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# Central Coast Communications Feasibility Study



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October 2019

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## Executive Summary

### **Lack of infrastructure (landline, cellphone, and internet)**

In general, the lack of reliable communications infrastructure (both traditional landline, cell and internet service) presents the largest threat to the region, especially in terms of emergency communications.

The establishment of the Connected Coast project will be a huge relief to the Central Coast in terms of infrastructure development, however, its expected arrival is still years away and there remain short-term solutions that need to be addressed as quickly as possible.

There are three recommendations to progress connectivity in the Central Coast region:

1. The installation of the City West fiber optic connection could be several years off. Telus has expressed openness to exploring a 'reverse-engineered' solution whereby Telus might be willing to develop a connectivity solution for Central Coast communities based on the current and future requirements of each. If the Telus approach could be released, then the Central Coast could have a workable connectivity solution prior to the implementation of the City West fiber optic rollout.
2. The establishment of a Regional Connectivity Advisory Team and Emergency Communications committee that could be either a standalone committee or could be included as part of the CCRD's existing Economic Development Advisory Committee, or
3. The establishment of a Regional Connectivity and Emergency Communications Commission with delegated authority from the CCRD board made up of the Central Coast's First Nations and/or communities to determine and direct the development of the Central Coast's connectivity and emergency communications.

The above suggested committee or commission could help progress connectivity issues by working with major corporations such as CityWest and TELUS, the provincial and federal government, as well as the local "last mile" ISP providers to ensure each community's needs are being adequately addressed.

Supporting local ISP providers is a key component of present and future work, as these local providers will be the main contact point for any technological upgrades and enhancements that will be coming to the region.

With this report many of the major issues facing our region have now been identified and the existing central coast Economic Development Advisory Committee can proceed with guiding and steering a connectivity plan for the region that will guide future communications development as we move forward.

## **Emergency Communications**

The ability to communicate is critical, especially in the case of emergency preparedness and management. During the 2017 BC wildfires, the CCRD was operating an Integrated Emergency Operations Centre, with the Nuxalk Nation, while at the same time fire threatened the Telus broadband infrastructure servicing the Bella Coola valley causing undue stress for everyone involved including emergency service providers. As mentioned earlier, if the fiber optic cable was damaged, the Bella Coola Valley would have lost internet, cell phone and telephone service.

Results from a recent survey of business operators in the CCRD, revealed the high level of concern around disruption to cellular and internet services, Increased connectivity and redundancy for communications will also address and allow for business continuity for the CCRD and regional businesses when faced with emergency response or critical incident.

While access to Marine VHF Radios was more prominent on the outer coast, even in a coastal community such as Bella Coola 96 percent of respondents indicated they did not know how to access one. The majority of residents in all communities were unclear on how and where to access a satellite phone and almost no one could access a local HAM radio operator.

The lack of local knowledge around emergency communications presents a significant challenge for the CCRD and as new communication infrastructure moves forward, this needs to be addressed with the utmost importance.

## **Limitations on Economic and Social Wellbeing**

The lack of fast and reliable internet and cell service severely limits economic growth within the region. The introduction of new and innovative technologies will allow our communities to diversify our local economies and plan strategic investments for growth, development, and job creation.

Helping organizations align their work with available technology is critical for increased economic development and job creation. The potential to make a living and access critical programs and services will support resident attraction and retention and attract lifestyle entrepreneurs to the Region.

Increased connectivity also includes the ability to access educational resources for youth who attend education programs and training remotely and/or will increase their desire to return upon completion of an out-of-town program

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## Conclusion

In closing, as local government we are committed to bringing our region up to speed with the rest of the province, both economically, technologically and with regard to emergency communications.

We are satisfied that the results of this study have provided a solid understanding of the existing communications infrastructure and the challenges each community faces.

The Central Coast Regional District will continue to advocate for connectivity in the region to be brought up to national standards to ensure the best future and opportunities for the communities of the central coast.

## Survey Summary

The Central Coast Regional District undertook a voluntary survey of residents in its five communities: the Bella Coola Valley, Bella Bella, Denny Island, Ocean Falls and Wuikinuxv.

The purpose of the survey was to further understand their existing communications infrastructure and capabilities, assess the shortfall between the current and required infrastructure and to determine what can be done to bridge the gap between the two.

The Central Coast Regional District received a total of 319 completed surveys from five communities. This is approximately 10 percent of its total population of just over 3,000 residents.

It is a vast area of 24,559 sq. kms and each community is distinct from one another and some are only accessible by water or air. The entire region is remote and faces numerous challenges with regards to communication and infrastructure.

Communities within the Central Coast Regional District include:

**Electoral Area A** - Commonly referred to as the "Outer Coast," Area A includes Ocean Falls, Denny Island and Wuikinuxv, and all points in between. The boundary commences west of the Bella Coola town site and follows the regional district boundaries north almost to the First Nations' community of Klemtu, and south past Rivers Inlet, home of the Wuikinuxv First Nation.

**Electoral Area B** - This area consists of seven square kilometres located on Campbell Island, also known as Bella Bella. The Heiltsuk community is primarily comprised of First Nations residents.

**Electoral Area C** - Located in the eastern portion of the regional district, this area is situated at the upper end of the Bella Coola Valley and borders the Cariboo Regional District.

**Electoral Area D** - Commencing in Hagensborg, this area runs from the Augsburg Church west to Tatsquan Creek.

**Electoral Area E** - The Bella Coola town site consists of a small residential population and contains the majority of the commercial activity in the valley.

As demonstrated, there are some significant challenges regarding communication services on the Central Coast. Two communities have absolutely no cell service and no high-speed internet other than satellite.

The most populated community (the Bella Coola Valley) has limited cell service – both in the community and in resident's homes. Although it has come a long way, the internet service is still very limited due to bandwidth restrictions.

Currently, the entire Bella Coola Valley operates with only 500Mbps of bandwidth which translates to download speeds of approximately 5Mbps per household. The average Canadian download speed per household is 86.92Mbps.

In addition, the lack of redundancy presents a very serious problem: should the existing communications lines be interrupted anywhere between Williams Lake and Bella Coola the potential exists for an absolute communications blackout: no landlines, no cell service, and no internet. The same is true for Bella Bella, Ocean Falls, Denny Island, and Wuikinuxv.

The proposed “Connected Coast” fibre-optic cable from Prince Rupert to the Central Coast communities would alleviate many of these problems, but adequate “last-mile” connection options are still in the early stages and require much more attention to become established.

Initial projections pegged the completion of the project as soon as 2021, but as construction has yet to begin this date may be further off. In the meantime, Central Coast communities will need to strengthen their communications infrastructure from within. To do this, they need to be well-informed of their own challenges and shortcomings, as well as develop a thorough understanding of the possibilities for local improvement and expansion.

The information provided in this report is a solid foundation for local communications providers to plan and develop their own strategies to fill in the communication “gaps” and better prepare them for the arrival of technological upgrades.

The Central Coast Regional District will seek to remain well-informed of the plans of the major players and the local providers in order to advocate for the best options and services for the region.

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## Background and Objectives

In 2016, the CRTC established broadband internet access as a new basic standard for all Canadian households. Digital connectivity is essential for economic development; especially in rural and remote communities.

All five communities within the Central Coast Regional District (CCRD) are geographically isolated; not only from each other but also from the province at large. At present, connectivity between these communities is very limited or non-existent and does not meet CRTC standards.

In 2018, the federal and provincial governments announced joint funding of \$45.4 million to provide 154 rural and remote communities on the B.C. coast, including 56 Indigenous communities, through the Connected Coast project. This will result in the building of over 3,400 of sub-sea fibre-optic cable stretching from Prince Rupert to Vancouver. The communities of the Central Coast will be serviced by this project.

Currently, there is no uninterrupted fibre-optic cable serving any of the CCRD communities. The 2017 wildfires highlighted this alarming lack of redundancy in a very serious way: fire damage to a section of this fibre-optic cable running east from Williams Lake would have resulted in the loss of internet, cell phone, and telephone service for the entire Bella Coola Valley, essentially resulting in a communications “blackout” during an emergency situation.

As demonstrated, improving communications connectivity is very important to communities located within the CCRD. Communities that have access to reliable and affordable services can readily participate in public services including education, health care, business, social and economic development, government services, public safety and emergency preparedness.

At present, every community within the district faces its own set of unique challenges when it comes to connectivity.

The community survey results presented in this report detail the existing status of connectivity options within the CCRD and how these options affect residents in the region.



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## Methodology

With the assistance of local community members and ISP providers, the CCRD created a voluntary survey for local residents. The purpose of this survey was to detail the existing communications infrastructure and capabilities, to assess the shortfall between the current and future infrastructure and determine what can be done to bridge the gaps right now.

Participants were asked eleven questions in relation to their use of several communications technologies currently available in their communities.

According to the 2016 Stats Can Census, the current population of the Central Coast Regional District is 3,319. A total of 319 surveys were completed in the five communities within the district: approximately 10 percent of the overall population.

Participation was voluntary and surveys were collected through face-to-face meetings with surveyors and a coordinated mail-drop at local post offices. No incentives were offered, and personal information was not collected.

Separate surveys were also created to assess the details of the local ISP's and corporate providers in each community.

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## Community Results

### Bella Bella

- Area B ~ Central Coast Regional District
- Statistics Canada 2016 Census Population: 1,109
- Home of the Heiltsuk Nation
- Total completed surveys: 72
- Percentage completed: 6.5%

Bella Bella, also known as Waglisla, is a First Nations island community located 98 nautical miles north of Port Hardy. It is the traditional territory and the present home of the Heiltsuk First Nations and is home to approximately 1,109.

The main infrastructure in the community includes the R.W. Large Memorial Hospital, the Bella Bella Airport, community schools and recreation centres, the offices of the Heiltsuk Tribal Council and locally-owned businesses.

Recent archeological discoveries on nearby Triquet Island, located within Heiltsuk territory, have confirmed the nation's oral history of having occupied the area for over 14,000 years.

Bella Bella has no road access and is serviced by BC Ferries to either Port Hardy or Prince Rupert, or by Pacific Coastal to Vancouver. The nearby community of Shearwater, located three miles from Bella Bella on Denny Island), also utilizes the essential services of Bella Bella via water taxi service.

TELUS is the main telecommunications provider of landline and cell phone services. Internet services are obtained through Xplornet (satellite), Waglisla Cablevision, or TELUS Smart Hub.

### Key Findings

#### Landline communication

54 percent of Bella Bella residents do not have a landline in their homes.

#### Cell phone communication

96 percent of residents have cell phone service within the community; 94 percent have cell phone service in their homes. TELUS is the main provider cell phone services (36%), with Koodo (26%) and Bell (15%) following. 48 percent of residents classified their cell phone service as "average," and 47 percent rated their cell phone bills to be "expensive."

#### Internet

64 percent of residents have internet in their homes, with Waglisla Cablevision (local ISP) providing 37 percent of the services. Xplornet provided 16 percent, and 10 percent of residents utilized the TELUS Smart Hub.

27 percent of respondents declared their internet service was “unreliable,” while 25 percent classified their service between “good” (14%) and “very good” (11%).

### **Emergency Services**

Residents were asked whether or not they could access three resources in the event of a disaster: Marine VHF Radio, satellite phone, and local HAM radio operator.

In Bella Bella, 75 percent said they can access a Marine VHF Radio but only 10 percent could access a satellite phone. No one could access a local HAM radio operator.

There is no local radio station.

## **Bella Bella ~ ISP Survey**

### **ISP Providers:**

TELUS Waglisla Cablevision, Xplornet

### **Majority Community Use:**

Waglisla – 120 connected homes

### **Standard Upload/Download Speeds:**

Residence: 5Mbps

Commercial: dl: 9.16Mbps ul:1.84Mbps

### **Connectivity:**

Microwave/coaxial cable

### **Current Bandwidth:**

100Mbps

### **Bandwidth Required to upgrade to 50Mbps per home/business:**

12.5Gbps

### **Outage Threats:**

Damage to microwave or coaxial cable

### **Emergency Communications**

Bella Bella does not have a formal secondary communication system. There are multiple satellite phones (RCMP, hospital, Band Office and Tribal Office) and VHF/HAM radio operators.

There is no backup power supply for the secondary system, but TELUS does have a backup generator and batteries for their internet and cell services. The hospital also has a backup generator.

## Denny Island (Shearwater)

- Area A ~ Central Coast Regional District
- Population Estimate: 138
- Total completed surveys: 29
- Percentage completed: 21%

Denny Island is located 20 minutes from Bella Bella via water taxi. There is no road access and the community travels out via BC Ferries or plane from Bella Bella. There is a paved landing strip on Denny Island.

Denny Island is home to Shearwater Resort and Marina, a full-service marina and a popular and busy stop for boaters on the Central Coast. Amenities include a grocery store, restaurants, gift shops and accommodation providers.

TELUS is the main telecommunications provider of landline and cell phone services. Internet services are obtained through Xplornet or Shearwater WIFI. There is no local radio station.

### Key Findings

#### Landline communications

59 percent of residents did not have a landline in their homes.

#### Cell phone communication

79 percent reported to have cell service in the community while 62 percent indicated they had it at home. However, 14 percent of respondents reported their cell service at home to be “patchy” or inconsistent.

TELUS was the leading provider of cell phone services (52%), followed by Bell (14%) and Koodo (14%). 21 percent of residents did not have a cell phone.

Nearly half of residents (48%) declared their cell phone service to be “unreliable,” while 24 percent classified it as “average.” Over half (55%) said their bills were “very expensive” to “expensive.”

#### Internet

66 percent of people had internet in their homes and the majority used Xplornet as a provider (38%) followed by Shearwater WIFI (17%).

41 percent of people classified their internet as “unreliable” while 31 percent said it was “average.”

#### Emergency Services

Residents were asked whether or not they could access three resources in the event of a disaster: Marine VHF Radio, satellite phone, and local HAM radio operator. 83 percent could access a Marine VHF Radio. 79 percent could not access a satellite phone, and a further 72 percent could not access a local HAM radio operator. There is no local radio station.

## Ocean Falls

- Area A ~ Central Coast Regional District
- Population Estimate: 25
- Total completed surveys: 19
- Percentage completed: 76%

Once a large paper-mill community on the Central Coast with 5000 residents, Ocean Falls is now home to approximately 25 full-time residents. It is only accessible by boat or seaplane, and BC Ferries services the community once per week.

There is little infrastructure in the area and no medical services are available. There is no cell service or local radio station.

### Key Findings

#### Landline communications

100 percent of residents surveyed had a landline.

#### Cell phone communication

There is no cell service in Ocean Falls.

#### Internet

100 percent of residents surveyed had satellite internet offered through Xplornet. All of those surveyed classified the internet service as “unreliable” (due to weather).

#### Emergency Services

Residents were asked whether or not they could access three resources in the event of a disaster: Marine VHF Radio, satellite phone, and local HAM radio operator. All 19 residents surveyed could access both a Marine VHF Radio and a satellite phone. There is no local HAM radio operator and there is no local radio station.

## Ocean Falls ~ ISP Survey

#### ISP Providers:

Xplornet

#### Majority Community Use:

Xplornet

#### Standard Upload/Download Speeds:

Up to 25Mbps download

**Connectivity:**

Satellite

**Current Bandwidth:**

Xplornet Plans

**Bandwidth Required to upgrade to 50Mbps per home/business:**

1Gbps

**Outage Threats:**

TELUS microwave malfunction, weather interruptions to Xplornet satellite

**Emergency Communications**

Ocean Falls does not have a formal secondary communication system. Boralex has a satellite phone on site and there is backup generator in the community as well.

## Bella Coola

- Area E/D ~ Central Coast Regional District
- Population Estimate: 1200
- Total completed surveys: 123
- Percentage completed: 10%

For the purposes of this survey, Bella Coola refers to the townsite, townsite reserve, and 4-Mile reserve. It is the traditional territory and the present home of the Nuxalk Nation and is home to approximately 1000.

The Bella Coola Valley is the only land area within the Central Coast Regional District that is accessible by road. It is one of the province's three access points to the Pacific Ocean from the interior of the province.

Bella Coola provides health care at a general hospital. Education services are provided through schools offering pre-kindergarten through grade 12 as well as post-secondary classes and courses. A full range of grocery, hardware and general retail stores and service stations is available. Local accommodations may be found by way of bed and breakfast establishments as well as inns, hotels, motels and privately-owned campgrounds.

The town contains a public library, a travel agency, eateries, liquor store, two post offices, a full range of financial services provided by a credit union, a provincial government agent, an airport, harbour authority, local government offices, a seasonal visitor information centre, tourism association and an RCMP detachment. A local non-profit (Central Coast Communications Society) provides high-speed internet services.

## Key Findings

### Landline communications

61 percent of respondents had a landline in their home.

### Cell phone communication

93 percent reported to have cell service in their community, while 71 percent stated they had cell service in their homes. While there is a cell phone tower in the townsite, service is more limited in 4Mile reserve (approximately three kilometres away) as there is no tower there. TELUS was the main cell phone service provider (39%).

Most residents reported their service to be between "unreliable" and "average," and cell phone bills were considered to be between "expensive" and "average."

### Internet

78 percent of those surveyed reported to have internet in their home, with 60 percent relying on the local internet provider CCCS. The majority of people rated their internet service as "good" (43%).

## Emergency Services

Residents were asked whether or not they could access three resources in the event of a disaster: Marine VHF Radio, satellite phone, and local HAM radio operator. 96 percent of those surveyed could not access a Marine VHF Radio, 75 percent could not access a satellite phone, and 93 percent did not know a local HAM radio operator.

There is a local radio station: Nuxalk Radio that has the ability to broadcast from downtown to the lower Bella Coola Valley (but not consistently into Hagensborg or beyond).

## Hagensborg

- Area C/D ~ Central Coast Regional District
- Population Estimate: 800
- Total completed surveys: 70
- Percentage completed: Nine percent

For the purposes of this survey, Hagensborg refers to the area east of 4Mile reserve and encompasses the lower Bella Coola Valley, the village of Hagensborg, and the smaller communities (Firvale, Stuie) east to the bottom of the Hill.

Residents in Hagensborg access the townsite of Bella Coola for many of their services including banking and healthcare. However, Hagensborg hosts one gas station, a post office, a grocery store, several accommodation providers and the district's secondary schools.

## Key Findings

### Landline communications

91 percent of respondents had a landline in their home.

### Cell phone communication

79 percent of people reported cell phone availability in their community (the "centre" of Hagensborg does have a cell phone tower), but only 40 percent of people had cell phone service in their homes. 47 percent of people used TELUS as their cell service provider.

The majority of people (53%) classified their cell service between "very unreliable" and "unreliable," and 66 percent of people classified their services between "expensive" and "average."

### Internet

The majority of people (90%) had internet service in their homes, and the dominant provider was the local CCCS (60%). 68 percent of people classified their internet service between "good" and "very good."

## Emergency Services

Residents were asked whether or not they could access three resources in the event of a disaster: Marine VHF Radio, satellite phone, and local HAM radio operator. 61 percent of people could not access

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and Marine VHF Radio, 62 percent could not access a satellite phone, and 87 percent could not access a local HAM radio operator.

There is no local radio station in Hagensborg.

## **Bella Coola/Hagensborg ~ ISP Survey**

### **ISP Providers:**

Xplornet, Central Coast Communications Society (CCCS), TELUS

### **Majority Community Use:**

CCCS

### **Standard Upload/Download Speeds:**

Up to 10Mbps download (CCCS)

Up to 25Mbps (Xplornet)

### **Connectivity:**

Fixed wireless/Xplornet Satellite

### **Current Bandwidth:**

300Mbps – Bella Coola

200Mbps - Hagensborg

### **Bandwidth Required to upgrade to 50Mbps per home/business:**

10Gbps (minimum)

### **Outage Threats:**

TELUS microwave malfunction, extensive power outage, severing of fibre optic cable between Bella Coola and Williams Lake

### **Emergency Communications**

Bella Coola does not have a formal secondary communication system. There is a satellite phone at the hospital and a backup generator there as well. Nuxalk Radio is the designated emergency channel and can broadcast locally in the Valley but will not reach every home. There are also many VHF radios.

## Wuikinuxv

- Area A ~ Central Coast Regional District
- Population Estimate: 60
- Total completed surveys: 6
- Percentage complete: 10%

Wuikinuxv, also known as Rivers Inlet, is 125 kilometres southwest of Bella Coola and one of the smallest settlements in the Central Coast behind Ocean Falls. The Wuikinuxv people have lived in the area for thousands of years, although many now make their home in nearby communities on Vancouver Island – which is 65 kilometres to the south.

Wuikinuxv was a major fishing area with huge salmon runs. Three canneries dotted the shorelines until their closure by consolidation through the monopoly of companies, BC Packers, and the consolidation around large centralized ice plants in the 1950s.

Presently Wuikinuxv hosts an elementary school, limited health care services, a band office, traditional big house and a small airstrip. Groceries are brought in by float plane and the community has no road access.

### Key Findings

#### **Landline communications**

Over 80 percent of respondents had a landline in their home.

#### **Cell phone communication**

There is no cell phone service in Wuikinuxv.

#### **Internet**

The majority of people surveyed have internet in their homes – the only option is satellite which is offered through Xplornet. Service was rated between “good” and “very good.”

#### **Emergency Services**

Residents were asked whether or not they could access three resources in the event of a disaster: Marine VHF Radio, satellite phone, and local HAM radio operator. 83 percent of people could access and Marine VHF Radio, 33 percent could access a satellite phone, and 100 percent could not access a local HAM radio operator. There is no local radio station in Wuikinuxv.

## Wuikinuxv ~ ISP Survey

### **ISP Providers:**

Xplornet, TELUS (through IBBS Momentum Telecom)

### **Majority Community Use:**

IBBS

### **Standard Upload/Download Speeds:**

Unsure – approximately 30Mbps for the entire community to share

### **Connectivity:**

Coaxial cable

### **Current Bandwidth:**

Unsure

### **Bandwidth Required to upgrade to 50Mbps per home/business:**

1Gbps

### **Outage Threats:**

TELUS microwave malfunction, power outage

### **Emergency Communications**

Wuikinuxv does not have a formal secondary communication system. There are at least two satellite phones in the community (one at Band Office) and several VHF radio operators. The Band Office also has a portable generator.

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## Last-Mile Funding Opportunities

Funding opportunities are available through Northern Development Initiative Trust's Connecting British Columbia's Phase Two Last-Mile Infrastructure Funding.

The Connecting British Columbia program is a province-wide program administered by Northern Development Initiative Trust (Northern Development) and is available to all eligible applicants. It is funded by the Province of British Columbia.

The current objective of the multi-year Connecting British Columbia program is to accelerate the delivery of high-speed internet connectivity at minimum target speeds of 50 megabits per second (Mbps) down and 10 Mbps up to homes and businesses in rural communities in BC. Applications that are able to demonstrate the ability to support the target of 50/10 Mbps are highly preferred.

The high cost of infrastructure has been identified by local governments, First Nations, and internet service providers as one of the key barriers to expanding internet services. The Connecting British Columbia program helps pay for infrastructure required to deliver high-speed internet connectivity to rural areas of the province.

More information about the program can be found [here](#).

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## Corporations

For the purposes of this survey the CCRD contacted the communications advisors for each corporation that services the region.

### TELUS

TELUS is the main communications provider for the Central Coast in terms of landline and cell service. TELUS provides landline communications for all coastal communities and cell service for three: Bella Coola, Bella Bella, and Denny Island. Wuikinuxv and Ocean Falls do not have cell service.

#### Internet Service

TELUS currently provides bandwidth to Bella Coola, Bella Bella, Ocean Falls and Wuikinuxv. They do not provide bandwidth to Denny Island. TELUS does not provide internet service; it only provides local telecom companies with bandwidth to distribute.

To date, TELUS has sold the following amounts of bandwidth to each community:

Ocean Falls – 60Mbps (no local telecom/ISP provider)  
Bella Coola – 300Mbps (distributed through CCCS) – 550Mbps (business internet)  
Bella Bella – 200Mbps (distributed through Waglisla Cablevision)  
Wuikinuxv – 200Mbps (distributed through IBBS - Momentum Telecom)  
Denny Island - None

Internet is delivered via microwave and relay stations for the entire Central Coast – these may constitute a single point of failure. The relay stations are all run off of BC Hydro power with the exception of Wuikinuxv, which is local power. BC Hydro stations all have backup generators which can provide up to 36 hours (battery) and 72 hours (fuel).

TELUS has plans to provide Bella Bella with an additional 100Mbps in late 2019/early 2020. There is also a planned radio upgrade for the Bella Coola region which would add 1Gbps radio capacity.

TELUS confirmed it is exploring opportunities to work with CityWest to leverage future west coast fibre build.

#### Landline Service

All residents of the Central Coast currently have landline service provided by TELUS. However, each community's landline service is dependent on a radio connection. If the connection between the community's telephone switchboard and the remote radio is compromised only local dialing is available.

TELUS confirmed the landline infrastructure is vulnerable to flood or fire, particularly in Bella Coola, as there is a long stretch of aerial fibre between Bella Coola and Williams Lake.

All sites are vulnerable to weather conditions that can impact the microwave radio links (snow, storms, rain, smoke).

### **Cell Service**

TELUS has four cell service sites within the Central Coast: Bella Coola (2), Hagensborg, and Bella Bella. These communities have cell service and TELUS has no plans to add additional coverage at this time.

4G LTE currently serves with communities with plans to upgrade to 5G in the short-term future.

Each major site has generator backup to last approximately 10 hours before refueling. TELUS confirmed the cell service infrastructure is vulnerable to flood or fire, particularly in Bella Coola, as there is a long stretch of aerial fibre between Bella Coola and Williams Lake.

### **Future Plans**

TELUS is open to collaborate and partner with the Regional District and communities within the District to provide the technology required to connect residents to Canada's Fastest Mobile Network.

## **CityWest**

CityWest is a communications company providing internet, home phone and television services to communities in northwest BC. CityWest will manage and implement the Connected Coast project and will receive \$12.4M to provide the necessary infrastructure to enable 23 communities to connect to the internet.

Currently, CityWest does not provide any services to communities within the Central Coast Regional District.

### **Internet Service**

CityWest will have the capability to provide 10G+ to each community on the Central Coast, but the amount each community will be able to accommodate will depend on the infrastructure of the local ISP (known as the "last-mile" provider) and/or TELUS. Any registered service provider or business will be eligible to receive the internet service.

### **Future Plans**

CityWest has indicated that all five CCRD communities are slated for connectivity by the second half of 2020 under the current project plans.

## Xplornet

### Internet Service

Xplornet provides high-speed rural internet to approximately 24000 homes in British Columbia, including several hundred in the Central Coast Regional District.

Xplornet services the west coast via several satellites including ViaSat2, Jupiter, and Jupiter2. Download speeds range from 5Mbps to 25Mbps and data ranges from 25GB up to 200GB per month, depending on the package.

In April 2019, Xplornet announced that it has purchased capacity on the upcoming Jupiter 3 satellite, which will enter service in 2021. Jupiter 3 will provide rural BC residents with download speeds of up to 100Mbps, quadrupling the top speed that is currently available.

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## Appendices

Full survey results from each community are available upon request.