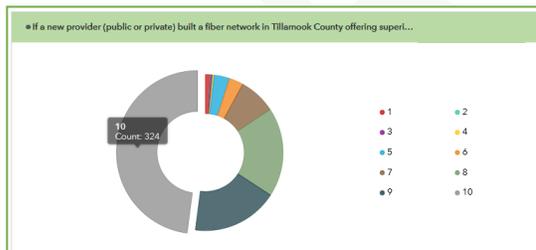


Figure 20: Likelihood of Purchasing a Publicly Supported Government Option

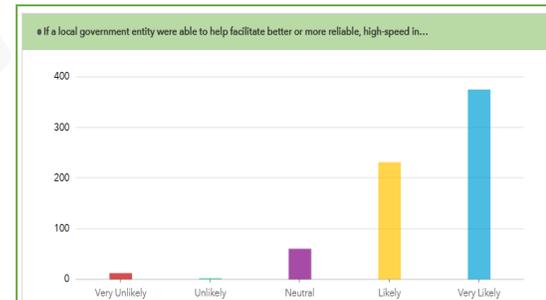


Figure 19: Likelihood to Switch to a New Provider if Available

Survey Findings

- If a resident or business is in an area of population concentration – the odds are better that they will have a decent option, probably through Charter
- But, that does not apply to everyone in the concentration – those areas are still spotty
- There are pent-up demand and broadband needs
- There is a small segment of the population that does not want public involvement – some of that is a misunderstanding

The creation of digital “haves” and “have nots” is commonly referred to as the digital divide. If there is good connectivity in one area, but not another, then those with better broadband have greater opportunity for economic development, higher home sale prices, health care, more diverse jobs, etc. In Tillamook, the more remote rural areas are not as well served by providers, but some urban areas are also not (see

Figure 21 for a demonstration).

Resident satisfaction rates about their internet service are similarly distributed (See **Figure 22**). This finding is relatively surprising as providers tend to have better service in more population dense areas. However, due to bandwidth limitations for non-fiber technologies, prohibitive cost of service for some residents, and seasonal fluctuations in population result in a significant threshold of poor service in the most populated areas of the county as well as rural.

Full Survey References

For the full engagement plan, including survey distribution and marketing, stakeholder interview questions, and press release, please see **Appendix A**.

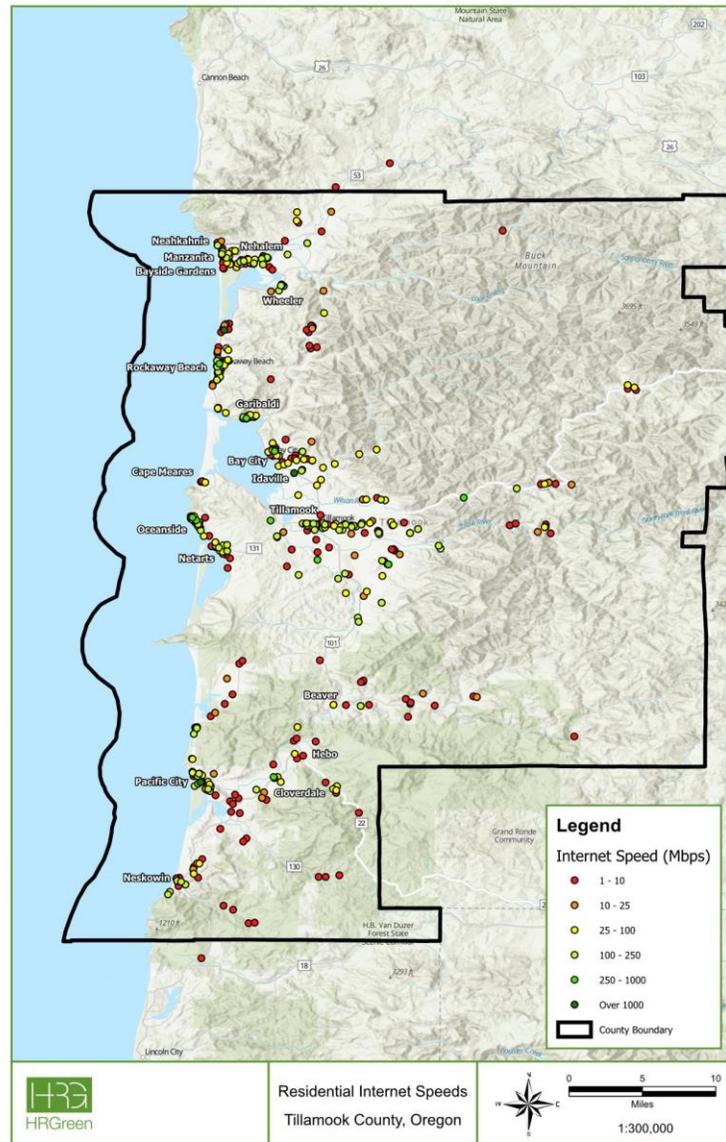


Figure 21: Map of Residential Service Download Speeds

For the full list of survey questions, please see **Appendix B**.

For a full list of survey results, please see **Appendix C**.

Many respondents also provided useful comments about their service on the survey. For a full list of all of the respondent comments, please see **Appendix D**. Many of the respondents express frustration with their service. Some find it difficult to get customer service help. A significant number of comments are not happy with the price they pay for the service they receive. Many respondents say they have no choice of providers or are not aware of any alternatives. These comments provide a wide variety of perspectives and serve as valuable input directly from the residents of Tillamook on many of the subjects that can be important to decision-makers.

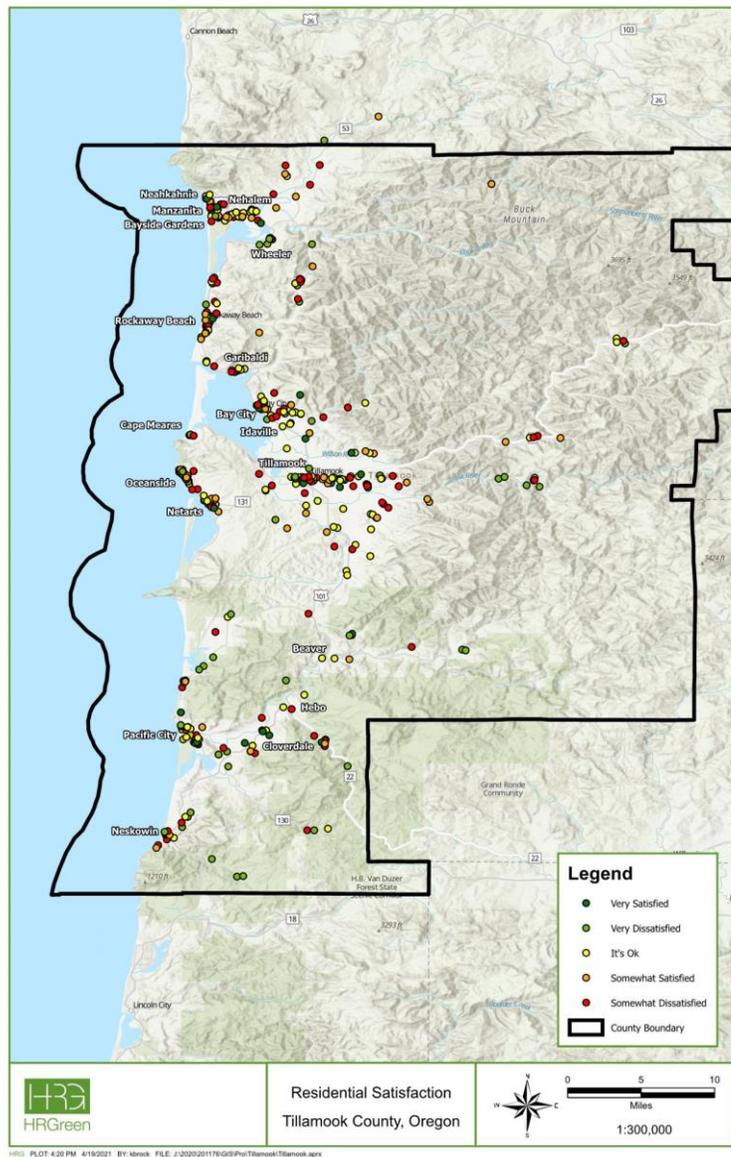


Figure 22: Map of Residential Service Satisfaction Rates

Chapter 4: Stakeholder Outreach Interviews

HR Green conducted interviews with Anchor Institutions (AIs) and local stakeholder organizations within the County to get a better idea of the region's broadband needs.

Meetings with representatives from AIs paint a picture of some having adequate connectivity and others lacking. Some areas and specific organizations reported that they had adequate broadband, but that there were many more that did not. Generally, the organizations that felt that they had adequate broadband were the County departments which are already connected to Tillamook's network and some businesses which were able to sign up for fiber through other providers.

Connectivity During and Post-Pandemic

This study took place within the context of the COVID-19 pandemic, and thus characterized the details of many stakeholder testimonies. Forefront in people's minds is the broader context of how the internet became dramatically more important due to stay-at-home orders and quarantine, telework, distance education, and telehealth. Whereas this study may have yielded higher satisfaction rates with current providers before the pandemic, the increased importance of internet use during 2020-2021 changed the dynamic internet reliance for daily functions in significant ways.

Many respondents reported that their businesses have become much more accepting of work-from-home for their employees. For some, it was a challenge to initiative the types of web applications that would enable online conferencing, but many quickly adjusted. Many respondents reported a cultural shift in the comfort level and acceptance of using technology for collaboration and communication. Some saw several advantages in the new mode of operation, including the ability to attend a greater number of meetings in a more efficient and focused manner, thus increasing their overall performance productivity during the workday. The primary barrier became not the type of online communication, but its ability to work through the internet service people had in their homes.

In a post-pandemic future, many respondents hypothesized that they will keep many of the tools put in place for remote communication. They are likely to continue doing tele-health appointments, work meetings, and online classes. In some cases, their businesses benefitted from implementing these solutions because they can reach a wider clientele that would formerly be less able to participate in their programs (such as online fitness classes) or consume their products (e.g. grocery delivery). The skills they've developed as well as greater cultural acceptance of online tools will continue to be important even when quarantine measures are lifted.

Anchor Institutions

“I don't know if district needs more support for broadband, but families do. The biggest help would be there. Some families live up rivers, nothing works there. Some of those children are not getting any school during pandemic.”

Schools

Educational institutions within the county put in place more programs for remote education within the last year due to the pandemic. Whereas previously schools may have offered online classes as a feature, the pandemic forced them to become a necessity. Schools offered a greater number of online classes, enabled ways of doing homework online, and installed WiFi in their facilities and parking lots in case students needed the connectivity. The community college increased their investment in classroom

technologies that broadcast classes to their students and enable engagement in online class participation.

The primary challenge turned out to be – not the internet quality within the institution itself, but – having the capacity for individual students to access the programs remotely. Several families with school-age children have no internet at all in their household, making it particularly difficult to meet their educational needs during the time of pandemic-driven remote-learning. Schools had to treat these students differently with solutions such as printed out packets of homework that they could take home and return.

Government Departments

Governmental anchor institutions have been connected to Tillamook Lightwave’s fiber network for several years. They generally expressed that they receive excess capacity to what they are using for a fair price. Although some remote server and cloud solutions are still not in place, it is computing technology rather than broadband infrastructure that prevents more remote-work, cloud database storage, and other similar capabilities.

Healthcare Organizations

The county has one major hospital that is also on the TLW network. They have excess capacity, more than they need for the long-term. During the pandemic, they worked on getting technologies approved that would enable telehealth visits to the hospital, including video conferencing through common platforms that people find accessible and easy to use, such as Webex and Facetime. These technologies are now accepted as secure for privacy of health-records purposes. They also worked to facilitate better internet connectivity at satellite clinics where patients may get remote healthcare if they lack other methods of doing so.

“Government could pick local hubs like us and enable us to support the residents around. WiFi brought to you by the creamery, meat companies, big businesses with big infrastructure. Bet theres enough business locations to cover much of town. Have a splash page, and put an ad on there, be a sponsor.”

Local Businesses

Interviews with a few local businesses revealed a variety of different concerns and opportunities. Business service was generally adequate for their operations, but not always reliable and often more expensive than they wanted to pay. The biggest challenge, as with other institutions, was the ability of their employees to work remotely with the poor connectivity many of them had at home.

Perhaps most surprising was their strong willingness to support better internet service for their community. Though they may not know the best way to approach this, but they were willing to engage in partnerships with service providers, other regional businesses, or state-facilitated consortiums to facilitate and offset the costs of connecting their employees and other community members with broadband.

This desire expressed by respondents to support local broadband needs reflects the strong culture of community and sense of loyalty to the county’s residents.

Emergency Response Organizations

Emergency response organizations use the internet in different ways, most of which are adequately enabled by their available technologies. Emergency response organizations rely on different types of connectivity within their offices and in the field. Within their facilities, the service is adequate for their purposes, such as uploading camera footage to the cloud after each shift. In many areas they rely on Land Mobile Radio (LMR), the long-established radio system for emergency response. While their vehicles are enabled with digital technologies that are used for data storage and recording, they may not be in an area with sufficient wireless connectivity to upload the data. In highly remote areas with no cellular coverage and tenuous LMR connectivity, they rely on paper records. Many of these practices are well-established and their connectivity does not compromise emergency response operations or preparedness, it is mostly an inconvenience to time-consuming record keeping and personnel training.

Stakeholder Outreach Interview Findings

“The backbone still needs to improve: if you live in Wheeler and Rockaway, it can be 50’ or less away from the freeway. There’s Wave and Centurylink fiber that runs directly by my house 25’ away, but I have to use RTI via a DSL line that is overextended.”

In summary,

- Businesses served by Tillamook Lightwave are generally satisfied with their service
- Higher population-density areas are much better served, but service may be erratic, particularly during peak tourism season
- Where available, Charter (Spectrum) provides the best service for residents and businesses
- Remote areas are usually unserved or underserved
- Schools (K12, Undergraduate, Graduate) have good connectivity within their buildings, but struggle to get students to connect to programs from home, particularly during the pandemic.
- Internet service has been getting better in reliability. Compared with several years ago, outages are less common. Nevertheless, when outages happen, it completely debilitates the operations of many businesses.
- Emergency response is not impaired in mission critical ways, but operational adjustments become necessary in remote areas.
- Businesses are willing to partner and support a broadband program – for example, the creamery is very engaged to bring broadband to their farms and employees working remotely.
- People are not aware of TLW service offerings, respondents indicated they would like more information and would like information on how to sign up for service.
- Many of the online programs started because of the pandemic are expected to continue being offered afterward. Use of technology has undergone a cultural change in acceptance.

Chapter 5: Business Models and Financial Analysis

Introduction

A study of the financial feasibility of the project was conducted to determine if a system could be built and operated to meet TLW's goals for connectivity while providing facilitative support for overall improvement in retail broadband service to homes and residents.

TLW staff directed HR Green to design and analyze the financial viability of several deployment models. In each model, the design includes excess fiber optic capacity suitable to support expansion to facilitate the potential support of a ubiquitous fiber to the premises (FTTP) solution that would enable last mile connectivity for homes and businesses.

These models are defined below, and in the first two models, the financial analysis was completed assuming that TLW would build an asset for its smart grid and middle mile use that would then become the basis of a public-private partnership to improve last-mile connectivity.

- **Model 1: TLW Ubiquitous Fiber FTTH Broadband Network.** This model would extend the network, with TLW owning and operating a broadband enterprise providing direct service to its businesses and residents.
- **Model 2a: Full Middle Mile with COLPAC.** This model connects PUD assets in partnership with COLPAC facilities.
- **Model 2b: Middle Mile without COLPAC.** This model connects PUD owned assets exclusively.
- **Model 3: Ubiquitous P3.** This model connects PUD owned assets, with an assumption that last-mile fiber optic connectivity would be financed by a communication services provider.
- **Model 4: P3 hybrid.** This model removes fiber optic connectivity to the hardest-to-reach areas limiting service to approximately a thousand residents, and instead using wireless technology to connect those last unserved locations. This model assumes a private sector partner

These analyses operational attributes and processes including policies, staffing levels, maintenance agreements, and other considerations. Particular attention was paid to back-office and other operating requirements, as well as working capital projections. A strategy for network maintenance and management based on best practices is also presented. The models include an overall analysis of viable potential services and provides the following:

Sensitivities of Key Assumptions

- Customer segmentation
- Market penetration
- Pricing
- Tiered revenue structures
- Operating costs
- System construction
- Staffing levels
- Base, best and worst-case analysis

Pro Forma

- Operating income and cash flow
- Net present value analysis
- Subscriber revenue by service

- Subscriber revenue by customer/customer class
- Debt service analysis
- Reserve fund requirements
- Uses and sources of funds
- Operating expenses
- Operational savings
- Depreciation summary
- Projected construction costs for network, hardware, buildings and other equipment
- Return on investment (ROI)

All assumptions and price sensitivities were identified and justified. The financial models provide TLW with order-of-magnitude estimates of the overall project cost, and supports the implementation roadmap by providing inputs for potential business models, financing options, and partnering opportunities.

Model 1: TLW Ubiquitous Fiber FTTH Broadband Network

In model 1, TLW would build a fiber network throughout Tillamook County and provide ubiquitous broadband service to all business and residential customers. Model 1 was developed to explore the financial feasibility of a fully owned-and-operated municipal broadband enterprise, and while TLW was not in favor of expansion to such a model due to the inherent risks and up-front capital expenditure (i.e. debt requirements), it is useful to understand whether such a model is viable in Tillamook County. If a municipally owned enterprise can be successful, it is likely that a private provider can also see a positive

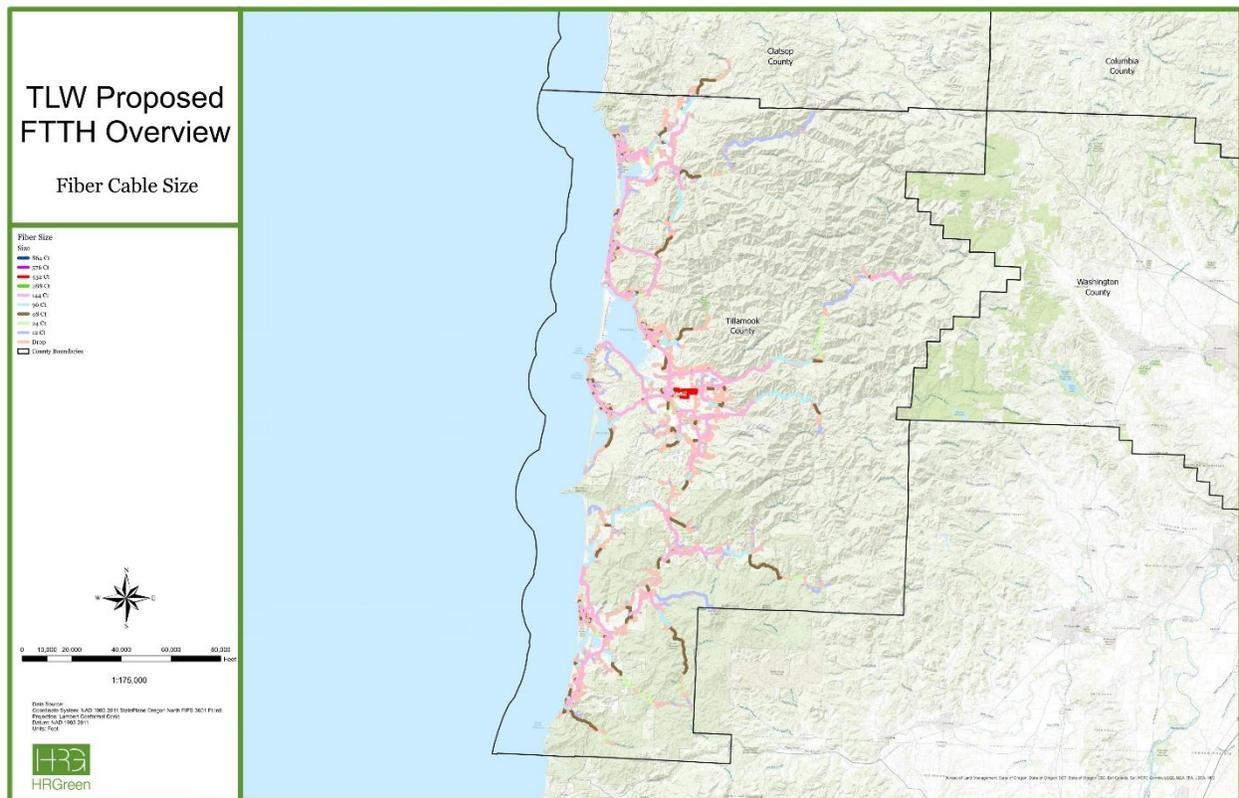


Figure 23: Model 1 - TLW Ubiquitous Fiber FTTH Broadband Network

return from its future investment to provide service. As such, HR Green completed an analysis of all capital and operating expenses to create a municipally-owned enterprise in Tillamook County. The network would be comprised of approximately 728 Route Miles of Fiber. TLW would create a full department of approximately 16 internal enterprise operational personnel and an external service for tech support.

ID	Description	Unit	Quantity	Unit cost	Total cost
Total OSP Material	Total OSP Material				\$45,165,660.68
	Route Miles of Fiber		624		
Feeder & Distribution Splicing at Hub		count	14,544	\$20.00	\$45,360.00
Distribution Splicing and Splitter Splicing		count	23,636	\$20.00	\$1,812,212.50
OTDR End to End Test of Fiber Cable		count	22,782	\$25.00	\$569,552.50
Special Permit Fees and Engineering	(Railroad Crossing and Bridge Permits)	each	13	\$8,000.00	\$872,000.00
Other OSP Costs (Engineering, Permitting & Contingency) - 30%	Other OSP Costs (Engineering, Permitting & Contingency) - 30%				\$14,539,435.70
Total OSP Material, Labor and Other Costs					\$63,004,221.38
Total Drop Costs			20,711		\$18,341,900.00
Total In Premise Equipment Costs					\$13,949,065.61
Network Equipment and Shelter Costs					\$1,350,000.00
Total Build Costs					\$96,645,186.99
40% Take Rate (Drops & Premise Equip. at 40%)			8284		\$77,270,607.63
Cost per Subscriber			\$3,042.07		

The network design features concentric fiber optic rings which provide physical redundancy in the event of a potential fiber cable cut during the future operations of the network. Key statistics for this design include:

- \$83.6 MM Capital Build
- 50% Finance Percentage



- \$47.3 MM in Debt
- \$60/mo – 100mb & \$80/mo 1gb service
- Total Market estimated at ~ 18k residential customers & 2k business customers
- 40% Residential Terminal Take Rate (starting year 5)
- Net Income Positive Year 3
- Debt Free by Year 21

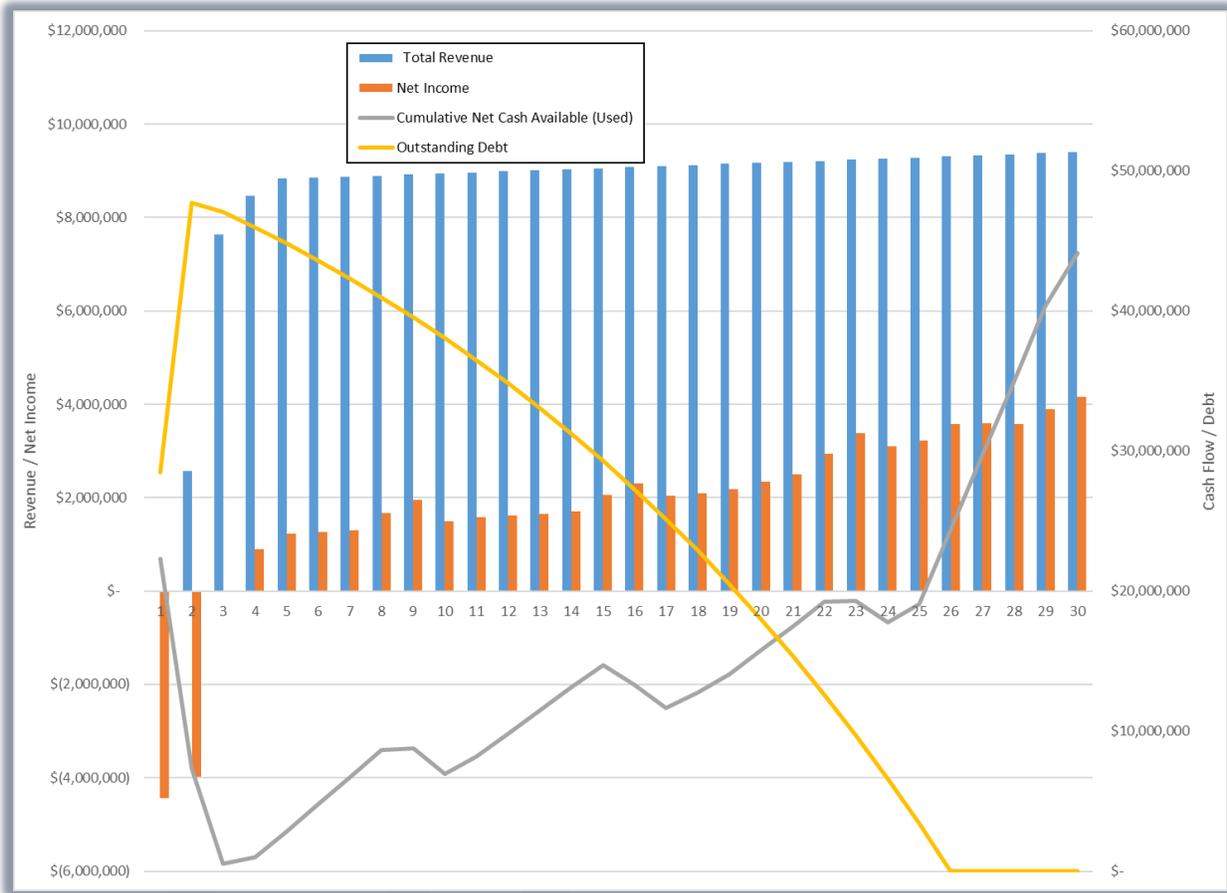


Figure 24: Model 1 - TLW Ubiquitous Fiber FTTH Broadband Network Financial Feasibility Summary

It is important to note that the creation of a municipal enterprise creates substantial increases in complexity and financial risk for TLW. While conservative assumptions were used in the creation of this model, it is important to note that TLW would be expanding its reach into a more competitive environment with the private sector, investing in telecommunications equipment, hiring 16 new staff to operate the enterprise, and taking on a significant debt.

Model 2a: Full Middle Mile w/ COLPAC

In model 2, TLW would build connectivity between the county’s electrical facilities and establish a smart grid system to achieve internal interconnection objectives. COLPAC would partner in the effort and achieve cost efficiency gains from scale in mobilizing the deployment of both networks. The excess fiber would be leased to private ISPs to facilitate last mile connectivity throughout the county. The network would result in approximately 145 route miles of fiber. This model would require minimal staffing and create limited additional management complexity for TLW.

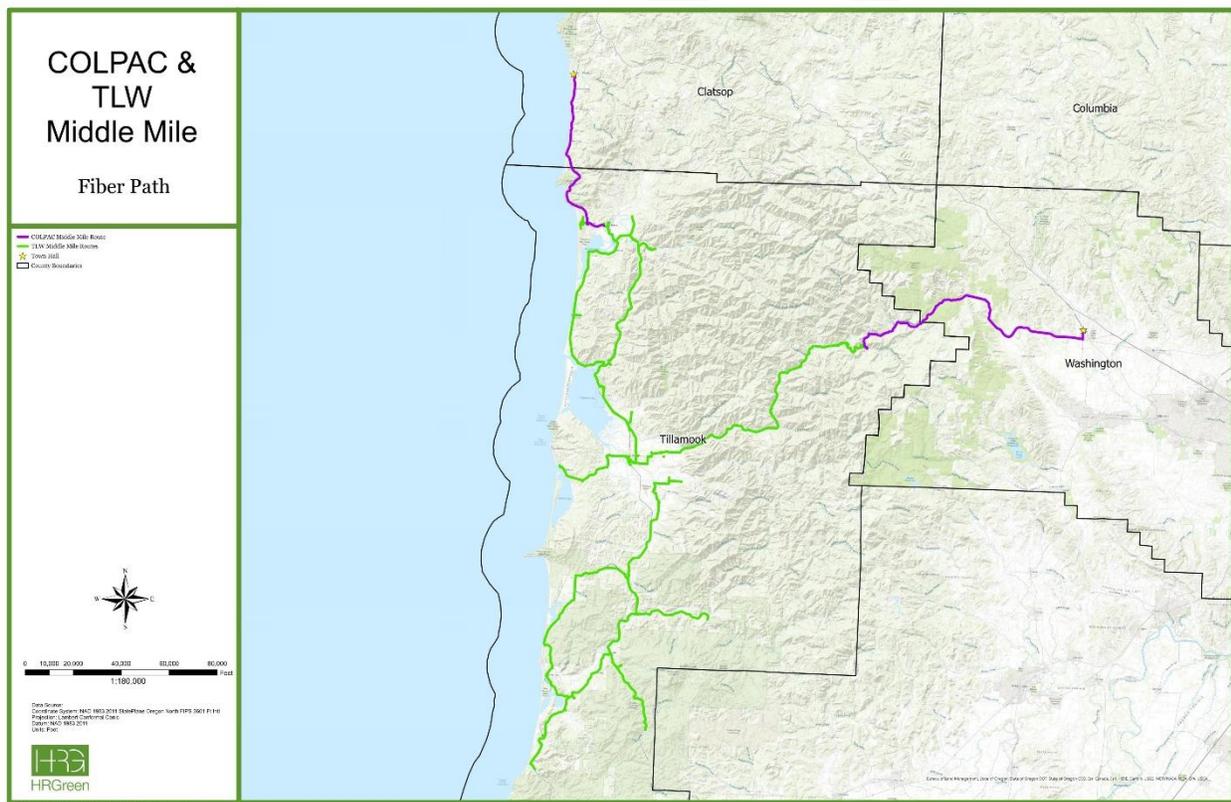


Figure 25: Model 2a - Full Middle Mile w/ COLPAC

While this network may be operated exclusively to meet TLW’s needs, the model was further expanded to study the financial viability of leveraging excess fiber capacity at a discount to current market rates to a potential private sector partner who would use this asset as a backbone to serve last-mile customers with high-speed broadband across Tillamook County.

ID	Description	Unit	Quantity	Unit cost	Total cost
All Counts Fiber w/Splicing Cost		Miles	145		\$17,309,924.07
Special Permit Fees and Engineering	(Railroad Crossing and Bridge Permits)		13	\$8,000.00	\$104,000.00
Other OSP Costs (Engineering, Permitting & Contingency) - 30%	Other OSP Costs (Engineering, Permitting & Contingency) - 30%				\$5,192,977.22
Total OSP Material, Labor and Other Costs					\$22,606,901.29
Total Drop Costs					\$0.00
Total In Premise Equipment Costs					\$0.00
Network Equipment and Shelter Costs					\$20,000.00
Total Build Costs					\$22,626,901.29
40% Take Rate (Drops & Premise Equip. at 40%)			0		\$22,626,901.29

Key statistics for this design include:

- 22.6 MM Capital Build
- 50% Finance Percentage
- 50% Grant Funding or Alternatives
- \$11.3 MM in Debt
- 20% of 145 Route Fiber Miles Leased
- Annual lease \$800 per pair
- Net Income Positive Year 2
- Debt Free by Year 13

The financial model assumes the provider would be provided access to the built network via dark fiber leases (IRUs) at a discount of prevailing market rate. This discount would be provided as an incentive to bring good partners to the table. This revenue could then be reinvested into the program. This study did not include a detailed assessment of anchor institution spending, but any revenues from service provided to these entities may significantly reduce the payback period on this investment.

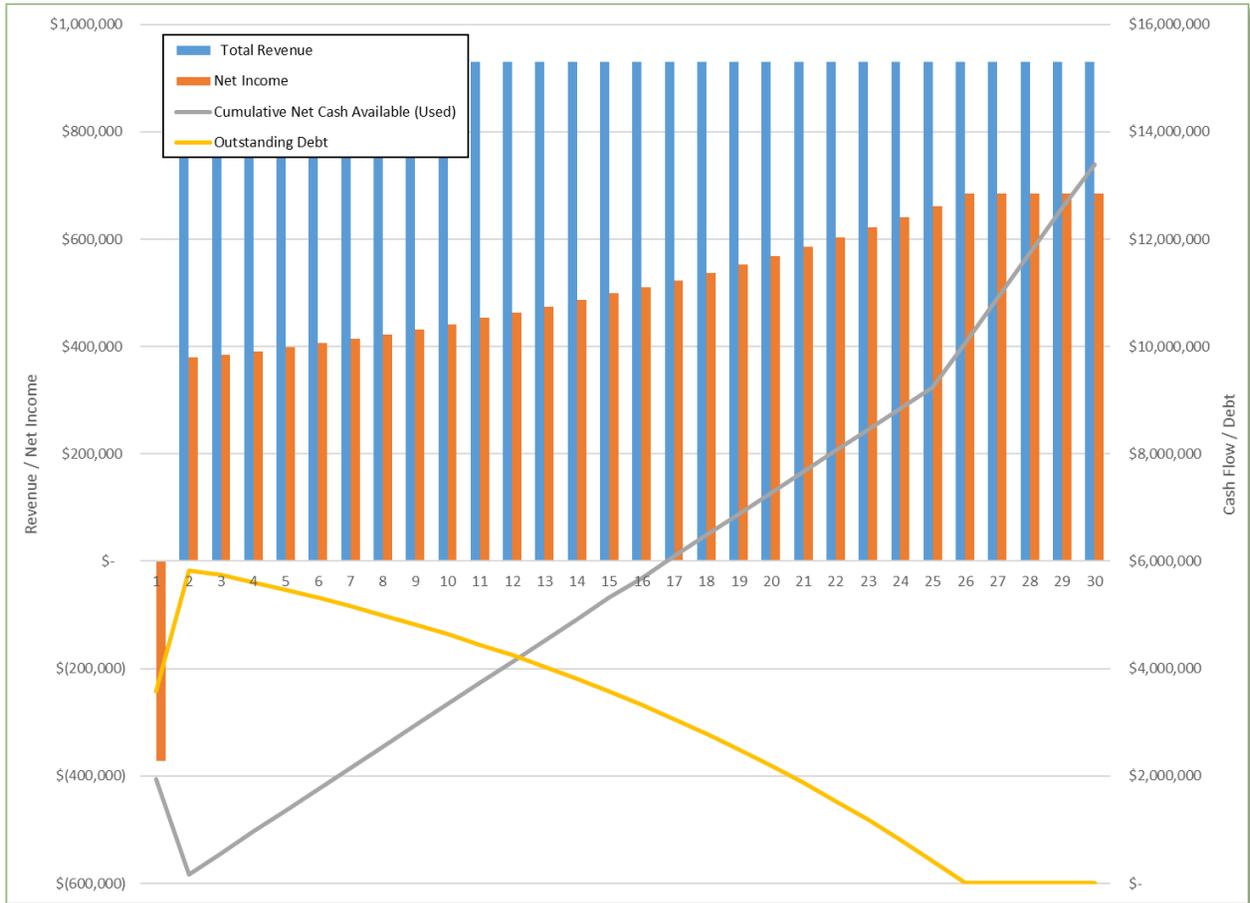


Figure 26: Model 2a: Full Middle Mile w/ COLPAC Financial Feasibility Summary

Model 2b: Middle Mile w/o COLPAC

An alternative of the previous model considers middle mile with COLPAC unable to become a partner in the effort, and the Tillamook PUD builds a network to support internal activities on its own. This would result in approximately 106 Route Miles and a similarly low management complexity level for capital investment and operational activities.



Figure 27: Model 2b - Middle Mile w/o COLPAC

ID	Description	Unit	Quantit y	Unit cost	Total cost
All Counts Fiber w/Splicing Cost		Miles	106		\$8,843,644.08
Special Permit Fees and Engineering	(Railroad Crossing and Bridge Permits)		13	\$8,000.00	\$104,000.00
Other OSP Costs (Engineering, Permitting & Contingency) - 30%	Other OSP Costs (Engineering, Permitting & Contingency) - 30%				\$2,653,093.22

Total OSP Material, Labor and Other Costs					\$11,600,737.3
					1
Total Drop Costs					\$0.00
Total In Premise Equipment Costs					\$0.00
Network Equipment and Shelter Costs					\$20,000.00
Total Build Costs					\$11,620,737.3
					1
40% Take Rate (Drops & Premise Equip. at 40%)			0		\$11,620,737.3
					1

The model involves the following assumptions:

- 11.6 MM Capital Build
- 50% Finance Percentage
- 50% Grant Funding or Alternatives
- 5.8 MM in Debt
- 20% of 106 Route Fiber Miles Leased
- Annual lease \$800 per pair
- Net Income Positive Year 2
- Debt Free Year 12

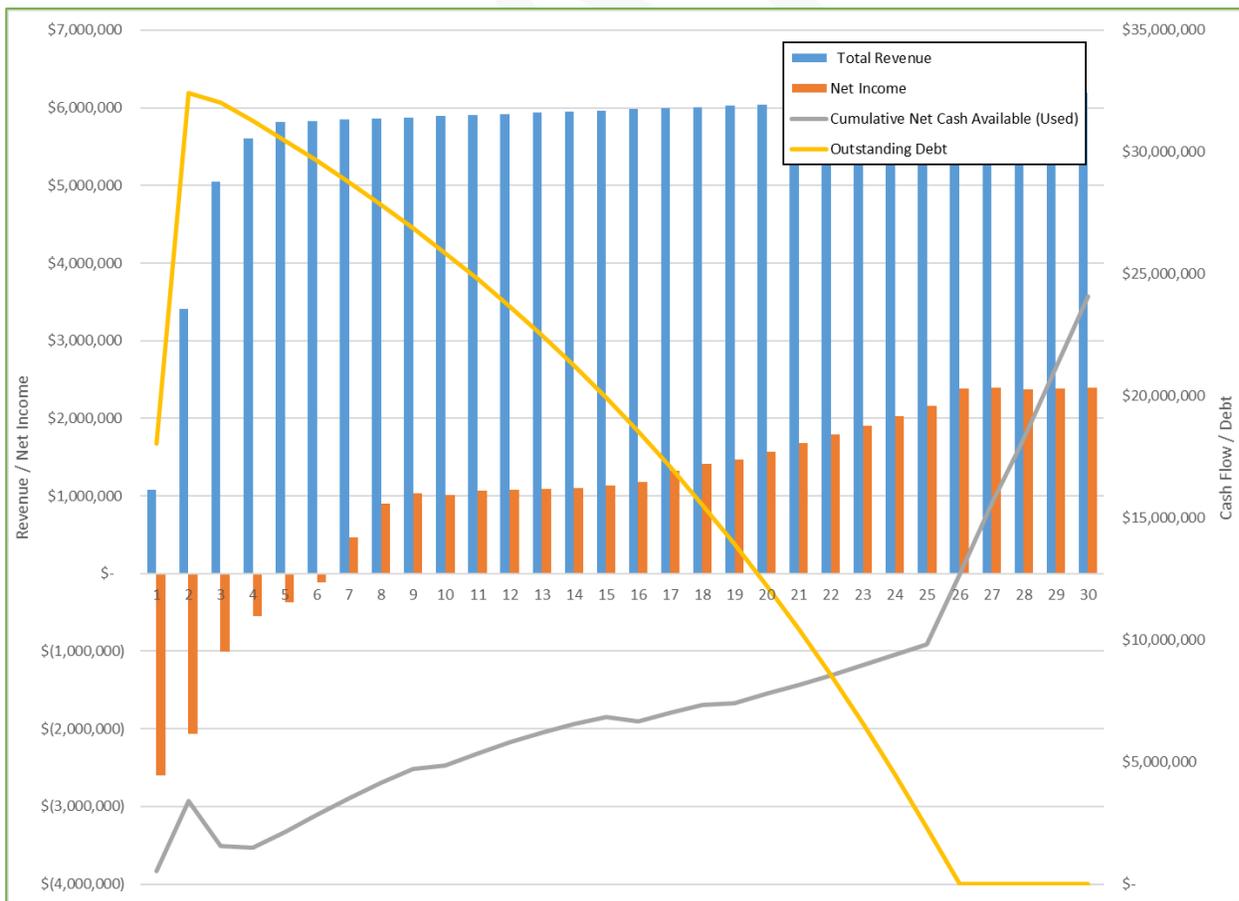


Figure 28: Model 2b - Middle Mile w/o COLPAC Financial Feasibility Summary

Model 3: Ubiquitous P3

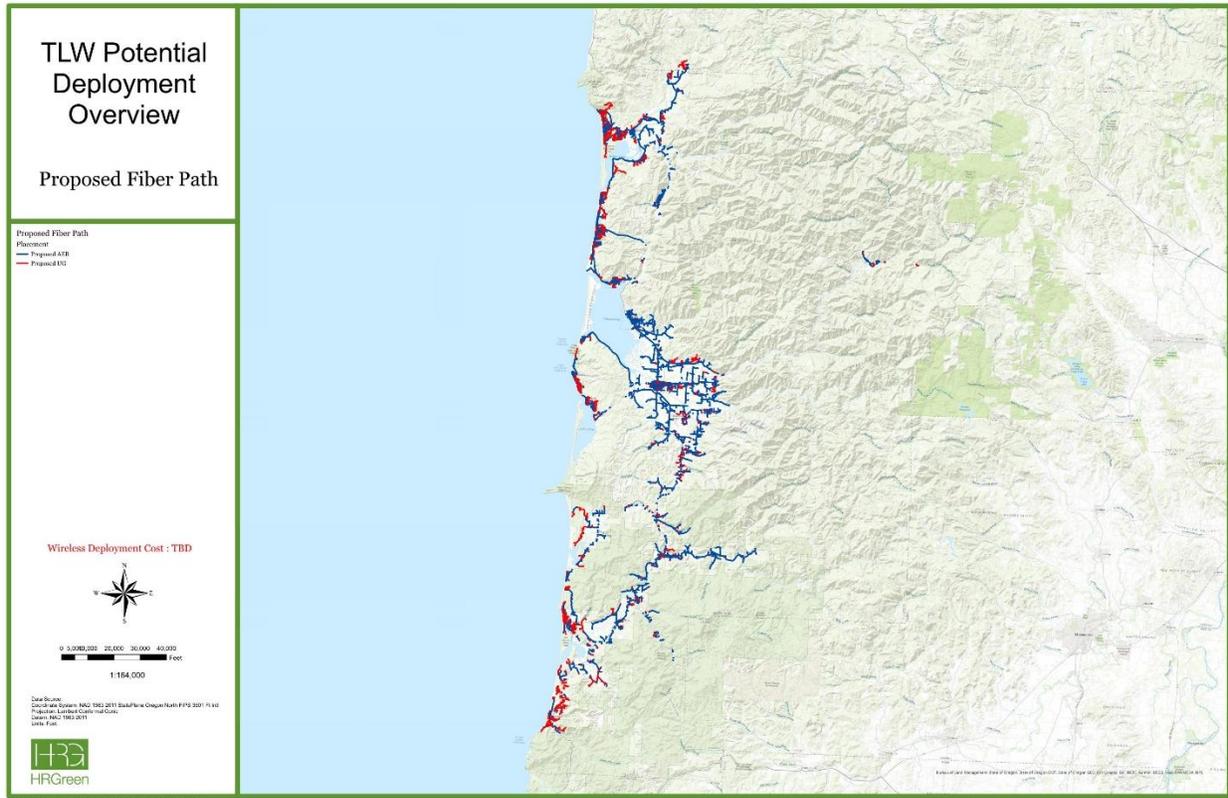


Figure 29: Model 3 - Ubiquitous P3

ID	Description	Unit	Quantity	Unit cost	Total cost
Total OSP Material	Total OSP Material				\$50,692,555.35
	Route Miles of Fiber		728		
Feeder & Distribution Splicing at Hub		count	14,544	\$20.00	\$45,360.00
Distribution Splicing and Splitter Splicing		count	23,636	\$20.00	\$1,812,212.50
OTDR End to End Test of Fiber Cable		count	22,782	\$25.00	\$569,552.50
Special Permit Fees and Engineering	(Railroad Crossing and Bridge Permits)	each	13	\$8,000.00	\$872,000.00
Other OSP Costs (Engineering, Permitting & Contingency) - 30%	Other OSP Costs (Engineering,				\$16,197,504.11

	Permitting & Contingency) - 30%				
Total OSP Material, Labor and Other Costs					\$70,189,184.46
Total Drop Costs			20,711		\$18,341,900.00
Total In Premise Equipment Costs					\$13,949,065.61
Network Equipment and Shelter Costs					\$500,000.00
Total Build Costs					\$102,980,150.07
40% Take Rate (Drops & Premise Equip. at 40%)			8284		\$83,605,570.70
Cost per Subscriber	\$4,972.24	10091.92829			

In Model 3, TLW Builds, owns and operates a broadband network with a last-mile partner. This model allows for a more distributed model of labor and expense than full and direct provision of broadband service to the community. The identified partner would provide last mile connectivity and service, while TLW would complete the buildout of fiber to the curb. This network would consist of approximately 624 route miles of fiber, and involve the following assumptions:

- \$77 MM Capital Build
- 50% Finance Percentage
- 50% Grant Funding or Alternatives
- \$43.7 MM in Debt
- \$60/mo – 100mb & \$80/mo 1gb service
- Total Market estimated at ~ 18k residential customers & 2k business customers
- 40% Residential Terminal Take Rate (starting year 5)
- Net Income Positive Year 7
- Debt Free by Year 23

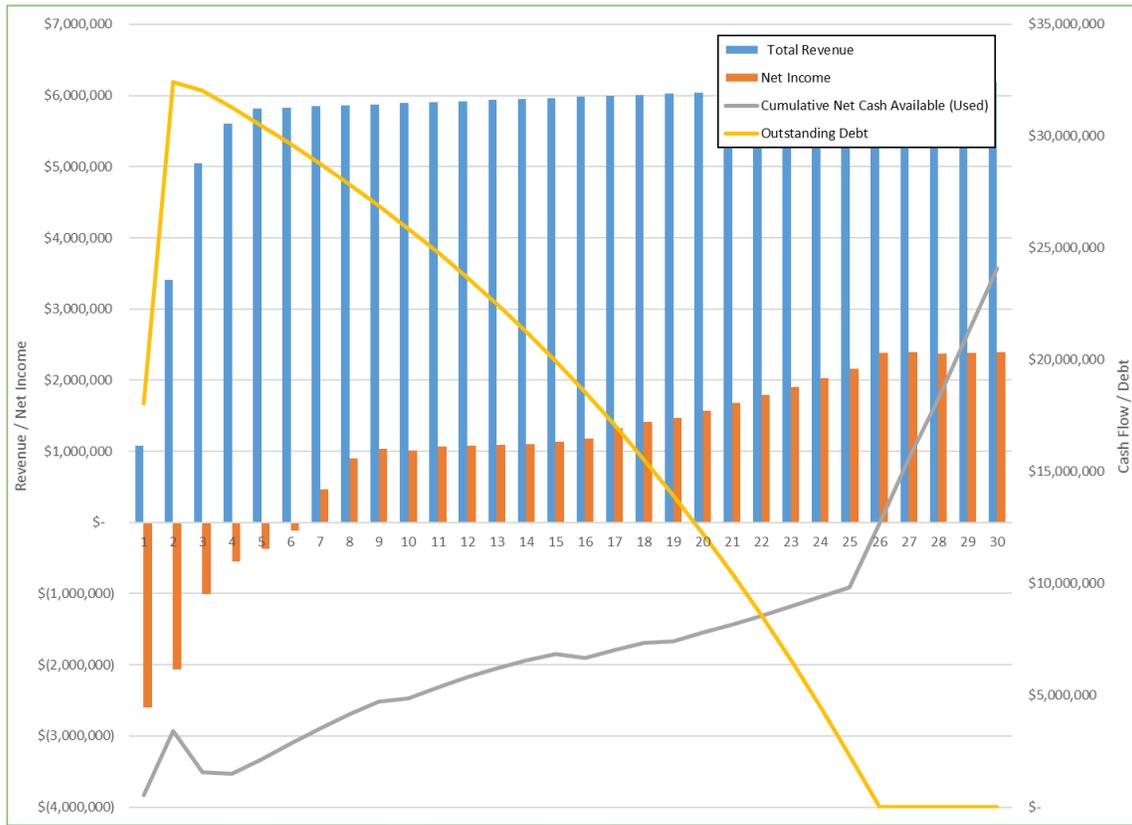


Figure 30: Model 3 - Ubiquitous P3 Financial Feasibility Summary

Model 4: P3 hybrid

In model 4, TLW would similarly own and operate a broadband network partner with a last mile service provider, but achieve less penetration with fiber for approximately one thousand hard-to-reach customers. For those customers, a wireless technology would supplant fiber in providing service. The hybrid network would consist of 545 route miles of fiber.

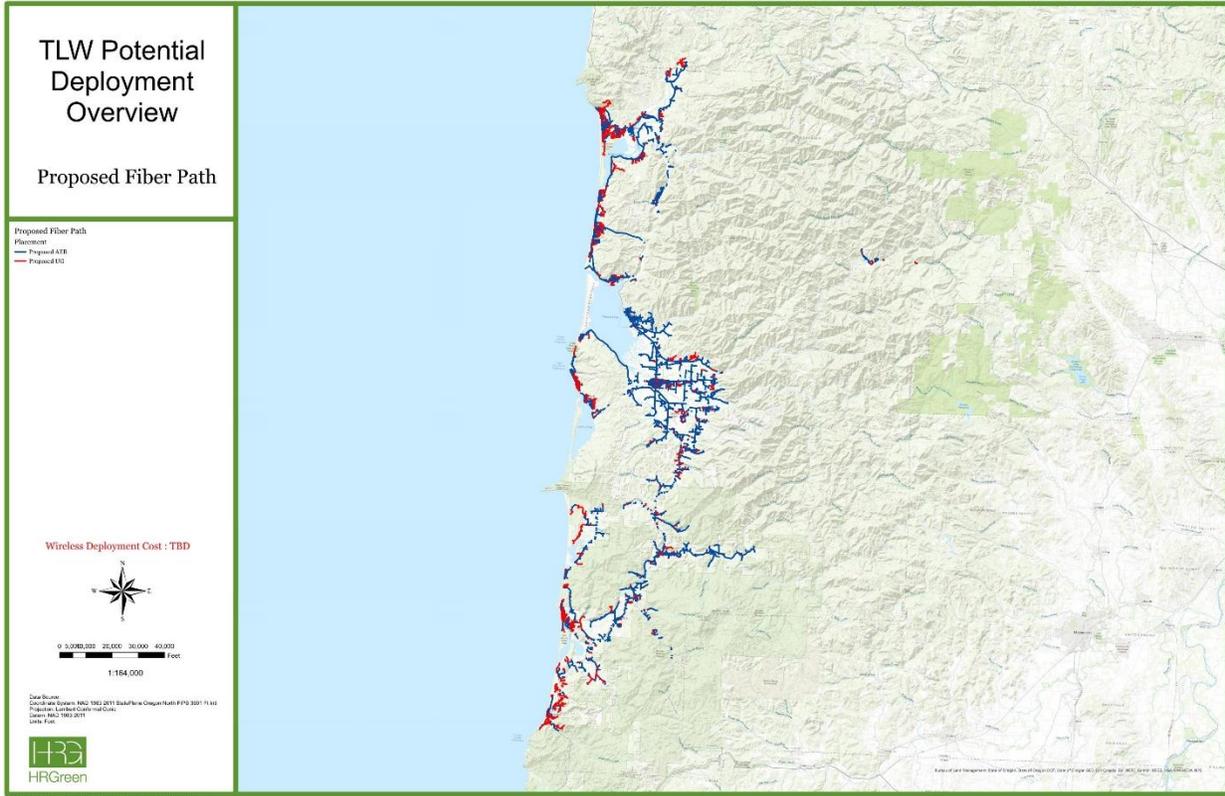


Figure 31: Model 4 - P3 hybrid

ID	Description	Unit	Quantity	Unit cost	Total cost
Total OSP Material	Total OSP Material				\$39,058,619.86
	Route Miles of Fiber		545		
Feeder & Distribution Splicing at Hub		count	14,544	\$20.00	\$55,440.00
Distribution Splicing and Splitter Splicing		count	23,636	\$20.00	\$1,812,212.50
OTDR End to End Test of Fiber Cable		count	26,776	\$25.00	\$669,405.00
Special Permit Fees and Engineering	(Railroad Crossing and Bridge Permits)	each	13	\$8,000.00	\$872,000.00
Other OSP Costs (Engineering, Permitting & Contingency) - 30%	Other OSP Costs (Engineering, Permitting &				\$12,740,303.21

	Contingency) - 30%				
Total OSP Material, Labor and Other Costs					\$55,207,980.57
Total Drop Costs			19,822		\$17,449,400.00
Total In Premise Equipment Costs					\$13,350,315.22
Network Equipment and Shelter Costs					\$1,350,000.00
Total Build Costs					\$87,357,695.79
40% Take Rate (Drops & Premise Equip. at 40%)			7929		\$68,877,866.66
Cost per Subscriber		\$2,785.19			

This network model would result in the following service statistics:

- \$68 MM Capital Build
- 50% Finance Percentage
- 50% Grant Funding or Alternatives
- \$39.6 MM in Debt
- \$60/mo – 100mb & \$80/mo 1gb service
- Total Market estimated at ~ 18k residential customers & 2k business customers
- 40% Residential Terminal Take Rate (starting year 5)
- Net Income Positive Year 3
- Debt Free by Year 18

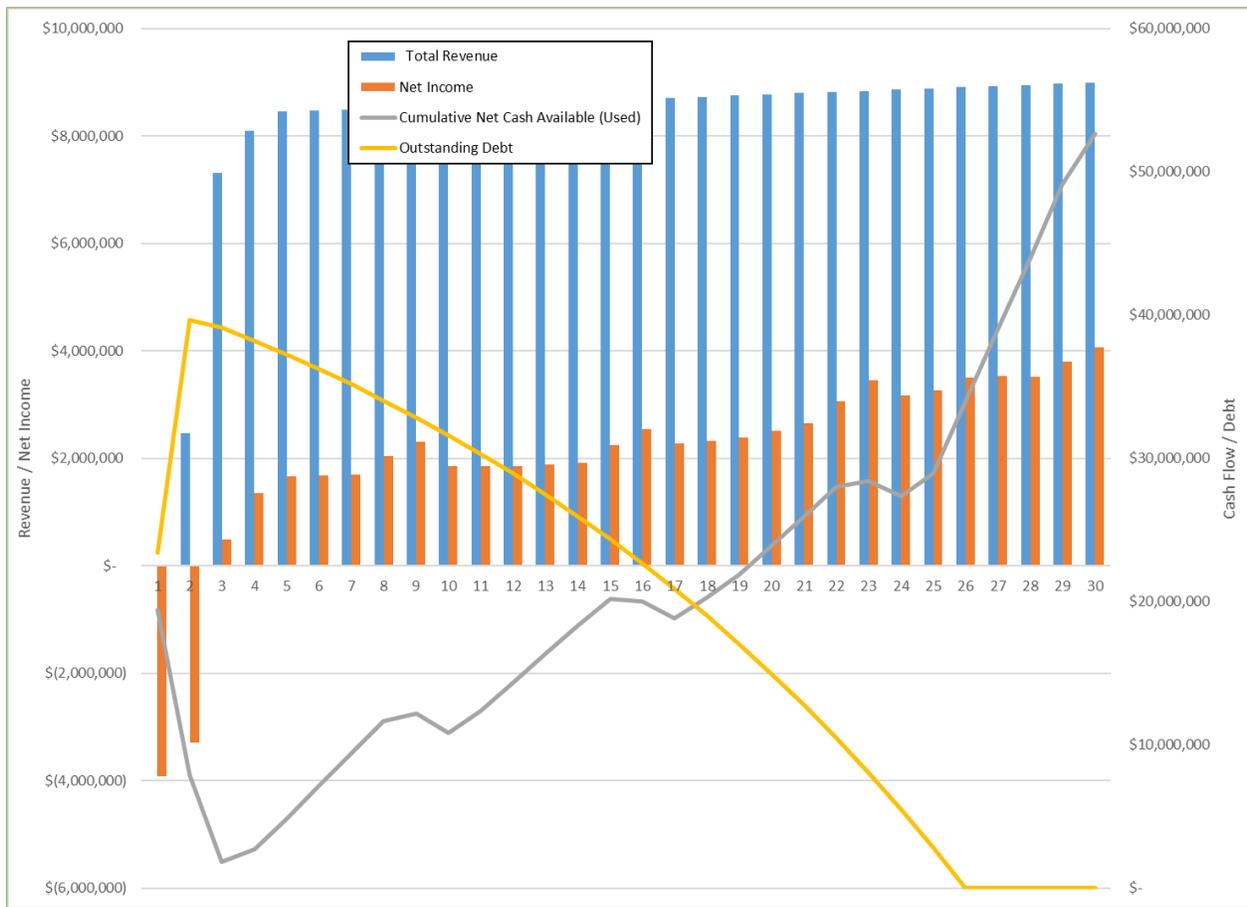


Figure 32: Model 4 - P3 Hybrid Financial Feasibility Summary

Full pro-forma spreadsheets were provided to TLW as a final deliverable with documentation of the assumptions and financials provided in the summaries above.

The TLW Organizational Model

One of the key decisions of the TLW Board of Directors will be the form and function of the owning/operating entity. During discussions, the Board expressed various levels of support for their involvement in any future growth and expansion as an internet service provider. The options outlined in this chapter facilitate TLW’s decision-makers in deciding on a path forward. Since these models range from basic energy and smart grid improvements, which are traditionally a gradual and predictable improvement step in many energy utilities, to a large-scale ubiquitous service provider model, the range of options can be customized to current capacity and expectations of the organization.

Depending on these factors, the Board can consider amending its organizational structure depending on the model it deems as the most beneficial for the community and the most appropriate for the resources and goals of TLW. A change in the structure may include a change in leadership or management capacity towards the PUD, especially if the desired direction is primarily for the benefit of that party. Alternatively, if TLW sees the impetus and is in a position to pursue a larger-scale

community-oriented broadband deployment, it may consider standing up a new type of agency. The entity may dispose or reassign the existing assets and create a new Intergovernmental Agency to further deploy broadband.

The possibility of taking no action at this time or in the future, or exiting the broadband business altogether are also feasible options. It may be that a change in the private market could occur, driving further competition and better service provision to occur naturally. TLW's decision is currently pending.

DRAFT

Chapter 6: Funding Opportunities

Introduction

HR Green's initial analysis of the project was based on TLW's projected revenue versus expected costs – an examination of whether the revenue that should be generated from the infrastructure can pay for the infrastructure and operational costs that would be incurred. In each case, the development of a TLW-owned asset was not financially feasible without significant subsidization in the form of grants. For most models, 50 percent grant funding was necessary to achieve a financially viable outcome.

The ability to leverage federal, state, and regional grants and programs can substantially facilitate the cost of a network buildout. In recognizing the need for broadband support, federal and state governments provide funding in areas recognized as unserved or underserved based on public data on broadband availability and speeds in different regions across the country. Historically, this data has been criticized as poorly prepared, marginally reliable, and overly generalized. As a result, a community like Tillamook County may be considered as adequately covered and served by broadband providers, whereas residents may actively experience a lack of sufficient or affordable service. Within the context of these considerations, this section provides an overview of sources of funding that could help offset infrastructure and operational costs.

Fortunately, we are at the cusp of a generational investment in broadband infrastructure. The federal government and state legislatures across the country have recognized the need for broadband funding support. Numerous federal and state programs are currently either being rolled out or are in various stages of legislative consideration. The Federal Communications Commission (FCC) and Congress have approved several channels of funding. The FCC has approved grants in several waves through the CAF II program. Congress included \$600 million specifically for rural broadband in the Omnibus Budget bill. And, State legislatures across the country are working on broadband funding, mostly geared towards the desire to have ubiquitous broadband - examples are Minnesota, California, Colorado, Iowa and Indiana (and there are others). These grants and other funding options can have significant positive impact on the scope, feasibility and options of the broadband project. The availability of these sources to offset infrastructure and/or operational costs for a broadband project in Tillamook County depends on several factors:

- The scope of the project matches intended grant recipient profile
- The timeline for funding application and disbursement matches the anticipated schedule for the project
- Ensuring the completion of all conditions and goals of the grant
- Attaining the matching investment capital required by some grants

In addition, alternative funding sources that could help offset infrastructure and operational costs. It is also important to maintain awareness of other funding sources. It is not uncommon for an agency (regional, State or Federal) to have targeted programs that can provide funding for broadband projects. These can range from utility related topics to community betterment to citizen specific needs to business attraction or retention, block grants, etc.

Tillamook County may be potentially eligible to benefit from broadband project financing available from several sources, including federal and state broadband grant funding for eligible unserved and underserved areas, direct financing through bonds, debt financing through bank loans, and private investment and partnerships.

State Programs

The Oregon Broadband Office, established in 2018, facilitates strategic broadband deployment and maintains a broadband map for the state. There are no general broadband state grants apart from the Rural Broadband Capacity Program supported by CARES Act funding.

Rural Broadband Capacity Program

The Rural Broadband Capacity Program was launched with \$10,000,000 funding from the federal CARES Act. The funding has been fully allocated to support infrastructure to deliver speeds of at least 25 Mbps downstream and 3 Mbps upstream and for emergency response projects for telehealth and K-12 distance learning. Tillamook County applied and received \$350 thousand dollars for families in need of financial assistance to receive no fee internet connectivity.

Federal Grants and Loans

The federal government, through the FCC and the USDA, provide funding for broadband programs around the country.

The FCC, as mandated by the 1996 Telecom Act, implements universal service policies through the Universal Service Fund that is comprised of four programs: Connect America Fund, E-Rate, and Rural Health Care, and Lifeline (supplying mobile devices to qualified low-income households – not included as relevant to this document). As an extension of the Connect America Fund Phase II Auction, the FCC also recently adopted the Rural Digital Opportunity Fund (RDOF) to serve rural homes and businesses and close the digital divide.

Current and Potential Federal Stimulus Programs

The impact of the Coronavirus has created a new and heightened awareness of the importance of broadband not only for entertainment, but for critical services like K-12 and higher education and telemedicine for the sick and elderly. Communities have begun to realize how crucial connectivity is for providing services in a new, post-pandemic normal through remote services. All of these are likely to be reflected in any Federal infrastructure spending authorized by Congress and the President.

- America Rescue Plan – These dollars are given directly to counties and cities that have more broadband availability for uses, of which broadband is currently stated
 - Final rules are not out – the uses and directives could change
 - Preliminary Treasury guidance has indicated that the uses considered by TLW would be considered acceptable uses of ARPA funding. Middle Mile and Last Mile connectivity is supportive of the federal program's goal to improve connectivity to get to 100 Mbps/100 Mbps service in unserved and underserved geographies.
- Emergency Broadband Benefit Program: This federal program just authorized over \$3B to help low income families offset costs of broadband connectivity. Money will be paid to providers for them to apply to low income family broadband bills. The Emergency Broadband Benefit program contained in the new Infrastructure Bill will continue these subsidies at a lower rate after appropriations have been expended.
 - \$50/mo; \$75 on Tribal Land
 - Also \$100 for device
 - Goes to provider to pass on
 - 135% Fed. Poverty Guideline

- Eligibility guidelines are geared towards those who are currently in federal assistance programs
- USDA ReConnect and FCC RDOF: These two programs have cycles that are completed and may not have subsequent phases. ReConnect has been a USDA grant and loan program to bring broadband to underserved areas. The last phase of ReConnect was in 2020. RDOF has been an FCC funded grant reverse auction process. There is no open grant request period right now. In the latest RDOF process, requests were made in April 2021 and final awards are being worked on currently. Other rounds are possible
- Other Federal Grant Programs: There have been many federal grant programs that have included eligibility for broadband – over the last several years, there were as many as 50 grant programs for which broadband could be a use. In the current federal legislation that the US House passed in 2021, there is an effort to consolidate those multiple programs. That will still be worked out with what is passed in the Senate. Some of the larger current programs that are being used for broadband are:
 - The above bill the US House has passed with \$80B for broadband
 - Placemaking – (RPIC) – requests due by 7/26 (\$3M total available)
 - Telehealth
 - School/Library (Incl. ERATE)

There are several sources of funds for broadband that are currently being planned and discussed. This document is meant to be a source for interim information. These details will likely change as final rules are decided.

A. H.R. 3684 Infrastructure Bill...

Passed by the Senate on August 10th, the infrastructure bill contains \$65 billion dollars for broadband infrastructure investment. The bill defines broadband service as 100 Mbps downlink and 20 Mbps uplink. \$40 billion of the funding is administered by the NTIA and directed to states which will work with municipalities to administer the investment funding.

The bill also earmarks \$2.75 billion for states to develop plans for low-income and disadvantaged communities to maintain internet connectivity. Another \$1 billion is allocated to enabling the build out of middle mile infrastructure to offset the cost of last mile deployment and connect anchor institutions. The bill also allocates \$600 million to help communities find ways to finance new broadband projects.

Emergency Broadband Benefit (EBB)

Another \$14 billion of the Infrastructure Bill will go to the Emergency Broadband Benefit, which will continue the Emergency Broadband Benefit Program initially passed as part of the December 2020 Covid-19 Relief package after the appropriations are expended. The program will contribute \$30 dollars a month (lower than the \$50 a month under the current program) towards an internet service plan for qualifying households.

B. American Rescue Plan Act of 2021 (ARPA)

The Broadband Interim Rules for using federal ARPA broadband funding, issued by the US Treasury Department, defines broadband in unserved and underserved areas and sets service requirements upon the completion of the project.

Unserved and underserves households or businesses are those that are not currently or reliably served by a wireline connection of at least 25 Mbps down and 3 Mbps up. After completion of the project, the

service must be reliable (reliability means services that consistently meet the threshold of 25/3) meet or exceed a symmetrical speed of 100 Mbps down and up. In cases where that service requirement is not practicable, it must still meet 100 Mbps down, but can be between 20 and 100 Mbps up.

On June 17, 2021, the Treasury further clarified that eligibility for an area is not limited to those that only have unserved or underserved households or businesses, but that sometimes those areas can also be included in the project if the larger area will facilitate economic feasibility and sustainability of the network. Similarly, ARPA funds can fund middle-mile service as long as it is for the goal of supporting last-mile customer service.

It further clarified that sources of data to identify eligible areas can be varied, not simply the FCC map, the new NTIA map, or state broadband maps, but also speed tests, interviews, and any other sources of information that can demonstrate the speeds and reliability of service witnessed in the community.

In addition, the Treasury categorically excluded DSL or DOCSIS 2.0 cable service from counting towards the speeds in an area. Even if those services provide the 25/3 service, are a sufficiently aging, obsolete, and unreliable technology to warrant upgrades.

Federal Communications Commission (FCC) Programs

A. FCC Connect America Fund (CAF)

The FCC conducted a Connect America Fund Phase II auction throughout 2018 and 2019. In their press release in August 2019, they stated:

“In total, the auction last year allocated \$1.488 billion in support to expand broadband to more than 700,000 unserved rural homes and small businesses over the next 10 years. The FCC has already authorized three waves of funding in May, June, and July. Today’s action brings total authorized funding to over \$924 million, expanding connectivity to 342,097 homes and businesses; additional rounds will be authorized in the coming months.”

There will be specific guidelines for the awarded providers. They will be required to provide annual progress reports. They will be required to offer service to 40 percent of their awarded areas by the third year. Also, they will be required to add an additional 20 percent each year, serving 100 percent of the supported locations in their accepted area by the end of year six. If carriers do not deploy infrastructure to 100 percent of the locations within a block, but deploy to 95 percent of the locations for which they were awarded statewide, the carrier will be required to refund 50 percent of the support it received for the total number of unserved locations. This information (and any updates) can be found on the CAF II website: <https://www.fcc.gov/connect-america-fund-phase-ii-auction-auction-903>.

B. E-Rate

The Federal Communications Commission (FCC) established E-Rate to provide schools, libraries and universities with discounts of 20-90% off of the costs of telecommunications, internet networks and ongoing expenses. E-Rate is administered through the Universal Service Administrative Company (USAC) with oversight provided by the FCC.

The specific dates that determine when schools and libraries can apply for funding can change slightly from year to year but follows a mid-winter to Spring pattern. Once the application process ends in the Spring, the funding year begins for those applications.

There is a specific ID a school or library must get, then specific forms to fill out to apply. And there are competitive bid requirements (there must be an RFP and it must be open for 28 days) to be eligible for

the funding. And there are different options for how this will be paid to the institution and to the vendor. Also, there are documentation requirements that need to be understood and followed.

The level of E-rate funding for schools and public libraries is based on the number of students who participate in the free or reduced cost school lunch program at all the public K-12 schools in the county. Schools and libraries might be an important part of funding strategies for infrastructure. Excess capacity can be added to these networks at substantially less cost than an independent build. If this is something that the county would like to pursue, HR Green can help walk you through the specific timeline and steps to be taken.

The County public libraries located within Tillamook County utilize the E-Rate program. Again, the level of funding for the libraries is based on the number of students who participate in the free or reduced cost school lunch program at all the public K-12 schools in the county.

Information about the E-Rate program can be found on the USAC website: <https://www.usac.org/e-rate/>

C. Healthcare Connect Fund

This fund was also created by the FCC and is administered by the Universal Service Administrative Company (USAC). It was created to give Health Care Providers (HCP) the ability to have broadband services that meet health care's capacity needs. It particularly encourages the formation of state and regional networks.

HCPs can apply individually or in a consortium. Funded applicants receive a 65% subsidy on all eligible broadband equipment and services. These dollars can be used for construction of networks. The intent of the funds is predominantly for rural healthcare providers. Urban facilities can be included as long as they are in a consortium that includes at least 51 percent rural providers. If there are health care providers who could be part of a holistic strategy, this fund could be an important component of connectivity. As with E-rate, excess capacity can be added to these projects at significant savings.

More information about the HCF can be found on USAC's website at: <http://www.usac.org/rhc/healthcare-connect/default.aspx>

United States Department of Agriculture (USDA) Programs

Within the USDA, the Rural Utility Services (RUS) has been an important part of the development of utility infrastructure in the United States. They offer low interest loans for telecommunications based on the treasury rate. These rates change regularly, so it is important to check with RUS to get the most current rate. They also offer low interest loans for telecommunications used in electric utilities (of which the excess capacity can be used for other broadband services). RUS offers grants, loans and combination of the two. RUS Programs include the ReConnect Program, the Telecommunications Infrastructure Loan Program, the Rural Broadband Access Loan, Community Connect Grants, and Distance Learning and Telemedicine Grants.

The ReConnect program, run by the United States Department of Agriculture (USDA). The program seeks to facilitate rural broadband not meeting the FCC definition of broadband.

In the first round of the ReConnect Pilot Program, the USDA invested \$744 million since October 2019. In the second round, the application window for which closed on April 15, 2020, 172 applications were filed requesting \$1.57 billion. The program is composed of three application types:

- LOAN: The loan program can allocate a maximum of \$50 million with a fixed 2% interest rate. There is \$200 million available nationwide.
- COMBO: interest rate fixed by the Treasury. There is \$100 million in loan funding and \$100 million in grant funding available.
- GRANT: maximum award is \$25 million and requires a 25% match. There is \$200 million available nationwide.

A. The Telecommunications Infrastructure Loan Program

This program provides financing for the construction, maintenance, improvement and expansion of telephone service and broadband in rural areas. Most entities that provide telecommunications in qualified rural areas including:

- State and local governmental entities
- Federally Recognized Tribes
- Non-profits, including Cooperatives, and limited dividend or mutual associations
- For-profit businesses (must be a corporation or limited liability company)

Areas that are eligible to apply include rural areas and cities with a population of 5,000 or less and areas without telecommunications facilities or areas where the applicant is the recognized telecommunications provider. The above information is available on the RUS website for this program: <https://www.rd.usda.gov/programs-services/telecommunications-infrastructure-loans-loan-guarantees>

B. Rural Broadband Access Loan

Stated purpose: The Rural Broadband Access Loan and Loan Guarantee Program (Broadband Program) furnishes loans and loan guarantees to provide funds for the costs of construction, improvement, or acquisition of facilities and equipment needed to provide service at the broadband lending speed in eligible rural areas. To be eligible for a broadband loan, an applicant may be either a non-profit or for-profit organization, and must take one of the following forms:

- Corporation;
- Limited liability company (LLC);
- Cooperative or mutual organization
- A state or local unit of government
- Indian tribe or tribal organization
- Individuals and Partnerships are not Eligible.

Areas that are eligible to apply:

- Proposed funded service areas must be completely contained within a rural area or composed of multiple rural areas, as defined in 7 CFR 1738
- At least 15 percent of the households in the proposed funded service area are unserved,
- No part of the proposed funded service area has three or more “incumbent service providers.”
- No part of the proposed funded service area overlaps with the service area of current RUS borrowers or the service areas of grantees that were funded by RUS
- Communities where USDA Rural Utilities Service has previously provided funding for construction of broadband infrastructure may not be eligible.

The above information is available on the RUS website for this program:

<https://www.rd.usda.gov/programs-services/rural-broadband-access-loan-and-loan-guarantee>

C. Community Connect Grants

The stated purpose of this program is to help fund broadband deployment into rural communities where it is not yet economically viable for private sector providers to deliver service. Grants are specifically targeted to local and tribal governments for very low-income rural communities (under 20,000 residents) with completely unserved and very low-income populations. Rural areas that lack any existing broadband speed of at least 10 Mbps downstream and 1 Mbps upstream are eligible. Within the area, 15% must be unserved and there cannot be three or more current providers. Because they are funding rural utilities, the municipal population must be less than 20,000 and not adjacent to a City of over 50,000.

The recipients must provide at least 4 Mbps Down/1 Mbps Up with free service to all households and community institutions for two years to a community center. One key with this grant is that the service area does not have to be uniform, but any areas that will be served must be contiguous.

With interest rates being as low as they are currently, if broadband construction is part of the adopted strategy, there should be an analysis of available loan providers and their interest rates. If RUS rates are not at least a point lower (and possibly more than that), then the filing and ongoing requirements might not be worth the difference in rate. Depending on the application requirements, RUS has typically taken 12 to 18 months to approve loans.

Depending on the strategy that the county pursues, if it includes building telecommunications infrastructure, RUS should be considered. The above information is available on the RUS website for this program: <https://www.rd.usda.gov/programs-services/community-connect-grants>

D. Distance Learning and Telemedicine Grants

The program helps rural communities become remotely connected to teachers and medical service providers. This program is particularly important during the time of the pandemic and has been provided an additional \$25 million through the CARES Act. Relatedly, there are other funds made available by the CARES Act specifically for telehealth (\$200m to FCC, \$180m to HHS, and \$2.15b to the VA). Tillamook County may potentially leverage this funding to extend the residential broadband network to its hospitals and other medical institutions. In addition, \$13.5b was made available in Education Stabilization Funding to invest in technology supporting distance education, making school districts another eligible anchor tenant with potential support for expansion of the municipal broadband network.

For more information, please visit the program page at <https://www.rd.usda.gov/programs-services/distance-learning-telemedicine-grants>.

Economic Development Administration

Within the United States Department of Commerce is the Economic Development Administration, which oversees Economic Development Assistance grants. Information about these grants can be found on the EDA website: <https://www.eda.gov/programs/eda-programs/>

Typically, these grants have been based on job creation. There are different categories of grants, but they all focus on how many jobs can be created. Broadband does appear to be fundable infrastructure, although there have not been a lot of broadband projects funded. Having said that, with broadband infrastructure being eligible and some projects have been funded, it should be considered.

The key questions seem to be: how many jobs can be created and how will this project directly impact that job creation?

The EDA recommends contacting one of their regional Economic Development Representatives (EDR) to discuss projects and to have them review grant applications before they are submitted. If this is a grant that could apply to your strategy, we would strongly recommend that, too. Their typical timetable to submit applications is that they will receive applications at any time – although that is subject to available funds from year to year.

Housing and Urban Development (HUD)

HUD administers the Community Development Block Grant Program (CDBG). It was established to help communities address various community development needs. Based on a national formula relying primarily on census data, CDBG provides annual grants to more than 1,200 local and state governmental entities. Although CDBG grants have been utilized very little for broadband programs, HUD has confirmed that broadband programs can be eligible for CDBG dollars.

There are two main categories of grant eligibility: Entitlement and non-entitlement. Entitlement grants are awarded to larger cities and urban counties (greater than 50,000). Non-entitlement areas are for smaller cities and administered by states. Also, there are Section 108 loan funds which could be available. Grants can be used as security for Section 108 loans, leveraging the grant dollars for more impact. Non-entitlement areas can also use their grants in this way, but since they are administered by the State, the State would have to agree to leverage those funds.

Information about the CDBG program can be found on the HUD website:

https://www.hud.gov/program_offices/comm_planning/communitydevelopment

Bond and Loan Financing

Additional sources of potential funding include municipal bonds such as general obligation bonds, and revenue bonds, as well as bank loans or private investment financing.

Tillamook County has the options of issuing general obligation bonds or revenue bonds. General obligation bonds are guaranteed repayment by issuers by any means necessary, including increased taxes. Revenue bonds are repaid using the revenues from the bonds that the project facilitated in funding. Repayment is not guaranteed if the project potentially does not collect enough in revenue to pay back investors. These types of municipal bonds are not subject to income tax at the state or federal level if the investor is a resident of the state, although not all of Iowa's municipal bonds are tax free.

Often, the investor may be a local bank, mutual fund brokerage, or other type of financial institution. Tillamook County can also pursue infrastructure project-based bank loans and private investment. The terms and conditions of these loans can vary based on continuous changes in state banking laws. It is recommended that these loans are combined with state grant and tax abatement programs to the maximum extent possible.

APPENDIX A

Full Engagement Plan



Tillamook Lightwave IGA

Broadband Assessment and Feasibility Study Community Engagement Plan – Updated 12/21/20

Please see Attachment A for Action Items.

Overview

One key component of the Broadband Assessment and Feasibility Study is community engagement. This is important to understand the current connectivity in Tillamook County, gaps where stakeholders are not served, gaps where there are organizations or citizens who are underserved (not enough capacity, not enough speed, lack of reliability, too high cost, etc.) and to have real information to compare to the Market Assessment (especially if any grants are possible).

This community engagement plan will include the following groups:

- Citizens
- Businesses
- Anchor institutions - Mainly quasi-government: Libraries, Post Office, health and can include key businesses either in Fulshear or thinking about locating to Fulshear
- Public entities

In our outreach to these groups, our primary goals are to find out each entity's or household's:

- Current service (provider, capacity, speed, price)
- Satisfaction with their current service
- Concerns with their current service (reliability, capacity, price)
- Anticipated needs for connectivity in the future

The following *Community Engagement Plan* outlines the strategies and tactics we recommend for informing the organizations and households about the study, encouraging their participation and the specific questions we will ask to find out the above information.

The key messages to communicate include:

- The reason why Tillamook Lightwave is conducting this study and potential benefits to businesses, organizations and citizens: (Initial) The goal of this study is to specifically understand where there are broadband connectivity issues (inadequate options, lack of reliability or price issues) for businesses and residents in Tillamook County, so that Tillamook Lightwave can explore options to improve broadband service.
- Encourage businesses, organizations and residents to take the online survey.
- Encourage businesses, organizations and residents to attend focus group or public meetings.

Strategies

- Survey:
 - A significant key to the success of this project will be the surveys. The key to getting enough responses to receive statistically valid response rates is **promotion**. Thus, the form of the survey (virtual only, printed, etc.) and how those will be made available become very important.
 - Survey will be online only. But, it will be promoted in several formats. We have not included the Scope for printing or mailing surveys (if they could be distributed in PUD utility bills or made available at the County facilities)
 - Draft list of survey questions – See Attachment B
 - Online is, typically Plan A. Plan B (backup plan if we are not getting enough responses can include):
 - Printed survey (possibly mailed back to HR Green, TLW or the PUD; dropped off at the County courthouse; etc.) – this is possible as Plan B, but not currently in Plan A
 - It is also possible to do some door or door or phone canvassing, but those can become very costly
 - Survey will be open 1/1/21 – 1/31/21 with early February 21 available, if needed.
- Distribution:
 - Working with County and Utility public information personnel is very important. Those contacts are:
 - What roles will the County, TLW and the PUD play in promotion and distribution of the survey?
 - Websites – see website list below
 - Social media – see Facebook pages below
 - Email lists – if TLW, the County, the PUD, Chambers of Commerce, etc. have email lists, emails can be sent that include the survey link. Do those email lists exist?
 - Media – the County website lists newspapers and radio station – PSA's can be sent to each of them (see sample in Attachment C)
 - Printed surveys can be included in utility billings, available at the County Courthouse, handed out at public meetings and at information tables (if there are any of these that make sense) – this is possible but not planned
- Audience:
 - County residents
 - County Businesses
 - Both – those operating businesses from their homes
 - Anchor Institutions – these will be done in group or individual meetings with questions very similar to the surveys. We meet with them separately to discuss their specific needs, timelines and if they own any broadband infrastructure – see Attachment B for sample questions
 - Schools
 - Libraries
 - Public entities– these will be done in group or individual meetings with questions very similar to the surveys. We meet with them separately to discuss their specific needs, timelines and if they own any broadband infrastructure – see Attachment B for sample questions
 - Fire

- Police
- Emergency Management
- County departments (Administration, Public Works/Engineering, Planning, IT, Finance, Utilities, Economic Development, Parks, Emergency Management, Police)
- City departments (where applicable)
- Other key stakeholders – examples of these could be Chambers of Commerce, Business leaders, major developers (particularly if there are new planned commercial or residential developments that might need broadband service)

- **Outcomes:**

- Current market conditions and deficiencies
- Who their providers is
- What they currently pay
- Whether their current service is adequate
- What they like and dislike today
- Do they have any needs for the future
- What they do with Internet services
- Predicted take rate and optimum monthly cost they would be willing to pay – to develop feasibility of options and to use to talk with potential provider partners
- Whether they want the County, PUD and TLW taking an active role in improving broadband
- Demographic questions (their location, age, etc.)

Websites

- Tillamook County
- Tillamook People’s Utility District
- Tillamook Lightwave
- Tillamook Area Chamber of Commerce
- Can we use these?

Social Media

- Tillamook People’s Utility District Facebook page – 2,766 followers
- Tillamook County Community Page (Facebook) – 5.9K members
- What’s up in Tillamook County Facebook page – 6.1K members
- Tillamook Area Chamber of Commerce Facebook page – 2.7K members
- Can we use these? Promotion will consist of posts that we will provide

Public Meeting

- In these Covid-19 times, meetings are difficult. We are not planning any specific meetings unless we find they are needed.
- Are there any community events that will happen within the timeline of the survey? None planned or scheduled.
- Will we have any public meetings and/or have a presence at any events? None planned at this time.

**Attachment A
Action Items**

1. 12/21/20 – review core message (p. 1).
2. 12/21/20 – contacts in County and PUD to help promote survey (who can put the survey on websites, social media, provide email lists, etc.) – (p. 2 & 3). This includes websites and social media.
3. 12/21/20 – do TLW, the County and/or the PUD have email lists we could send an email out to with the survey link? To find out, who should we talk with (p. 2.)?
4. 12/21/20 - Media – see the press release in Attachment D – we need to fill out the quotes. Those could come from leadership in any of the associated entities. The action item is to decide who the quotes will come from and adapting them to what he/she wants to communicate (p. 2).
5. 12/21/20 - Media – which media outlets (local newspaper, typically) and if you can provide a specific person to contact (they often run a press release for free) – (p. 2).
6. 12/21/20 - Stakeholder meetings – John – finalize the list of stakeholders and provide contact information. This should be whoever you think can provide us the best information about needs the anchor institutions and public sector might have or broadband assets they might have. We want to have 5 – 10 meetings, so some might be group meetings – (p. 3). These can include public leaders, first responders, emergency management, schools, developers, libraries, key current or prospective businesses, neighborhood leaders, etc.
7. Utility billing stuffer for January billing cycle
Message:

Is your broadband good or do you have internet, phone or TV challenges?



Tillamook Lightwave **needs your input** to better understand connectivity in our County. Good information will help TLW and community leaders see if there are ways we can help improve broadband issues.

We need your help! Please take our broadband survey at XXXXXXXX for residents or XXXXXXXX for businesses. To take the survey, you can type the link into your internet browser, or it is available on Tillamook Lightwave’s website (tillamooklightwave.com). Also, look for more information and the survey link in Tillamook Lightwave, Tillamook County, The Tillamook People’s Utility District and the Port of Tillamook Bay communications and social media. The surveys will be open until January 31, 2021.

Thank you for helping us better understand broadband in Tillamook County!

Tillamook Broadband Survey

Tillamook Lightwave **needs your input** to better understand connectivity in our County. Good information will help TLW and its partners, Tillamook People's Utility District, Tillamook County, Port of Tillamook Bay and community leaders evaluate the need for better broadband in the region.

We need your help!

To take the survey, use the link at right (type it in your browser) or log on to Tillamook Lightwave's website (tillamooklightwave.com). The surveys will be open until February 15, 2021.

Thank you for helping us better understand broadband in Tillamook County!

Printed at no cost to the customers of Tillamook PUD



**Your
Opinion
Counts!**

Take the Survey at:
<http://bit.ly/TLWBroadband>

Engagement Plan - ATTACHMENT B
Tillamook County Residential Broadband Survey

The purpose of this survey is to learn about broadband connectivity in Tillamook County. Your participation is very important to understand your satisfaction with your current broadband options and the service you are being provided, and to gauge your interest in other broadband options being developed.

The survey takes only a few minutes to complete and your feedback is very important.

Please limit your responses to one survey per household and please take the survey from a device connected to your home broadband service (instead of a device connected to cellular service).

If you are a business decision-maker or owner, please participate in our business survey as well.

Your individual answers are anonymous and confidential, so please answer as honestly as possible. Thank you for your input!

Do you live in Tillamook County:
Please enter your location (map).

Do you live in Tillamook County all year or is this a second home?

Does your home subscribe to internet service?

No:

Why not? (availability, price, do not need)

Yes:

Which company do you use (list)?

Speed test

Overall satisfaction with provider (very dissatisfied to very satisfied)

Rate satisfaction with home internet service

Customer service

Data allowance

Price

Reliability

Speed/Data Rate

What ways does your household use internet (list)?

How likely would you be to recommend your provider to a friend?

Do you have any comments, questions or concerns about your current internet service?

Does your home subscribe to television service?

Yes:

Which provider (list)?

What is your overall satisfaction with your television provider (scale)

Do you subscribe to landline telephone service?

Yes:

Which provider (list)?

What is your overall satisfaction with your telephone provider (scale)

Approximately what is the total monthly cost (rounded to the nearest dollar) of ALL services (internet, television and landline telephone) that you receive at home (do not include the cost of your cellular plan)?

Tillamook County's broadband Future

In your opinion, how important is fast, affordable, reliable and universally available broadband to Tillamook County in helping to improve the following County attributes?

Quality of life (scale: Not Important, Somewhat Important, Very Important)

Education (for children and adults): (scale)

Economic Development and jobs (including work at home and home based business): (scale)

Health Care (remote health care): (scale)

How well do you think the current providers meet these needs: (1-10 scale)

When considering a company for broadband services (internet, television and telephone), how important are the following characteristics of that company?

Is locally owned: (scale)

Provides excellent customer service: (scale)

Is involved in the community: (scale)

Uses the best available technology: (scale)

Price: (scale)

If a new provider (public or private) built a fiber network in Tillamook County offering superior service for a competitive price, how likely would you be to switch from our current provider(s)?

1 – 10 scale

Additional comments, questions or concerns?

Tell us about yourself:

Gender

Age (drop down box of ranges)

What is the range of your current household income? (drop down box of ranges)

What is the highest level of education you have completed? (drop down box of ranges)

We appreciate you taking the time to participate in this survey!

Engagement Plan - ATTACHMENT C
Tillamook County Business Broadband Survey

The purpose of this survey is to learn about broadband connectivity **at your workplace**. Your participation is very important to understand your satisfaction with your current broadband options and the service you are being provided, and to gauge your interest in other broadband options being developed.

The survey takes only a few minutes to complete and your feedback is very important.

Please limit your responses to one survey per business and please take the survey from a device connected to your business broadband service (instead of a device connected to cellular service).

If you live in Tillamook County, please participate in our residential survey as well.

Your individual answers are anonymous and confidential, so please answer as honestly as possible. Thank you for your input!

Is your business in the Tillamook County limits?
Please enter your location (map).

Where is your business bases? Storefront or In My Home

What is the primary industry sector of your business?

- Agriculture
- Banking/Financial Services
- Bar/Restaurant
- Church or Religious Organization
- Construction
- Education
- Government/Public Service/Non-Profit
- Health Care
- Hospitality
- Import/Export
- Manufacturing
- Professional Services (Including Accounting, Legal and Insurance)
- Rental Housing
- Retail Sales
- Other – write in

Is your business served by fiber optics?

Does your business subscribe to internet service?

No:

Why not? (availability, price, do not need)

Yes:

Which company do you use (list)?

Speed test

Do you offer internet/wifi to the public?

How many devices are connected to the internet at your business? Include PC's, tablets, smart phones and any other device that uses internet connection.

What specialized data service, if any, do you currently receive from your provider?

Dark fiber

Dedicated bandwidth or circuit

Fiber transport services

MPLS

SD-WAN

Static IP Address

Other

How do you use internet at your business?

Company website

Credit Card processing

Data management (backup or data storage)

Education and professional development (including webinars)

Electronic health records

Email

File or data sharing

Hosting your own server

Online banking

Online purchasing or inventory

Online sales

Operations in the cloud (accounting, sales, project management, etc.)

Social media

Streaming music

Streaming video

Video conferencing

Video security

Web surfing

Other

Have you had employees work from home in 2020?

Overall satisfaction with provider (very dissatisfied to very satisfied)

Rate satisfaction with business internet service

Customer service

Data allowance

Price

Reliability

Speed/Data Rate

How likely would you be to recommend your provider to a peer?

How important is **improved** internet service to your business **today**? (scale)

How important do you think **improved** internet service will be to your business **in the next few years**?

Over the past few years, have internet speeds and services kept up with your business needs?
Do you have any comments, questions or concerns about your current internet service?

Does your business subscribe to television service?

Yes:

Which provider (list)?

What is your overall satisfaction with your television provider (scale)

Do you subscribe to landline telephone service?

Yes:

Which provider (list)?

What types of telephone service does your business use?

Traditional phone lines

DID

PRI

Hosted VoIP

Hosted PBX

SIP Trunking

Other

How many telephone lines does your business have? Include voice, fax, security systems, etc.

What is your overall satisfaction with your telephone provider (scale)

Approximately what is the total monthly cost (rounded to the nearest dollar) of ALL services (internet, television and landline telephone) that you receive at your business (do not include the cost of your cellular plan)?

Tillamook County's broadband Future

In your opinion, how important is fast, affordable, reliable and universally available broadband to Tillamook County in helping to improve the following County attributes?

Quality of life (scale: Not Important, Somewhat Important, Very Important)

Education (for children and adults): (scale)

Economic Development and jobs (including work at home and home based business): (scale)

Health Care (remote health care): (scale)

How well do you think the current providers meet these needs: (1-10 scale)

When considering a company for broadband services (internet, television and telephone), how important are the following characteristics of that company?

Is locally owned: (scale)

Provides excellent customer service: (scale)

Is involved in the community: (scale)

Uses the best available technology: (scale)

Price: (scale)

If a new provider (public or private) built a fiber network in Tillamook County offering superior service for a competitive price, how likely would you be to switch from our current provider(s)?

1 – 10 scale

Additional comments, questions or concerns?

We appreciate you taking the time to participate in this survey!

ATTACHMENT D – Anchor Institution/Public Sector Input Questions

Who is your current provider(s)?

What service(s) do you have (particularly up/down speed and capacity)?

Do you have redundancy that you are comfortable with (and - do you know if your redundancy is on the same fiber as their provider)?

What are your current uses?

Do you feel like their service is reliable?

Do you feel like it is adequate?

Are there any ways that you think your current service is holding you back?

Costs:

- Do you feel like your pricing is fair (are you getting what you pay for)?
- How much are you currently paying?
- What is your contract term (when does it expire)?
- What price point would compel you to make a change?

Are you currently utilizing e-rate?

If so, can you change your e-rate arrangements for another provider?

Are there any uses/applications that you are considering that you think will increase your needs?

Are there any other considerations that you are thinking about with your broadband service?

THERE WILL BE ADAPTATIONS OF THESE QUESTIONS TO SPECIFIC DEPARTMENTS

ATTACHMENT E – Press Release

FOR IMMEDIATE RELEASE

DATE:

**TILLAMOOK COUNTY SOLICITING INPUT REGARDING BROADBAND SERVICES
FOR RESIDENTS AND BUSINESSES**

Tillamook County, Tillamook Lightwave and Tillamook People's Utility District have initiated a discovery study to gain a clearer understanding of broadband needs in Tillamook County. An online survey is now available to gather specific information from residents and businesses. The survey will be available through XXXXXXX and may be accessed at: <XXXXXXXXXXXXXXXXXXXX>.

The County and Utility leadership of Tillamook understand that broadband is a critical service for businesses, organizations and citizens. This study will allow County and Utility leadership to gain a clearer understanding of what steps may be required to gain and maintain a competitive advantage in terms of broadband, and to make sure that the community's needs are met. The initial phase of the study includes gathering input from City residents, businesses and key stakeholders to compare against industry data.

"We want to take the steps to make sure our citizens and businesses have the connectivity they need to thrive in Tillamook County. We also view broadband as a competitive issue in keeping Tillamook County as one of the top destinations to work and live," said XXXXXXXXXXXXXXX. "To do that, we have to start by having a good picture of what connectivity there currently is and what connectivity issues our citizens and businesses have which will help us determine out what next steps to take."

"We will be gathering input through XXXXXXXXXXXXXXXXXXXX," said XXXXXXXXXXXXXXXXXXXXXXXXXXXX. "We'd like as many residents and businesses as possible to complete the survey so we have a clear picture of the needs and gaps in service. Our project consultant, HRGreen, will also be interviewing government representatives and leaders from various industries during that time to gather additional information."

The study and analysis will be completed this spring. The County has contracted with HRGreen, a national engineering firm with ties in Oregon, to complete this initial discovery phase.

###

Contact: XXXXXXXXXXXXXXXX, TitleXXXXXXXXXXXXXXXXXXXX at [XXXXXXXXXXXXXXXXXXXX](#) or (XXX) XXX-XXXX

APPENDIX B

Survey Questions

Tillamook County - Broadband Community Survey

Tillamook Lightwave (a consortium of Tillamook County, Port of Tillamook Bay, and the Tillamook People's Utility District) wants to learn more about broadband connectivity in Tillamook County. For more information about Tillamook Lightwave, please visit tillamooklightwave.com.

Your participation is very important to understand your satisfaction with your current broadband options, the service you are being provided, and your interest in other broadband options being developed.

The survey takes only a few minutes to complete and your feedback is very important.

Please limit your responses to one survey per household and/or business and please take the survey from a device connected to your wireline broadband service (instead of a device connected to cellular service).

Your individual answers are anonymous and confidential, so please answer as honestly as possible. Thank you for your input!

1

Are you taking this survey as a resident, a business owner, or both?*

Resident

Business Owner

Both

2

Please enter your location:*

The location is used to determine the availability of internet options in your area.

Please make sure that the location selected in this question is where you would receive internet service.

Tip: This question will try to use your location. Press to continue.

3

Business Address (if taking survey as both)

4

Where is your business based?*

In my Home

Storefront

5

For those taking this survey as both a resident and a business, if your business is NOT IN YOUR HOME, please select your residential address in question #2 - location, and type your business address in the box below:

BUSINESS ADDRESS (if different from residential):

6

Service Subscriptions - Resident

7

Do you live in Tillamook County all year or is this a second home?

All Year

Second Home

8

Does your home subscribe to Internet Service? *

Yes

No

9

Does your home subscribe to Television (TV) Service?

Yes

No

10

Does your home subscribe to a landline telephone service?

Yes

No

11

Not Internet Subscriber - Resident

12

If you answered "no" to the previous question, what are the primary reasons you do not have internet services for your home?

- Not interested/don't need them
- Price of service is outside my budget
- Access necessary services via free WiFi at locations outside my business
- Services not available in my area
- Other

13
Internet Service - Resident

14
Which company(ies) do you currently use to provide your internet service(s)?

- Charter (Spectrum)
- CenturyLink
- HughesNet
- ViaSat/Excede
- Rise Broadband
- RTI
- Other

15
Upload and download speeds are important to many people. In some cases, providers will advertise "up to" speeds as part of your subscription package. What speeds were you told you would receive when you signed up for your service?

- Less than 10 Mbps
- Between 10 and 25 Mbps
- Between 25 and 50 Mbps
- Between 50 and 100 Mbps
- Over 100 Mbps
- Don't Know / Not Sure

16
In order to determine actual internet service performance, we would like you to perform a speed test.

This speed test should be using your HOME INTERNET CONNECTION, not your cellular data connection.

If you are taking this test on your mobile device, please make sure that you are connected to your home WiFi, not your cellular provider. We are aware that the speedtest, when taken on a mobile device, only provides the DOWNLOAD, not the UPLOAD, speed. You may leave the UPLOAD SPEED section blank.

To take the speed test, click the <https://www.speedtest.net> link. Jot down the results, then type them in the boxes below.

17
DOWNLOAD SPEED:

<https://www.speedtest.net>

18
UPLOAD SPEED:

<https://www.speedtest.net>

If you are taking the speedtest on your mobile device, it will not provide you with the UPLOAD SPEED, and you may leave this question blank. If you're on a mobile device, Please make sure you are connected to your home WiFi, not your cellular provider, to guarantee the accuracy of your DOWNLOAD SPEED answer.

19
Please rate your level of satisfaction with your home internet service:

	Very dissatisfied	Somewhat dissatisfied	It's OK	Somewhat satisfied	Very Satisfied
Customer service experience					
Data allowance					
Price					
Reliability (frequency and length of service interruptions)					
Speed/Data Rate					

20
Please rate your overall level of satisfaction with your current Internet service provider.

Very Dissatisfied
Somewhat Dissatisfied
It's OK
Somewhat Satisfied
Very Satisfied

21

If your answers to the previous question(s) were that you are unsatisfied, what are the key issues you have with your current provider?

22

In what ways does your household use the internet? (Check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> Education - Primary/Secondary (K-12) | <input type="checkbox"/> Social Networking |
| <input type="checkbox"/> Education - Adult (Degree or Certificate) | <input type="checkbox"/> Streaming TV (Netflix, Hulu, etc.) |
| <input type="checkbox"/> Checking Email | <input type="checkbox"/> Work From Home - Part Time |
| <input type="checkbox"/> Online gaming | <input type="checkbox"/> Work From Home - Full Time |
| <input type="checkbox"/> Online Applications & Storage (Google Apps, Dropbox, etc.) | <input type="checkbox"/> Video Chat (FaceTime, Skype, etc.) |
| <input type="checkbox"/> Banking or Bill Paying | <input type="checkbox"/> Web surfing |
| <input type="checkbox"/> Shopping | <input type="checkbox"/> Home Healthcare / Telehealth |
| <input type="checkbox"/> Smart home & security applications | <input type="checkbox"/> Other |

23

Do you or anyone in your home currently use the internet to work from home or run a business?

Yes
No

24

Has your internet met your work from home needs?

Yes
Somewhat
No

25

Do you plan to continue working from home after the pandemic?

Yes
No
Not Sure

26

Do you currently have students learning from home during the pandemic?

Using the internet to access and complete homework, research, or other assignments

Yes

No

27

Has your internet met their education needs?

Yes
Somewhat
No

28

Did your internet meet their student needs before the pandemic?

Yes

Somewhat

No

29

How often do you experience outages of an hour or longer due to connection problems or slow/inoperable speeds?

30

Have you considered moving or relocating as a result of limited access to high-speed, broadband internet services?

Yes

No

Maybe

31

How likely is it that you would recommend your home Internet service provider to a friend or colleague?

1 = Very Unlikely

10 = Very Likely

32

Do you have any other comments, questions, or concerns about your current Internet service?

33

Television Service - Resident

34

Who is your current television service provider(s)? Check all that apply
(Not including streaming services)

Charter (Spectrum)

Dish Network

CenturyLink

Other

DirecTV

35

What is your overall level of satisfaction with your television service provider(s)?

Very Dissatisfied

Somewhat Dissatisfied

It's OK

Somewhat Satisfied

Very Satisfied

36

Landline Telephone Service - Resident

37

Who is your landline telephone service provider?*

Centurylink

RTI

Charter (Spectrum)

Other

38

What is your overall level of satisfaction with your landline telephone service provider?

Very Dissatisfied

Somewhat Dissatisfied

It's OK

Somewhat Satisfied

Very Satisfied

39

Economic Questions - Resident

40

Approximately what is the total monthly cost (rounded to the nearest dollar) of ALL services (internet, television, and landline telephone) that you receive at home?

If you have more than one provider, please add those monthly bills together.

Do not include the cost of your cellular plan.

41

If it was available, would you be interested in a broadband service that allowed you to receive internet service with greater reliability and speed for a cost which was comparable (+/- 10%) to your current internet service bill?

Yes

No

42

What is the highest amount you would be willing to pay for the following download speeds?

	0 to 25 Mbps	25 to 50 Mbps	50 to 100 Mbps	100 Mbps to 1 Gbps
0 to \$50				
\$50 to \$100				
\$100 to \$150				
More than \$150				

43

Tell Us About Yourself!

44

Gender

(Optional)

Male

Female

Other

45

Age

(Optional)

46

What is the range of your current annual household income?

(Optional)

47

What is the highest level of education you have completed?

(Optional)

48

If we have additional questions, may we contact you?

No, I prefer to remain anonymous

Yes, you may contact me

49

Please enter your contact information:

Phone/email/etc.

50

Profile and Service Subscriptions - Business

51

Is your business in the Tillamook County limits?

- Yes
- No
- Not Sure

52

What is the primary industry sector of your business?

(Optional)

- | | |
|--------------------------------------|---|
| Agricultural | Hospitality |
| Banking/Financial services | Import/Export |
| Bar/Restaurant | Manufacturing |
| Church or religious organization | Professional services (including legal and insurance) |
| Construction | Real Estate |
| Education | Rental housing |
| Government/Public service/Non-Profit | Retail sales |
| Health Care | Other |

53

Approximately how many full or part-time employees work for your business?

(Optional)

54

What is your business name?

(Optional)

55

May we share your business name or your name with County officials?

If the County engages with a broadband project, your business may be contacted as a potential customer.

- Yes
- No
- Other

56

Does your business subscribe to Internet Service? *

- Yes
- No
- 82

57

Does your business subscribe to Television (TV) Service?

- Yes
- No
- 85

58

Does your business subscribe to a landline telephone service?

- Yes
- No

59

Internet Service - Business

60

Which company(ies) do you currently use to provide your business internet service?

- | | |
|--|---|
| <input type="checkbox"/> Charter (Spectrum) | <input type="checkbox"/> HughesNet |
| <input type="checkbox"/> Centurylink | <input type="checkbox"/> ViaSat/Excede |
| <input type="checkbox"/> CoastCom / Tillamook Light Wave (TLW) | <input type="checkbox"/> Rise Broadband |
| <input type="checkbox"/> RTI | <input type="checkbox"/> Other |



61

Is your business served by fiber optics?

- Yes
- No
- Not Sure

62

In order to determine actual internet service performance, we would like you to perform a speed test.

This speed test should be using your BUSINESS INTERNET CONNECTION, not your cellular data connection.

To take the speed test, click the <https://www.speedtest.net> link. Jot down the results, then type them in the boxes below.

63

DOWNLOAD SPEED:

<https://www.speedtest.net>

64

UPLOAD SPEED:

<https://www.speedtest.net>

65

Do you offer internet/WiFi service to the public/guests?

- Yes
- No

66

How many devices are connected to the Internet at your business? Include PCs, tablets, smart phones, or any other devices that use the Internet connection.

67

If known, what specialized data service, if any, do you currently receive from your provider? (check all that apply)

- | | |
|---|--|
| <input type="checkbox"/> Dark fiber | <input type="checkbox"/> SD-WAN |
| <input type="checkbox"/> Dedicated bandwidth or circuit | <input type="checkbox"/> Static IP addresses |
| <input type="checkbox"/> Fiber transport services | <input type="checkbox"/> Other |
| <input type="checkbox"/> MPLS | |

68

How do you use Internet at your business? (check all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Company website | <input type="checkbox"/> Online sales |
| <input type="checkbox"/> Credit card processing | <input type="checkbox"/> Operations in the cloud (accounting, sales, project management, etc.) |
| <input type="checkbox"/> Data management (backup or data storage) | <input type="checkbox"/> Social media (Facebook, Twitter, etc.) |
| <input type="checkbox"/> Education and professional development (including webinars) | <input type="checkbox"/> Streaming music (Pandora, Spotify, etc.) |
| <input type="checkbox"/> Electronic health records | <input type="checkbox"/> Streaming video (Netflix, Amazon Prime, Hulu, YouTube, etc.) |
| <input type="checkbox"/> Email | <input type="checkbox"/> Video conferencing |
| <input type="checkbox"/> Employee payroll | <input type="checkbox"/> Video security |
| <input type="checkbox"/> File or data sharing | <input type="checkbox"/> Web surfing |
| <input type="checkbox"/> Hosting your own server | <input type="checkbox"/> Other |
| <input type="checkbox"/> Online banking | |
| <input type="checkbox"/> Online purchasing or tracking inventory | |

69

Have you had employees work from home in 2020?

- Yes

No
Other

70

Please rate your satisfaction with your Internet service provider on each of the following characteristics.

	Very dissatisfied	Somewhat dissatisfied	It's OK	Somewhat satisfied	Very Satisfied
Customer service experience					
Data allowance (data cap)					
Price					
Reliability (frequency and length of service interruptions)					
Speed/Data Rate					

71

Please rate your overall level of satisfaction with your current provider.

Very Dissatisfied
Somewhat Dissatisfied
It's OK
Somewhat Satisfied
Very Satisfied

72

If your answers to the previous question(s) were that you are unsatisfied, what are the key issues you have with your current provider?

73

How often do you experience outages of an hour or longer due to connection problems or slow/inoperable speeds?

74

How likely is it that you would recommend your Internet service provider to a friend or colleague?

1 = Very Unlikely
10 = Very Likely

75

Over the past few years, have internet speeds kept up with your business needs?

Yes
No

76

Have you considered moving or relocating your business as a result of limited access to high-speed, broadband internet services?

Yes
No
Maybe

77

How important is improved internet service to your business today?

Not important
Somewhat important
Very important
Not sure, would like to learn more

78

How important do you think improved internet service will be to your business in the next few years?

Not important
Somewhat important
Very important
Not sure, would like to learn more

79

Do you have any other comments, questions, or concerns about your current or future Internet service?



80

Not Internet Subscriber - Business

81

If you answered "no" to the previous question, what are the primary reasons you do not have internet services for your business?

- Not interested/don't need them
- Price of service is outside my budget
- Access necessary services via free WiFi at locations outside my business
- Services not available in my area
- Other

82

Television Service - Business

83

Who is your current television service provider(s)? Check all that apply
(Not including streaming services)

- Charter (Spectrum)
- CenturyLink
- DirecTV
- Dish Network
- Other

84

What is your overall level of satisfaction with your television provider?

- Very Dissatisfied
- Somewhat Dissatisfied
- It's OK
- Somewhat Satisfied
- Very Satisfied

85

Landline Telephone Service - Business

86

Who is the landline telephone service provider for your business?

- Charter (Spectrum)
- Centurylink
- RTI
- Other

87

If known, what types of telephone service does your business use (check all that apply):

- Traditional phone lines
- DID
- PRI
- Hosted VoIP

- Hosted PBX
- SIP trunking
- Other

88

What is your overall level of satisfaction with your landline telephone service provider?

- Very Dissatisfied
- Somewhat Dissatisfied
- It's OK
- Somewhat Satisfied
- Very Satisfied

89

Economic Questions - Business

90

Approximately what is the total monthly cost (rounded to the nearest dollar) of ALL services (internet, television, and landline telephone) that you receive for your business?

If you have more than one provider, please add those monthly bills together.

Do not include the cost of your cellular plan.

91

If it was available, would you be interested in a broadband service that allowed you to receive internet service with greater reliability and speed for a cost which was comparable (+/- 10%) to your current internet service bill for your business?

- Yes
- No

92

What is the highest amount you would be willing to pay for the following download speeds?

	0 to 25 Mbps	25 to 100 Mbps	100 Mbps to 1 Gbps	Over 1 Gbps
0 to \$50				
\$50 to \$100				
\$100 to \$150				
\$150 to \$200				
\$200 to \$300				
Over \$300				

93

Tillamook County's Broadband Future

94

Do you consider internet to be an essential service similar to electricity, water, and transportation?

- Yes
- No
- Not Sure

95

In your opinion, how important is fast, affordable, reliable, and universally available broadband to Tillamook County in helping to improve the following community attributes?

	Not important	Somewhat important	Very important
Quality of life			
Education (for children and adults)			
Economic development and jobs (including work-at-home and home based business)			
Health care (remote health care, virtual doctor visits)			

96

How well do you think the current providers meet these needs?

1 = Not at All
10 = Very Well

97

When considering a company for broadband services (internet, television, and telephone), how important are the following characteristics of that company?

	Not important	Somewhat important	Very important
Is locally owned			
Provides excellent customer service			
Is involved in the community			
Uses the best available technology			
Price			

98

How strongly do you feel that your local government (through a government entity such as Tillamook Lightwave) needs to help the community in coordinating better broadband connectivity?

1 = Not At All

5 = Strongly feel there is an issue and would like the County to coordinate

99

If a new provider (public or private) built a fiber network in Tillamook County offering superior service for a competitive price, how likely would you be to switch from your current provider(s)?

1 = Certain to NOT switch

10 = Certain to switch

100

If a local government entity were able to help facilitate better or more reliable, high-speed internet services, how likely would you be to switch internet providers?

Very Unlikely

Unlikely

Neutral

Likely

Very Likely

101

Additional comments, questions, or concerns



102

We appreciate you taking time to participate in this survey!

Please click SUBMIT below

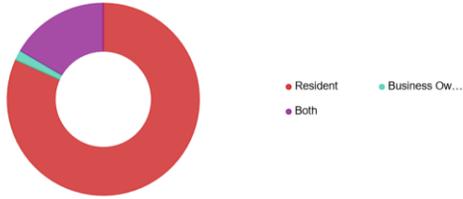
Submit

Powered by ArcGIS Survey123

APPENDIX C

All Survey Results (Questions are in order of left column first)

Are you taking this survey as a resident, a business owner, or both? *

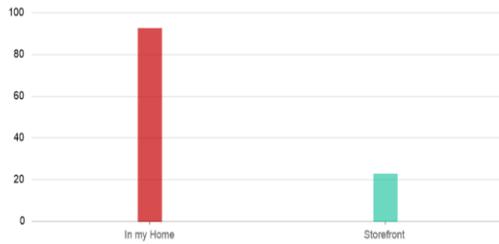


Answers	Count	Percentage
Resident	572	81.71%
Business Owner	12	1.71%
Both	116	16.57%

Answered: 700 Skipped: 0

Business Address (if taking survey as both)

Where is your business based? *

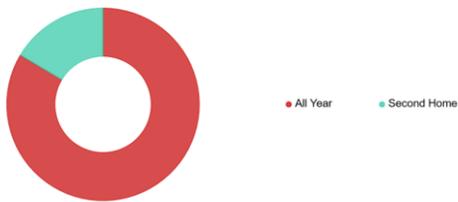


Answers	Count	Percentage
In my Home	93	13.29%
Storefront	23	3.29%

Answered: 116 Skipped: 584

[Question Omitted Due to PII]

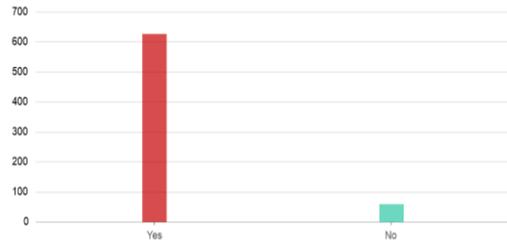
Do you live in Tillamook County all year or is this a second home? *



Answers	Count	Percentage
All Year	574	82%
Second Home	113	16.14%

Answered: 687 Skipped: 13

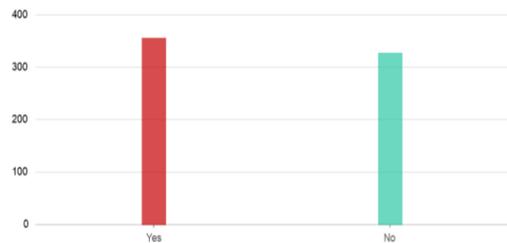
Does your home subscribe to Internet Service? *



Answers	Count	Percentage
Yes	628	89.71%
No	60	8.57%

Answered: 688 Skipped: 12

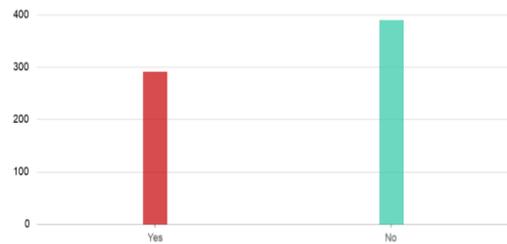
Does your home subscribe to Television (TV) Service? *



Answers	Count	Percentage
Yes	357	51%
No	329	47%

Answered: 686 Skipped: 14

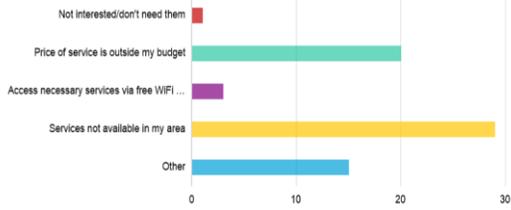
Does your home subscribe to a landline telephone service? *



Answers	Count	Percentage
Yes	293	41.86%
No	391	55.86%

Answered: 684 Skipped: 16

o If you answered "no" to the previous question, what are the primary reasons you do not have internet serv...



Answers	Count	Percentage
Not interested/don't need them	1	0.14%
Price of service is outside my budget	20	2.86%
Access necessary services via free WiFi at locations outside my business	3	0.43%
Services not available in my area	29	4.14%
Other	15	2.14%

Answered: 59 Skipped: 641

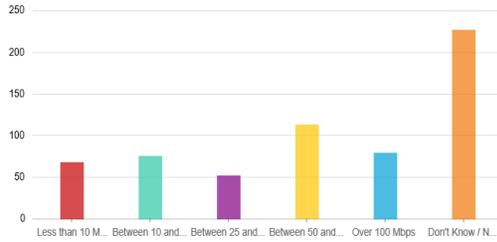
o DOWNLOAD SPEED:



Stats	Value
Min.	0.04
Max.	45,000
Avg.	160.876251310606
Sum.	84,942.660692

Answered: 528 Skipped: 172

o Upload and download speeds are important to many people. In some cases, providers will advertise "up to..."



Answers	Count	Percentage
Less than 10 Mbps	69	9.86%
Between 10 and 25 Mbps	76	10.86%
Between 25 and 50 Mbps	53	7.57%
Between 50 and 100 Mbps	114	16.29%
Over 100 Mbps	80	11.43%
Don't Know / Not Sure	227	32.43%

Answered: 619 Skipped: 81

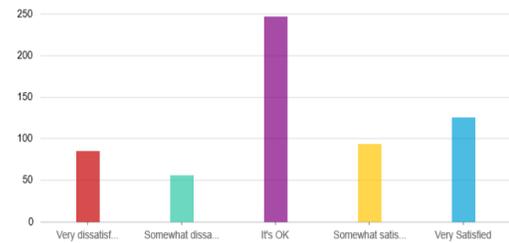
o UPLOAD SPEED:



Stats	Value
Min.	0
Max.	30,000
Avg.	83.600658898305
Sum.	39,459.511

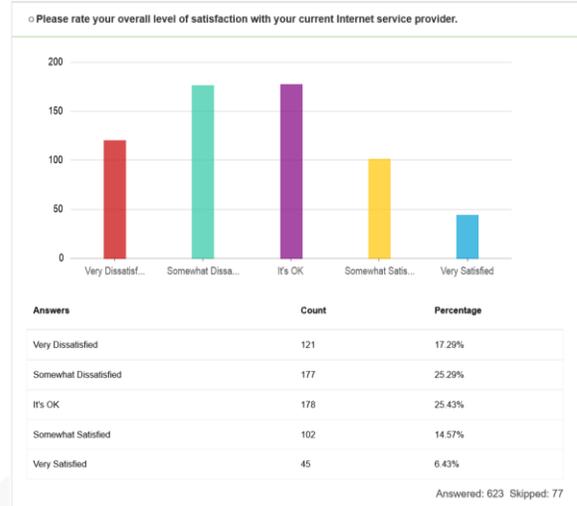
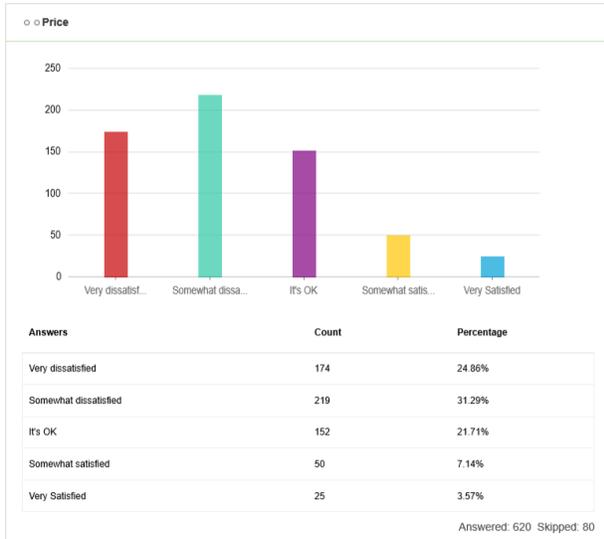
Answered: 472 Skipped: 228

o Data allowance

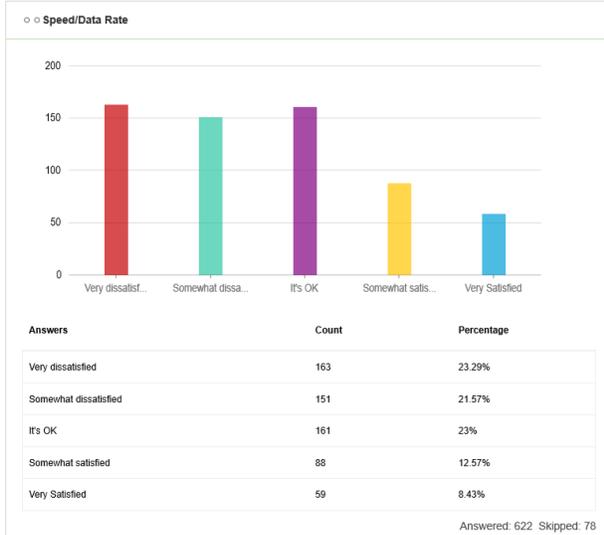
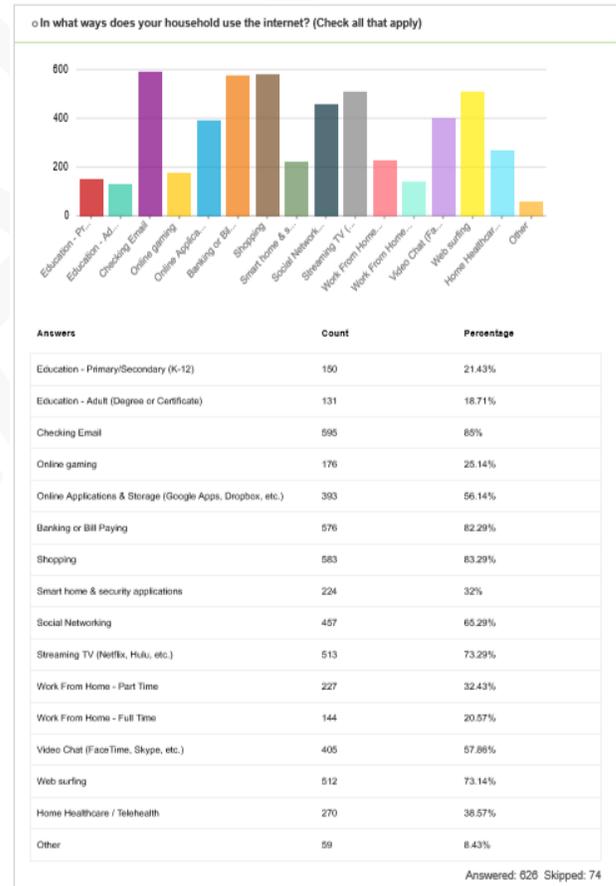
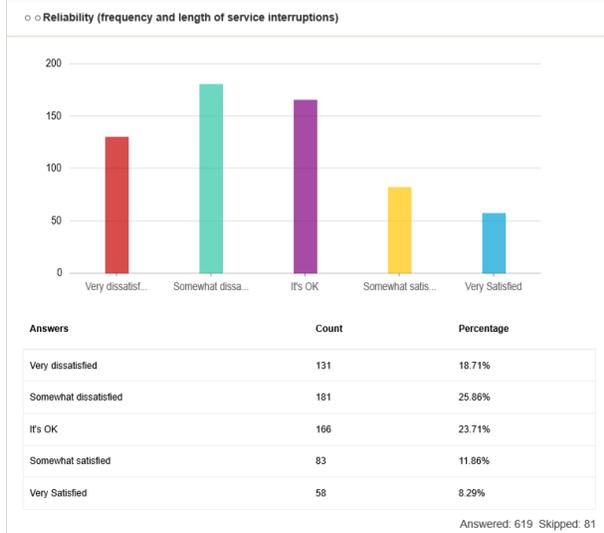


Answers	Count	Percentage
Very dissatisfied	86	12.29%
Somewhat dissatisfied	57	8.14%
It's OK	247	35.29%
Somewhat satisfied	94	13.43%
Very Satisfied	126	18%

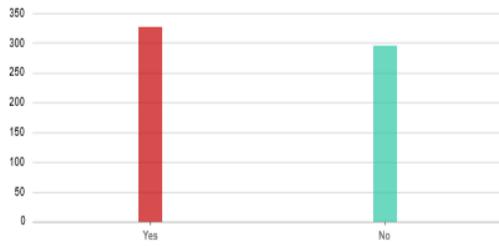
Answered: 610 Skipped: 90



[For Question, See Appendix D]



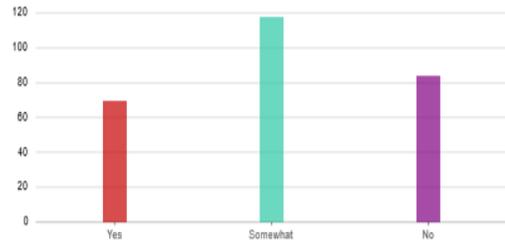
o Do you or anyone in your home currently use the internet to work from home or run a business?



Answers	Count	Percentage
Yes	329	47%
No	296	42.29%

Answered: 625 Skipped: 75

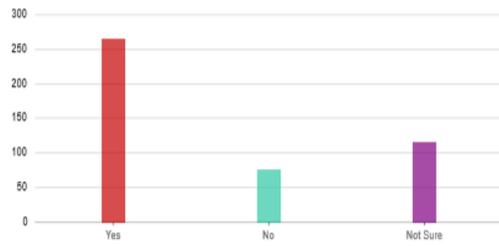
o Has your internet met their education needs?



Answers	Count	Percentage
Yes	70	10%
Somewhat	118	16.88%
No	84	12%

Answered: 272 Skipped: 428

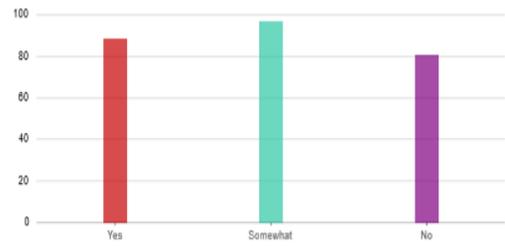
o Do you plan to continue working from home after the pandemic?



Answers	Count	Percentage
Yes	265	37.86%
No	77	11%
Not Sure	117	16.71%

Answered: 459 Skipped: 241

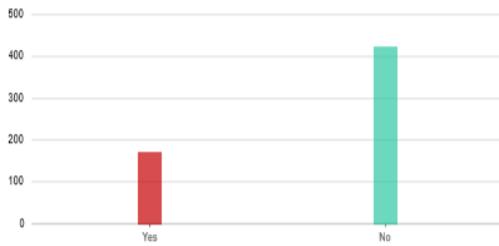
o Did your internet meet their student needs before the pandemic?



Answers	Count	Percentage
Yes	89	12.71%
Somewhat	97	13.86%
No	81	11.57%

Answered: 267 Skipped: 433

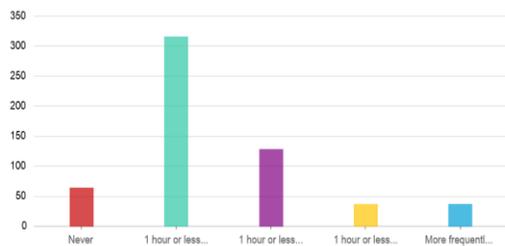
o Do you currently have students learning from home during the pandemic?



Answers	Count	Percentage
Yes	173	24.71%
No	424	60.57%

Answered: 597 Skipped: 103

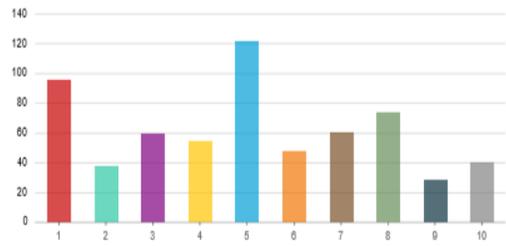
o How often do you experience outages of an hour or longer due to connection problems or slow/inoperable...



Answers	Count	Percentage
Never	65	9.29%
1 hour or less per month	317	45.29%
1 hour or less per week	129	18.43%
1 hour or less per day	38	5.43%
More frequently than 1 hour per day	38	5.43%

Answered: 587 Skipped: 113

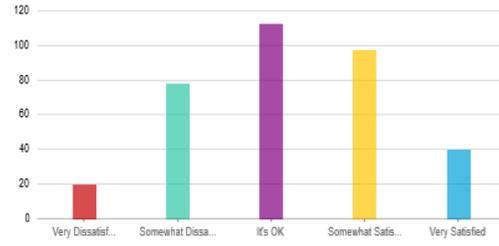
How likely is it that you would recommend your home Internet service provider to a friend or colleague?



Answers	Count	Percentage
1	96	13.71%
2	38	5.43%
3	60	8.57%
4	55	7.86%
5	122	17.43%
6	48	6.86%
7	61	8.71%
8	74	10.57%
9	29	4.14%
10	41	5.86%

Answered: 698 Skipped: 2

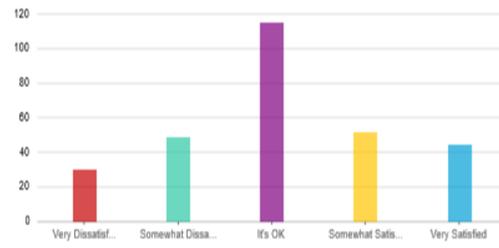
What is your overall level of satisfaction with your television service provider(s)?



Answers	Count	Percentage
Very Dissatisfied	20	2.86%
Somewhat Dissatisfied	78	11.14%
It's OK	113	16.14%
Somewhat Satisfied	98	14%
Very Satisfied	40	5.71%

Answered: 340 Skipped: 351

What is your overall level of satisfaction with your landline telephone service provider?



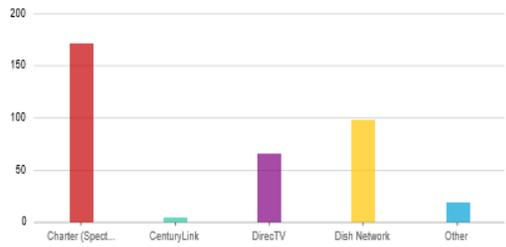
Answers	Count	Percentage
Very Dissatisfied	30	4.29%
Somewhat Dissatisfied	49	7%
It's OK	115	16.43%
Somewhat Satisfied	52	7.43%
Very Satisfied	45	6.43%

Answered: 201 Skipped: 400

[For Question, See Appendix D]

Television Service - Resident

Who is your current television service provider(s)? Check all that apply

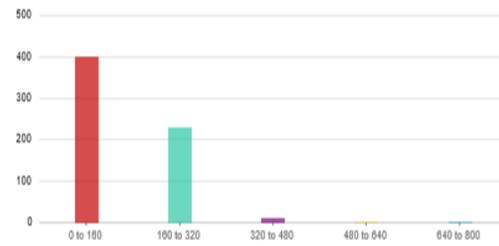


Answers	Count	Percentage
Charter (Spectrum)	172	24.57%
CenturyLink	5	0.71%
DirecTV	66	9.43%
Dish Network	99	14.14%
Other	20	2.86%

Answered: 340 Skipped: 351

Economic Questions - Resident

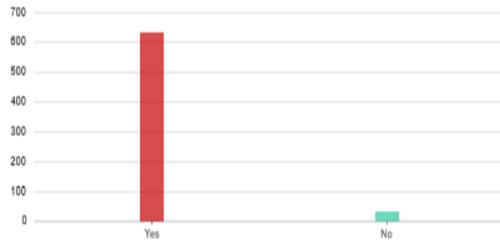
Approximately what is the total monthly cost (rounded to the nearest dollar) of ALL services (internet, tele...)



Stats	Value
Min.	0
Max.	800
Avg.	144.418024691358
Sum.	93,582.88

Answered: 648 Skipped: 52

o If it was available, would you be interested in a broadband service that allowed you to receive internet serv...



Answers	Count	Percentage
Yes	634	90.57%
No	34	4.86%

Answered: 668 Skipped: 32

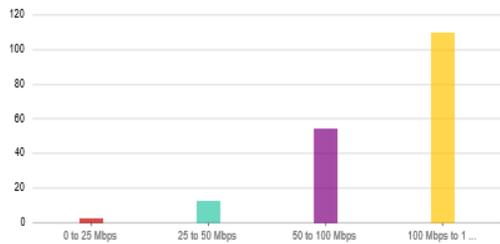
o \$50 to \$100



Answers	Count	Percentage
0 to 25 Mbps	11	1.57%
25 to 50 Mbps	81	11.57%
50 to 100 Mbps	107	15.29%
100 Mbps to 1 Gbps	173	24.71%

Answered: 372 Skipped: 328

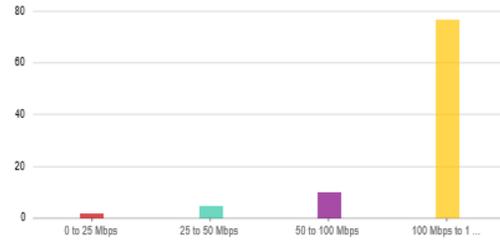
o \$100 to \$150



Answers	Count	Percentage
0 to 25 Mbps	3	0.43%
25 to 50 Mbps	13	1.86%
50 to 100 Mbps	55	7.86%
100 Mbps to 1 Gbps	110	15.71%

Answered: 181 Skipped: 510

o More than \$150

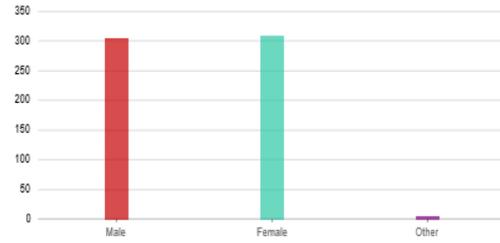


Answers	Count	Percentage
0 to 25 Mbps	2	0.29%
25 to 50 Mbps	5	0.71%
50 to 100 Mbps	10	1.43%
100 Mbps to 1 Gbps	77	11%

Answered: 64 Skipped: 608

Tell Us About Yourself!

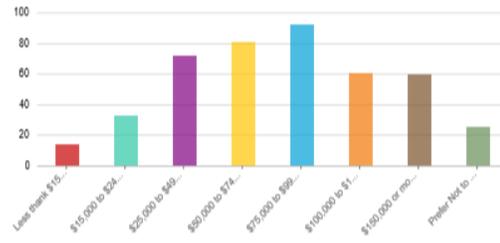
o Gender



Answers	Count	Percentage
Male	306	43.71%
Female	310	44.29%
Other	5	0.71%

Answered: 621 Skipped: 79

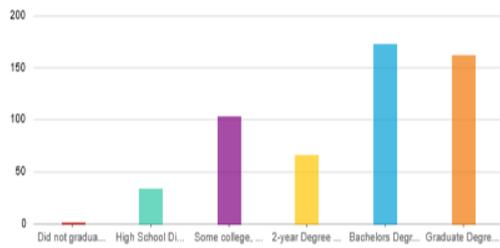
o What is the range of your current annual household income?



Answers	Count	Percentage
Less than \$15,000	14	2%
\$15,000 to \$24,999	33	4.71%
\$25,000 to \$49,999	72	10.29%
\$50,000 to \$74,999	81	11.57%
\$75,000 to \$99,999	93	13.29%
\$100,000 to \$149,999	61	8.71%
\$150,000 or more	60	8.57%
Prefer Not to Answer	26	3.71%

Answered: 440 Skipped: 280

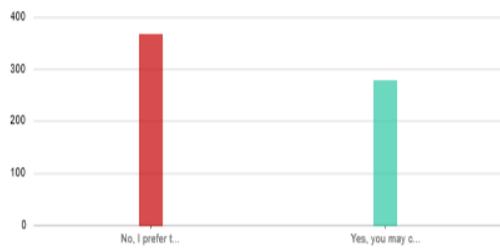
What is the highest level of education you have completed?



Answers	Count	Percentage
Did not graduate from high school	2	0.29%
High School Diploma / GED	34	4.86%
Some college, no degree	104	14.86%
2-year Degree / Associates Degree / Certification(s)	67	9.57%
Bachelors Degree	173	24.71%
Graduate Degree or higher	163	23.29%

Answered: 543 Skipped: 157

If we have additional questions, may we contact you?



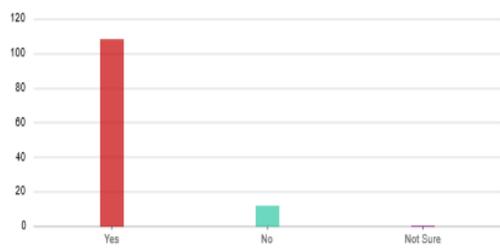
Answers	Count	Percentage
No, I prefer to remain anonymous	370	82.86%
Yes, you may contact me	280	40%

Answered: 650 Skipped: 50

[Question Omitted Due to PII]

Profile and Service Subscriptions - Business

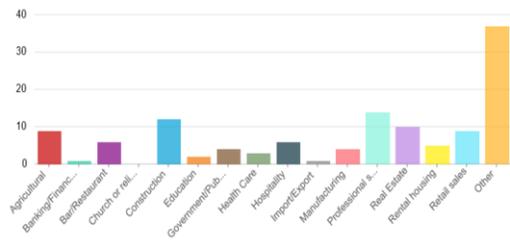
Is your business in the Tillamook County limits?



Answers	Count	Percentage
Yes	109	15.57%
No	12	1.71%
Not Sure	1	0.14%

Answered: 122 Skipped: 578

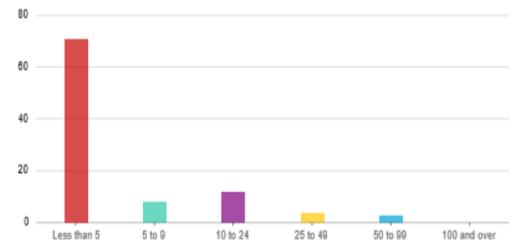
What is the primary industry sector of your business?



Answers	Count	Percentage
Agricultural	9	1.29%
Banking/Financial services	1	0.14%
Bar/Restaurant	6	0.86%
Church or religious organization	0	0%
Construction	12	1.71%
Education	2	0.29%
Government/Public service/Non-Profit	4	0.57%
Health Care	3	0.43%
Hospitality	6	0.86%
Import/Export	1	0.14%
Manufacturing	4	0.57%
Professional services (including legal and insurance)	14	2%
Real Estate	10	1.43%
Rental housing	5	0.71%
Retail sales	9	1.29%
Other	37	5.29%

Answered: 123 Skipped: 577

Approximately how many full or part-time employees work for your business?

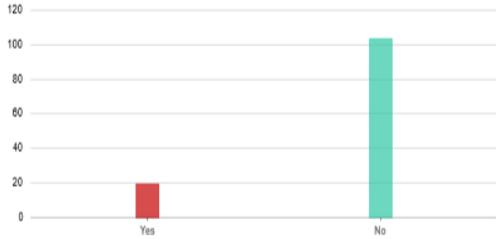


Answers	Count	Percentage
Less than 5	71	10.14%
5 to 9	8	1.14%
10 to 24	12	1.71%
25 to 49	4	0.57%
50 to 99	3	0.43%
100 and over	0	0%

Answered: 98 Skipped: 802

[Question Omitted Due to PII]

Does your business subscribe to Television (TV) Service?



Answers	Count	Percentage
Yes	20	2.86%
No	104	14.86%

Answered: 124 Skipped: 576

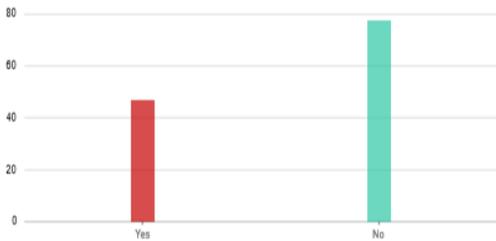
Is your business served by fiber optics?



Answers	Count	Percentage
Yes	13	1.86%
No	43	6.14%
Not Sure	20	2.86%

Answered: 76 Skipped: 624

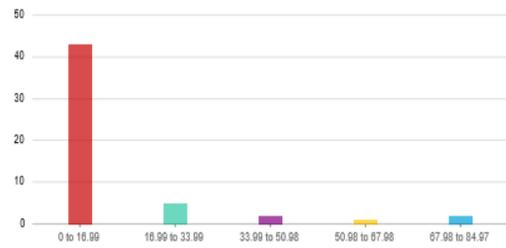
Does your business subscribe to a landline telephone service?



Answers	Count	Percentage
Yes	47	6.71%
No	78	11.14%

Answered: 125 Skipped: 575

UPLOAD SPEED:

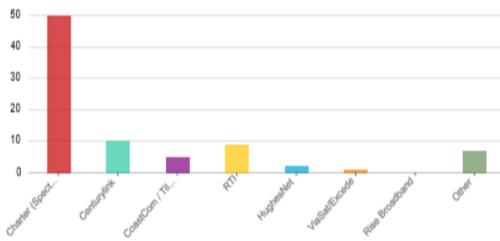


Stats	Value
Min.	0
Max.	84.97
Avg.	13.7041509433962
Sum.	726.32

Answered: 53 Skipped: 647

Internet Service - Business

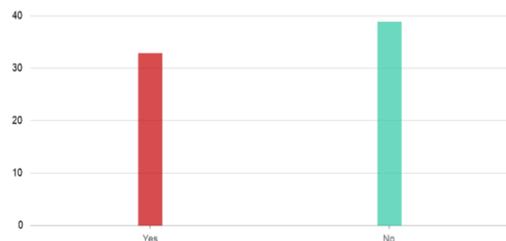
Which company(ies) do you currently use to provide your business internet service?



Answers	Count	Percentage
Charter (Spectrum)	50	7.14%
Centurylink	10	1.43%
CoastCom / Titamock Light Wave (TLW)	5	0.71%
RTI	9	1.29%
HughesNet	2	0.29%
ViaSat/Exocast	1	0.14%
Rise Broadband	0	0%
Other	7	1%

Answered: 77 Skipped: 623

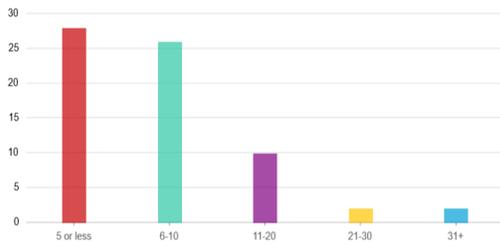
Do you offer internet/WIFI service to the public/guests?



Answers	Count	Percentage
Yes	33	4.71%
No	39	5.57%

Answered: 72 Skipped: 628

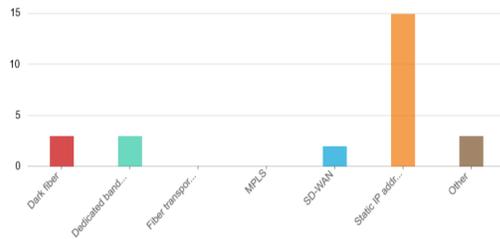
How many devices are connected to the internet at your business? Include PCs, tablets, smart phones, or ...



Answers	Count	Percentage
5 or less	28	4%
6-10	26	3.71%
11-20	10	1.43%
21-30	2	0.29%
31+	2	0.29%

Answered: 68 Skipped: 632

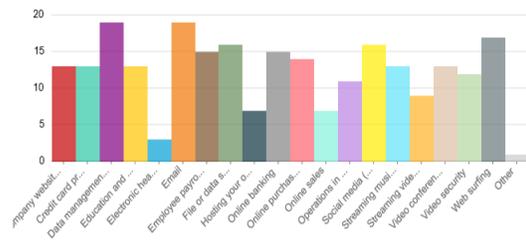
If known, what specialized data service, if any, do you currently receive from your provider? (check all that...)



Answers	Count	Percentage
Dark fiber	3	0.43%
Dedicated bandwidth or circuit	3	0.43%
Fiber transport services	0	0%
MPLS	0	0%
SD-WAN	2	0.29%
Static IP addresses	15	2.14%
Other	3	0.43%

Answered: 20 Skipped: 680

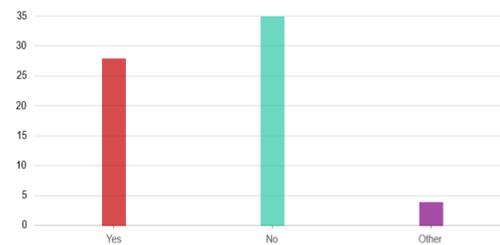
How do you use Internet at your business? (check all that apply)



Answers	Count	Percentage
Company website	13	65%
Credit card processing	13	65%
Data management (backup or data storage)	19	95%
Education and professional development (including webinars)	13	65%
Electronic health records	3	15%
Email	19	95%
Employee payroll	15	75%
File or data sharing	16	80%
Hosting your own server	7	35%
Online banking	15	75%
Online purchasing or tracking inventory	14	70%
Online sales	7	35%
Operations in the cloud (accounting, sales, project management, etc.)	11	55%
Social media (Facebook, Twitter, etc.)	16	80%
Streaming music (Pandora, Spotify, etc.)	13	65%
Streaming video (Netflix, Amazon Prime, Hulu, YouTube, etc.)	9	45%
Video conferencing	13	65%
Video security	12	60%
Web surfing	17	85%
Other	1	5%

Answered: 20 Skipped: 0

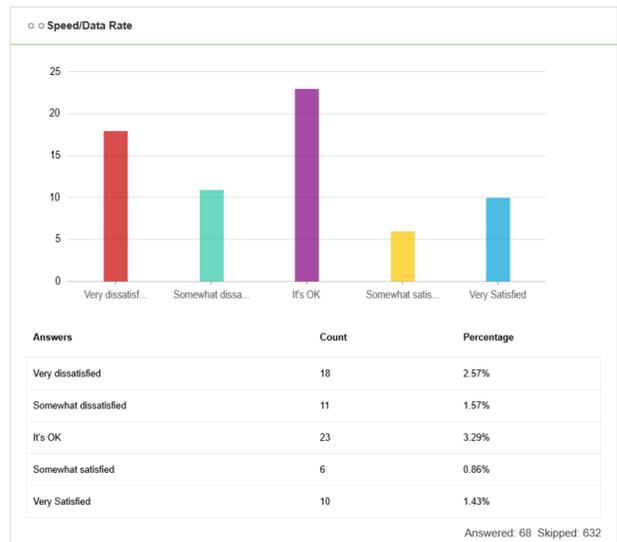
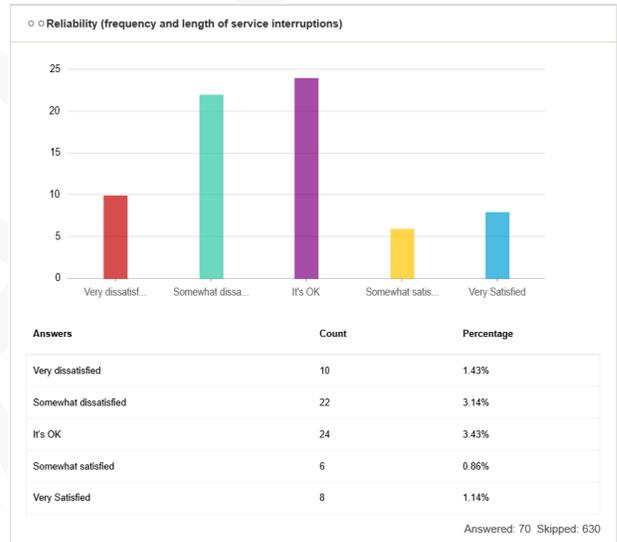
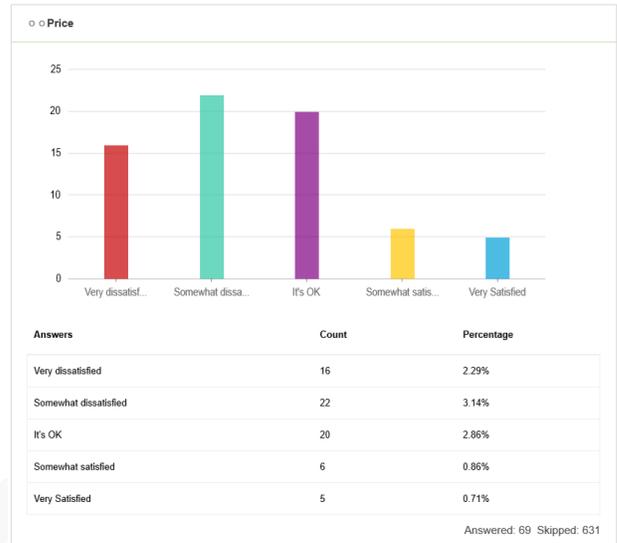
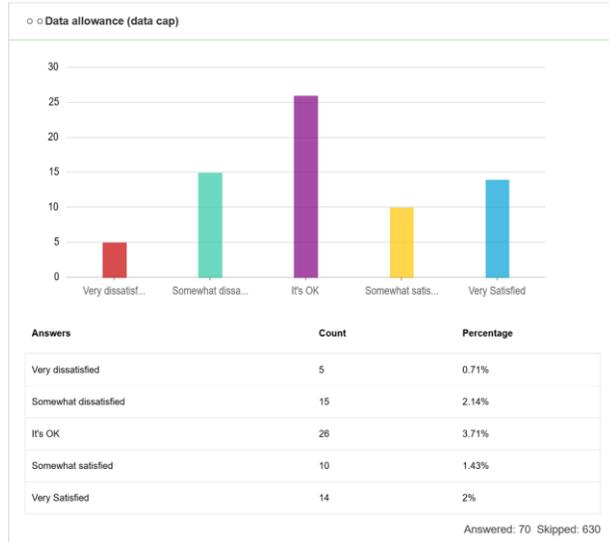
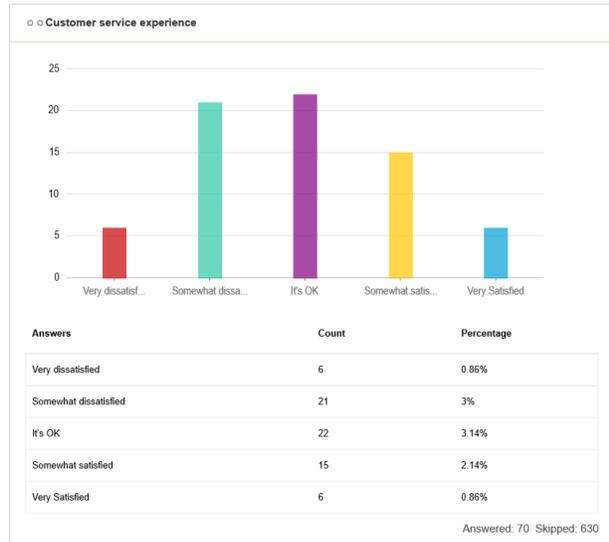
Have you had employees work from home in 2020?

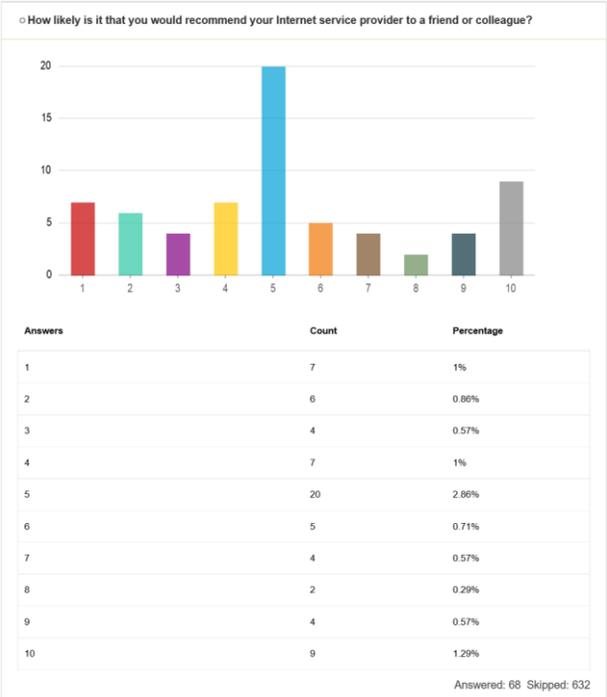
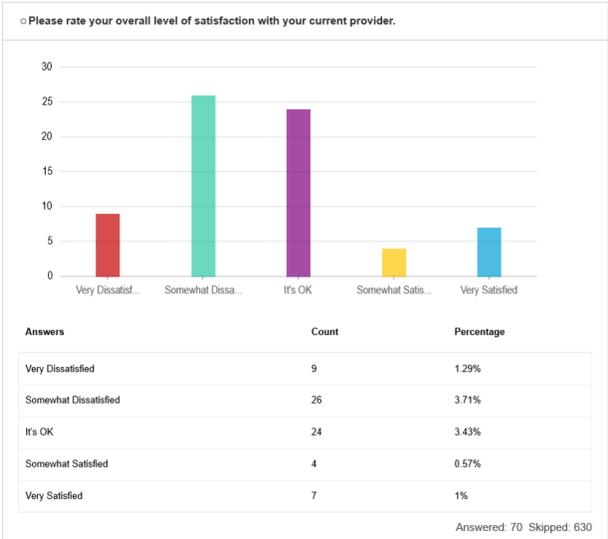


Answers	Count	Percentage
Yes	28	4%
No	35	5%
Other	4	0.57%

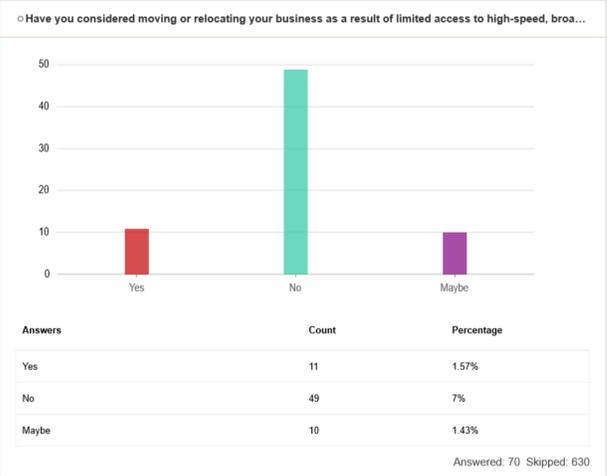
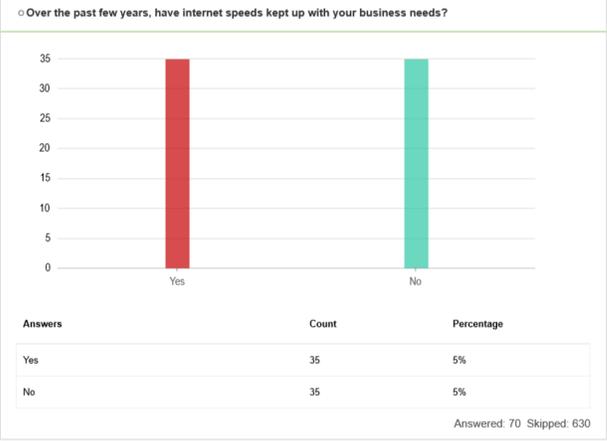
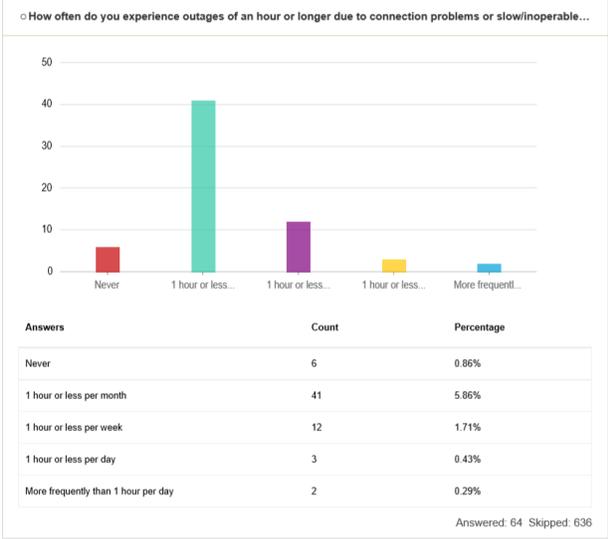
Answered: 67 Skipped: 633

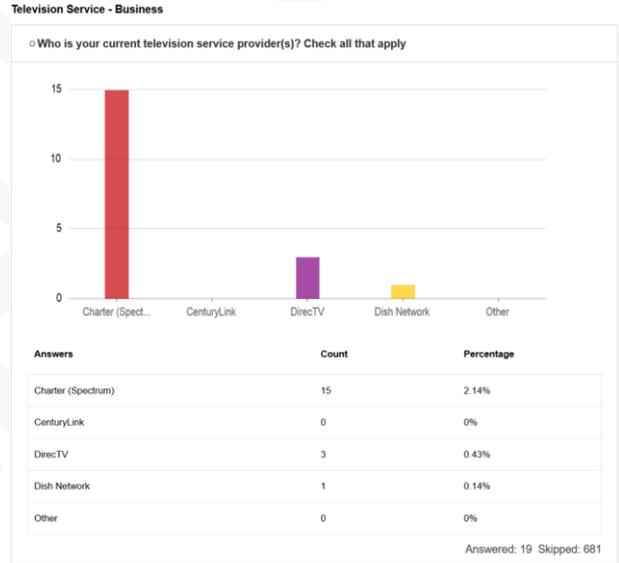
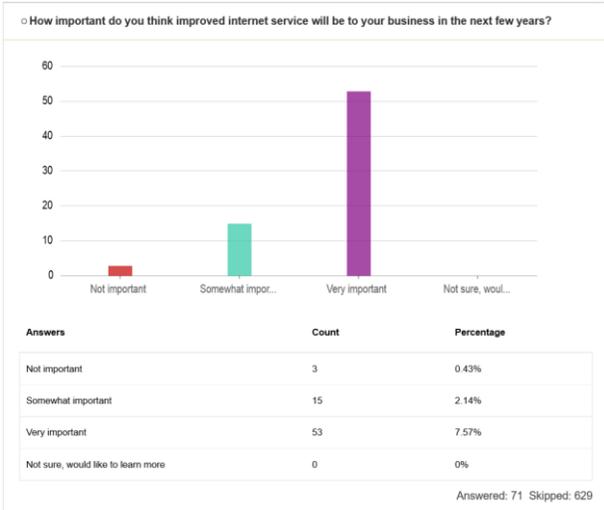
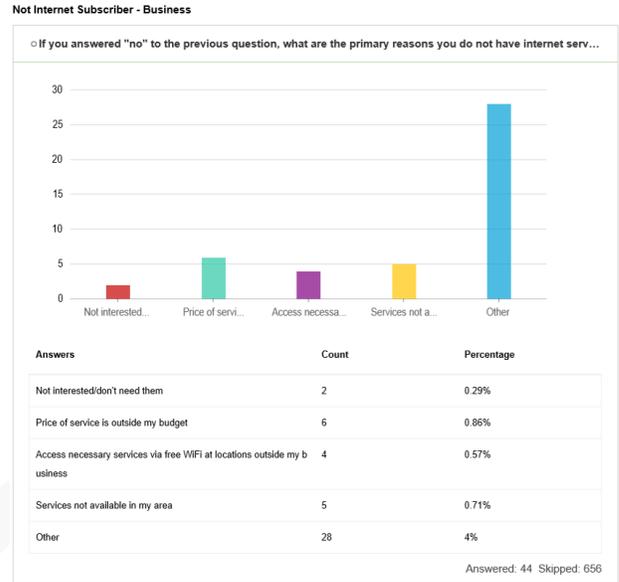
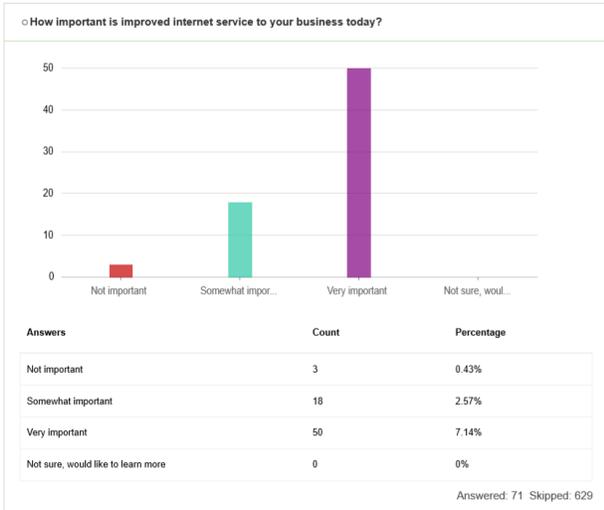
Internet Service - Business > Please rate your satisfaction with your Internet service provider on each of the following characteristics.





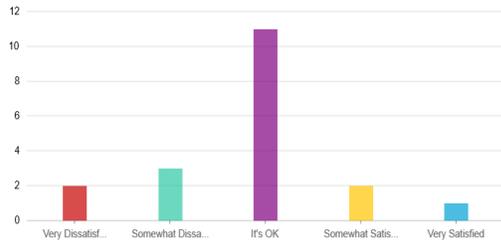
[For Question, See Appendix D]





[For Question, See Appendix D]

What is your overall level of satisfaction with your television provider?

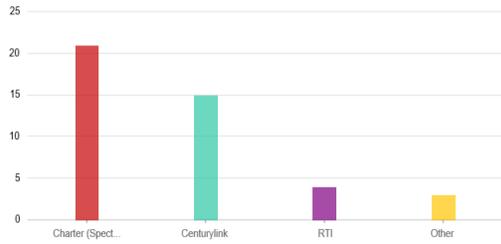


Answers	Count	Percentage
Very Dissatisfied	2	0.29%
Somewhat Dissatisfied	3	0.43%
It's OK	11	1.57%
Somewhat Satisfied	2	0.29%
Very Satisfied	1	0.14%

Answered: 19 Skipped: 681

Landline Telephone Service - Business

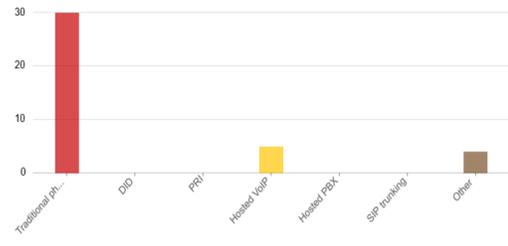
Who is the landline telephone service provider for your business?



Answers	Count	Percentage
Charter (Spectrum)	21	3%
Centurylink	15	2.14%
RTI	4	0.57%
Other	3	0.43%

Answered: 42 Skipped: 658

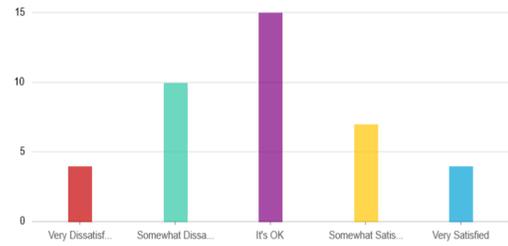
If known, what types of telephone service does your business use (check all that apply):



Answers	Count	Percentage
Traditional phone lines	30	4.29%
DID	0	0%
PRI	0	0%
Hosted VoIP	5	0.71%
Hosted PBX	0	0%
SIP trunking	0	0%
Other	4	0.57%

Answered: 37 Skipped: 663

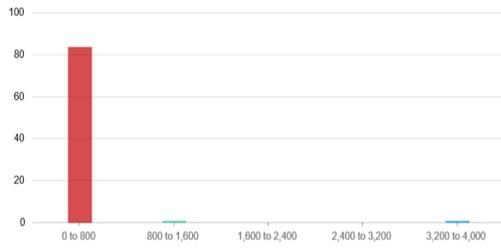
What is your overall level of satisfaction with your landline telephone service provider?



Answers	Count	Percentage
Very Dissatisfied	4	0.57%
Somewhat Dissatisfied	10	1.43%
It's OK	15	2.14%
Somewhat Satisfied	7	1%
Very Satisfied	4	0.57%

Answered: 40 Skipped: 660

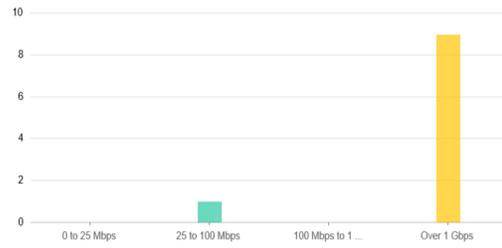
○ Approximately what is the total monthly cost (rounded to the nearest dollar) of ALL services (internet, tele...



Stats	Value
Min.	0
Max.	4,000
Avg.	226.988372093023
Sum.	19,521

Answered: 86 Skipped: 614

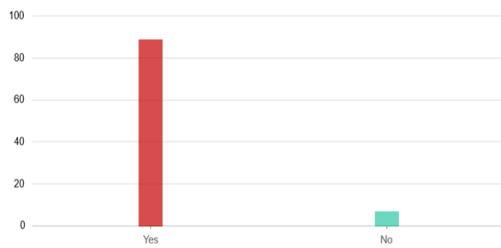
○ \$50 to \$100



Answers	Count	Percentage
0 to 25 Mbps	0	0%
25 to 100 Mbps	1	0.14%
100 Mbps to 1 Gbps	0	0%
Over 1 Gbps	9	1.29%

Answered: 10 Skipped: 690

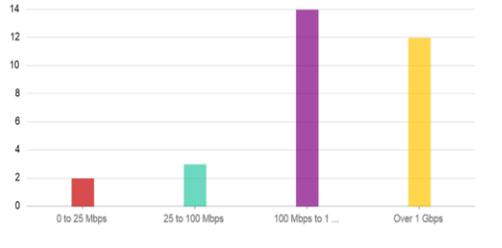
○ If it was available, would you be interested in a broadband service that allowed you to receive internet serv...



Answers	Count	Percentage
Yes	89	12.71%
No	7	1%

Answered: 96 Skipped: 604

○ \$100 to \$150



Answers	Count	Percentage
0 to 25 Mbps	2	0.29%
25 to 100 Mbps	3	0.43%
100 Mbps to 1 Gbps	14	2%
Over 1 Gbps	12	1.71%

Answered: 31 Skipped: 669

Economic Questions - Business > What is the highest amount you would be willing to pay for the following download speeds?

○ 0 to \$50



Answers	Count	Percentage
0 to 25 Mbps	0	0%
25 to 100 Mbps	1	0.14%
100 Mbps to 1 Gbps	4	0.57%
Over 1 Gbps	11	1.57%

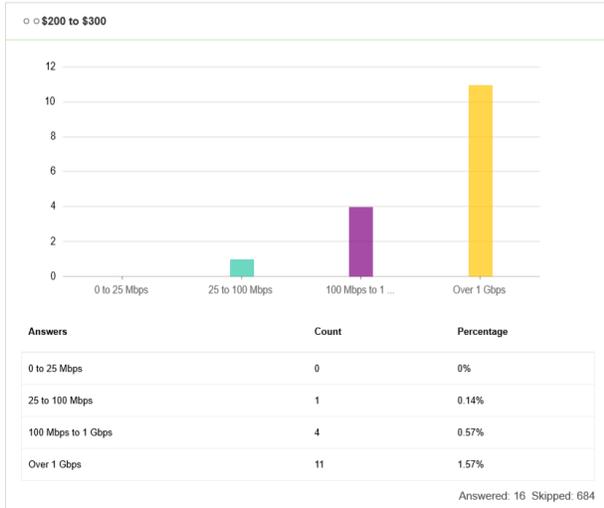
Answered: 16 Skipped: 684

○ \$150 to \$200

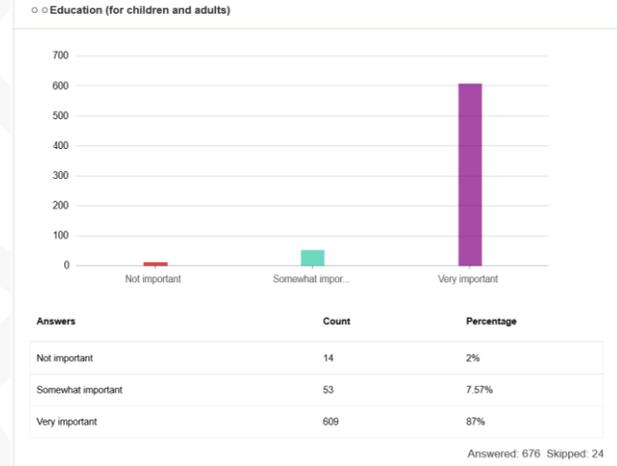
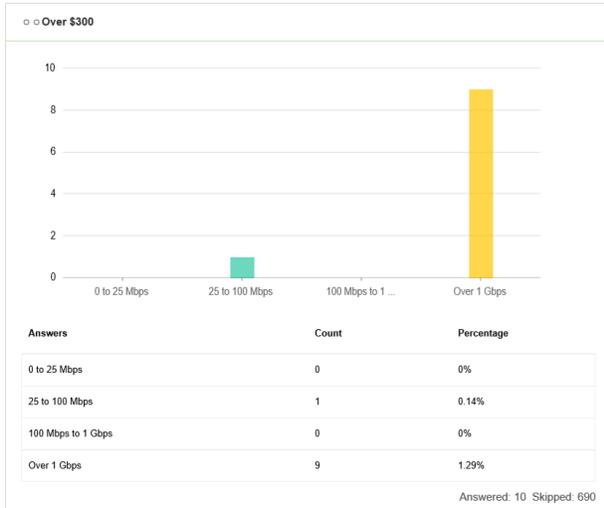
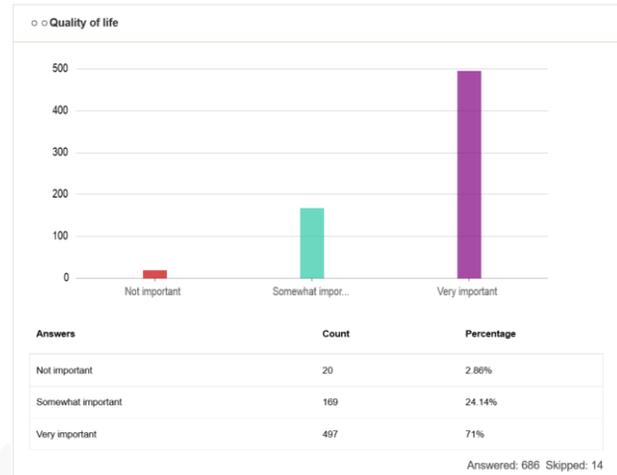


Answers	Count	Percentage
0 to 25 Mbps	1	0.14%
25 to 100 Mbps	0	0%
100 Mbps to 1 Gbps	10	1.43%
Over 1 Gbps	12	1.71%

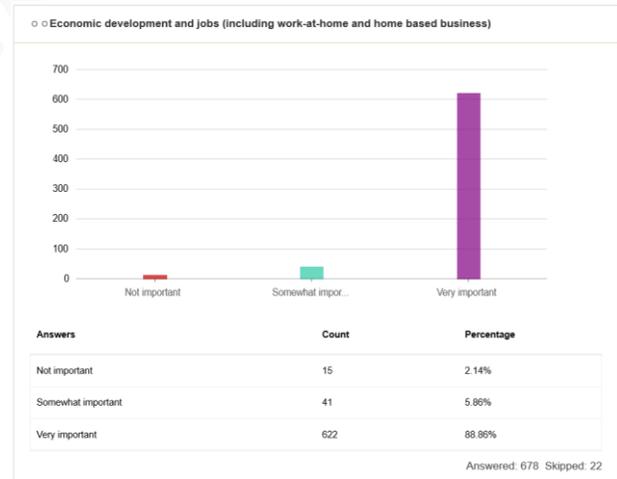
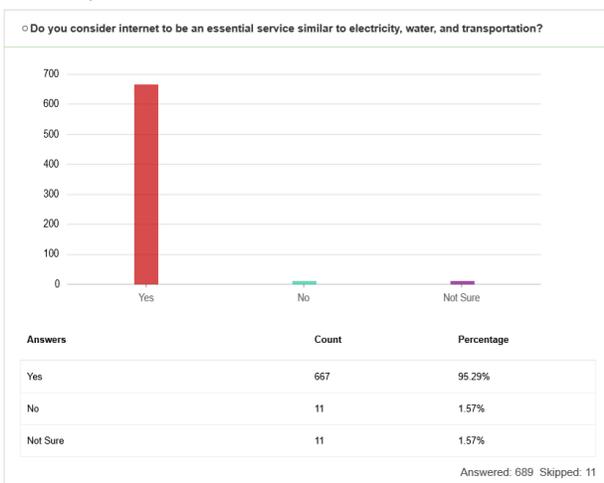
Answered: 23 Skipped: 677



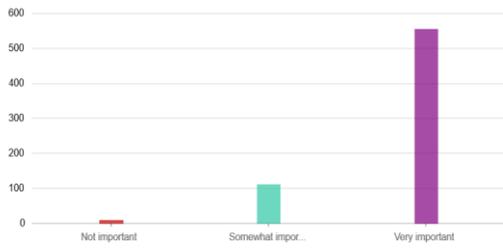
Tillamook County's Broadband Future > In your opinion, how important is fast, affordable, reliable, and universally available broadband to Tillamook County in helping to improve the following community attributes?



Tillamook County's Broadband Future



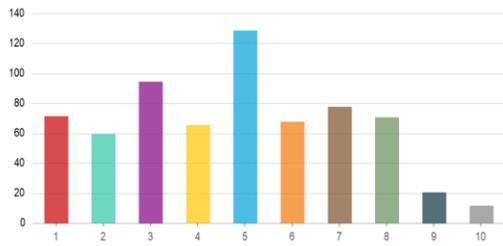
○ Health care (remote health care, virtual doctor visits)



Answers	Count	Percentage
Not important	11	1.57%
Somewhat important	112	16%
Very important	557	79.57%

Answered: 680 Skipped: 20

○ How well do you think the current providers meet these needs?

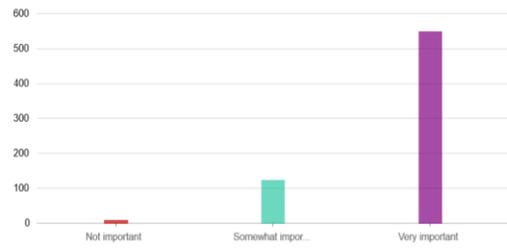


Answers	Count	Percentage
1	72	10.29%
2	60	8.57%
3	95	13.57%
4	66	9.43%
5	129	18.43%
6	68	9.71%
7	78	11.14%
8	71	10.14%
9	21	3%
10	12	1.71%

Answered: 700 Skipped: 0

Tillamook County's Broadband Future > When considering a company for broadband services (internet, television, and telephone), how important are the following characteristics of that company?

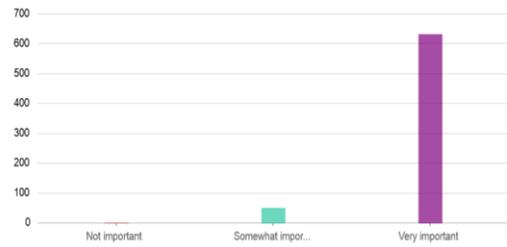
○ Is locally owned



Answers	Count	Percentage
Not important	10	1.43%
Somewhat important	126	18%
Very important	551	78.71%

Answered: 687 Skipped: 13

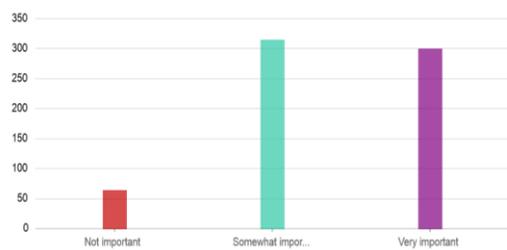
○ Provides excellent customer service



Answers	Count	Percentage
Not important	2	0.29%
Somewhat important	51	7.29%
Very important	634	90.57%

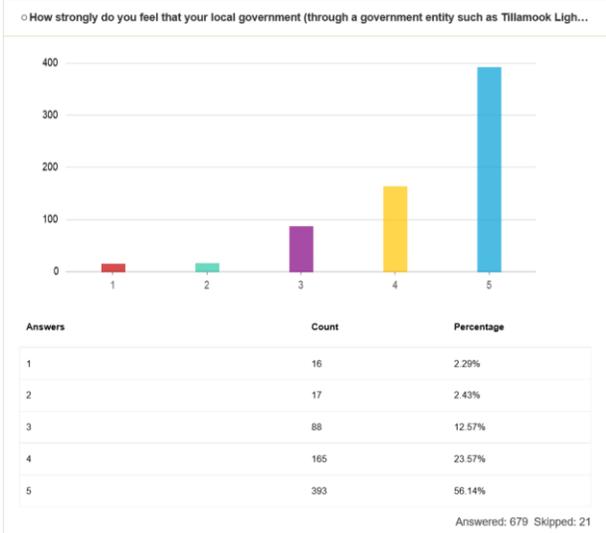
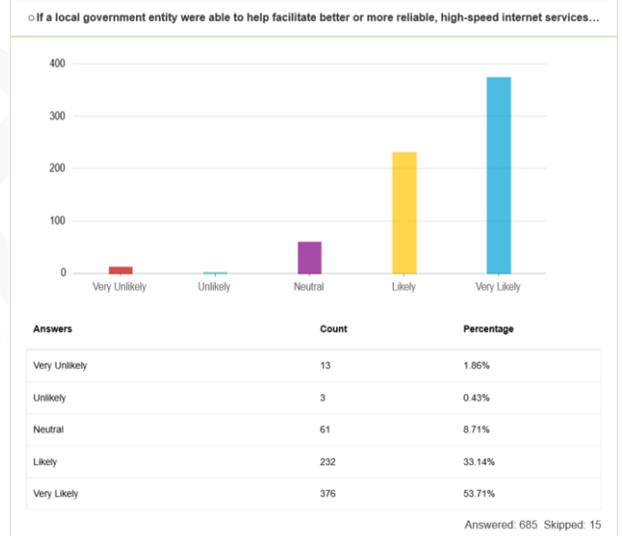
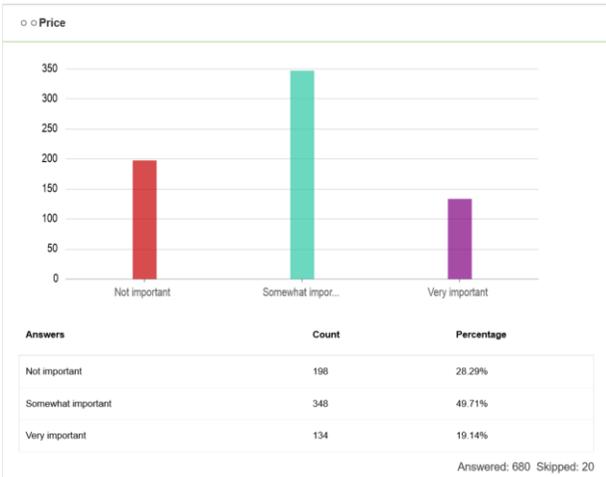
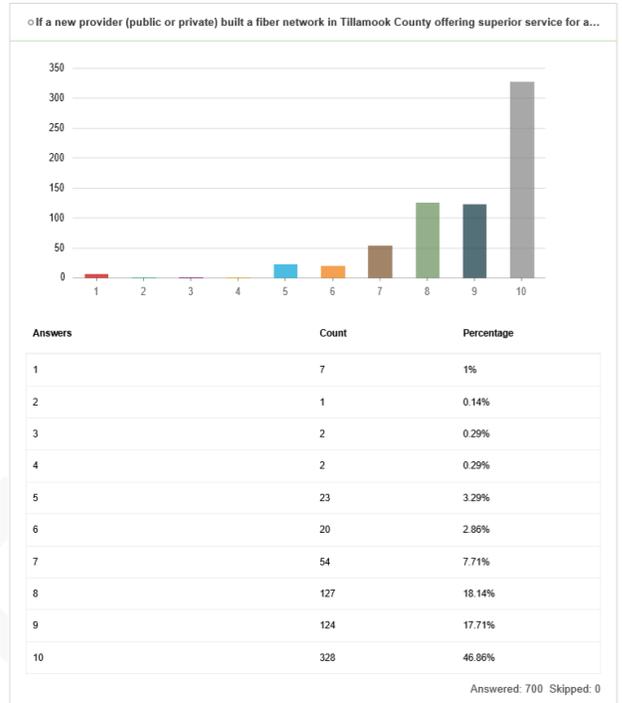
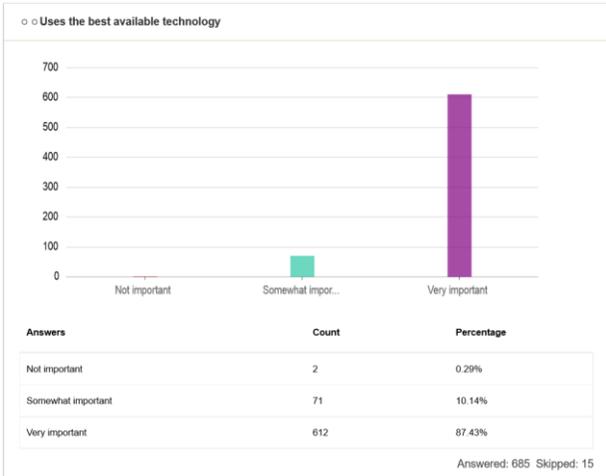
Answered: 687 Skipped: 13

○ Is involved in the community



Answers	Count	Percentage
Not important	65	9.29%
Somewhat important	316	45.14%
Very important	301	43%

Answered: 682 Skipped: 18



[For Question, See Appendix D]

APPENDIX D

Comments in Survey

Resident - Do you have any other comments, questions, or concerns about your current or future Internet service?	Business - Do you have any other comments, questions, or concerns about your current Internet service?	Resident - If your answers to the previous question(s) were that you are unsatisfied, what are the key issues you have with your current provider?	Business - If your answers to the previous question(s) were that you are unsatisfied, what are the key issues you have with your current provider?	All - Additional comments, questions, or concerns
<ul style="list-style-type: none"> • "Close to retiring given alreadyredundant here • I have always felt that internet service should be considered a "utility ", with equal, reliable access to all connected to it. • IF PUD STARTS BEING A PROVIDER AND BECOMES A MONOPOY; PROVIDER IT WILL BE A DISASTER • "Often our tenants have a hard time finding reliable service on our property that is cost effective. • Same as for the residence. But I would also add, I grew up here and left for most of my adult life. When I moved back to Oregon in 2002 to help my elderly parents, I had to live in Portland because there was only dialup where they lived. I wasn't able to move back to Tillamook until 2008, when they finally got DSL. This was extremely crappy, but enough that I could continue to do business. We didn't get actually broadband until 2012 and it still isn't reliable. I had to come back to help my parents so I was willing to make some compromises. But any other business that wanted to stay in business and expand would never move here because there is no way you can actually have a reliable tech infrastructure. This helps explain why downtown Tillamook looks like a ghost town, a big change from when I was growing up here in the 1960s and there were businesses who could employ people. 	<ul style="list-style-type: none"> • Where we are located the cellular system does not work so we needed a hard line for internet. Spectrum seems to be the only provider at our location so I feel I am stuck with them and based on my experience with them, I feel they are very dishonest. I would prefer to work with a company with integrity. • wish there was another option other than centurylink • All we have available to us is satellite internet. Last year fiber optic cable was installed alongside the Miami/Foley road but we have not been notified what company installed it and therefore have no way of finding out when we might be able to hook up to it. I thought the company was Century Link but I called Century Link twice and both times, the representative I talked to said he has no information about Century Link having any kind of internet service available in our area. • Always willing to explore other options that are cost effective but equal or better service speed and connectivity, especially during those times that more than one device is working on line • Any outages have been related to PUD lines being down in storms • "Anything is better than Century Link!!!" • Should be more to choose from....." • As a local educator I can tell you that the community needs free reliable internet for all. • As a retired state employee at Camp Rilea who helped install conduit for fiber optics for multi use as a National Guard base, it was instrumental to conduct training, communications, VA clinic healthcare. All the infrastructure was in the ground with interduct inside 6 	<ul style="list-style-type: none"> • ""Back Office"" AWFUL JUST IMPOSSIBLE TO DEAL WITH ON PHONE OR IN THE CHAT FUNCTION. • Local service techs that come to home are great" • \$ 80 per month, slow at times • .especially on the middle of the day. • "1) the service initiation took nearly 2 weeks, and then the service didn't work until a tech came out to fix a line issue. It took another week for the tech to show up. • 2) the speeds are unacceptable. My cell phone hotspot is considerably faster. " • "1. Our internet service is interrupted every single day - for anywhere from 2 minutes to 2 hours. I play mahjonn with a group and I have to keep logging back in because of internet interruptions - EVERY TIME! • 2. If you call Century Link Customer Service, it takes at least 15 minutes to talk to a real person as you must go through a series of instructions - even if you're calling the same day. • 3. When service is down for extended periods of time, they give you false hope regarding when it will come back on - up to 4 or 5 days. • 4. We have cancelled all of our streaming services because it could take up to 3 hours for a program that is supposed to be 1 1/2 hours - it buffers over and over and over." • "8 second delay • congestion rebuffer during movies" • A little too expensive • All of above. Speed, service, • all of the above including price which is almost \$90 • Always going down for long periods of time, no reimbursement for lack of 	<ul style="list-style-type: none"> • Connection interruptions, slow data speeds that last for days, high costs and poor customer service. • Connectivity issues and their ability to give me referrals or correct the problems. • COST • "Cost • Occasional loss of service " • Customer service is difficult to reach and unhelpful. Price increases with no warning or explanation. • Customer service, pricing not up to par • frequent connectivity issues, especially in the evening and any time there is bad weather. • Frequent outages. • given on the personal sideredundant here • I am held hostage to add services to receive the best possible price for Internet - Lan, TV and Cell Phone are all add on services that are promoted as "Ways" to reduce my bill. • I'm moving summer 2021 to Yellow Fir and wont havevit available • Monthly bill seems high for what I get • no support for businesses • Not necessarily the provider's issue, more about location of the business. • OnlineNW service is great. I would love to have their service in Tillamook county. • Poor customer 	<ul style="list-style-type: none"> • YES to Fiber!!! • Would just like access to internet in the first place. Everyone we contacted said it would be \$10,000 to get an internet line placed to our house. Ridiculous. • "With more and more services, education, etc offered ONLY online...it becomes a reality to have reliable internet... • In rural areas fast reliable internet can be an equalizer for Education, esp K-12 • Small business can also thrive from HOME allowing people to raise families while optimizing family contact time, and the life quality rural living can provide • Businesses are concerned with making money..period..no judgement it just is...high population density means money..low population density gets left out...government can help to equalize service with to set minimum service levels...just like other services.." • with a very limited income the price for tv , internet , and phone are cost prohibitive . • "Why switch given we have excellent service w/fiber optics from RTI?" • "While I do feel better internet service in Tillamook County should be a top priority, it should not come with an increase in things like further government overreach, additional data mining and privacy concerns, and/or health risks (i.e. increased exposure to EMFs, 5G, dirty electricity, etc.). • I appreciate that Tillamook Lightwave's Board is willing to explore options for improving internet service for our county's residents." • Where do we find out more about lightwave?" • What we have now, at least in Pacific City, is a monopoly. I'd like to see competition. • We've been waiting a very long time for this option. We had hoped that the OOI project/contract would help move this forward. It's overdue, let's get this done. Thank you. • We've basically have only one option and that is Charter TV. Charter wants to charge double if we add internet. There needs to be more competition for TV and internet services in our rural area out near Netarts Bay. A good broadband internet connect would help us maybe substitute for cable TV. We got cable TV because TV reception is poor in our area. Might go to on-line TV broadcasts only via an internet service. • We survive with what we have. We use the internet for our cell phones because cell service does not work here. We also have a land line for periods of power outages in case of emergency.

<ul style="list-style-type: none"> • See comments about customer service with the current company. The upload/download internet service has been fine. • So much of my work is on the go, so having communities with open wifi or areas in every community where I can count on reliable fast internet to work on the go would be an enormous asset. I often pair to my phone, and that works well as long as I have cell service. • Spectrum is the only option at my location. I do not have line of sight for satellite and there is only a very weak cell signal at my house. They raise the price with no warning or explanation, or offering any options to control price by accepting a lower speed or data cap. There is no alternative but to have no internet service at all. This means it is impossible to budget for future internet access costs. • The home office is in Wilsonville, so I am not sure if the above questions are relevant to this survey. • The Tillamook County Pioneer is an ONLINE media resource so the internet and connectivity is VITAL to our business. • "We are an internet-based business and it is absolutely critical that we have strong internet to continue our business here in Tillamook County. As an online-only business, we are a net importer of funds into this county -- our customers buy our goods from around the world and send us money, which we spend full-time on local goods and services as full-time Tillamook County residents. • In addition, when we moved here we became the biggest business customer for the Nehalem Post Office, which keeps our rural postal service reliable 	<p>inch conduit. This was vital to protect the fiber optics line in place.</p> <ul style="list-style-type: none"> • At a Facebook/Edge meeting, Lightwave reps painted a highly positive picture of improved internet service, via Lightwave, in connection with the much-hated, and much-troubled, industrial drilling project on a residential lot in Tierra Del Mar. At no time, either in this public presentation or in an accompanying handout, did Lightwave even hint at the high price of a Lightwave connection, both to individuals and to the community at large. I and others feel misled, even deceived. Not a good way to introduce your "service" to the community. Re questions below: Why should I trust you? • Because I pay for 30 mps I should get 30 mps consistently! NO EXCUSES. • Better than Centurylink • Both our current (Hughesnet) and the provider we are switching over to (if they ever figure out their hardware build issues) have horrible customer service to the point where we usually end up talking to 3-5 different people before we can find someone who has any reasonable intelligence and understanding of their system enough to "help" us. Even with that, our issues very seldom get resolved in less than a week. • Cannot do speed test as I am responding from Portland • "Century link before. I couldn't zoom if kids were doing anything like Netflix or accessing college classes on line. We had to reset router multiple times a day. • I've had spectrum for a little over a month and only had to reset once or twice. A huge improvement " • Century Link Internet service is very unsatisfactory. Up to 2 weeks to resolve service issues. Not enough repairmen to do it. • "Centurylink is expensive and their service stinks • We are too far out to get anything else " • Centurylink needs to upgrade their infrastructure. • CenturyLink provides poor service for the price. They are the only option at this time. Charter does not want to 	<p>service, very expensive.</p> <ul style="list-style-type: none"> • As more connections are added, the more interruptions. It is slower, takes longer to connect, many interruptions, difficulties using Zoom, hard to watch videos. • Bad connection when a lot of people are using the system in my area. • Bad connectivity, common service breaks and impossible customer service. They mistreat their employees as contractors and roll a truck when the problem is in the Network Operations Center, causing lengthy outages and hours on the phone. They do not maintain their networks because hedge funds will not invest in any infrastructure support with an ROI of five years or more. • Bait and switch on pricing. Hidden costs. Uninformed customer service with conflicting information. • barely able to use because of poor connectivity and slow performance. • Being a cable internet service the upload speed is very limited and I cannot get to my computer server from outside my home. Something I would really like to be able to do. • Bufferbloat • Can not get adequate WiFi in upstairs of my house, just downstairs. • Century Link Internet service performance is very slow. • "certain times of the day it seems hard to stream data consistently. • the internet service is rather expensive. I believe in FREE Internet for ALL." • "Changes in speed anywhere from 20 Mbps to 112 Mbps • Stays down for over 24 hours after power outage" • Connection drops often. Need to turn modem off at least once a week. Connection freezes when multiple electronics are on. We need to disconnect electronics for it to function. Connection does not reach to certain areas of the house even with an extender. • "Connection is dropped. • Video attachments very slow to arrive." • Consistency of service. Slow in loading, even email. • Consistency of stable service 	<p>support and inability to resolve problems. After Coastcom was acquired we've had shoddy next to worthless customer service to resolve problems. We're contemplating going out for bid to get a phone company that will actually perform.</p> <ul style="list-style-type: none"> • Price • Price • Price is too high for the quality of the service • Price. I am currently paying \$150.00 per month for high speed data. • Reliability, reliability, reliability. I can't count on it. For many years, I had to pay for two services Charter and CenturyLink so that one would work. As journalist, I have to have a connection that almost always works. I understand that things go down a few times a year but ever day? At least three times a week? If I was that unreliable, no one would ever hire me. • Same as home - same account used for both • same as home remarks; see above • Same as residential • see previous comments • Slow service or freezing • "slow • outages • response times to outages • remote customer service unaware" • Speed versus cost • speed, price for the speed, and reliability • Speed/any chance whatsoever for future enhancement, and the fact that we are paying the same amount a month that you would pay elsewhere for 4 times the bandwidth/speed • The price almost doubled! • "They promise a lot more than they deliver. • We have no choice! 	<ul style="list-style-type: none"> • We should provide this service locally, through a LOCAL public entity -- like TLW! • we really need a better option for those of us that live outside city limits • We only have one option for internet and it performs so poorly that it affects our kids' education and our ability to work from home. • We only have landlines for the required back up for fire alarms. CoastCom/WAVE takes care of it and re-invoices us, so we only pay CoastCom. • We need a municipal ISP service that is not for profit entity that is staffed by local employees that are paid good wages and healthcare. • We live off grid, nearest electrical hook up is 2 miles away. • We have tried contacting alternative service providers, but they have informed us that service does not go past our location and we would be personally responsible for the cost of installation if we decide we would want their services. The price seems prohibitive and also it seems that if we were to pay this cost, once the service is at our location it would be easier for this company to provide service to our neighbors upriver from us after we have personally paid for the cost of installing the infrastructure. We live just upriver of a bridge and the cost of a helicopter was mentioned! • We have no access to high speed internet, which seems odd as a fiber optic line is close by yet no HS internet is available. The world runs on HS internet so providing ALL of Tillamook county with affordable access would be ideal to improving our standard of living with education most important. • We have an Airbnb rental that had a lot of inquiries for long term stays but the internet speeds simply aren't enough for work from home professionals. • We have a second home in Neskowin. We can live stream with our ATT hot spot and Xfinity service when we are at our beach house • We feel very fortunate to have internet service via Charter. It is fast and reliable, and when we needed more bandwidth, we were able to get it. It is expensive, but we are able to pay. Therefore, for our household, we are in very good shape. However, I know that this is not the case everywhere in the county. I have fellow employees who have no access to high-speed internet at home. This is just not acceptable in 2021. Every household in Tillamook County should have reliable, cost effective access to high-speed internet in 2021. If Charter and CenturyLink cannot or will not provide it, then Tillamook Lightwave should commit to covering the "last mile" to make these connections. • We do not have access to high speed Internet where we live. • We discovered our "landline" is actually internet dependent - only when we had no power did this come to our attention. The reason we (and our neighbors, all >60) have landlines is for emergency back up when power, etc are not available. This put quite a few at risk. Minimally, there needs to be cellular service in Oceanside area!! • We are hoping that in addition to high-speed internet, broadband would allow Charter/Spectrum to upgrade their dvr service
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<p>and strong, and actually resulted in a raise for our local carrier due to increased package volume. It's critical, and it all relies on the internet to work fast and well.</p> <ul style="list-style-type: none"> Over the past year, I've noticed a big slowdown in internet speeds as more neighbors rely on streaming and working from home. One of our neighbors recently moved here from Portland as a full-time remote worker and we noticed a big slowdown after that. " "We are an internet-based business and it is absolutely critical that we have strong internet to continue our business here in Tillamook County. As an online-only business, we are a net importer of funds into this county -- our customers buy our goods from around the world and send us money, which we spend full-time on local goods and services as full-time Tillamook County residents. In addition, when we moved here we became the biggest business customer for the Nehalem Post Office, which keeps our rural postal service reliable and strong, and actually resulted in a raise for our local carrier due to increased package volume. It's critical, and it all relies on the internet to work fast and well. Over the past year, I've noticed a big slowdown in internet speeds as more neighbors rely on streaming and working from home. One of our neighbors recently moved here from Portland as a full-time remote worker and we noticed a big slowdown after that. " We are in the midst of relocating to a building on Main Street that has Fiber access. We would really like less 	<p>bring fiber to the area and satellite providers are not feasible because of the shallow angle (15-32 degrees) above the horizon to the satellites.</p> <ul style="list-style-type: none"> "Centurylink will not fix my broken internet And there is nothing I can do except find a new carrier" Centurylink's customer service is also terrible. Charter raised rates \$5 every year to \$75/mo now. Choices are limited here and I have limited financial resources. I cannot afford direct cable rates. I find it outrageous I pay \$116.50/month for unstable internet and limited TV channels. Comment; The speed test was performed over a Wifi connection, hard wire download speed has been closer to 100 mbps Competition has never hurt pricing. Cost to lower income families. My family used to NOT be able to afford internet even with Lifeline assistance. Now we have to make sure its paid for our child's online distance learning. Customer service is always very responsive. Customer service is hard to reach and unhelpful. Installation took 7 weeks and was repeatedly delayed or cancelled without notification, requiring me to start over from the beginning. Even before the pandemic it was clear that reliable, fast internet was as essential as water or electricity service and should be provided by a publicly accountable utility. TPUD should administer the broadband network as it does the electrical network, keeping the cost low and assuring universal service. Every time we have high wind we lose internet for most of a day and sometimes multiple days. Everything has gone well Expensive for all the problems we've had Expensive for what they provide. Fiber is overdue. for business purposes I really do not have a choice but to use the services of Spectrum. I have taken to working part time in Portland where I have family and can use their internet services with no fear 	<p>speed and connectivity. Goes out very often and is not available during power outages when using home generator</p> <ul style="list-style-type: none"> Constant freezing of programs. My son gets booted out of his online school classes occasionally. We have to make sure that we do not use wi-fi during his classes or he will get kicked out. constant interruptions to internet service and length of time to get an appointment in order to resolve the problem. cost Cost Cost & Service cost and reliability Cost and service interruption cost for slow connection Cost has gotten out of control Cost is horrible. Router frequently loses connection. Cost is WAY too high, especially given the lag and outages. Cost keeps going up, bad customer service and often have no service. Cost of service is way too high. cost too high versus my use on an occasional basis Cost vs rest of the state, outage's, not able to talk to a local person for problems COST! COST! \$75/month whether I am there or not. Realistically, I am in Pacific City at most 25% of the time, so not using Charter Internet, but paying just the same. Costs so much and basically only one around so they have you over a barrel Crappy customer service. Just today, my husband spent 70 minutes on hold with Century Link to resolve a landline phone issue. We're paying for high speed (40 mbps) & usually get it. But in the evenings, when apparently the whole world is online, it bogs down to next to nothing. Customer service customer service Customer service and how long it takes to talk to an actual person! Customer service is awful Customer service is terrible. Customer service is very poor and that makes outages 	<p>Spectrum is all that is available. We really need an alternative. I have tried to discuss problems with them by internet, phone and visiting their office, all to no avail. We never resolved our need. And there is no cell phone service!</p> <ul style="list-style-type: none"> We have Oregon coast wireless at our office and Spectrum at our confidential shelter location. Oregon Coast can have disruptions in the office or be slow depending on the amount of users in the office; however, they are quicker to respond than spectrum when there are issues. We pay for a service that we don't always get. 	<p>as well.</p> <ul style="list-style-type: none"> Very important that the new company have excellent customer service and are not a "flash in the pan". They have to be competing and affordable. Unrestricted internet access is a human right as stated by the UN. Also, the cost to speed questions are not acceptable, it makes it seem that the local government has already decided on the price of internet, and they are not acceptable prices for the speeds. Any company who tries to sell any speed under 100Mbps in the 2020s is scamming there customers and should not be allowed to operate in Tillamook County. Transparency. Most internet providers and all TV services are not in the least transparent about pricing, contracts, and service. I will not use such services. Too many homes in Tillamook county are still without broadband internet. It's not even *offered* to thousands of homes, most of which aren't that far from the main highways where it is available. High speed internet is a necessary utility in 2021, same with water and electricity, and it's appalling that so many families are forced to live without it. The ISP's need to do something about it and make it available for everyone who lives on a public road. They have made no progress improving internet infrastructure for many of these homes in nearly 30 years and it's time for that to change. "TLW has the backbone with current local providers are able to give superior service. A third party would service those in need last as cost per mile is limiting. Plus customer service would be over the hill and hours away. PTUD is an example of what is needed. A mesh network would help 1000's at cost of under 150k with FDA grant help. TLW has used public funds to help the private companies, schools, public offices and libraries. Keep the jobs and support staff local creating 20 plus good payed employees. Quit fucking around and get it done. Blue ribbon committee are a way to talk something to death. Tillamook Lightwave should look at supplying all emergency service agencies with high speed reliable internet access. Tillamook County is not wealthy. Many of the full-time residents live off social security, in the many trailer parks in PC, Hebo, Beaver and Cloverdale. While the part-time seasonal owners might give the impression of a higher standard of living, that is not the case. Affordable broadband internet that is reliable and available to all provides better economic, educational and personal development opportunities for the community. Tillamook county government involvement would dissuade me since they are incompetent This would be a great thing for our community. Those of us and our children who have lived here many years have missed some really great things by not having broadband available. As a community are falling farther and farther behind because of it. My property markedly less valuable because you cant get high speed internet. I have been hoping and waiting for the day that I can get access to this service like the rest of the country and not
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<p>expensive and faster service and especially cell phone capability in Oceanside!</p> <ul style="list-style-type: none"> • What provider is out the end of Yellow Fir Rd ? • When will fiber (Coastwave?) be affordable? • Would like to have a competitive option 	<p>of my work being lost when the system goes down or having to use my hot spot on my phone. Lack of comparative competition is the real issue</p> <ul style="list-style-type: none"> • Government subsidized monopoly. FTC pays broadband companies to provide rural areas with high speed internet access and we get poor quality for extremely high price. • Government subsidized monopoly. FTC pays broadband companies to provide rural areas with high speed internet access and we get poor quality for extremely high price. • grandfathered in at a low monthly price that is affordable • Having a low cost high speed and consistent internet connection would be a great help • High price for low quality service • I am actively looking for an alternate service provider. This is unacceptable. We have a business in Yamhill county, and it is serviced by OnlineNW out of McMinnville. They have an extensive fiber network. You may want to talk with them about rural challenges and perhaps partnership opportunities. Their CEO is Kathy Tate. • I am SO tired of paying fees/taxes to Tillamook County and getting crappy services and resentment from the Tillamook community. We pay a huge burden of services provided yet have limited benefits. For years, Tillamook has been a "dying" community, despite being on Hwy 101. While I understand the dairy/lumber interests are paramount to city residents, they do nothing for us on the coast outside of receiving review. • I am very happy with CenturyLinks support - they have always responded quickly to any issues we have here. • I can't give you the upload/download speeds since the weather conditions have prevented us from traveling there. Our second home is in Oceanside. • I currently have no reasonable alternative to Charter/Spectrum, thus it's the only thing I'd recommend 	<p>a stressful time .</p> <ul style="list-style-type: none"> • Customer Service issues; unable to stream more than one video at a time • "Customer service varies. Sometimes I get a good one. • Internet goes out for no reason" • Customer service via phone is weak. Seems like everything takes too much time to come up/on line. • Customer service, service disruptions • Data speed is very slow, quantity of data is insufficient. This is based on working from home and downloading large files and watching movies. • Despite the very good speed results on a Saturday morning, my service is remarkably slower than it used to be but my rates have nearly doubled in the last year. I work from home and rely on good speed and reliable service. • Dissatisfied by the escalating cost and constant attempts to sell us more services. • Doesn't keep up when on multiple devices. Sometimes worked great then minutes later slow when nothing has changed. Slow and not clear when on video calls for work. • "Down time • Download and upload speeds are too slow. No streaming options with limited data. We're living in the Stone age information highway. • Download and upload speeds, frequent loss of service • Download speeds are 100+. Upload speeds are very slow. Biggest problem is reliability. Terrible reliability. Internet always crashing. Changed our router with new systems with little to no change. • Dozens of times per day we have to power down our router to get the internet to work again. RTI has tried three routers and says it's just the internet. School kids and us parents working from home cannot make it through most online meetings without resetting the router even when we disable video upload to conserve bandwidth. • During peak tourist times, network is congested, as are cell phone networks. This past summer (2020) was worst ever. 		<p>have to keep explaining why I cant Zoom or Skype or why I have two phone numbers for my business.</p> <ul style="list-style-type: none"> • This survey should have been easier to access and complete if you want a broad response. • This service should be free to tillamook county residents and that would bring thousands of high paying jobs to the county • This is an important problem for all of us. We really appreciate your help! • These last questions are a bit tricky. A lot depends on the total cost of telephone + internet. If we were given an alternative that allowed us high speed internet and telephone (either cellular or landline) at a price similar to what we currently pay, we very well might overcome our resistance to change and subscribe to it. • These days internet is almost a human right, and is crucial for out lives. The cost here is higher than I have encountered anywhere else in the US, and the quality of service is lower. • The sooner, the better--BUT it must be affordable. • The service available in outlying areas is almost criminal • The key for anything new is to allow people to purchase each service on its own, without the scam of bundling for "cheaper pricing." This crippled customers when the power goes down, then you have no communication at all - unless you have Verizon wireless which reverts to CDMA processing (analog) and you can use it in your car. Everything digital is dead in a power outage. • The Internet should be FREE!...to everyone. • The Government in general is not trusted to work on behalf of all the people! Government has become more of a road block to fair and free enterprise. • The cost of the service is way too much. That is the reason we are cutting out the landline and TV services soon. • The amazing service restoring power the last 5 months has given me a real appreciation of the Tillamook PUD. Our internet provider (Comcast) seems to not be able to get a reliable connection (thankfully most outages are at night and short (a couple a week). It has been this way for years. • Thanks! • Thanks for surveying us. We are not particularly tech-savvy, but have done our best (it would be helpful, we think, to define what broadband is, for example). • Thanks for considering this • Thanks • Thank you!! • Thank you for your work, looking forward to change. • Thank you for your time. • Thank you for this survey - while I am happy that I have internet service, it would be nice to have a bigger pipe. • Thank you for the opportunity to contact you from South county Tillamook. • TCTD invested money into getting this service to its operations facilities. Everything went well until after they were acquired by the company that now owns them. • Switching is such a hassle. We bundle our internet with our phone service so it would have to provide that and be cheaper and
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	<p>locally. Charter is not unacceptable, is much better than it was 10 years ago, but some warning or more timely information about outages, and faster service, would be welcome. We have a home phone with a conventional landline via Centurylink, and a second VOIP phone for my business via Charter.</p> <ul style="list-style-type: none"> • I depend on it, but worry about whether it will quit. • I don't really have a choice. I think there is only one provider. • I don't really have a choice. I think there is only one provider. • I don't use wifi at home. The service would cost more if I did. • I feel the speed is not as fast as they claim most of the time • I had difficulty answering "how often do you experience outages I lose internet if there is a weather related issue for charter/spectrum. I don't lose connection as often as I had listed (once a month) because you didn't give anything smaller. • I have no options available to me except satellite internet and HughesNet is my only choice for satellite because of clearance for satellites. This is horrible in today's world of technology! They laid fiber optics down Little Nestucca River Rd but gave us no options to link up to it. In ND where my family lives, they have fiber optic available out in the middle of nowhere! • I only use my internet provider because nothing else is available here in Oceanside. • I really want another internet provider for personal use and work from home. • I recently moved to the coast and was limited to where I lived due to broadband issues. I'm full time remote and wish I had more choices than spectrum. • I show up from White Salmon Wasington • I teach for a living. I tried to do so from out there, but the internet just wasn't good enough. I looked into all the different options, but the 1.5mbps service from CenturyLink is the only real option. After talking to neighbors, I concluded that the satellite services weren't really any better. I even entertained renting office space in town so I could have 	<ul style="list-style-type: none"> • Everything - Always slow - frequent outages- poor customer service • Expensive • Faster access and reliability • Fastet speeds not available • "First, your survey provides for multiple providers which I have, but does not differentiate on the actual responses. • Regardless, obviously Century DSL is painfully slow as its 90s technology and depends on distance from hub at that. We happen to be end of hub. Streaming is challenging, especially in peak times. • Satellite is dependent on azimuth and we're in hills so we can't connect to best satellites. I just tested ping at 750ms so obviously gaming is out. Further, that lag makes VPN, VOIP, etc. semi-useful. Also, data caps suck. We are completely unable to use Direct TV video on demand. • All this leaves us constantly managing our usage. That is, we don't synch backups, we have auto-update of apps disabled, etc. • I honestly believe reliable, first-world high-speed internet would significantly increase appeal of Tillamook and raise priory values significantly. • BTW, for some reason your speedtest link is only providing download speeds. " • For a telecommunications company, it is strikingly difficult to communicate with. Communication regarding service interruptions are not updated "(the outage has been reported") and a time-line for repair is missing. • "frequent and lengthy outages. Go through several techs, after lengthy • ""virtual"" trouble shooter, and answer the same exact questions for each. After 3 techs, get to the right one who wastes time asking questions that couldn't possibly be causing problem. May or may not find solution and then lengthy critique ""didn't we do great?"" • Frequent internet and or phone service outages, price increases , customer service not always clearly spoken, answers to questions not always answered to my 		<p>better for me to switch.</p> <ul style="list-style-type: none"> • Speed and price. Period. I couldn't care less who provides it. If it requires local government because the companies are a bunch of idiots then so be it. • Spectrum is basically the only game in town. I would like to support Nehalem TelTel, but I believe they only offer DSL. It would be great if you could somehow include them in any endeavors, just because they are local and it would be terrific to keep them in business. • Spectrum has no customer service • Some of your questions seem a bit loaded, as in a push poll. (Do you think of us, as a group, as gullible and unsophisticated?) How can we be sure you won't dramatically jack up the price of service after we've been reeled in with low introductory pricing? Will the county force Lightwave on us, in some way, and use survey results to justify it? Exactly how much, in dollars, would Lightwave demand from the community to provide service? How much from individuals? (Your survey raises multiple questions.) As for the county, where are its priorities? Right now, the county should focus on such essentials as COVID-19 vaccines, jobs and affordable housing. Also cyber security, given the recent attack. And road repair. Lightwave should be secondary, and I'm curious why it isn't. • Some of your questions leave me suspicious. We're they designed to elicit a predetermined answer? • Since we are 2nd home owners, we do not need full time internet service and find it a serious waste for our situation. However, when at our home, we miss not having a connection immensely. Hoping Tillamook Broadband might offer a hotspot answer for our needs. • "Seriously considering Starlink internet service. Relatively broadband and always available even in times of power outages and natural disasters. More expensive but those advantages outweigh the cost. You will need to be competing with them. • "Right now Spectrum plays games surrounding infrastructure to receive their service, often they quote incredibly high fees to add services to homes without, at the very least, offering payment plans or assistance in any capacity. I personally know several households that have incredibly unreliable service because they weren't able to afford the fees involved in bringing Spectrum to their house, even when Spectrum already existed in neighbor's residences, so the households settled for other service that do not have the speeds but could be received with affordable infrastructure. • Monthly price is only a part of the equation, if I can't afford to bring the cable/infrastructure to my house then I can't switch." • Reliable, affordable internet is critical to our county and all rural areas. • Reliable internet is a critical resource for those of us who live part-time on the coast and we are planning to be there full-time within the next year or so. Oceanside does not have cell phone coverage, and so reliable internet and phone service there is a real safety issue, and something we depend on. Thank you for considering this project.
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	<p>better internet, but I couldn't find anything. So... I type this from back in Portland.</p> <ul style="list-style-type: none"> • I think I've summed up our poor rural access, and am quite disheartened by our leaders abilities to address these Countywide needs, when there are rural programs thru Fed agencies that have been in the forefront for years. I applaud this effort to make the needed improvements. Uprooting my family and moving within the County is just NOT in the cards at the moment, and does not seem like a truly reasonable venture to make, just because of the lack of good internet. Many financial reasons and long term decisions are involved, as it would be for MOST folks in this situation. There were some promises made thru FEMA agreements years ago, that have not panned out as they should have, and someone is to blame there (but I can't say who for sure). This relates to Tillamook Lightwave that has provided broadband for just a few of the biggest players in Tillamook County., not the general public. • I think your internet is better than it was originally so they must have cleaned the lines or improved the service. I still think it could go faster for the price we pay and for what science is capable of now • I will keep what we have. We moved from Centrylink because of the POOR service by Centrylink. We will NOT switch to Tillamook County Government run internet • I wish I could do zoom interviews. Currently I was interviewed for a home building site and they didn't believe my internet couldn't do the job for them. Sadly they cancelled the interview when they couldn't see me at all. I have lost out of jobs from it, calling centurylink I am well known with the prior tech John and after his passing with the new one. They know the service is bad and they all tell me there is nothing they can do that their company is only maintaining and not building new service for us out here. Then you have my neighbor, who is an online special ed teacher. She comments she is the only one that can't have her video up during zoom calls because her 	<p>satisfaction or resolved. Sometimes being cut off or disconnected while making inquiries. Slow internet up load and download. Just to name a few.</p> <ul style="list-style-type: none"> • "Frequent interruptions of service. • Unreliable speed. • frequent loss of service. Price too high for faster service. • Frequent outages, slow response in the evening. Ignorant customer service. Extended outage (up to three weeks) • Frequent outages; slow downloads and uploads; slows when RAINING - RAINING!! THE MOST DOMINANT CHARACTERISTIC OF OUR WEATHER HERE. Frequently unstable connection for my business zoom mtgs and I need to stop using video and just se audio. AND I DO TRAININGS AND COACHING as my business. • frequent outages; slow speeds; exorbitant costs • Frequent price increases with no explanation or warning. • gigabit service would be useful to my business - consulting statistician/applied mathematician • Goes offline periodically, or has inturrptions. • Have connection problems for college classes • Having reliable internet to teach from home has been a challenge. We have had frequent problems. My wife takes call from home and our service has been inadequate for that. The technicians have been great, but they aren't allowed to connect us to fiber technology that runs in front of the house. We have been told that it wasn't designed to connect to in our location, even though we have requested a faster service since we connected 8 years ago. We even have offered to split the cost to connect us. • High cost. Unpredictable service. • high price low speed • High speed Internet service is not available • High viewing times in the county slow the internet. • Horrible service most of the time. • Horribly slow speeds for 	<ul style="list-style-type: none"> • Reliable connection to the internet can help meet the needs of those struggling with mental health issues, people living in poverty, people with fragile health and our senior citizens. Please advocate and work to create reliable and fast internet connections. • Recently purchased lot in Pacific Seawatch and will be building home within 2 years. We NEED reliable fast and secure internet for work as a Court Reporter and for Closed Captioner work from our new home, year round. Secure cloud access will be essential for us as soon as our home is completed. • Reaching all areas of the county can really help people access community services like healthcare, care, tides of change, etc without having to only access services in-person and utilize our minimal and not always accessible transportation. • "Please include Tillamook County Library representation in this effort. Our libraries (Main in Tillamook, branches in Pacific City, Bay City, Garibaldi, Rockaway, Manzanita and bookmobile rural stops) serve many without computers or internet access at home. These are folks who may not even be aware of this survey or the goal of your partnership. In many ways, their needs are the least likely to be discovered or addressed. Library staff can give voice to their needs as well as speak to emerging national trends for public use of technology. • Thank you for prioritizing access for everyone in Tillamook County!" • Please help to make this a reality. Please • PLEASE DO THIS !!!!! • Please do something please save us from the price gouging that they have going on!!! • Please continue this important work, it is critical to economic development. • Please continue this important work, it is critical to economic development. • Over the years, I have used all 3 of, the currently available main internet services and have not found any of them to be totally dependable! • Our household can afford internet services, and could probably even afford to connect to broadband now, though it seemed too high a price when we first moved to our property. Too many people in the county cannot afford it and/or don't have access to it. The lack of access is an equity issue that negatively impacts individual and family access to information, education, and health services and contributes to social isolation which negatively impacts physical and mental health. These negative impacts compound over time. This is something that was known and researched and should have been addressed years before the pandemic. Some countries, like the UK, started working on accessibility for all citizens more than a decade ago. Internet access is critical and essential. Please work expediently to improve access, quality and price in Tillamook county as it will improve quality of life in positively compounded ways as we move into the next decade. • Our cable TV service has so many duplicate channels and poor quality content that we seldom watch it. It also doesn't carry the full range of PBS channels and at times blocks out professional and college sports events that I
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<p>speeds are so slow. They all sent me their speeds last month and they were all under 2 mbps on our roadway. Hughesnet is at the house above me and they were worse than my speeds. If there is anything I can do.. Please contact me Tobitha 408-666-0961</p> <ul style="list-style-type: none"> • I wish it was faster and cheaper. • I would be willing to pay the same amount for better service for our internet and VOIP phone. See amount below... • I would like a better service without having to bundle. • I would like faster internet, but it costs too much. • I would like to have a better provider of reliable, reasonable priced internet • I would like to know how much more is even available to my house before changing internet providers. And I would like to have in-home assistance. • I would love to have an alternative to Charter/Spectrum. Might bring the price down. But as far as service, reliability, speed, etc. the service is fine.\$75 • I would recommend them to City of Tillamook residents because they are the only provider in town to offer okay broadband speeds. I know based on other places I've lived that the speeds, reliability, and customer service could be so much better for everyone if we had decent competition. CenturyLink and the rest are just not competitive. I am also not pleased with Charter Spectrum's data retention and advertising policies: I view the service of an ISP to be based on providing access to traditional consumers, not brokering data to ad partners. We face frequent slowdowns and I find myself reverting to an LTE connection. • I'd only recommend my current provider, as poor as it is, because our options are so few. • I'd recommend my service only because I've had others available in the area that did not work for me. I'm under the impression that this is as good as it gets. • If I could get Oregon Coast Wireless service I would • "If you can provide a reliable 	<p>both uploading and downloading! Data usage rates are horribly expensive and there is no limitless data usage either. Speed though is my major issue along with very limited data because of cost! If I had more data, I would do more video chat (very limited now), streaming and smart home!</p> <ul style="list-style-type: none"> • I can't get 5G in my bedroom & I don't even have a big house. Maybe I need an upgrade, but I'd never know unless I called or took time off to go into their office. • I connectivity issues. Cable and streaming issues with connectivity. My provider is not very helpful when I run into issues. They have little referrals or corrections. • I don't like how there is not very much competition here so Charter gets away with charging as much as they want because they can. We need more competition here so we don't have to only choose from 2 providers • I only recently received a new router after 5 years of complaining about poor performance relative to promises and nearby neighbors performance. Improved my performance - shame it took 5 years of cajoling. Also, we have frequent performance dips and total outages. • I pay the same price as people in the city for basic internet service, and they advertise over 100mps for what I pay for. But I can't get over 80mps in my small town. • I test the speeds often. Throughout the county. I run several YouTube channels and it takes me 23 hours to upload a 6 minute video consistently. So I currently create content and go into Salem to upload. My neighbors also have tested their speeds and are worse than mine! My parents live in the Pacific City proper area and my 6 minute video would take 6 hours (even at the library). Every location in this area with free wifi or at friends, max speed is 6Mbps upload if that! Usually it's 4 Mbps. I can go sit at the community college and upload my video's in 5 minutes. The same video's. The speeds are so bad here I 		<p>can get for free at my home via antenna. Any movie or program that looks current or interesting is always an upcharge.</p> <ul style="list-style-type: none"> • None • Needs to be significantly more affordable • Needed put Yellow Fir Rd this summer for business and schooling. • My survey answers are not very informed but I'm intensely supportive of any plans to provide much, much better internet access for everybody. We also have unreliable cell phone service so are forced to have VOIP. We would drop TV and just have good internet if it were less money and no bundle. • MY SON LIVES HERE AND RUNS HIS PRIVATE SERVICE BY INTERNET SERVICES, ESPECIALLY FOR QUICK RESPONSE SCHEDULING. HE RUNS AROUND - EVEN OUTDOORS - JUST TO MAKE NETWORK CONNECTIONS AND/OR MAINTAIN CONNECTIONS WITH HIS ANDROID PHONE. NO BROADBAND CABLE CONNECTION IS AVAILABLE AT OUR DOMICILE, CURRENT - INSTALLATION COSTS ARE PROHIBITIVE.. • My neighbors feel the same way, we have this conversation often. I have tried to convince Coastcomm/wave to provide services to us and I am aware that the state offers grants to reach areas like mine. • My main concern is the lack of good "old fashioned" customer service with virtually all "service oriented" businesses. It is virtually impossible to connect with a customer service representative any more without having to "fight" with an automatic answering system with limited vocabulary and not programmed to respond to what most customers want in the first place. It seems like when one does manage to get to a "real" person, that person is located in a foreign country and although has a good command of the English language, usually has such a strong accent that it is difficult to understand. • "My job is a very technology driven one for one of the county's larger employers. Currently, when I am at home, I am almost always unable to provide support for my team and other areas of the business due to the unavailability of low-latency reliable internet. • Additionally, my wife and I have no family in the local area and when we want to videochat with them we must drive 15 minutes or more to find a reliable enough cell signal to allow us to connect with them. • Our previous homes in other areas were made into ""smart homes"" by me. I would love to bring that type of functionality to my current residence but of course am unable to. The security system I installed already is marginally functional with our current service. • We love where we live and would not trade it for any place else. It just makes it hard to live and work the way we would like to or share any of our amazing experiences out here with those in our lives without dependable service. " • My biggest concern is that government often can be price and service competitive. I don't believe Tillamook Co should invest in hardware etc but work to have a viable strategic partnership with existing companies that provide that service. • Municipal internet services please • Most likely to switch, but would depend on
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	<p>service, I would be happy to ditch Charter. I got rid of their traditional video service because was really unreliable and how have a small package from them that I stream. I also write about the cable industry for Multichannel News, the industries main trade publication, so it is particularly irritating that they can't seem to provide a decent reliable service. Cable DOCSIS technologies for broadband are really great, particularly with the CableLabs 10G on the horizon. But like most folks I'm really fed up with their service.</p> <ul style="list-style-type: none"> • "In a CONNECTED world, ALL should have affordable connectivity. The current connection is old technology; very antiquated. problematic (sometimes affected by weather) & SLOW. • Because we have outages & run a business, we are forced to have BOTH DSL (CenturyLink) AND ViaSat (satellite) connections for back up & continuity, thus, pay a horrendous price for any internet." • In Oceanside, we're stuck - very limited options for internet, and spectrum is very good at regularly raising rates. Additionally, the internet is down quite a bit over here. Without internet, I have zero phone capabilities. It's definitely a safety concern. If I wasn't able to pay for internet coverage, with no phone/tv/email access, that would create an amazing emergency communication problem. As you likely know, there is only one way out of Oceanside at this point. Understanding safety risks/evacuation concerns is a potential problem. • In Tierra Del Mar we don't have cell service so we rely 100% on internet to make calls, work and stream. Our internet connection is especially important when there are emergencies. • Internet is tied in with phone. Not able to use any other service due to physical location. • Internet seems very expensive. • It is a horrific rip off; have considered cancelling altogether for awhile now. • It is okay but limited. Better, faster and more reliable 	<p>actually kept logs up and down south and central Tillamook county. We recently have been in talks to actually move in to Salem so I can expand my channels and save me driving time and overall wait time while surfing. We even buffer while watching Netflix! It's that bad. But remember, my neighbors speeds are worse. And one is an online teacher! From Home!</p> <ul style="list-style-type: none"> • I understand the difficulties that arise with power outages, but the service is not fabulous. • I upgraded to a plan that would give me 10 mbps and speed test shows only 2,2 . At times it takes too long for things to load and it times out and quits. • I went out on December 21 and was not fixed (hopefully) till 1/5.. • I wish we could call the local Spectrum office in Tillamook rather than drive in or call the toll free robot. • I would have been living and working from out there for the past year if the internet were better. The best available internet is 1.5Mbps where I am (2 miles east of 101, 3 miles north of Beaver). The only non-CenturyLink option is satellite and from the people I've talked to, it's not really any better. • I would love it to go faster. And I need to find devices that wirelessly connect to my modem to send it through rooms in my home. • I often lose connection. Bundle package is expensive and do not use land line but if cancel phone then more expensive. • I'm a network engineer and I want symmetric 10gb fiber to my home. Nothing cable can deliver. Willing to pay... • I'm not at my residence in Garibaldi full time yet (will move there in next 3-5 years). When I am there, about 75% of the time I can get connected. Sometimes I have to go out on the front porch (west facing) to get connected. Overall, the system is slow. Luckily I have a hot-spot in my car that's 100% reliable. As far as customer service, it's nice there's an office in Tillamook that I can go to and talk with a real person. I have 		<p>the price. Such as i'm paying 70 dollars for not that great internet, could I pay the same and get better internet?</p> <ul style="list-style-type: none"> • More likely to change if there are no other conditions attached such as subscription service requirements. • looks like you folks are doing good work! • living in the country, I only have one option for connectivity; it's slow and costs a lot • I've been waiting for this 21 years. One provider was close to providing line of sight which would have brought our citizens up and equal to other big cities but the business went bankrupt before it launched. I'm very interested and I hope where I live won't be screened out. It would be so nice to have really good internet at an affordable rate. Even better if they had a program for SSI or seniors perhaps on food stamps to give them a bit of a discount. • It's here. Let's do it! • It's stated that the fiber optic will stop north of Wheeler I live in Manzanita does that mean Nehalem and Manzanita would not be included in the plan for Tillamook County? If so - that's very shortsighted if your truly looking at expanding broadband to the entire county. Don't forget the entire county then. • it would bet nice to have options. Centurylink has not tried to improve service in years. I had 10Mbps with them and now if I wanted to go back I would be limited to 6Mbps. They also have distanced limitations (you have to be close to a CO for the signal to give adequate speed. Charter Spectrum works better, but they have limitations as well. Not everywhere has cable. If they do, the customer may have to pay for an underground service as there may not be PUDs required 4' of separation between utilities and still maintain ground clearance for traffic. Spectrum also has a fairly high cost. Satellite is quite slow and is not available to those on the North side of some hills. Has broadband over powerlines been explored locally? I know in Eastern Oregon the town of Halfway and the neighboring Ghost town of Cornicopia all have fiber drops, why are we so far behind? • It is very difficult to conduct business without dependable internet. I hope we get it soon • It is high time we have fast internet service down here. I pay for very limited cellular service and it is very frustrating to be so far behind times down here. • It all hinges on affordability • Internet should be accessible to everyone, regardless of socioeconomic situation. • Internet provider that was a Special District or was a branch of TPUD I think would help level the cost of the other companies and be better managed. TPUD is publicly owned and provides a outstanding service. Internet should be the same. • Internet is an essential utility. Everyone should have it at a low cost. Should be part of our tax system. • In our area of South Tillamook County, CenturyLink is the only option for Land Line Telephone and Internet service. • In order to foster better BUSINESS opportunities, and EDUCATIONAL opportunities, I believe it is essential that Tillamook County work cooperatively with a
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	<p>service would really help.</p> <ul style="list-style-type: none"> • It is our only option on our road. We aren't serviced by Spectrum due to the cost of them installing underground cable. • It is past time for Tillamook County to have widespread reliable internet service. I do not know what impact our remote location has on emergency services but I am not confident that first responders have the connectivity that they need to assure a level of service that should be available in our area • It just seems expensive for what I get. And because of spotty cell service, I rely on the internet for cell phone usage. • It sucks • It sucks and should be better. We should be able to choose from multiple cable providers • It would be great to get better service • It would be great to have another option, especially if we could have access to rural broadband quality/speeds and eliminate hourly disruptions for restarting router due to low/non-existent speeds.. • it would be nice if you could keep the introductory price and not have it jump up in price later on, even though as technology increases costs typically go down. • It would be nice to have a CHOICE when selecting a provider for these services. • It would be nice to have other options for internet other than satellite. It would be nice to actually have unlimited internet, especially for the price we're paying • It would be so nice to have other options to even pick from • It's better than century link but would be nice to have something better • It's horrible. We are hoping spacelink will be an available option fir us soon. • It's not like we have any other viable alternatives, than our current provider, CenturyLink. We're in a deep canyon & though we finally found a place to install a Dish TV antenna, I'd sure hate to have to depend on HughesNet for internet service. • It's the only decent service available in our area. 	<p>recently switched to internet only and got rid of the landline and TV. TV is ridiculously expensive! I now pay \$25.00/month for just internet/wifi. Cheap, but with it comes the problems I've stated here.</p> <ul style="list-style-type: none"> • I'm not in Oceanside right now to test the speed, but I do telehealth from home there and I am constantly losing my patients on screen due to the terrible internet service. • Imaging freezing or worry circle take overs of images on screen on a daily basis often • Inconsistent service. Varying download speeds. When tourists come to town "trunk"broadband main gets overloaded and service gets interrupted. • inconsistent speed and reliability • Inconsistent speeds • Intermittent service..Often have to switch to cellular service to access the web. • Internet bounces way too much, requires a service call to report etc. • Internet comes and goes. Price without cable is not reasonable. • Internet is slow and drops out frequently when it's rainy or windy and we use up our data quickly especially since doing distance learning • Internet is slow and has to pause frequently to load. Challenging to load/upload things. We do realize this is due to location, not necessarily the provider. Their monthly price is reasonable though. • Internet is unreliable. Download speeds vary between 1 mbps and 150 mbps sporadically. • INTERNET NETWORK CONNECTION LIMITATION. i LIVE 7,4 MILES FROM SPECTRUM SERVICE (5.2 MILES AS THE CROW FLIES). MY LAND LINE IS QUITE SATISFYING. • Internet speed and weak signal • internet speeds are too slow for the price that is being paid. • Internet will go out pretty regularly. • Interrupted service, high cost, slow responsiveness. • Interruption of service on a REGULAR and DAILY basis. It rarely lasts for long but I'm 		<p>private or government sponsored organization to offer better internet.</p> <ul style="list-style-type: none"> • "In considering the provision of a new internet services option, please include consideration of the electric and magnetic field (EMF) emissions that would be involved and make it clear if the new service would increase, decrease or not significantly change EMF exposure for users. • Thank you" • In Arizona through March 5. Primary Residence Portland, OR; spend May - Oct in Neskowin. • In a rural county like ours, it's critical that all residents have reliable internet access in their homes. It is not enough to have internet access at libraries -- people who live further from their local library and have low incomes cannot afford to go to the library for 20-min of internet time. Ensuring everyone have access to internet, given the pandemic and also given where we are as a country where everything is digitized, is a public health and equity issue. • If you're able to keep the pricing right, and service levels high, you have our full support. Thank for your work on this topic. • If you are able to connect rural residents to internet we definitely would hook up with you! • If we got gig speed here, I'm sure you could attract more full time and younger residents here out at the coast. • If we could only receive Internet the way we receive electricity...it's just a commodity.. • IF TILLAMOOK PUD IS CONSIDERING THIS, I WOULD BE STRONGLY AGAINST. BETWEEN PERS AND THERE UNION IT WOULD NOT BE A WELL RAN VENTURE • If I were still using CenturyLink, I would switch immediately. • I'm not convinced that a government entity should provide the service. I like the idea of government making it easy for a private company to serve the area. This could be through simplifying the design and build process, lowering barriers like fees, perhaps subsidizing the build (are federal grants available?), and then subsidizing low income subscribers. • I would switch if more affordable and reliable. • I would strongly prefer if we had internet, phone, and television services as part of a public utility, much like the Tillamook PUD does for energy. Internet is utility and we need local governments to treat it that way. • I would only switch if I still could get cable for a reasonable price. Right now we have a "bundle" package. Just not sure how a separate internet would work with a different cable package. • I would not change my Centurylink landline service for 911 purposes. • I would jump on board totally and know of 4 other homes out of the 6 on this hill would also. Our lines are owned by Century-link and Spectrum is not available to us and Hughes-net is just as slow and to half on this hill... not available. Not to mention our phone service is like a party line. Let's just say be careful what you say on the phonenumber. I know which people on this hill think they have had covid. And my phone beeps oddly for no reason... we have figured it's most likely when someone
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<ul style="list-style-type: none"> • It's be great to have a choice of internet providers! One with a reasonable price. • It's big business stealing money from people that don't live in a town • it's currently the only option available at our home. a little competition would be a great thing. • It's just frustrating that there is a very limited amount of options for internet and neither are really that nice to work with. Customer service has a low bar in the internet business. • It's terrible. I am willing to pay more, but nothing is any better • Just that I wish it were not so expensive. \$75/month! • Limited options are available and none offer the speed and reliability which is common in many parts of the developing world. • Limited options on the coast. • "Locally, there are few choices of providers. • When watching movies, the downloads are sometimes slow, interrupting our viewing. • If two of us need to host Zoom meetings at the same time, the bandwidth is insufficient to reliably do so. This is very inconvenient because then one of us needs to go to a different location from which to host the meeting (library or other public location with wifi)." • "Lower the prices especially when we don't have choices. Our homes are overloaded and better service is needed. This crappy service is DOUBLE what you would pay for somewhere else • Most of us on the Trask River Rd. want consistent, quality internet service. Our daughter, who lives just 2 miles up the road has an air b & b and loses many customers because their internet service cannot handle working from home. • My home internet service is adequate for what I do at home, the service to the fire station is poor • My internet is expensive... and not reliable or fast. I wish I had other options. I had century link before and it was worse. I don't understand \$72. A month for internet • "MY INTERNET NETWORK CONNECTIONS AWAY FROM HOME VARY FROM 	<p>tired of being kicked out of calls and meetings.</p> <ul style="list-style-type: none"> • Interruptions. And customer service. Lack of speed • is not consistence. sometimes cannot stream movies. seems like something is off. slow loading either in phones laptop or tablet doesnt matter • is slow and goes out with some regularity • It costs a lot of money for not much in return. • It costs too much and we must bundle to maintain the price we do pay. The speed they advertise is UP TO xxxxx Mbps, and we don't get it. It's also slower according to the time of day. • It drops us all the time and I have had service outages • It is slow for uploading videos to on-line media. • It is unreliable. For example this weekend, it went out all day Saturday for the Seahawks game so I couldn't stream it. It goes out about 2 times a day for a short period. This causes stress as I'm a journalist who needs a reliable connection to work. In the past, I've had to subscribe to two services, Charter and Century Link with the hope that in a pinch one of them would work. • It just seems like during peak tourist season we have more issues(i.e. slower speeds & outages) • It seems it's more expensive than it needs to be. I would also like to see a basic cable with just local channels for a very low rate and perhaps bundled with getting internet at a low rate • It seems to lock up and is slow when there is heavy rain. Pricing continues to increase to a rate higher than other locations I have lived in, with less customer service • It takes 30 to 40 minutes to get a technician on the line for help. Phone lines are very old so service is very slow. When the tourists are here the internet is alway overloaded. • It took them 5 hours to install because they had to run a cable line from the road across the street to my house. And the line doesn't meet the clearance requirements for the roadway. They have to come 	<p>else gets a phone call.</p> <ul style="list-style-type: none"> • I worked in the high tech field in Portland for 30 years. Moved out here to retire somewhat and am shocked at the lack of internet and cell phone services. • I work in data centers and I am a network engineer. Working remotely due to the pandemic. I would be interested in beta testing new equipment and technology if you need that. • "I will say we were satisfied with Charter's service at our past services in Tillamook County (internet service only, no landline). Although, we did experience quite a few interruptions in service. I was working from home full time then as well, but a lot of that was offline (spreadsheets), and no Zoom meetings. So it's not a fair comparison to my internet needs in 2020. • This was on Chance Road from October 2014 - September 2019." • I wasn't given the option under phone to say that I DO NOT like that I lose use of my landline when the power goes out. The only way a person can make an emergency call if the power is off is to use a cell phone. Some of us do not own a cell phone, and thus, have no way of making an emergency call. That is very bad. Emergencies do happen when the power is off. • I want fast decent Internet service! Living in a rural area shouldn't be penalized by only having satellite Internet available. We want options and right now we have none! Help us! • I think making a change, I would have to evaluate if internet is separate from television & telephone, what are the overall costs. Would landline & TV be separate At this time we are not looking to subscribe to all the on line viewing options. We do not have Netflix or anything other than Cable TV as far as that goes. May be forced to change in a few years if cable goes away. • I think it would be great to have Tillamook PUD provide high speed reliable broadband service to our community. • I reside full time out of Tillamook county, however I do have a second home within the county. My answers to this survey are the best as I can recall. Except for this past year, I like to spend several months, throughout the year, at my second home. I love the ocean! And while there, I do like to be connected. I am sure there are currently pockets within the county without the connectivity I enjoy. I think it is critically important for everyone to have access to the internet, and at a reasonable cost. • I purchased a home in Rockaway Beach 2 years ago and have relied on cellular service for my phone and iPad, and a HotSpot for WiFi in my home (backups require a WiFi connection). I've not been able to use my computer. I don't have a tv because there is no reception. It has caused me despair, depression and frustration. Multiply times 100 during the Pandemic. I am retired. Most of my neighbors are as well. We have needed reliable internet with broad board service for years and feel left out by our community, county and state. • I live in an area where our private RTI provides excellent service. The area is
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	<p>CHALLENGING TO A VERY LIMITED ACCESS EVEN (BLACKOUT DEAD ZONE AREAS).</p> <ul style="list-style-type: none"> • I BOUGHT INTERNET SERVICE FOR HEALTH AND SAFETY PRIORITY AT MY AGE." • My main complaint isn't my ISP, it is the total bandwidth available to our region. • "My service is abysmal. We ave the fiber in Tillamook county, let's use it. It will make the county a desirable place to live. • Need higher speeds and more bandwidth • Need more bandwidth • Need more high value competition in the provider market • No choice, satellite is the only option in our area. • None • OK, only because there are few options • Only real option for reasonable performance. • our down time is somewhere between never and 1 hr month. Can go several months without a problem. • Please bring fiber to rural Tillamook county! • PLEASE bring us an alternative to RT!! Everyone in the Nahalem valley hates them. • Please offer a service to provide a professional connection to our community. We can not maintain our current community members the ability to be connected to all aspects of society without reliable connections. We also cannot grow future generations or new members without a solid and strong connection to the internet. • Please, please wire the entire county for Broadband!! Thank you. • Poor upload speeds and questionable/poor reliability. • Praying for StarLink. • Pretty reliable; reasonably fast - way too expensive. Real competition would be great. • Price went up substantially after the first year, considering looking at alternatives right now • Provide some options out here. Centurylink has no competition! So you have all you can get. It is all or nothing and they have no motivation to invest more in our valley. • Regular short failures are a pain - especially when I know that fiber optics are just down the road. 	<p>back and bury it because it's 6 inches too short.</p> <ul style="list-style-type: none"> • It's too expensive.. I pay almost \$80 a month for just internet! • It's expensive. • Its extremely slow and unreliable. At our location we are unable to get cellphone service so we rely heavily on our internet connection. • It's grossly over-priced, especially given the slowly it operates sometimes. I work from home and each week I am forced to use my cell phone as a hot spot to try to get-around my internet being slowed. It's especially frustrating given the costs. • It's too expensive and there is no competition. Having a public internet service would be wonderful. • Just switched from Hughes Internet because it was horrible service when the weathers bad..was promised higher speeds thru charter and finding thats not the case. Tired of high prices and slow service..I work remote from home and Need best speeds possible. • Lack of concern with outages • lack of customer service, intermittent internet • Lack of speed and available packages. 10 mbps promised (and not delivered) is a joke. • Lag time in streaming • Limited data, can't watch even very short videos without buffering. Can live stream, of video stream movies, or music, participating in online meetings/video calls have delays, Can't set up smart devices due to concerns related to the limited data. • Limited options for providers. Spam mail. Seriously, so.much.spam.mail. I wish they would stop wasting earth's resources by cutting down so many trees to send me spam mail that goes straight to the recycling bin. • "Living in a minor secluded chasm with heavy vegetation, the poor receptions, and transmission levels advertised, with a one fits all billing rate. • That of black out areas in coastal Tillamook County. • Lack of security and safety access for most countians, even those close to fiber 		<p>restricted to the area code 368 and not available to those outside that area. Don't believe service providers outside this area are as good and need improvement.</p> <ul style="list-style-type: none"> • I live in a rural area where there is no choice in internet service and no cell service available ..we have to take what we can get and pay whatever they ask...a good internet service would make life so much easier • I have full-time senior neighbors who do not have Internet broadband service because they can't afford it on their social security retirement income. They use cheap burner phones and get TV thru roof antennas. When Rockaway lost its water this winter, after it came back on early in the morning they had no way of knowing that they were supposed to boil the water, until a city worker put a flyer on their doors several hours later. It is unacceptable to me that public health is at risk because of the lack of a communication mechanism available for such emergencies. I learned about the water on Rockaway's Facebook page early in the morning, using my smart phone. That the city/county has no public service mechanism for communicating emergencies is simply unacceptable. The whole county should be automatically enrolled in an emergency notification plan thru an affordable(and for some people, subsidized) broadband service that operates as a public utility. • I have been pushing TLW to do what is in their charter, provide broadband for all. • I feel parts of the community have been left behind. The health and welfare of this isolated community would benefit from access to health care, education, and commerce provided by a modern system. Our emergency services could benefit from this update also. The current outdated phone lines are undependable often leaving residents stranded. • I feel like if local government could connect major business and community based organizations with fiber and dramatically improve our bandwidth as well as help provide the infrastructure improvements to broadcast a strong WIFI signal. If people wanted more bandwidth, they could then purchase their own physical connection. Our local business and CBOs could help close the gap on access to all for the purpose of education, and information. Furthermore, each "hotspot" provider could have a splash page that someone signing on would see to help bolster that individual business or CBO. I am full of great ideas... • I don't understand why fiber has been put in to Tillamook County years ago but has never been made available to residents. This is a very serious deficiency. I don't see why TLW has not partnered with TPUD, which already has connections to virtually all residences, to provide fiber based service. • I do not have television and internet for quality of life issues. I do require internet for life's basic chores. Library and banking. The wi-fi available at the public library fills that basic need. • I do not believe that a public owned entity should be completely in the private sector. You have already taken the cream off the top
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	<ul style="list-style-type: none"> • Responses made from residence in Portland. Will not be in Manzanita before 2/15. • Right now it is the best option I have . • RTI DSL sucks. We were getting 6MBS. That's not a typo. Six MBS. I just recently upgraded to Spectrum where I get 110MBS. RTI can go pound sand, but we are most likely going to keep it as a back up. • RTI is very erratic, some days good and some bad. • Service can be slow in the summer when the area is heavily visited/occupied. • "Service was just interrupted again just now. second time in less than 30 minutes What is wrong with Spectrum? • SLOW • Slow with no real service • Spectrum is currently the only internet provider with services available to our home at a reasonable price. • Spectrum is not very good, but it seems to be the best AVAILABLE. Way too expensive. • Spectrum just raised their prices again. I am now actively looking for a new internet provider. • Spectrum seems to be best in our area. We chose our location due to accessibility to the internet. Would like options for faster internet as we only use internet, no cable or phone. • Speed availability is inconsistent at best. Outages cannot tracked be successfully tracked by customer nor are they communicated to the customer. When internet access goes down, it might be for 24 hours or more. • Speeds can become unusable if multiple people are streaming or updating devices at the same time. • The calls to include Spectrum TV really get annoying. Again, the monthly cost is outrageous. • The cost has sky rocketed since we started using the service in the last 5 years. • The cost is ridiculous but it's the only option we have. I had Centurylink prior to getting spectrum and it did not work at all. • The download rate is too slow by 10X • "The internet speed drops to a crawl too often. It takes 	<p>cables presently installed.</p> <ul style="list-style-type: none"> • The present pandemic places stress on both education facilities and students for appropriate bandwidth programs. • THE COST OF BRINGING BROADBAND CABLE TO OUR PROPERTY." • "Locked in with no options. • Fixed income & prices keep going up " • "Long phone wait times for customer service • Always trying to upsell to different package • Speed is good, but could be much better" • Loose phone and internet service very frequently. Cannot stream, or watch Amazon Prime or Netflix because not enough to load it. Paying for Dish TV and not able to use the features because of it not being able to download • Lose service many times per day, often off for hours at a time • Loss of signal during heavier rain spells; Speed is not 21st century worthy ! ; Allowances for data are too minimal, and cost overruns are common, as tokens need to be purchased when data use goes beyond what is allowed; Agents on phone are ok, but they take a good amount of time to resolve or help with any issues, and have the typical excuses for loss of signal, etc. • lousy speeds and far too many outages • Main issue is I can not work from home at all with my service. Very slow - get dropped all the time. Everything buffers all the time. Cost is very high and you do. It get very much data a month. • Multiple down times • Multiple phone calls and in person tech visits -modem change- nothing has helped internet is on and off constantly - children are unable to do schoolwork at home have to travel to siblings house in order to do school • "My experience has been that as a company, Spectrum doesn't care about me wether as a person or even a customer. Clearly assuming they can put in little effort and still retain customers. • Customer service has little to no resources to help most 		<p>with your Tillamook light wave. Now you want to compete with private companies head to head. Do not use the public money to fund this.</p> <ul style="list-style-type: none"> • I currently have no access to Internet. • I can't answer questions about switching until I know what is offered, by whom and where. • I appreciate the fact that local government agencies are looking into the matter of internet access. High speed internet is very limited in some areas of our county and that needs to change. Thank you! • "I answered very likely on the last question. But, to be clear I don't care if it's government or private that drives it it just needs to get driven. • Also, this is a sufficiently critical and limiting issue that a neighbor and I would consider additional financial support of the infrastructure capital investment. The current situation significantly limits our ability to get work done. " • I am very excited to leave Spectrum for a faster and more reliable alternative. Please give us this. • I am strongly supportive of a locally controlled and focused provider but just as importantly I'd support any additional provider so that there is choice and competitive pressure to benefit the consumers. We had the CenturyLink DSL which was expensive for slow speeds and poor service and were happy when Spectrum started offering service in our area. However my understanding is that the CenturyLink service is in a starvation zone, so even if it made sense to go back, it could involve a wait-list, etc. Meanwhile Spectrum can raise the cost whenever they like because there is no viable alternative. • I am a teacher and it is sad that some of our families cant afford internet. I have used spectrum but every year you have to pay attention to you bill because it starts going up, the internet goes put frequently, the customer service is ify, and once again if we wouldnt have two working in our household we wouldn't be able to afford it. I am working from home amd need reliable internet service. When the internet goes out, I cant work. • I am a seasonal resident to Pacific City. The internet service there is not affordable. When at my seasonal residence I have to rely on my cell phone for internet connecting. The cell reception is not good, on weekends it is worse, more people using what coverage is available. Not able to watch a YouTube video. Cell coverage is spotty and not reliable and Internet service is not affordable for part time residents. • I am a retired Washington State Dept. of Information Systems and Federal Govt. IT professional. I have witnessed better and less expensive service provided in Mexico and Italy and I am ashamed and embarrassed at what is provided here in the United States. • I am a believer that required services should be accountable to public bodies and citizens, and should operate with the public service principle of equity: we are citizens (residents, community members), not consumers. This means that we are not optimising for cost/hookup and service alone, but also for long-term stability, flexible billing for
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	<p>hours to upload large files. In frustration, I head for the wildlife refuge where there is a cell tower and try to upload files there. Shouldn't have to do that.</p> <ul style="list-style-type: none"> • We have had our line checked and had the service checked in the house. Bottom line is that we pay for 8 Mbps, but rarely get it." • The only reason I would recommend it is because it is the only internet provider in the area that I have found usable in the modern landscape of IT dependency. • The only reason I would recommend spectrum is the other option is century link and their speeds are slow • The real problem here is cellular connectivity. • The reason I put down that we constantly have internet outages is because we pay \$110 for 50 gigs of data. Because our children are on line schooling- that data is gone in 3/4 days. After that our service slows way down which constantly drops the service in the middle of their class. • The reason I would recommend our current service is because it's something rather than nothing. The cost barrier to getting broad band internet when we're a quarter mile off the road and across a salmon bearing stream was too high, that's why we went with satellite. I would absolutely leap at the chance to get more data at a lower cost. I tried to upgrade with Viasat. They sent a rep to our house only for him to tell us that the upgrade satellite is not visible from any point on our property because of the topography. I don't want to move, but sometimes I think I'll have to be willing to work out if county to use my skills and hold a job I like if this is the only option available to me. • There are not Internet Service available in the area where I live. • There are times when the internet is down more than it is up. Right now, today, this month it's been fairly reliable. However, 6 months ago, it would have been down more than up. That wasn't well represented in your questionnaire • There aren't any other 	<p>problems, often the only resources they have involve selling services.</p> <ul style="list-style-type: none"> • The technology used at home is the same, even the same model number, as it was ten years ago, yet I can order newer router models on Amazon and the process to switch to a router not provided by Spectrum is of course tedious at best. • To top it off the last time I used customer support, I was more knowledgeable than the tech I was connected to, and it took almost an hour to go through the required steps despite the fact that I had stumped the tech with some of the diagnostics and commands I had already done within the first 5 minutes. • Basically I really wish there was an alternative, but if I want the speeds I get I'm FORCED to use Spectrum." • My fiber is on a small foot bridge over a small stream. They still having properly buried the line. I have asked multiple times without resolution. • my primary email address is tied to the provider • No consistency in service. Price is very unaffordable for most people • No issues, but internet could be faster • "Noise on my phone • Intermittent internet if any. • No service tech support • Centurylink is broken but still charges " • None it only goes down every once and a while. I have 15 computers running everyday off the server. Runs fast all the time • Not a good product for price • Not consistent. Several days each month with no internet service, which also means no landline. No local phone number to call when it's down. I'm paying \$200 per month at home \$100 per month at my business for Internet. • Not fast internet it's slow • not real reliable and slow • NoT reliable, keep having to reboot system • Not responsive, frequently service is down • Not stable. I have to constantly reboot because the service is so slow or freezes. When it rains or Busy time of day barely works. 		<p>extenuating circumstances, a represented civil service, use extra billing envelope space to promote community events, and are hyper transparent about outages and service delivery. (Many of these our PUD does well today.) And in the context of providing a public option rather than public monopoly, directly competes with existing players rather than working around them. Finally, please no data caps; research finds that they are not needed with modern infrastructure to improve congestion but are instead used as an effective way to earn more revenue from citizens and consumers. Net Neutrality is not as much of a concern because of our small size.</p> <ul style="list-style-type: none"> • "How cool would it be if places in Tillamook County where current mobile service providers fail to provide any, or at least reliable, service had free open WiFi? • "Downtown" Oceanside, for example, has very poor mobile service and, thanks to CenturyLink "business decisions", people with emergencies no longer have even a pay phone to contact 911. • Many students in the county have no wireline service, and mobile service was unable to accommodate them sufficiently - why not set up WiFi hotspots for them? • Pay for these services with TLT or PUD community service funds." • Hoping more reliable, high speed internet service becomes a reality. • High-speed internet is a foundational economic development tool -- critical for today's education, communication, health care, and potential entrepreneurship. Key question: what economic opportunity does the county wish to support and provide? • HELP!!!! • Healthcare for this or any veteran, disabled people is vital to access specialist doctors. • Great to have a local choice of providers! • government has NEVER been efficient. You will just TAX us more to fix your problems even with internet. • Good Luck with this project. • Good luck • go for it • Get it going! • Free us from Centurylink - there provide terrible service • Economic development for the coast would be well served by improving the network. Future work will alter how we conduct business. Our coastal living provides a beautiful place to live and we can attract individuals who work from home. • Download speeds are 100+. The upload speeds are very slow. Upload speed is a very important aspect for our business. • Currently it appears that only ONE company (Spectrum) offers internet for our area. It is expensive and their service is limited and seems to rate as a mediocre provider. Would love for Comcast/Xfinity or comparable company to provide competition. • Currently I feel there is no good option to a company that I have no confidence with. Essentially they have a monopoly. • County government only. The local city government in Manzanita is not transparent enough to have any control of any public
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	<p>options for my location that I'm aware of.</p> <ul style="list-style-type: none"> • There have been issues - dropping during Zoom meetings, cannot use video during meetings; then we were adding a security camera and realized that our internet did not have the bandwidth to add the camera. I called RTI and realized that we did not have the highest level of internet available (more \$\$) but we can (hopefully) improve our bandwidth to allow for other devices, etc. We'll see ... • "There is no competition in Nehalem so I am stuck with poor, unreliable service, • The Internet in Nehalem cost twice as much as it does in Portland and it is not half as good." • There is no internet choice at our location. We have to have RTI because neighbors complain about their satellite as well. We also have to have a landline if we want internet which causes higher pricing. For the past 15 years we use exclusively the internet for our TV viewing. • There's only one option in our area for high speed cable internet. Spectrum. Not really choice but we are pretty much forced to go with them in our area. • They are literally the only provider who can give us service • They are the only game in time so you have no choice. • They're wasteful, send way too much mail, and they train their customer service representatives to be sharks. • "This is like a trick question, Spectrum is the only company that gives the speeds decent enough for gaming and streaming. Given that I am FORCED to recommend Spectrum. • Side note, if the local Spectrum office was a small business rather than an office beholden to an uncaring corporation, my feelings would be extremely different. The local employees do everything they can to help, and are much better at it than customer service on the 1-800 number." • This survey should transpire again in the summertime, when speeds and bandwidth are much more limited. • to be fair I have a quirky 	<ul style="list-style-type: none"> • Not working most of time. No cable available without paying for them to dig • occasional drops in service. Slow speeds when coast if full of tourists/visitors • Occasional loss of service. New router has helped. • Often losing connection to my remote connection at work when working at home. • Our Centurylink internet service is very slow with frequent interruptions. We have just lost service for six days. We have been informed by repair technicians that the equipment used by Centurylink is old and we have also learned that no repair technicians are assigned to our area. As a result when the system goes down repair techs must come from their assigned areas which takes days for our repair to be completed. • "Our internet is Hughesnet. We had problems with them from day 0. Our order was wrong, equipment arrived much later than promised and this changed our install timeline by almost a month. They have horrible customer service and scheduling a technician to come out in a decent timeframe is a futile effort. All of that on top of the cost of the service, data caps and insane latency issues make us very unhappy that they have been our only choice. Until lately, kind of.. • Century link just completed the fiber run in our area on the Miami Foley and we got very excited to ""jump ship"" and move over to them. That joy was very short lived. The company gladly accepted our offer for new DSL service a couple weeks ago - before they checked to see if the local tech had modems (which they have been out of for three months), if the local tech was available (which he was not for our ""install"" or to see if the switchboard side was built out to support or service (it IS NOT). • Please help us!!!" • Our service has been OK, but several neighbors have had problems. Charter Spectrum's business practices and lobbying efforts disgust me, but I feel I have no other choice but to do business with them. 		<p>resource. Manzanita uses our water money to pay for things it should not and justifies it without and truth or documents.</p> <ul style="list-style-type: none"> • Could not get the speed test to work. Maybe my connection was very very slow! • "Cost drives everything.... Television is currently ridiculously expensive and internet is not far off. Living where i do paying for internet is risky because of service and outages. • Charter TV is poor quality and high priced. However only company with high speed internet in a bundle (landline, internet and TV). Century link internet was slow. Dish TV was superior but Century Link was only bundle option with Dish • Centurylink sucks, charter is marginally better. Another option that is fast, reliable and cheap would be welcomed • Centurylink has provided good value for money in reliable internet. However, it is ridiculously slow and have not communicated any plan to upgrade service in my area. This means that my access to the internet is stuck at about a 2008 level and is getting further behind every year. Furthermore, the customer service is terrible making me as a customer feel like they don't care at all about me or the others that live in my area. In summary, Centurylink should be considered criminally negligent for taking money from the Federal government specifically for upgrading internet in rural areas and not doing so. In fact, if one researches this federal funding you will find that all of the major ISP's use every loophole in the agreements to cheat Americans out of the service they promised the Government that they would provide. • "Can't wait, go for it. • High speed internet provides streaming TV as well as solid computer internet connections. • Century Link is almost impossible to deal with, as is the cable company. • I would prefer to use my own router and would prefer a static version 4 IP address and IP version 6 capability. • Would like information on how the install process works." • Bufferbloat • "Broadband should be publicly owned, democratically regulated and universally offered. Students, the elderly, those looking for work and those working need reliable information and connections. Not having good connectivity - or not having service at all - puts an individual at great disadvantage. This is the ""digital divide."" • TLW has existed for 20 years for this purpose. TPUD has the network skills, rights of way and experience to do the work. They would keep prices low, go to every building and provide desperately needed good jobs for the additional personnel necessary. • Broadband is becoming a necessity of cultural balance. • Been without internet service for 11 days, now. Technicians don't show. Don't call • At the time we are quite satisfied with our internet provider. Depending on feedback from people who subscribed to your service and price would be a big factor of whether we switched to your service or not. • As you collect DATA my interest is cost. I am
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	<p>internet connection that May be my computer.....I have not found a Mac based person to that I trust here at the coast to consult</p> <ul style="list-style-type: none"> To do critical tasks like taxes, satellite internet is not enough. This year I discovered many companys do not make hard copys of their software anymore, you must download it or do without. I had to go to another internet source because the Hughes net connection speeds cant get it loaded. I do continuing education for things like OSHA online that are video uploads. The slow speed makes this very hard. I would never watch a entertainment video on my inernet because it would use all the data I have for the month interfering with work. I have satellite TV too and the slow speed of my internet fails there too. Most of the options I pay for with my TV are unavilable because of my slow internet. Too bad we cannot have access to the fiber running next to our roads. The commissioners have no idea what life is like outside their high connectivity offices. upload speed could be a bit faster. vanir is a helpful local business. wish there was a way they had more speed. Verizon internet degraded to the point we installed spectrum internet Very expensive-data caps-very slow internet "Via stat. - Not available due to satellite location/obstructions... spectrum will not service me or my neighbors...they do service others around us...less than a 1/4mi away...we have a "no service"hole or bubble..due to their unwillingness to put in some kind of internet station(?)...I asked them..twice..see their trucks all around though servicing others close by... Centurylink does not provider internet service here? So right now I'm stuck" We are stuck with Centurylink. We have reached out to Charter multiple times (we have lived here since April 2020, and Charter has been here no less than 4 times). Even though 	<ul style="list-style-type: none"> Our service is DSL not high speed internet. On weekends, the system seems to be overloaded and there's a decrease in performance. Overall speed and consistency of service. Overpriced for slow speed. No real other option at this time. Paying for a fast speed of internet and not receiving it, also takes to long to get repair service Performance is not up to advertised speed and price is higher than urban rates. Poor connectivity and unable to speak to a real human when we have a problem. Poor customer service, hard to get in touch with if there's an issue. Goes down every time we have a power outage. Poor service, doesn't respond to concerns. Won't increase my bandwidth for upload and download. Poor value. Power outages and slow customer service response. Practically non existent service Price Price Price Price Price Price Price Price Price - local service people (Lincoln City) are great, but the 800-service people are not helpful at all. All long-distance. "Price - too expensive! Customer Service - I called for technical support to fix cables and they have delayed for three months" Price , speed is very slow at times Price and customer service over the phone in addition the lack of business support. Price and down time when power drops. Price and speec Price and speed. Period. Price for speed we are getting Price hikes for no improved service. Price increases Price is a big thing I think they charge way too much for what we are given in speed and the other thing I'd be deciding is fight with the speed. I feel that we're 		<p>sure many people feel the same way.</p> <ul style="list-style-type: none"> As someone with 25 years of network engineering background and a second home along Hwy 6, I'd be very very interested in working with Tillamook lightwave. I have deep connections in the internet peering exchanges in Oregon and would love to see something better in the canyon than Spectrum. Please contact me. mark@lightwave.net As a vacation home owner, that is NOT a rental, our infrequent use of the place makes an expensive service not desirable. If service was less expensive, or based more on our usage, I would be more willing to pay for service. I'm perfectly happy to pay for the services that we use but reluctant to keep paying a high bill if we're not there. However, I do understand that is difficult for service providers. Am unable to take this survey from Tillamook County location at this time Affordability is the key for me. Much more than what I'm paying is not doable. Across the nation municipal broadband consistently offers better price/performance and customer satisfaction than national service providers. Why is that? Could those successes be replicated in Tillamook county? A local fiber network would be a total boon to the area. It would massively attract growth and development to the region.
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	<p>my neighbors (immediately south and west of us) have Charter, Charter has advised an estimated \$6,500 construction cost for us to receive their services. Of which, they would cover about \$3,000 and we would need to cover the remaining \$3,500. If there are any type of funding sources / grants available, I would happily apply for funds.</p> <ul style="list-style-type: none"> • We bought this house over the summer, with the contingency that high speed internet would be available. We were assured it was, but then we found out that the Seller's version of "high speed" was CenturyLink, and we were prepared to let the house go and look somewhere else. We looked at many satellite options, and started negotiating with Charter on cost to extend to us, and after many calls to their construction office, they told us they would run the line. We're grateful, and we would have left the county without it, most likely. First world problems, but our work and lifestyle requires efficient, effective internet. It's a basic utility for us. • We bought this house when it had no internet and had to call Spectrum construction services almost daily to get it extended to our house. We almost reneged on the purchase of the house because of internet availability. The answers provided herein, however, are reflective of our internet access after the construction, which has been fairly good. • We currently have no other reasonably priced option for service. High speed charter is \$16000 to install under a business plan. Cell provider services aren't available with reliable or fast enough capabilities to make it a realistic option. • We desperately need high speed internet in the Oceanside, OR community for a higher quality of life, to make part time renters happy and to allow me to see my patients online without getting bumped off. • "We have 2 land lines to separate business and personal use • " • We have Charter now, CenturyLink was considerably 	<p>taking advantage of because we are rural properties.</p> <ul style="list-style-type: none"> • Price is ridiculous. • Price is too high and is always stopping in the middle of watching TV to continue downloading. • Price is too high compared to the price we pay Comcast for similar service in Portland. Customer service from Charter/Spectrum is TERRIBLE! (long wait times, next to impossible to talk with a real person, unwilling to provide promotional rates or incentives for long-term customers). • Price keeps going up every year. I live on a fixed income and fear I'll be priced out of being able to afford it much longer. • price keeps going up when we don't even get the speeds we're promised. • Price of bill keeps going up for internet ONLY. Issues arise if more than one device is in use. • Price too high for speed. • Price too high. Have to rent modem. Voice quality is very poor. No local office. • Price vs. speed • Price! • Price, customer service, when it goes down its down • Price, outages • Price,, speed • Price. Seems high to me • "prices change without notification. • keep getting limited time offers. (Always the same for years.) • Unable to contact local office except in person." • Prices for internet service in America are MUCH higher than those in other countries. This is because we allow the companies to be somewhat unregulated and anti-competitive. • prices of service and continual bumping of prices pay a each month for services received but am only down at this house about two months a year total. A week here, a week there mostly during summer months • Prices raised for no apparent reason and could not reach customer service. Sometimes slow internet connection issues cause pixelation on television. • Pricing for service, reliability, and ability to broker my data per terms. 		
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	<p>worse.</p> <ul style="list-style-type: none"> • We have had Centurylink internet at least 10 years. We are very pleased with them. Maybe once a year they go down here but it's always a very short time. I know other Centurylink customers in other local towns lose service frequently but we happen to be one of the lucky ones I guess. • "We have hoped for an alternate provider since moving in in 2004. Please help. • I am a retired Washington State Dept. of Information Systems and Federal Govt. IT professional. I have witnessed better and less expensive service provided in Mexico and Italy and I am ashamed and embarrassed at what is provided here in the United States." • We have limited choices for service, even within city limits • We have lived in Oceanside for 20+ years and have received internet from 3 different providers: Starband (satellite); DSL through telephone provider, and most recently through Charter, but their service has become progressively more expensive and we are not thrilled. • We have no cellular service where we live, so Internet is positively vital. We have generally been satisfied with Spectrum, though we are constantly seeking a better alternative -- we are signed up for Starlink beta... • We have no choice! Spectrum is all that is available. We really need an alternative. I have tried to discuss problems with them by internet, phone and visiting their office, all to no avail. We never resolved our need. And there is no cell phone service! • We have no other choice out here for internet and it is very limited • We have no other options for ISP at our home. My daughter and her husband have stayed with us to work from home and have found the service generally good but have lost work days due to outages. Would prefer another ISP with more reliable service, better communication skills and less expensive. • We have not choice of 	<ul style="list-style-type: none"> • Promised up to 12 GBs, actual was 4.0 MBs, and now less than 2 MBs. • Provider has oversold the area. Speed isn't adequate for any type of business. Even video streaming is difficult when the bandwidth isn't being used up by visitors and completely worthless on any given weekend and all summer. • "Purchased plan, Two yr commitment , paid for 25Mbps....often get <1Mbps....technician indicated that getting half what you pay for is good..." • Cannot stream movies unless between 1am and 7am...too much jitter...speed of data goes up and down...reeks havoc with streaming service even at low resolution • Cannot not use voice on cell over wifi due to excessive ping, latency, jitter and upload" • Rates keep going up, but no improvement in service. Service is inconsistent. • Relativity new local company trying to grow and improve their services. • Reliability • Reliability, customer service. • Repair service, cost, reliability and customer service experience • RTI are very responsive when there is a problem, and I appreciate supporting the local phone company, but I was forced to sign up for a landline that I don't want or need to get the fastest internet possible, which is DSL, and it often has big slowdowns. When we moved here, we tried to sign up with Charter Cable and they laughed at us. (in fact, we called ahead of time and confirmed they had service at our address before moving our business here but it turned out not to be true.) I've seen rumors that Charter cable may have come out here but I'd rather not give them my business over RTI when it's working "okay". • RTI are very responsive when there is a problem, and I appreciate supporting the local phone company, but I was forced to sign up for a landline that I don't want or need to get the fastest internet possible, which is DSL, and it often has big 		
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	<p>internet provider in North county</p> <ul style="list-style-type: none"> • We live in 21st century. Not having broadband internet is almost unacceptable. We could expand our business if the internet was available. We have 3 households on our property and have no internet for either. The AT&T barely gets us by for one household. Third world countries have internet. Why is that not available for unincorporated Cloverdale? The fibrotic cable was buried in the ground by the road in front of our house at █████ Little Nestucca and we could not get connected to it for some reason • We lose power more frequently than the cable. has been slightly more reliable than the DSL • We love Tillamook County. But the internet situation is worse than terrible. We are literally looking at moving back to Lincoln County. • We need Spectrum or another company • We really don't have choices here where we live. We'd use CenturyLink at one time and it went out every night and affected the job I had to do where I had upload my work every night. It was horrible! • We recommend because they have a monopoly here. • We switched to Charter/Spectrum from CenturyLink a few years ago. It is cheaper by \$30 a month, MUCH more reliable, and better internet quality (faster). We would only switch again if we had problems with Charter's connectivity, quality or pricing in the future, or if someone could offer us better service/faster connection with a lower cost. We have had very few problems with service going down since the switch to Charter. CenturyLink went down ALL THE TIME, and they told us it was a line problem that they couldn't solve. We live in the city grid, so this was very frustrating to hear. • We will be transitioning to streaming TV services soon. I am just beginning on online business since COVID closed my place of employment. • We would like uninterrupted, faster broadband for the price we are paying. • We would rather have a hard 	<p>slowdowns. When we moved here, we tried to sign up with Charter Cable and they laughed at us. (in fact, we called ahead of time and confirmed they had service at our address before moving our business here but it turned out not to be true.) I've seen rumors that Charter cable may have come out here but I'd rather not give them my business over RTI when it's working "okay".</p> <ul style="list-style-type: none"> • RTI Nehalem sells my service as 10mbs. My experience is it very rarely achieves 5mbs and typically is well under that. Despite taking recovery.gov money in 2009 to build out roadside fiber, RTI has never addressed their copper last-mile-problem and makes it pretty clear they don't intend to. This of course makes Tillamook Lightwave's early promises of deploying fiber county-wide even more disappointing and perhaps irresponsible. • RTI promised 15m download when I signed up 3 years ago. I've NEVER gotten that - not once. After 6PM it's 4 or 5, often as low as 1. • Seems expensive. • Seems slow. Streaming services give complaints. Goes out in winter storms • "service goes down too frequently for running a home based business. • Service interruption • Service is not reliable or consistent. • Service is severely affected by the weather • Service not available at residence. Subscribed at remote house with service, back haul with personal wireless link. Spectrum wants \$30k to provision. Pfffft • Service response time. • "Service will sometimes cut out, I'll be connected, but there will be no internet. • The internet is slow and not really worth what I pay for it." • Should be getting closer to 400mbs and I'm not. • significant annual price increases • slow and inconsistent • Slow and inconsistent • Slow and inconsistent speeds • Slow download and upload. Interruption of service. 		
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	<p>line access to the internet, with a much faster speed to facilitate downloading large files for work purposes. When the weather is poor, especially windy/rainy our satellite-based service has issues with quality.</p> <ul style="list-style-type: none"> • We would switch to a better/faster/more reliable company if it were offered at our home. Currently our options are very limited and they are all slow and/or unreliable. • What I said above. In a nutshell, internet sucks. I hear Spectrum is not much better. • When product goes out it can be up to two weeks to get a service tech out. And hours on the phone to get it set up. • When the trees on the mountain peak grow taller in a few years, they may block my satellite signal and the tech said he will have to move my satellite dish to a tall pole to see if I can still get a signal. Otherwise I may have to switch to a DSL service, like RTI offers. Only problem with that is if my landline and internet are both with RTI and the service line goes out during a storm, as it has in the past, I won't be able to email them or call them to let them know. (I have no cell phone signal here.) • When we experience interruptions to our internet service, we don't know if it is CenturyLink or our computer that is the problem. • "When we signed up for Charter/spectrum it was the only option that had decent speed. An ATT connection only offered abominable speed, for roughly the same cost. The provider we had prior to Charter/spectrum was a third party through Tillamook who closed their doors when their one tech left the area. As I recall, it was around \$50 per month, which at the time seemed rather costly, but they were the only ones with better speed than anyone else offered. • Charter/spectrum is ok/fine/satisfactory, although it might be nice to have other options." • Where I live you have no choice but Centurylink. • Why do customers who have broadband pay less than I do and I have to have a landline to get my internet? • "why doesn't the FCC 	<ul style="list-style-type: none"> • Slow speed and interruptions in service • Slow speed, frequent outages, no plan to improve service • "Slow speed, intermittent service • Not much choice of providers" • Slow speeds and unreliable service. • Slow speeds cause issue while streaming occasionally. • Slow speeds often less than 5 Mbps and data limits. Because of location unable to access high speed satellite. • slow speeds, horrible customer service, frequent outages, • slow with constant service problems • slow, goes down a lot, overpriced for the quality of service • SLOW, Unreliable • SPEED • Speed and bandwidth are both insufficient to support the number of devices. We have 3 computers, 2 phones, a tablet. Also add security system, 3 or 4 household applications. Try to then stream TV or movie and doesn't work. • Speed and connection is a big failing. • Speed and cost • Speed and data rates are good for checking email and google but not much else. Poor weather conditions are a problem. • Speed and price • speed and price paid for current speed, with too many outages • speed and reliability • Speed and Reliability • Speed and reliability could be better! • Speed and reliability not to mention substandard customer service and support. • speed is slow at times. If we are only watching TV the show will stop and a reading comes up that there was a problem downloading the program. We then go to a different show and come back to start again! • Speed issues • Speed it's the only choice no other provider up Trask River Rd 13 mi • speed limits • Speed performance is generally below expectations; sometimes 		
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	<p>properly regulate the service as they are supposed to?</p> <ul style="list-style-type: none"> • " • Why hasn't there been an effort to provide high speed internet in outlying areas? • Why is it so expensive? • why is it so expensive? • Wish the computer didn't spin out so often -I clean it up w/ Malware and regularly reboot, just to get rid of the circling disc that keeps pages from loading. But it is still a regular annoyance. • Wish they could offer the same high speed to all residents they connect and wouldn't jack up the prices every 3-6 months. Especially during the COVID-19 pandemic. Different prices depending on where you live and no options for lower price. • Wish we had fiber. • With current internet and phone service provider,(Centurylink), we are in an exhaust area. Newer neighbors cannot have this provider and other providers have even worse connection service. • With the options we have, you either get a slow internet, or a faster one. And the reliable one seems to be expensive. The affordable sucks in speed and service. • With the winter storms, power goes down from time-2-time and internet seems to be the last to come back, trunk lines possibly. Not much one can do about power outages. A cellular link might be a solution. We had cellular hot-spot at a rental a few years ago with ATT, and it never was down. • Would like other high speed options. Price seems high for what we get • Would love to get a better speed for a better price • Would love to have a viable option other than Charter/Spectrum ... would be happy to pay the same rate for same connection speed if the alternative provided good customer service. • Yes - internet service interruptions, ability for communications providers to delete storage from my files. The rate for such slow, and even interruption service at a full rate cost. The slowness of data provisioning • Yes we need better Internet service - CenturyLink has 	<p>very poor</p> <ul style="list-style-type: none"> • Speed, just barely useable for my work. I've worked from home for 16 years, 11 from here. The poor internet and failure could cost my job. • Speed, price, reliability • Speed, quality, price. Its the only game in town • Speed. Only works in part of house. Price • "Speed." • Outages." • speed... reliability... customer service • Speed/any chance whatsoever for future enhancement, and the fact that we are paying the same amount a month that you would pay elsewhere for 4 times the bandwidth/speed • Speeds and prices have not changed in 3 years. Meanwhile speeds and prices have improved significantly in Portland. • "Speeds MUCH lower than promised and are absolutely worthless. We are locked into a 2 year contract that HughesNet won't let us cancel. We have had to add a different carrier through our phone (ATT Hotspot), while still paying for hughesNet's non service. • We have tried to get Charter to connect, but they are useless in even figuring out whether they can get us a line (another story). Charter/Spectrum just say they can't connect us for under \$10,000!! (I am not kidding!!)" • Speeds rarely reach anything close to advertised, at peak hours I rarely get more than a quarter of the contracted speeds. • spotty unreliable speed • Stability and speed • Stoppages during streaming, especially while using laptop at the same time. • Summertime speeds, due to bandwidth goes to almost zero. Now, it shows I have decent speeds, but it drops down to 7/2 in the summer time. • SUPER slow! I live at The Capes part time and in Chicago the rest of the time. It is RIDICULOUS to have such poor internet connections in Oceanside in 2021. I have had my second home there for 25 years and it is still horrible. Many times I see neighbors coming 		
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	terrible servicea	<p>up to the highest point in the neighborhood just to get cell connection, regardless of carrier. Nothing has improved in 25 years. Oceanside owners pays out the wazoo for resident/homeowners who rent (rental tax, sewage tax based on home income, not usage, county improviments, road destruction from lumber trucks, etc) yet we are still considered SECOND CITIZENS. Outside of the cheese factory, why would anyone come to the Tillamook area if it wasn't for the beautiful coast??? I am tired of paying fees/taxes to live in Oceanside and have limited services. If you want to continue to have visitors paying to stay on the coast, you need to up the game for cell and internet services.</p> <ul style="list-style-type: none"> • Super slow, very expensive for low amount of data usage, can't do zoom meetings without connection dropping. Unable to attract more business because of low upload and download speeds. • System seems to go down frequently. Value for price is low relative to Portland and Sunriver opportunities. Frequent price increases. • The amount of data is too low for the business need and the price is too steep for what we get. Also, it does not support streaming of any kind. It gets us through for e-mail needs but we have to keep the computer off at all times as automatic updates eat up all the data. Also, we can't do wi-fi as it eats up all the data. For \$70 per month we barely get anything. We also can't use any security cameras that are on WiFi We have ability to work from home but that is impossible because of lack of real internet. • The connection is unreliable, intermittently drops service throughout the day. Periods of low bandwidth. It makes working from home challenging. • The cost & reliability. • The cost continues to rise at a pretty fast pace. It's quite annoying to see ads on TV for business services that are SIGNIFICANTLY less than what a long-time residential customer has to pay. 		
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		<ul style="list-style-type: none"> • The internet doesn't work sometimes, especially during periods when many tourists are using it. The price is high for the amount of times the service doesn't work. • The internet drops out all of the time. I've had 3 techs out since October and the problem still occurs. Each one has tried something different. The last tech was here on Tuesday, changed the modem and yesterday we lost the internet during school/work hours 4 times for a total of 2.5 hours. • "The internet service is garbage. You have to fight with all you got to get your bill lowered from almost \$85 a month just finally got it down to \$54 • The internet shuts off pretty regularly at my home and is very spotty when I'm out and about. There's a dead zone between Sandlake Road and Tierra del Mar. • The internet sucks. We pay a ton of money and sometimes our internet is gone in 1 day then it's throttled down the rest of the month. We literally have no other options • The lines periodically have problems that require a service visit to correct, not in the house but outside on the poles. • The only internet provider I can have is CenturyLink - which is DSL. Spectrum does not service my house (but does service the houses all around me). The upload/download speeds I put in were while someone else is watching Netflix in another room. • The only issue was initially getting service. It took 3 months. • The only plan available to us based on the satellite visible from our property does not offer enough data for our household needs. This means we're forced to buy data beyond our plan to make it to the next month. It's cumbersome and annoying. • The only time people around here want to use the internet is when the weather is bad. Satellite internet doesn't work at all when the clouds are dense. It just won't work. So it's almost pointless, except out here on 		
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		<p>the Miami Foley we don't have cell service so we have to have something, even if it almost never works well.</p> <ul style="list-style-type: none"> • The price • The price ... I only have internet and it is \$72.00 a month • The price 225 per month is too high may switch to Roku as we do not watch movies • The price for our service (TV & internet) went up \$60 per month. When inquired of option we were only given to remove most of our tv service but nothing available to reduce cost of internet service • The price for simple internet service is way too much • The price goes up every few months and we pay \$75 just for internet. That's insane • The price is too high and I want to add TV but my bill is already over 100. • The price we have to pay is outrageous. The service is sub-par, as is the customer service. I think they basically know we're limited with options and take advantage of our situation. O • The reliability is an issue. Sometimes it is really great, sometimes not so much. • The service is always slow, it goes out at least once a month or not more and I have no other options other than Century link. • The service is too erratic. In late afternoons and evenings the internet speed is down to 3 or 4. I pay for 30 and should have it consistently. When I call for service they just say there are a lot of people on the internet and there is nothing they can do. I ask why they don't upgrade their equipment and they tell me they are "thinking about it"! This has been the answer for at least a year! • The spectrum pricing is insane. The corporate push toward profitability really doesn't reward retention of current and long standing customers. I love it when they hook you initially with a bundle package of tv, phone and internet. When they unbundle everything and costs double, you retain the internet service for substantially more (double the initial total). It's definitely price gouging, and we're pretty much stuck here in Oceanside. Go Tillamook 		
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		<p>Lightwave!</p> <ul style="list-style-type: none"> • The speed could be faster. The cost continues to rise. • there are downtimes to service - then bleeps back: sometimes longer than 3 minutes • There can be connectivity problems and long loading times, especially when there are a lot of people/tourists in town using bandwidth. • "There is no possibility of upgrading to faster and more reliable service. • I will switch as soon as faster service is available." • There is only one provider available (without cable), which leads me to wonder if rates are competitive • There seems to be variability in the speed that we receive with no answer as to why, • They are the only provider in the area. There is another provider but they are maxed out and not taking new customers. Therefore, Charter/Spectrum price gouges because they can. Literally a month ago, during the pandemic when people are struggling to pay bills, they raised their prices by 10%. When I called to ask why I was told because everyone is working from home, they need to increase the prices because more internet is being used. Also, they were recently hacked. When I would log in to review my account, I would see other people's accounts...their addresses, costs of service, services they had, etc. These were all out of state customers. When I called to report this and try to resolve they wanted me to give the security number for the accounts I could see before they would even talk to me. I explained that I could see the users auto pay info etc. Didn't matter to them at all. I had to keep asking for a higher level mgr to resolve. Took 4 hours of my time to help them. • They call us at times daily to get us to add tv or other things. It's extremely expensive \$70 per month just for internet. We had horrible speeds till we got rid of their equipment and got our own. • They come up with arbitrary and illogical explanations for outages, when their 		
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		<p>equipment is clearly tell me that its a problem with hardware they provided.</p> <ul style="list-style-type: none"> • they screw you and they know it. They don't even attempt to be helpful. need more options. Their bundling is a joke. • They talked me into purchasing an Apple TV rather than a cable box by telling me it was just as good. It is not nearly as good. But they refuse to do anything about it. • Throttling and poor customer service. • To many outages. • Today speed is 90 mbps, but lots of times it is 1 or 9 or 17 mbps. The speed is extremely unreliable. Price is ridiculous expensive. There is no competition, there is no choice. • Today speed is 90 mbps, but lots of times it is 1 or 9 or 17 mbps. The speed is extremely unreliable. Price is ridiculous expensive. There is no competition, there is no choice. • Too expensive • Too expensive and not always reliable. I have just cancelled after several years of service • too expensive for what is a commodity service • "too expensive • "Too expensive • Not fast enough" • Too expensive, shuts down all the time. • Too many interruptions, periodic slow speeds that last for days, poor customer service, high cost. • Too many outages, hard to get ahold of, impossible to get scheduled for them fix anything. • Too slow and too many outages for > \$80/mo • Too slow, inconsistent connectivity, cost too high • Tooo many outages and old equipment • Unreliable all the time. I have to re-boot the modem every day. It randomly loses signal and "thinks" for hours. Re-booting sometimes corrects but mostly, I am out of luck. I am a graphic designer and have to upload large files between 2am-4am when usage is lower or some files will not load. Even a 2mb file can take 30 minutes to upload. It is crazy. I love where I live so I live with it, even sometimes having to 		
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		<p>drive to a larger city to upload with my Verizon modem if I'm on a deadline. Internet is awful on the coast. Too many people using too little service available. So much worse in the summer with the tourists and their devices. PLEASE someone come to this area and install a network of faster service. I would definitely pay for it!</p> <ul style="list-style-type: none"> • Unreliable service • Upload speed is too low • Upload speeds are too low. Especially doing Distant Learning. • "Vanair only give 15 MBps and drops out from time to time • Starlink has given speeds over 100 MBps, but also drops out frequently " • Vanir keeps telling me it'll be 10+mbps and it's pathetically slow. Have considered switching to Charter which I used in the past but they continued to ramp up the bill so I left for CS&S where the speed was 40mbps+ but the owner's lack of skill and professionalism, made me jump to vanir, where i've been pleased with the customer service and disgusted with the speed. It would be wonderful to have a local provider with acceptable speed. Working at home can be a bit of a joke. • Very difficult to contact, limited local facilities, cost keeps increasing • Very expensive • Very inconsistent. We can rarely watch a whole show without interruption. • Very SLOW can not work from home. Data cap hate that • Very sporadic coverage with slow times • Want to purchase higher bandwidth up and down, want lower latency peering/routes. • Way to expensive for the slow speeds! I have to pay for two services (Viasat and CenturyLink) in order to have consistent access to internet. • Way to slow for my needs. I have had the same speed available for the last 8-10 years • We are very unsatisfied with the bandwidth, cost of service, and lack of ability to contact our service provider. 		
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		<p>We have no choice of providers here. Centurylink has a monopoly on this area's customers - we have no choice in carriers and they are unaccountable to anyone. Centurylink takes outage calls out-of-country (last time call was answered in India.) It takes more than a month to get maintenance people out here. We need help desperately and have for some time.</p> <ul style="list-style-type: none"> • We currently use 2 providers as they both go out randomly. One is a set amount of data per month, which gets used up very quickly, and then the service has very little to no loading. The other has been stating "connected without internet" for quite some time. • We have frequent interruptions of service. With these interruptions, we are unable to download large files from our work servers. We have had to go to our work parking lots and access their wifi to finish downloads. It's ridiculous. • We have low speed frequently, and drop signal completely multiple times a week, especially in bad weather. This is very frustrating when trying to do virtual school for our daughters and childcare kids. Their customer service communication is awful. The cost is expensive. • "We have two internet services • Hughes satellite - Download 0.27Mbps, Upload 0.47Mbps • Centurylink - Download - 7.13Mbps, Upload 0.76Mbps • We only keep the Hughes service because in an emergency we have internet by using a battery to power the router. It was helpful during the Otis wildfire event in September 2020. • We went from CenturyLink to Hughesnet because of the promises. However, we feel that Hughesnet clearly misled us. There should be a legal recourse against Hughesnet! • We could not even have a TeleDoc appt with doctor with Hughesnet!!!" • We have two up-to-date computers, an up-to-date router, and the modem provided by Charter. Even with relatively short Ethernet 		
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		<p>cables, we often have connectivity issues when both computers are using the internet. We also use the internet for phone service and it isn't the greatest either.</p> <ul style="list-style-type: none"> • We just got spectrum from century link and the reliability is so much better. It is like a completely different experience. • We lose internet frequently, and when we do, sometimes it's a month before it's back up consistently again. Very difficult for kids doing online school. • We lose it off and on. • We need to diversify our internet providers so that we are no longer being beholden to large communications corporations. • We pay \$95 a month for unreliable internet. • We rely on internet for work and frequently have to drive into town and work from our car off of cellular service. When internet does work there is a high degree of latency, which prevents use from conducting meetings. We also pay for the highest level Viasat has to offer and still can't get what we need. • we will be cancelling our landline soon. We will also be cancelling our TV and going to streaming services. • We would like internet parity. Having the upload speed the same (or close to) the download speed. Also, with the frequent power outages, a back up solution to keep the internet working. • Weekends and Holidays it is very slow. Also slow late evenings and nights • Weeks long wait times for in home service. Clueless telephone reps who can't vary from a script, reporting and outage only to be told they know of none. (Of course they don't), no clear path to a person instead of poor voice recognition • When issues arise-no live customer service • When our kids started home schooling we were told the router (we had it put in 2 years earlier) was out of date. So we had to purchase a new one. We were paying for high speed internet with rented outdated technology. So not getting high speed internet, which affected our 		
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		<p>kids' schooling.</p> <ul style="list-style-type: none">• When using multiple devices at a time the speed seems to slow down.• Will drop service connection or have interruptions• With children going to school from home, we had bandwidth challenges. For an extra \$20/month, we were able to quadruple our bandwidth, and we have been very satisfied with the results. It's not cheap, though.• Would like faster speed and more bandwidth		
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