

**MACKENZIE COUNTY
COMMITTEE OF THE WHOLE MEETING**

**Tuesday, April 25, 2017
10:00 a.m.**

**Fort Vermilion Council Chambers
Fort Vermilion, Alberta**

AGENDA

1. Delegation (10:00 a.m.)
Michael Marcaccio, Wilde & Company Chartered Professional
Accountants – Presentation of the 2016 Audited Financial Statements

2. Northern Alberta Broadband Project Current State Report – Draft 3

3. Next Meeting – June 27, 2017

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taylorwarwick
CONSULTING LIMITED



Northern Alberta Broadband Preparedness Project

Current State

DRAFT	For review. Fixed wireless tower and fibre information has yet to be added.
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Submitted to Alberta HUB:
By Taylor Warwick Consulting Limited

March 28, 2017

Prepared by:
Doris & Les Regula – Regula & Associates Ltd.

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1 Executive Summary

Overview – Study Region – One of Northern Alberta Development Council’s (NADC’s) goals is to advance a robust, diversified economy in northern Alberta. Achieving continued economic growth in the region is highly dependent on having the necessary infrastructure to access markets. In building a stronger north and advancing northern development, the NADC collaborated with Alberta Economic Development and Trade, Entrepreneurship and Regional Development Branch, and the northern Alberta Regional Economic Development Alliances (REDAs) on this initiative, one of several regional broadband studies either already completed or in progress province-wide.

The NADC region covers approximately 60% of the Alberta’s total landmass.¹ The NADC works with its many partners, the REDAs among them, to help this region’s 158 communities and approximately 452,000 people build thriving communities and a strong and sustainable northern economy. The NADC region is home to approximately 21,075 businesses (with employees).² Although the business counts reflect a diverse economy, there is a relatively high concentration of construction industry related activity.

Introduction – This report completes Phase 1, Current State, of the three strategy development phases which comprise the *Northern Alberta Broadband Preparedness Project*. For communities interested in executing broadband strategies, a fourth phase, business case development, will be undertaken. The study is inclusive of all municipalities, First Nations, and Métis Settlements within the area encompassed by the NADC and the five northern REDAs.

The current state establishes the present situation (“what is”) – an inventory, as it relates to broadband – current services providers; assets that could potentially be leveraged to support enhancing broadband infrastructure; and current and planned civil infrastructure and works that can significantly reduce the cost of laying fibre conduit.

Landscape Issues – The environment and underlying technologies – together with an ever-widening array of applications and impact areas – continue to evolve quickly. Since the beginning of this project, there have been several new developments that continue to shape the landscape.

Dec. 21, 2016 Canadian Radio-television and Telecommunications Commission (CRTC) declared broadband Internet to be a basic telecommunications service.

Dec. 15, 2016 Federal Innovation, Science, and Economic Development (ISED) Canada announced the ‘*Connect to Innovate*’ program to provide up to \$500 million in support of new high-capacity open access ‘backbone’ networks; upgrades to existing ‘backbone’ networks; improving resilience; and last mile access connections by 2021.

Feb. 8, 2017 Statistics Canada released its 2016 Population and Dwelling Count Census.

Future Government of Alberta Cabinet decisions related to the Alberta SuperNet 2.0. Expected changes include potentially a new operator before the original

¹ NADC, *NADC Area Profile: An Economic Description of the Region*, May 2016, 2.

² Calculations based on data provided by Alberta Economic Development and Trade, Economic Information & Analytics, 13 February 2017.

operations contract expires on June 30, 2018 as well as improvements to the terms and conditions for users of SuperNet services.



Northern Alberta Information HUB Ltd. (Alberta Hub) – The Alberta Hub region is a diverse economy with a population of 110,000 and 4,860 businesses (with employees). It is strategically located - its transportation corridors connecting Edmonton, the Saskatchewan border area, and the resource rich areas of northeastern Alberta. TELUS has made a generational fibre investment in the urban centres in the region with populations over approximately 5,000, except for the City of Cold Lake. The current state of the remaining communities' broadband plans and strategies are at an early stage. The towns of Elk Point and Smoky Lake as well as the County of Vermilion River are “Gung Ho” in their pursuit of enhanced and expanded broadband for their communities.

Last-mile broadband services are currently available from several service providers, both wireless- and wireline-based, using radio frequency and fixed wireless and mobility towers as well as fibre, copper twisted pair wiring, and coaxial cable. Multiple service providers target residential and business customer segments – Eastlink, Shaw Communications (Shaw) and TELUS Corporation (TELUS) focus on the urban areas while the fixed-wireless based Internet service providers (ISPs), such as MCSNet (the most well established and has the most extensive coverage), concentrate on the rural communities. Maximum advertised residential bit rates are “up to” 940 Mb/s, 150 Mb/s, and 150 Mb/s for Eastlink, Shaw, and TELUS, respectively. Only TELUS provides symmetric upload and download bit rates, but only where it has deployed FTTP.

“Middle mile” and backhaul to the major Internet exchange in Edmonton is achieved using the Alberta SuperNet as well as Shaw and TELUS fibre transport. These assets as well as those of the ISPs mentioned above can potentially be drawn upon to support community- and regional-based broadband deployments.

Municipally-owned towers and the utility infrastructure of electricity (i.e., ATCO Electric) and natural gas companies are also present in the Alberta Hub region. Access to their assets, with little or no incremental cost, would improve the economics of broadband network deployments and subsequent operations. Nine Rural Electrification Associations (REAs) and twelve gas co-operatives (co-ops) operate in the region.

There are several major private and public sector projects underway or planned in the Alberta Hub region. Two linear construction projects that will involve “digging” are the Alberta Central East Regional Water System (ACE) and the Cold Lake regional water supply expansion. As well, there are a variety of road construction and other projects to be undertaken by the municipalities, which also present opportunities.



Grizzly Regional Economic Alliance Society (Growth Alberta) – The Growth Alberta region is home to approximately 57,000 residents and 3,018 businesses (with employees). The region offers convenient access to the major energy centres in the North and is well positioned near major corridors for access to other parts of North America. Communities within Growth Alberta are at different stages in recognizing the importance of broadband services and connectivity to economic diversification, municipal sustainability, regional competitiveness, public service delivery, and quality of life.³ While most are at a relatively early stage, Whitecourt plans to deploy their own

³ Calgary Regional Partnership, 3.

wide area network in 2017, and Woodlands County has been searching for a number of years for a solution to fill broadband coverage gaps in their county.

An inventory of local broadband service providers indicates there are several operating in the Growth Alberta region. They serve both residential and businesses customers. The larger ISPs, Eastlink, Shaw, and TELUS, focus on the urban areas of Barrhead, Mayerthorpe, Westlock, and Whitecourt. Eastlink's maximum advertised bit rates of up to 400 Mb/s are available to residential customers in Mayerthorpe and Whitecourt. Rural communities (including 13 summer villages) are served by fixed wireless-based ISPs, such as Clearwave Broadband Networks, Corridor Communications (CCI), MCSNet, and Whitecourt Communications and deal with lower population densities and complicating trees (i.e., line-of-sight challenges). Advertised fixed wireless Internet service offerings provide approximately half the download speeds of those typically offered by the larger ISPs (i.e., up to 25 Mb/s) for the same price. The Alberta SuperNet as well as Shaw and TELUS are options for middle mile and backhaul connections. These assets can potentially be leveraged to support a networked broadband community.

ATCO Electric, three REAs, and three natural gas co-ops provide electricity and gas services in the Growth Alberta region. The use of their linear assets as well as the municipally-owned towers in Lac Ste. Anne and Woodlands can reduce the costs of community broadband deployments.

Leveraging civil infrastructure projects can reduce broadband deployment costs by 75%. Municipal capital projects that involve trenching include commercial developments in Mayerthorpe and Westlock; an industrial subdivision in Swan Hills; and the development of an industrial park (160 contiguous acres) in the County of Barrhead. As well there are a number of water and sewer projects.



Lesser Slave Lake Economic Alliance (LSLEA)⁴ – There are approximately 30,000 residents and 1,230 businesses (with employees) in the LSLEA region. Twenty-seven percent of the region's residents live on First Nations reserves or Métis Settlements. The 2011 wildfires devastated areas of the Town of Slave Lake, the Sawridge First Nation, and the MD of Lesser Slave River. Much of the rebuild is now complete. The Slave Lake Regional Tri-council, which combined the councils of the Town of Slave Lake, the MD of Lesser Slave River, and the Sawridge First Nations, was formed following the 2011 wildfires. The Tri-Council led the recovery efforts and now does strategic planning for the three entities. In the Town of Slave Lake TELUS has installed fibre primarily in residential neighbourhoods. Businesses in the town indicate that Internet capacity and coverage falls short. Axia has offered to assess High Prairie for a potential Axia fibre network. Others such as the Northern Alberta Broadband Society are contemplating different frameworks to build broadband infrastructure (i.e., fibre/hybrid) and provide broadband services to residents in the immediate Slave Lake region and along a trajectory to Peace River (including Peace River). Big Lakes, High Prairie, Lesser Slave River, and Slave Lake are advanced in recognizing the importance of broadband and looking for solutions to move forward.

ISPs in the LSLEA region include Eastlink and TELUS. Eastlink's maximum advertised bit rates are up to 400 Mb/s are available to residential customers in Slave Lake compared to TELUS' symmetric 150 Mb/s. Rural communities are served by fixed wireless-based ISPs – predominately CCI, Slave Lake Communication as well as Arrow Technology Group (Arrow) and Lakeshore Internet Services (Lakeshore), which primarily service the First Nations reserves or Métis Settlements. Lakeshore is very enthusiastic toward Fibre-to-the-Premise (FTTP) on First Nations reserves. As with the other rural areas within the NADC download bit rates available are much lower than those in urban centres (e.g., maximum advertised residential are up to 15 Mb/s) and prices are more than double. Challenging

⁴ Membership in REDAs changes over time. In this report, the LSLEA membership reflects that in 2016.

terrain issues (trees) and weather perhaps justify the higher prices. The Alberta SuperNet as well as TELUS are options for middle mile and backhaul connections. These assets can potentially be leveraged to support future community-based broadband build-outs.

ATCO Electric and three natural gas co-ops provide electricity and gas services in the LSLEA region. The use of their linear assets as well as a few First Nations-owned towers can reduce the costs of community broadband deployments.

Municipal capital projects that involve trenching include the Big Lake's House Mountain connector road and potential water co-op waterline extensions. High Prairie is planning a water/sewer line, curb, gutter, and sidewalk replacement project.



Regional Economic Development Initiative Association of Northwest Alberta (PREDA) –

PREDA is the largest REDA by population in the northern Alberta, with almost 150,000 residents. The County of Grande Prairie and City of Grande Prairie are the most populated municipalities in the region. The MD of Peace River's population has grown by approximately 21% (2011 over 2016) while Grande Cache's population has declined by approximately 17% over the same time period. The region is spread over a vast geographic area comprising boreal forest, lakes, and plains in the south.

Some communities are looking for this project's outcome to provide direction while others have moved forward with solutions. For example, over the past decade, the County of Grande Prairie built over 300 county-sponsored towers and partnered with GPNetworks and other local ISPs to provide Internet services to its residents and businesses. Saddle Hills more recently erected communications towers, which form the basis of their Utility Communications Network. The Peace River Internet Society (PRiS) uses the network of towers to offer Internet services to the community. The G5 municipalities work together on matters of regional needs and inter-municipal cooperation, including broadband. The G5 comprises the councils of five municipalities: Birch Hills County, Saddle Hills County, Municipal District (MD) of Spirit River, Town of Spirit River, and Village of Rycroft.

Valleyview is pursuing fibre optic infrastructure and a broadband plan will be part of their next Economic Development Plan. The Town of Fairview has recently selected Axia to deploy fibre in their town. Another recent development is the creation of economic development role and the sharing of an economic development resource (e.g., Smoky River region and Heart of Peace (MD of Fairview and Town of Fairview)).

Final-mile broadband services are currently available from several service providers, both wireless- and wireline-based, using radio frequency and fixed wireless and mobility towers as well as fibre, copper twisted pair wiring, and coaxial cable. Multiple service providers target residential and business customer segments – Eastlink, Shaw Communications (Shaw) and TELUS Corporation (TELUS) focus on the urban areas while the multiple fixed-wireless based ISPs compete in the rural communities, especially in the County of Grande Prairie. Maximum advertised residential bit rates are “up to” 940 Mb/s, 150 Mb/s, and 150 Mb/s for Eastlink, Shaw, and TELUS, respectively. Only TELUS provides symmetric upload and download bit rates, but only where it has deployed FTTP.

In the County of Grande Prairie, GPNetworks is in the process upgrading their fixed wireless-based Internet services (i.e., based on long-term evolution (LTE)) while its sister company, GPOptiX, has begun rolling out FTTP in the City of Grande Prairie and surrounding area.

“Middle mile” and backhaul to the major Internet exchange in Edmonton is achieved using the Alberta SuperNet as well as Shaw and TELUS fibre transport. An Extended Area Network (EAN) segment of the SuperNet serves the community of Grande Cache. This is the only middle mile service for the community, meaning the community does not have resiliency/redundancy, which is critical for

emergency services. These assets as well as those of the ISPs mentioned above can potentially be drawn upon to support community- and regional-based broadband deployments. These assets as well as the final-mile assets can potentially be leveraged to support future community-based broadband build-outs.

ATCO Electric, two REAs, and nine natural gas co-ops provide electricity and gas services in the PREDA region. The use of their linear assets as well as the municipally-owned towers in the counties of Grande Prairie and Saddle Hills can reduce the costs of community broadband deployments.

Besides road work and schools projects, other major projects in the PREDA region include a new regional hospital, new schools, a seniors' complex, highway and sewer upgrades, and the Canfor sawmill modernization in the City of Grande Prairie. On February 22, 2017, the MD of Greenview, the County of Grande Prairie, and the City of Grande Prairie announced the Tri-Municipal Industrial Project, a large scale industrial development south of Grovedale.



Regional Economic Development Initiative Association of Northwest Alberta (REDI) –

The REDI region is home to approximately 21,000 residents and 826 businesses (with employees). Its land supports boreal forest while the flat portions are suitable for agriculture in this remote part of Alberta. Twenty-eight percent of the region's residents live on First Nations reserves. The hamlet with the largest population is the Mennonite community of La Crete (3,376 people) and represents almost 30% of the population within the County. Intense population growth fuels the demand for housing and property prices in the La Crete area.

Mackenzie County is definitely interested in improving and expanding broadband, but their Council is not at the "Gung Ho" stage at the time of writing. The First Nations Dene Tha', Loon River, and Tall Cree are interested in improving broadband availability on their multiple reserves.

Choice is limited when it comes to local ISPs in the REDI region. NorthwesTel and Rainbow Lake coaxial cable and cable modem technology to provide broadband services in the REDI region. NorthwesTel serves High Level with advertised residential service download speeds of up to 50 Mb/s. TELUS Internet service is available in High Level and in the hamlet of Fort Vermilion, with advertised download speeds of up to 25 Mb/s (the comparable service in La Crete delivers up to 6 Mb/s – and is sometimes described a "patchy"). Town-operated Rainbow Lake's Internet service provides low bit rate service to its residents and businesses. CCI also provides service in High Level, parts of rural Mackenzie County, and the two Beaver First First Nation that are closest to High Level. Arrow serves the First Nations in the region, and the Little Red River Cree provide their band members Internet services. The Alberta SuperNet and TELUS are options for middle mile and backhaul connections. These assets can potentially be leveraged to support a networked broadband community.

ATCO Electric and three natural gas co-ops provide electricity and gas services in the REDI region. The use of their linear assets could be leveraged to reduce the costs of community broadband deployments.

Municipal capital projects include a commercial subdivision and sanitary sewer expansion in La Crete.



Other Communities – Most of the northern Alberta communities fall into one of the five REDAs, except for Athabasca County and the Wood Buffalo area. Almost 86,000 northern Albertans live in these two areas and 2,811 businesses (with employees) conduct their business activities from these locations. The Regional Municipality of Wood Buffalo (RMWB) is comprised of a main urban service area, the City of Fort McMurray, and seven rural hamlets. In May 2016, an uncontrolled wildfire swept through parts of Fort McMurray and the RMWB, forcing the largest wildfire evacuation in Alberta's history. The re-build is underway and will take approximately three to five years.

The Town of Athabasca, the village of Boyle, and the Athabasca County have limited ISP options. TELUS offers bit rates of up to 25 Mb/s in the town (and less in the village). MCSNet also serves these urban areas as well as the summer villages and the rural dwellers of Athabasca County at bit rates comparable to TELUS' but at higher prices. Challenging terrain (valleys) in the town present issues for MCSNet. Density is also an issue. Further complicating these issues, MCSNet is experiencing over-capacity on their towers. The Town of Athabasca is facing mounting pressure from its residents and businesses plagued by poor broadband services, and at the time of writing, is evaluating an option to have AxiaConnect lay fibre in select areas of their town. Athabasca County is also not satisfied with their current levels of Internet service and are seeking alternatives to improve broadband services to their residents.

TELUS has deployed fibre in Fort McMurray and Shaw offers download speeds of up to 150 Mb/s in Fort McMurray and the hamlets of Gregoire Lake Estates and Sprae Creek. CCL Networks also provides fixed-wireless based Internet services in Fort McMurray and surrounding area. Arrow plays a key role in providing Internet solutions to rural RMWB and First Nations. The RMWB prefers to let the incumbents continue serving their urban communities. For the rural communities, it is seeking a partner to build and deliver broadband services.

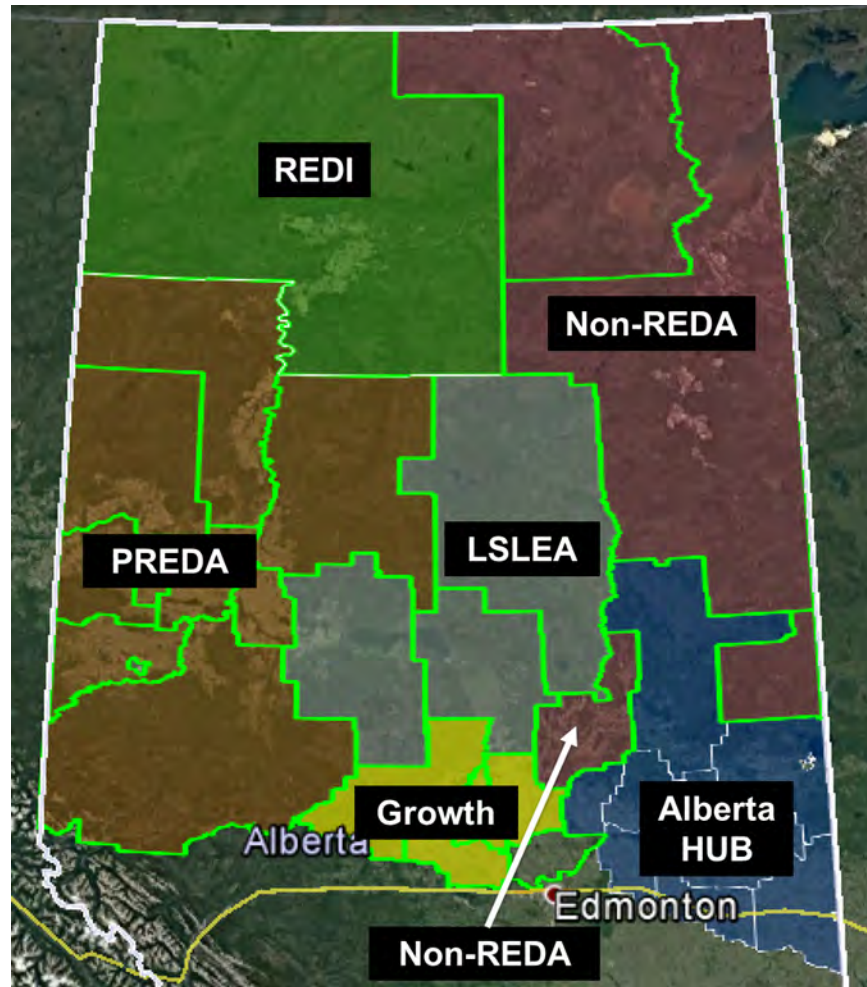
The Alberta SuperNet and TELUS are options for middle mile and backhaul connections for the "Other Communities" areas. These assets as well as those of the local ISPs can potentially be leveraged to support a networked broadband community.

The existing overhead and underground transmission and distribution lines of electric utility companies, ATCO Electric in Athabasca and Fortis Alberta in Fort McMurray, may be leveraged for community broadband projects as well as the communications towers owned by Athabasca County. The village of Boyle operates the only gas co-op in the areas.

There are several private and public sector major projects underway or planned in the areas of Athabasca and Wood Buffalo. The Town of Athabasca is building a school and a swimming pool (in partnership with Athabasca County). It also has water/sewer projects (downtown and University area) and a road extension planned for the University area. Besides private sector oil and gas and pipeline projects, the RMWB has projects associated with rebuilding in Fort McMurray and the surrounding rural communities.

2 Overview – Study Region

One of Northern Alberta Development Council's (NADC's) goals is to advance a robust, diversified economy in northern Alberta. Achieving continued economic growth in the region is highly dependent on having the necessary infrastructure to access markets. In building a stronger north and advancing northern development, the NADC collaborated with Alberta Economic Development and Trade, Entrepreneurship and Regional Development Branch, and the northern Alberta Regional Economic Development Alliances (REDAs) on this initiative, one of several regional broadband studies either already completed or in progress province-wide. Figure 1 shows the NADC region and the boundaries of each REDA.



Non-REDA areas are captured under the Other Northern Alberta Communities section

Figure 1 – Northern Alberta Study Area

The NADC region covers approximately 60% of the Alberta's total landmass.⁵ The NADC works with its many partners, the Regional Economic Development Alliances (REDAs) among them, to help this region's 158 communities and approximately 452,000 people build thriving communities and a strong and sustainable northern economy. Approximately 57% are urban dwellers while 43% live in rural

⁵ NADC, 2.

communities. Approximately 6% live on First Nations reserves or Métis Settlements. In addition to the permanent population there are mobile workers (known as shadow population), estimated to be about 43,000 in the Regional Municipality of Wood Buffalo.

The NADC region is home to approximately 21,075 businesses (with employees)⁶. Approximately 56% of these businesses are engaged in one of five industry sectors: construction; other services (except public administration); retail trade; professional, scientific, and technical services; and transportation and warehousing. The “other services” sector comprises establishments that have not been classified in any of the other 19 North American Industry Classification System (NAICS) industry sectors. For example, businesses that repair and maintain motor vehicles and other machinery or provide personal care services fall into this category. About 60% of businesses in the region are defined as micro businesses with less than five employees.⁷

Its natural region is largely boreal forest with pockets of Canadian Shield in the northeast corner of the region, Rocky Mountains in the southwest corner, foothills in the lower southwest, and a relatively small portion of parkland in the west and southeast corner.⁸ The main boreal forest includes closely spaced evergreen and deciduous trees, as well as shade-tolerant shrubs, which create line-of-sight issues for fixed wireless and mobility service providers. The small portion of Canadian Shield in the Fort Chipewyan area consists of a very thin soil layer on top of the bedrock (granite). This dictates aerial broadband deployments.

⁶ Calculations based on data provided by Alberta Economic Development and Trade, Economic Information & Analytics, 13 February 2017.

⁷ NADC, 2.

⁸ NADC, 2.

3 Introduction

3.1 Current State – An Inventory

This report completes Phase 1, Current State, of the three strategy development phases outlined below (for communities interested in executing broadband strategies, a fourth phase, business case development, will be undertaken). The study is inclusive of all municipalities, First Nations, and Métis Settlements within the area encompassed by the NADC and the five northern REDAs.



The current state establishes the present situation (“what is”) – an inventory, as it relates to broadband – current services providers; assets that could potentially be leveraged to support enhancing broadband infrastructure; and current and planned civil infrastructure and works that can significantly reduce the cost of laying fibre conduit. Essentially, the starting point and premise of the *Northern Alberta Broadband Preparedness Project* is to “build on what’s already or soon to be in place.”

Specifically, the current state data collection and analysis focuses on the following:

- Determining the population size and number of dwellings (and growth/decline rates) of each community and business counts by REDA and municipality. Estimating the percentages of aerial and buried utility (power) infrastructure by community. Identifying relevant economic, industrial, political, and social developments. Communities include all types of municipalities (urban, rural, and specialized) as well as First Nations and Métis Settlements.
- Identifying the current state of community plans and strategies – i.e., is broadband included in current municipal, First Nations, and Métis Settlements plans; what factors impact each community’s capability to pursue broadband/fibre initiatives; what role could broadband play in addressing individual community’s challenges; and where would each community like to be with respect to broadband in the near- and long-term. Where possible, local issues, barriers, and constraints relevant to potentially deploying fibre infrastructure are documented, and the level of broadband policy and planning support established by the entities are identified.
- Developing a clear picture of the broadband service providers and the service options that are available to communities on a community-by-community basis. Service providers can be classified as Wireless Internet Service Providers (WISPs)/fixed wireless, mobility/cellular, wireline Internet Service Providers (ISPs) and serve residential, business, wholesale customers. Services can be provided using radio frequency, optical fibre, copper twisted pair, and coaxial cable.
- Creating an inventory of local and regional assets – community- or privately-owned. Communications towers, fibre networks, and utilities transmission/distribution lines can potentially be leveraged to support enhanced broadband and extend broadband infrastructure deeper into a community.
- Identifying planned public and private sector major projects within northern Alberta as well as planned community/local capital projects and civil works, which can provide an opportunity to incorporate fibre conduit during construction to save network deployment costs.

3.2 Developing the Current State

Developing the current state comprised data collection, mapping, and analysis on a community-by-community basis. Figure 2 shows the information and data being sought from each of the communities. The information and data was attained using primary and secondary research methods.

Various **community statistics** are needed for broadband business case inputs. Statistics Canada (StatsCan) population and dwelling data from the Census 2011 and 2016 (updated data when 2016 Census issued in February 2017) was used to calculate five-year growth rates and compounded annual growth rates (CAGRs). The underlying data for the business counts was also from StatsCan. Since buried fibre deployments are significantly more expensive than aerial builds, it was necessary to assess how the community's utilities (e.g., power) are currently delivered. For this task, community Land Use maps were used to identify residential, commercial, and industrial areas. As well Google Maps and Earth was used – looking at street detail for the presence of poles and condition of road surfaces (gravel vs. paved). Various methods were used to count dwellings. Site visits were made to four communities in the Alberta Hub region (Bruderheim, Lamont, Chipman, Hilliard, Mundare), where residential and commercial areas were observed, houses and multi-unit dwellings counted, and tall structures noted.

To discover **“local plans,”** the project team interacted directly with the communities through community engagement sessions; information and data requests; and telephone conversations (with communities, utility companies, Internet service providers (ISPs) and other community stakeholders). Extensive follow-up telephone calls were made by this report's author and the REDAs. The NADC created a video and Information bulletins to support the project. AB Hub and Growth Alberta conducted surveys with businesses located in their respective areas. The information attained was supplemented by document, website, and social media searches. **Local and regional assets**, both community- and privately-owned were inventoried and detailed insight about **planned developments and civil infrastructure projects** was attained.

Community contacts included elected officials (i.e., Chief Administrative Officers) and their staff (information technology, planning and development, and economic development officers); and First Nations and Métis Settlement administrators and managers. Other groups or entities contacted during the study included ISPs, First Nations Technical Services Advisory Group (TSAG); electric and water utilities (e.g., Aquatera Utilities, NEW Water, Smoky River Regional Water Management Commission, ATCO Electric and Fortis Alberta).

Local ISPs were identified by community and through conversations and website searches, **current and planned communications infrastructure**, service offerings, and coverage were documented and tower sites mapped.

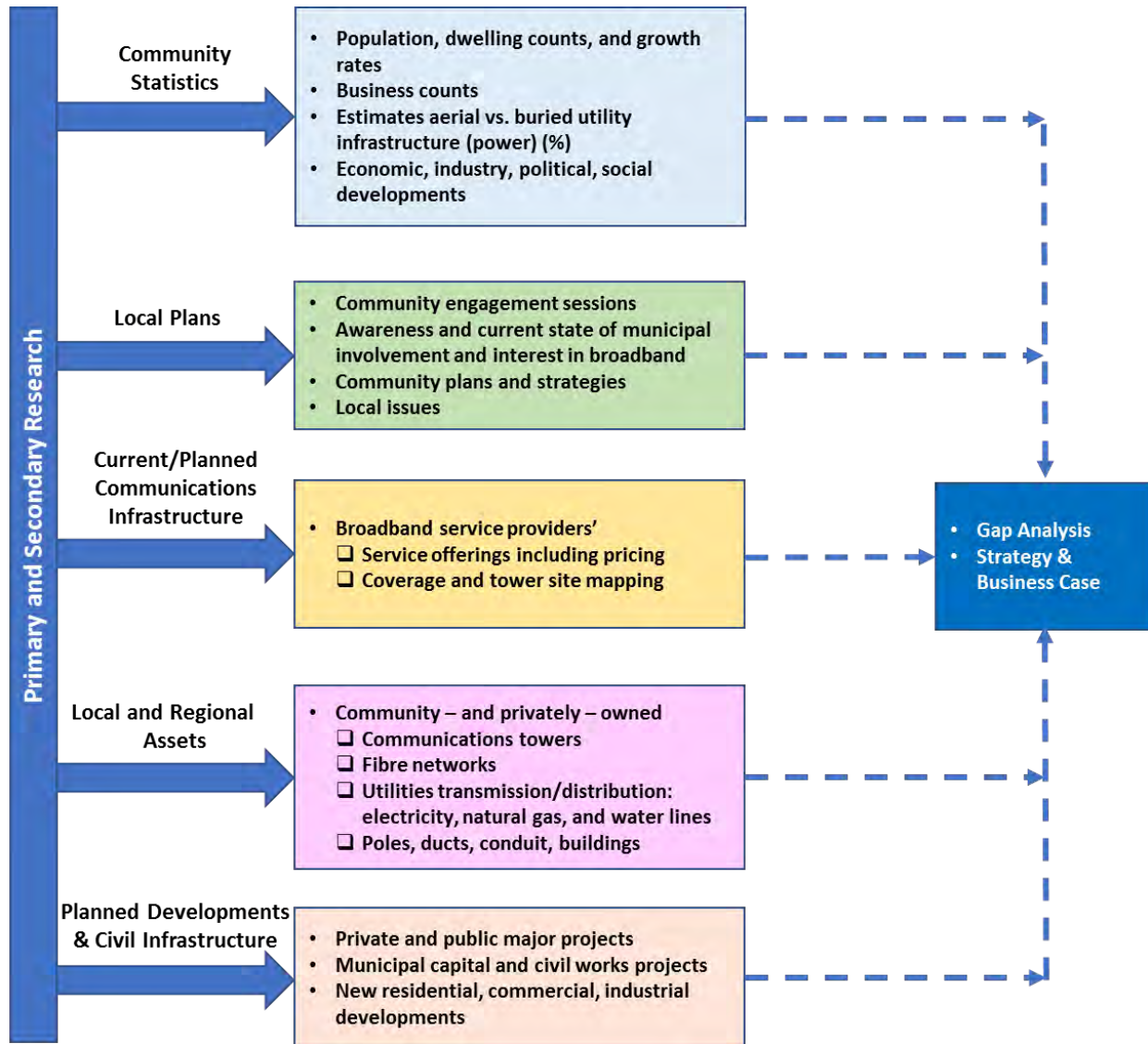


Figure 2 – Developing the Current State

3.3 Report Layout

Following a short update on Landscape Issues, this report is divided into six sections – one for each REDA and one for the remaining defined geographic region not covered by a REDA. Each section is comprised of the communities that are found within the physical/geographical boundaries of the REDA (in other words, the sections are not devised according REDA membership). This is done to facilitate the Phase 3 opportunity and broadband strategy development at the community and regional levels. Non-REDA members within each REDA are identified in each of the sections.

4 Landscape Issues

4.1 Context

An extensive Landscape document, providing overall perspective and context to a wide range of trends, issues, and concerns relating to broadband was developed for and released by the Calgary Regional Partnership in September 2016. A copy of that report can be downloaded from the noted website.⁹ Although the environment and underlying technologies – together with an ever-widening array of applications and impact areas – continue to evolve quickly, the material presented in that report remains comprehensive and relevant. Since the release of that document, however, there have been a number of developments at the federal, provincial, and service provider levels that are worth noting. These are outlined below.

4.2 Federal Updates

4.2.1 Basic Service Ruling¹⁰

On December 21, 2016, the Canadian Radio-television and Telecommunications Commission (CRTC) declared Broadband Internet to be a basic telecommunications service. Until now, only voice services were 'basic.' Existing universal service frameworks will now shift from voice to Internet, with a basic universal service of 50 Mb/s download and 10 Mb/s upload and the option of unlimited data. The CRTC set the deployment target of 90% of Canadian households by 2021 and 100% by 2031.

CRTC declares broadband internet access a basic service

Today's decision could pave the way for universal access to high-speed service in remote, rural areas

By Matthew Kupfer, CBC News | Posted: Dec 21, 2016 10:17 AM ET | Last Updated: Dec 22, 2016 2:53 PM ET



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Whereas in the past service providers have had to contribute 0.53% of their voice service revenues into a fund accessible to providers to improve services in areas that do not meet minimum voice service levels, these funds will now be used to support meeting the broadband Internet objectives in rural areas where it is not otherwise economical to do so. This fund is expected to grow to \$750 million within five years. A further proceeding in 2017 will examine the preliminary fund guidelines

⁹ <https://www.dropbox.com/s/i4m68awenkb546d/CRP-Regional%20Broadband%20Investigation-Landscape%20Issues-FINAL.pdf?dl=0>

¹⁰ CRTC; Telecom Regulatory Policy CRTC 2016-496; *Modern Telecommunications Services – The Path Forward for the Canadian Economy*, 21 December 2016.

established in this ruling. Should this proceeding complete by the end of 2017, money from the fund is unlikely to be dispersed until late 2018.

The ruling also set an objective to have the latest generally deployed mobile wireless technology (currently LTE) deployed not only in homes and businesses but along as many major roads as possible.

4.2.2 Connect to Innovate Program (CTI)

Announced on December 15, 2016, the Federal 'Connect to Innovate' program from Innovation, Science, and Economic Development (ISED) Canada will provide up to \$500 million in support of new high-capacity open access 'backbone' networks; upgrades to existing 'backbone' networks; improving resilience; and last mile access connections by 2021. The program covers:

- 75% of the costs of new infrastructure and
- 50% of the costs for upgrades.

Preferences will be given to applications:

- with most community benefit
- covering communities with the least service
- covering multiple communities
- providing infrastructure that is scalable and services that are the most affordable

Applications require significant detail, including design details and costs, the identification of who will build, own, and operate the network, and may be submitted between January 16, 2017 and April 20, 2017. Details are available at ISED' website.¹¹

An announcement of the funding recipients is expected beginning in summer 2017.

4.2.3 Statistics Canada

Statistics Canada released their 2016 Population and Dwelling Count Census on February 8, 2017¹² and all related numbers in this document have been updated to reflect the new data.

4.2.4 Federation of Canadian Municipalities

Working in partnership with the municipal sector, the Federation of Canadian Municipalities (FCM) continues to advocate for the federal government to:

- Adopt a comprehensive and long-term funding mechanism for basic broadband access. The existing arrangement for basic telecommunications services is a good starting point and
- Update the basic service objective to include universal access to affordable high-speed broadband Internet at speeds that reflect present realities and guarantee long-term, reliable connectivity while continually re-evaluate its broadband speed targets to reflect technological advancements, changes in user needs, traffic, and network capacity

The FCM continues to engage with the Ministry of ISED to ensure that the needs of rural municipalities are considered in the rollout of the *Connect to Innovate* program. For example, FCM

¹¹<https://www.canada.ca/en/innovation-science-economic-development/programs/computer-internet-access/connect-to-innovate.html>

¹² <http://www12.statcan.ca/census-recensement/2016/rt-td/population-eng.cfm>

shared feedback from communities which indicated that more time was needed to prepare applications, and the deadline has been extended from March 13, 2017 to April 20, 2017.

The FCM actively participated in the CRTC's 2015-134-5, *Review of basic telecommunications services*. The FCM's submission to the CRTC consultation called for universal access to affordable and reliable high-speed Internet and highlights the significant barriers faced by communities in both rural and northern Canada. In particular, FCM recommended that the CRTC expand its basic service objective to guarantee long-term, reliable broadband connectivity across Canada and to continually evaluate its broadband speed targets to reflect technological advancements and evolving user needs.

The CRTC is currently in the process of consulting on the design of a new broadband infrastructure fund. The CRTC is examining matters related to the fund's establishment including: eligibility and assessment criteria; eligible costs; roles and responsibilities; and governance and accountability. All levels of government are encouraged to participate in these consultations beginning later this year. The FCM will continue engaging with the CRTC to ensure that municipalities are consulted in the design of this program.

4.3 Provincial Updates

4.3.1 Service Alberta and the Alberta SuperNet Contract

Service Alberta continues to work on a strategy pursuant to the pending roll-over of the original SuperNet operating contracts at mid-night, June 30, 2018. According to Stephen Bull, Service Alberta's Assistant Deputy Minister responsible for effort, a number of strategies have been developed and are waiting to be reviewed by the Premier and the Cabinet. Due to other priorities, a decision may not be available for another three to six months.

4.3.2 Changes to the Municipal Government Act

The *Municipal Government Act* (MGA) currently gives municipalities the option to work together on initiatives with neighbouring municipalities. This is about to change. All municipalities outside of the growth management areas (e.g., City of Edmonton region) will be required to develop an Inter-Municipal Collaboration Framework. The framework will formalize how municipal entities will work together to better manage growth, coordinate service delivery, and optimize resources.

4.3.3 Regional Economic Develop Alliance (REDA) Broadband Studies

4.3.3.1 A Provincial View

Courtesy of funding from the NADC (for this project) and Alberta Economic Development and Trade (EDT), regional broadband studies are underway province-wide – each building on the results of the previous studies. On completion of the studies in spring 2017, there will be the opportunity to aggregate the results to create a province-wide broadband view and use the outcome as a basis to influence policy.

4.3.3.2 Alberta Hub / NADC

As outlined in the Introduction, the intent of this study is to, at both the municipal and regional levels,

- create a common understanding of both the potential benefits of enhanced broadband availability and the options available to realize them,

- establish where each community is at and which are interested in pursuing broadband, and
- for those interested, which options might best meet their needs.

The work will then proceed to a feasibility review of the regional opportunities of most interest and develop a business case for those that garners the most support.

The study is inclusive of all members, non-members, First Nations, and Métis Settlements within the area encompassed by the NADC and the five northern Alberta REDAs (Figure 1).

At the time of writing, both the Community Engagement sessions and the Current State report are largely complete. The Desired State and Benefits assessment work (Phase 2) started on February 24, 2017, and the options work (Phase 3) started on March 1st. Both phases will complete by May 30th. The feasibility study and business case work will complete by June 30th. Follow-up community engagement sessions are scheduled for September of this year.

4.3.3.3 Calgary Regional Partnership (CRP)

The CRP study completed in September 2016 and all recommendations were unanimously endorsed by the Steering Committee, the Executive Committee, and the Board. A number of inter- and intra-municipality initiatives are now underway across the region.

4.3.3.4 Palliser Economic Partnership (PEP)

The mandate for the PEP study is similar to this study, in that not only are strategic options to be developed, but also business cases for the options of most interest. Community engagement sessions were completed in June 2016 and by December, a set of options together with deployment cost estimates had been developed. A joint CRP/PEP backbone initiative has kicked off and business case estimates for the more promising options are under development.

4.3.3.5 SouthGrow Regional Initiative (SouthGrow)

SouthGrow issued a Request for Proposal for its Broadband project in January 2017 and work commenced in February 2017. In this case, the emphasis is more on community engagement and requirements than deployment estimates and feasibility studies.

4.3.3.6 Broadband Toolkit and Portal – University of Alberta

Under contract to EDT, Dr. Michael McNally led a team at the University of Alberta to develop a document entitled '*Understanding Community Broadband – The Alberta Broadband Toolkit.*' The document was released in early January 2017. In conjunction with the Toolkit, the group is creating an online portal to serve as a reference centre for related material.

4.3.4 Alberta Urban Municipalities Association

The Alberta Urban Municipalities Associations (AUMA) continues to advocate to the federal and provincial governments to address the lack of sufficient broadband service that affects many communities in Alberta. The AUMA has two active resolutions on broadband: Review of Broadband Internet and Broadband Internet Availability in Alberta. The first one was submitted by the City of St. Albert and requests the province to provide direct funding and support to municipalities for broadband. The second resolution's active clauses requests that the AUMA establish a committee on broadband; work with REDAs and other organizations with similar mandates to advocate for affordable fibre optic-based Internet to Albertans; and continue to advocate for a provincial Broadband Policy. In February

2017, the AUMA released a bulletin, *Developing Broadband Solutions for your Community*, to assist members in determining their broadband needs.

The topic of broadband figures prominently during the AUMA's annual convention as well as during the two mayors' caucuses held each year. The AUMA conducted market research related to broadband with its members in 2016.

4.3.5 Alberta Association of Municipal Districts and Counties

The Alberta Association of Municipal Districts and Counties (AAMDC) provides an advocacy voice for rural municipalities seeking ways to enhance rural broadband in their communities. It regularly engages with Service Alberta and ISED Canada to provide the rural Alberta perspective on challenges with rural broadband, funding programs, and existing infrastructure such as the Alberta SuperNet.

Over the past year, the AAMDC has worked with its members to gather a better understanding of their challenges, priorities, and initiatives related to developing rural broadband (e.g., AAMDC Broadband and SuperNet survey) and used the information to provide input into the development of the federal CTI program; the new Alberta SuperNet operating agreement; and the CRTC's review of whether broadband should be considered a basic telecommunications service.

Looking forward, the AAMDC plans to engage further with the CRTC when they begin the public proceeding related to the \$750 million fund to support projects in areas that do not meet the CRTC's targets of speeds of 50 Mb/s download/10 Mb/s upload for fixed broadband Internet access services; an unlimited data option for fixed broadband access services; and the latest mobile wireless technology available not only in homes and businesses, but also along major Canadian roads. It will also engage with Service Alberta as they move forward in finalizing the new SuperNet operating agreement.

4.4 Service Provider Updates

4.4.1 Eastlink

To be completed.

4.4.2 TELUS

TELUS is deploying fibre to mobility/cell towers and recently launched a SmartHub product that enables high speed Internet using the 700 MHz spectrum to serve rural areas. TELUS' new SmartHub for rural customers offers speeds of 12 Mb/s to 25 Mb/s download. Three monthly plans are available (two-year contract) – progressively more expensive as the GB monthly data usage increases: \$60 for 50 GB; \$75 for 250 GB; and \$110 for 500 GB. The Whitecourt Chamber of Commerce recently selected the higher-end service and is pleased with the results.

Bell's Turbo Hub offers a similar service to rural communities with up to 150 Mb/s download and up to 50 Mb/s upload speeds with typical download speeds of between 12 Mb/s and 25 Mb/s (comparable to the TELUS offer). Monthly prices and data usage maximums are provided in Table 1.

Table 1 – Bell Turbo Hub Pricing & Data Usage Maximums

Price (\$)	GB
\$60	Up to 5
\$75	5 to 10
\$90	10 to 20
\$110	20 to 50
\$145	50 to 100

Roger's Turbo Hub offers "light" user and "heavy" user options, ranging from \$10 for up to 100 MB monthly usage to \$145 for between 50 GB and 100 GB usage per month.

5 Northeast Alberta Information HUB Ltd. (Alberta Hub)

5.1 Regional Profile

As shown in Table 2, the Northern Alberta Information HUB Ltd. (Alberta Hub) region is made-up of numerous communities – the City of Cold Lake, 10 towns, 14 villages, 3 summer villages, 9 counties or municipal districts (MDs), 7 First Nations, and 4 Métis Settlements. A map of the Alberta Hub region is shown in Figure 3. Of the communities within Alberta Hub, TELUS has made generational fibre investments in Bonnyville, St. Paul, and Vegreville. Elk Point has started the engagement process with AxiaConnect for their community’s fibre connectivity.

Table 2 – Alberta Hub Communities

City	Towns	Villages	Summer Villages	Counties/MD	First Nations	Métis
Cold Lake	Bonnyville	Andrew	Bonnyville Beach	Bonnyville	Beaver Lake	Buffalo Lake
	Bruderheim	Chipman	Horseshoe Bay	Lac La Biche	Cold Lake	Elizabeth
	Elk Point	Dewberry	Pelican Narrows	Lamont	Frog Lake*	Fishing Lake
	Lamont	Glendon		Minburn	Heart Lake*	Kikino
	Mundare	Innisfree		Smoky Lake	Kehewin Cree	
	Smoky Lake	Kitscoty		St. Paul	Saddle Lake*	
	St. Paul	Mannville		Thorhild	Whitefish Lk.	
	Two Hills	Marwayne		Two Hills		
	Vegreville	Myrnam		Vermilion River		
	Vermilion	Paradise Valley				
		Vilna				
		Waskatenau				
		Willingdon				

*Non-REDA

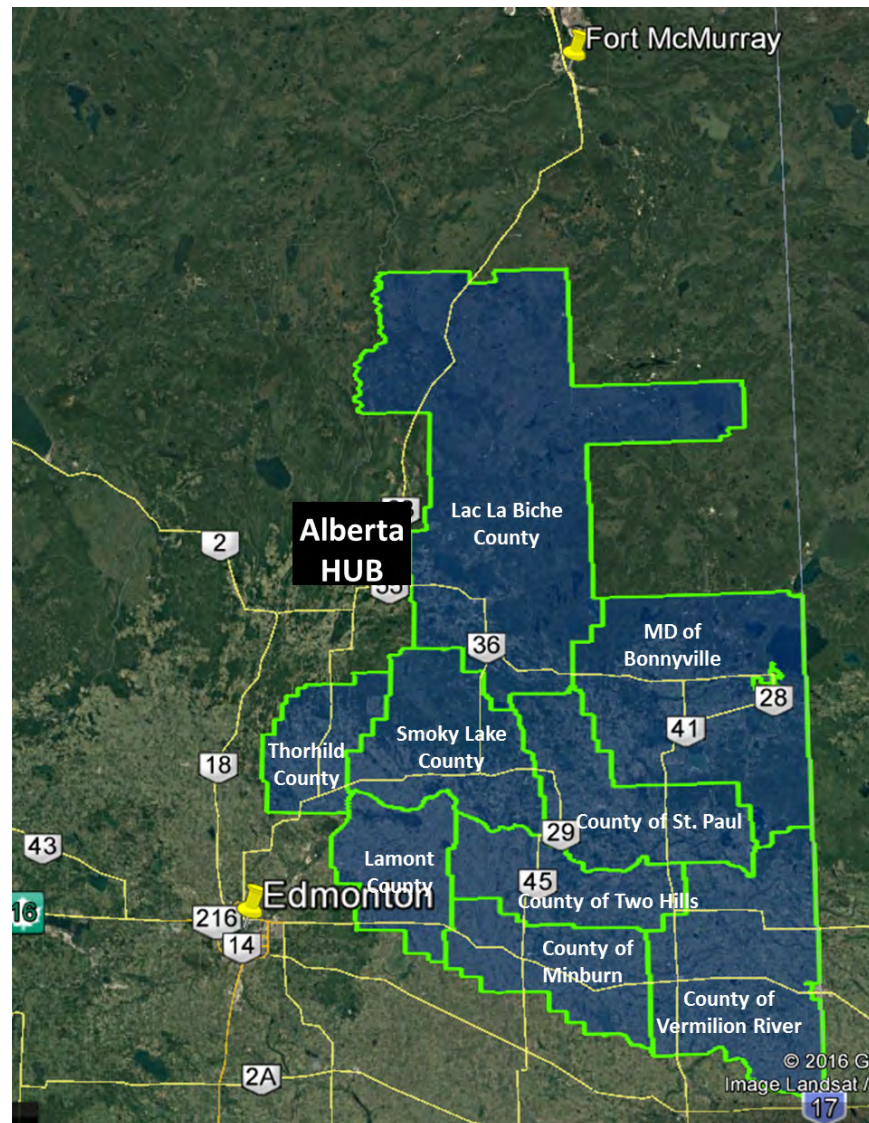


Figure 3 – Alberta Hub Region

The region is home to approximately 110,000 residents.¹³ **Appendix A** provides a population breakdown by municipal (rural and urban), First Nations, and Métis Settlements as well as five-year population growth trends and compounded annual growth rates (CAGRs). The MD of Bonnyville and City of Cold Lake are the most populated municipalities in the Alberta Hub region, with populations of 13,575 and 14,961, respectively. The MD of Bonnyville has grown significantly (approximately 21%) during the five-year period between 2011 and 2016; however, the population of the Town of Bonnyville has declined (although the Town’s own earlier census suggests differently). The Statistics Canada 2016 Census data indicates that the Buffalo Lake Métis Settlement has grown significantly over the five-year period. It should be noted that the villages of Innisfree and Willingdon are currently undergoing viability reviews. In Innisfree data is being collected and a Viability Team is being formed. The village electors voted in favour of dissolution in Willingdon. Lac La Biche county has applied to Alberta Municipal Affairs

¹³ Calculations based on Statistics Canada 2016 Census.

to become a specialized municipality. Its largest hamlet, Lac La Biche, has a population of 2,314 and this represents a decline of minus 8.2% between 2011 and 2016.

There are 4,860 businesses with at least one employees operating in the Alberta Hub region. The top 10 industries in which they operate is shown in Table 3 and Figure 4 (industries classified according to the North American Industry Classification System (NAICS)). The data reflects a diverse economy with approximately 17% of businesses with employees engaged in the construction industry. The sector with the second highest participation is the other services (except public administration).¹⁴ Together the two sectors makeup almost 28% of businesses with employees in the region. The Other Industries segment (14.3%) of the chart shown in Figure 4 includes industries that individually contribute between 3.5% and 0.3% to the category.¹⁵

Table 3 – Alberta Hub Number of Businesses (with employees) by Industry

Industry	Businesses	Percent (%)
Construction	800	16.5
Other services (except public administration)	538	11.1
Retail trade	491	10.1
Professional, scientific and technical services	488	10.0
Transportation and warehousing	464	9.5
Agriculture, forestry, fishing, and hunting	380	7.8
Mining, quarrying, and oil and gas extraction	322	6.6
Healthcare and social assistance	266	5.5
Accommodation and food services	212	4.4
Administrative and support, waste management and remediation	202	4.2

Source: Calculations based on dataset provided by Alberta Economic Development & Trade, Economic Information & Analytics, Feb. 13, 2017

¹⁴ Comprised of businesses primarily engaged in repairing and maintenance on motor vehicles, machinery, and other products; providing personal care, funeral, and laundry services; organizing and promoting religious activities; and supporting causes such as grant making and advocacy.

¹⁵ Real estate and rental and leasing; wholesale trade; manufacturing; finance and insurance; educational services; public administration; information and cultural industries; arts, entertainment and recreation; management of companies and enterprises; and utilities.

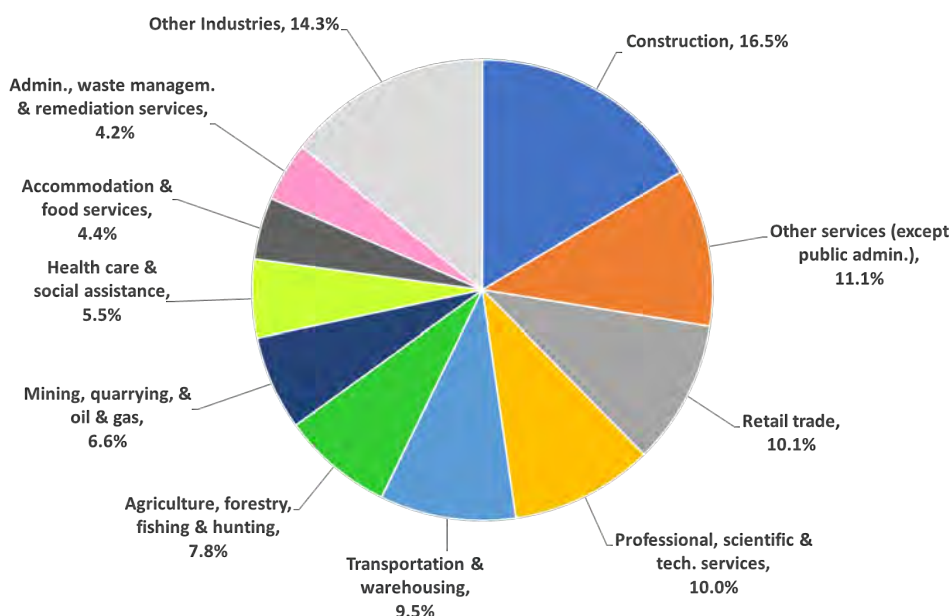


Figure 4 – Alberta Hub Industry Mix (based on Business Count)

During the data collection stage for the Current State, Alberta Hub conducted a broadband survey with businesses in the region. When asked about whether current Internet service levels were preventing their business from expanding more than 50% of the 54 respondents indicated they were inhibiting their growth and ability to serve their customers as shown in Figure 5.

Q. Are your current service levels preventing you from expansion of your business?



Figure 5 – Current Internet Service Levels Impact

Cross-tabulation analysis did not generally find a strong correlation between industry sector and affirmative “yes” responses, with the exception of the professional services sector. Firms active in providing accounting, human resources, legal, and web design services predominately felt their current Internet service levels were preventing them from expanding their businesses. Most respondents were small businesses, some working in home offices located in the rural areas of Alberta Hub. Firms involved in banking, financial services, and insurance activities indicated that Internet service levels were not inhibiting their growth. As one might anticipate, businesses currently attaining Internet speeds of more than approximately 20 Mb/s also did not feel their growth was being impacted in a negative way.

Respondents almost unanimously indicated that they would need to increase their current levels of Internet service over the next 3, 5, and 10 years, some adding that it would have to be sooner than the timeframes cited. Select explanatory comments included the following (Figure 6):

- Yes, as more educational opportunities are offered online, video and web conferencing technologies (*adult literacy and learning organization*)
- Yes, the availability of the more technological applications is only going to increase (*manufacturing business*)

- Yes, as our business grows, we can see real challenges and potential problems. We would like to increase our use of video conferencing and feel the present system would be taxed (*sand and gravel company currently receiving Internet download speeds of 10 Mb/s*).
- Yes, as we grow our business, Internet service is a necessary component to our success (*retail trade business – automotive, industrial, and agriculture*)

Q. Do you see the need to increase your current level of service over the next 3, 5, 10 years?



Figure 6 – Need to Increase Current Internet Service Level

The Alberta Hub region is strategically located – its transportation corridors connecting Edmonton, the Saskatchewan border area, and the resource rich areas of northeastern Alberta. There are several vital supply chains running through the region, which have created opportunities for trucking, rail transportation, and warehousing as well as for the use of airport assets in the region.¹⁶ “Currently, rubber tire traffic is the dominate means of movement of goods and people in the region.”¹⁷

Post secondary educational institutions in the Alberta Hub region include University Blue Quills, Lake Land College, and Portage College. Blue Quills University, near the Town of St. Paul, is a First Nations owned and operated university – owned by seven First Nations.¹⁸ Portage College has campuses or learning locations in the communities of Bonnyville, Boyle, Cold Lake, Frog Lake, Lac La Biche, Saddle Lake, St. Paul, and Whitefish Lake.

5.2 Municipal, First Nations, and Métis Settlements Broadband Interests

Communities within Alberta Hub are at different stages in recognizing the importance of broadband services and connectivity to economic diversification, municipal sustainability, regional competitiveness, public service delivery, and quality of life¹⁹.

The MD of Bonnyville and the Town of Bonnyville are preparing an Inter-Municipal Development Plan for the lands located around the Town. Amendments to the *Municipal Government Act* include the implementation of mandatory regional planning mechanisms for land-use planning and the requirement for municipalities to work together regarding service delivery and cost sharing.²⁰ Through the Inter-Municipal Collaborative Development Program (ICMP), the MD Of Bonnyville provides funding to the

¹⁶ Alberta Hub website. Accessed 15 February 2017.

¹⁷ Outlook Market Research & Consulting, *Alberta Hub Transportation Study*, Final Report, 31 October 2016.

¹⁸ Beaver Lake, Cold Lake, Frog Lake, Heart Lake, Kehewin, Saddle Lake, and Whitefish Lake.

¹⁹ Calgary Regional Partnership, Economic Prosperity Steering Committee, *Request for Decision*, 8 September 2016, 3.

²⁰ Alberta Municipal Affairs, What’s Changing, <http://mgareview.alberta.ca/whats-changing/> accessed 7 February 2017.

Town of Bonnyville, Cold Lake, and the hamlet of Glendon to compensation them for their infrastructure usage by the MD's residents.

The City of Cold Lake will be upgrading the City-owned network from leased lines and radio connections to fibre in 2017 to reduce costs, enhance network throughput, and increase reliability.²¹

Table 4 identifies the awareness and current state of municipal involvement and interest related to broadband and fibre network deployments. Most municipalities in the Alberta Hub region are at a relatively early stage. The Town of Two Hills is possibly interested in working on a regional broadband plan. Lac La Biche County expressed the need for affordable backhaul to Edmonton.

Table 4 – Alberta Hub Involvement & Interest in Broadband

Gung Ho	Interested – May Be	Need Help – Too Small
Elk Point Smoky Lake, Town Vermilion River	Bonnyville, MD Bruderheim Lac La Biche, County Minburn, County Smoky Lake, County St. Paul, County Whitefish Lake (Goodfish)	Mundare, Town Thorhild, County All villages Kehewin Cree
Too Expensive	Unknown	Status Quo
Lamont, County Two Hills, Town Vermilion, Town	Cold Lake Lamont, Town Two Hills, County	Bonnyville, Town (TELUS Fibre) St. Paul, Town (TELUS Fibre) Vegreville (TELUS Fibre)

5.3 Current Service Providers, Services, and Infrastructure

5.3.1 Fixed Wireless-based

Current Internet service providers using fixed wireless technology in the Alberta Hub region include the following. **Appendix B** provides the details of their service offerings (Internet only – no bundling unless otherwise stated) and geographic coverage. The coverage maps are those that were available on their websites at the time of the writing of this report.

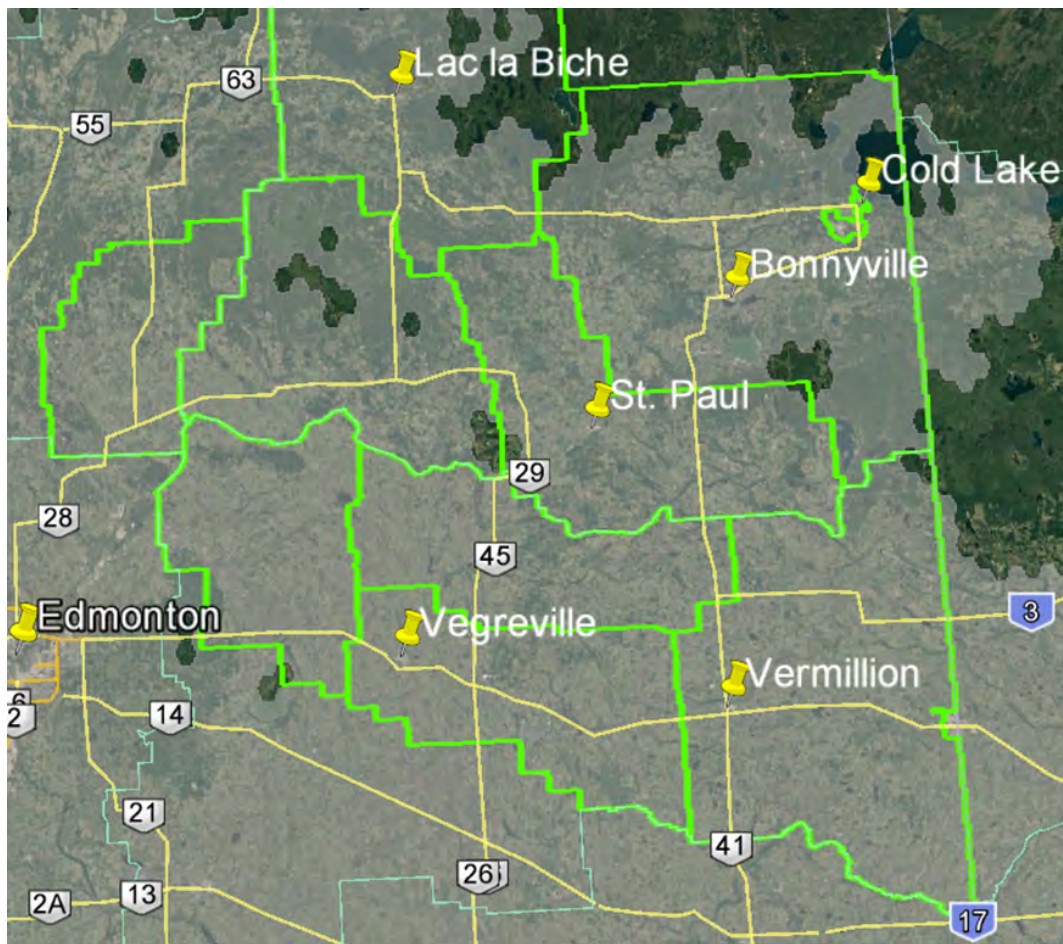
- Alberta Communication Cable Services,
- Arrow Technology Group,
- CCL Networks,
- Clearwave Broadband Networks,
- Corridor Communications (CCI),
- DeneTech (Cold Lake First Nations),
- DigitalWeb Internet Services,
- Infinity Internet Solutions,
- MCSNet,

²¹ City of Cold Lake, *Cold Lake 2017 Capital Budget*, 5.

- Wild Rose Internet, and
- XplorNet (fixed wireless and satellite-based).

According to the CRTC website²², minimal 5 Mb/s down (toward the end-client) by 1 Mb/s up (from the end-client to the network) service is almost ubiquitously available throughout the Alberta Hub region. A combined view of the fixed wireless coverage is shown in Figure 7 (light gray area).

CCI is looking to develop partnership arrangements with communities to deploy fibre in Alberta communities.²³ Clearwave is planning a province-wide expansion. XplorNet's new satellites will allow them to offer download speeds of 25 Mb/s across their customer base by July 2017.



Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

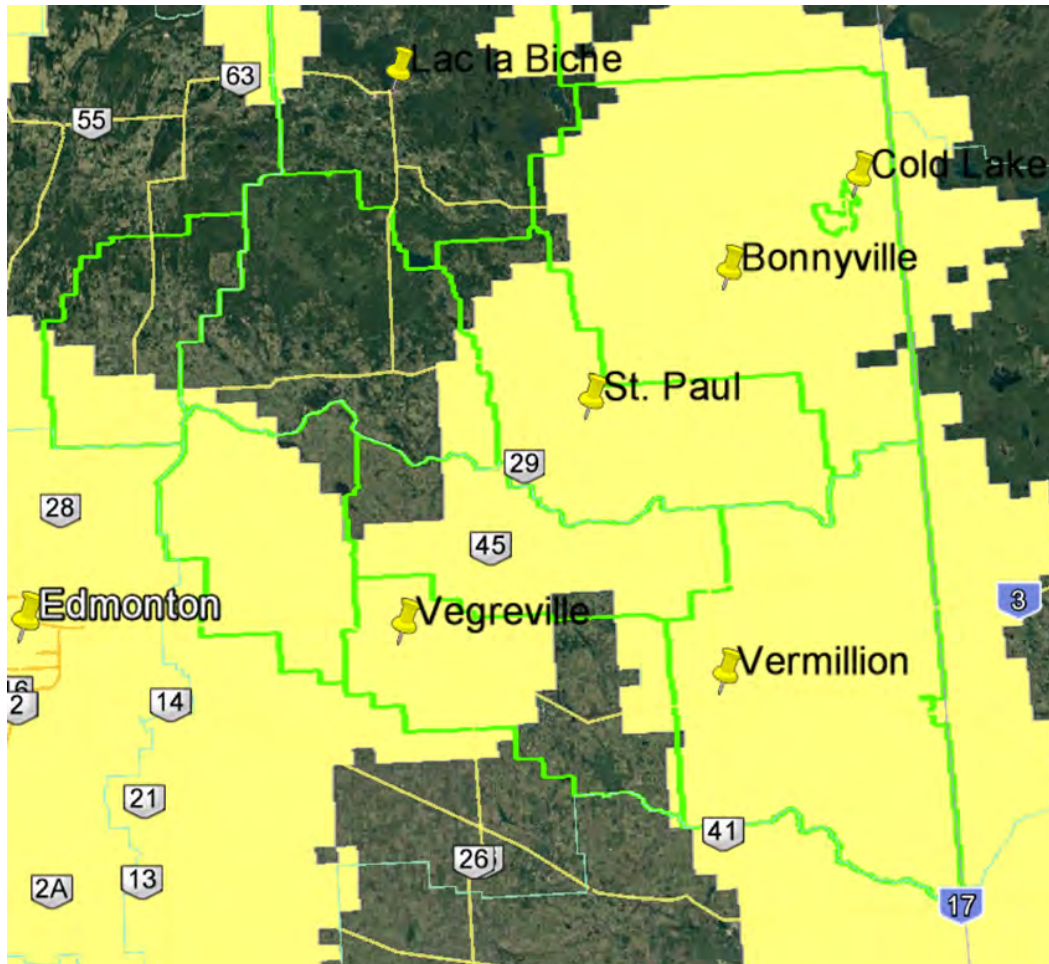
Figure 7 – Alberta Hub Fixed Wireless Coverage

²² <http://crtc.gc.ca/eng/internet/internetcanada.htm>

²³ Taylor Warwick, *Regional Broadband and Digital Connectivity Investigations Alberta HUB Broadband Discussion*, 16 December 2016, 17.

5.3.2 Mobility

Shown as yellow areas in Figure 8, mobility data services are widely available from TELUS/Bell and Rogers. **Appendix C** provides the coverage maps for each of the providers of mobility services. As discussed earlier Bell, TELUS, and Rogers are now using cellular towers and SmartHubs to provide at-home Internet services.

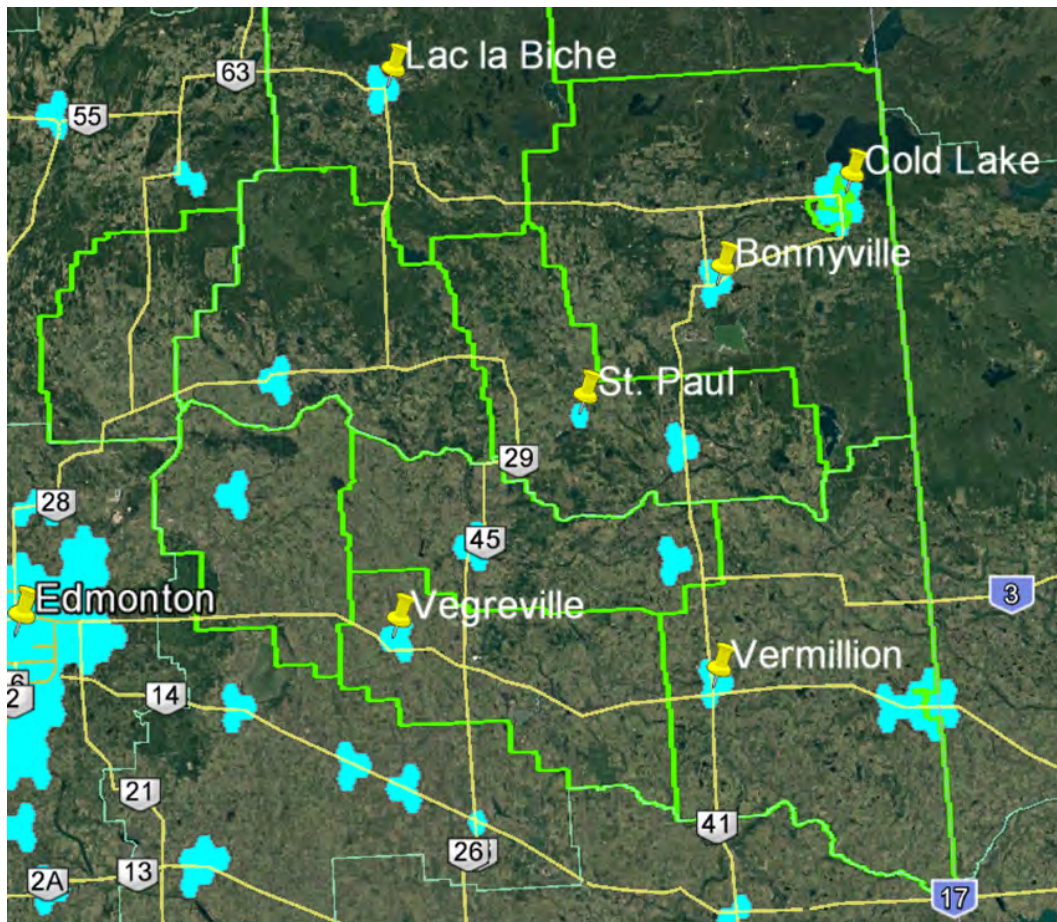


Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 8 – Alberta Hub Mobility Data Services Coverage

5.3.3 Wireline-based – DSL

Digital Subscriber Line (DSL) refers to a group of last mile technologies that are used by wireline-based service providers such as TELUS in Alberta to provide broadband services over twisted-pair copper wiring. The local copper wire loop is a remnant from the days when (and how) the telephone company connected residential and business premises to the telephone company's network for the purposes of providing local and long distance telephone services (and dial-up Internet services). Since DSL's performance degrades with distance, the technology is only deployed in urban areas where access distances are less than about two miles. In Figure 9, areas served via DSL technologies are shown in blue.

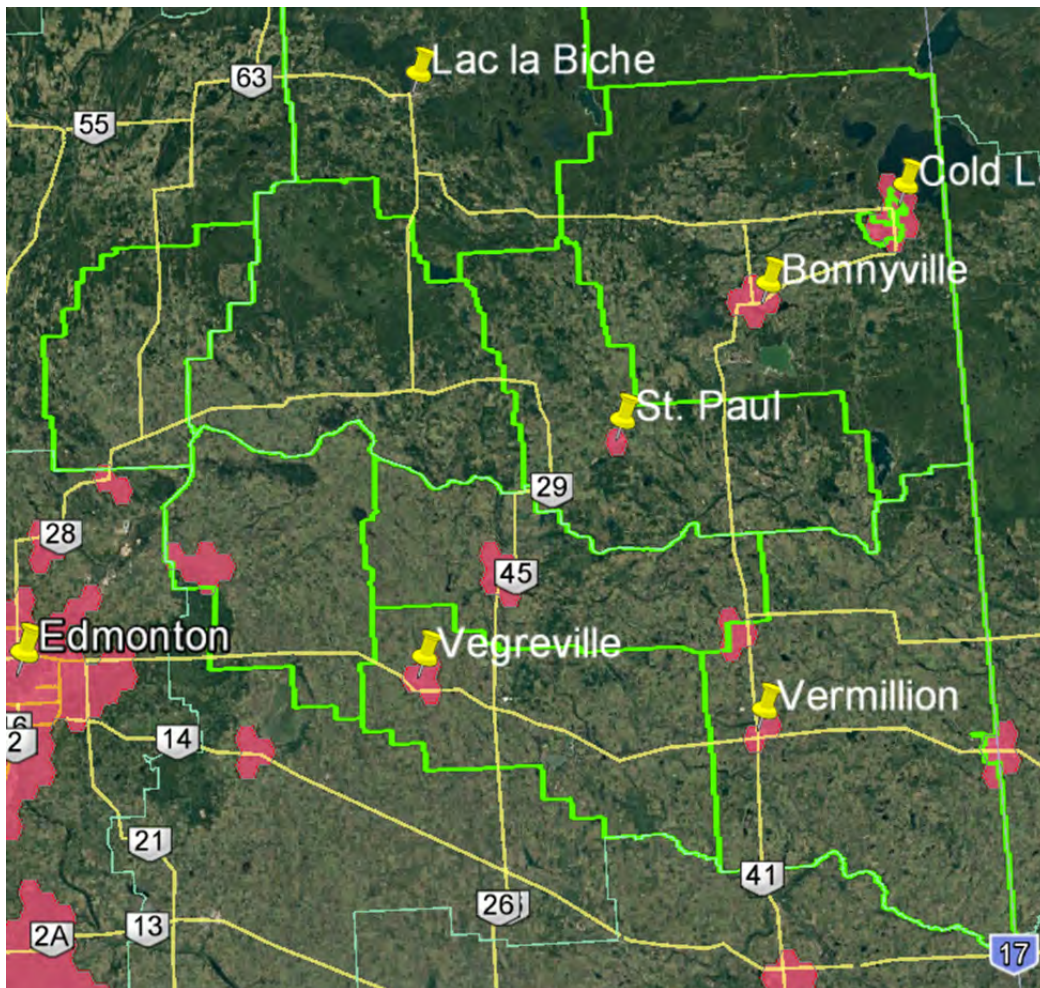


Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 9 – Alberta Hub DSL Coverage

5.3.4 Wireline-based – Coaxial Cable

Eastlink and Shaw, originally television broadcast companies, use coaxial cable and modern cable modem technology to provide broadband services in the Alberta Hub region (red areas in Figure 10). The cable companies currently use the Data Over Cable Service Interface Specification (DOCSIS) 3.0 standard to achieve broadband speeds of 100 Mb/s or more over coaxial cable. Shaw expects to complete its DOCSIS 3.1 upgrade by the end of August 2017²⁴. According to the Cybera, *State of Alberta Infrastructure Report*, “The next-generation DOCSIS 3.1 standard is expected to revolutionize hybrid fibre-coaxial cable connections by providing up to 10 Gb/s download and 1 Gb/s upload network throughput and significant improvements in latency.”²⁵



Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 10 – Alberta Hub Coaxial Cable Coverage

Maximum advertised wireline offerings are shown in **Appendix B**. As these are “up to” bit rates, during high usage periods, actual bit rates will be less – Eastlink and Shaw more so than TELUS due to the way the aggregation is implemented. In both cases, the offerings are highly asymmetric – upload and download bit rates differ significantly.

²⁴ Shaw Communications, *Q1 2017 Results*.

²⁵ Cybera, *State of Alberta Digital Infrastructure Report*, 13 September, 2016, 35.

5.3.5 Internet Service Provider WiFi

Bell, Shaw, and TELUS WiFi services are available in the Alberta Hub region. TELUS has multiple sites in Cold Lake and the towns of Bonnyville, St. Paul, and Vegreville as well as single locations in the towns of Elk Point, Lamont, and Smoky Lake (Table 5).

Table 5 – Alberta Hub WiFi Availability

City/Town	TELUS	Bell
Bonnyville	7	1
Cold Lake	9	4
Elk Point	1	2
Lamont	1	0
Smoky Lake	1	0
St. Paul	11	2
Vegreville	20	1
Vermilion	0	1

Shaw offers multiple Go WiFi locations in urban centres along highways 15 and 16 as shown in Figure 11.

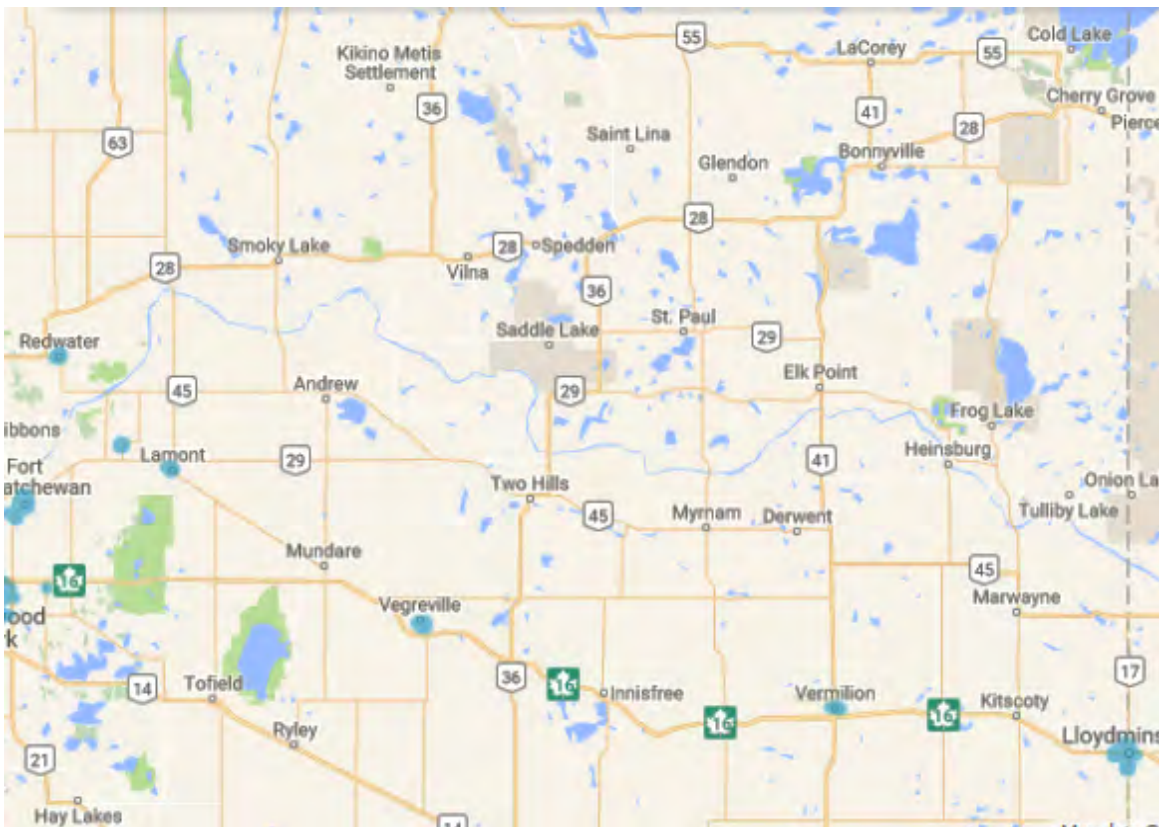


Figure 11 – Alberta Hub Shaw Go WiFi Coverage

5.3.6 Axia Fibre

Axia NetMedia provides retail services to corporate clients and, through AxiaConnect (Axia), provides retail Internet services in smaller communities (e.g., Town of Fairview – fall 2017). In exchange for access to a community’s right-of-ways, Axia will invest in Fibre to the Premise (FTTP) if a community can demonstrate that at least 30% of its residences and businesses have an interest in purchasing Internet services from Axia once the “closed access” network is built.

5.4 Backhaul Availability

5.4.1 Alberta SuperNet

The extent of the SuperNet within the Alberta Hub region is shown in Figure 12. The green lines represent the Bell-operated Base Area Network (BAN) portion while the blue lines represent the Axia-operated Extended Area Network (EAN) segments. A more general discussion about the SuperNet is presented in **Appendix D**.

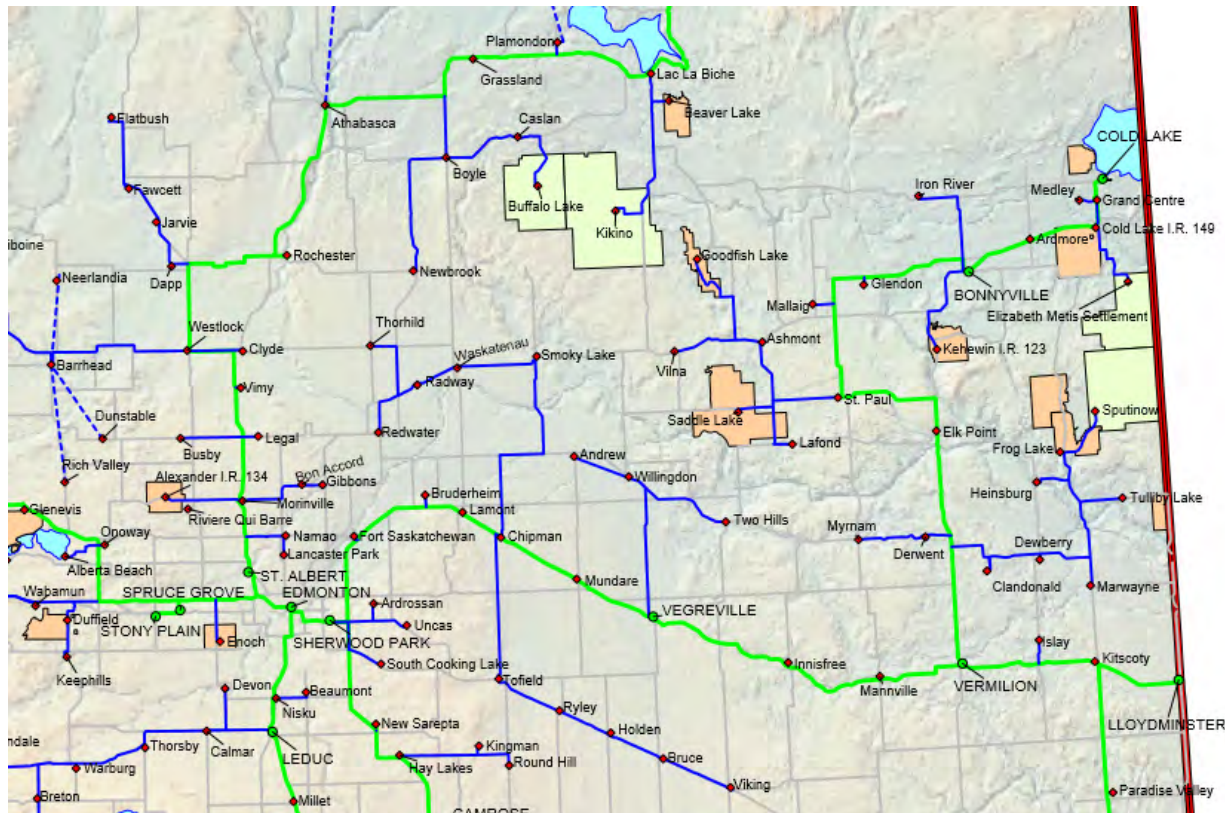


Figure 12 – Alberta Hub SuperNet Infrastructure

5.4.2 Shaw Wholesale

Given the uncertainty associated with the next iteration of the SuperNet contract by June 30, 2018, municipalities, First Nations, and Métis Settlements requiring access to fibre transport for backhaul to Edmonton may want to consider Shaw, Bell, or TELUS.

Shaw facilities in Alberta Hub are limited to two runs of fibre:

1. The first runs parallel to Highway 63 from Edmonton to Fort McMurray and on to several oil sands camps beyond. Capacity is limited and upgrades to enable Dense Wavelength Division Multiplexing (DWDM) to increase bandwidth would be expensive.
2. The second runs parallel to Highway 16 from Edmonton to Lloydminster.

5.4.3 TELUS Wholesale

Except under a non-disclosure agreement, TELUS does not provide maps of fibre assets.

5.5 Existing Infrastructure

5.5.1 Towers and Other Tall Structures

When planning a broadband build-out it is important to “build on what is already in place.” The key inquiry for the current state analysis is what assets does the community have that can be provided at little or no incremental cost that improve the economics of the broadband deployment and operations? Assets include existing towers, fibre and community networks, which the community might be using for communications or asset management. Existing and possible access to tall structures or buildings are also important to inventory for potential placement of wireless equipment.

Several municipal districts or counties within Alberta Hub received grant funding to expand high speed Internet access to unserved areas and address gaps in coverage from Alberta Agriculture and Forestry’s *Final Mile Rural Community Program* in the 2012/2013 timeframe. The counties of Lac La Biche, Lamont, and Thorhild received between approximately \$130,000 and \$275,885. Table 6 shows existing MD- and county-owned tower infrastructure.

Table 6 – Alberta Hub Towers

	Towers	Details
Bonnyville	9	
Lac La Biche	4	1, 200' (fire department VHF repeater (2017)) 1, 95' (needs improvement) 2, less than 100' (at capacity)
Minburn	1	Used for fire/emergency services
St. Paul	9	9, currently used by private company 1 or 2 radio system towers
Thorhild	8	At fire hall sites plus others used by private company
Vermilion River	9	5, 100' 2, 150' 2, 200'

Summer Villages, First Nations, and Métis Settlement were not queried

Other tall structures in the Alberta Hub region include the water tower at Mundare and grain elevators in the villages of Marwayne and Willingdon. Bruderheim has a fire hall. Mannville has a RCMP radio repeater and owns a 50-foot emergency tower while Vermilion has a radio tower.

5.5.2 Utility Infrastructure

The existing overhead and underground transmission and distribution lines of electric utility companies (ATCO, Fortis), Rural Electrification Associations (REAs), and natural gas co-operatives (co-ops) present deployment options for community broadband builds - access to and installing fibre cables to travel along utility poles, in ducts and conduit, and along rights-of-way can significantly improve the economics of broadband service expansion projects and network deployments. Inquiries about the availability of communications spaces on utility providers' poles and where multi-party trench agreements exist will be made during the preliminary infrastructure design phase of a broadband network.

5.5.3 First Nations Fibre Infrastructure

First Nations Technical Services Advisory Group (TSAG) is a non-profit organization established by the Chiefs of Alberta to provide technical support and training to First Nations in the treaty 6, 7, and 8 regions. In 2008, TSAG partnered with Health Canada to develop the network components (fibre connections) at First Nations health centres to support First Nations telemedicine. With Health Canada funding and TSAG project management, community fibre networks connections were made to the Alberta SuperNet points-of-presence on each or close to each First Nations in 2011. Upon completion, each First Nations became the owner of its local fibre network. As shown in Figure 13, First Nations' schools, health centres, band administration offices, and water treatment plants are now connected.

TSAG operates a state-of-the-art Network Operations Centre (NOC). The NOC's real time network monitoring ensures availability, network security/SPAM filtering, telehealth bridge management, and support, and applications (high speed connectivity and remote water monitoring system for water treatment plants, OneHealth.ca, and FirstNationsTH.ca). Onehealth.ca is a national health portal that provides information and services to health care professionals working in First Nations communities. FirstNationsTH.ca – Telehealth provides education and travel-free patient and health care assessments via video-conferencing.

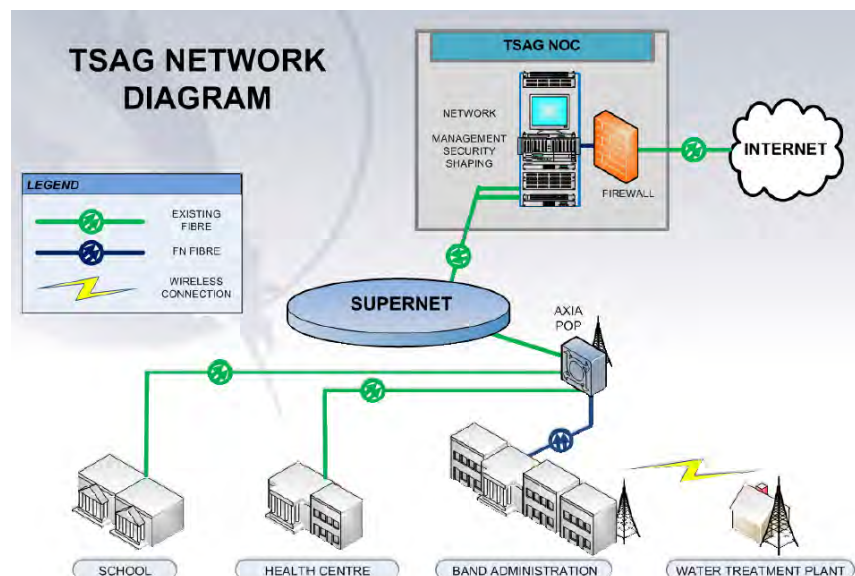


Figure 13 – TSAG Network Diagram

5.5.3.1 Rural Electrification Associations (REAs)

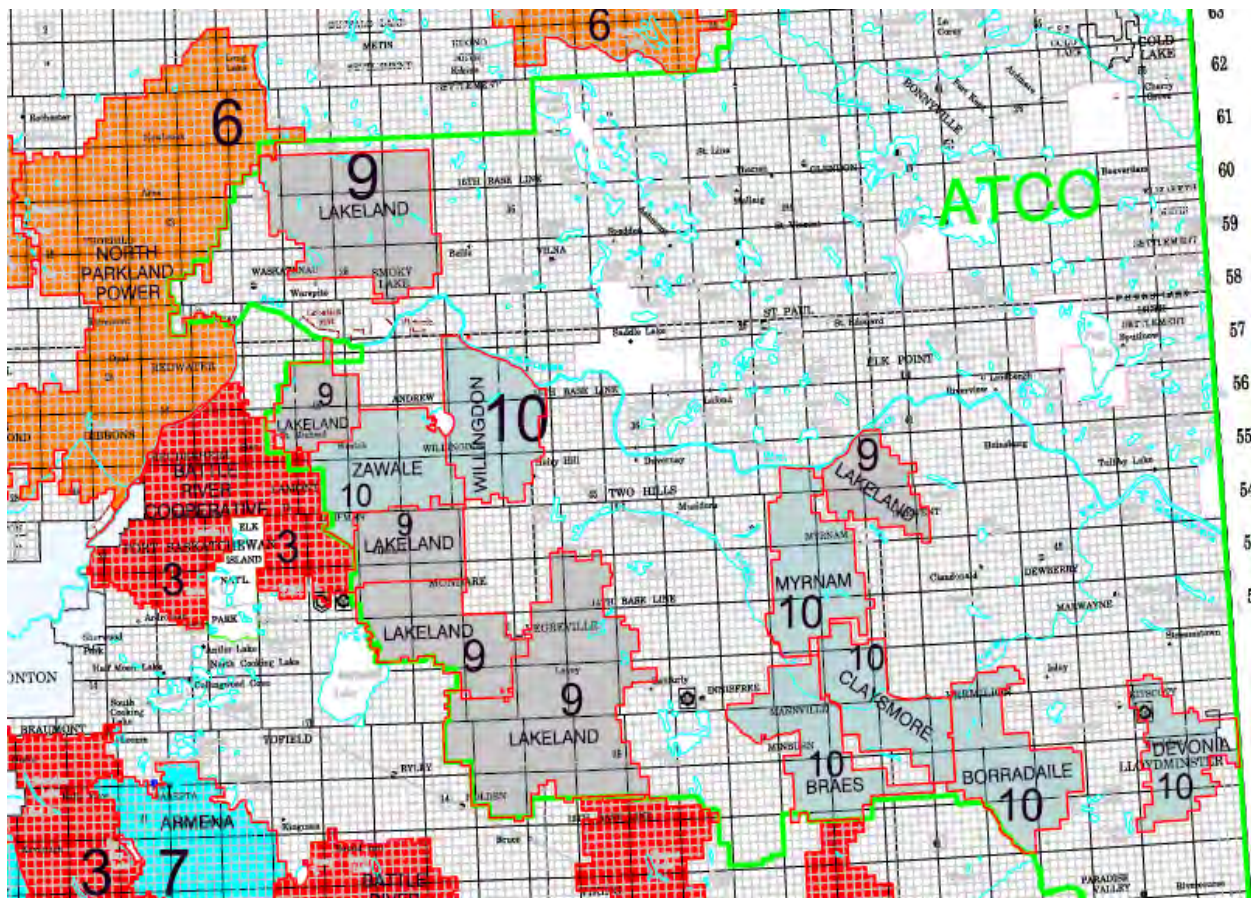
REAs are member-owned electric distribution systems that provide electricity service to farm members within a specific geographic boundary. Each REA has an elected board of directors that is responsible for the business operations of the REA. Construction, operations, and maintenance is done by ATCO Electric (through contracts with the REAs) for following REAs within the Alberta Hub region:

- Borradaile REA Ltd. (Vermilion)
- Braes REA Ltd. (Mannville)
- Claysmore REA Ltd. (Vermilion)
- Devonia REA Ltd.
- Lakeland REA Ltd. (Vegeville)
- Myrnam REA Ltd.
- Northern Parkland Power REA Ltd. (Thorhild)
- Willingdon REA Ltd.
- Zawale REA Ltd. (Wostok)

Appendix E shows ATCO Electric's and Fortis Alberta's respective service areas in northern Alberta. REA and distribution company systems are intertwined in the REA service area as shown in Figure 14, and they work together to ensure there is reliable service and no duplication of distribution lines and service.²⁶ In Alberta, most rural areas are radial networks. A radial distribution line may serve both distribution entity and REA customers and different parts of the same line may be owned by one or the other party.

There are 351 Lakeland REA members (connections) within the County of Minburn. The majority of connections are overhead lines to the landowner's property, at which point it is up to each individual member whether or not they have an underground or overhead secondary wire to their yard. There are only about 20 underground primary connections out of the total of 351 within the County of Minburn.

²⁶ Alberta Utilities Commission, Notice of Hearing, Application 21148, 1.



Source: Rural Electrification Associations Service Areas, November 2016

Figure 14 – Alberta Hub REA & ATCO Service Areas

5.5.3.2 Gas Co-ops – Zones 3 and 4

In the 1960s, non-profit gas co-ops were formed to supply natural gas to rural Alberta - franchise areas were designated. The following six Zone 3 gas co-ops currently operate in the Alberta Hub region. Figure 15 provides a map showing the group’s geographic coverage.

- County of Two Hills
- County of Vermilion River
- Lac La Biche County
- Smoky Lake County
- Thorhild County
- Town of Smoky Lake



Source: Federation of Alberta Gas Co-ops, <http://www.fedgas.com/Map>, accessed Feb. 1, 2017

Figure 15 – Alberta Hub Zone 3 Gas Co-ops

Another six gas co-operatives operate in what the Federation of Alberta Gas Co-ops has designated as Zone 4, which is also in the Alberta Hub region. Figure 16 shows the areas they serve. In 2010, the Lac La Biche District Natural Gas Co-op received a grant of \$500,000 from the *Rural Connections: Community Broadband Infrastructure Pilot Program* to assist in the deployment of a wireless broadband network to provide coverage to areas around Plamondon, Lac La Biche, and Hylo.

- Goodfish Lake Gas Utility
- Kehewin Cree Nation
- Lac La Biche District Natural Gas Co-op Ltd (a shareholder of CCI)
- Lamco Gas Co-op Ltd. (Lamont)
- Minco Gas Co-op Ltd. (Innisfree)
- North East Gas Co-op Ltd. (Bonnyville)



Source: Federation of Alberta Gas Co-ops, <http://www.fedgas.com/Map>, accessed Feb. 1, 2017

Figure 16 – Alberta Hub Zone 4 Gas Co-ops

There are two rural water co-operatives operating in the Alberta Hub area: Bruderheim Water Co-op Ltd. And Josephburg Water Co-op Ltd. (Lamont).

5.6 Planned Infrastructure

5.6.1 Major Projects

The Alberta Hub region has several private and public sector capital projects planned. Where possible these projects may be leveraged to reduce the costs associated with the deployment of broadband infrastructure. Figure 17 shows the capital projects in the Bonnyville area.²⁷ Besides the projects shown in this figure, other major projects in the Alberta Hub region include a bio-diesel refinery at Bruderheim; at wastewater treatment plant at St. Paul; and various school upgrades and road work – see the maps Smoky Lake, St. Paul, Vegreville, and Vermilion in **Appendix F**.

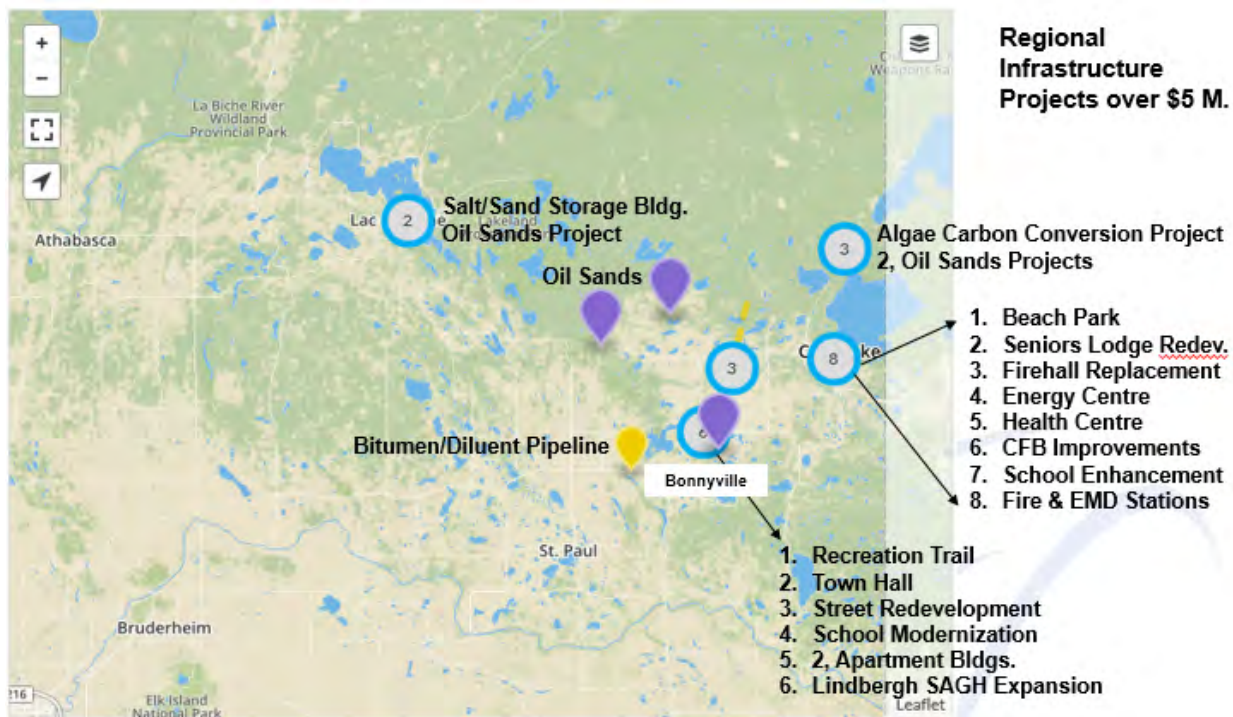


Figure 17 – Major Projects - Bonnyville

The Alberta Central East Regional Water System (ACE) is the corporation comprised of 13 municipalities (shareholders) created to supply potable water through a regional water system. Phases 4 and 5 will be constructed in 2017 and 2018. The Phase 4 water line construction will be 25 kilometres and take place along county road rights-of-way from the City of Lloydminster to the hamlet of Blackfoot. The line will then continue west to the village of Kitscoty. Phase 5 will include 22 kilometres from Kitscoty to Marwayne. **Appendix G** provides a map of the route.²⁸

²⁷ Alberta Economic Development and Trade, Economic Information & Analytics, Provincial Major Projects List; Accessed November 2016.

²⁸ ACE brochure, November 2016 update.

Another regional water supply expansion is being undertaken by the Cold Lake Regional Utility Services Commission. Phase 1 will be approximately 46 kilometres and supply water to Bonnyville and the Cold Lake First Nations from Cold Lake's water treatment plant.

5.6.2 Electricity Transmission Development Plans

Figure 18 shows the existing electricity transmission system in the Alberta Hub region.²⁹ The Cold Lake area is served by 240 kV and local 144 kV transmission lines to support oilsands and industrial development. Major projects approved and/or under construction include 240 kV and 144 kV enhancements in the Cold Lake area. Proposed transmission developments relevant to potential fibre deployment include the following new lines (planning horizons are noted as near-term (to 2020); medium term (to 2025); or long-term (to 2035)):

- 240 kV between new substations in Lloydminster and Vermilion (*medium-term*);
- 144 kV between new substations in Vermilion and Vegreville (*medium-term*); and
- 144 kV between Marguerite Lake, Wolf Lake, and Bourque substations east of Cold Lake (*long-term*).

Projects to rebuild existing lines to higher capacity are proposed for the 144 kV line from Vermilion to Irish Creek (*near-term*) and the 138 kV line between the substations of St. Paul and Bonnyville (*long-term*). The oilsands load is expected to drive 138 kV enhancements.

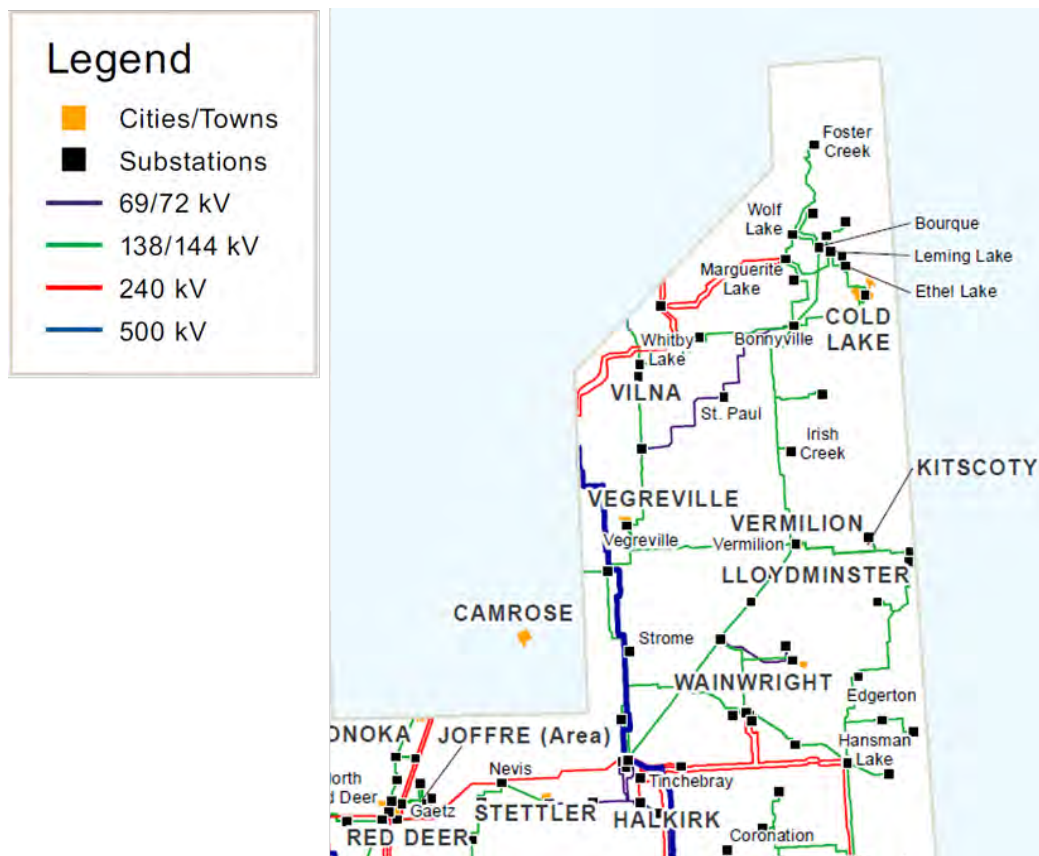


Figure 18 – Alberta Hub - Existing Electricity Transmission System

²⁹ Alberta Electric System Operator (AESO), *AESO 2015 Long-term Transmission Plan*, 42.

5.6.3 Municipal Capital and Civil Works Projects

Leveraging civil infrastructure projects can reduce broadband deployment costs by 75%. Given civil infrastructure costs typically account for 70% of buried deployment costs, this is significant. Capital projects that involve trenching or erecting towers or poles such as during the development of new subdivisions, road construction, or the construction or rehabilitation of water or sewer lines are typical projects that can improve the economics of community broadband projects.

Lac La Biche County successfully applied for a grant from Alberta Transportation's *Alberta Municipal Water/Wastewater Partnership (AMWWP)* for their water treatment plant (\$3,7 million). Thorhild County received a total of \$8.8 million for lagoon repair and expansion from the *AMWWP* and the *Water for Life (W4L)* program. Lamont County also received \$677,700 for the detailed design work for regional water supply from the *W4L* program.

The Federal *Small Communities Fund* (part of the New Building Canada Fund) for infrastructure projects, now includes a "Connectivity and Broadband" category. 2016 approved non-broadband projects within Alberta Hub include (figures shown are the Total Eligible Project Cost - Federal, Provincial, and Municipal):

- Smoky Lake – Cast iron watermain replacement \$556,344;
- Bonnyville – 51 Ave. underground rehabilitation \$11.4 million;
- Marwayne – Underground renewal \$3.1 million;
- MD of Bonnyville – Ardmere underground utilities rehabilitation \$8.7 million;
- County of St. Paul – Counties of St. Paul and Two Hills joint facultative lagoon and transfer station expansion \$5.2 million; and
- Thorhild County – Lagoon repair, capacity upgrade, sanitary forcemain replacement, and lift station upgrade \$6.2 million.

Table 7 shows the capital and civil works projects that the municipalities self-reported. TELUS has invested in fibre to the home/premise in three of the towns (Bonnyville, St. Paul, and Vegreville) within Alberta Hub, subsequently these towns generally did not share information about upcoming civil works that might provide fibre installation opportunities beneficial to the subregion as a whole. Three villages contributed to the inventory.

Table 7 – Alberta Hub Municipal Capital & Civil Works Projects

City	
Cold Lake	<i>Response pending – see what’s on website</i>
Towns	
Bonnyville	Nothing planned ---yet from article: Road paving (Gurneyville Road and 66 th Street)
Bruderheim	Street rebuilding; residential development; possible industry development
Elk Point	Natural gas to new 14 lot residential? subdivision (spring 2017)
Lamont	<i>Response pending - see what’s on website</i>
Mundare	Nothing planned
Smoky Lake	Nothing planned
St. Paul	<i>No Response - see what’s on website</i>
Two Hills	Possible replacement of water and sewer main and distribution lines; installation of storm drainage system
Vegreville	Declined to respond due to TELUS fibre
Vermilion	Residential development (late 2018 – early 2019)
Villages	
Mannville	Nothing planned
Marwayne	Water/sewer renewal (2018)
Willingdon	Nothing planned
Counties/MDs	
Bonnyville	Road construction
Lac La Biche	Nothing planned
Lamont	Road construction; water line
Minburn	Hamlet of Minburn sewer lift station; road construction
Smoky Lake	Water transmission line from Spedden to Ashmont then to Mallaig
St. Paul	Road construction; water transmission line from Ashmont to Mallaig
Thorhild	Lagoon repair and forcemain replacement
Two Hills	<i>No Response - see what’s on website</i>
Vermilion River	Natural gas distribution (20 km to 50 km annually); water line replacement in Blackfoot (2 blocks); road construction

Summer Villages, First Nations, and Métis Settlement were not queried

6 Grizzly Regional Economic Alliance Society (Growth Alberta)

6.1 Regional Profile

As shown in Table 8, the study examines the current state of broadband within the Grizzly Regional Economic Alliance Society (Growth Alberta) region, a region encompassing 7 towns, 3 villages, 13 summer villages, 4 counties, and the Alexia Nakota First Nations. A map of the Growth Alberta region is shown in Figure 19. TELUS has made a generational investment in fibre in the Town of Westlock. AxiaConnect was in the Barrhead in mid-December soliciting expressions of interest for Axia fibre.

Table 8 – Growth Alberta Communities

Towns	Villages	Summer Villages	Counties	First Nations
Barrhead	Alberta Beach	Birch Cove	Barrhead	Alexis Nakota
Legal	Clyde	Castle Island	Lac Ste. Anne	
Mayerthorpe	Wabamun	Larkspur	Westlock	
Onoway		Nakamun Park	Woodlands	
Swan Hills		Ross Haven		
Westlock		Sandy Beach		
Whitecourt*		Silver Sands		
		South View		
		Sunrise Beach		
		Sunset Point		
		Val Quentin		
		West Cove		
		Yellowstone		

*Non-REDA

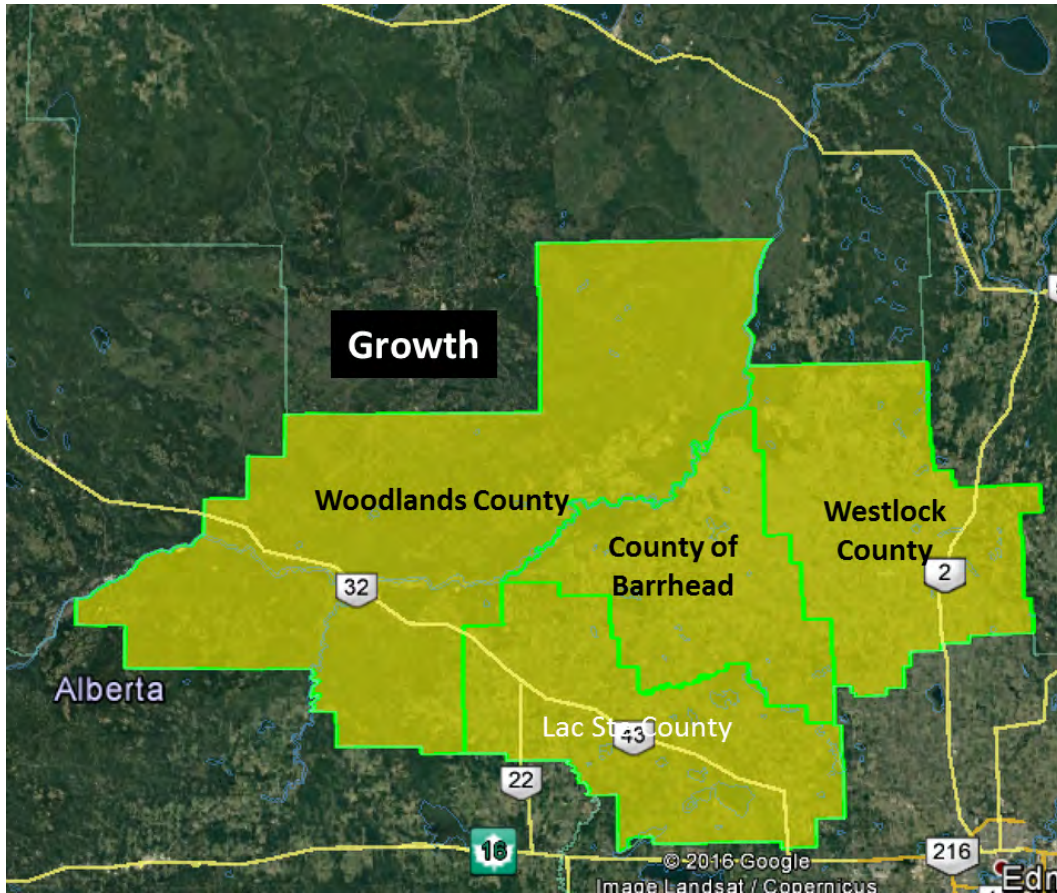


Figure 19 – Growth Alberta Region

The region is home to approximately 57,000 residents.³⁰ Table 9 provides a breakdown by municipal (rural and urban) and First Nations as well as five-year population growth trends and compounded annual growth rates (CAGRs). Lac Ste. Anne County is the most populated municipality in the Growth Alberta region, with a population of 10,899. The 13 summer villages have grown significantly (approximately 26%) during the five-year period between 2011 and 2016. Clyde, after undergoing a viability review, decided to remain a village and implement the changes (directives) recommended by Alberta Municipal Affairs to achieve viability.

³⁰ Calculations based on Statistics Canada 2016 Census.

Table 9 – Growth Alberta Population & Population Growth Trends

Municipality	Rural			Urban					First Nations			
	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend	City/ Town/ Village	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend	Reserve / Settlement	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend	
			(%) & Direction				(%) & Direction				(%) & Direction	
Barrhead, County	6,288	0.6	3.1 ▲	Barrhead	4,579	0.7	3.3 ▲					
Lac Ste. Anne, County	10,899	1.2	6.2 ▲	AB Beach	1,018	3.3	17.7 ▲					
				Mayerthorpe	1,320	-1.1	-1.1 ▼					
				Onoway	1,029	-0.2	-1.0 ▼					
				SV ¹ (13)	1,487	4.7	26.0 ▲					
				Sub-total	4,854							
Parkland, County	Study only included Wabamun			Wabamun	682	0.6	3.2 ▲					
Sturgeon, County	Study only included Legal			Legal	1,345	1.9	9.8 ▲					
Westlock, County	7,220	-1.1	-5.5 ▼	Clyde	430	-3.1	-14.5 ▼					
				Westlock	5,101	1.1	5.8 ▲					
				Sub-total	5,531							
Woodlands, County	4,754	2.0	10.4 ▲	Whitecourt	10,204	1.2	6.2 ▲	Alexis Nakota	755	-1.6	-7.6 ▼	
Total	29,161				27,195			Total - FN	755			

Note 1: SV - Summer Village: Birch Cove, Birch Cove, Larkspur, Nakamun Park, Ross Haven, Sandy Beach, Silver Beach, South View, Sunrise Beach, Sunset Beach, Val Quentin, West Cove, Yellowstone

Total Population = **57,111**

Source: Statistics Canada Federal Census 2011 and 2016.

The Growth Alberta region is home to 3,018 businesses (with employees). The top 10 industries in which they operate is shown in Table 10 and Figure 20 (industry classified system: North American Industry Classification System (NAICS)). These data confirm a diverse economy with approximately 17% of businesses with employees engaged in the construction industry. The sector with the second highest ranking for number of businesses is the other services (except public administration) sector.³¹ These two sectors makeup approximately 29% of businesses with employees in the region. The Other Industries segment (15%) of the chart shown in Figure 20 include industries that individually contribute between 3.6% and 0.3% to the category.³²

³¹ Comprised of businesses primarily engaged in repairing and maintenance on motor vehicles, machinery, and other products; providing personal care, funeral, and laundry services; organizing and promoting religious activities; and supporting causes such as grant making and advocacy.

³² Health care and social assistance; wholesale trade; manufacturing; finance and insurance; information and cultural industries; arts, entertainment and recreation; public administration; educational services; management of companies and enterprises; and utilities.

Table 10 – Growth Alberta Number of Businesses (with employees) by Industry

Industry	Businesses	Percent (%)
Construction	522	17.3
Other services (except public administration)	346	11.5
Transportation and warehousing	306	10.1
Retail trade	292	9.7
Professional, scientific and technical services	262	8.7
Agriculture, forestry, fishing, and hunting	243	8.1
Mining, quarrying, and oil and gas extraction	242	8.0
Administration and support, waste management and remediation	127	4.2
Accommodation and food services	116	3.8
Real estate and rental and leasing	113	3.7

Source: Calculations based on dataset provided by Alberta Economic Development & Trade, Economic Information & Analytics, Feb. 13, 2017

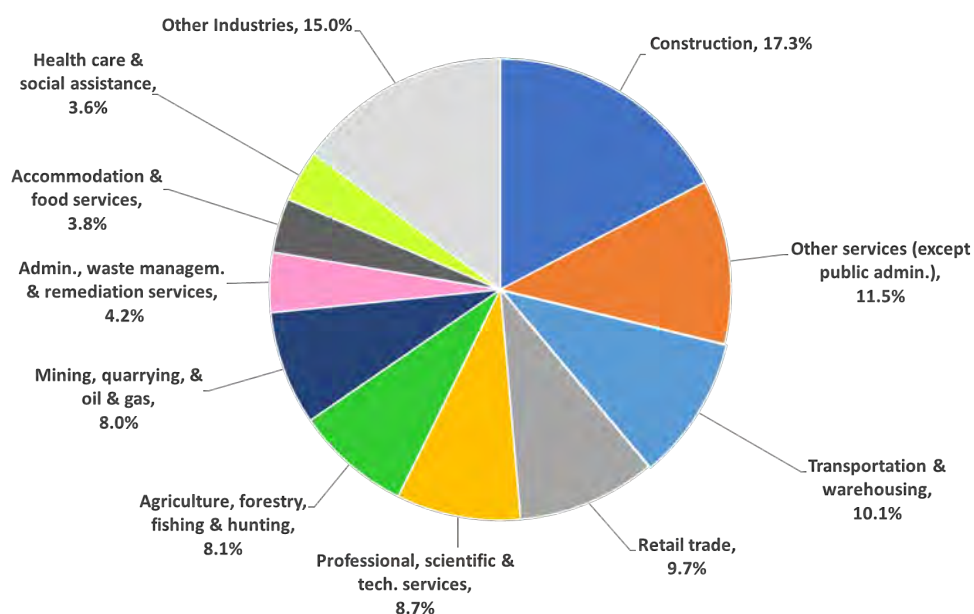


Figure 20 – Growth Alberta Industry Mix (based on Business Count)

A cross-section of businesses in the region were surveyed by Growth Alberta as part of the study. When asked how important broadband connectivity was to their business, all respondents indicated it was “very” important. The owner of an accounting firm said broadband connectivity was crucial for their communications with clients and the Canada Revenue Agency as well as for keeping up to date with tax changes. When asked to rate current speeds they were getting from their ISPs, almost all rated them as “poor.” Almost all businesses felt their business communities as well as their businesses would grow with increased broadband connectivity. Also, better connectivity would improve the way they do business. An association delivering an adult literacy program deemed high speed broadband connectivity as “vital” to the delivery of these services to their community.

The region offers convenient access to the major energy centres in the North and is well positioned near major corridors for access to other parts of North America.³³ The Swan Hills Treatment Centre is a world-class waste treatment facility. It processes all wastes with the exceptions of pathological, explosive, and radioactive materials.

6.2 Municipal, First Nations and Métis Settlement Broadband Interests

Communities within Growth Alberta are at different stages in recognizing the importance of broadband services and connectivity to economic diversification, municipal sustainability, regional competitiveness, public service delivery, and quality of life³⁴.

Woodland County has been interest in improving cellular and Internet coverage for its community for a number of years, however, population density and terrain (trees) pose challenges. They have investigated building towers for ISPs to use (May 2016 timeframe, they were going to build three towers with help from an *Alberta Community Partnership* grant (\$350,000 of the total cost \$850,000)). In the fall of 2016, the County decided to hold off on building their own towers and see how TELUS' new 700 MHz technology, using SmartHubs, would penetrate mobility and Internet coverage dead spots. One option now being considered is to construct fibre access in the shadow areas and use point-to-point radios for backhaul from each area.

Whitecourt is in the preliminary stages of designing their fibre-based Wide Area Network, linking the Town's buildings and facilities. Wireless solutions will be deployed for remote facilities, where fibre solutions are cost prohibitive. Communications infrastructure will be going into their new residential development of Athabasca Flats East.

Table 11 identifies the awareness and current state of municipal involvement and interest in broadband and fibre network deployments. Most municipalities in the Growth Alberta region are at a relatively early stage, except for the Town of Whitecourt and Woodlands County. Whitecourt plans to deploy their own wide area network in 2017. Since about 2014, Woodlands County has been searching for a solution to fill broadband coverage gaps, which exist in their county.

³³ GROWTH Alberta website. Accessed 15 February 2017.

³⁴ Calgary Regional Partnership, 3.

Table 11 – Growth Alberta Involvement & Interest in Broadband

Gung Ho	Interested – May Be	Need Help – Too Small
Whitecourt Woodlands	Barrhead, County Barrhead, Town Lac Ste. Anne Mayerthorpe Westlock, County	Alberta Beach Clyde Wabamun
Too Expensive	Unknown	Status Quo
Onoway	Legal Swan Hills	Westlock (TELUS Fibre, so likely Status Quo)

6.3 Current Service Providers, Services, and Infrastructure

6.3.1 Fixed Wireless-based

Current Internet service providers using fixed wireless technology in the Growth Alberta region include the following. **Appendix B** provides the details of their service offerings (Internet only – no bundling unless otherwise stated) and geographic coverage. Coverage maps are those that were available on their websites at the time of the writing of this report.

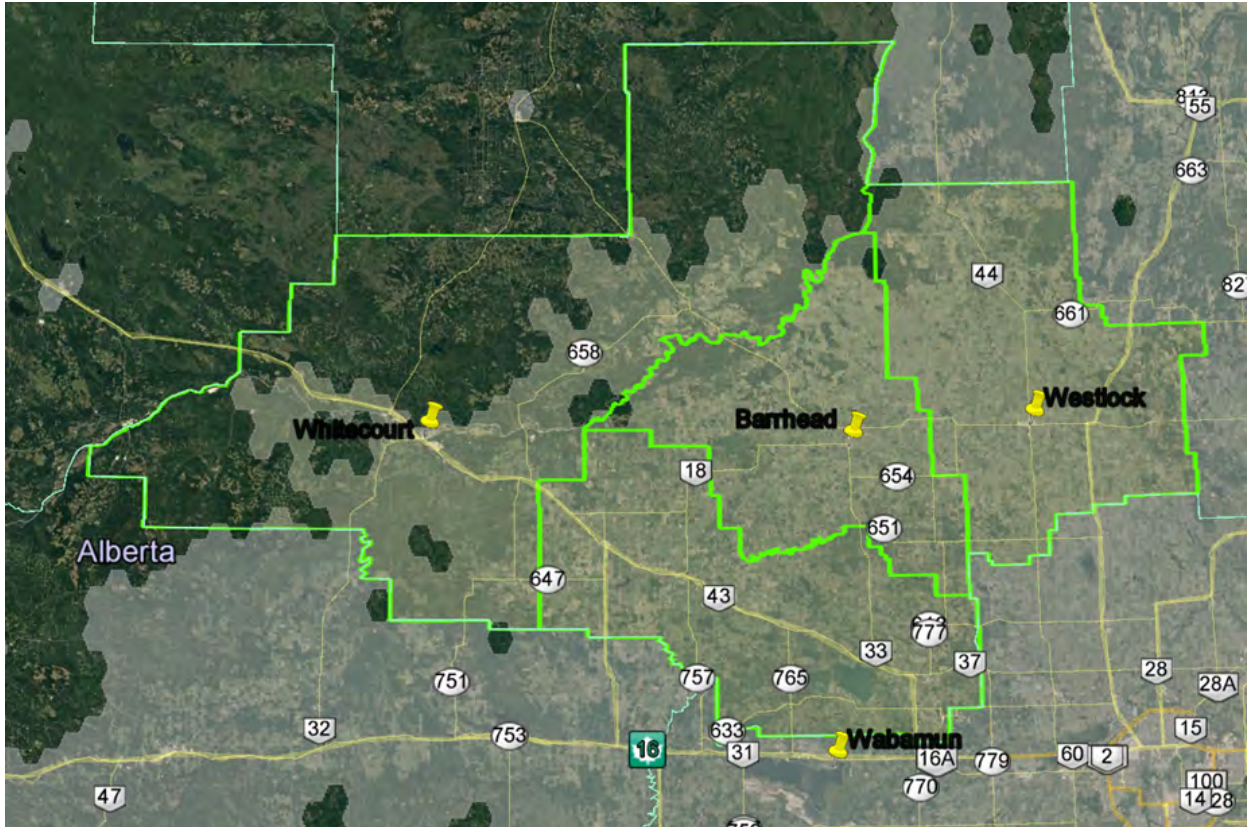
- Alberta Communications Cable Services,
- Arrow Technology Group,
- Broadband Surfer,
- Clearwave Broadband Networks,
- Corridor Communications (CCI),
- First Broadband,
- MCSNet,
- Slave Lake Communications,
- Tera-Byte Wireless,
- Whitecourt Communications, and
- XplorNet (fixed wireless and satellite-based).

According to the CRTC website³⁵, minimal 5 Mb/s down (toward the end-client) by 1 Mb/s up (from the end-client to the network) service is almost ubiquitously available throughout the Growth Alberta region. A combined view of the fixed wireless coverage is shown in Figure 21 (light gray area).

CCI is looking to develop partnership arrangements with communities to deploy fibre in Alberta communities.³⁶ XplorNet's new satellites will allow them to offer download speeds of 25 Mb/s across their customer base by July 2017.

³⁵ <http://crtc.gc.ca/eng/internet/internetcanada.htm>

³⁶ Taylor Warwick, 17.

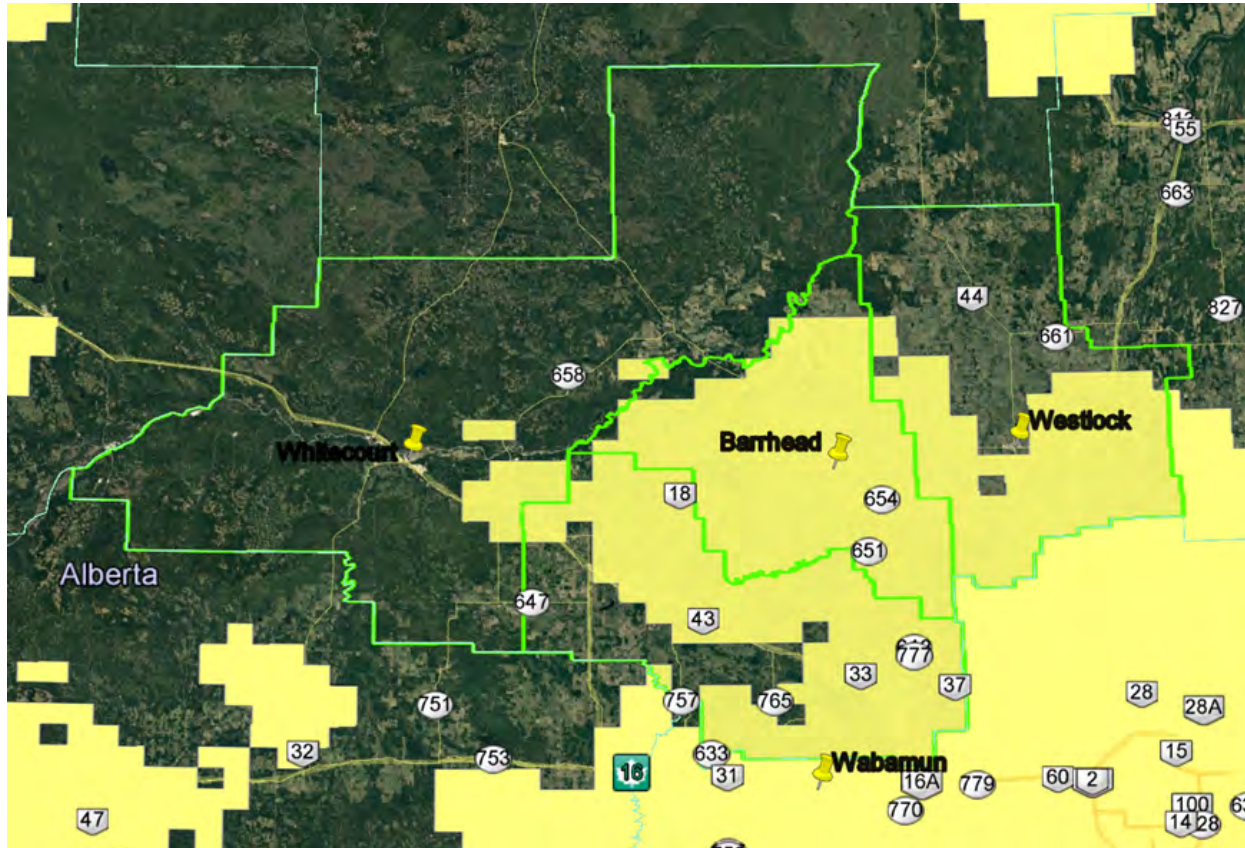


Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 21 – Growth Alberta Fixed Wireless Coverage

6.3.2 Growth Alberta Mobility

Shown as yellow areas in Figure 22, mobility data services are available from TELUS/Bell and Rogers. **Appendix C** provides the coverage maps for each of the providers of mobility services. As discussed earlier Bell, TELUS, and Rogers are now using cellular towers and SmartHubs to provide Internet services.

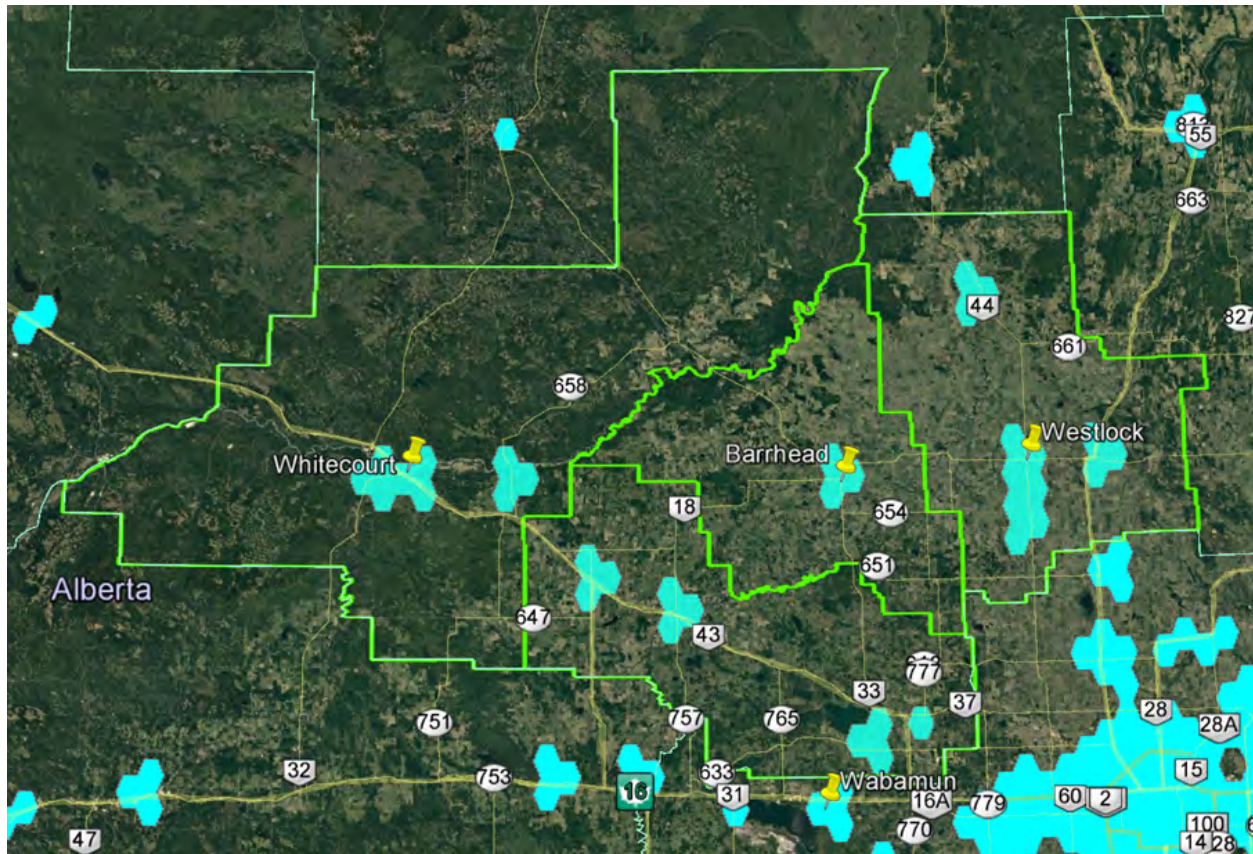


Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 22 – Growth Alberta Mobility Data Coverage

6.3.3 Wireline-based – DSL

Digital Subscriber Line (DSL) refers to a group of last mile technologies that are used by wireline-based service providers such as TELUS in Alberta to provide broadband services over twisted-pair copper wiring. The local copper wire loop is a remnant from the days when (and how) the telephone company connected residential and business premises to the telephone company's network for the purposes of providing local and long distance telephone services (and dial-up Internet services). Since DSL's performance degrades with distance, the technology is only deployed in urban areas where access distances are less than about two miles. In Figure 23, areas served via DSL technologies are shown in blue.

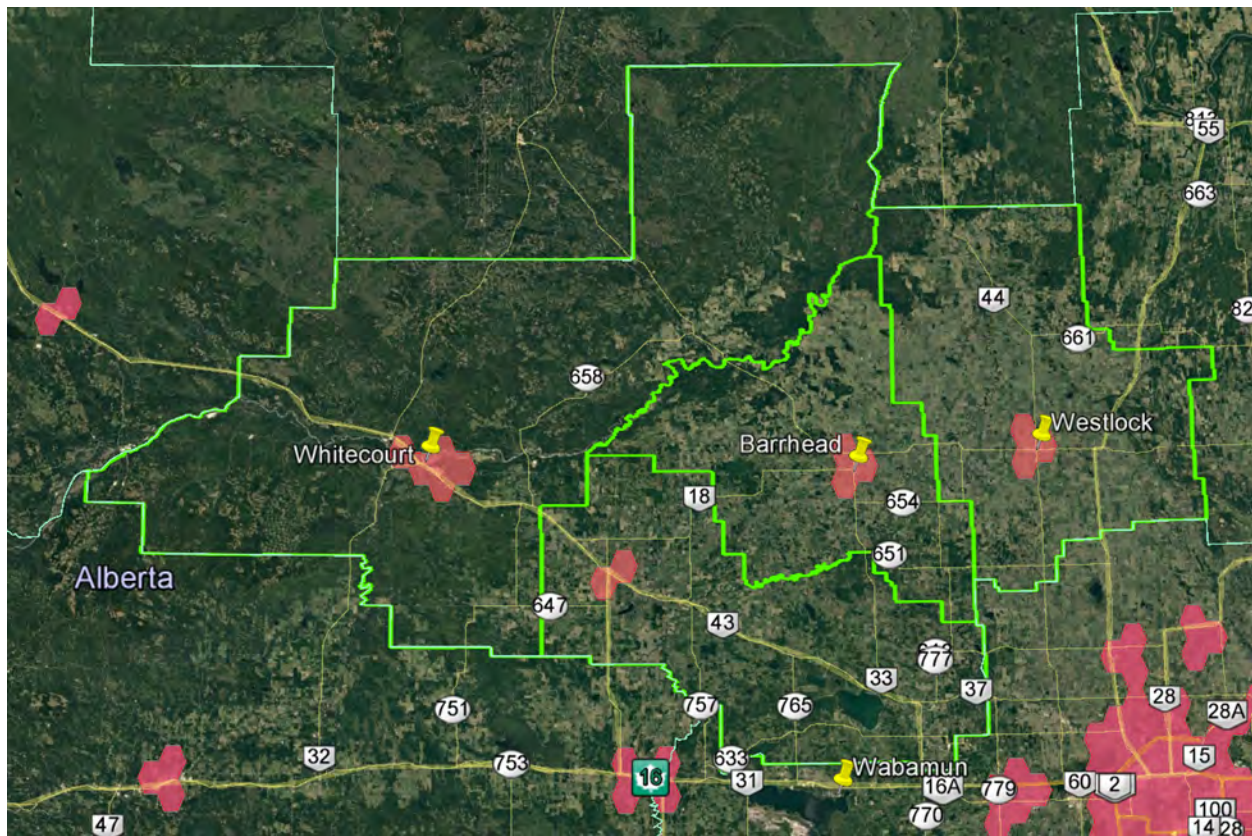


Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 23 – Growth Alberta DSL Coverage

6.3.4 Wireline-based – Coaxial Cable

Eastlink and Shaw, originally television broadcast companies, use coaxial cable and modern cable modem technology to provide broadband services in the Growth Alberta region (red areas in Figure 24). The cable companies currently use the Data Over Cable Service Interface Specification (DOCSIS) 3.0 standard to achieve broadband speeds of 100 Mb/s or more over coaxial cable. Shaw expects to complete its DOCSIS 3.1 upgrade by the end of August 2017³⁷. According to the Cybera, *State of Alberta Infrastructure Report*, “The next-generation DOCSIS 3.1 standard is expected to revolutionize hybrid fibre-coaxial cable connections by providing up to 10 Gb/s download and 1 Gb/s upload network throughput and significant improvements in latency.”³⁸



Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 24 – Growth Alberta Coaxial Cable Coverage

Maximum advertised wireline offerings are shown in **Appendix B**. As these are “up to” bit rates, during high usage periods, actual bit rates will be less – Eastlink and Shaw more so than TELUS due to the way the aggregation is implemented. In both cases, the offerings are highly asymmetric – upload and download bit rates differ significantly.

³⁷ Shaw, Q1 2017 Results.

³⁸ Cybera, 35.

6.3.5 Internet Service Provider WiFi

TELUS and Bell Wi-Fi services are available in the Growth Alberta region. In Westlock, TELUS offers three locations compared to Bell's single location. There are 19 TELUS and four Bell locations in Whitecourt. Bell offers a single WiFi location in Valleyview.

6.3.6 Growth Alberta Axia Fibre

Axia NetMedia provides retail services to corporate clients and, through AxiaConnect (Axia), provides retail Internet services in smaller communities (e.g., Town of Fairview – fall 2017). In exchange for access to a community's right-of-ways, Axia will invest in Fibre to the Premise (FTTP) if a community can demonstrate that at least 30% of its residences and businesses have an interest in purchasing Internet services from Axia once the "closed access" network is built.

6.4 Backhaul Availability

6.4.1 Alberta SuperNet

The extent of the SuperNet within the Growth Alberta region is shown in Figure 25. The green lines represent the Bell-operated Base Area Network (BAN) portion while the blue lines represent the Axia-operated Extended Area Network (EAN) segments. A more general discussion about the SuperNet is presented in **Appendix D**.



Figure 25 – Growth Alberta SuperNet Infrastructure

6.4.2 Shaw Wholesale

Given the uncertainty associated with the next iteration of the SuperNet contract by June 30, 2018, municipalities, First Nations, and Métis Settlements requiring access to fibre transport for

backhaul to Edmonton may want to approach Shaw, Bell, or TELUS. Shaw has fibre to Westlock and Redwater.

6.4.3 TELUS Wholesale

Except under a non-disclosure agreement, TELUS does not provide maps of fibre assets.

6.4.4 Hybrid Wireless

Hybrid Wireless offers scalable high speed Internet solutions - both dedicated and burstable solutions to meet business needs. Hybrid Wireless also offers support fibre for remote locations across Western Canada.

6.5 Existing Infrastructure

6.5.1 Tower and Other Tall Structures

When planning a broadband build-out it is important to “build on what is already in place.” The key inquiry for the current state analysis is what assets does the community have that can be provided at little or no incremental cost that improve the economics of the broadband deployment and operations? Assets include existing towers, fibre and community networks, which the community might be using for communications or asset management. Existing and possible access to tall structures or buildings are also important to inventory for potential placement of wireless equipment.

In the 2012 to 2013 timeframe, Lac Ste. Anne County received a \$500,000 grant from the Alberta Agriculture and Forestry *Final Mile Rural Community Program*. Table 12 shows existing MD- and county-owned tower infrastructure.

Table 12 – Growth Alberta Towers

	Towers	Details
Barrhead	2	1, 70' at public works shop; 1, 30' at Town of Barrhead office building
Lac Ste. Anne	6	
Woodlands	?	Unclear if they own towers

Summer Villages, First Nations, and Métis Settlement were not queried.

Various towns and villages identified other tall structures that could potentially be leveraged for community broadband. They include the following:

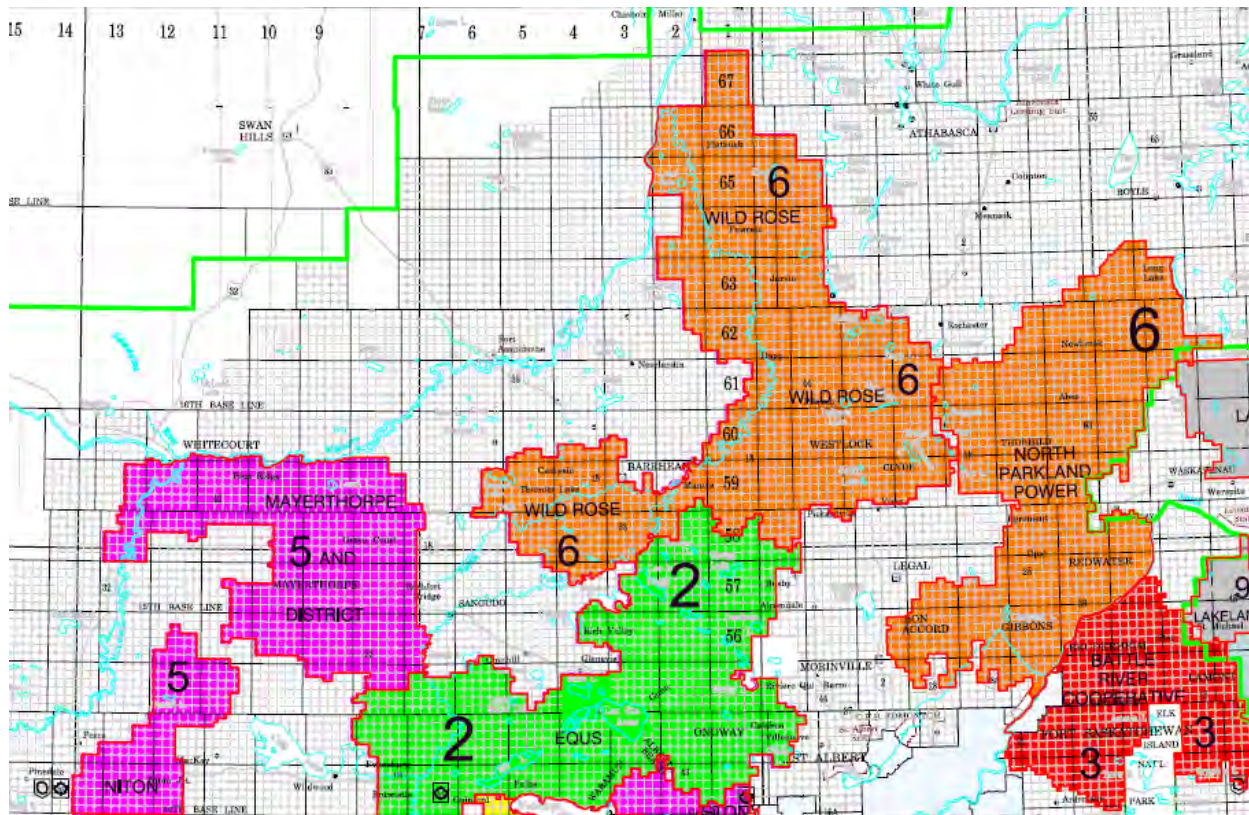
- Mayerthorpe – RCMP detachment communication tower; emergency response building hose tower;
- Onoway – 2, 30' radio towers located at the town administration building;
- Swan Hills – 1, 100' tower (is in good condition and located at the town office);
- Westlock – tall buildings: Westlock Place apartment building; Spirit Centre Multiplex (for the placement of broadband equipment); and
- Alberta Beach – 2 towers (currently use for patrol department at administration building; for fire services department at village fire hall).

6.5.2 Utility Infrastructure

The existing overhead and underground transmission and distribution lines of electric utility companies (ATCO, Fortis), Rural Electrification Associations (REAs), and natural gas co-operatives (co-ops) present deployment options for community broadband builds - access to and installing fibre cables to travel along utility poles, in ducts and conduit, and along rights-of-way can significantly improve the economics of broadband service expansion projects and network deployments. Inquiries about the availability of communications spaces on utility providers’ poles and where multi-party trench agreements exist will be made during the preliminary infrastructure design phase of a broadband network.

6.5.2.1 Rural Electrification Associations (REAs)

REAs are member-owned electric distribution systems that provide electricity service to farm members within a specific geographic boundary. Each REA has an elected board of directors that is responsible for the business operations of the REA. Construction, operations, and maintenance is done by the investor-owned electric utility company (through contracts with the REAs) for the EQUUS REA Ltd., Mayerthorpe & District REA Ltd., and the Wild Rose REA Ltd. Figure 26 shows their respective service areas



Source: Rural Electrification Associations Service Areas, November 2016

Figure 26 – Growth Alberta REA Service Areas

Appendix E shows ATCO Electric’s and Fortis Alberta’s respective service areas in northern Alberta. REA and distribution company systems are intertwined in the REA service area as shown in Figure 26, and they work together to ensure there is reliable service and no duplication of distribution

lines and service.³⁹ In Alberta, most rural areas are radial networks. A radial distribution line may serve both distribution entity and REA customers and different parts of the same line may be owned by one or the other party.

6.5.2.2 Gas Co-ops – Zone 2

In the 1960s, non-profit gas co-ops were formed to supply natural gas to rural Alberta - franchise areas were designated. The following three Zone 2 gas co-ops currently operate in the Growth Alberta region. Figure 27 provides a map showing the group's geographic coverage.

- Pembina River Natural Gas Co-op Ltd. (Jarvie, Alberta – Westlock area)
- Ste. Anne Natural Gas Co-op Ltd. (Onoway)
- TRL Gas Co-op Ltd (Whitecourt)



Source: Federation of Alberta Gas Co-ops, <http://www.fedgas.com/Map/>, accessed Feb. 1, 2017.

Figure 27 – Growth Alberta Gas Co-ops

6.6 Planned Infrastructure

6.6.1 Major Projects

The Growth Alberta region has several private and public sector capital projects planned. Where possible these projects may be leveraged to reduce the costs associated with the deployment of broadband infrastructure. Figure 28 shows the capital projects in the Barrhead area.⁴⁰ Another major project in the region is a school replacement in Whitecourt – see the Whitecourt major projects map in **Appendix F**.

³⁹ AUC.

⁴⁰ GoA, Provincial Major Projects List, November 2016.



Figure 28 – Major Projects – Barrhead

6.6.2 Electricity Transmission Development Plans

Construction of a major electricity transmission line, Fort McMurray West 500 kV, is about to begin by Alberta PowerLine, a partnership between ATCO and Quanta Services.⁴¹ The line will run from Wabamun to the Fort McMurray area, and is designed to help meet increased electricity demand in the Fort McMurray area. The line will pass through the Growth Alberta region (construction south of the Athabasca River will begin in 2018). **Appendix H** shows a map of the route, which was approved on February 10, 2017. The facilities will be completed and operational by June 2019.

6.6.3 Municipal Capital and Civil Works Projects

Leveraging civil infrastructure projects can reduce broadband deployment costs by 75%. Given civil infrastructure costs typically account for 70% of buried deployment costs, this is significant. Capital projects that involve trenching or erecting towers or poles such as during the development of new subdivisions, road construction, or the construction or rehabilitation of water or sewer lines are typical projects that can improve the economics of community broadband projects.

⁴¹ Alberta PowerLine website, www.albertapowerline.com, accessed 24 March 2017.

Oneway received a total of \$1.6 million for sanitary sewer forcemain replacement from Alberta Transportation's *Alberta Municipal Water/Wastewater Partnership (AMWWP)*. Lac Ste. Anne also received funding – for the Darwell effluent disposal line (\$2.2 million). The West Inter-Lake District Regional Water Commission received \$1.1 million for detailed design work for Regional Waterline Phase 2 to Oneway and Gunn from the *Water for Life (W4L)* program.

The Federal *Small Communities Fund* (part of the New Building Canada Fund) for infrastructure projects, now includes a “Connectivity and Broadband” category. 2016 approved non-broadband projects within the Barrhead area include (figures shown are the Total Eligible Project Cost - Federal, Provincial, and Municipal):

- Mayerthorpe – Interim production well and associated works \$2 million,
- Westlock County – Water treatment plant and supply system upgrading – Hamlet of Jarvie \$1.9 million, and
- Whitecourt – Water system upgrading \$6.7 million.

The Federal *Clean Water and Wastewater Fund (CWWF)* provided funding of \$3.2 million to the Westlock Regional Water Services Commission for Phase 3 of the Westlock to Fawcett water transmission line.

Table 13 shows the capital and civil works projects that the municipalities self-reported. TELUS has made a fibre investment to the home/premise in Town of Westlock.

Table 13 – Growth Alberta Municipal Capital & Civil Works Projects

Towns	
Barrhead	Nothing planned
Legal	<i>Response pending</i>
Mayerthorpe	<ul style="list-style-type: none"> • Highway commercial development (20 lots, shallow utilities to be installed) • Manufactured home subdivision (spring 2017) • Street paving (summer 2017) • Water main rehabilitation (summer 2017)
Onoway	Reconstruction of sewer main (spring-summer 2017)
Swan Hills	<ul style="list-style-type: none"> • New sewer line (spring-summer 2017) • New industrial subdivision (summer 2017)
Westlock	<ul style="list-style-type: none"> • Road work • Potential commercial subdivision (26 acres) • Westlock Regional Water Services Commission water line from Town of Westlock to hamlet of Fawcett within County of Westlock
Whitecourt	<ul style="list-style-type: none"> • Athabasca Flats East development (winter to spring 2017) - shallow utilities • Phase 3 of fibre Wide Area Network (WAN) (2017)
Villages	
Alberta Beach	Storm drainage
Clyde	<i>No Response - see what's on website</i>
Wabamun	<i>Response pending</i>
Counties	
Barrhead	<ul style="list-style-type: none"> • Barrhead to Thunder Lake/Campsie regional water transmission line • Water transmission for Barrhead, Lac Ste. Anne, and the summer villages of Birch Cove and Nakamun Park • Various annual road construction projects • Industrial Park (160 contiguous acres) – interest in fibre expressed
Lac Ste. Anne	<ul style="list-style-type: none"> • See second item under Barrhead County • Ongoing trenching projects • North 43 Lagoon Commission construction of sewer lines along northeast shore of Lac Ste. Anne • West Lake District Regional Water Services Commission construction of water line
Westlock	<i>Response pending - see what's on website</i>
Woodlands	<i>No Response - see what's on website</i>
First Nations	
Alexis Nakota	<i>No Response - see what's on website</i>

Summer villages and First Nations were not queried.

7 Lesser Slave Lake Economic Alliance (LSLEA)

7.1 Regional Profile

As shown in Table 14, the current state regional assessment for the Lesser Slave Lake Regional Economic Alliance (LSLEA) focuses on 2 towns, 3 counties or municipal districts (MDs), 10 First Nations, and 3 Métis Settlements. A map of the LSLEA region is shown in Figure 29. TELUS has made a generational investment in fibre in the Town of Slave Lake; however, businesses in the town indicate that Internet capacity and coverage falls short. In the January 2016 and 2017 timeframes, AxiaConnect has made presentations to High Prairie offering to assess their community for a potential Axia fibre network.

Table 14 – LSLEA Communities

Towns	Counties/MDs	First Nations	Métis Settlements
High Prairie Slave Lake*	Big Lakes Opportunity Lesser Slave River	Bigstone Cree* Driftpile* Kapawe'no* Loon River* Peerless Trout* Sawridge* Sucker Creek* Swan River* Whitefish Lake (Atikameg) Woodland Cree*	East Prairie Gift Lake Peavine

*Non-REDA

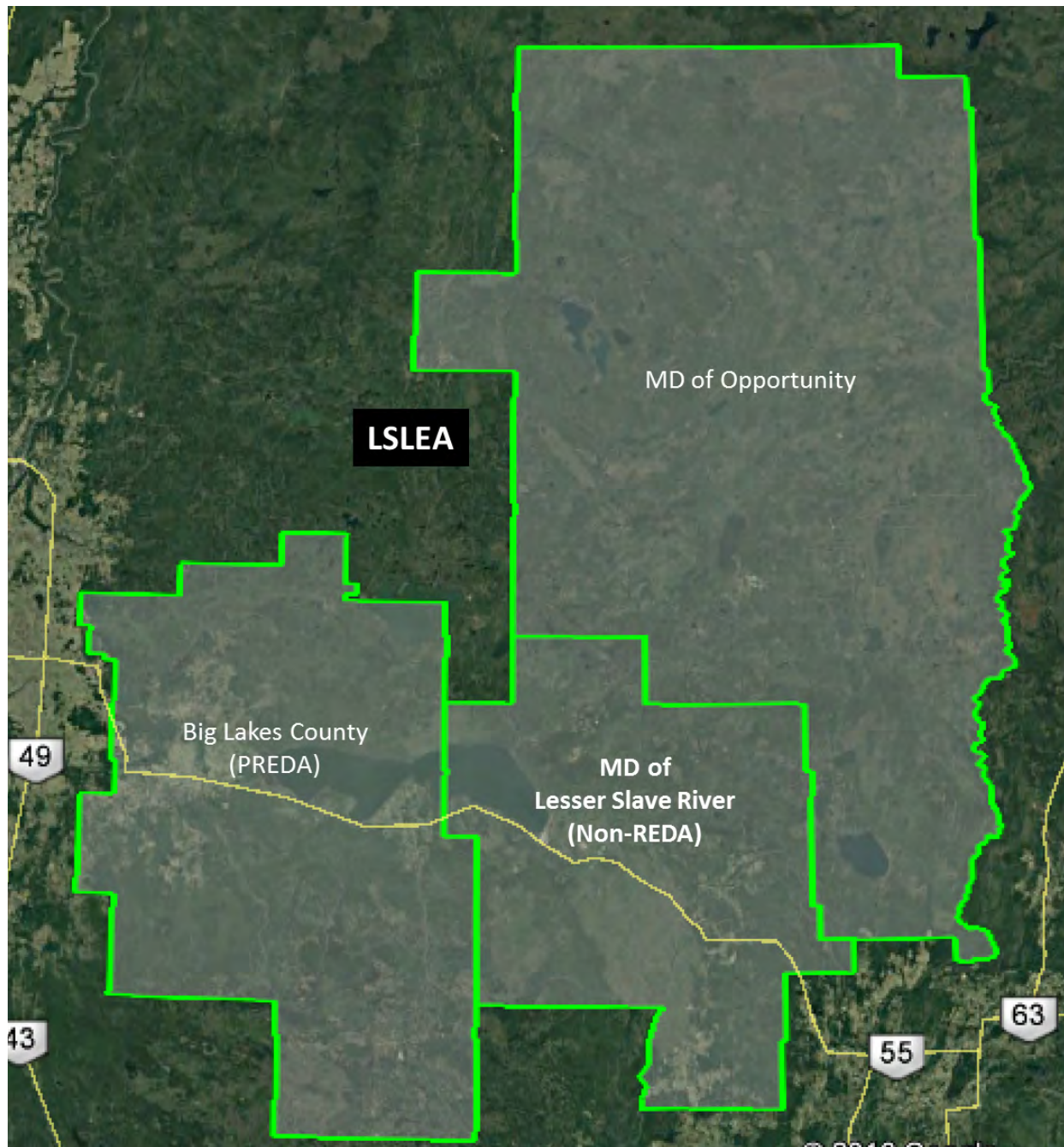


Figure 29 – LSLEA Region

The 2011 wildfires devastated areas of the Town of Slave Lake, the Sawridge First Nation, and the MD of Lesser Slave River. In the Town 333 single family homes and 169 apartment units were destroyed as were three churches, ten businesses, and a local radio station (approximately one third of the town and mostly concentrated in the southeast corner and centre of the town). The government centre, including provincial offices, the Town hall, and the library, were lost as well. In the MD 56 homes and a fire hall were destroyed. The Alberta government offered considerable assistance. Much of the rebuild is now complete.

The Slave Lake Regional Tri-council, which combined the councils of the Town of Slave Lake, the MD of Lesser Slave River, and the Sawridge First Nations, was formed following the 2011 wildfires. The

Tri-Council led the recovery efforts and now does strategic planning for the three entities. In 2012, the Tri-Council created an Economic Development Committee (EDC) and hired a regional Economic Development Officer.

The region is home to approximately 30,000 residents.⁴² Table 15 provides a breakdown by municipal (rural and urban), First Nations, and Métis Settlements as well as five-year population growth trends and compounded annual growth rates (CAGRs). Slave Lake and Big Lakes County are the most populated municipalities in the LSLEA region, with populations of 6,651 and 5,672, respectively. The populations of Kapawe'no and Swan River First Nations have grown significantly (each approximately 32%) during the five-year period between 2011 and 2016. The Statistics Canada 2016 Census data indicates that the Sawridge First Nations have declined significantly over the five-year period.

Table 15 – LSLEA Population & Population Growth Trends

Municipality	Rural			Urban			First Nations/Métis Settlements				
	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend	City/Town/Village	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend	Reserve / Settlement	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend
			(%) & Direction				(%) & Direction				(%) & Direction
Big Lakes, County	5,672	-0.8	-4.1 ▼	High Prairie	2,564	-0.3	-1.4 ▼	Driftpile	828	0.7	3.5 ▲
				Swan Hills	1,301	-2.3	-11.2 ▼	Kapawe'no	159	5.8	32.5 ▲
							Sucker Creek	689	0.4	1.8 ▲	
							Swan River	413	5.8	32.4 ▲	
							Whitefish Lake	850	2.1	11.1 ▲	
							East Prairie (Métis)	304	-3.6	-16.6 ▼	
							Gift Lake (Métis)	658	-0.1	-0.6 ▼	
							Peavine (Métis)	607	-2.5	-12.0 ▼	
			Sub-total	3,865			Sub Total - FN	2,939			
							Sub Total - Métis	1,589			
Lesser Slave River, MD	2,803	-0.9	-4.3 ▼	Slave Lake	6,651	-0.4	-1.9 ▼	Sawridge	30	-15.1	-55.9 ▼
Opportunity, MD	3,181	0.7	3.5 ▲					Bigstone Cree	2,515	-0.6	-2.3 ▼
							Loon River	555	1.7	8.6 ▲	
							Peerless Trout	334	3.7	19.7 ▲	
							Sub Total - FN	3,404			
Total	11,656				10,516			Total - FN	6,373		
								Total - Métis	1,569		

Total Population = **29,756**

Source: Statistics Canada Federal Census 2011 and 2016.

There are 1,230 businesses (with employees) in the LSLEA region. The top 10 industries in which they operate is shown in Table 16 and Figure 30 (industry classified system: North American Industry Classification System (NAICS)). The industry mix is diverse with approximately 17% of businesses with employees engaged in the construction industry. The second largest industry on the total number of businesses basis is retail trade. These two sectors makeup approximately 29% of businesses with employees in the region. The Other Industries segment (14.6%) of the chart shown in Figure 30 includes industries that individually contribute between 4.2% and 0.6% to the category.⁴³

⁴² Calculations based on Statistics Canada 2016 Census.

⁴³ Administrative and support, waste management and remediation; wholesale trade; public administration; manufacturing; finance and insurance; educational services; arts, entertainment and recreation; management of companies and enterprises; information and cultural industries; and utilities.

The region is spread over a vast geographic area comprised of boreal forest, lakes, and plains in the south.⁴⁴ The High Prairie Tolko Industries Oriented Standard Board (OSB) facility is expected to reopen by August 2017.⁴⁵

Table 16 – LSLEA Number of Businesses (with employees) by Industry

Industry	Businesses	Percent (%)
Construction	207	16.8
Retail trade	149	12.1
Other services (except public administration)	125	10.2
Mining, quarrying, and oil and gas extraction	125	9.9
Transportation and warehousing	122	9.3
Professional, scientific and technical services	94	7.6
Healthcare and social assistance	65	5.3
Accommodation and food services	64	5.2
Agriculture, forestry, fishing, and hunting	58	4.7
Real estate and rental and leasing	53	4.3

Source: Calculations based on dataset provided by Alberta Economic Development & Trade, Economic Information & Analytics, Feb. 13, 2017

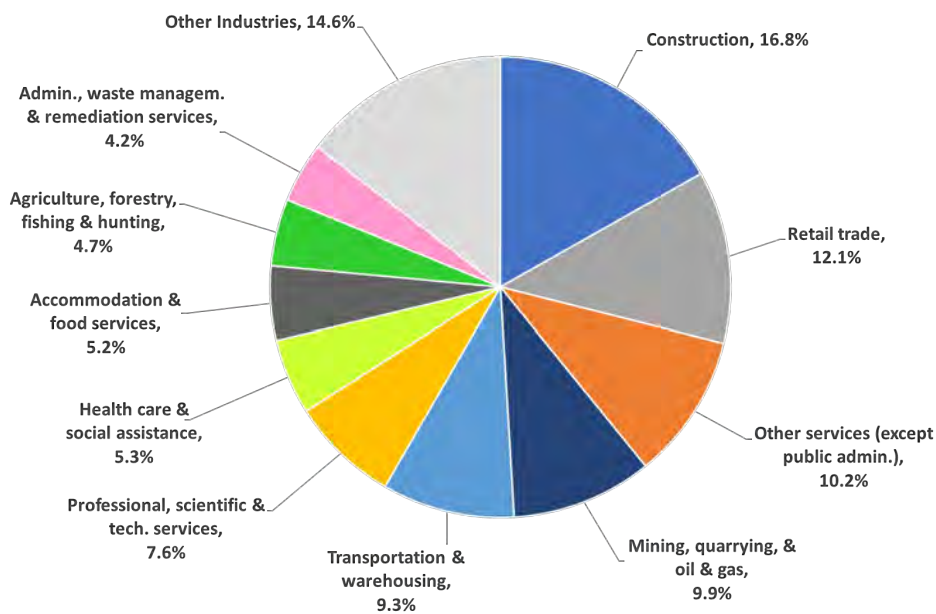


Figure 30 – LSLEA Industry Mix (based on Business Count)

⁴⁴ LSLEA website. Accessed 15 February 2017.

⁴⁵ High Prairie Town Council, Facebook, 20 January 2017.

7.2 Municipal, First Nations and Métis Settlement Broadband Interests

Communities within LSLEA are at different stages in recognizing the importance of broadband services and connectivity to economic diversification, municipal sustainability, regional competitiveness, public service delivery, and quality of life.⁴⁶ Table 17 identifies the awareness and current state of municipal involvement and interest in broadband.

Big Lakes County has advanced quickly from being at an early stage and looks forward to the results of this study to identify realistic options and a cost benefit analysis of these options to guide their own research (pending grant funding) and business case. Regarding broadband preparedness, High Prairie will partner with Big Lakes on their Alberta Community Partnership Inter-Municipal Collaboration grant. The partners will work toward a business case for implementing broadband infrastructure for all communities within the County's boundaries.⁴⁷

The Slave Lake region has created a legal entity, the Northern Alberta Broadband Society, to build broadband infrastructure (i.e., fibre/hybrid) and provide broadband services to residents in the immediate Slave Lake region and along a trajectory to Peace River (including Peace River).

Big Lakes, High Prairie, Lesser Slave River, and Slave Lake are advanced in recognizing the importance of broadband and looking for solutions to move forward.

Table 17 – LSLEA Involvement & Interest in Broadband

Gung Ho	Interested – May Be	Need Help – Too Small
Big Lakes High Prairie Lesser Slave River Slave Lake - business	Bigstone Cree First Nation Loon First Nation East Prairie Métis	
Too Expensive	Unknown	Status Quo
	Opportunity	Slave Lake (TELUS Fibre – predominately residents)

7.3 Current Service Providers, Services, and Infrastructure

7.3.1 Fixed Wireless-based

Current Internet service providers using fixed wireless technology in the LSLEA region include the following. **Appendix B** provides the details of their service offerings (Internet only – no bundling unless otherwise stated) and geographic coverage. Coverage maps are those that were available on their websites at the time of the writing of this report.

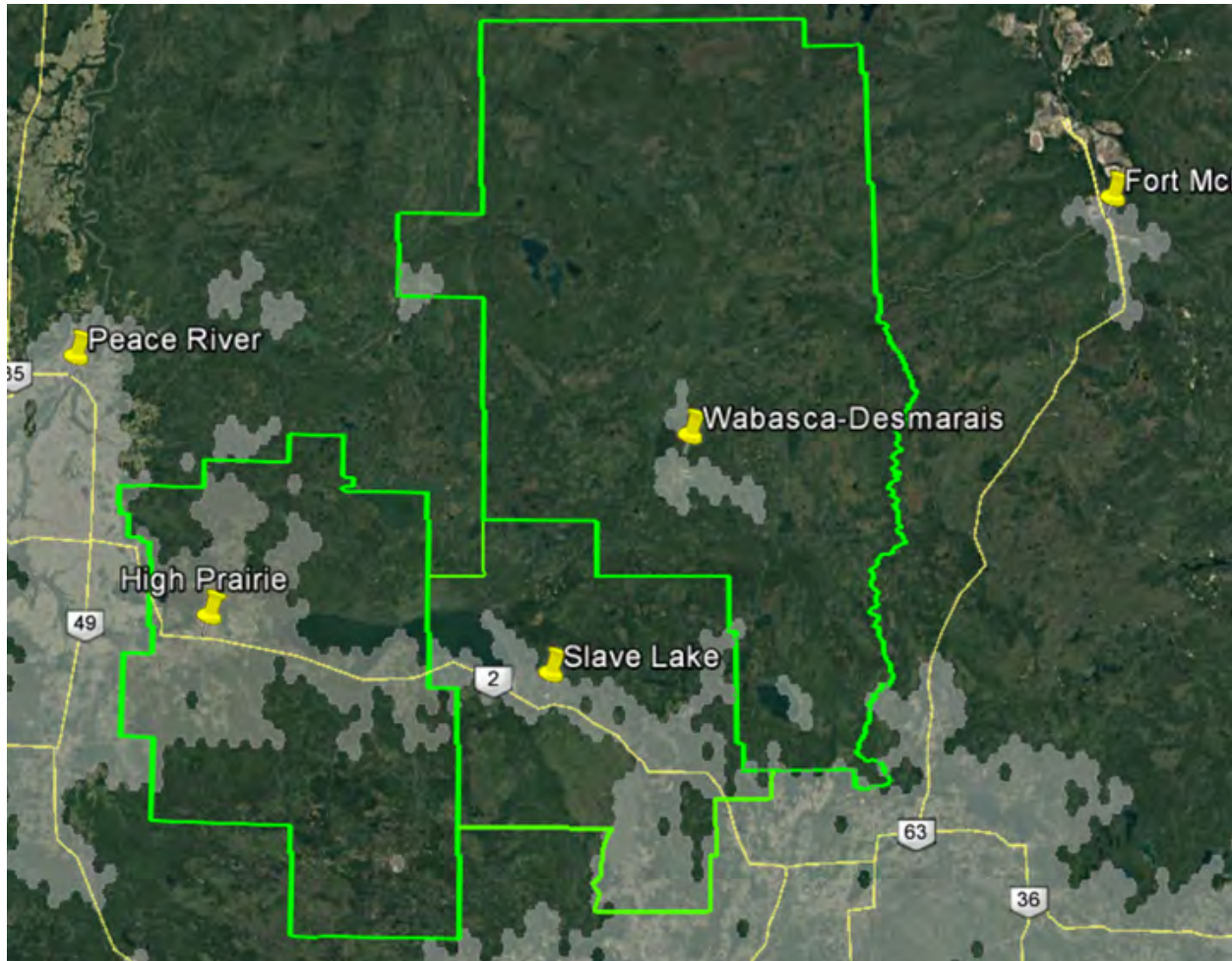
- Arrow Technology Group,
- Boreal Wireless,
- Corridor Communications (CCI),
- I Want Wireless,

⁴⁶ Calgary Regional Partnership, 3.

⁴⁷ High Prairie Town Council Update, Facebook, 10 January 2017, accessed 13 February 2017.

- Infinity Internet Solutions Alberta,
- Lakeshore Internet Services,
- Slave Lake Communications,
- Sniper Communications, and
- XplorNet (fixed wireless and satellite-based).

According to the CRTC website⁴⁸, minimal 5 Mb/s down (toward the end-client) by 1 Mb/s up (from the end-client to the network) service is available in the LSLEA region. A combined view of the fixed wireless coverage is shown in Figure 31 (light gray area).



Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 31 – LSLEA Fixed Wireless Coverage

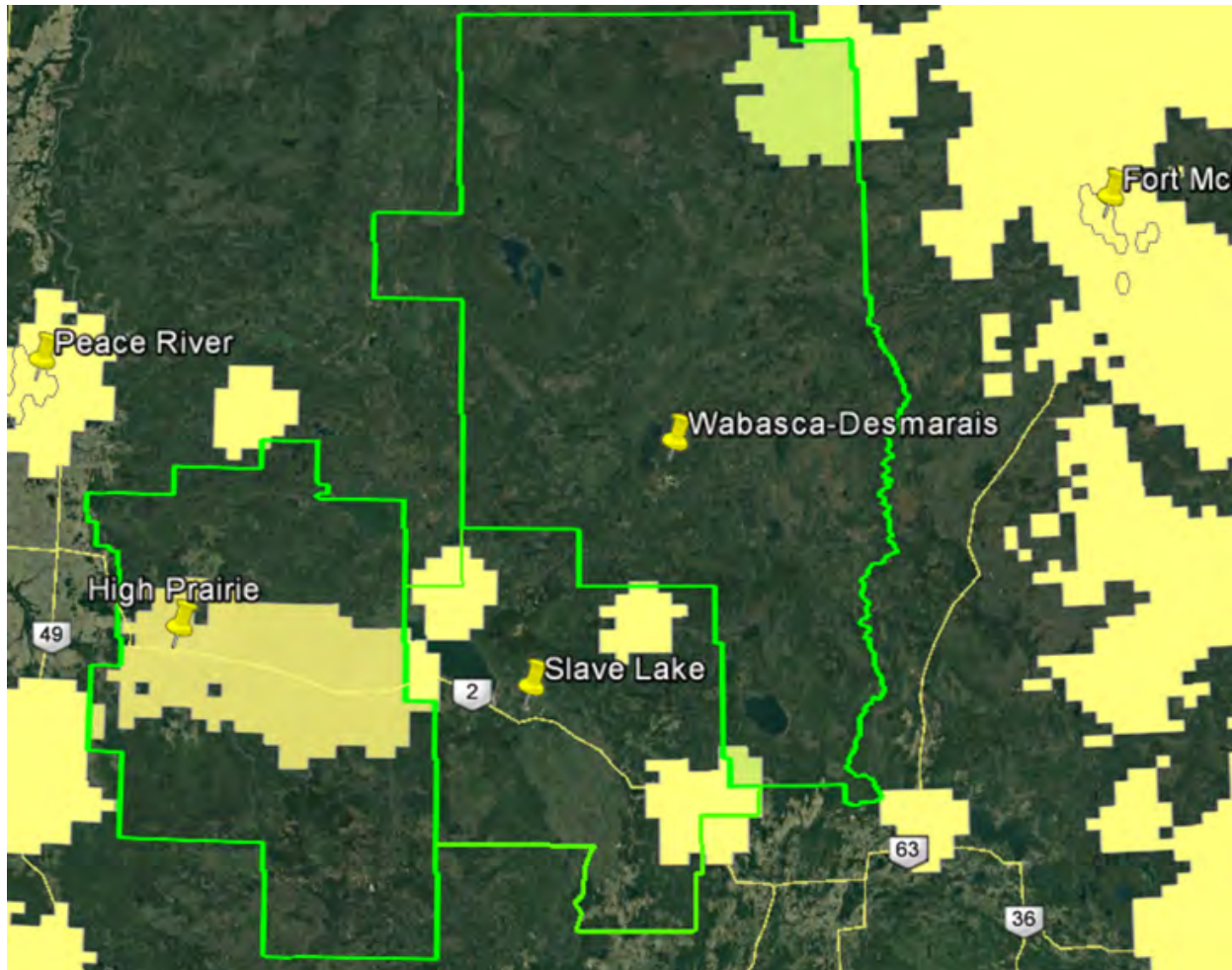
Since 2005 Lakeshore Internet Services (Lakeshore) has provided fixed wireless-based Internet services to First Nations and the communities in the Lesser Slave Lake area. Lakeshore's owner, the Lesser Slave Lake Indian Regional Council, is governed by its eight member/shareholder First Nations. They would like to deploy fibre to their membership – potentially starting as a pilot project. For those living on reserves, the social implications of the services and applications broadband would enable

⁴⁸ <http://crtc.gc.ca/eng/internet/internetcanada.htm>

would be very significant. For example, the enhanced training and education alone would “change peoples’ lives.”

7.3.2 Mobility

Shown as yellow areas in Figure 32, mobility data services are available from TELUS/Bell and Rogers. **Appendix C** provides the coverage maps for each of the providers of mobility services. As discussed earlier Bell, TELUS, and Rogers are now using cellular towers and SmartHubs to provide at-home Internet services.

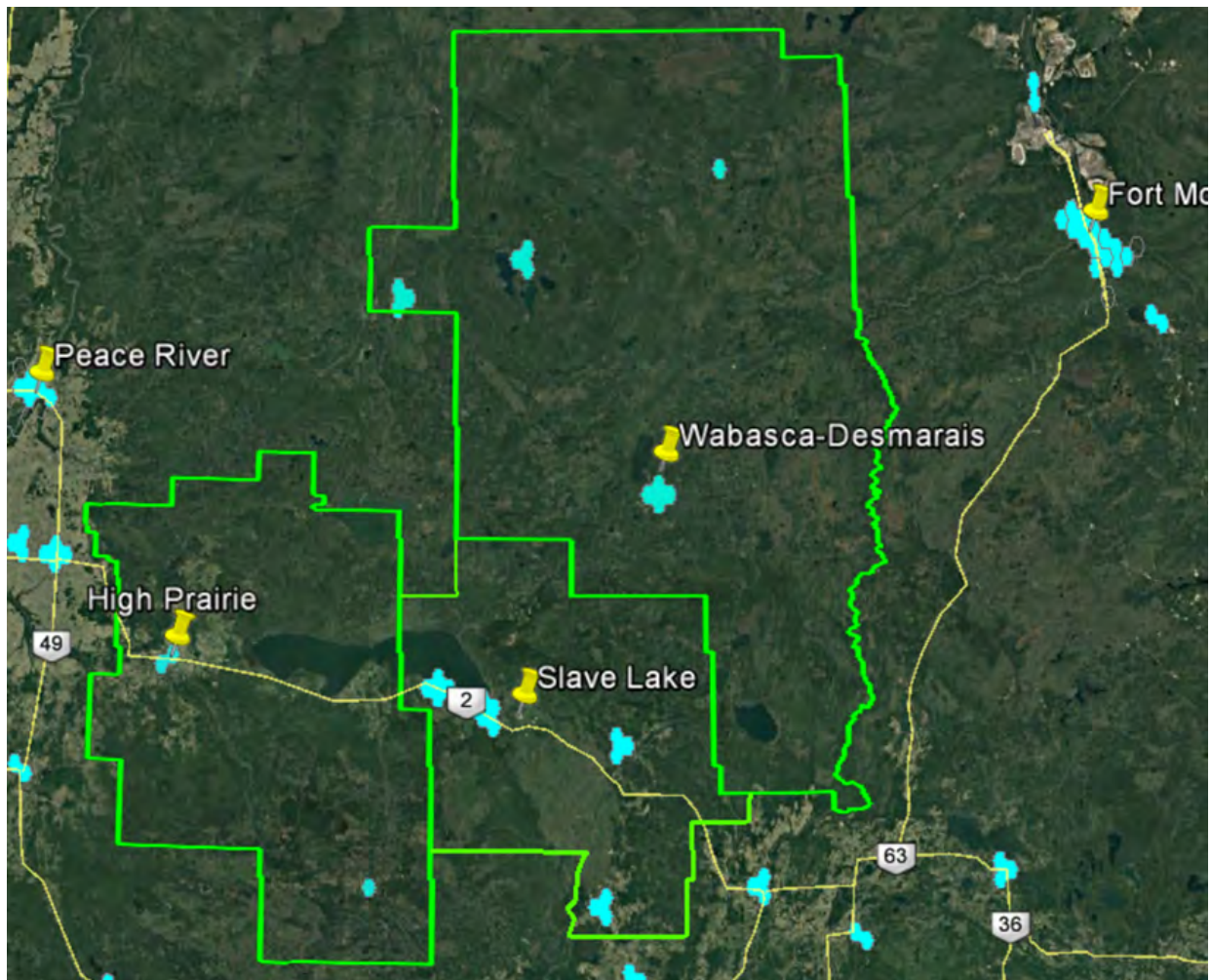


Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 32 – LSLEA Mobility Data Coverage

7.3.3 Wireline-based – DSL

Digital Subscriber Line (DSL) refers to a group of last mile technologies that are used by wireline-based service providers such as TELUS in Alberta to provide broadband services over twisted-pair copper wiring. The local copper wire loop is a remnant from the days when (and how) the telephone company connected residential and business premises to the telephone company's network for the purposes of providing local and long distance telephone services (and dial-up Internet services). Since DSL's performance degrades with distance, the technology is only deployed in urban areas where access distances are less than about two miles. In Figure 33, areas served via DSL technologies are shown in blue.

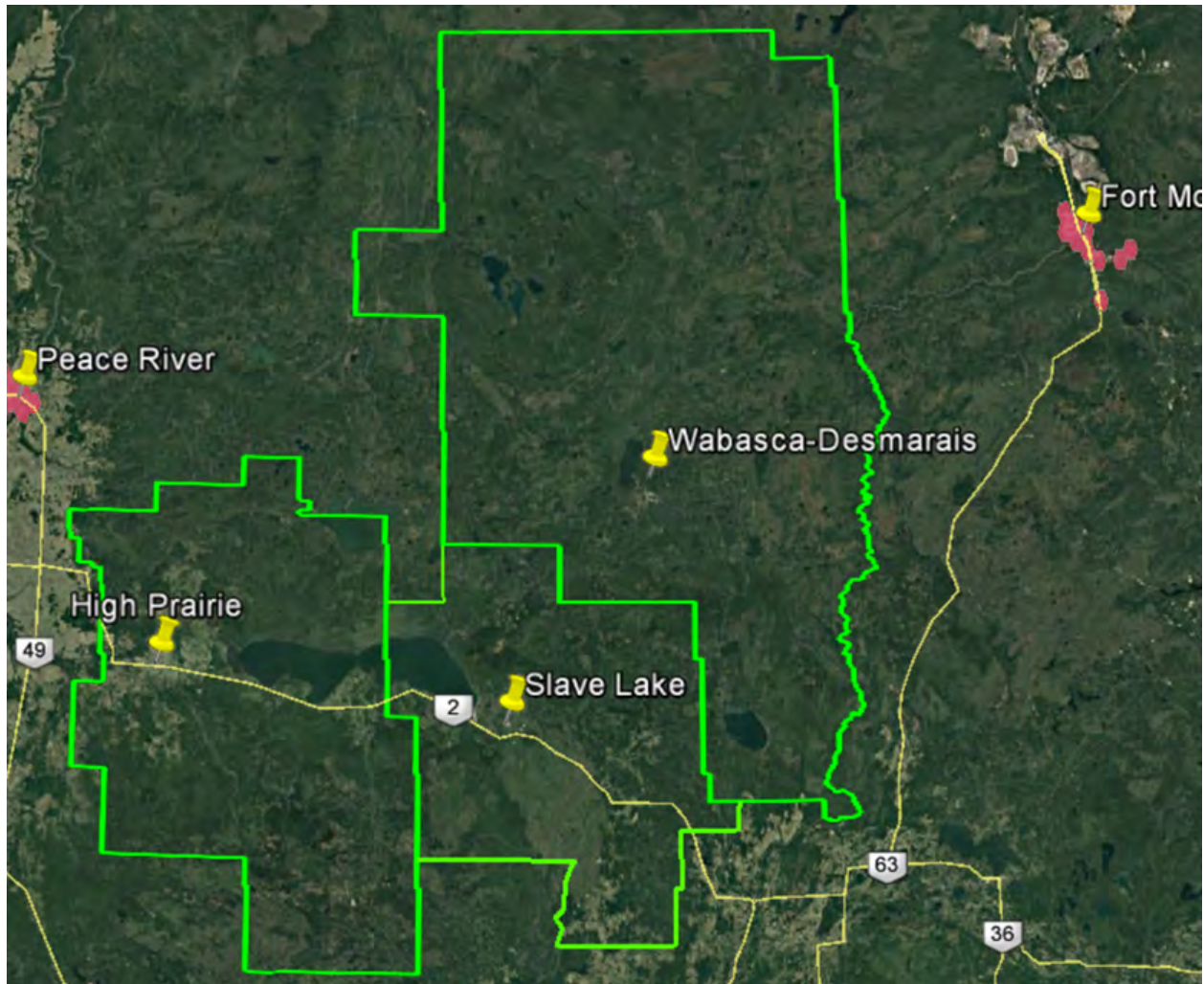


Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 33 – LSLEA DSL Coverage

7.3.4 Wireline-based – Coaxial Cable

Eastlink, originally a television broadcast company, uses coaxial cable and modern cable modem technology to provide broadband services. Wireline coaxial-based Internet services are available from Eastlink in Slave Lake (although it does not appear as a red area in Figure 34). The cable companies currently use the Data Over Cable Service Interface Specification (DOCSIS) 3.0 standard to achieve broadband speeds of 100 Mb/s or more over coaxial cable. According to the Cybera, *State of Alberta Infrastructure Report*, “The next-generation DOCSIS 3.1 standard is expected to revolutionize hybrid fibre-coaxial cable connections by providing up to 10 Gb/s download and 1 Gb/s upload network throughput and significant improvements in latency.”⁴⁹



Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 34 – LSLEA Coaxial Cable Coverage

Maximum advertised wireline offerings are shown in **Appendix B**. As these are “up to” bit rates, during high usage periods, actual bit rates will be less – Eastlink more so than TELUS due to the way the aggregation is implemented. In both cases, the offerings are highly asymmetric – upload and download bit rates differ significantly.

⁴⁹ Cybera, 35.

7.3.5 Internet Service Provider WiFi

TELUS and Bell Wi-Fi services are available in the LSLEA region - two TELUS locations in High Prairie as well as four TELUS and two Bell locations in Slave Lake.

7.3.6 Axia Fibre

Axia NetMedia provides retail services to corporate clients and, through AxiaConnect (Axia), provides retail Internet services in smaller communities (e.g., Town of Fairview – fall 2017). In exchange for access to a community’s right-of-ways, Axia will invest in Fibre to the Premise (FTTP) if a community can demonstrate that at least 30% of its residences and businesses have an interest in purchasing Internet services from Axia once the “closed access” network is built.

7.4 Backhaul Availability

7.4.1 Alberta SuperNet

The extent of the SuperNet within the LSLEA region is shown in Figure 35. The green lines represent the Bell-operated Base Area Network (BAN) portion while the blue lines represent the Axia-operated Extended Area Network (EAN) segments. A more general discussion about the SuperNet is presented in **Appendix D**.

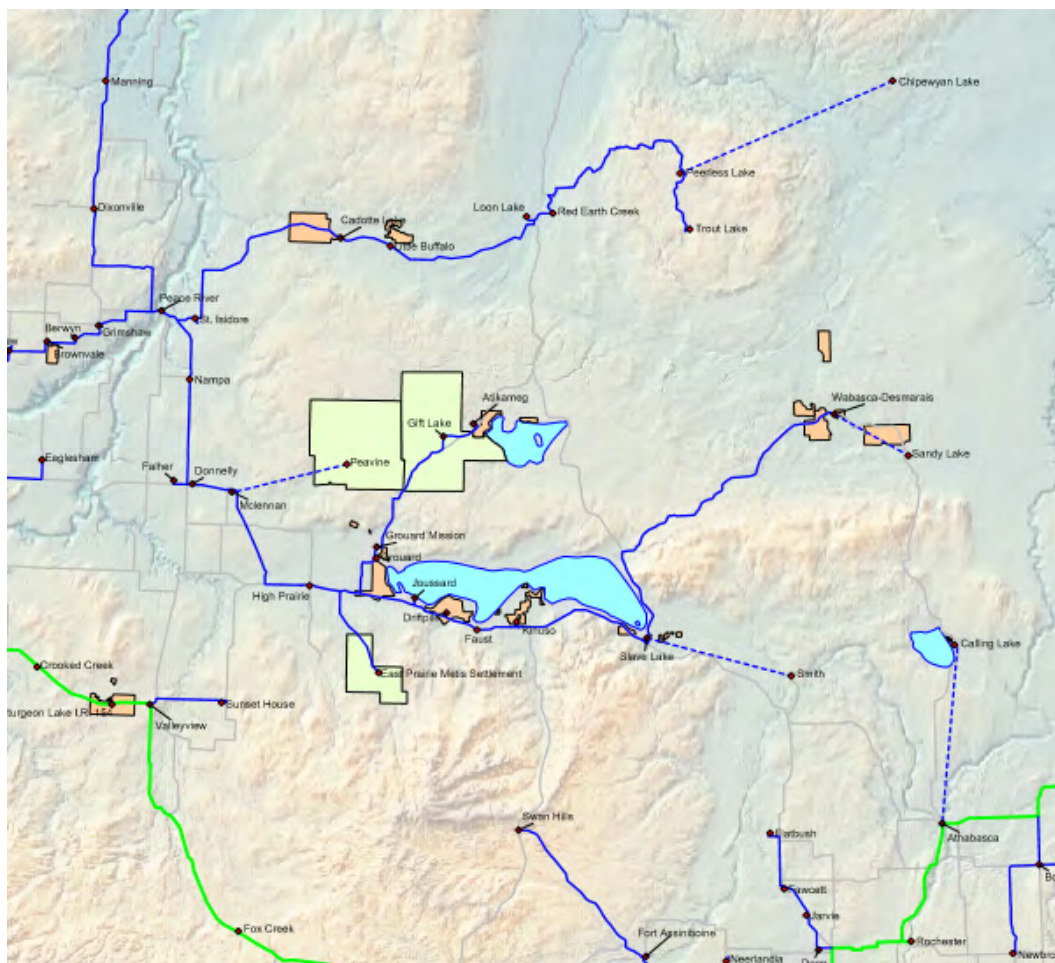


Figure 35 – LSLEA SuperNet Infrastructure

Given the uncertainty associated with the next iteration of the SuperNet contract by June 30, 2018, municipalities, First Nations, and Métis Settlements requiring access to fibre transport for backhaul to Edmonton may want to consider Bell or TELUS.

7.4.2 TELUS Wholesale

Except under a non-disclosure agreement, TELUS does not provide maps of fibre assets.

7.5 Existing Infrastructure

7.5.1 Towers and Other Tall Structures

When planning a broadband build-out it is important to “build on what is already in place.” The key inquiry for the current state analysis is what assets does the community have that can be provided at little or no incremental cost that improve the economics of the broadband deployment and operations? Assets include existing towers, fibre and community networks, which the community might be using for communications or asset management. Existing and possible access to tall structures or buildings are also important to inventory for potential placement of wireless equipment.

The only towers potentially available to leverage for a community broadband project are likely the ones owned by Kapawe’no First Nations. The First Nations received funding in the amount of \$62,250 from Alberta Agriculture and Forestry’s 2012-2013 *Final Mile Rural Community Program*. Two towers are privately owned by a band member of the Bigstone Cree First Nations. There is a CBC tower at Grouard in Big Lakes County.

7.5.2 Utility Infrastructure

The existing overhead and underground transmission and distribution lines of electric utility companies (ATCO, Fortis) and natural gas co-operatives (co-ops) present deployment options for community broadband builds - access to and installing fibre cables to travel along utility poles, in ducts and conduit, and along rights-of-way can significantly improve the economics of broadband service expansion projects and network deployments. Inquiries about the availability of communications spaces on utility providers’ poles and where multi-party trench agreements exist will be made during the preliminary infrastructure design phase of a broadband network. **Appendix E** shows ATCO Electric’s and Fortis Alberta’s respective service areas in northern Alberta.

7.5.2.1 Gas Co-ops – Zone 1

In the 1960s, non-profit gas co-ops were formed to supply natural gas to rural Alberta - franchise areas were designated. The following three Zone 1 gas co-ops currently operate in the LSLEA region. Figure 36 provides a map showing the group’s geographic coverage in the Lesser Slake Lake area.

- Town of High Prairie
- Prairie River Gas Co-op Ltd. (High Prairie)
- Swan River Gas Co-op Ltd. (Kinuso)



Source: Federation of Alberta Gas Co-ops, <http://www.fedgas.com/Map>, accessed Feb. 1, 2017.

Figure 36 – LSLEA Gas Co-ops

There are several rural water co-operatives operating in the LSLEA area, as shown in Table 18. Big Lakes County owns eight water co-ops – see **Appendix I** for their approximate locations.

Table 18 – LSLEA Water Co-operatives

Water Co-op	Vicinity/Service Area	Owner/Operator
8 co-ops: Big Meadow, Heart River, High Prairie East, North End, Northwest, Riverbend, Southside, West End	High Prairie	MD of Big Lakes
Kinuso	Southshore of Lesser Slave Lake	Members
Poplar Lane	Lesser Slave River	MD

7.5.3 First Nations Fibre Infrastructure

First Nations Technical Services Advisory Group (TSAG) is a non-profit organization established by the Chiefs of Alberta to provide technical support and training to First Nations in the treaty 6, 7, and 8 regions. In 2008, TSAG partnered with Health Canada to develop the network components (fibre connections) at First Nations health centres to support First Nations telemedicine. With Health Canada funding and TSAG project management, community fibre networks connections were made to the Alberta SuperNet points-of-presence on each or close to each First Nations in 2011. Upon completion,

each First Nations became the owner of its local fibre network. As shown in Figure 37, First Nations' schools, health centres, band administration offices, and water treatment plants are now connected.

TSAG operates a state-of-the-art Network Operations Centre (NOC). The NOC's real time network monitoring ensures availability, network security/SPAM filtering, telehealth bridge management, and support, and applications (high speed connectivity and remote water monitoring system for water treatment plants, OneHealth.ca, and FirstNationsTH.ca). Onehealth.ca is a national health portal that provides information and services to health care professionals working in First Nations communities. FirstNationsTH.ca – Telehealth provides education and travel-free patient and health care assessments via video-conferencing.

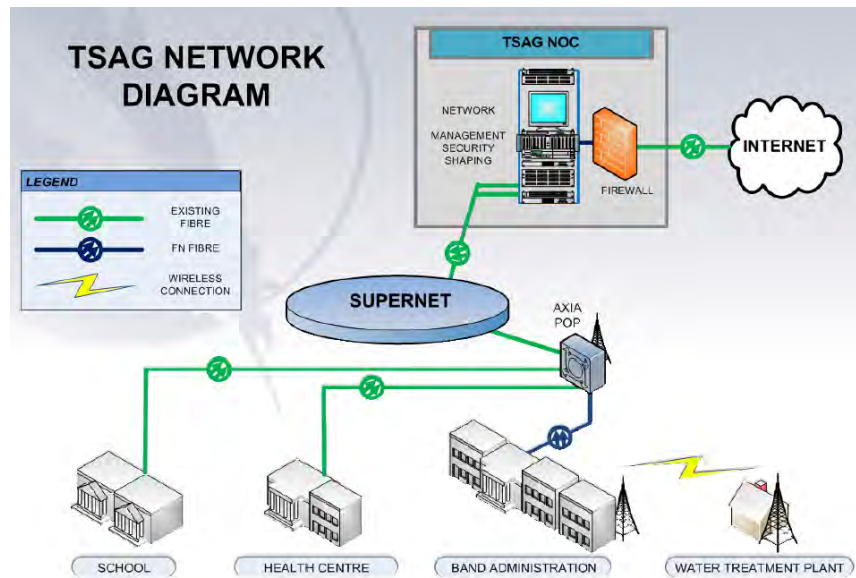


Figure 37 – TSAG Network Diagram

7.6 Planned Infrastructure

7.6.1 Major Projects

The LSLEA region has several private and public sector capital projects planned (Figure 38). Where possible these projects may be leveraged to reduce the costs associated with the deployment of broadband infrastructure.

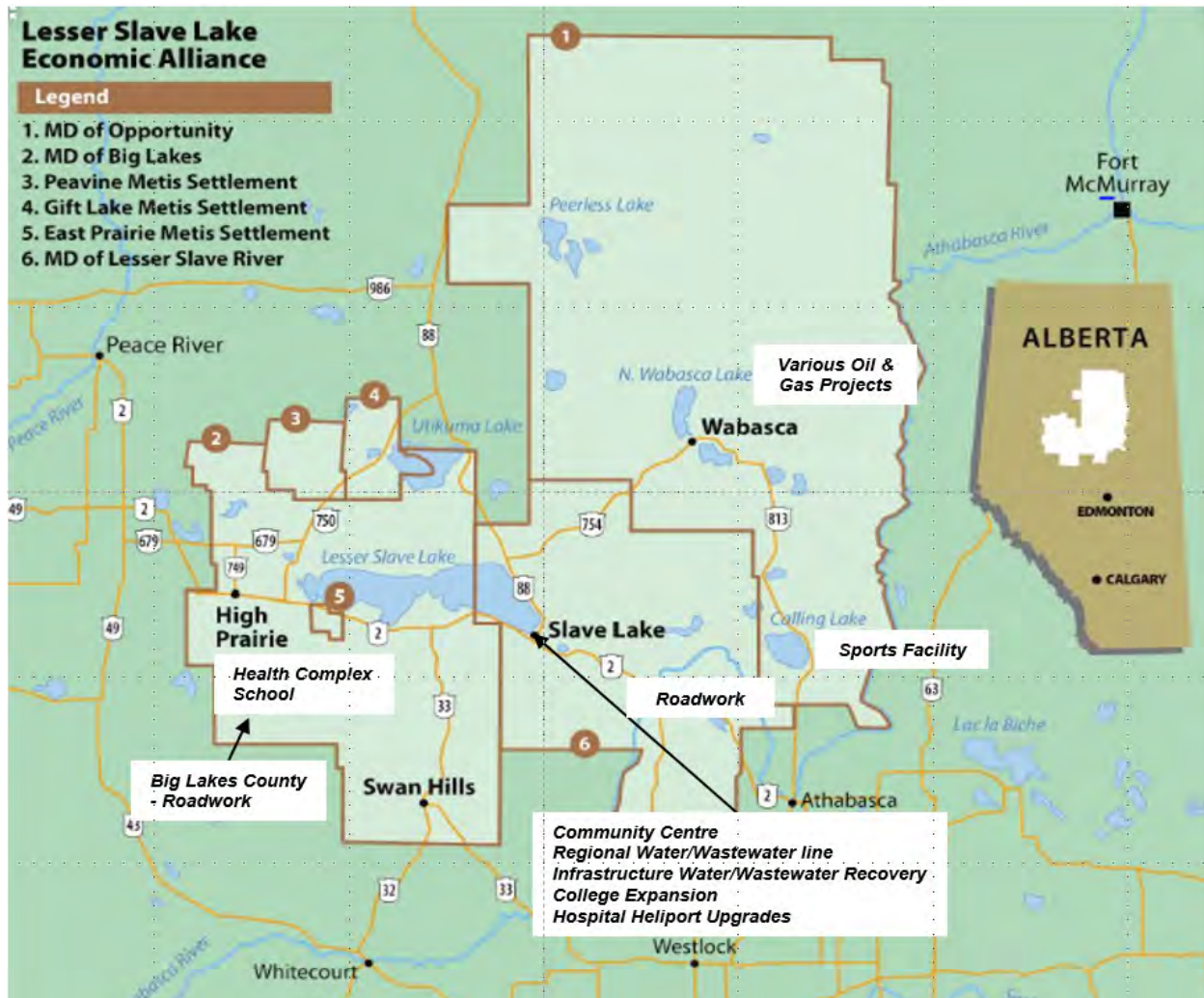


Figure 38 – LSLEA Major Projects

7.6.2 Electricity Transmission Development Plans

Alberta PowerLine, a partnership between ATCO and Quanta Services, is about to begin construction north of the Athabasca River on the Fort McMurray West 500 kV transmission line.⁵⁰ Designed to address increased electricity demand in the Fort McMurray area, the line will run from Wabamun to the Fort McMurray area. The line will pass through the LSLEA region, see map in **Appendix H**. The route was approved on February 10, 2017, and the facilities will be completed and operational by June 2019.

⁵⁰ Alberta PowerLine website.

7.6.3 Municipal Capital and Civil Works Projects

Leveraging civil infrastructure projects can reduce broadband deployment costs by 75%. Given civil infrastructure costs typically account for 70% of buried deployment costs, this is significant. Capital projects that involve trenching or erecting towers or poles such as during the development of new subdivisions, road construction, or the construction of rehabilitation or water or sewer lines are typical projects that can improve the economics of community broadband projects.

The MD of Greenview received approximately \$2 million from Alberta Transportation's *Alberta Municipal Water/Wastewater Partnership (AMWWP)* to upgrade, expand, and drill a new supply well at its Ridgevalley water treatment plant. The MD of Opportunity received the following from this same fund:

- Regional SCADA system \$2.0 million,
- Regional wastewater SCADA system \$262,000,
- Calling Lake lagoon upgrades \$2.5 million, and
- Sandy Lake WTP upgrades, \$5.8 million.

The Federal *Small Communities Fund* (part of the New Building Canada Fund) for infrastructure projects, now includes a "Connectivity and Broadband" category. 2016 approved non-broadband projects within the LSLEA region include (figures shown are the Total Eligible Project Cost - Federal, Provincial, and Municipal):

- Slave Lake – Wastewater treatment modernization \$13.5 million, and
- Big Lakes County – House Mountain connector road and bridge construction \$9 million.

Table 19 shows the capital and civil works projects that the municipalities self-reported. TELUS has made a fibre investment to the home/premise in Town of Slave Lake.

Table 19 – LSLEA Municipal Capital & Civil Works Projects

Towns	
High Prairie	52 nd Avenue water and sewer line, curb, gutter, sidewalks replacement (2017)
Slave Lake	Wastewater treatment modernization
Counties/MDs	
Big Lakes	<i>Response pending - see what's on website</i>
Opportunity	Might be coming
Lesser Slave River	<i>No response - see what's on website</i>

First Nations and Métis Settlements were not queried.

8 Peace Region Economic Development Alliance (PREDA)

8.1 Regional Profile

As shown in Table 20, the Peace Region Economic Development Alliance (PREDA) region is made-up of several communities – the City of Grande Prairie, 13 towns, 7 villages, 11 counties or municipal districts (MDs), and 4 First Nations and the Paddle Prairie Métis Settlement. A map of the PREDA region is shown in Figure 39. Of the communities within PREDA, TELUS has made long-term fibre investments in the City of Grande Prairie and the Town of Peace River. The Town of Fairview recently announced that it has selected AxiaConnect (Axia) to construct a fibre optic network for their community. The network is to be completed in the fall 2017 timeframe. An Axia engagement process took place, beginning with community polling, in Grande Cache in November of 2016 – the 30% interest threshold from residents and businesses was not achieved.

Table 20 – PREDA Communities

Cities	Towns	Villages	Counties/MDs	First Nations	Métis
Grande Prairie*	Beaverlodge*	Berwyn	Birch Hills	Duncan's*	Paddle Prairie
	Fairview	Donnelly*	Clear Hills	Horse Lake*	
	Falher	Girouxville*	Fairview	Lubicon Lake*	
	Fox Creek	Hines Creek	Grande Prairie	Sturgeon Lake	
	Grande Cache*	Hythe	Greenview	Cree*	
	Grimshaw	Nampa	Northern Lights		
	Manning	Rycroft	Northern Sunrise		
	McLennan		Peace 135		
	Peace River		Saddle Hills		
	Sexsmith		Smoky River		
	Spirit River		Spirit River*		
	Valleyview				
	Wembley*				

*Non-REDA

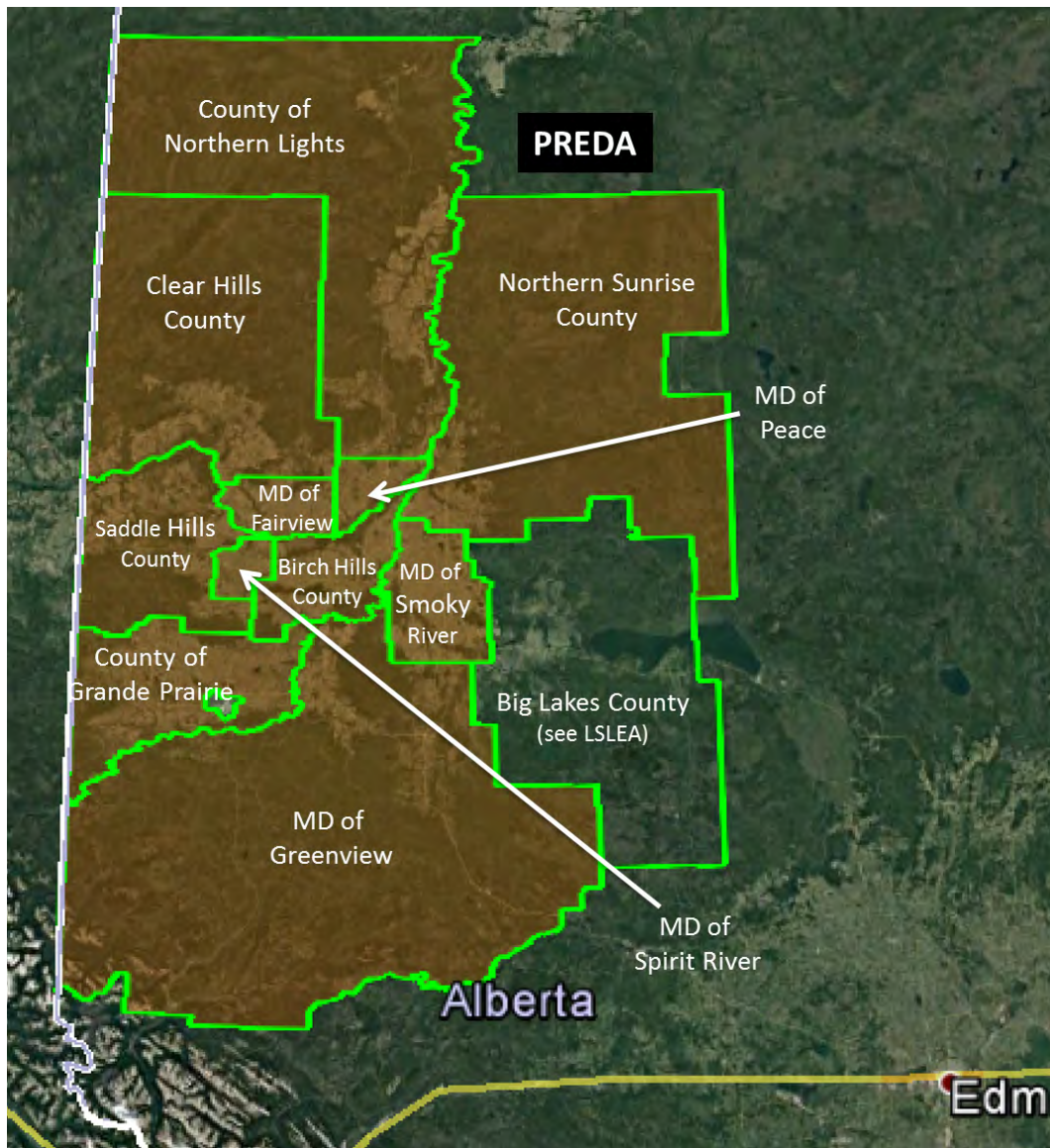


Figure 39 – PREDA Region

The region is home to approximately 148,000 residents.⁵¹ **Appendix A** provides a breakdown by municipal (rural and urban), First Nations, and the Métis Settlement as well as five-year population growth trends and compounded annual growth rates (CAGRs). The County of Grande Prairie and City of Grande Prairie are the most populated municipalities in the PREDA region, with populations of 22,303 and 63,166, respectively. Both have grown significantly (approximately 13% each) during the five-year period between 2011 and 2016; however, the population growth of the MD of Peace River has outpaced their growth (20.8%). The Town of Grande Cache's population has declined by approximately 17%, largely due to the closing of Grande Cache Coal, which may resume operations in 2017. Grande Cache has requested a viability review. The Statistics Canada 2016 Census data indicates that the Sturgeon Lake First Nations has grown significantly over the five-year period. It should be noted that the villages

⁵¹ Calculations based on Statistics Canada 2016 Census.

of Berwyn and Rycroft are currently undergoing viability reviews. A Viability Team was formed in Berwyn in January 2017.

In February 2017, the Heart of the Peace Economic Development Committee, formed between the MD of Fairview and the Town of Fairview, hired an Economic Development Officer.

There are 8,330 businesses (with employees) in the PREDA region. The top 10 industries in which they operate is shown in Table 21 and Figure 40. The industry classified system was the North American Industry Classification System (NAICS). The industry mix is diverse with approximately 16% of businesses with employees engaged in the construction industry. As observed in several of the other REDAs in northern Alberta, the second largest industry on a business count basis is other services (except public administration).⁵² The three Top sectors makeup approximately 37% of businesses with employees in the region.

Hydraulic fracturing activity in the Montney and Duvernay plays in the Grande Prairie area is expected to continue to grow (fourth ranked industry sector). Ironstone Resources is developing the Clear Hills Project, an iron and vanadium extraction venture.

Oil and gas activity in Saddle Hills County has started to pick up, and there is still growth in gas plants. Pipeline activity, especially by TransCanada, is expected to draw a significant number of workers to the county. In anticipation of additional pressure on mobility services in the county, Saddle Hills and TELUS have entered into a cost-sharing (50/50) agreement to build new cellular towers in the county.

The Other Industries segment (14.8%) of the chart shown in Figure 40 includes industries that individually contribute between 3.9% and 0.3% to the category.⁵³ The region is spread over a vast geographic area comprised of boreal forest, lakes, and plains in the south.⁵⁴

⁵² Comprised of businesses primarily engaged in repairing and maintenance on motor vehicles, machinery, and other products; providing personal care, funeral, and laundry services; organizing and promoting religious activities; and supporting causes such as grant making and advocacy.

⁵³ Accommodation and food services; wholesale trade; manufacturing; finance and insurance; arts, entertainment and recreation; management of companies and enterprises; information and cultural industries; educational services; public administration; and utilities.

⁵⁴ PREDA website. Accessed 15 February 2017.

Table 21 – PREDA Number of Businesses (with employees) by Industry

Industry	Businesses	Percent (%)
Construction	1,356	16.3
Other services (except public administration)	910	10.9
Professional, scientific and technical services	851	10.2
Mining, quarrying, and oil and gas extraction	817	9.8
Transportation and warehousing	765	9.2
Retail trade	653	7.8
Agriculture, forestry, fishing, and hunting	609	7.3
Healthcare and social assistance	387	4.6
Administrative and support, waste management and remediation	375	4.5
Real estate and rental and leasing	372	4.5

Source: Calculations based on dataset provided by Alberta Economic Development & Trade, Economic Information & Analytics, Feb. 13, 2017

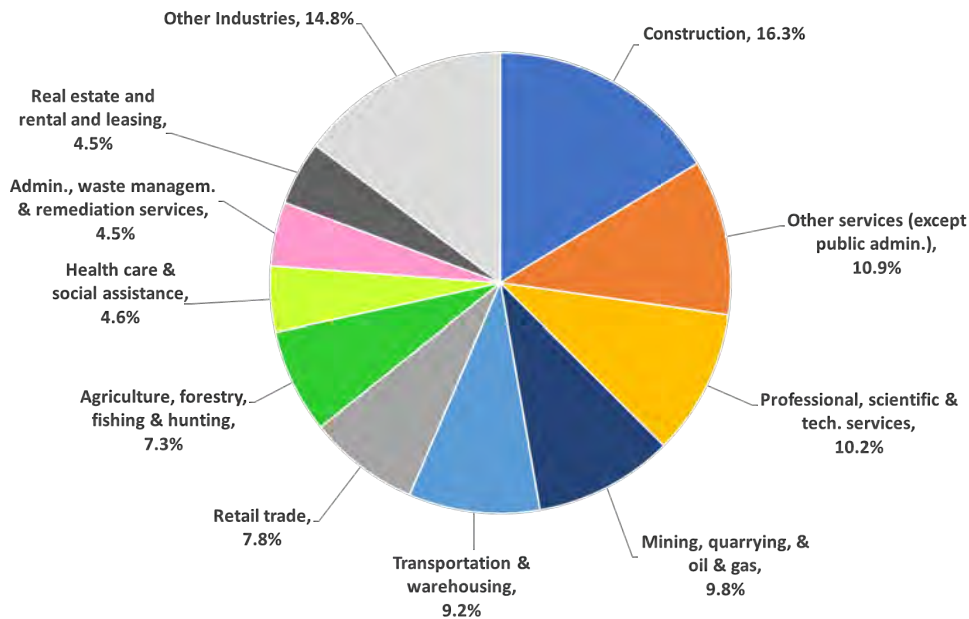


Figure 40 – PREDA Industry Mix (based on Business Count)

8.2 Municipal, First Nations and Métis Settlement Broadband Interests

Communities within PREDA are at different stages in recognizing the importance of broadband services and connectivity to economic diversification, municipal sustainability, regional competitiveness, public service delivery, and quality of life⁵⁵.

The councils of five municipalities (Birch Hills County, Saddle Hills County, Municipal District of Spirit River, Town of Spirit River and Village of Rycroft, also known as the G5) have been working for years on matters of regional needs and inter-municipal cooperation. Of the projects the G5 municipalities are working on, the most prominent one is the Central Peace Health Centre, which is under construction in Spirit River. The Centre was funded and constructed by the G5 to provide increased medical and dental services as well as certainty about the long-term availability of these services in the Central Peace area. Future plans for the building include fibre deployment and, potentially, a point-of-presence (POP). Rycroft is planning to provision FTTP in conjunction with their upcoming curb and gutter project (2017). Potentially, a community fibre project would see Rycroft and Spirit River leverage the construction of a new water pipeline between the two communities to bring fibre to their communities.

Valleyview is pursuing fibre optic infrastructure in their community. A fibre broadband plan will be part of the Town's next Economic Development Plan.

Table 22 identifies the awareness and current state of municipal involvement and interest in broadband.

⁵⁵ Calgary Regional Partnership, 3.

Table 22 – PREDA Involvement & Interest in Broadband

Gung Ho	Interested – May Be	Need Help – Too Small
Donnelly Rycroft Saddle Hills Smoky River Spirit River, MD Valleyview	Birch Hills Fairview, MD Grande Cache Peace River, MD	McLennan All villages
Too Expensive	Unknown	Status Quo
	Beaverlodge Fox Creek Greenview Grimshaw Manning Northern Lights Northern Sunrise Sexsmith Valleyview Wembley	Clear Hills Fairview, Town (Axia) Grande Prairie, City Grande Prairie, County (way ahead in the deployment of tower infrastructure and fibre) Peace River, Town (TELUS Fibre)

8.3 Current Service Providers, Services, and Infrastructure

8.3.1 Fixed Wireless-based

Current Internet service providers using fixed wireless technology in the PREDA region include the following. **Appendix B** provides the details of their service offerings (Internet only – no bundling unless otherwise stated) and geographic coverage. Coverage maps are those that were available on their websites at the time of the writing of this report.

- AB North,
- Arrow Technology Group,
- Corridor Communications (CCI),
- Crossover Networks,
- First Broadband,
- GPNetworks (fixed wireless) and GPOptiX (fibre),
- I Want Wireless,
- Mighty Peace Wireless,
- NexxCom Technologies,
- Peace River Internet Service Society (PRiS),
- Slave Lake Communications,
- Whitecourt Communications,
- Wispernet.ca,
- XplorNet (fixed wireless and satellite-based), and

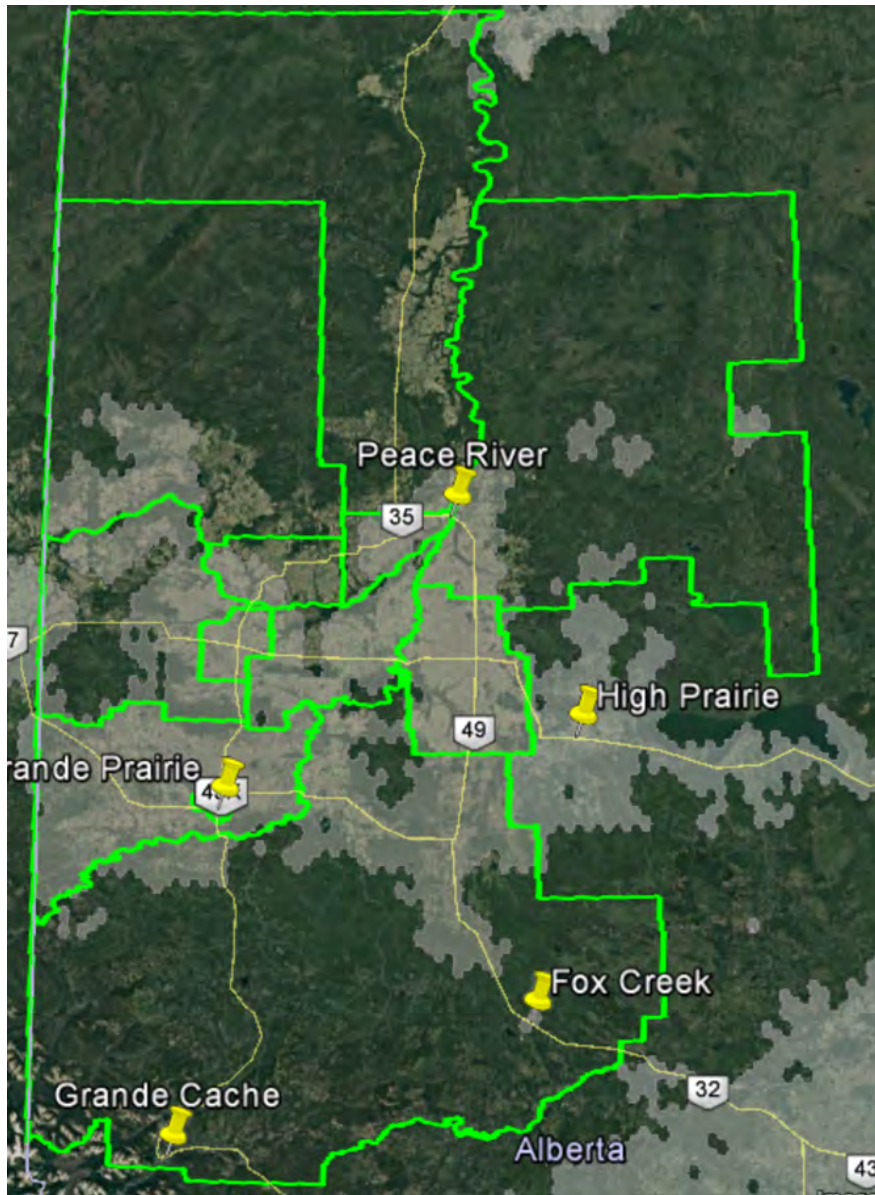
- Xtremewave Services.

GPNetworks' sister company, GPOptiX has begun rolling out an FTTP network in the City of Grande Prairie and surrounding area.

The Peace River Internet Society (PRiS), a not-for-profit organization, was formed in 1994 as a mean to "bridging the wireless divide" that then existed in the Dawson Creek, British Columbia, area. PRiS has placed wireless Internet equipment on three towers in the Saddle Hills Utility Communications Network (UTN) and plans to co-locate on the remaining six towers in the future. In June 2016, PRiS received funding from the Canadian Internet Registration Authority (CIRA) to equip three towers in Saddle Hills County.

According to the CRTC website⁵⁶, minimal 5 Mb/s down (toward the end-client) by 1 Mb/s up (from the end-client to the network) service is available north to the Peace River area, in select areas west to the B.C. border, and to the communities along highway 2. There is not any service in the Grande Cache area and coverage is very limited along highway 40 to Grande Cache. A combined view of the fixed wireless coverage is shown in Figure 41 (light gray area).

⁵⁶ <http://crtc.gc.ca/eng/internet/internetcanada.htm>

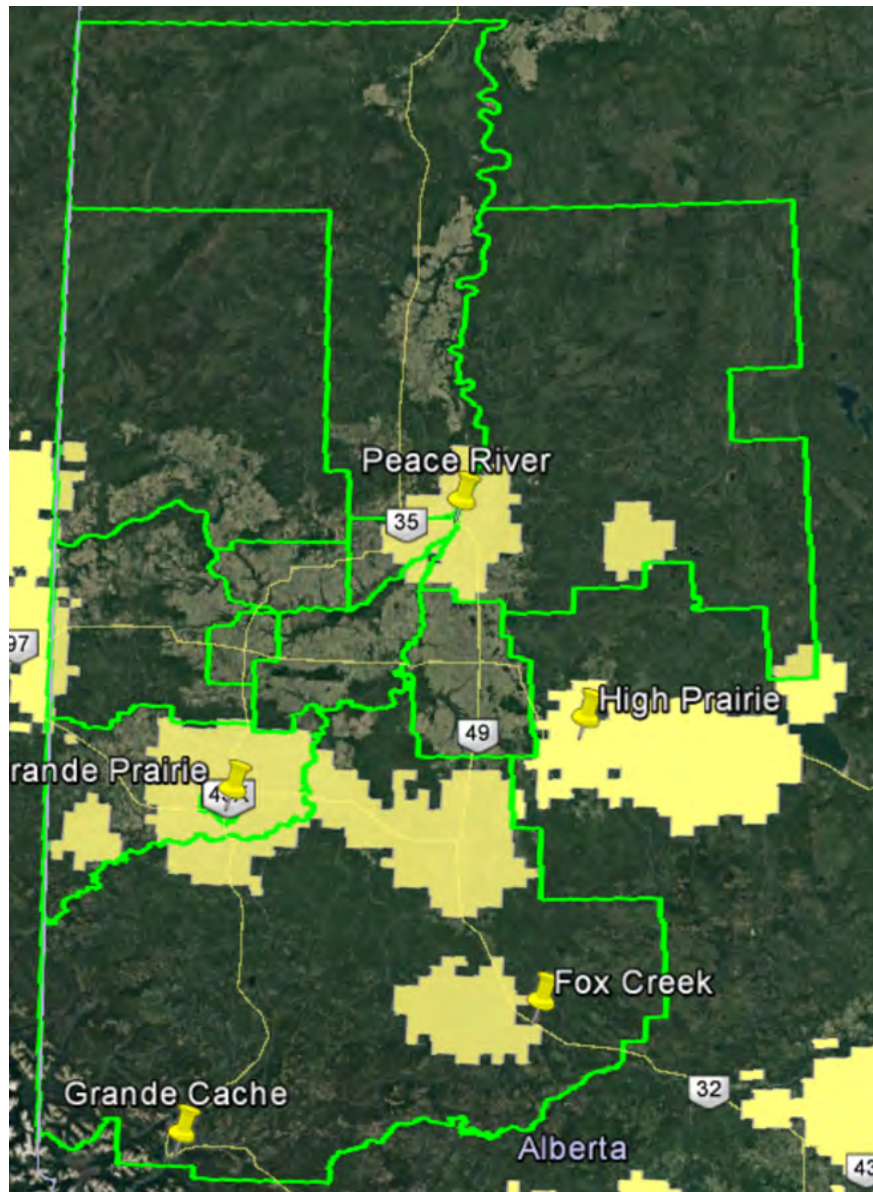


Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 41 – PREDA Fixed Wireless Coverage

8.3.2 Mobility

Shown as yellow areas in Figure 42, mobility data services are available from TELUS/Bell and Rogers, however, coverage gaps are noticeable **Appendix C** provides the coverage maps for each of the providers of mobility services. As discussed earlier Bell, TELUS, and Rogers are now using cellular towers and SmartHubs to provide at-home Internet services.

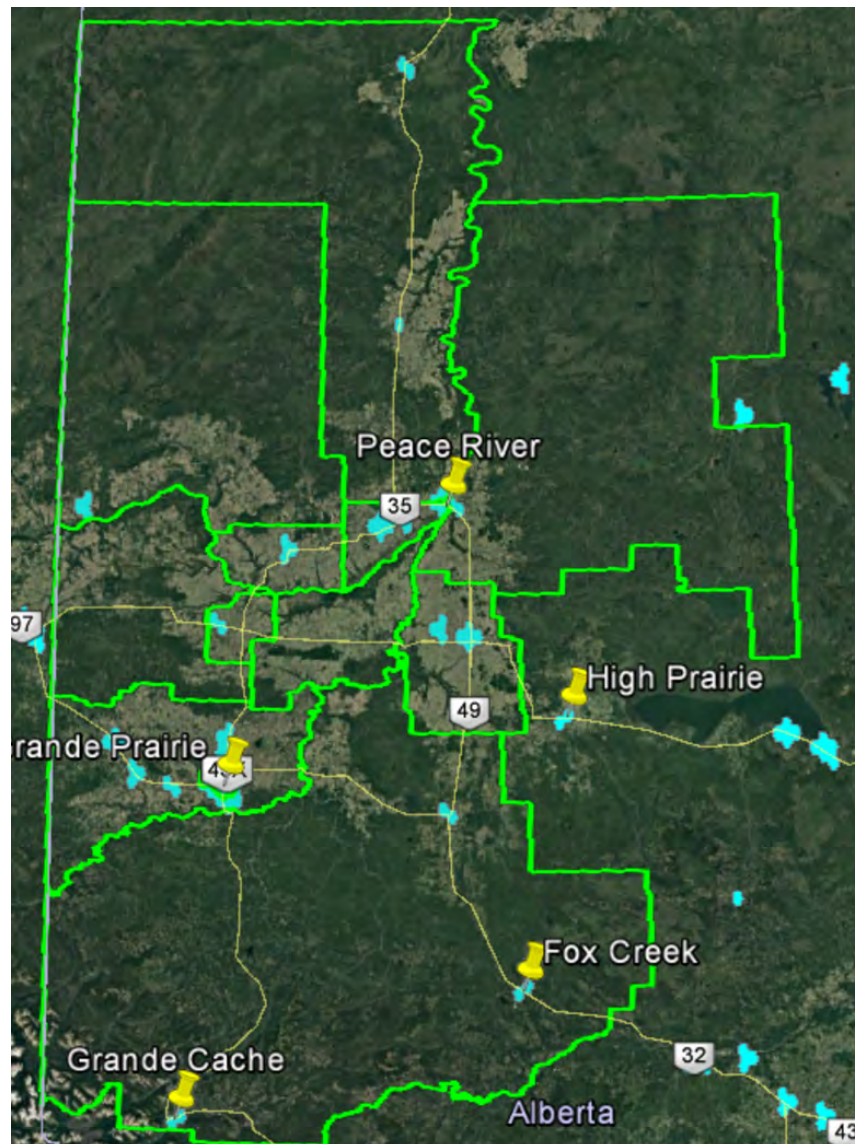


Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 42 – PREDA Mobility Data Coverage

8.3.3 Wireline-based – DSL

Digital Subscriber Line (DSL) refers to a group of last mile technologies that are used by wireline-based service providers such as TELUS in Alberta to provide broadband services over twisted-pair copper wiring. The local copper wire loop is a remnant from the days when (and how) the telephone company connected residential and business premises to the telephone company's network for the purposes of providing local and long distance telephone services (and dial-up Internet services). Since DSL's performance degrades with distance, the technology is only deployed in urban areas where access distances are less than about two miles. In Figure 43, areas served via DSL technologies are shown in blue.

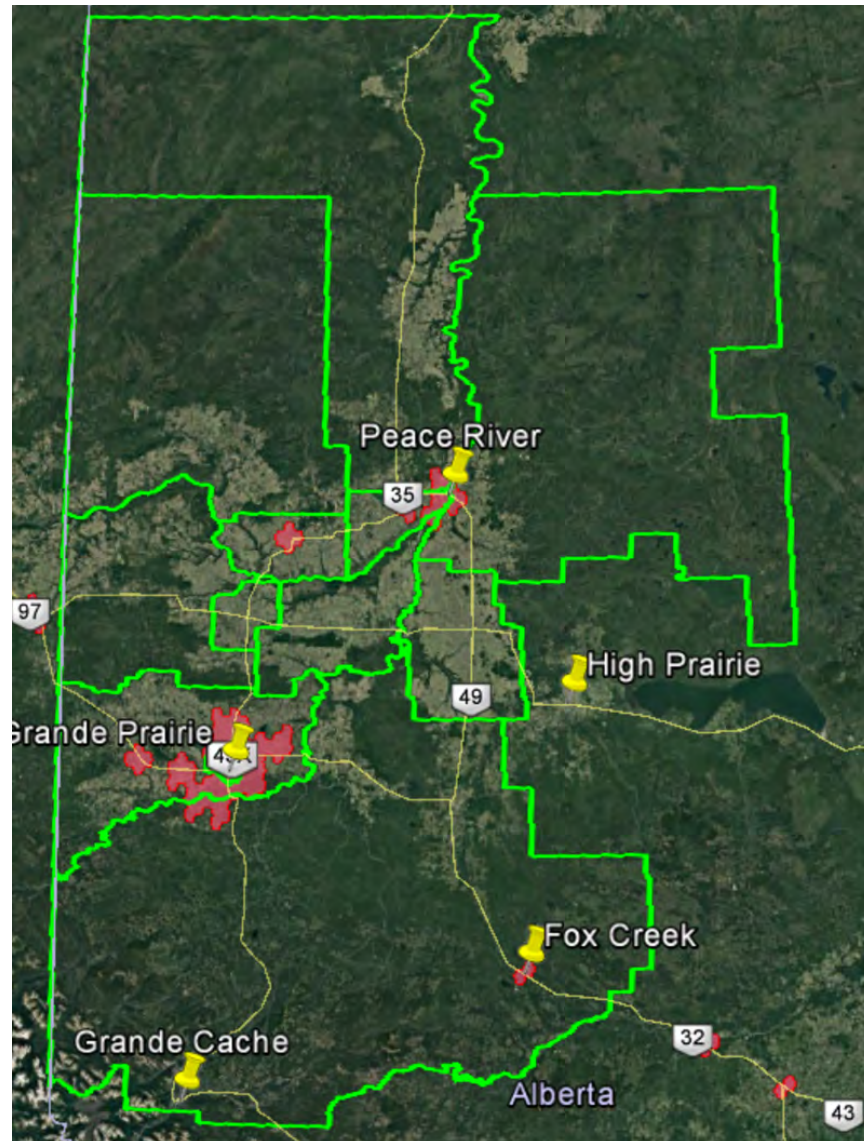


Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 43 – PREDA DSL Coverage

8.3.4 Wireline-based – Coaxial Cable

Eastlink, originally a television broadcast company, uses coaxial cable and modern cable modem technology to provide broadband services in the PREDA region (red areas in Figure 44). The cable companies currently use the Data Over Cable Service Interface Specification (DOCSIS) 3.0 standard to achieve broadband speeds of 100 Mb/s or more over coaxial cable. According to the Cybera, *State of Alberta Infrastructure Report*, “The next-generation DOCSIS 3.1 standard is expected to revolutionize hybrid fibre-coaxial cable connections by providing up to 10Gb/s download and 1 Gb/s upload network throughput and significant improvements in latency.”⁵⁷



Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 44 – PREDA Coaxial Cable Coverage

⁵⁷ Cybera, 35.

Maximum advertised wireline offerings are shown in **Appendix B**. As these are “up to” bit rates, during high usage periods, actual bit rates will be less – Eastlink more so than TELUS due to the way the aggregation is implemented. In both cases, the offerings are highly asymmetric – upload and download bit rates differ significantly.

8.3.5 Internet Service Provider WiFi

TELUS and Bell WiFi services are available in the PREDA region. As shown in Table 23, TELUS has multiple sites in the City of Grande Prairie and Town of Peace River. Wi-Fi services are **not** available in Grande Cache. As well the City of Grande Prairie provides free public WiFi at public facilities for Grande Prairie residents.

Table 23 – PREDA WiFi Availability

City/Town	TELUS	Bell
Fairview	2	0
Grande Prairie	Multiple	7
Peace River	Multiple	2
Valleyview	0	1

8.3.6 Axia Fibre

Axia NetMedia provides retail services to corporate clients and, through AxiaConnect (Axia), provides retail Internet services in smaller communities (e.g., Town of Fairview – fall 2017). In exchange for access to a community’s right-of-ways, Axia will invest in Fibre to the Premise (FTTP) if a community can demonstrate that at least 30% of its residences and businesses have an interest in purchasing Internet services from Axia once the “closed access” network is built.

8.4 Backhaul Availability

8.4.1 Alberta SuperNet

The extent of the SuperNet within the PREDA region is shown in Figure 45. The green lines represent the Bell-operated Base Area Network (BAN) portion while the blue lines represent the Axia-operated Extended Area Network (EAN) segments. A more general discussion about the SuperNet is presented in **Appendix D**. As can be seen on map in Figure 45, an EAN segment serves the community of Grande Cache. This is the only middle mile service for the community, meaning the community does not have resiliency/redundancy, which is critical for emergency services.

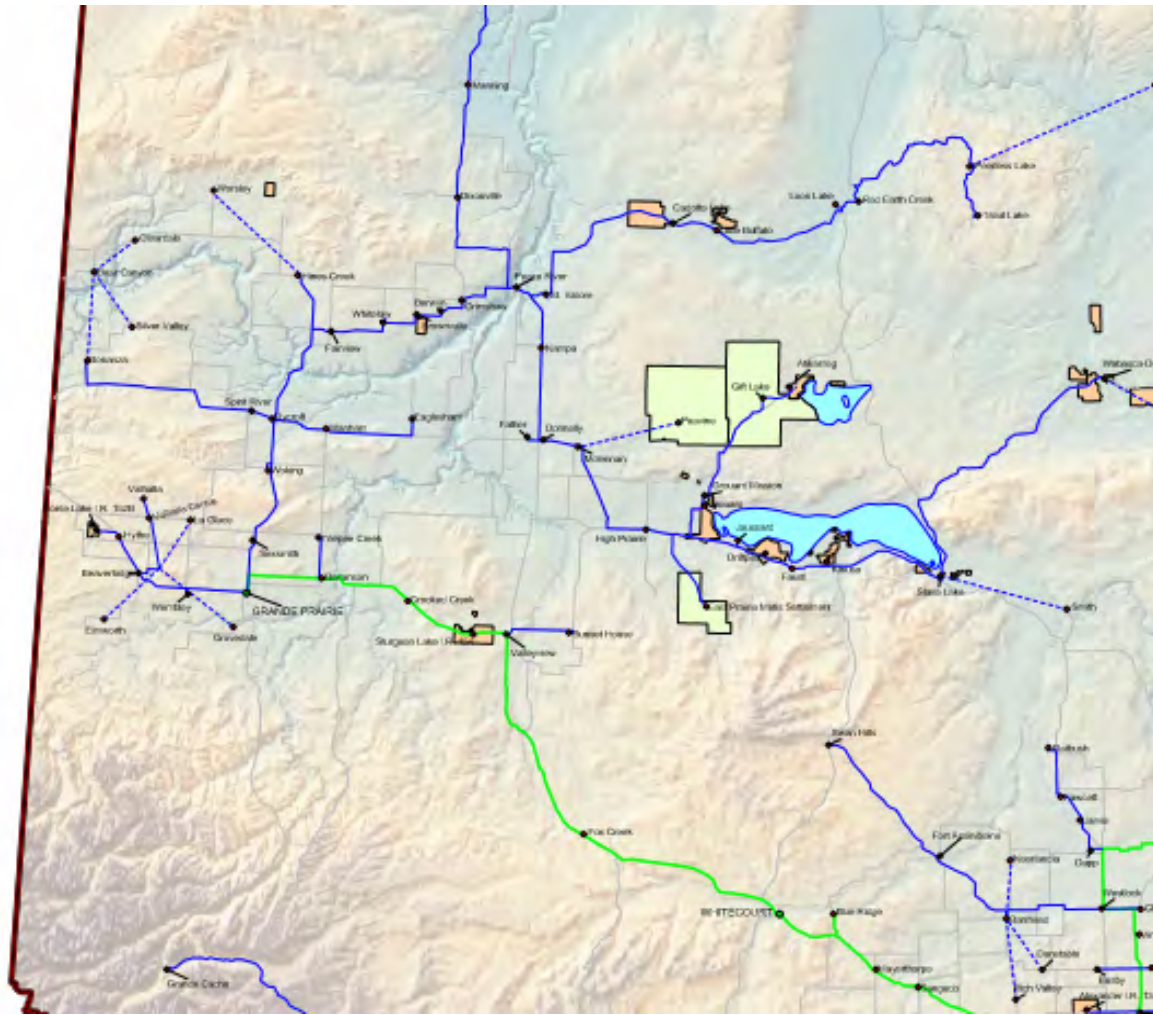


Figure 45 – PREDA SuperNet Infrastructure

8.4.2 Shaw Wholesale

Given the uncertainty associated with the next iteration of the SuperNet contract by June 30, 2018, municipalities, First Nations, and Métis Settlements requiring access to fibre transport for backhaul to Edmonton may want to approach Shaw, Bell, or TELUS.

8.4.3 TELUS Wholesale

Except under a non-disclosure agreement, TELUS does not provide maps of fibre assets.

8.5 Existing Infrastructure

8.5.1 Towers and Other Tall Structures

When planning a broadband build-out it is important to “build on what is already in place.” The key inquiry for the current state analysis is what assets does the community have that can be provided at little or no incremental cost that improve the economics of the broadband deployment and operations? Assets include existing towers, fibre and community networks, which the community might be using for communications or asset management. Existing and possible access to tall structures or buildings are also important to inventory for potential placement of wireless equipment.

Clear Hills County, the MD of Peace River, and Saddle Hills County received grant funding to expand high speed Internet access to unserved areas and address gaps in coverage from Alberta Agriculture and Forestry's Final Mile Rural Community Program in the 2012/2013 timeframe. Over the past decade, the County of Grande Prairie built over 300 county-sponsored towers and partnered with GPNetworks and other local ISPs to provide Internet services to its residents and businesses. Table 24 shows existing MD- and county-owned tower infrastructure.

Table 24 – PREDA Towers

	Towers	Details
Clear Hills	6	Unconfirmed
Grande Prairie	300+	
Northern Lights	0	
Northern Sunrise	3	At water fill stations, 50'
Peace 135	4	3, 120' 1, 80'
Saddle Hills	9	7, 250' 2, 200' possibly 2 more to be built
Smoky River	1	60' shop tower

Other tall structures that could be leveraged include Northern Sunrise County - St. Isidore Fire Hall hose tower and the Nampa Seed Cleaning Plant (owned by county), which has 60' legs. The County of Spirit River has three grain elevators.

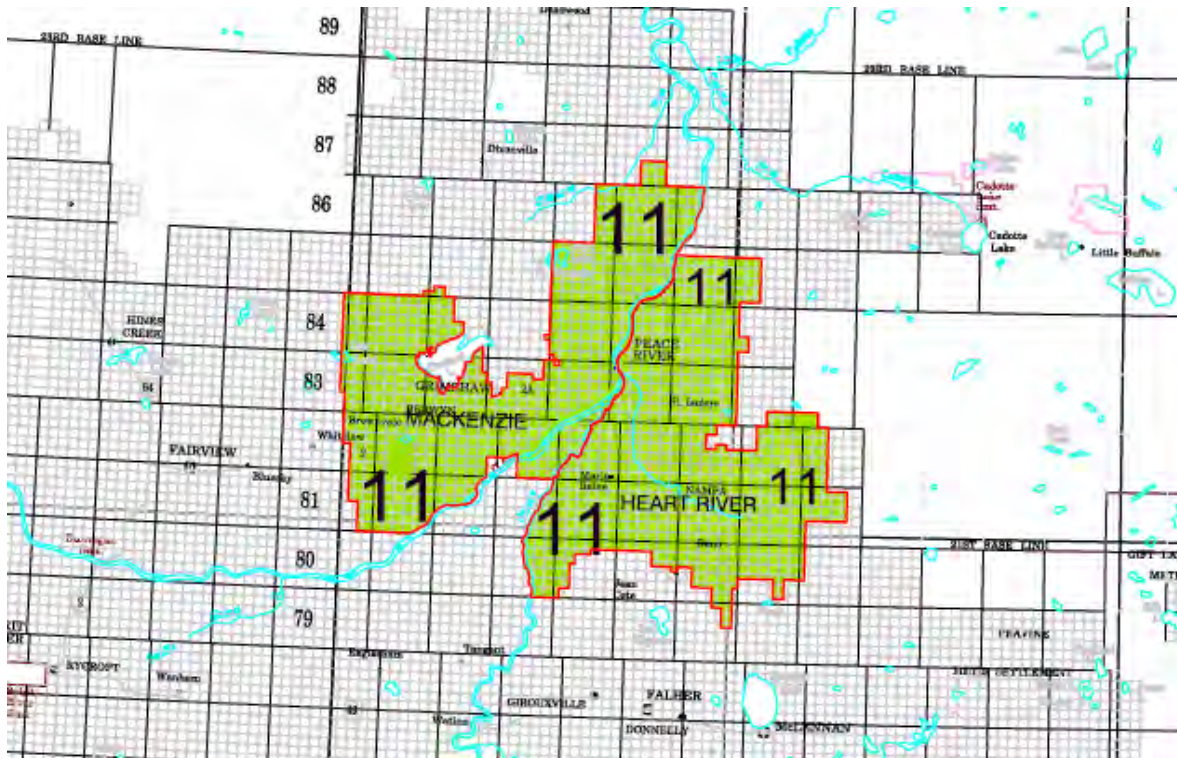
8.5.2 Utility Infrastructure

The existing overhead and underground transmission and distribution lines of electric utility companies (ATCO Electric) and natural gas co-operatives (co-ops) present deployment options for community broadband builds - access to and installing fibre cables to travel along utility poles, in ducts and conduit, and along rights-of-way can significantly improve the economics of broadband service expansion projects and network deployments. Inquiries about the availability of communications spaces on utility providers' poles and where multi-party trench agreements exist will be made during the preliminary infrastructure design phase of a broadband network.

8.5.2.1 Rural Electrification Associations (REAs)

REAs are member-owned electric distribution systems that provide electricity service to farm members within a specific geographic boundary. Each REA has an elected board of directors that is responsible for the business operations of the REA. Construction, operations, and maintenance is done by ATCO Electric (through contracts with the REAs) for following REAs within the PREDA region: Figure 46 shows their coverage.

- Heart River REA Ltd. (Peace River)
- MacKenzie REA Ltd. (Grimshaw)



Source: Rural Electrification Associations Service Areas, November 2016

Figure 46 – PREDA REA Service Areas

Appendix E shows ATCO Electric’s and Fortis Alberta’s respective service areas in northern Alberta. REA and distribution company systems are intertwined in the REA service area as shown in Figure 46, and they work together to ensure there is reliable service and no duplication of distribution lines and service.⁵⁸ In Alberta, most rural areas are radial networks. A radial distribution line may serve both distribution entity and REA customers and different parts of the same line may be owned by one or the other party.

8.5.2.2 Gas Co-ops – Zone 1

In the 1960s, non-profit gas co-ops were formed to supply natural gas to rural Alberta - franchise areas were designated. Several gas co-ops operate in the PREDA region as shown in Figure 47, namely:

- Birch Hills Gas Co-op Ltd (Wanham)
- Central Peace Natural Gas Co-op Ltd. (Spirit River)
- East Peace Gas Co-op Ltd. (Donnelly)
- East Smoky Gas Co-op Ltd. (Crooked Creek – near DeBolt)
- Horse Lake Indian Band (Hythe)
- North Peace Gas Co-op Ltd. (Fairview)
- Paddle Prairie Gas Co-op Ltd.
- Town of Manning
- Town of Valleyview

⁵⁸ AUC.



Source: Federation of Alberta Gas Co-ops, <http://www.fedgas.com/Map>, accessed Feb. 1, 2017.

Figure 47 – PREDA Gas Co-ops

In 2010, the East Smoky Gas Co-op Ltd. received a grant of \$500,000 from the *Rural Connections: Community Broadband Infrastructure Pilot Program* to assist in the deployment of a wireless broadband network and allow for automated meter readings within the co-op's franchise area including the DeBolt, Little Smoky, and Fox Creek areas.

There are several rural water co-operatives operating in the PREDA area, as shown in Table 25. **Appendix H** provides their approximate locations.

Table 25 – PREDA Water Co-operatives

Water Co-op	Vicinity/Service Area	Owner/Operator
5 co-ops: East Grimshaw, Griffin Creek, Shaftsbury, Weberville, West Grimshaw	Grimshaw	Members
East Peace River	Peace River (communities of Harmon Valley, St. Isadore, Three Creeks)	Northern Sunrise/NEW Water Ltd.
Fairview Rural Water Project	Fairview	Members
Little Burnt River	Fairview (North of Whitelaw)	Members
Northern Lights	MD of Northern Lights	MD
Smoky River	Smoky River	Members

8.5.3 First Nations Fibre Infrastructure

First Nations Technical Services Advisory Group (TSAG) is a non-profit organization established by the Chiefs of Alberta to provide technical support and training to First Nations in the treaty 6, 7, and 8 regions. In 2008, TSAG partnered with Health Canada to develop the network components (fibre connections) at First Nations health centres to support First Nations telemedicine. With Health Canada funding and TSAG project management, community fibre networks connections were made to the Alberta SuperNet points-of-presence on each or close to each First Nations in 2011. Upon completion, each First Nations became the owner of its local fibre network. As shown in Figure 48, First Nations’ schools, health centres, band administration offices, and water treatment plants are now connected.

TSAG operates a state-of-the-art Network Operations Centre (NOC). The NOC’s real time network monitoring ensures availability, network security/SPAM filtering, telehealth bridge management, and support, and applications (high speed connectivity and remote water monitoring system for water treatment plants, OneHealth.ca, and FirstNationsTH.ca). Onehealth.ca is a national health portal that provides information and services to health care professionals working in First Nations communities. FirstNationsTH.ca – Telehealth provides education and travel-free patient and health care assessments via video-conferencing.

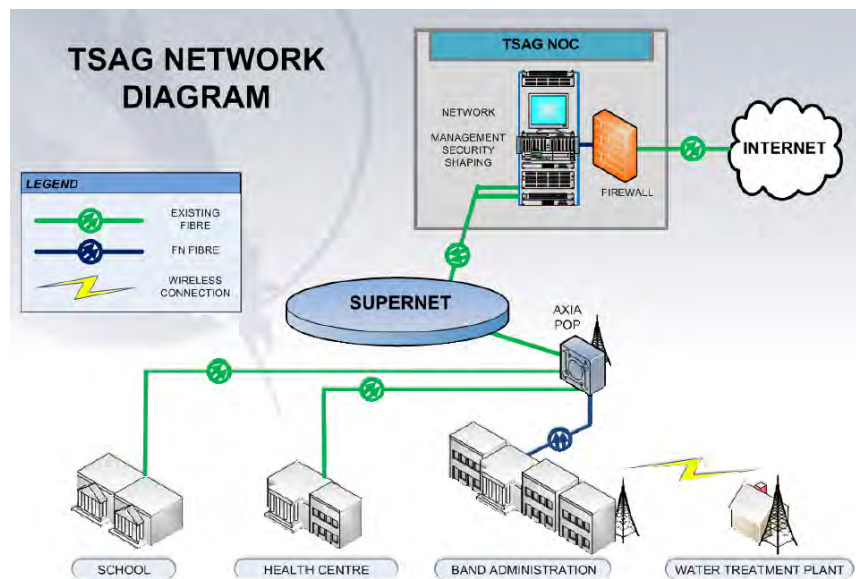


Figure 48 – TSAG Network Diagram

8.6 Planned Infrastructure

8.6.1 Major Projects

The PREDA region has several private and public sector capital projects planned. Where possible these projects may be leveraged to the reduce costs associated with the deployment of broadband infrastructure. Figure 49 shows the capital projects in the within the County of Grande Prairie.⁵⁹ Besides the projects show in this figure, other major projects in the PREDA region include a new regional hospital, new schools, a seniors' complex, highway and sewer upgrades, and the Canfor sawmill modernization in the City of Grande Prairie (map in **Appendix F**).

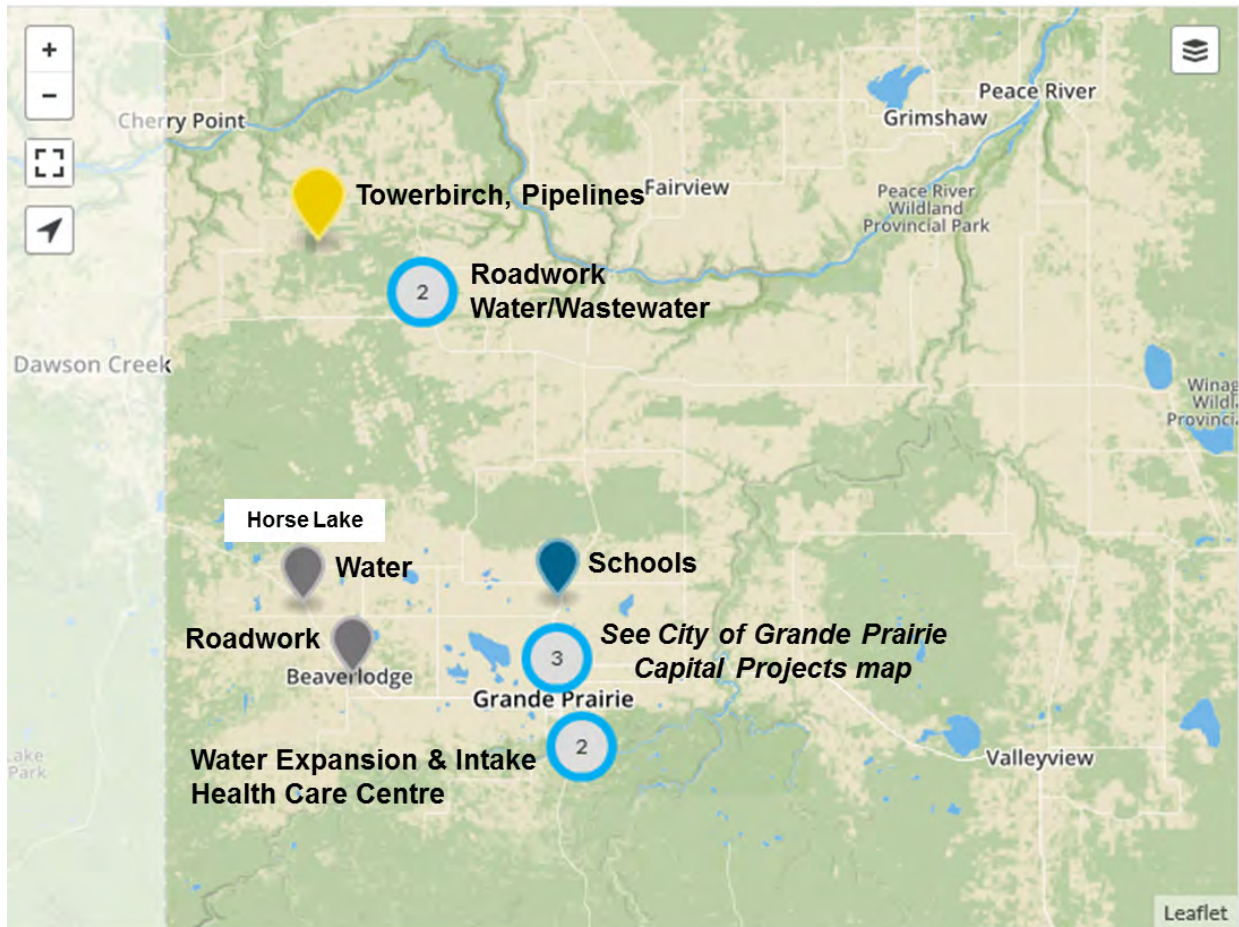


Figure 49 – PREDA Major Projects – County of Grande Prairie

8.6.2 Electric Transmission Development Plans

Industrial load in the PREDA region (within the Alberta Electric System Operator's (AESO's) Northwest Planning region) primarily comes from the forestry industry as well as oil and gas developments, including recent oilsands development in the Peace River area.⁶⁰ The Northwest Planning region, which is primarily served by a 240 kV network that moves power into the region from generation in the Wabamun area and from cogeneration in the northeast. Local load is supplied by a 144 kV

⁵⁹ GoA, Provincial Major Projects List.

⁶⁰ AESO, p. 47.

network from the 240 kV substations while a 69/72 kV network serves some of the load in the Swan Hills, High Prairie and Peace River areas, as seen in Figure 50.

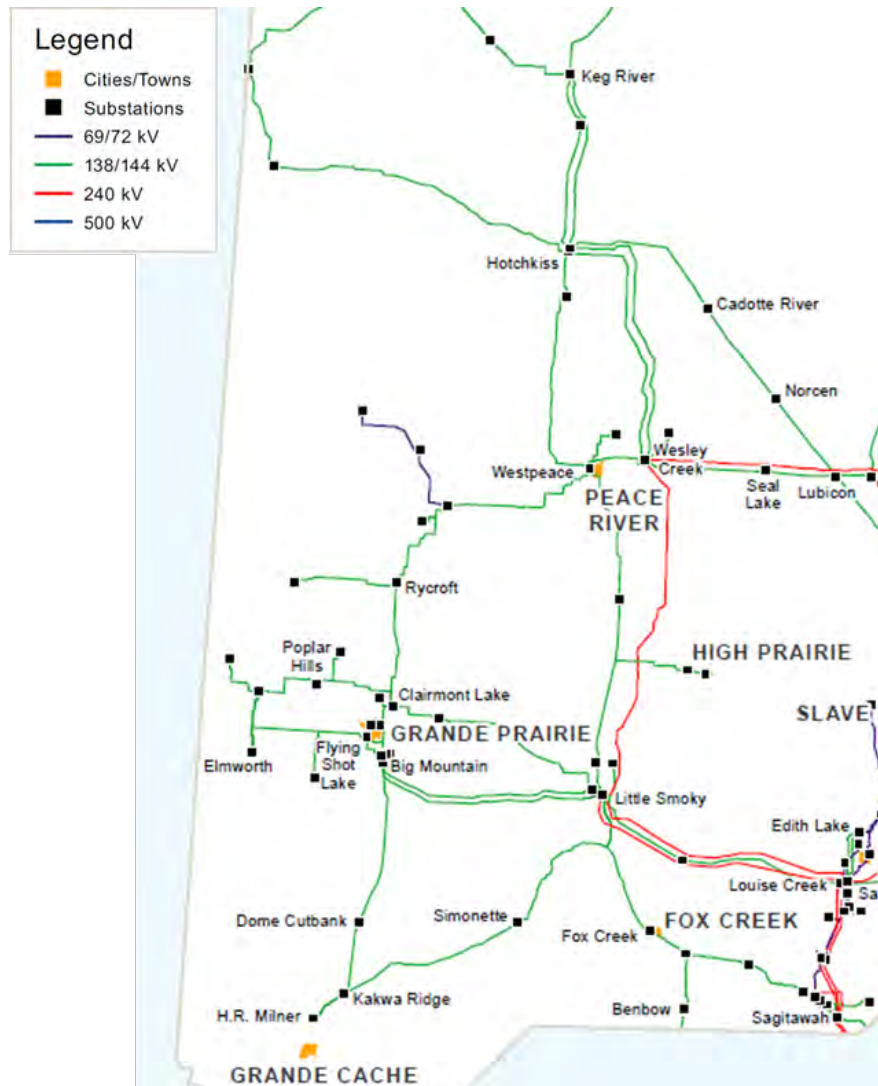


Figure 50 – PREDA Existing Electricity Transmission System

With large generation development and oilsands load growth near Peace River, 240 kV and 138 kV enhancements will likely be required in the future. Continued strong load growth in and around the Grande Prairie and Fox Creek areas will require the development of a 240 kV supply to those areas. Load growth and the potential for major generation development in the Grande Cache area is expected to drive 240 kV and 138 kV enhancements in that area. Specific proposed transmission developments relevant to potential fibre deployment include the following, over three planning horizons: near-term (to 2020); medium term (to 2025); or long-term (to 2035) are shown in the Table 26:

Table 26 – Proposed Transmission Developments

Peace River – North	<ul style="list-style-type: none"> • New single-circuit 240 kV line Wesley Creek (east of Peace River) to Little Smoky (near Valleyview) (<i>near-term</i>) • Rebuild 144 kV line from Wesley Creek substation to West Peace River substation to a higher capacity (<i>near-term</i>) • New 144 kV lines east of Peace River: Cranberry Lake to Nipisi; Seal Lake to Norcen (<i>long-term</i>)
Swan Hills – High Prairie	<ul style="list-style-type: none"> • Rebuild 144 kV line from Louise Creek to Sarah Lake to a higher capacity (<i>long-term</i>)
Fox Creek - Valleyview	<ul style="list-style-type: none"> • New 240 kV lines from Little Smoky to Fox Creek (ATCO) (<i>near-term</i>) • New 240 kV lines from Fox Creek to Bickerdike near Edson (<i>near-term</i>) • Additional 240 kV circuit from Little Smoky to Fox Creek and onto Bickerdike (<i>long-term</i>)
Grande Prairie – Grande Cache	<ul style="list-style-type: none"> • New 240 kV line from Little Smoky to Big Mountain south of Grande Prairie (<i>near-term</i>) • New 144 kV line from Big Mountain to Poplar Hill northwest of Grande Prairie (<i>near-term</i>) • Second line 240 kV from Little Smoky to Big Mountain south of Grande Prairie (<i>medium-term</i>) • New 144 kV line from Big Mountain to Clairmont Lake or other suitable location near Clairmont Lake (<i>long-term</i>) • For forecast new generation development at existing H.R. Milner site in the Grande Cache area (<i>long-term</i>): <ul style="list-style-type: none"> ▪ Single-circuit 240 kV line from H.R. Milner to Big Mountain and from H.R. Milner to Fox Creek ▪ Local 144 kV loop from H.R. Milner by building a new 144 kV line to connect to new substation north of Dome Cutbank substation ▪ 144 kV line from Fox Creek to Simonette

8.6.3 Municipal Capital and Civil Works Projects

Leveraging civil infrastructure projects can reduce broadband deployment costs by 75%. Given civil infrastructure costs typically account for 70% of buried deployment costs, this is significant. Capital projects that involve trenching or erecting towers or poles such as during the development of new subdivisions, road construction or the construction or rehabilitation of water or sewer lines are typical projects that can improve the economics of community broadband projects.

The County of Grande Prairie received approximately \$9.1 million from the *Alberta Municipal Water/Wastewater Partnership (AMWWP)* for the sewage discharge construction in the hamlet of Clairmont. The Ridgevalley water treatment plant in the MD of Greenview will be upgraded, expanded, and a new supply well will be drilled with AMWWP funds (\$2.1 million). With the MD's additional funding the total is now \$4.2M (2016-17 Capital Budget).

Wembley received funding from the *Alberta Community Partnership (APC)* for the preliminary design and \$1.8 million from the *Water for Life* program for detailed design work for Phase 1 of the West Corridor Water Transmission Line. Phase 1 will link Beaverlodge and Hythe to the City of Grande Prairie's water supply system (total cost of project \$22.6 million)

The Federal *Small Communities Fund* (part of the New Building Canada Fund) for infrastructure projects, now includes a "Connectivity and Broadband" category. 2016 approved non-broadband projects within the PREDA region include (figures shown are the Total Eligible Project Cost - Federal, Provincial, and Municipal).

- Beaverlodge – Water treatment plant upgrades \$5.5 million;
- Fox Creek – Water treatment plant upgrades, raw water wells, and raw water pipeline construction \$15.5 million;

- Grande Cache – Water treatment plant upgrade \$12.8 million;
- Town of Peace River – Sanitary upgrades \$11.5;
- County of Grande Prairie – Trunk sewer and Clairmont lagoon discharge piping \$26.3 million; and
- County of Northern Lights – Dixonville water distribution system rehabilitation \$1.5 million.

The County of Grande Prairie successfully applied to the Federal *Clean Water and Wastewater Fund (CWWF)* for the West Corridor Water Transmission Line, Phase 1 – Wembley \$9.1 million. Northern Sunrise County also received funding for its Nampa regional water line, Phase 3, Stage 2, from St. Isidore to Nampa. The amount received was \$3.5 million.

On February 22, 2017, the MD of Greenview, the County of Grande Prairie, and the City of Grande Prairie announced the Tri-Municipal Industrial Project, a large scale industrial development south of Grovedale. Using the Montney-Duvernay shale natural gas play, the project is expected to attract investors interested in processing. Table 27 shows this project as well as other capital and civil works projects that the municipalities self-reported.

Table 27 – PREDA Municipal Capital & Civil Works Projects

City	
Grande Prairie	<i>No Response - see what's on website</i>
Towns	
Beaverlodge	<i>No Response - see what's on website</i>
Fairview	<ul style="list-style-type: none"> • Highway 732 (113 street) rehabilitation • 102 Avenue water, sewer, road updating
Falher	Lift stations with SCADA at the hamlets of Guy and Jean Côté
Fox Creek	<ul style="list-style-type: none"> • Multiplex facility (partners: Fox Creek and MD of Greenview) • Water treatment plant – commencing development
Grande Cache	<ul style="list-style-type: none"> • New water treatment plant under construction • Road asphaltting (Spring 2017)
Grimshaw	Some water service replacement involving individual digs
Manning	<i>No Response - see what's on website</i>
McLennan	Road rehabilitation (Spring 2017)
Peace River	Replacement sewer lines
Sexsmith	Nothing planned
Spirit River	<i>Response pending</i>
Valleyview	<i>No Response - see what's on website</i>
Wembley	<i>No Response - see what's on website</i>

Villages	
Berwyn	<i>No Response - check</i>
Donnelly	Nothing planned
Girouxville	<i>No Response</i>
Hines Creek	Upgrade to water meters and repairs to arena
Hythe	Seniors housing facility (complete by March 2018)
Nampa	<i>No Response</i>
Rycroft	Paving, curb and gutter
Counties/MDs	
Birch Hills	<i>No Response</i>
Clear Hills	Nothing planned
Fairview	<ul style="list-style-type: none"> • Possible new water transmission line from Whitelaw to Bluesky (late 2017 – 2018) • Road work: Realignment of road 812; paving a portion of road 820 • Bridge replacement • Asphalt overlay Bluesky (2017)
Grande Prairie	<ul style="list-style-type: none"> • Clairmont Heights, parkway to downtown core (spring 2017) • Water and lift station • West Corridor Regional water transmission line (connecting through County and into town of Wembley)
Greenview	<ul style="list-style-type: none"> • Grovedale – water treatment plant • Ridgevalley – Iosegun Lake road paving and water treatment plant upgrade • Potential Valleyview rural water line, west to Sturgeon Lake Cree Nation boundary • Tri-Municipal large scale industrial development south of Grovedale (partnership among the MD of Greenview, the County of Grande Prairie, and the City of Grande Prairie)
Northern Lights	<ul style="list-style-type: none"> • Rural water line (2017) likely to be bored not trenched • Rebuilding of roads
Northern Sunrise	Water line between St. Isidore and Nampa (tentative)
Peace 135	Nothing planned for 2017 or 2018
Saddle Hills	<ul style="list-style-type: none"> • Construction of 2 communications tower (tentative – spring 2018) • Development of 55 residential lots in the hamlet of Woking⁶¹
Smoky River	<ul style="list-style-type: none"> • Lift station with SCADA • Road construction and bridge repairs (tentative)
Spirit River	Road reconstruction

First Nations and Métis Settlements were not queried.

⁶¹ Saddle Hills County, Request for Proposals, Saddle Hills County Municipal Development Plan and Land Use Bylaw, Schedule A, 1 March 2017, p. 13.

9 Regional Economic Development Initiative Association of Northwest Alberta (REDI)

9.1 Regional Profile

As shown in Table 28, the current state data collection and analysis focuses on two towns, Mackenzie County, and four First Nations within the Regional Economic Development Initiative Association of Northwest Alberta (REDI) region. A map of the Growth Alberta region is shown in Figure 51. The region is geographically located in the northwestern corner of Alberta. Its land supports boreal forest while the flat portions are suitable for agriculture in this remote part of Alberta. There are many active grain farmers in the La Crete area. The La Crete area has a unique growing climate, with extended daylight hours during the summer growing season, which result in improved crop yields.

Table 28 – REDI Communities

Towns	Counties	First Nations
High Level Rainbow Lake	Mackenzie	Beaver* Dene Tha’* Little Red River* Tallcree*

*Non-REDA



Figure 51 – REDI Region

REDI

The region is home to approximately 21,000 residents. Table 29 provides a breakdown by municipal (rural and urban), and First Nations as well as five-year population growth trends and compounded annual growth rates (CAGRs). Twenty-eight percent of the region's residents live on First Nations reserves.

Although the 2016 StatsCan Census indicates that the population of Mackenzie has increased slightly (2.2%), the County's own 2015 Census shows an increase of 7.5% over the five-year period of 2011 to 2015.⁶² The hamlet with the largest population is La Crete (3,376 people) and represents almost 30% of the population within the County. Realizing the rich farmland in the La Crete area, a large number of Mennonites relocated to the area in the early 1930s. They have large families - household size of 10 to 14 are common and population growth has been described as "intense." Youth find employment within the community and, therefore, stay in La Crete. These factors fuel the demand for housing (50 to 80 houses are built annually), and the price of property in the La Crete area.⁶³

The urban populations of the High Level and Rainbow Lake have decline. Most of the First Nations populations have grown between 2011 and 2016, especially Tall Cree (30%). The Little Red River First Nation is also growing and has a population comparable to High Level.

Table 29 – REDI Population & Population Growth Trends

Municipality	Rural				Urban					First Nations				
	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend		City/Town/Village	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend		Reserve / Settlement	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend	
			(%) & Direction	(%) & Direction				(%) & Direction	(%) & Direction					
Mackenzie, County	11,171	0.4	2.2	▲	High Level Rainbow Lk	3,159 795	-2.8 -1.8	-13.2 -8.6	▼ ▼	Beaver First Dene Tha' Little Red River Tallcree	434 1,680 3,228 484	1.6 -0.6 1.5 4.9	8.2 -3.1 7.7 29.9	▲ ▼ ▲ ▲
Total	11,171					3,954				Total - FN	5,826			

Total Population = **20,941**

Source: Statistics Canada Federal Census 2011 and 2016.

There are 826 businesses (with employees) in the REDI region. As shown in Table 30 and Figure 52, almost 50% of the businesses are involved in three industries: (1) construction; (2) agriculture, forestry, fishing, and hunting; and (3) transportation and warehousing. The North American Industry Classification System (NAICS) was used. Other Industries segment (14.5%) of the chart shown in Figure 52 includes industries that individually contribute between 3.0% and 0.1% to the category.⁶⁴ There is a concern that the Tolko Industries lumber sawmill in the High Level area will close. The provincial plan to protect caribou herds in the area will have a socioeconomic impact as 1.8 million hectares is being proposed for conservation by the end of 2017.

⁶² Mackenzie County, 2015 Municipal Census.

⁶³ Conversation with Larry Neufeld, La Crete and Area Chamber of Commerce, 10 March 2017.

⁶⁴ Real estate and rental and leasing; manufacturing; wholesale trade; finance and insurance; information and cultural industries; educational services; arts, entertainment and recreation; public administration; management of companies and enterprises; and utilities.

Table 30 – REDI Number of Businesses (with employees) by Industry

Industry	Businesses	Percent (%)
Construction	143	17.3
Agriculture, forestry, fishing, and hunting	140	16.9
Transportation and warehousing	112	13.6
Retail trade	90	10.9
Other services (except public administration)	67	8.1
Healthcare and social assistance	34	4.1
Administrative and support, waste management and remediation	34	4.1
Accommodation and food services	31	3.8
Mining, quarrying, and oil and gas extraction	29	3.5
Professional, scientific and technical services	26	3.1

Source: Calculations based on dataset provided by Alberta Economic Development & Trade, Economic Information & Analytics, Feb. 13, 2017

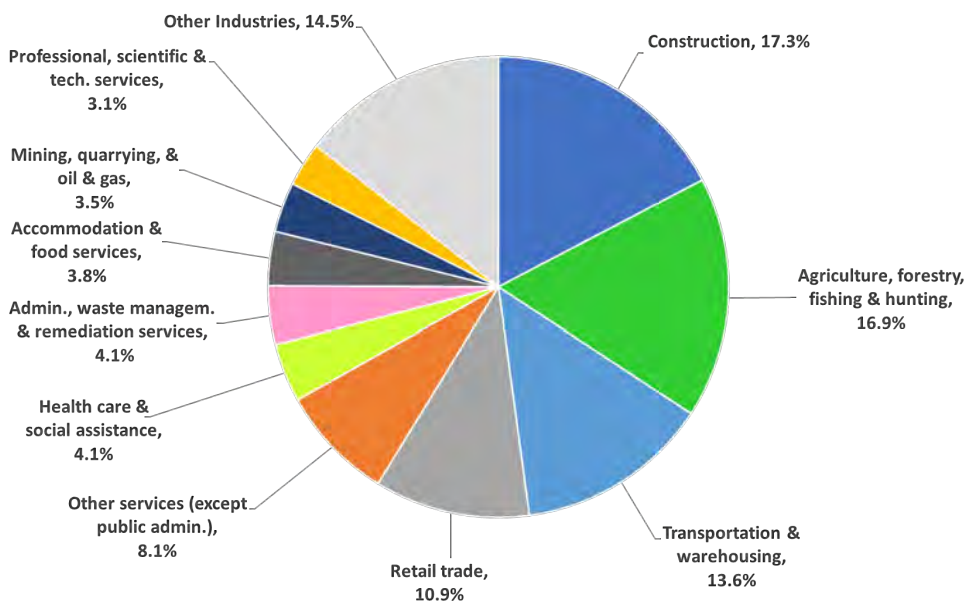


Figure 52 – REDI Industry Mix (based on Business Count)

Agriculture and Agri-Food Canada's has a research facility at Fort Vermilion. The site focuses primarily on the adaptation of technologies for this northern agricultural area. Additionally, the producer-sponsored Mackenzie Applied Research Association (MARA) conducts applied agricultural research and demonstration trials in the REDI region.

Post Secondary and continuing education in the REDI region are provided by the Northern Alberta Institute of Technology (NAIT), Northern Lakes College, Kayas Cultural College, and Athabasca University. Kayas Cultural College is an adult academic upgrading and training center, operated by the Little Red River Cree Nation.

9.2 Municipal, First Nations and Métis Settlement Broadband Interests

Communities within REDI are at different stages in recognizing the importance of broadband services and connectivity to economic diversification, municipal sustainability, regional competitiveness, public service delivery, and quality of life⁶⁵. Table 31 identifies the awareness and current state of municipal involvement and interest in broadband.

Table 31 – REDI Involvement & Interest in Broadband

Gung Ho	Interested – May Be	Need Help – Too Small
	High Level Mackenzie (interested, but Council <u>not</u> “Gung Ho”) Dene Tha’ Loon River Tall Cree	Rainbow Lake Beaver First
Too Expensive	Unknown	Status Quo
	Little Red River	

9.3 Current Service Providers, Services, and Infrastructure

9.3.1 Fixed Wireless-based

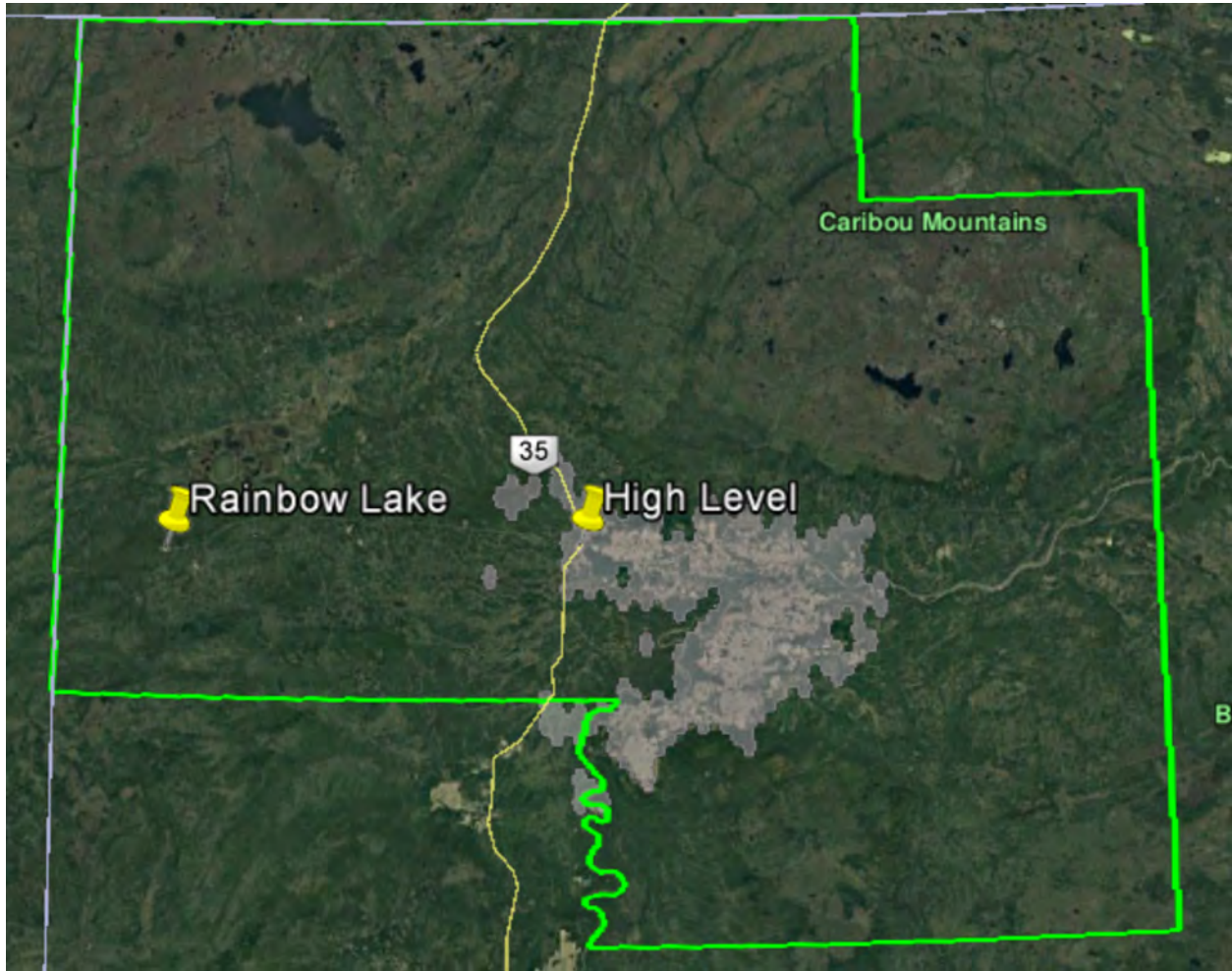
Current Internet service providers using fixed wireless technology in the REDI region include the following. **Appendix B** provides the details of their service offerings (Internet only – no bundling unless otherwise stated) and geographic coverage. Coverage maps are those that were available on their websites at the time of the writing of this report.

- Arrow Technology Group,
- Corridor Communications (CCI),
- Little Red River First Nations, and
- XplorNet (fixed wireless and satellite-based).

According to the CRTC website⁶⁶, minimal 5 Mb/s down (toward the end-client) by 1 Mb/s up (from the end-client to the network) service is only available in the High Level area of the REDI region. A combined view of the fixed wireless coverage is shown in Figure 53 (light gray area).

⁶⁵ Calgary Regional Partnership, 3.

⁶⁶ <http://crtc.gc.ca/eng/internet/internetcanada.htm>

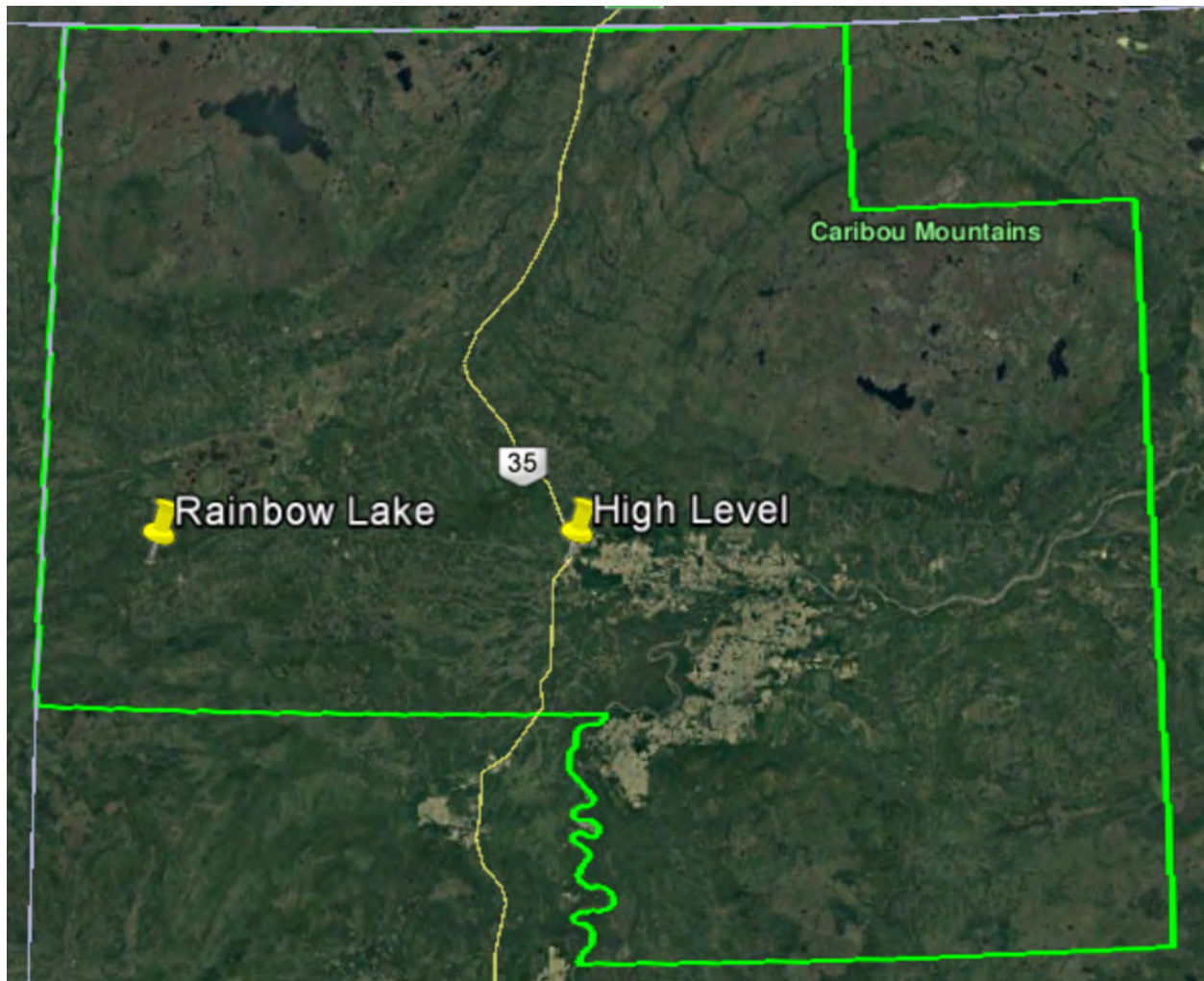


Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 53 – REDI Fixed Wireless Coverage

9.3.2 Mobility

The lack of yellow areas in Figure 54 indicates that mobility data services are not available. **Appendix C** provides the coverage maps for each of the providers of mobility services. As discussed earlier Bell, TELUS, and Rogers are now using cellular towers and SmartHubs to provide at-home Internet services.

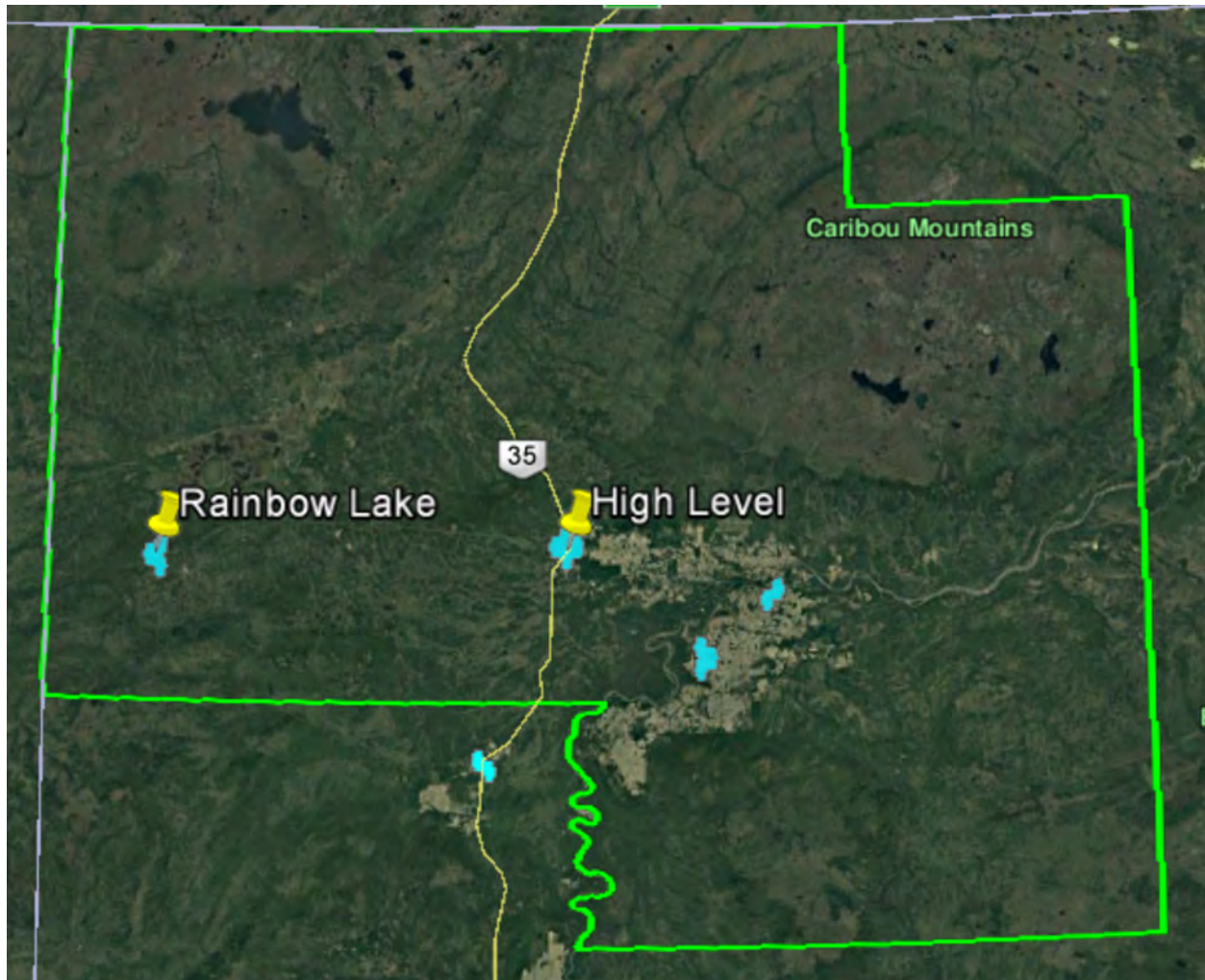


Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 54 – REDI Mobility Data Coverage

9.3.3 Wireline-based – DSL

Digital Subscriber Line (DSL) refers to a group of last mile technologies that are used by wireline-based service providers such as TELUS in Alberta to provide broadband services over twisted-pair copper wiring. The local copper wire loop is a remnant from the days when (and how) the telephone company connected residential and business premises to the telephone company's network for the purposes of providing local and long distance telephone services (and dial-up Internet services). Since DSL's performance degrades with distance, the technology is only deployed in urban areas where access distances are less than about two miles. In Figure 55, areas served via DSL technologies are shown in blue.

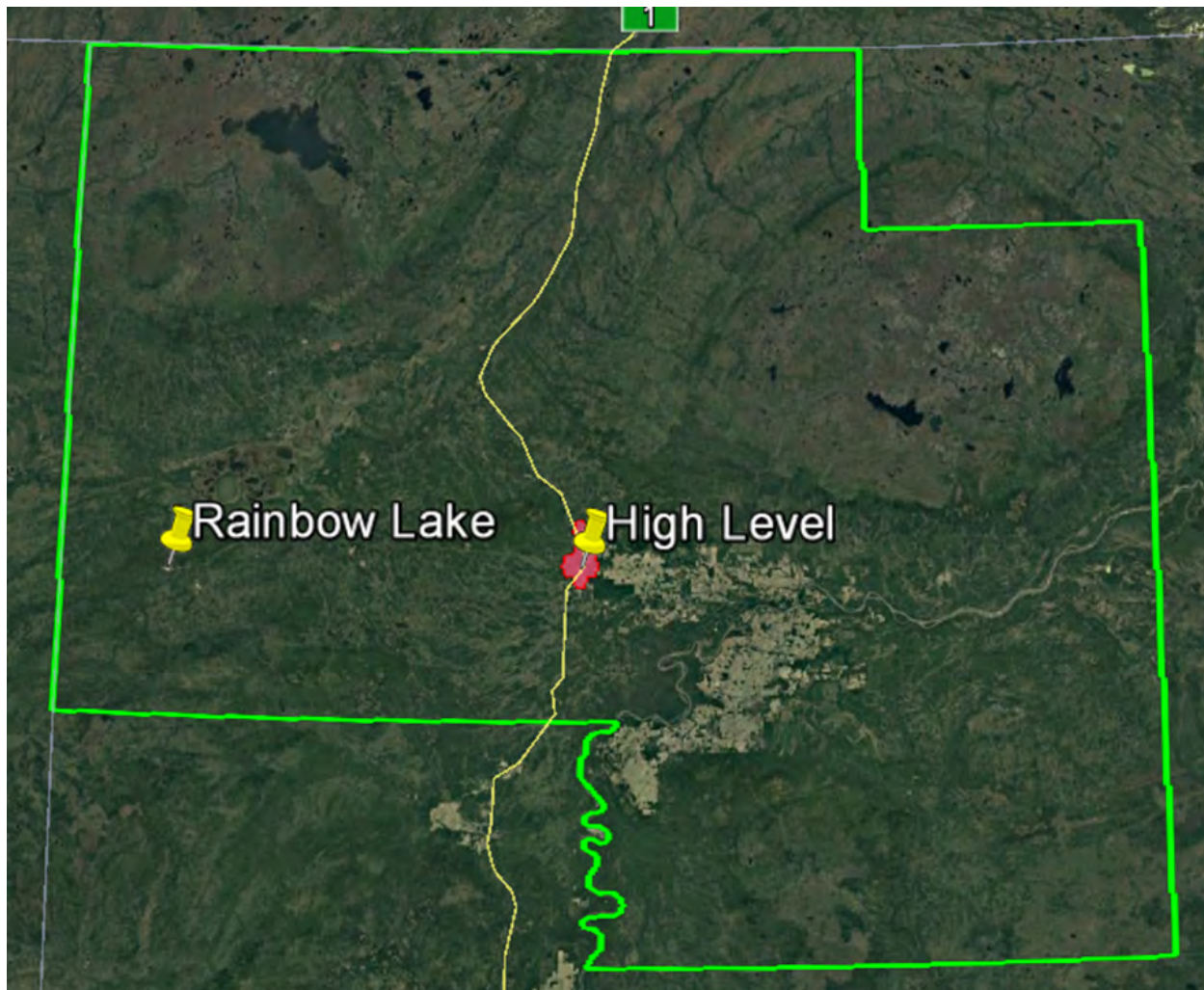


Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 55 – REDI DSL Coverage

9.3.4 Wireline-based – Coaxial Cable

NorthwesTel and the Town of Rainbow Lake, originally television broadcast companies, use coaxial cable and modern cable modem technology to provide broadband services in the REDI region (red areas in Figure 56). The cable companies currently use the Data Over Cable Service Interface Specification (DOCSIS) 3.0 standard to achieve broadband speeds of 100 Mb/s or more over coaxial cable. According to the Cybera, *State of Alberta Infrastructure Report*, “The next-generation DOCSIS 3.1 standard is expected to revolutionize hybrid fibre-coaxial cable connections by providing up to 10 Gb/s download and 1 Gb/s upload network throughput and significant improvements in latency.”⁶⁷



Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 56 – REDI Coaxial Cable Coverage

Maximum advertised wireline offerings are shown in **Appendix B**. As these are “up to” bit rates, during high usage periods, actual bit rates will be less. The offerings are highly asymmetric – upload and download bit rates differ significantly.

⁶⁷ Cybera, 35.

9.3.5 Internet Service Provider WiFi

TELUS offers two WiFi locations in High Level and one location in Fort Vermilion.

9.3.6 Axia Fibre

Axia NetMedia provides retail services to corporate clients and, through AxiaConnect (Axia), provides retail Internet services in smaller communities (e.g., Town of Fairview – fall 2017). In exchange for access to a community's right-of-ways, Axia will invest in Fibre to the Premise (FTTP) if a community can demonstrate that at least 30% of its residences and businesses have an interest in purchasing Internet services from Axia once the "closed access" network is built.

9.4 Backhaul Availability

9.4.1 Alberta SuperNet

The extent of the SuperNet within the REDI region is shown in Figure 57. The green lines represent the Bell-operated Base Area Network (BAN) portion while the blue lines represent the Axia-operated Extended Area Network (EAN) segments. A more general discussion about the SuperNet is presented in **Appendix D**.

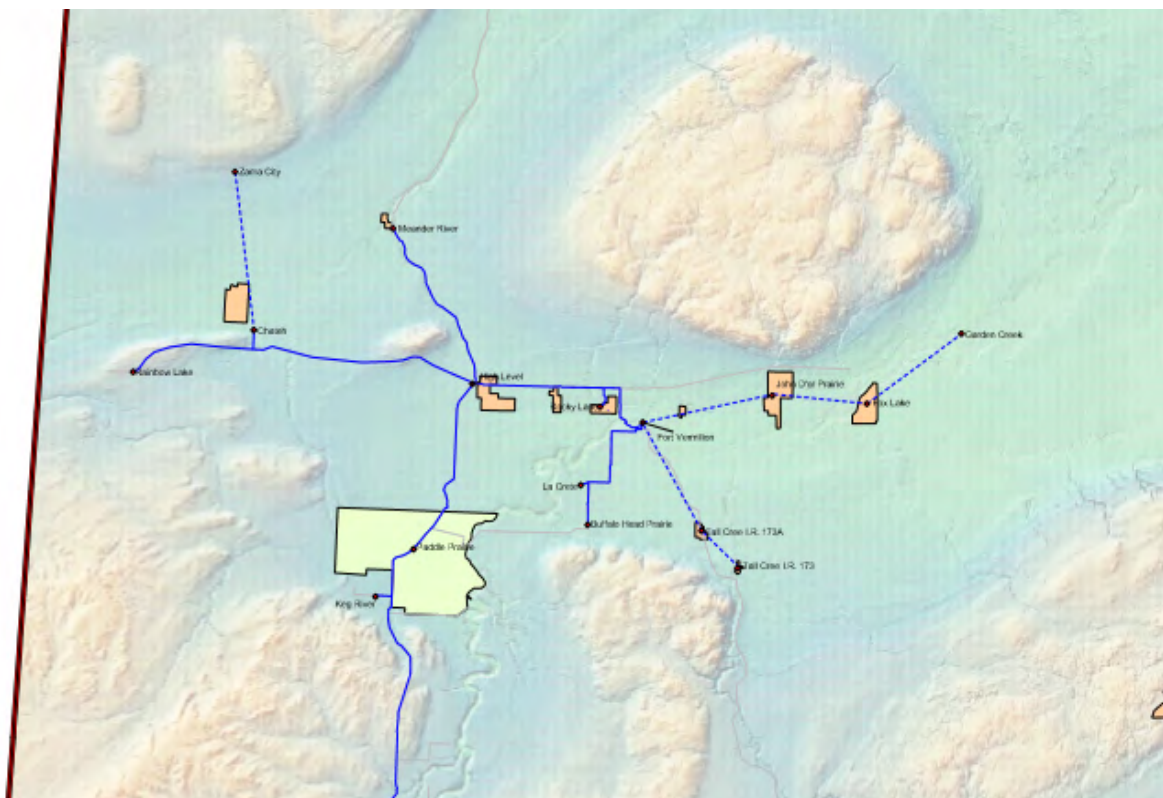


Figure 57 – REDI SuperNet Infrastructure

In 2018, municipalities, First Nations, and Métis Settlements requiring access to fibre transport for backhaul to Edmonton may want to consider Bell or TELUS.

“Reliability of the Internet and cellular service are both big concerns for the region. There is only one fibre optic line feeding most of northwest Alberta including the entire County.

NorthwestTel is the only service provider that has their primary infrastructure north of the County and does not rely on the fibre optic line that comes up from the southern Alberta. This positions them uniquely as a possible alternative to the current service providers and offers opportunities for communications backup, especially in case of emergencies.”⁶⁸

9.4.2 TELUS Wholesale

Except under a non-disclosure agreement, TELUS does not provide maps of fibre assets.

9.5 Existing Infrastructure

9.5.1 Towers and Other Tall Structures

When planning a broadband build-out it is important to “build on what is already in place.” The key inquiry for the current state analysis is what assets does the community have that can be provided at little or no incremental cost that improve the economics of the broadband deployment and operations? Assets include existing towers, fibre and community networks, which the community might be using for communications or asset management. Existing and possible access to tall structures or buildings are also important to inventory for potential placement of wireless equipment.

The Dene Tha’ and Tallcree First Nations received grant funding to expand high speed Internet access to unserved areas and address gaps in coverage from Alberta Agriculture and Forestry’s *Final Mile Rural Community Program* in the 2012/2013 timeframe. High Level has the following taller buildings which can potentially be used to support broadband hardware: the High Level Arena Complex, the administration building, the swimming pool, and the fire hall.

9.5.2 Utility Infrastructure

The existing overhead and underground transmission and distribution lines of electric utility companies (ATCO Electric) and natural gas co-operatives (co-ops) present deployment options for community broadband builds - access to and installing fibre cables to travel along utility poles, in ducts and conduit, and along rights-of-way can significantly improve the economics of broadband service expansion projects and network deployments. Inquiries about the availability of communications spaces on utility providers’ poles and where multi-party trench agreements exist will be made during the preliminary infrastructure design phase of a broadband network. **Appendix E** shows ATCO Electric’s and Fortis Alberta’s respective service areas in northern Alberta

9.5.2.1 Gas Co-ops

In the 1960s, non-profit gas co-ops were formed to supply natural gas to rural Alberta - franchise areas were designated. Mackenzie county’s rural gas co-operative’s distribution infrastructure is being used to expand broadband coverage throughout the county and its First Nations communities (Figure 58).

- Dena Tha Natural Gas Utility (Chateh)
- Northern Lights Gas Co-op Ltd. (La Crete)
- Town of Rainbow Lake

⁶⁸ Mackenzie County, Sustainability Plan 2015 – January 2016, Approved January 12, 2017, p. 33.



Source: Federation of Alberta Gas Co-ops, <http://www.fedgas.com/Map>, accessed Feb. 1, 2017.

Figure 58 – REDI Gas Co-ops

9.5.3 First Nations Fibre Infrastructure

First Nations Technical Services Advisory Group (TSAG) is a non-profit organization established by the Chiefs of Alberta to provide technical support and training to First Nations in the treaty 6, 7, and 8 regions. In 2008, TSAG partnered with Health Canada to develop the network components (fibre connections) at First Nations health centres to support First Nations telemedicine. With Health Canada funding and TSAG project management, community fibre networks connections were made to the Alberta SuperNet points-of-presence on each or close to each First Nations in 2011. Upon completion, each First Nations became the owner of its local fibre network. As shown in Figure 59, First Nations' schools, health centres, band administration offices, and water treatment plants are now connected.

TSAG operates a state-of-the-art Network Operations Centre (NOC). The NOC's real time network monitoring ensures availability, network security/SPAM filtering, telehealth bridge management, and support, and applications (high speed connectivity and remote water monitoring system for water treatment plants, OneHealth.ca, and FirstNationsTH.ca). Onehealth.ca is a national health portal that provides information and services to health care professionals working in First Nations communities. FirstNationsTH.ca – Telehealth provides education and travel-free patient and health care assessments via video-conferencing.

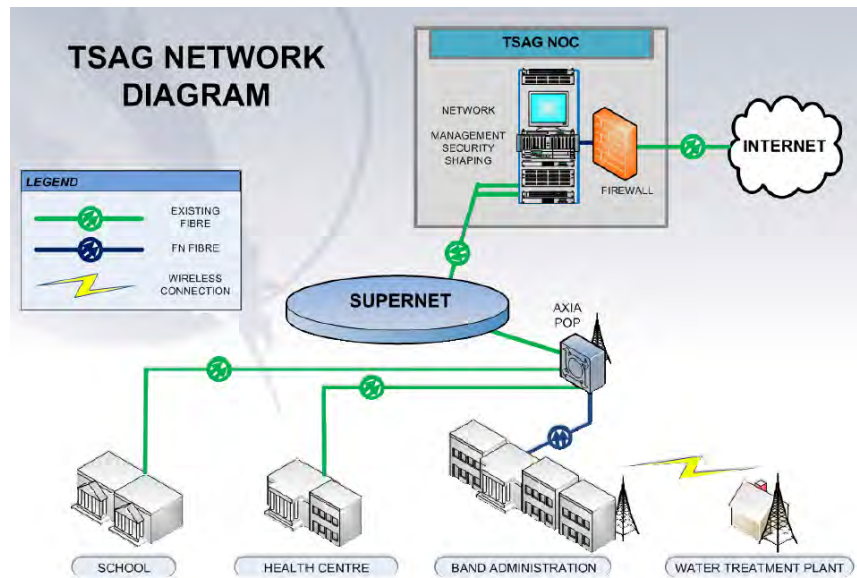


Figure 59 – TSAG Network Diagram

9.6 Planned Infrastructure

9.6.1 Major Projects

Private and public sector capital projects in the REDI region include school modernization and road work. Where possible these projects may be leveraged to the reduce costs associated with the deployment of broadband infrastructure. Figure 60 shows the capital projects in the within the REDI regions.⁶⁹

⁶⁹ GoA, Provincial Major Projects List.

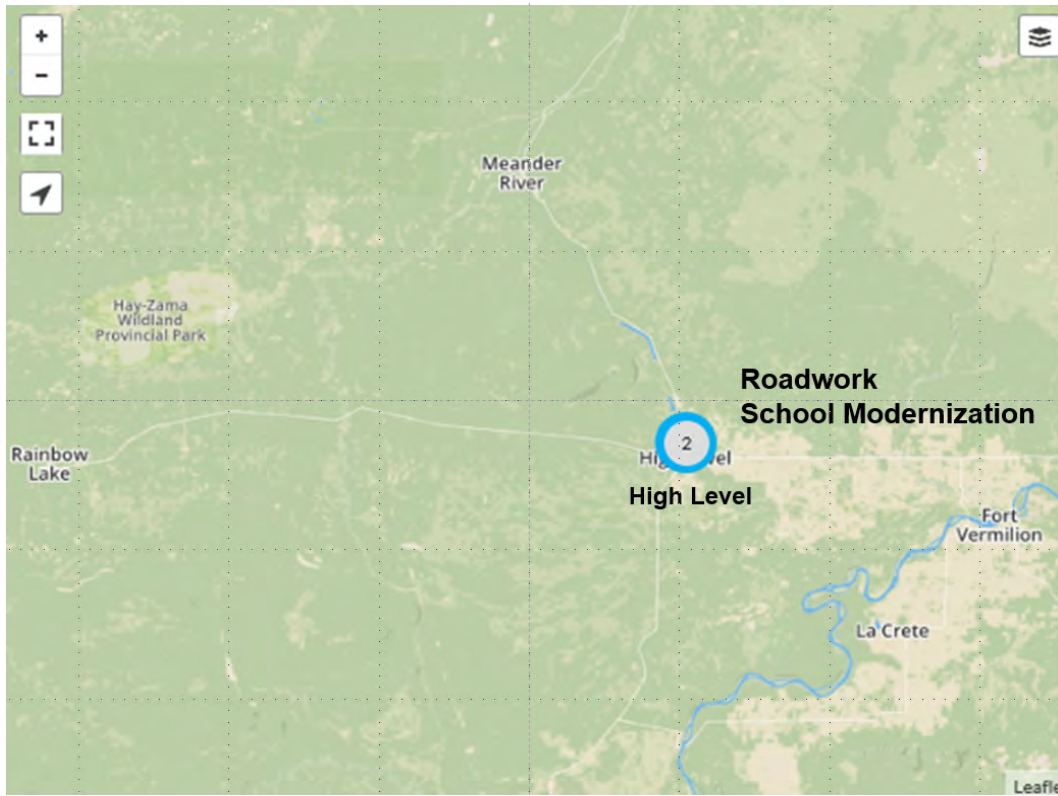


Figure 60 – Major Projects

9.6.2 Electricity Transmission Development Plans

As shown in Figure 61, local electricity load is supplied by 138/144 kV transmission lines in the REDI area.⁷⁰ In the long-term the rebuild the 144 kV line from Blumenort (near the hamlet of La Crete) to High Level is proposed.

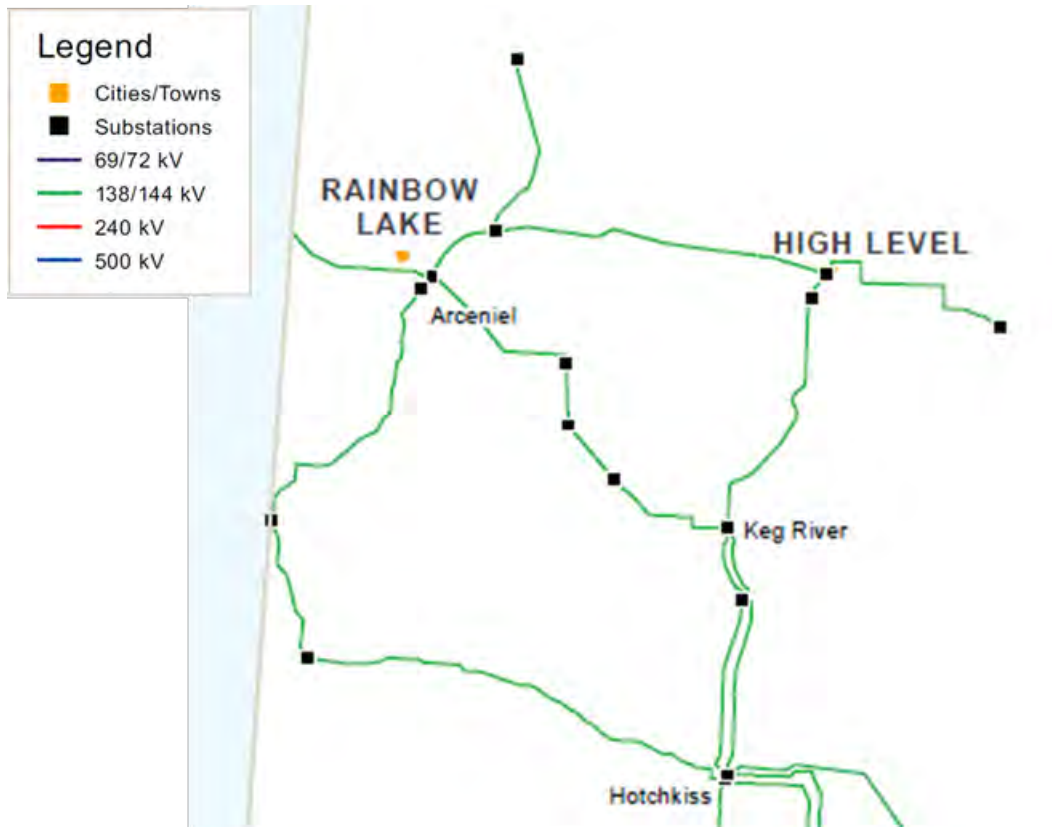


Figure 61 - REDI - Existing Electricity Transmission System

9.6.3 Municipal Capital and Civil Works Projects

Leveraging civil infrastructure projects can reduce broadband deployment costs by 75%. Given civil infrastructure costs typically account for 70% of buried deployment costs, this is significant. Capital projects that involve trenching or erecting towers or poles such as during the development of new subdivisions, road construction, or the construction or rehabilitation of water or sewer lines are typical projects that can improve the economics of community broadband projects.

The County of Mackenzie received approximately \$1.8 million from the *Alberta Municipal Water/Wastewater Partnership (AMWWP)* for the La Crete sewage lagoon expansion.

The Federal *Small Communities Fund* (part of the New Building Canada Fund) for infrastructure projects, now includes a “Connectivity and Broadband” category. 2016 approved non-broadband projects within the REDI region include (figures shown are the Total Eligible Project Cost - Federal, Provincial, and Municipal).

- Rainbow Lake – Water distribution system rehabilitation \$2.1 million, and
- Mackenzie County – Rural potable water infrastructure \$5.3 million.

⁷⁰ AESO, 48.

Table 32 shows the capital and civil works projects that the municipalities self-reported.

Table 32 – REDI Municipal Capital & Civil Works Projects

Towns	
High Level	Nothing planned
Rainbow Lake	<i>Response pending</i>
Counties	
Mackenzie	La Crete – commercial subdivision

First Nations and Métis Settlements were not queried.

10 Other Northern Alberta Communities

10.1 Regional Profile

The Northern Alberta Development Council (NADC) region covers approximately 60% of the Alberta's total landmass.⁷¹ The NADC works with its many partners, the REDAs among them, to help this region's 158 communities and 452,000 people build thriving communities and a strong and sustainable northern economy.

Most of the northern Alberta communities fall into one of the five REDAs, except for Athabasca County and the Wood Buffalo area. The focus of this section is on these two remaining areas that make-up the NADC. As shown in Table 33, these two areas include the City of Fort McMurray, two towns, eight summer villages, the County of Athabasca, the Regional Municipality of Wood Buffalo (RMWB), and six First Nations as well as two improvement districts. A map of the "Other Northern Alberta Communities" is shown in Figure 62.

Improvement District No. 24 (ID 24) is located along the Alberta-Northwest Territories border and encompasses the Alberta portion of Wood Buffalo National Park. It includes the unincorporated community of Peace Point 222, part of the Mikisew Cree First Nations. According to the 2016 StatsCan Census, ID 24's population is 648, and there are approximately 100 private dwellings within its boundaries. Improvement District 349 is located north of the City of Cold Lake and was created in 2012 by separating lands from the RMWB and Lac La Biche County. The Alberta portion of the Cold Lake Air Weapons Range is within its boundaries. StatsCan 2016 Census indicated that the area's population and number of private dwelling are zero.

Of these communities, TELUS has made a generational fibre investment in Fort McMurray. AxiaConnect was in the Town of Athabasca in mid-December soliciting expressions of interest for Axia fibre. On February 8, 2017, the 30% commitment level was announced. Should the Town decide to proceed, the next step will be for the Town Council to sign a municipal access agreement. Challenging terrain (valleys) and present issues for the fixed wireless-based provider, MCSNet. Further complicating these issues, MCSNet is experiencing over-capacity on their towers. Density is also an issue. The Town of Athabasca is facing mounting pressure from its residents and businesses plagued by poor broadband services, and at the time of writing, is evaluating an option to have Axia lay fibre in select areas of their town. Athabasca County is also not satisfied with their current level of service and are seeking alternatives to improve broadband services to their residents.

⁷¹ NADC, 2.

Table 33 – Other Communities

Cities	Towns	Summer Villages	Counties/Improvement Districts/RMs	First Nations
Fort McMurray, urban service area	Athabasca Boyle	Bondiss Island Lake Island Lake South Mewatha Beach South Baptiste Sunset Beach West Baptiste Whispering Hills	Athabasca Improvement District No. 24 Improvement District No. 349 Wood Buffalo	Athabasca Chipewyan Chipewyan Prairie Fort McKay Fort McMurray Mikisew Cree Smith's Landing

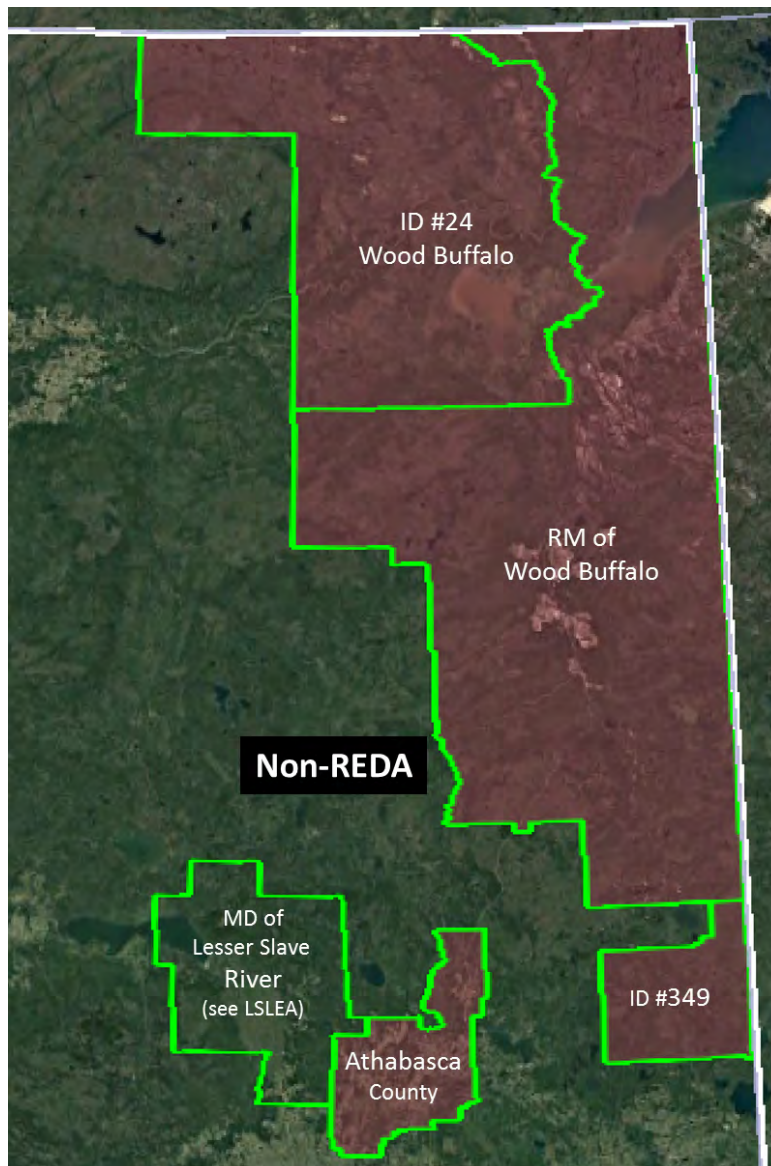


Figure 62 – Other Northern Alberta Areas

The Other Northern Alberta areas are home to almost 86,000 residents.⁷² Table 34 provides a breakdown by municipal (rural and urban), and First Nations as well as five-year population growth trends and compounded annual growth rates (CAGRs). Although the 2016 federal census found the population of the RMWB to be 71,589, city officials say that this figure is not accurate. Wood Buffalo's own municipal census in 2015 found the permanent population to be approximately 82,000, with an additional 43,000 camp workers (i.e., shadow population). The Statistics Canada 2016 Census data indicates significant growth among all First Nations communities over the five-year period.

Table 34 – Other Communities Population & Population Growth Trends

Municipality	Rural				Urban				First Nations						
	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend		City/Town/Village	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend		Reserve / Settlement	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend		
			(%) & Direction					(%) & Direction					(%) & Direction		
Athabasca, County	7,869	0.5	2.7	▲	Athabasca	2,965	-0.2	-0.8	▼						
					Boyle	845	-1.6	-7.8	▼						
					SV ¹ (8)	904	-0.6	-3.1	▼						
					Sub-total	4,714									
Wood Buffalo, RM (includes Fort McMurray) (shadow population removed)	71,589	1.8	9.2	▲						Athabasca Chipewyan	na	na	na		
										Chipewyan Prairie	414	7.0	40.3	▲	
										Ft McKay	742	5.7	32.0	▲	
										Ft McMurray	321	3.2	17.2	▲	
										Mikisew Cr.	226	3.0	15.9	▲	
										Smith's Landing	48	9.9	60.0	▲	
Total	79,458					4,714				Total - FN	1,751				

Note 1: SV - Summer Village: Bondiss, Island Lake, Island Lake S., Mewatha Beach, S. Baptiste, Sunset Point, W. Baptiste, Whispering Hills

Total Population = **85,923**

Source: Statistics Canada Federal Census 2011 and 2016.

There are 2,811 businesses (with employees) in the two areas that comprise the Other Communities. As shown in Table 35 and Figure 63, 28% of the businesses in the region participate in the top two industries. Industries were classified according to the North American Industry Classification System (NAICS). The sector with the second highest ranking for number of businesses is the other services (except public administration) sector.⁷³ The Other Industries segment (13%) of the chart shown in Figure 63 include industries that individually contribute between 3.2% and 0.2% to the category.⁷⁴

⁷² Calculations based on Statistics Canada 2016 Census.

⁷³ Comprised of businesses primarily engaged in repairing and maintenance on motor vehicles, machinery, and other products; providing personal care, funeral, and laundry services; organizing and promoting religious activities; and supporting causes such as grant making and advocacy.

⁷⁴ Mining, quarrying, and oil and gas extraction; agriculture, forestry, fishing, and hunting; manufacturing; finance and insurance; arts, entertainment and recreation; educational services; information and cultural industries; management of companies and enterprises; public administration; and utilities.

Table 35 – Other Communities Number of Businesses (with employees) by Industry

Industry	Businesses	Percent (%)
Construction	456	16.2
Other services (except public administration)	339	12.1
Retail trade	332	11.8
Professional, scientific and technical services	279	9.9
Transportation and warehousing	230	8.2
Real estate and rental and leasing	197	7.0
Accommodation and food services	191	6.8
Healthcare and social assistance	157	5.6
Administrative and support, waste management and remediation	145	5.2
Wholesale Trade	123	4.4

Source: Calculations based on dataset provided by Alberta Economic Development & Trade, Economic Information & Analytics, Feb. 13, 2017

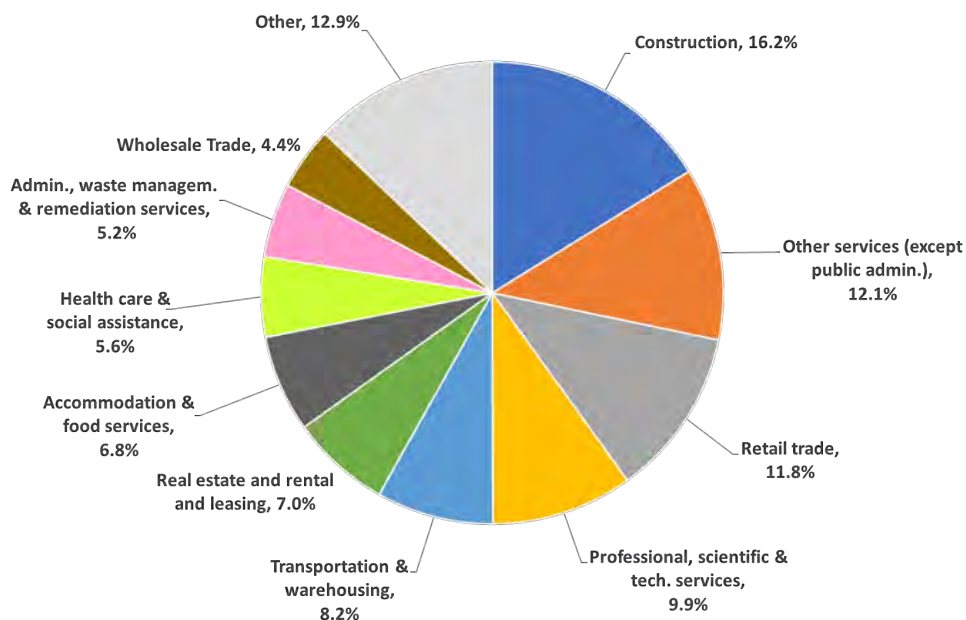


Figure 63 - Other Communities Industry Mix (based on Business Count)

Athabasca University's main campus is in the Town of Athabasca. Keyano College has two campuses: one in Fort McMurray and one in Fort Chipewyan as well as four learning centres (Fort McKay, Conklin, Janvier, and Gregoire Lake). Portage College has a learning location Boyle.

Regional Municipality of Wood Buffalo

The RMWB is comprised of a main urban service area, the City of Fort McMurray, and seven rural hamlets. As a relatively young city, its growth is correlated with the growth of the petroleum industry within the area, Fort McMurray's utility infrastructure is buried. In 2011, TELUS laid fibre optics in Fort McMurray, and is currently offering Internet speeds of 150 Mb/s download and upload. Shaw also offers 150 Mb/s download speeds.

On May 1, 2016, an uncontrolled wildfire swept through parts of Fort McMurray and the RMWB, forcing the largest wildfire evacuation in Alberta’s history. The fire destroyed approximately 2,400 homes and buildings, with the neighbourhoods of Abasand, Beacon Hill, and Waterways sustaining the heaviest loss of homes (approximately one-fifth of the homes in the city were destroyed). On May 5, 2016, the fire spread to the communities of Anzac, Gregoire Lakes Estates, and the Fort McMurray First Nation. The Conference Board of Canada estimates that \$5.3 billion will be re-invested in Alberta’s economy over the next three years due to the Fort McMurray fires.⁷⁵

The RMWB is in the early stages of re-building Fort McMurray (demolition is still going on). A “recovery committee” is managing the demolition and re-build. The re-build will take approximately three to five years in some areas. The Waterways subdivision was one subdivision where the utilities were not buried, but as part of the re-build the power will now be put underground. The re-building of the fire-affected communities present an opportunity to lay fibre – the RMWB prefers that a utility company manage any new fibre builds.

The City has some municipality-owned fibre (underground) between some of its buildings, which is for the City’s purposes.

10.2 Municipal, First Nations and Métis Settlement Broadband Interests

Communities within the other northern Alberta communities are at different stages in recognizing the importance of broadband services and connectivity to economic diversification, municipal sustainability, regional competitiveness, public service delivery, and quality of life⁷⁶. Table 36 identifies the awareness and current state of municipal involvement and interest in broadband. As mentioned earlier. The Town of Athabasca is evaluating an Axia solution. The RMWB is actively seeking partnerships to build and deliver services to its rural communities.

Table 36 – Other Communities Involvement & Interest in Broadband

Gung Ho	Interested – May Be	Need Help – Too Small
Athabasca, Town	Athabasca, County Wood Buffalo	Summer Villages All First Nations
Too Expensive	Unknown	Status Quo
	Boyle	Fort McMurray (TELUS fibre)

⁷⁵ Conference Board of Canada, *The Economic Impact of the Fort McMurray Fires*, Webinar by Pedro Antunes, 29 November, 2016.

⁷⁶ Calgary Regional Partnership 3.

10.3 Current Service Providers, Services, and Infrastructure

10.3.1 Other Communities Fixed Wireless-based and Mobility

Current Internet service providers using fixed wireless technology in the Other Communities include the following. **Appendix B** provides the details of their service offerings (Internet only – no bundling unless otherwise stated) and geographic coverage. Coverage maps are those that were available on their websites at the time of the writing of this report.

- CCL Networks,
- MCSNet, and
- XplorNet (fixed wireless and satellite-based).

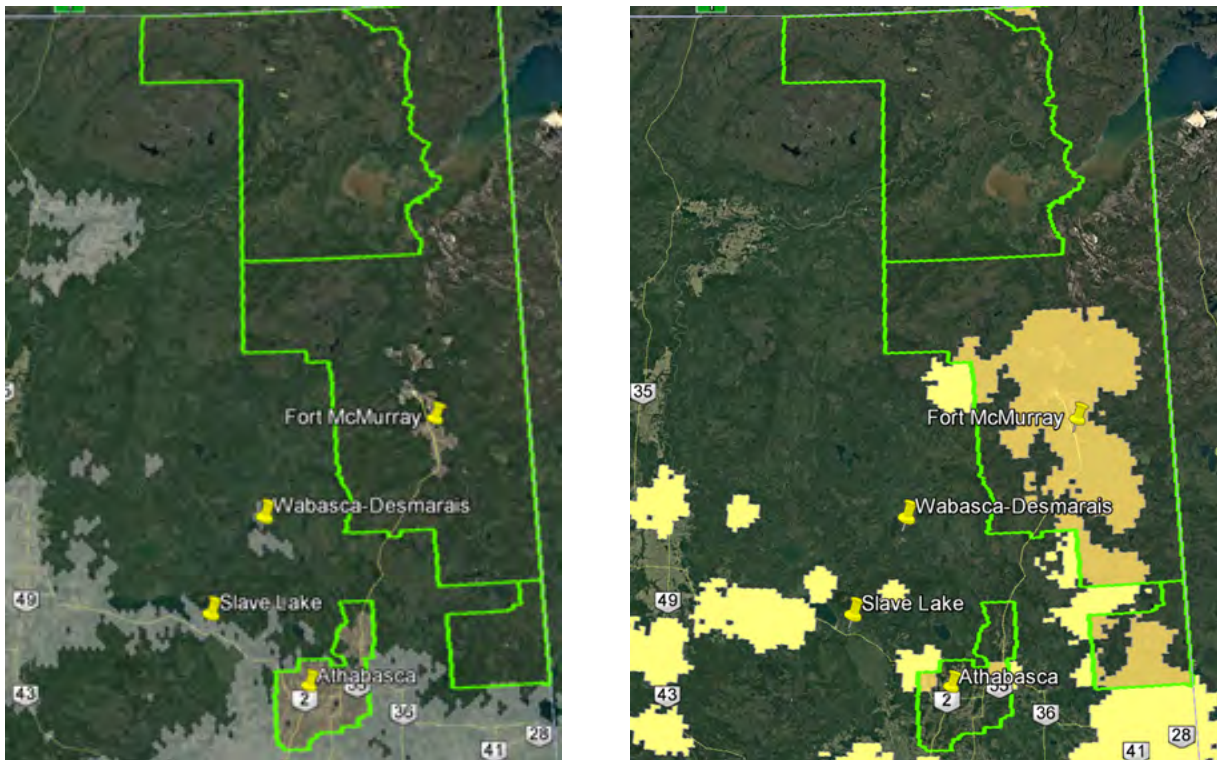
CCI is looking to develop partnership arrangements with communities to deploy fibre in Alberta communities.⁷⁷ XplorNet's new satellites will allow them to offer download speeds of 25 Mb/s across their customer base by July 2017.

According to the CRTC website⁷⁸, minimal 5 Mb/s down (toward the end-client) by 1 Mb/s up (from the end-client to the network) service is available in Athabasca and sparse in Fort McMurray. A combined view of the fixed wireless coverage is shown in Figure 64 (left side, light gray area).

Shown as yellow areas on the right side in Figure 64, mobility data services are available from TELUS/Bell and Rogers. **Appendix C** provides the coverage maps for each of the providers of mobility services. As discussed earlier Bell, TELUS, and Rogers are now using cellular towers and SmartHubs to provide at-home Internet services.

⁷⁷ Taylor Warwick, 17.

⁷⁸ <http://crtc.gc.ca/eng/internet/internetcanada.htm>



Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 64 – Other Communities Fixed Wireless & Mobility Data Services Coverage

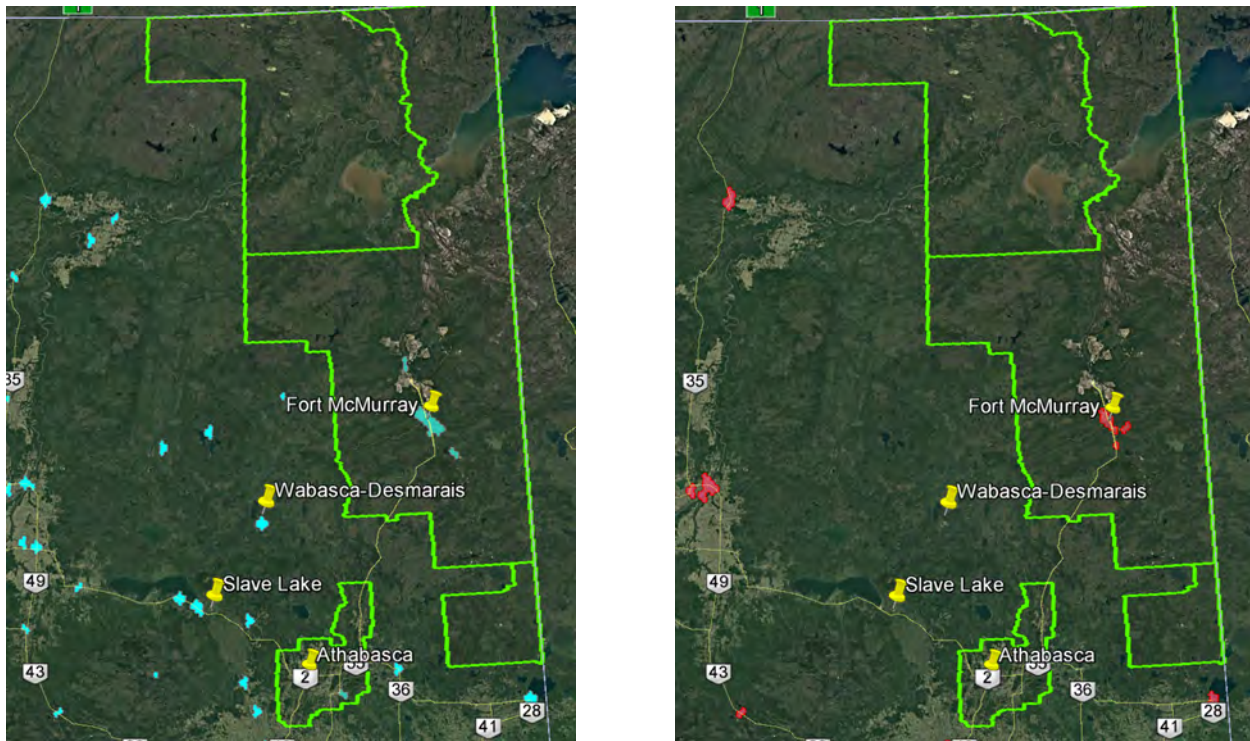
10.3.2 Wireline-based – DSL & Coaxial Cable

Digital Subscriber Line (DSL) refers to a group of last mile technologies that are used by wireline-based service providers such as TELUS in Alberta to provide broadband services over twisted-pair copper wiring. The local copper wire loop is a remnant from the days when (and how) the telephone company connected residential and business premises to the telephone company's network for the purposes of providing local and long distance telephone services (and dial-up Internet services). Since DSL's performance degrades with distance, the technology is only deployed in urban areas where access distances are less than about two miles. In Figure 65, areas served via DSL technologies are shown in blue.

Shaw, originally a television broadcast company, uses coaxial cable and modern cable modem technology to provide broadband services in the region (red areas in Figure 65). The cable companies currently use the Data Over Cable Service Interface Specification (DOCSIS) 3.0 standard to achieve broadband speeds of 100 Mb/s or more over coaxial cable. Shaw expects to complete its DOCSIS 3.1 upgrade by the end of August 2017⁷⁹. According to the Cybera, *State of Alberta Infrastructure Report*, "The next-generation DOCSIS 3.1 standard is expected to revolutionize hybrid fibre-coaxial cable connections by providing up to 10 Gb/s download and 1 Gb/s upload network throughput and significant improvements in latency."⁸⁰

⁷⁹ Shaw, Q1 2017 Results.

⁸⁰ Cybera, 35.



Source: <http://www.crtc.gc.ca/eng/internet/internetcanada.htm>

Figure 65 – Other Communities DSL & Coaxial Cable Coverage

Maximum advertised wireline offerings are shown in **Appendix B**. As these are “up to” bit rates, during high usage periods, actual bit rates will be less – Shaw more so than TELUS due to the way the aggregation is implemented. In both cases, the offerings are highly asymmetric – upload and download bit rates differ significantly.

10.3.3 Internet Service Provider WiFi

WiFi is availability in Fort McMurray but not in the Town of Athabasca. TELUS offers WiFi at 32 locations in Fort McMurray while Bell offers six locations. Shaw offers Go WiFi at multiple locations as shown in the coverage map below (Figure 66).



Figure 66 – Other Communities Shaw Go WiFi Coverage

10.3.4 Axia Fibre

Axia NetMedia provides retail services to corporate clients and, through AxiaConnect (Axia), provides retail Internet services in smaller communities (e.g., Town of Fairview – fall 2017). In exchange for access to a community's right-of-ways, Axia will invest in Fibre to the Premise (FTTP) if a community can demonstrate that at least 30% of its residences and businesses have an interest in purchasing Internet services from Axia once the "closed access" network is built.

10.4 Backhaul Availability

10.4.1 Alberta SuperNet

The extent of the SuperNet within the Other Communities region is shown in Figure 67. The green lines represent the Bell-operated Base Area Network (BAN) portion while the blue lines represent the Axia-operated Extended Area Network (EAN) segments. A more general discussion about the SuperNet is presented in **Appendix D**.

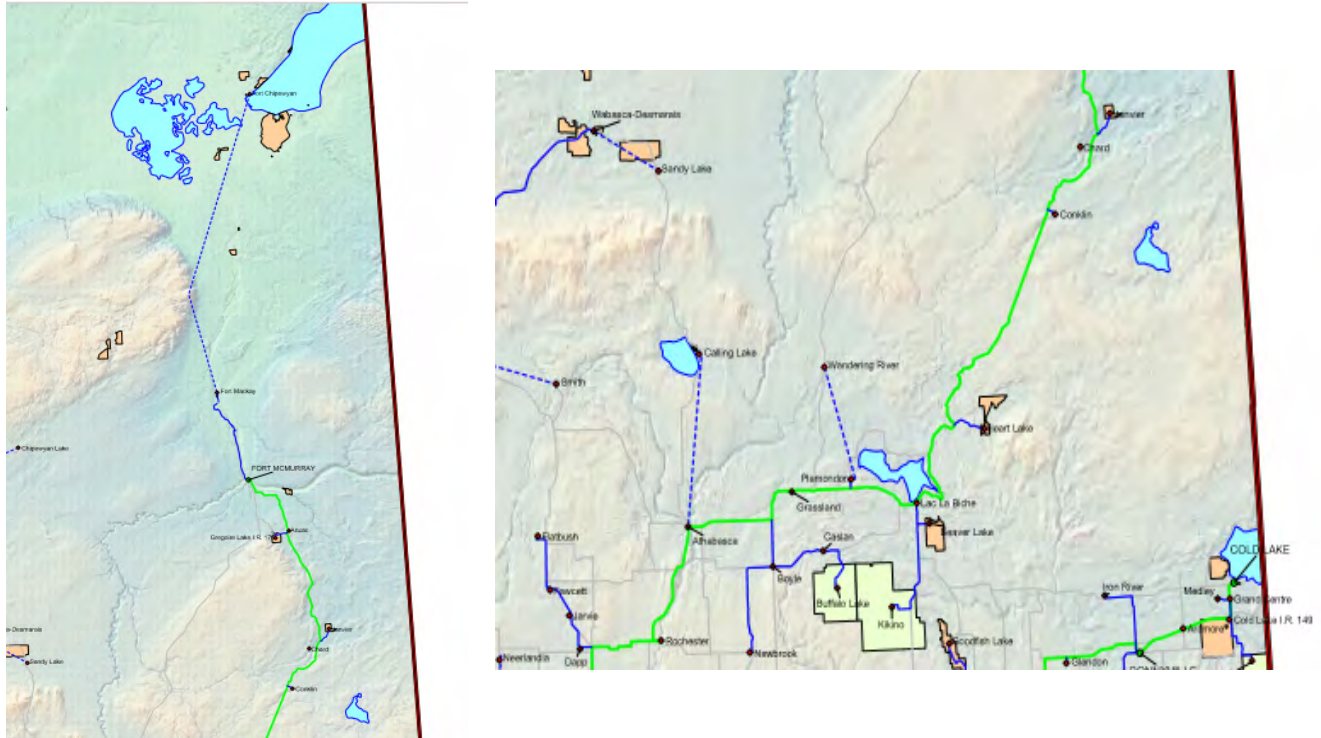


Figure 67 – Other Communities SuperNet Infrastructure

10.4.2 Shaw Wholesale

Given the uncertainty associated with the next iteration of the SuperNet contract by June 30, 2018, municipalities, First Nations, and Métis Settlements requiring access to fibre transport for backhaul to Edmonton may want to consider Shaw, Bell, or TELUS. Shaw fibre in the region is limited to a run parallel to Highway 63 from Edmonton to Fort McMurray and on to several oil sands camps beyond. Capacity is limited and upgrades to enable Dense Wavelength Division Multiplexing (DWDM) to increase bandwidth would be expensive.

10.4.3 TELUS Wholesale

Except under a non-disclosure agreement, TELUS does not provide maps of fibre assets.

10.5 Existing Infrastructure

10.5.1 Towers and Other Tall Structure

When planning a broadband build-out it is important to “build on what is already in place.” The key inquiry for the current state analysis is what assets does the community have that can be provided at little or no incremental cost that improve the economics of the broadband deployment and operations? Assets include existing towers, fibre and community networks, which the community might be using for communications or asset management. Existing and possible access to tall structures or buildings are also important to inventory for potential placement of wireless equipment.

Before 2006, Athabasca County partnered with Boyle and MCSNet to construct broadband infrastructure.⁸¹ In the 2012 to 2013 timeframe, Athabasca County received grant funding from the *Final Mile Rural Community Program* for Internet infrastructure expenses such as towers, fibre optic cable, wireless equipment, installation costs, and radio license fees. Athabasca County has eight municipality-owned towers.

10.5.2 Utility Infrastructure

The existing overhead and underground transmission and distribution lines of electric utility companies (ATCO Electric, Fortis Alberta) and natural gas co-operatives (co-ops) present deployment options for community broadband builds - access to and installing fibre cables to travel along utility poles, in ducts and conduit, and along rights-of-way can significantly improve the economics of broadband service expansion projects and network deployments. Inquiries about the availability of communications spaces on utility providers’ poles and where multi-party trench agreements exist will be made during the preliminary infrastructure design phase of a broadband network. **Appendix E** shows ATCO Electric’s and Fortis Alberta’s respective service areas in northern Alberta

10.5.3 First Nations Fibre Infrastructure

First Nations Technical Services Advisory Group (TSAG) is a non-profit organization established by the Chiefs of Alberta to provide technical support and training to First Nations in the treaty 6, 7, and 8 regions. In 2008, TSAG partnered with Health Canada to develop the network components (fibre connections) at First Nations health centres to support First Nations telemedicine. With Health Canada funding and TSAG project management, community fibre networks connections were made to the Alberta SuperNet points-of-presence on each or close to each First Nations in 2011. Upon completion, each First Nations became the owner of its local fibre network. As shown in Figure 68, First Nations’ schools, health centres, band administration offices, and water treatment plants are now connected.

TSAG operates a state-of-the-art Network Operations Centre (NOC). The NOC’s real time network monitoring ensures availability, network security/SPAM filtering, telehealth bridge management, and support, and applications (high speed connectivity and remote water monitoring system for water treatment plants, OneHealth.ca, and FirstNationsTH.ca). Onehealth.ca is a national health portal that provides information and services to health care professionals working in First Nations communities. FirstNationsTH.ca – Telehealth provides education and travel-free patient and health care assessments via video-conferencing.

⁸¹ GoA, *Alberta SuperNet First Mile Rural Task Force, Recommendation Report*, 14 March 2008, 16.

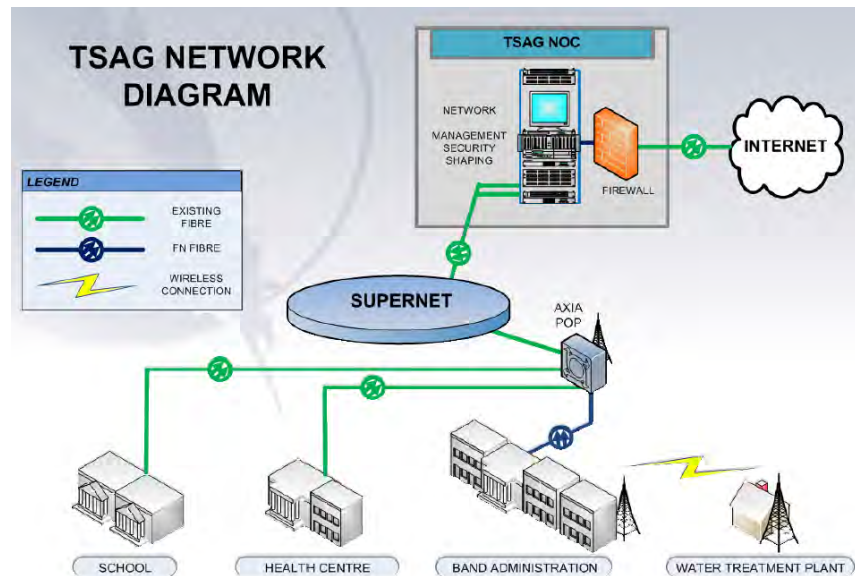


Figure 68 – TSAG Network Diagram

10.5.3.1 Gas Co-op

In the 1960s, non-profit gas co-ops were formed to supply natural gas to rural Alberta - franchise areas were designated. The Village of Boyle operates the only gas co-op in the area.

10.6 Planned Infrastructure

10.6.1 Major Projects

The RMWB has several private and public sector capital projects planned. Where possible these projects may be leveraged to the reduce costs associated with the deployment of broadband infrastructure. Figures 69 and 70 show the capital projects in the Athabasca and RMWB areas.⁸² Besides the projects show in these figures, other major projects in the region include those in the City of Fort McMurray (**Appendix F**).

⁸² GoA, Provincial Major Projects List.



Figure 69 – Major Projects – Athabasca

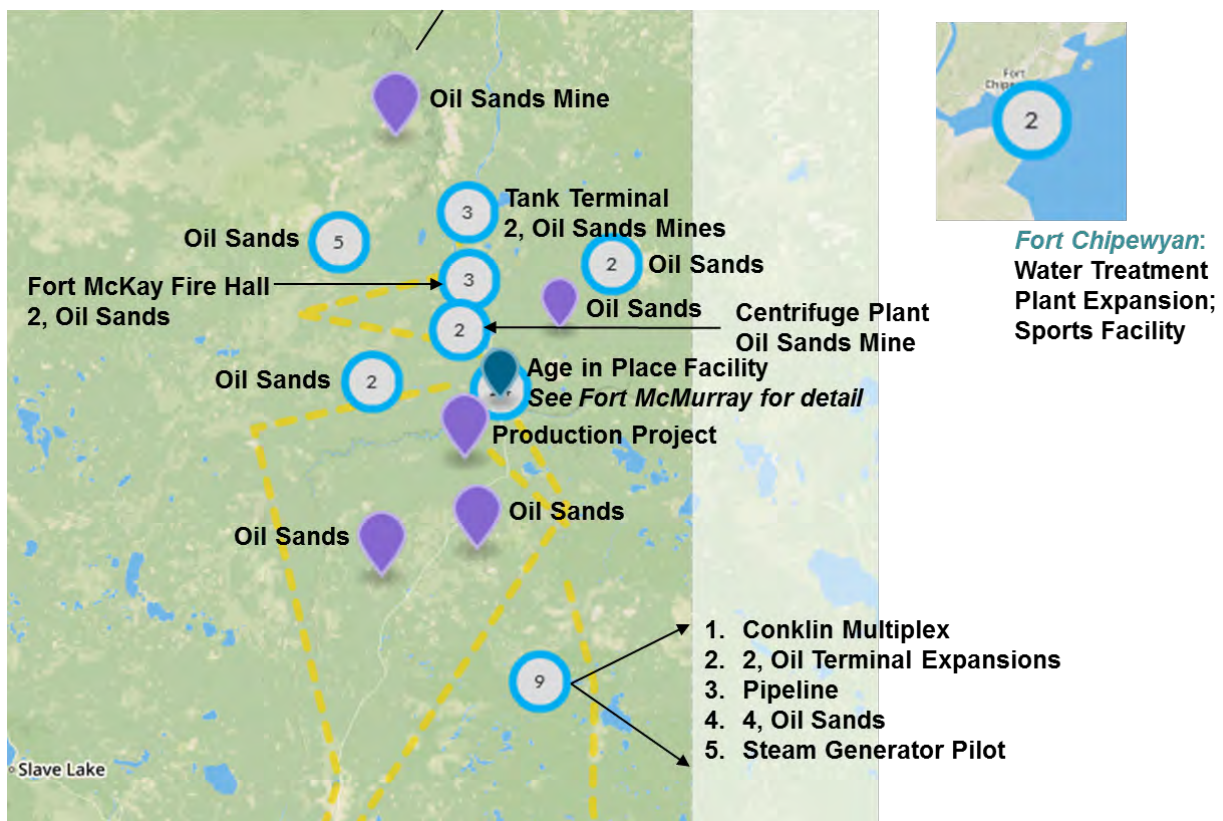


Figure 70 – Major Projects – Wood Buffalo

10.6.2 Electricity Transmission Development Plans

Industrial load in the Other Communities (within the Alberta Electric System Operator's (AESO's) Northeast Planning region) comes from the large industrial operations in Fort McMurray.⁸³ As can be seen in Figure 71, local 138/144 kV networks also serve load across the planning region. In the Fort McMurray area, 144 kV networks connect load and behind-the-fence facilities.

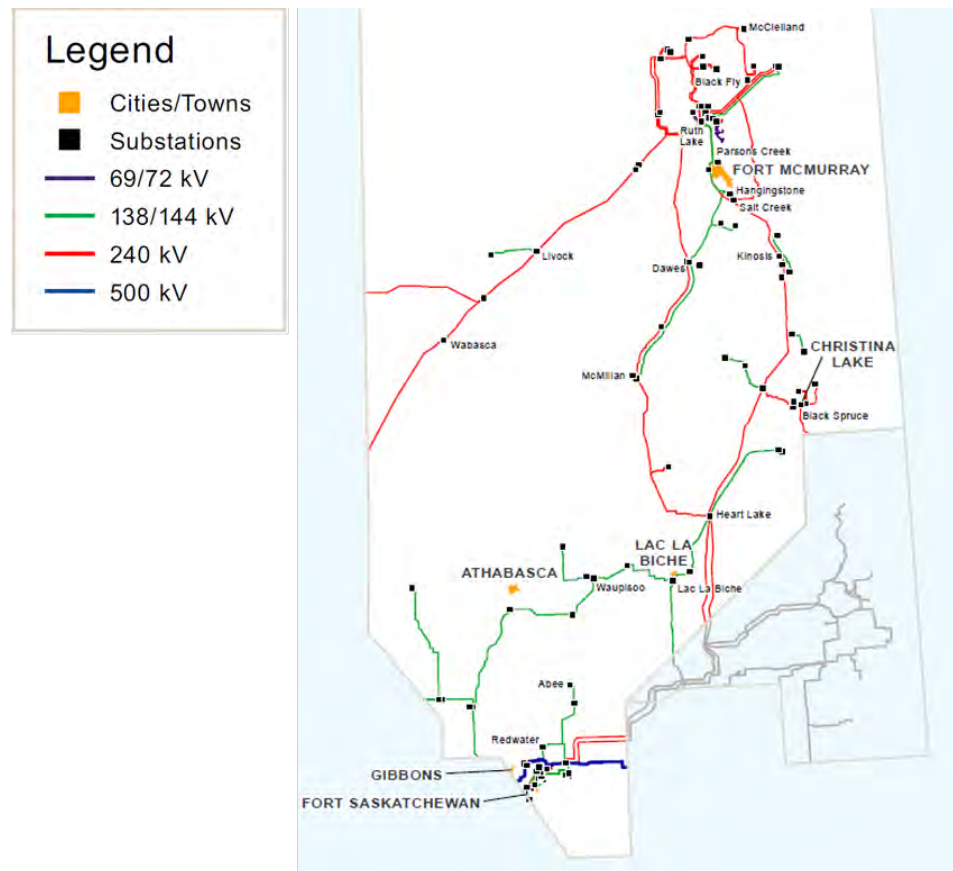


Figure 71 – Other Communities - Existing Electricity Transmission System

Having received approval in January 2017 the construction of a major electricity transmission line, Fort McMurray West 500 kV, is about to begin. It will be built by Alberta PowerLine, a partnership between ATCO and Quanta Services. Construction will begin in the Fort McMurray area and end in the Wabamun area (a map of the route can be found in **Appendix H**). Designed to address increased electricity demand in the Fort McMurray area, the facilities will be completed and operational by June 2019.⁸⁴

Oilsands projects in the Fort McMurray could drive major 240 kV and 138 kV enhancements; however, given the economic uncertainty of these developments, timelines for some transmission projects remain uncertain.⁸⁵ In the medium term new 144 kV lines between Salt Creek and Parsons

⁸³ AESO, p. 55.

⁸⁴ Alberta PowerLine website.

⁸⁵ AESO, 4.

Creek and between Ruth Lake and Parsons Creek are proposed. Pipelines in the Athabasca area likely to drive the need for 138 kV enhancements on the Athabasca-Lac La Biche network, including a new line between Abee and Waupisoo.

10.6.3 Municipal Capital and Civil Works Projects

Leveraging civil infrastructure projects can reduce broadband deployment costs by 75%. Given civil infrastructure costs typically account for 70% of buried deployment costs, this is significant. Capital projects that involve trenching or erecting towers or poles such as during the development of new subdivisions, road construction, or the construction or rehabilitation of water or sewer lines are typical projects that can improve the economics of community broadband projects. Table 376 shows the capital and civil works projects that the municipalities self-reported.

Table 37 – Other Communities Municipal Capital & Civil Works Projects

City	
Fort McMurray	Projects associated with the rebuild
Towns	
Athabasca	2, water/sewer projects (downtown and University area) Road extension – University area Edwin Parr Composite School New swimming pool (cost split with Athabasca County)
Boyle	<i>No Response</i>
Counties/RMs	
Athabasca	Athabasca Flats East shallow utilities New swimming pool (cost split with Town of Athabasca)
Wood Buffalo	Projects associated with the rebuild

First Nations were not queried.

11 Acronyms

AAMDC	Alberta Association of Municipal Districts & Counties
ACE	Alberta Central East Regional Water System
AESO	Alberta Electric System Operator
Alberta HUB	Northeast Alberta Information Hub Ltd.
AlbertaSW	Alberta SouthWest Regional Alliance
AMWWP	Alberta Municipal Water/Wastewater Partnership
APC	Alberta Community Partnership
AUMA	Alberta Urban Municipalities Association
BAN	Base Area Network
BRAED	Battle River Alliance for Economic Development
CAEP	Central Alberta Economic Partnership
CAGR	Compounded Annual Growth Rate
CCI	Corridor Communications Inc.
CIRA	Canadian Internet Registration Authority
CRTC	Canadian Radio-television and Telecommunications Commission
CTI	Connect to Innovate
CRP	Calgary Regional Partnership
CWWF	Clean Water and Wastewater Fund
DSL	digital subscriber line
DOCSIS	Data Over Coaxial Cable Interface Specification
DWDM	Dense Wavelength Division Multiplexing
EAN	Extended Area Network
EDT	(Alberta) Economic Development and Trade
FCM	Federation of Canadian Municipalities
FTTP	Fibre to the Premise
GB	giga (10 ⁹) bits
Gb/s	giga (10 ⁹) – bits per second
GLHLM	GoA, Learning, Health, Library, and Municipality
GoA	Government of Alberta
Growth Alberta	Grizzly Regional Economic Alliance Society
ICMP	Inter-Municipal Collaborative Development Program
ID 24	Improvement District No. 24
ISED	Innovation, Science, and Economic Development (formerly Industry Canada)
ISP	Internet Service Provider
kV	kilo volt
LSLEA	Lesser Slave Lake Economic Alliance
LTE	long-term evolution
Mb/s	mega (10 ⁶) - bits per second

MD	municipal district
MHz	megahertz
NADC	Northern Alberta Development Council
NAICS	North American Industry Classification System
OSB	Oriented Strand Board
PEP	Palliser Economic Partnership
PMP	point-to-multipoint
PREDA	Peace River Economic Development Alliance
PRiS	Peace River Internet Service Society
PTP	Point-to-point
REA	Rural Electrification Association
REDA	Regional Economic Development Alliance
REDI	Regional Economic Development Initiative for Northwest Alberta
RM	regional municipality
RMWB	Regional Municipality of Wood Buffalo
SouthGrow	South Grow Regional Initiative
SV	Summer Village
TBA	to be ascertained
UTN	Utility Communications Network
W4L	Water for Life
WISP	Wireless Internet Service Provider

12 Appendices

12.1 Appendix A – Population and Population Trends

Table 38 – Alberta Hub Populations & Population Growth Trends

Municipality	Rural			Urban				First Nations/Métis Settlements							
	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend (%) & Direction	City/Town/Village	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend (%) & Direction	Reserve / Settlement	Population (2016)	CAGR (%) (2011-2016)	5-Year Trend (%) & Direction				
Bonnyville MD	13,575	3.9	21.3 ▲	Cold Lake	14,961	1.6	8.1 ▲	Cold Lake	874	2.1	10.9 ▲				
				Bonnyville	5,417	-2.7	-12.9 ▼	Kehewin Cree	976	-1.7	-8.4 ▼				
				Glendon	493	0.3	1.4 ▲	Elizabeth (Métis)	653	0.0	-0.2 ▼				
				SV ¹ (2)	235	-1.8	-8.6 ▼	Fishing Lk. (Métis)	446	0.5	2.3 ▲				
				Sub-total	21,106			Sub Total - FN	1,850			Sub Total - Métis	1,099		
Lac La Biche, County	8,330	-0.2	-0.9 ▼					Beaver Lake	414	-0.4	-2.1 ▼				
								Heart Lake	184	3.0	15.7 ▲				
								Sub Total - FN	598						
Lamont, County	3,899	0.1	0.7 ▲	Andrew	425	2.3	12.1 ▲								
				Bruderheim	1,308	2.5	13.2 ▲								
				Chipman	274	-0.7	-3.5 ▼								
				Lamont	1,774	0.2	1.2 ▲								
				Mundare	852	-0.1	-0.4 ▼								
Sub-total	4,633														
Minburn, County	3,188	-1.2	-5.8 ▼	Innisfree	193	-2.6	-12.3 ▼								
				Mannville	828	0.6	3.1 ▲								
				Vegreville	5,708	0.0	-0.2 ▼								
				Sub-total	6,729										
Smoky Lake, County	4,107	1.0	5.0 ▲	Smoky Lk.	964	-1.2	-5.7 ▼	Saddle Lake	na	na	na				
				Vilna	290	3.1	16.5 ▲	Whitefish (Goodfish)	1,310	2.0	10.3 ▲				
				Waskatenau	186	-6.1	-27.1 ▼	Buffalo Lk. (Métis)	712	7.7	44.7 ▲				
								Kikino (Métis)	934	-0.5	-2.6 ▼				
				Sub-total	1,440			Sub Total - FN	1,310			Sub Total - Métis	1,646		
St. Paul, County	6,036	0.7	3.6 ▲	Elk Point	1,452	0.6	2.8 ▲	Frog Lake	531	1.9	9.7 ▲				
				St. Paul	5,827	1.5	7.8 ▲								
				SV ² (1)	49	5.8	32.4 ▲								
				Sub-total	7,328										
Thorhild, County	3,254	-1.0	-4.8 ▼												
Two Hills, County	3,322	1.0	5.1 ▲	Myrnam	339	-1.7	-8.4 ▼								
				Two Hills	1,352	-0.4	-2.0 ▼								
				Willingdon	319	3.0	16.0 ▲								
				Sub-total	2,010										
Vermilion River, County	8,267	0.9	4.6 ▲	Dewberry	186	-1.5	-7.5 ▼								
				Kitscoty	925	1.8	9.3 ▲								
				Marwayne	564	-1.6	-7.8 ▼								
				Paradise V.	179	0.6	2.9 ▲								
				Vermilion	4,084	0.8	3.9 ▲								
				Sub-total	5,938										
Total	53,978				49,184			Total - FN	4,289			Total - Métis	2,745		

Note 1: SV - Summer Village: Bonnyville Beach and Pelican Narrows

Note 2: SV - Summer Village: Horseshoe Bay

Total Population = **110,196**

Source: Statistics Canada Federal Census 2011 and 2016.

Table 39 – PREDA Populations & Population Growth Trends

Municipality	Rural				Urban					First Nations/Métis Settlements				
	Popu- lation (2016)	CAGR (%) (2011-2016)	5-Year Trend		City/ Town/ Village	Popu- lation (2016)	CAGR (%) (2011-2016)	5-Year Trend		Reserve / Settlement	Popu- lation (2016)	CAGR (%) (2011-2016)	5-Year Trend	
			(%) & Direction	(%) & Direction				(%) & Direction	(%) & Direction					
Birch Hills, County	1,553	-0.4	-1.8	▼										
Clear Hills, County	3,023	1.5	7.9	▲	Hines Creek	346	-1.9	-8.9	▼					
Fairview, MD	1,604	-0.8	-4.1	▼	Fairview	2,998	-1.1	-5.2	▼					
Grande Prairie, County	22,303	2.5	13.1	▲	Beaverlodge	2,465	0.8	4.2	▲	Horse Lake	469	3.1	16.7	▲
					Grande Pr.	63,166	2.6	13.5	▲					
					Hythe	827	0.2	0.9	▲					
					Sexsmith	2,620	1.6	8.4	▲					
					Wembley	1,516	1.9	9.6	▲					
Sub-total	70,594													
Greenview, MD	5,583	1.0	5.4	▲	Fox Creek	1,971	0.0	0.1	▲	Sturgeon Lake	1500	4.8	26.5	▲
					Grande C.	3,571	-3.7	-17.3	▼					
					Valleyview	1,863	1.1	5.8	▲					
					Sub-total	7,405								
Northern Lights, County	4,200	0.4	2.0	▲	Manning	1,183	0.3	1.6	▲	Paddle Prairie (Métis)	544	-0.6	-3.2	▼
Northern Sunrise, County	1,891	1.1	5.6	▲	Nampa	364	0.1	0.6	▲	Lubicon Lake Woodland Cr.	452 873	3.2 0.6	16.8 2.8	▲ ▲
					Peace Rv.	6,842	0.3	1.7	▲					
					Sub-total	7,206								
Peace, MD	1,747	3.9	20.8	▲	Berwyn	538	0.5	2.3	▲	Duncan's	150	-1.8	-8.5	▼
					Grimshaw	2,718	1.6	8.1	▲					
					Sub-total	3,256								
Saddle Hills, County	2,225	-0.6	-2.8	▼										
Smoky River, MD	2,023	-1.0	-4.8	▼	Donnelly	342	2.3	12.1	▲					
					Falher	1,047	-0.5	-2.6	▼					
					Girouxville	219	-3.8	-17.7	▼					
					McLennan	701	-2.8	-13.3	▼					
					Sub-total	2,309								
Spirit River, MD	700	-0.4	-1.8	▼	Spirit River	995	-0.6	-2.9	▼					
					Rycroft	612	-0.5	-2.5	▼					
					Sub-total	1,607								
Total	46,852					96,904				Total - FN	3,444			
										Total - Métis	544			

Total Population = 147,744

Source: Statistics Canada Federal Census 2011 and 2016.

12.2 Appendix B – Service Providers

To minimize provider costs, wireless services in rural areas are typically provided using point-to-multipoint (PMP) equipment. In this configuration, a “host” tower transmits and receives signals to a specified geographic area. Each client has dedicated reception equipment that homes on the host tower. All users in the area share the host signal.

Higher-end business services may use dedicated point-to-point (PTP) systems that are typically engineered to deliver higher quality, higher bandwidth services. Pricing is installation specific and depends on the service parameters and equipment selected.

12.2.1 Northeast Alberta Information HUB (Alberta Hub)

12.2.1.1 City of Cold Lake

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless								
	TELUS (copper)			Eastlink (coaxial cable)			CCL Networks			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Cold Lake															
Residential	4G Satellite														
Option 1	63.00	up to 6	up to 1	55.95	up to 5	up to 1	49.95	up to 3.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	78.95	up to 30	up to 3	59.95	up to 6	up to 1.5	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	73.00	up to 25	up to 5	88.95	up to 50	up to 5	79.95	up to 12	up to 2	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4	80.00	up to 50	up to 10	98.95	up to 100	up to 10	99.95	up to 18	up to 3	79.95	up to 12	up to 1			
Option 5				149.95	up to 150	up to 10	199.95	up to 18	up to 3	99.95	up to 20	up to 2			
Option 6				259.95	up to 940	up to 10				149.95	up to 20	up to 2			
Option 7										199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			
Business	4G Satellite														
Option 1	60.00	up to 15	up to 1	na	up to 50	up to 5	189.00	up to 20	up to 4	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2				na	up to 100	up to 10				49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				na	up to 200	up to 10				59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4										79.95	up to 12	up to 1			
Option 5										99.95	up to 20	up to 2			
Option 6										149.95	up to 20	up to 2			
Option 7										199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			

12.2.1.2 Town of Bonnyville

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless								
	TELUS (copper & fibre)			Eastlink (coaxial cable)			CCL Networks			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Bonnyville															
Residential															
Option 1	63.00	up to 6	up to 1	55.95	up to 5	up to 1	49.95	up to 3.5	up to 1	39.95	up to 1.7	up to 0.5	4G Satellite		
Option 2	68.00	up to 15	up to 1	78.95	up to 30	up to 3	59.95	up to 6	up to 1.5	49.95	up to 3.2	up to 0.8	69.99	up to 5	up to 1
Option 3	73.00	up to 25	up to 5	88.95	up to 50	up to 5	79.95	up to 12	up to 2	59.95	up to 6	up to 1	79.99	up to 5	up to 1
Option 4	80.00	up to 50	up to 10	98.95	up to 100	up to 10	99.95	up to 18	up to 3	79.95	up to 12	up to 1	89.99	up to 5	up to 1
Option 5	85.00	up to 150	up to 150	149.95	up to 150	up to 10	199.95	up to 18	up to 3	99.95	up to 20	up to 2			
Option 6				259.95	up to 940	up to 10				149.95	up to 20	up to 2			
Option 7										199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			
Business															
Option 1	60.00	up to 15	up to 1	na	up to 50	up to 5	189.00	up to 20	up to 4	39.95	up to 1.7	up to 0.5	4G Satellite		
Option 2	85.00	up to 25	up to 5	na	up to 100	up to 10				49.95	up to 3.2	up to 0.8	69.99	up to 5	up to 1
Option 3	100.00	up to 50	up to 10	na	up to 200	up to 10				59.95	up to 6	up to 1	79.99	up to 5	up to 1
Option 4	125.00	up to 100	up to 20							79.95	up to 12	up to 1	89.99	up to 5	up to 1
Option 5	150.00	up to 150	up to 150							99.95	up to 20	up to 2			
Option 6										149.95	up to 20	up to 2			
Option 7										199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			

12.2.1.3 Town of Bruderheim

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless					
	Shaw (coaxial cable)			Alberta Com. (licensed)			CCI (unlicensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Bruderheim Residential									
Option 1	55.00	up to 5	up to 0.5	39.95	up to 1.5	up to 0.5	49.99	up to 2	up to 0.75
Option 2	66.00	up to 15	up to 0.5	49.95	up to 2	up to 0.8	74.99	up to 5	up to 1
Option 3	75.00	up to 30	up to 5	54.95	up to 3	up to 1	94.99	up to 10	up to 1
Option 4	95.00	up to 60	up to 6						
Option 5	135.00	up to 150	up to 15						
Option 6									
Bruderheim Business									
Option 1	na	na	na	59.95	up to 2	up to 0.8	200.00	up to 6	up to 2
Option 2				79.95	up to 3	up to 1	249.99	up to 7	up to 3
Option 3				89.95	up to 4	up to 1.2			
Option 4									
Option 5									

	Fixed Point-to-Multipoint Wireless									
	Clearwave			MCSNet (licensed/unlicensed)			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Bruderheim Residential										
Option 1	69.95	up to 6	na	39.95	up to 1.7	up to 0.5	4G LTE Fixed Wireless	59.99	up to 5	up to 1
Option 2	109.95	up to 6		49.95	up to 3.2	up to 0.8		69.99	up to 10	up to 1
Option 3	79.95	up to 12		59.95	up to 6	up to 1		79.99	up to 25	up to 1
Option 4	119.95	up to 12		79.95	up to 12	up to 1		109.99	up to 25	up to 1
Option 5	99.95	up to 25		99.95	up to 20	up to 2				
Option 6	139.95	up to 25		149.95	up to 20	up to 2				
Option 7	129.95	up to 50		199.95	up to 20	up to 2				
Option 8	139.95	up to 50		249.95	up to 20	up to 2				
Bruderheim Business										
Option 1	79.95	up to 12	na	39.95	up to 1.7	up to 0.5	4G LTE Fixed Wireless	69.99	up to 10	up to 1
Option 2	159.95	up to 15		49.95	up to 3.2	up to 0.8		79.99	up to 25	up to 1
Option 3	99.95	up to 25		59.95	up to 6	up to 1		109.99	up to 25	up to 1
Option 4	229.95	up to 25		79.95	up to 12	up to 1				
Option 5	119.95	up to 50		99.95	up to 20	up to 2				
Option 6	329.95	up to 50		149.95	up to 20	up to 2				
Option 7	429.95	up to 75		199.95	up to 20	up to 2				
Option 8	529.95	up to 100		249.95	up to 20	up to 2				

12.2.1.4 Town of Elk Point

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless								
	TELUS (copper)			Eastlink (coaxial cable)			MCSNet (licensed/unlicensed)			rNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Elk Point												
Residential												
Option 1	63.00	up to 6	up to 1	77.00	up to 20	up to 2	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1				49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	73.00	up to 25	up to 5				59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4							79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5							99.95	up to 20	up to 2			
Option 6							149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			
Business												
Option 1							39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2							49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3							59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4							79.95	up to 12	up to 1			
Option 5							99.95	up to 20	up to 2			
Option 6							149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			

12.2.1.5 Town of Lamont

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless								
	TELUS (copper)			Shaw (coaxial cable)			Alberta Com. (licensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Lamont															
Residential															
Option 1	63.00	up to 6	up to 1	55.00	up to 5	up to 0.5	39.95	up to 1.5	up to 0.5	39.95	up to 1.7	up to 0.5	4G LTE Fixed Wireless		
Option 2	68.00	up to 15	up to 1	66.00	up to 15	up to 0.5	49.95	up to 2	up to 0.8	49.95	up to 3.2	up to 0.8	59.99	up to 10	up to 1
Option 3	73.00	up to 25	up to 5	75.00	up to 30	up to 5	54.95	up to 3	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4	80.00	up to 50	up to 10	95.00	up to 60	up to 6				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				135.00	up to 150	up to 15				99.95	up to 20	up to 2			
Option 6										149.95	up to 20	up to 2			
Option 7										199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			
Business															
Option 1	60.00	up to 15	up to 1	51.95	up to 5	up to 0.5	59.95	up to 2	up to 0.8	39.95	up to 1.7	up to 0.5	4G LTE Fixed Wireless		
Option 2	85.00	up to 25	up to 5	60.95	up to 20	up to 1.5	79.95	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3				78.95	up to 30	up to 5	89.95	up to 4	up to 1.2	59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				102.95	up to 60	up to 6				79.95	up to 12	up to 1			
Option 5										99.95	up to 20	up to 2			
Option 6										149.95	up to 20	up to 2			
Option 7										199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			

12.2.1.6 Town of Mundare

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless											
	TELUS (copper)			CCI (unlicensed)			DigitalWeb (licensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Mundare															
Residential	4G LTE Fixed Wireless														
Option 1	63.00	up to 6	up to 1	49.99	up to 2	up to 0.75	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	74.99	up to 5	up to 1	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3				94.99	up to 10	up to 1	55.00	up to 6	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4							55.00	up to 10	up to 2	79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5							60.00	up to 15	up to 2	99.95	up to 20	up to 2			
Option 6							65.00	up to 25	up to 5	149.95	up to 20	up to 2			
Option 7							70.00	up to 50	up to 5	199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			
Business	4G LTE Fixed Wireless														
Option 1				200.00	up to 6	up to 2	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2				249.99	up to 7	up to 3	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3							55.00	up to 6	up to 1	59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4							55.00	up to 10	up to 2	79.95	up to 12	up to 1			
Option 5							60.00	up to 15	up to 2	99.95	up to 20	up to 2			
Option 6							65.00	up to 25	up to 5	149.95	up to 20	up to 2			
Option 7							70.00	up to 50	up to 5	199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			

12.2.1.7 Town of Smoky Lake

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless								
	TELUS (copper)			CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Smoky Lake												
Residential										4G Satellite		
Option 1	63.00	up to 6	up to 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				94.99	up to 10	up to 1	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4							79.95	up to 12	up to 1			
Option 5							99.95	up to 20	up to 2			
Option 6							149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			
Business										4G Satellite		
Option 1	60.00	up to 15	up to 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2				249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3							59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4							79.95	up to 12	up to 1			
Option 5							99.95	up to 20	up to 2			
Option 6							149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 7							249.95	up to 20	up to 2			

12.2.1.8 Town of St. Paul

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless					
	TELUS (copper & fibre)			Eastlink (coaxial cable)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
St. Paul												
Residential	4G Satellite											
Option 1	63.00	up to 6	up to 1	55.95	up to 5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	78.95	up to 30	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	73.00	up to 25	up to 5	88.95	up to 50	up to 5	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4	80.00	up to 50	up to 10	98.95	up to 100	up to 10	79.95	up to 12	up to 1			
Option 5	85.00	up to 150	up to 150	149.95	up to 150	up to 10	99.95	up to 20	up to 2			
Option 6				259.95	up to 940	up to 10	149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			
Business	4G Satellite											
Option 1	60.00	up to 15	up to 1	na	up to 50	up to 5	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	85.00	up to 25	up to 5	na	up to 100	up to 10	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	100.00	up to 50	up to 10	na	up to 200	up to 10	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4	125.00	up to 100	up to 20				79.95	up to 12	up to 1			
Option 5	150.00	up to 150	up to 150				99.95	up to 20	up to 2			
Option 6							149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			

12.2.1.9 Town of Two Hills

Broadband Service Availability

	Wireline Provider					
	TELUS (copper)			Eastlink (coaxial cable)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Two Hills						
Residential						
Option 1	63.00	up to 6	up to 1	77.00	up to 20	up to 2
Option 2						
Option 3						
Option 4						
Option 5						
Business						
Option 1	60.00	up to 6	up to 1			
Option 2						
Option 3						
Option 4						
Option 5						

	Fixed Point-to-Multipoint Wireless											
	CCI (unlicensed)			DigitalWeb (licensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Two Hills												
Residential												
Option 1	49.99	up to 2	up to 0.75	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	55.00	up to 6	up to 1	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1			
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2			
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2			
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			
Business												
Option 1	200.00	up to 6	up to 2	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				55.00	up to 6	up to 1	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1			
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2			
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2			
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			

12.2.1.10 Town of Vegreville

Broadband Service Availability

	Wireline Providers					
	TELUS (copper & fibre)			Shaw (coaxial cable)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Vegreville						
Residential						
Option 1	63.00	up to 6	up to 1	55.00	up to 5	up to 0.5
Option 2	68.00	up to 15	up to 1	66.00	up to 15	up to 0.5
Option 3	73.00	up to 25	up to 5	75.00	up to 30	up to 5
Option 4	80.00	up to 50	up to 10	95.00	up to 60	up to 6
Option 5	85.00	up to 150	up to 150	135.00	up to 150	up to 15
Business						
Option 1	60.00	up to 15	up to 1	55.00	up to 5	up to 0.5
Option 2	85.00	up to 25	up to 5	66.00	up to 15	up to 0.5
Option 3	100.00	up to 50	up to 10	75.00	up to 30	up to 5
Option 4	125.00	up to 100	up to 20	95.00	up to 60	up to 6
Option 5	150.00	up to 150	up to 150	135.00	up to 150	up to 15

	Fixed Point-to-Multipoint Wireless														
	CCI (unlicensed)			DigitalWeb (licensed)			MCSNet (licensed/unlicensed)			Wild Rose (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Vegreville															
Residential															
Option 1	49.99	up to 2	up to 0.75	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	49.95	up to 1.5	up to 0.5	4G LTE Fixed Wireless		
Option 2	74.99	up to 5	up to 1	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.95	up to 1.5	up to 0.5	59.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	55.00	up to 6	up to 1	59.95	up to 6	up to 1				79.99	up to 25	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1				109.99	up to 25	up to 1
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2						
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2						
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2						
Option 8							249.95	up to 20	up to 2						
Business															
Option 1	200.00	up to 6	up to 2	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	49.95	up to 1.5	up to 0.5	4G LTE Fixed Wireless		
Option 2	249.99	up to 7	up to 3	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.95	up to 1.5	up to 0.5	69.99	up to 10	up to 1
Option 3				55.00	up to 6	up to 1	59.95	up to 6	up to 1				79.99	up to 25	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1				109.99	up to 25	up to 1
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2						
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2						
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2						
Option 8							249.95	up to 20	up to 2						

12.2.1.11 Town of Vermilion

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless					
	TELUS (copper)			Shaw (coaxial cable)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Vermilion												
Residential												
Option 1	63.00	up to 6	up to 1	55.00	up to 5	up to 0.5	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	66.00	up to 15	up to 0.5	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				75.00	up to 30	up to 5	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				95.00	up to 60	up to 6	79.95	up to 12	up to 1			
Option 5				135.00	up to 150	up to 15	99.95	up to 20	up to 2			
Option 6							149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			
Business												
Option 1	60.00	up to 15	up to 1	55.00	up to 5	up to 0.5	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2				66.00	up to 15	up to 0.5	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				75.00	up to 30	up to 5	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				95.00	up to 60	up to 6	79.95	up to 12	up to 1			
Option 5				135.00	up to 150	up to 15	99.95	up to 20	up to 2			
Option 6							149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			

12.2.1.12 Village of Andrew

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless											
	CCI (unlicensed)			DigitalWeb (licensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Andrew												
Residential	4G Wireless											
Option 1	49.99	up to 2	up to 0.75	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	55.00	up to 6	up to 1	59.95	up to 6	up to 1	79.99	up to 10	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1	109.99	up to 10	up to 1
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2			
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2			
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			
Business	4G Wireless											
Option 1	200.00	up to 6	up to 2	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 10	up to 1
Option 3				55.00	up to 6	up to 1	59.95	up to 6	up to 1	109.99	up to 10	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1			
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2			
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2			
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			

12.2.1.13 Village of Chipman

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	MCSNet (licensed/unlicensed)			Alberta Com. (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Chipman									
Residential	4G LTE Fixed Wireless								
Option 1	39.95	up to 1.7	up to 0.5	39.95	up to 1.5	up to 0.5	59.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	49.95	up to 2	up to 0.8	69.99	up to 10	up to 1
Option 3	59.95	up to 6	up to 1	54.95	up to 3	up to 1	79.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1				109.99	up to 25	up to 1
Option 5	99.95	up to 20	up to 2						
Option 6	149.95	up to 20	up to 2						
Option 7	199.95	up to 20	up to 2						
Option 8	249.95	up to 20	up to 2						
Business	4G LTE Fixed Wireless								
Option 1	39.95	up to 1.7	up to 0.5	59.95	up to 2	up to 0.8	69.99	up to 10	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.95	up to 3	up to 1	79.99	up to 25	up to 1
Option 3	59.95	up to 6	up to 1	89.95	up to 4	up to 1.2	109.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1						
Option 5	99.95	up to 20	up to 2						
Option 6	149.95	up to 20	up to 2						
Option 7	199.95	up to 20	up to 2						
Option 8	249.95	up to 20	up to 2						

12.2.1.14 Village of Dewberry

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless					
	MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Dewberry						
Residential	4G LTE Fixed Wireless					
Option 1	39.95 ▼	up to 1.7	up to 0.5	59.99 ▼	up to 5	up to 1
Option 2	49.95 ▼	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	59.95 ▼	up to 6	up to 1	79.99	up to 25	up to 1
Option 4	79.95 ▼	up to 12	up to 1	109.99	up to 25	up to 1
Option 5	99.95 ▼	up to 20	up to 2			
Option 6	149.95 ▼	up to 20	up to 2			
Option 7	199.95 ▼	up to 20	up to 2			
Option 8	249.95 ▼	up to 20	up to 2			
Business	4G LTE Fixed Wireless					
Option 1	39.95 ▼	up to 1.7	up to 0.5	69.99 ▼	up to 10	up to 1
Option 2	49.95 ▼	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3	59.95 ▼	up to 6	up to 1	109.99	up to 25	up to 1
Option 4	79.95 ▼	up to 12	up to 1			
Option 5	99.95 ▼	up to 20	up to 2			
Option 6	149.95 ▼	up to 20	up to 2			
Option 7	199.95 ▼	up to 20	up to 2			
Option 8	249.95 ▼	up to 20	up to 2			

12.2.1.15 Village of Glendon

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless					
	CCI Wired (copper)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Glendon									
Residential							4G LTE Fixed Wireless		
Option 1	49.99	< 10 na		39.95	up to 1.7 up to 0.5		59.99	up to 5 up to 1	
Option 2	69.99	up to 10 na		49.95	up to 3.2 up to 0.8		69.99	up to 10 up to 1	
Option 3	79.99	up to 15 na		59.95	up to 6 up to 1		79.99	up to 25 up to 1	
Option 4	89.99	up to 25 na		79.95	up to 12 up to 1		109.99	up to 25 up to 1	
Option 5	109.99	up to 50 na		99.95	up to 20 up to 2				
Option 6				149.95	up to 20 up to 2				
Option 7				199.95	up to 20 up to 2				
Option 8				249.95	up to 20 up to 2				
Business							4G LTE Fixed Wireless		
Option 1				39.95	up to 1.7 up to 0.5		69.99	up to 10 up to 1	
Option 2				49.95	up to 3.2 up to 0.8		79.99	up to 25 up to 1	
Option 3				59.95	up to 6 up to 1		109.99	up to 25 up to 1	
Option 4				79.95	up to 12 up to 1				
Option 5				99.95	up to 20 up to 2				
Option 6				149.95	up to 20 up to 2				
Option 7				199.95	up to 20 up to 2				
Option 8				249.95	up to 20 up to 2				

12.2.1.16 Village of Innisfree

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless														
	CCI (unlicensed)			DigitalWeb (licensed)			MCSNet (licensed/unlicensed)			Wild Rose (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Innisfree															
Residential															
Option 1	49.99	up to 2	up to 0.75	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	49.95	up to 1.5	up to 0.5	4G Satellite		
Option 2	74.99	up to 5	up to 1	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.95	up to 1.5	up to 0.5	69.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	55.00	up to 6	up to 1	59.95	up to 6	up to 1				79.99	up to 5	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1				89.99	up to 5	up to 1
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2						
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2						
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2						
Option 8							249.95	up to 20	up to 2						
Business															
Option 1	200.00	up to 6	up to 2	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	49.95	up to 1.5	up to 0.5	4G Satellite		
Option 2	249.99	up to 7	up to 3	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.95	up to 1.5	up to 0.5	69.99	up to 5	up to 1
Option 3				55.00	up to 6	up to 1	59.95	up to 6	up to 1				79.99	up to 5	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1				89.99	up to 5	up to 1
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2						
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2						
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2						
Option 8							249.95	up to 20	up to 2						

12.2.1.17 Village of Kitscoty

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Kitscoty									
Residential	4G LTE Fixed Wireless								
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business	4G LTE Fixed Wireless								
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.1.18 Village of Mannville

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless											
	CCI Wired (copper)			DigitalWeb (licensed)			MCSNet (licensed/unlicensed)			Wild Rose (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Mannville															
Residential													4G Satellite		
Option 1	49.99	< 10	na	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	49.95	up to 1.5	up to 0.5	69.99	up to 5	up to 1
Option 2	69.99	up to 10	na	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.95	up to 1.5	up to 0.5	79.99	up to 5	up to 1
Option 3	79.99	up to 15	na	55.00	up to 6	up to 1	59.95	up to 6	up to 1				89.99	up to 5	up to 1
Option 4	89.99	up to 25	na	55.00	up to 10	up to 2	79.95	up to 12	up to 1						
Option 5	109.99	up to 50	na	60.00	up to 15	up to 2	99.95	up to 20	up to 2						
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2						
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2						
Option 8							249.95	up to 20	up to 2						
Business													4G Satellite		
Option 1				35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	49.95	up to 1.5	up to 0.5	69.99	up to 5	up to 1
Option 2				45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.95	up to 1.5	up to 0.5	79.99	up to 5	up to 1
Option 3				55.00	up to 6	up to 1	59.95	up to 6	up to 1				89.99	up to 5	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1						
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2						
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2						
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2						
Option 8							249.95	up to 20	up to 2						

12.2.1.19 Village of Marwayne

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless									
	CCI Wired (copper)			CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Marwayne													
Residential													
Option 1	49.99	< 10	na	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	4G LTE Fixed Wireless	59.99	up to 5	up to 1
Option 2	69.99	up to 10	na	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8		69.99	up to 10	up to 1
Option 3	79.99	up to 15	na	94.99	up to 10	up to 1	59.95	up to 6	up to 1		79.99	up to 25	up to 1
Option 4	89.99	up to 25	na				79.95	up to 12	up to 1		109.99	up to 25	up to 1
Option 5	109.99	up to 50	na				99.95	up to 20	up to 2				
Option 6							149.95	up to 20	up to 2				
Option 7							199.95	up to 20	up to 2				
Option 8							249.95	up to 20	up to 2				
Business													
Option 1				200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	4G LTE Fixed Wireless	69.99	up to 10	up to 1
Option 2				249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8		79.99	up to 25	up to 1
Option 3							59.95	up to 6	up to 1		109.99	up to 25	up to 1
Option 4							79.95	up to 12	up to 1				
Option 5							99.95	up to 20	up to 2				
Option 6							149.95	up to 20	up to 2				
Option 7							199.95	up to 20	up to 2				
Option 8							249.95	up to 20	up to 2				

12.2.1.20 Village of Myrnam

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Myrnam									
Residential	4G Satellite								
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business	4G Satellite								
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.1.21 Village of Paradise Valley

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Paradise Valley									
Residential	4G LTE Fixed Wireless								
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business	4G LTE Fixed Wireless								
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.1.22 Village of Vilna

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Vilna									
Residential	4G Satellite								
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business	4G Satellite								
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.1.23 Village of Waskatenau

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Waskatenau									
Residential	4G LTE Fixed Wireless								
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business	4G LTE Fixed Wireless								
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.1.24 Village of Willingdon

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless											
	CCI (unlicensed)			DigitalWeb (licensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Willingdon												
Residential	4G LTE Fixed Wireless											
Option 1	49.99	up to 2	up to 0.75	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	55.00	up to 6	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2			
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2			
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			
Business	4G LTE Fixed Wireless											
Option 1	200.00	up to 6	up to 2	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				55.00	up to 6	up to 1	59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1			
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2			
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2			
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			

12.2.1.25 Summer Villages of Bonnyville Beach & Pelican Narrows

	Fixed Point-to-Multipoint Wireless								
	CCL Networks			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Summer Villages of Bonnyville Beach & Pelican Narrows									
Residential							4G Satellite		
Option 1	49.95	up to 3.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	59.95	up to 6	up to 1.5	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	79.95	up to 12	up to 2	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4	99.95	up to 18	up to 3	79.95	up to 12	up to 1			
Option 5	199.95	up to 18	up to 3	99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business							4G Satellite		
Option 1	189.00	up to 20	up to 4	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2				49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.1.26 MD of Bonnyville

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	CCL Networks			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Ardmore, Beaver Crossing, Beaverdam, Cherry Grove, Fort Kent									
Residential							4G Satellite		
Option 1	49.95	up to 3.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	59.95	up to 6	up to 1.5	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	79.95	up to 12	up to 2	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4	99.95	up to 18	up to 3	79.95	up to 12	up to 1			
Option 5	199.95	up to 18	up to 3	99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business	189.00	up to 20	up to 4	39.95	up to 1.7	up to 0.5	4G Satellite	69.99	up to 5
Option 1				49.95	up to 3.2	up to 0.8		79.99	up to 5
Option 2				59.95	up to 6	up to 1		89.99	up to 5
Option 3				79.95	up to 12	up to 1			
Option 4				99.95	up to 20	up to 2			
Option 5				149.95	up to 20	up to 2			
Option 6				199.95	up to 20	up to 2			
Option 7				249.95	up to 20	up to 2			
Option 8									
La Corey, Therien									
Residential							4G LTE Fixed Wireless		
Option 1	49.95	up to 3.5	up to 1	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	59.95	up to 6	up to 1.5	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	79.95	up to 12	up to 2	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4	99.95	up to 18	up to 3	79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5	199.95	up to 18	up to 3	99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business	189.00	up to 20	up to 4	39.95	up to 1.7	up to 0.5	4G LTE Fixed Wireless	69.99	up to 10
Option 1				49.95	up to 3.2	up to 0.8		79.99	up to 25
Option 2				59.95	up to 6	up to 1		109.99	up to 25
Option 3				79.95	up to 12	up to 1			
Option 4				99.95	up to 20	up to 2			
Option 5				149.95	up to 20	up to 2			
Option 6				199.95	up to 20	up to 2			
Option 7				249.95	up to 20	up to 2			
Option 8									

12.2.1.27 Lac La Biche County

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless														
	Arrow (unlicensed)			CCI (unlicensed)			CCL Networks			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Beaver Lake, Hylo, Venice															
Residential													Expedience		
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	49.95	up to 3.5	up to 1	39.95	up to 1.7	up to 0.5	51.99	up to 1.5	up to 0.25
Option 2				74.99	up to 5	up to 1	59.95	up to 6	up to 1.5	49.95	up to 3.2	up to 0.8	71.99	up to 3	up to 0.5
Option 3				94.99	up to 10	up to 1	79.95	up to 12	up to 2	59.95	up to 6	up to 1	91.99	up to 5	up to 0.5
Option 4							99.95	up to 18	up to 3	79.95	up to 12	up to 1			
Option 5							199.95	up to 18	up to 3	99.95	up to 20	up to 2			
Option 6										149.95	up to 20	up to 2			
Option 7										199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			
Business													Expedience		
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2	189.00	up to 20	up to 4	39.95	up to 1.7	up to 0.5	104.99	up to 3	up to 0.8
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3				49.95	up to 3.2	up to 0.8	149.99	up to 5	up to 1
Option 3										59.95	up to 6	up to 1			
Option 4										79.95	up to 12	up to 1			
Option 5										99.95	up to 20	up to 2			
Option 6										149.95	up to 20	up to 2			
Option 7										199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			

Wireline Provider			
TELUS (copper & fibre)			
	Cost \$/mo	Bandwidth - Mb/s Down Up	
Lac La Biche			
Residential			
Option 1	63.00	up to 6	up to 1
Option 2	68.00	up to 15	up to 1
Option 3	73.00	up to 25	up to 5
Option 4			
Option 5			
Business			
Option 1	60.00	up to 15	up to 1
Option 2	85.00	up to 25	up to 5
Option 3			
Option 4			
Option 5			

Fixed Point-to-Multipoint Wireless															
	Arrow (unlicensed)			CCI (unlicensed)			CCL Networks			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Lac La Biche															
Residential															
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	49.95	up to 3.5	up to 1	39.95	up to 1.7	up to 0.5	Expedience		
Option 2				74.99	up to 5	up to 1	59.95	up to 6	up to 1.5	49.95	up to 3.2	up to 0.8	51.99	up to 1.5	up to 0.25
Option 3				94.99	up to 10	up to 1	79.95	up to 12	up to 2	59.95	up to 6	up to 1	71.99	up to 3	up to 0.5
Option 4							99.95	up to 18	up to 3	79.95	up to 12	up to 1	91.99	up to 5	up to 0.5
Option 5							199.95	up to 18	up to 3	99.95	up to 20	up to 2			
Option 6										149.95	up to 20	up to 2			
Option 7										199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			
Business															
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2	189.00	up to 20	up to 4	39.95	up to 1.7	up to 0.5	Expedience		
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3				49.95	up to 3.2	up to 0.8	104.99	up to 3	up to 0.8
Option 3										59.95	up to 6	up to 1	149.99	up to 5	up to 1
Option 4										79.95	up to 12	up to 1			
Option 5										99.95	up to 20	up to 2			
Option 6										149.95	up to 20	up to 2			
Option 7										199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			

	Fixed Point-to-Multipoint Wireless											
	CCI (unlicensed)			CCL Networks			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Plamondon												
Residential												
Option 1	49.99	up to 2	up to 0.75	49.95	up to 3.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	59.95	up to 6	up to 1.5	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	79.95	up to 12	up to 2	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				99.95	up to 18	up to 3	79.95	up to 12	up to 1			
Option 5				199.95	up to 18	up to 3	99.95	up to 20	up to 2			
Option 6							149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			
Business												
Option 1	200.00	up to 6	up to 2	189.00	up to 20	up to 4	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3				49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3							59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4							79.95	up to 12	up to 1			
Option 5							99.95	up to 20	up to 2			
Option 6							149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			

12.2.1.28 Lamont County

Broadband Service Availability

Fixed Point-to-Multipoint Wireless									
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Hilliard, Whitford, Wostok									
Residential									
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business									
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

Fixed Point-to-Multipoint Wireless												
	Alberta Com. (licensed)			CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
St. Michael, Star												
Residential												
Option 1	39.95	up to 1.5	up to 0.5	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	49.95	up to 2	up to 0.8	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	54.95	up to 3	up to 1	94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4							79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5							99.95	up to 20	up to 2			
Option 6							149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			
Business												
Option 1	59.95	up to 2	up to 0.8	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	79.95	up to 3	up to 1	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3	89.95	up to 4	up to 1.2				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4							79.95	up to 12	up to 1			
Option 5							99.95	up to 20	up to 2			
Option 6							149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			

12.2.1.29 County of Minburn

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless														
	CCI (unlicensed)			DigitalWeb (licensed)			MCSNet (licensed/unlicensed)			Wild Rose (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up
Lavoy															
Residential	4G LTE Fixed Wireless														
Option 1	49.99	up to 2	up to 0.75	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	49.95	up to 1.5	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.95	up to 1.5	up to 0.5	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	55.00	up to 6	up to 1	59.95	up to 6	up to 1				79.99	up to 25	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1				109.99	up to 25	up to 1
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2						
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2						
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2						
Option 8							249.95	up to 20	up to 2						
Business	4G LTE Fixed Wireless														
Option 1	200.00	up to 6	up to 2	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	49.95	up to 1.5	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.95	up to 1.5	up to 0.5	79.99	up to 25	up to 1
Option 3				55.00	up to 6	up to 1	59.95	up to 6	up to 1				109.99	up to 25	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1						
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2						
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2						
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2						
Option 8							249.95	up to 20	up to 2						

	Fixed Point-to-Multipoint Wireless														
	CCI (unlicensed)			DigitalWeb (licensed)			MCSNet (licensed/unlicensed)			Wild Rose (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up
Minburn, Ranfurly															
Residential	4G Satellite														
Option 1	49.99	up to 2	up to 0.75	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	49.95	up to 1.5	up to 0.5	69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.95	up to 1.5	up to 0.5	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	55.00	up to 6	up to 1	59.95	up to 6	up to 1				89.99	up to 5	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1						
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2						
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2						
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2						
Option 8							249.95	up to 20	up to 2						
Business	4G Satellite														
Option 1	200.00	up to 6	up to 2	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	49.95	up to 1.5	up to 0.5	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.95	up to 1.5	up to 0.5	79.99	up to 5	up to 1
Option 3				55.00	up to 6	up to 1	59.95	up to 6	up to 1				89.99	up to 5	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1						
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2						
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2						
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2						
Option 8							249.95	up to 20	up to 2						

12.2.1.30 Smoky Lake County

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Bellis, Edward, Spedden, Warspite									
Residential									
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	4G Satellite 69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business									
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	4G Satellite 69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.1.31 County of St. Paul

Broadband Service Availability

Fixed Point-to-Multipoint Wireless									
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Ashmont, Lottie Lake, Mallaig, St. Lina									
Residential									
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business									
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

Fixed Point-to-Multipoint Wireless						
	MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Heinsburg, Lafond						
Residential						
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			
Business						
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			

Fixed Point-to-Multipoint Wireless						
	MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s	
	\$/mo	Down	Up	\$/mo	Down	Up
Lindbergh, Riverview						
Residential						
Option 1	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	59.95	up to 6	up to 1	79.99	up to 10	up to 1
Option 4	79.95	up to 12	up to 1	109.99	up to 10	up to 1
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			
Business						
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 10	up to 1
Option 3	59.95	up to 6	up to 1	109.99	up to 10	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			

Fixed Point-to-Multipoint Wireless						
	MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s	
	\$/mo	Down	Up	\$/mo	Down	Up
St. Edouard, St. Vincent						
Residential						
Option 1	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			
Business						
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3	59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			

12.2.1.32 Thorhild County

Broadband Service Availability

Fixed Point-to-Multipoint Wireless									
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Abee, Egremont, Opal, Radway, Thorhild									
Residential							4G LTE Fixed Wireless		
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business							4G LTE Fixed Wireless		
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

Fixed Point-to-Multipoint Wireless									
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Newbrook									
Residential							Expedience		
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	51.99	up to 1.5	up to 0.25
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	71.99	up to 3	up to 0.5
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	91.99	up to 5	up to 0.5
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business							Expedience		
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	104.99	up to 3	up to 0.8
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	149.99	up to 5	up to 1
Option 3				59.95	up to 6	up to 1			
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

	Fixed Point-to-Multipoint Wireless					
	MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Long Lake						
Residential				4G Satellite		
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			
Business				4G Satellite		
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			

12.2.1.33 County of Two Hills

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless											
	CCI (unlicensed)			DigitalWeb (licensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Beauvallon, Brosseau, Duvernay, Morecambe, Musidora												
Residential												4G Satellite
Option 1	49.99	up to 2	up to 0.75	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	55.00	up to 6	up to 1	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1			
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2			
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2			
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			
Business												4G Satellite
Option 1	200.00	up to 6	up to 2	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				55.00	up to 6	up to 1	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1			
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2			
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2			
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			

	Fixed Point-to-Multipoint Wireless					
	MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Derwent						
Residential						4G Satellite
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			
Business						4G Satellite
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			

Fixed Point-to-Multipoint Wireless												
	CCI (unlicensed)			DigitalWeb (licensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Hairy Hill												
Residential	4G LTE Fixed Wireless											
Option 1	49.99	up to 2	up to 0.75	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	55.00	up to 6	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2			
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2			
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			
Business	4G LTE Fixed Wireless											
Option 1	200.00	up to 6	up to 2	35.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	45.00	up to 3	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				55.00	up to 6	up to 1	59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				55.00	up to 10	up to 2	79.95	up to 12	up to 1			
Option 5				60.00	up to 15	up to 2	99.95	up to 20	up to 2			
Option 6				65.00	up to 25	up to 5	149.95	up to 20	up to 2			
Option 7				70.00	up to 50	up to 5	199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			

12.2.1.34 County of Vermilion River

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Blackfoot, Islay, McLaughlin, Rivercourse, Streamstown									
Residential							4G LTE Fixed Wireless		
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business							4G LTE Fixed Wireless		
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

	Fixed Point-to-Multipoint Wireless					
	MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Clandonald						
Residential				4G LTE Fixed Wireless		
Option 1	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			
Business				4G LTE Fixed Wireless		
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3	59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Tulliby Lake									
Residential	4G Satellite								
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business	4G Satellite								
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.1.35 First Nations (Alberta Hub)

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless												
	Arrow (unlicensed)			CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Beaver Lake													
Residential													
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	Expedience	51.99	up to 1.5	up to 0.25
Option 2				74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8		71.99	up to 3	up to 0.5
Option 3				94.99	up to 10	up to 1	59.95	up to 6	up to 1		91.99	up to 5	up to 0.5
Option 4							79.95	up to 12	up to 1				
Option 5							99.95	up to 20	up to 2				
Option 6							149.95	up to 20	up to 2				
Option 7							199.95	up to 20	up to 2				
Option 8							249.95	up to 20	up to 2				
Business													
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	Expedience	104.99	up to 3	up to 0.8
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8		149.99	up to 5	up to 1
Option 3							59.95	up to 6	up to 1				
Option 4							79.95	up to 12	up to 1				
Option 5							99.95	up to 20	up to 2				
Option 6							149.95	up to 20	up to 2				
Option 7							199.95	up to 20	up to 2				
Option 8							249.95	up to 20	up to 2				

		Fixed Point-to-Multipoint Wireless								
		DeneTech			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s	
		\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up
Cold Lake										
Residential										
Option 1	50.00	up to 10 to 20		39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1	4G Satellite
Option 2				49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1	
Option 3				59.95	up to 6	up to 1	89.99	up to 5	up to 1	
Option 4				79.95	up to 12	up to 1				
Option 5				99.95	up to 20	up to 2				
Option 6				149.95	up to 20	up to 2				
Option 7				199.95	up to 20	up to 2				
Option 8				249.95	up to 20	up to 2				
Business										
Option 1	50.00	up to 10 to 20		39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1	4G Satellite
Option 2				49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1	
Option 3				59.95	up to 6	up to 1	89.99	up to 5	up to 1	
Option 4				79.95	up to 12	up to 1				
Option 5				99.95	up to 20	up to 2				
Option 6				149.95	up to 20	up to 2				
Option 7				199.95	up to 20	up to 2				
Option 8				249.95	up to 20	up to 2				

Fixed Point-to-Multipoint Wireless									
	Arrow (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Frog Lake									
Residential									
Option 1	65.00	up to 5	up to 1.5	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2				49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business									
Option 1	250.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

Fixed Point-to-Multipoint Wireless									
	Arrow (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Heart Lake									
Residential									
Option 1	65.00	up to 5	up to 1.5	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2				49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business									
Option 1	250.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

	Fixed Point-to-Multipoint Wireless								
	Arrow (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Kehewin Cree									
Residential	4G LTE Fixed Wireless								
Option 1	65.00	up to 5	up to 1.5	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2				49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3				59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business	4G LTE Fixed Wireless								
Option 1	250.00	up to 1.5	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	500.00	up to 3	up to 1.5	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

Fixed Point-to-Multipoint Wireless						
	MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Saddle Lake						
Residential						
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			
Business						
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			

Fixed Point-to-Multipoint Wireless						
	Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Whitefish Lake (Goodfish Lake)						
Residential						
Option 1	65.00	up to 5	up to 1.5	69.99	up to 5	up to 1
Option 2				79.99	up to 5	up to 1
Option 3				89.99	up to 5	up to 1
Option 4						
Option 5						
Business						
Option 1	250.00	up to 1.5	up to 1	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	79.99	up to 5	up to 1
Option 3				89.99	up to 5	up to 1
Option 4						
Option 5						

12.2.1.36 Métis Settlements (Alberta Hub)

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	Infinity			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Buffalo Lake									
Residential	4G LTE Fixed Wireless								
Option 1	69.00	up to 2	na	39.95 ▼	up to 1.7	up to 0.5	59.99 ▼	up to 5	up to 1
Option 2	79.00	up to 4	na	49.95 ▼	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	99.00	up to 7	na	59.95 ▼	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95 ▼	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95 ▼	up to 20	up to 2	Also Satellite		
Option 6				149.95 ▼	up to 20	up to 2			
Option 7				199.95 ▼	up to 20	up to 2			
Option 8				249.95 ▼	up to 20	up to 2			
Business	4G LTE Fixed Wireless								
Option 1				39.95 ▼	up to 1.7	up to 0.5	69.99 ▼	up to 10	up to 1
Option 2				49.95 ▼	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95 ▼	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95 ▼	up to 12	up to 1	Also Satellite		
Option 5				99.95 ▼	up to 20	up to 2			
Option 6				149.95 ▼	up to 20	up to 2			
Option 7				199.95 ▼	up to 20	up to 2			
Option 8				249.95 ▼	up to 20	up to 2			

	Fixed Point-to-Multipoint Wireless					
	Infinity			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Elizabeth						
Residential						
Option 1	69.00	up to 2	na			
Option 2	79.00	up to 4	na			
Option 3	99.00	up to 7	na			
Option 4						
Option 5						
Business						
Option 1						
Option 2						
Option 3						
Option 4						
Option 5						

Fixed Point-to-Multipoint Wireless						
	Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Fishing Lake Residential				4G Satellite		
Option 1	65.00	up to 5	up to 1.5	69.99	up to 5	up to 1
Option 2				79.99	up to 5	up to 1
Option 3				89.99	up to 5	up to 1
Option 4						
Option 5						
Business				4G Satellite		
Option 1	250.00	up to 1.5	up to 1	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	79.99	up to 5	up to 1
Option 3				89.99	up to 5	up to 1
Option 4						
Option 5						

Fixed Point-to-Multipoint Wireless									
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Kikino Residential							4G Satellite		
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business							4G Satellite		
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.2 Grizzly Regional Economic Alliance Society (Growth Alberta)

12.2.2.1 Town of Barrhead

Broadband Service Availability

	Wireline Providers					
	TELUS (copper)			Shaw (coaxial cable)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Barrhead						
Residential						
Option 1	63.00	up to 6	up to 1	55.00	up to 5	up to 0.5
Option 2	68.00	up to 15	up to 1	66.00	up to 15	up to 0.5
Option 3	73.00	up to 25	up to 5	75.00	up to 30	up to 5
Option 4				95.00	up to 60	up to 6
Option 5						
Business						
Option 1	60.00	up to 6	up to 1	124.95	up to 60	up to 6
Option 2						
Option 3						
Option 4						
Option 5						

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Barrhead									
Residential									
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business									
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.2.2 Town of Legal

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless											
	TELUS (copper)			Alberta Com. (licensed)			Clearwave			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Legal															
Residential													4G LTE Fixed Wireless		
Option 1	63.00	up to 6	up to 1	39.95	up to 1.5	up to 0.5	69.95	up to 6		39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	49.95	up to 2	up to 0.8	109.95	up to 6		49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	73.00	up to 25	up to 5	54.95	up to 3	up to 1	79.95	up to 12		59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4							119.95	up to 12		79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5							99.95	up to 25		99.95	up to 20	up to 2			
Option 6							139.95	up to 25		149.95	up to 20	up to 2			
Option 7							129.95	up to 50		199.95	up to 20	up to 2			
Option 8							139.95	up to 50		249.95	up to 20	up to 2			
Business													4G LTE Fixed Wireless		
Option 1	na			59.95	up to 2	up to 0.8	79.95	up to 12		39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2				79.95	up to 3	up to 1	159.95	up to 15		49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				89.95	up to 4	up to 1.2	99.95	up to 25		59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4							229.95	up to 25		79.95	up to 12	up to 1			
Option 5							119.95	up to 50		99.95	up to 20	up to 2			
Option 6							329.95	up to 50		149.95	up to 20	up to 2			
Option 7							429.95	up to 75		199.95	up to 20	up to 2			
Option 8							529.95	up to 100		249.95	up to 20	up to 2			

12.2.2.3 Town of Mayerthorpe

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless					
	TELUS (copper)			Eastlink (coaxial cable)			CCI (unlicensed)			First Broadband		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Mayerthorpe Residential												
Option 1	63.00	up to 6	up to 1	55.95	up to 5	up to 1	49.99	up to 2	up to 0.75	99.00	up to 1	up to 0.5
Option 2				78.95	up to 30	up to 3	74.99	up to 5	up to 1	129.00	up to 4	up to 1
Option 3				88.95	up to 50	up to 5	94.99	up to 10	up to 1	149.00	up to 7	up to 1
Option 4				98.95	up to 100	up to 10						
Option 5				149.95	up to 150	up to 10						
Option 6				259.95	up to 400	up to 10						
Mayerthorpe Business												
Option 1	60.00	up to 6	up to 1	na	up to 50	up to 5	200.00	up to 6	up to 2	199.00	up to 2.5	up to 1.5
Option 2				na	up to 100	up to 10	249.99	up to 7	up to 3	279.00	up to 5	up to 2.5
Option 3				na	up to 200	up to 10				329.00	up to 8	up to 4
Option 4										na	up to 10	up to 5
Option 5												
Option 6												

	Fixed Point-to-Multipoint Wireless											
	Slave Lake (licensed)			Tera-Byte (unlicensed)			Whitecourt (licensed/unlicensed)		XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Mayerthorpe Residential												
Option 1	46.55	up to 4	up to 2	\$44.95	up to 6	up to 2	46.55	up to 4	up to 2	4G LTE Fixed Wireless		
Option 2	84.55	up to 6	up to 2				84.55	up to 6	up to 2	59.99	up to 5	up to 1
Option 3	122.55	up to 10	up to 2				122.55	up to 10	up to 2	69.99	up to 10	up to 1
Option 4	151.05	up to 15	up to 2				151.05	up to 15	up to 2	79.99	up to 25	up to 1
Option 5										109.99	up to 25	up to 1
Mayerthorpe Business												
Option 1	200.00	up to 7	up to 3	\$44.95	up to 6	up to 2	200.00	up to 7	up to 3	4G LTE Fixed Wireless		
Option 2	300.00	up to 10	up to 7				300.00	up to 10	up to 7	69.99	up to 10	up to 1
Option 3	500.00	up to 15	up to 10				500.00	up to 15	up to 10	79.99	up to 25	up to 1
Option 4	700.00	up to 20	up to 15				700.00	up to 20	up to 15	109.99	up to 25	up to 1
Option 5												

12.2.2.4 Town of Onoway

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless											
	TELUS (copper)			Broadband Surfer (unlicensed)			CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Onoway															
Residential				49.95 [▼]	up to 3	to 4	49.99	up to 2	up to 0.75	39.95 [▼]	up to 1.7	up to 0.5	4G LTE Fixed Wireless		
Option 1	63.00	up to 6	up to 1				74.99	up to 5	up to 1	49.95 [▼]	up to 3.2	up to 0.8	59.99 [▼]	up to 5	up to 1
Option 2	68.00	up to 15	up to 1				94.99	up to 10	up to 1	59.95 [▼]	up to 6	up to 1	69.99 [▼]	up to 10	up to 1
Option 3										79.95 [▼]	up to 12	up to 1	79.99 [▼]	up to 25	up to 1
Option 4										99.95 [▼]	up to 20	up to 2	109.99 [▼]	up to 25	up to 1
Option 5										149.95 [▼]	up to 20	up to 2			
Option 6										199.95 [▼]	up to 20	up to 2			
Option 7										249.95 [▼]	up to 20	up to 2			
Option 8															
Business				49.95 [▼]	up to 3	to 4	200.00	up to 6	up to 2	39.95 [▼]	up to 1.7	up to 0.5	4G LTE Fixed Wireless		
Option 1	60.00	up to 15	up to 1				249.99	up to 7	up to 3	49.95 [▼]	up to 3.2	up to 0.8	69.99 [▼]	up to 10	up to 1
Option 2										59.95 [▼]	up to 6	up to 1	79.99 [▼]	up to 25	up to 1
Option 3										79.95 [▼]	up to 12	up to 1	109.99 [▼]	up to 25	up to 1
Option 4										99.95 [▼]	up to 20	up to 2			
Option 5										149.95 [▼]	up to 20	up to 2			
Option 6										199.95 [▼]	up to 20	up to 2			
Option 7										249.95 [▼]	up to 20	up to 2			
Option 8															

12.2.2.5 Town of Westlock

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless								
	TELUS (copper & fibre)			Shaw (coaxial cable)			CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Westlock															
Residential	4G LTE Fixed Wireless														
Option 1	63.00	up to 6	up to 1	55.00	up to 5	up to 0.5	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	66.00	up to 15	up to 0.5	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	73.00	up to 25	up to 5	75.00	up to 30	up to 5	94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4	80.00	up to 50	up to 10							79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5	85.00	up to 150	up to 150							99.95	up to 20	up to 2			
Option 6										149.95	up to 20	up to 2			
Option 7										199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			
Business	4G LTE Fixed Wireless														
Option 1	60.00	up to 15	up to 1	na	na	na	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	85.00	up to 25	up to 5				249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3	100.00	up to 50	up to 10							59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4	125.00	up to 100	up to 20							79.95	up to 12	up to 1	79.99	up to 25	up to 1
Option 5	150.00	up to 150	up to 150							99.95	up to 20	up to 2	109.99	up to 25	up to 1
Option 6										149.95	up to 20	up to 2			
Option 7										199.95	up to 20	up to 2			
Option 8										249.95	up to 20	up to 2			

12.2.2.6 Town of Whitecourt

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless					
	TELUS (copper)			Eastlink (coaxial cable)			CCI (unlicensed)			First Broadband		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Whitecourt												
Residential												
Option 1	63.00	up to 6	up to 1	55.95	up to 5	up to 1	49.99	up to 2	up to 0.75	99.00	up to 1	up to 0.5
Option 2	68.00	up to 15	up to 1	78.95	up to 30	up to 3	74.99	up to 5	up to 1	129.00	up to 4	up to 1
Option 3	73.00	up to 25	up to 5	88.95	up to 50	up to 5	94.99	up to 10	up to 1	149.00	up to 7	up to 1
Option 4	80.00	up to 50	up to 10	98.95	up to 100	up to 10						
Option 5				149.95	up to 150	up to 10						
Option 6				259.95	up to 400	up to 10						
Business												
Option 1	60.00	up to 15	up to 1	na	up to 50	up to 5	200.00	up to 6	up to 2	199.00	up to 2.5	up to 1.5
Option 2	85.00	up to 25	up to 5	na	up to 100	up to 10	249.99	up to 7	up to 3	279.00	up to 5	up to 2.5
Option 3				na	up to 200	up to 10				329.00	up to 8	up to 4
Option 4										na	up to 10	up to 5
Option 5												

	Fixed Point-to-Multipoint Wireless								
	Slave Lake (licensed)			Whitecourt (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Whitecourt									
Residential									
Option 1	46.55	up to 4	up to 2	46.55	up to 4	up to 2	4G LTE Fixed Wireless		
Option 2	84.55	up to 6	up to 2	84.55	up to 6	up to 2	59.99	up to 5	up to 1
Option 3	122.55	up to 10	up to 2	122.55	up to 10	up to 2	69.99	up to 10	up to 1
Option 4	151.05	up to 15	up to 2	151.05	up to 15	up to 2	79.99	up to 25	up to 1
Option 5							109.99	up to 25	up to 1
Business									
Option 1	200.00	up to 7	up to 3	200.00	up to 7	up to 3	4G LTE Fixed Wireless		
Option 2	300.00	up to 10	up to 7	300.00	up to 10	up to 7	69.99	up to 10	up to 1
Option 3	500.00	up to 15	up to 10	500.00	up to 15	up to 10	79.99	up to 25	up to 1
Option 4	700.00	up to 20	up to 15	700.00	up to 20	up to 15	109.99	up to 25	up to 1
Option 5									

12.2.2.7 Village of Alberta Beach

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless												
	TELUS (copper)			Arrow (unlicensed)			Broadband Surfer (unlicensed)			CCI (unlicensed)			First Broadband			
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		
Alberta Beach Residential																
Option 1	63.00	up to 6	up to 1	65.00	up to 5	up to 1.5	49.95	up to 3 to 4		49.99	up to 2	up to 0.75	99.00	up to 1	up to 0.5	
Option 2	68.00	up to 15	up to 1							74.99	up to 5	up to 1	129.00	up to 4	up to 1	
Option 3	73.00	up to 25	up to 5							94.99	up to 10	up to 1	149.00	up to 7	up to 1	
Option 4	80.00	up to 50	up to 10													
Option 5																
Business																
Option 1	60.00	up to 15	up to 1	250.00	up to 1.5	up to 1	49.95	up to 3 to 4		200.00	up to 6	up to 2	199.00	up to 2.5	up to 1.5	
Option 2	85.00	up to 25	up to 5	500.00	up to 3	up to 1.5				249.99	up to 7	up to 3	279.00	up to 5	up to 2.5	
Option 3													329.00	up to 8	up to 4	
Option 4													na	up to 10	up to 5	
Option 5																

	Fixed Point-to-Multipoint Wireless					
	MCSNet (licensed/unlicensed)		Tera-Byte (unlicensed)		XplorNet (licensed)	
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Alberta Beach Residential						
Option 1	39.95	up to 1.7	up to 0.5	\$44.95	up to 6	up to 2
Option 2	49.95	up to 3.2	up to 0.8			
Option 3	59.95	up to 6	up to 1			
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			
Business						
Option 1	39.95	up to 1.7	up to 0.5	\$44.95	up to 6	up to 2
Option 2	49.95	up to 3.2	up to 0.8			
Option 3	59.95	up to 6	up to 1			
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			

12.2.2.8 Village of Clyde

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless											
	TELUS (copper)			CCI (unlicensed)			Clearwave			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Clyde															
Residential	4G LTE Fixed Wireless														
Option 1	63.00	up to 6	up to 1	49.99	up to 2	up to 0.75	69.95	up to 6		39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2				74.99	up to 5	up to 1	109.95	up to 6		49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3				94.99	up to 10	up to 1	79.95	up to 12		59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4							119.95	up to 12		79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5							99.95	up to 25		99.95	up to 20	up to 2			
Option 6							139.95	up to 25		149.95	up to 20	up to 2			
Option 7							129.95	up to 50		199.95	up to 20	up to 2			
Option 8							139.95	up to 50		249.95	up to 20	up to 2			
Business	4G LTE Fixed Wireless														
Option 1	60.00	up to 15	up to 1	200.00	up to 6	up to 2	79.95	up to 12	up to 3	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	85.00	up to 25	up to 5	249.99	up to 7	up to 3	159.95	up to 15	up to 4	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3							99.95	up to 25	up to 12	59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4							229.95	up to 25	up to 18	79.95	up to 12	up to 1			
Option 5							119.95	up to 50		99.95	up to 20	up to 2			
Option 6							329.95	up to 50		149.95	up to 20	up to 2			
Option 7							429.95	up to 75		199.95	up to 20	up to 2			
Option 8							529.95	up to 100		249.95	up to 20	up to 2			

12.2.2.9 Village of Wabamum

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless											
	TELUS (copper)			Arrow (unlicensed)			Broadband Surfer (unlicensed)			CCI (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Wabamum															
Residential	4G LTE Fixed Wireless														
Option 1	63.00	up to 6	up to 1	65.00	up to 5	up to 1.5	49.95	up to 3 to 4		49.99	up to 2	up to 0.75	59.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1							74.99	up to 5	up to 1	69.99	up to 10	up to 1
Option 3										94.99	up to 10	up to 1	79.99	up to 25	up to 1
Option 4													109.99	up to 25	up to 1
Option 5															
Business	4G LTE Fixed Wireless														
Option 1	na			250.00	up to 1.5	up to 1	49.95	up to 3 to 4		200.00	up to 6	up to 2	69.99	up to 10	up to 1
Option 2				500.00	up to 3	up to 1.5				249.99	up to 7	up to 3	79.99	up to 25	up to 1
Option 3													109.99	up to 25	up to 1
Option 4															
Option 5															

12.2.2.10 Barrhead County

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Campsie, Manola, Neerlandia, Thunder Lake									
Residential							4G LTE Fixed Wireless		
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business							4G LTE Fixed Wireless		
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.2.11 Summer Villages

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Summer Village - Birch Cove									
Residential									
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	4G LTE Fixed Wireless 59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business									
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	4G LTE Fixed Wireless 69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

	Fixed Point-to-Multipoint Wireless								
	Arrow (unlicensed)			Broadband Surfer (unlicensed)			CCI (unlicensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Summer Villages - Castle Island, Sunset Point, Val Quentin									
Residential									
Option 1	65.00	up to 5	up to 1.5	49.95	up to 3 to 4		49.99	up to 2	up to 0.75
Option 2							74.99	up to 5	up to 1
Option 3							94.99	up to 10	up to 1
Option 4									
Option 5									
Business									
Option 1	250.00	up to 1.5	up to 1	49.95	up to 3 to 4		200.00	up to 6	up to 2
Option 2	500.00	up to 3	up to 1.5				249.99	up to 7	up to 3
Option 3									
Option 4									
Option 5									

Fixed Point-to-Multipoint Wireless										
	First Broadband			Tera-Byte (unlicensed)			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Summer Villages - Castle Island, Sunset Point, Val Quentin										
Residential							4G LTE Fixed Wireless			
Option 1	99.00	up to 1	up to 0.5	\$44.95	up to 6	up to 2	59.99	up to 5	up to 1	
Option 2	129.00	up to 4	up to 1				69.99	up to 10	up to 1	
Option 3	149.00	up to 7	up to 1				79.99	up to 25	up to 1	
Option 4							109.99	up to 25	up to 1	
Option 5										
Business							4G LTE Fixed Wireless			
Option 1	199.00	up to 2.5	up to 1.5	\$44.95	up to 6	up to 2	69.99	up to 10	up to 1	
Option 2	279.00	up to 5	up to 2.5				79.99	up to 25	up to 1	
Option 3	329.00	up to 8	up to 4				109.99	up to 25	up to 1	
Option 4	na	up to 10	up to 5							
Option 5										

Fixed Point-to-Multipoint Wireless													
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			Tera-Byte (unlicensed)			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Summer Villages - Nakamun Park													
Residential													
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	\$44.95	up to 6	up to 2	4G LTE Fixed Wireless	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8				69.99	up to 10	up to 1	
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1				79.99	up to 25	up to 1	
Option 4				79.95	up to 12	up to 1				109.99	up to 25	up to 1	
Option 5				99.95	up to 20	up to 2							
Option 6				149.95	up to 20	up to 2							
Option 7				199.95	up to 20	up to 2							
Option 8				249.95	up to 20	up to 2							
Business										4G LTE Fixed Wireless			
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	\$44.95	up to 6	up to 2	69.99	up to 10	up to 1	
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8				79.99	up to 25	up to 1	
Option 3				59.95	up to 6	up to 1				109.99	up to 25	up to 1	
Option 4				79.95	up to 12	up to 1							
Option 5				99.95	up to 20	up to 2							
Option 6				149.95	up to 20	up to 2							
Option 7				199.95	up to 20	up to 2							
Option 8				249.95	up to 20	up to 2							

Fixed Point-to-Multipoint Wireless									
	Arrow (unlicensed)			CCI (unlicensed)			First Broadband		
	Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s	
	\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up
Summer Villages - Ross Haven, Yellowstone									
Residential									
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	99.00	up to 1	up to 0.5
Option 2				74.99	up to 5	up to 1	129.00	up to 4	up to 1
Option 3				94.99	up to 10	up to 1	149.00	up to 7	up to 1
Option 4									
Option 5									
Business									
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2	199.00	up to 2.5	up to 1.5
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3	279.00	up to 5	up to 2.5
Option 3							329.00	up to 8	up to 4
Option 4							na	up to 10	up to 5
Option 5									

Fixed Point-to-Multipoint Wireless										
	MCSNet (licensed/unlicensed)			Tera-Byte (unlicensed)			XplorNet (licensed)			
	Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		
	\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up	
Summer Villages - Ross Haven, Yellowstone										
Residential										
Option 1	39.95	up to 1.7	up to 0.5	\$44.95	up to 6	up to 2	4G LTE Fixed Wireless	59.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8					69.99	up to 10	up to 1
Option 3	59.95	up to 6	up to 1					79.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1					109.99	up to 25	up to 1
Option 5	99.95	up to 20	up to 2							
Option 6	149.95	up to 20	up to 2							
Option 7	199.95	up to 20	up to 2							
Option 8	249.95	up to 20	up to 2							
Business										
Option 1	39.95	up to 1.7	up to 0.5	\$44.95	up to 6	up to 2	4G LTE Fixed Wireless	69.99	up to 10	up to 1
Option 2	49.95	up to 3.2	up to 0.8					79.99	up to 25	up to 1
Option 3	59.95	up to 6	up to 1					109.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1							
Option 5	99.95	up to 20	up to 2							
Option 6	149.95	up to 20	up to 2							
Option 7	199.95	up to 20	up to 2							
Option 8	249.95	up to 20	up to 2							

Fixed Point-to-Multipoint Wireless						
	CCI (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Summer Villages - Sandy Beach, Sunrise Beach						
Residential				4G LTE Fixed Wireless		
Option 1	49.99	up to 2	up to 0.75	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	79.99	up to 25	up to 1
Option 4				109.99	up to 25	up to 1
Option 5						
Business				4G LTE Fixed Wireless		
Option 1	200.00	up to 6	up to 2	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	79.99	up to 25	up to 1
Option 3				109.99	up to 25	up to 1
Option 4						
Option 5						

Fixed Point-to-Multipoint Wireless									
	CCI (unlicensed)			Tera-Byte (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Summer Villages - Silver Sands, South View									
Residential							4G LTE Fixed Wireless		
Option 1	49.99	up to 2	up to 0.75	\$44.95	up to 6	up to 2	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1				69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1				79.99	up to 25	up to 1
Option 4							109.99	up to 25	up to 1
Option 5									
Business							4G LTE Fixed Wireless		
Option 1	200.00	up to 6	up to 2	\$44.95	up to 6	up to 2	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3				79.99	up to 25	up to 1
Option 3							109.99	up to 25	up to 1
Option 4									
Option 5									

	Fixed Point-to-Multipoint Wireless												
	Arrow (unlicensed)			CCI (unlicensed)			Tera-Byte (unlicensed)			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Summer Villages - West Cove													
Residential													
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	\$44.95	up to 6	up to 2	4G LTE Fixed Wireless	59.99	up to 5	up to 1
Option 2				74.99	up to 5	up to 1				69.99	up to 10	up to 1	
Option 3				94.99	up to 10	up to 1				79.99	up to 25	up to 1	
Option 4										109.99	up to 25	up to 1	
Option 5													
Business										4G LTE Fixed Wireless			
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2	\$44.95	up to 6	up to 2	69.99	up to 10	up to 1	
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3				79.99	up to 25	up to 1	
Option 3										109.99	up to 25	up to 1	
Option 4													
Option 5													

12.2.2.12 Lac Ste. Anne County

	Fixed Point-to-Multipoint Wireless												
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			Tera-Byte (unlicensed)			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Cherhill, Rich Valley													
Residential													
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	\$44.95	up to 6	up to 2	4G LTE Fixed Wireless	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8				69.99	up to 10	up to 1	
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1				79.99	up to 25	up to 1	
Option 4				79.95	up to 12	up to 1				109.99	up to 25	up to 1	
Option 5				99.95	up to 20	up to 2							
Option 6				149.95	up to 20	up to 2							
Option 7				199.95	up to 20	up to 2							
Option 8				249.95	up to 20	up to 2							
Business										4G LTE Fixed Wireless			
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	\$44.95	up to 6	up to 2	69.99	up to 10	up to 1	
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8				79.99	up to 25	up to 1	
Option 3				59.95	up to 6	up to 1				109.99	up to 25	up to 1	
Option 4				79.95	up to 12	up to 1							
Option 5				99.95	up to 20	up to 2							
Option 6				149.95	up to 20	up to 2							
Option 7				199.95	up to 20	up to 2							
Option 8				249.95	up to 20	up to 2							

	Fixed Point-to-Multipoint Wireless								
	Arrow (unlicensed)			CCI (unlicensed)			First Broadband		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Glenevis, Gunn									
Residential									
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	99.00	up to 1	up to 0.5
Option 2				74.99	up to 5	up to 1	129.00	up to 4	up to 1
Option 3				94.99	up to 10	up to 1	149.00	up to 7	up to 1
Option 4									
Option 5									
Business									
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2	199.00	up to 2.5	up to 1.5
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3	279.00	up to 5	up to 2.5
Option 3							329.00	up to 8	up to 4
Option 4							na	up to 10	up to 5
Option 5									

	Fixed Point-to-Multipoint Wireless								
	MCSNet (licensed/unlicensed)			Tera-Byte (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Glenevis, Gunn									
Residential									
Option 1	39.95	up to 1.7	up to 0.5	\$44.95	up to 6	up to 2	4G LTE Fixed Wireless		
Option 2	49.95	up to 3.2	up to 0.8				59.99	up to 5	up to 1
Option 3	59.95	up to 6	up to 1				69.99	up to 10	up to 1
Option 4	79.95	up to 12	up to 1				79.99	up to 25	up to 1
Option 5	99.95	up to 20	up to 2				109.99	up to 25	up to 1
Option 6	149.95	up to 20	up to 2						
Option 7	199.95	up to 20	up to 2						
Option 8	249.95	up to 20	up to 2						
Business									
Option 1	39.95	up to 1.7	up to 0.5	\$44.95	up to 6	up to 2	4G LTE Fixed Wireless		
Option 2	49.95	up to 3.2	up to 0.8				69.99	up to 10	up to 1
Option 3	59.95	up to 6	up to 1				79.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1				109.99	up to 25	up to 1
Option 5	99.95	up to 20	up to 2						
Option 6	149.95	up to 20	up to 2						
Option 7	199.95	up to 20	up to 2						
Option 8	249.95	up to 20	up to 2						

Fixed Point-to-Multipoint Wireless												
	CCI (unlicensed)			First Broadband			Tera-Byte (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Green Court, Rochfort Bridge												
Residential												
Option 1	49.99	up to 2	up to 0.75	99.00	up to 1	up to 0.5	\$44.95	up to 6	up to 2	4G LTE Fixed Wireless	59.99	up to 5 up to 1
Option 2	74.99	up to 5	up to 1	129.00	up to 4	up to 1					69.99	up to 10 up to 1
Option 3	94.99	up to 10	up to 1	149.00	up to 7	up to 1					79.99	up to 25 up to 1
Option 4											109.99	up to 25 up to 1
Option 5												
Business												
Option 1	200.00	up to 6	up to 2	199.00	up to 2.5	up to 1.5	\$44.95	up to 6	up to 2	4G LTE Fixed Wireless	69.99	up to 10 up to 1
Option 2	249.99	up to 7	up to 3	279.00	up to 5	up to 2.5					79.99	up to 25 up to 1
Option 3				329.00	up to 8	up to 4					109.99	up to 25 up to 1
Option 4				na	up to 10	up to 5						
Option 5												

	Wireline Provider		Fixed Point-to-Multipoint Wireless												
	TELUS (copper & fibre)			CCI (unlicensed)			MCSNet (licensed/unlicensed)			Tera-Byte (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Sangudo															
Residential															
Option 1	63.00	up to 6	up to 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	\$44.95	up to 6	up to 2	4G LTE Fixed Wireless	59.99	up to 5 up to 1
Option 2	68.00	up to 15	up to 1	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8					69.99	up to 10 up to 1
Option 3				94.99	up to 10	up to 1	59.95	up to 6	up to 1					79.99	up to 25 up to 1
Option 4							79.95	up to 12	up to 1					109.99	up to 25 up to 1
Option 5							99.95	up to 20	up to 2						
Option 6							149.95	up to 20	up to 2						
Option 7							199.95	up to 20	up to 2						
Option 8							249.95	up to 20	up to 2						
Business															
Option 1	60.00	up to 15	up to 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	\$44.95	up to 6	up to 2	4G LTE Fixed Wireless	69.99	up to 10 up to 1
Option 2				249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8					79.99	up to 25 up to 1
Option 3							59.95	up to 6	up to 1					109.99	up to 25 up to 1
Option 4							79.95	up to 12	up to 1						
Option 5							99.95	up to 20	up to 2						
Option 6							149.95	up to 20	up to 2						
Option 7							199.95	up to 20	up to 2						
Option 8							249.95	up to 20	up to 2						

12.2.2.13 Westlock County

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless					
	MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Busby, Pickardville						
Residential	4G LTE Fixed Wireless					
Option 1	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			
Business	4G LTE Fixed Wireless					
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3	59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			

	Fixed Point-to-Multipoint Wireless											
	Clearwave			CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Dapp, Vimy												
Residential	4G LTE Fixed Wireless											
Option 1	69.95	up to 6		49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	109.95	up to 6		74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	79.95	up to 12		94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4	119.95	up to 12					79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5	99.95	up to 25					99.95	up to 20	up to 2			
Option 6	139.95	up to 25					149.95	up to 20	up to 2			
Option 7	129.95	up to 50					199.95	up to 20	up to 2			
Option 8	139.95	up to 50					249.95	up to 20	up to 2			
Business	4G LTE Fixed Wireless											
Option 1	79.95	up to 12		200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	159.95	up to 15		249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3	99.95	up to 25					59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4	229.95	up to 25					79.95	up to 12	up to 1			
Option 5	119.95	up to 50					99.95	up to 20	up to 2			
Option 6	329.95	up to 50					149.95	up to 20	up to 2			
Option 7	429.95	up to 75					199.95	up to 20	up to 2			
Option 8	529.95	up to 100					249.95	up to 20	up to 2			

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Fawcett, Jarvie, Larkspur, Nestow, Pibroch, Tawatinaw									
Residential							4G LTE Fixed Wireless		
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business							4G LTE Fixed Wireless		
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.2.14 Woodlands County

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			First Broadband			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Blue Ridge									
Residential	4G LTE Fixed Wireless								
Option 1	49.99	up to 2	up to 0.75	99.00	up to 1	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	129.00	up to 4	up to 1	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	149.00	up to 7	up to 1	79.99	up to 25	up to 1
Option 4							109.99	up to 25	up to 1
Option 5									
Business	4G LTE Fixed Wireless								
Option 1	200.00	up to 6	up to 2	199.00	up to 2.5	up to 1.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	279.00	up to 5	up to 2.5	79.99	up to 25	up to 1
Option 3				329.00	up to 8	up to 4	109.99	up to 25	up to 1
Option 4				na	up to 10	up to 5			
Option 5									

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Fort Assiniboine									
Residential	4G LTE Fixed Wireless								
Option 1	49.99	up to 2	up to 0.75	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business	4G LTE Fixed Wireless								
Option 1	200.00	up to 6	up to 2	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

Fixed Point-to-Multipoint Wireless												
	CCI (unlicensed)			First Broadband			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Goose Lake												
Residential	4G Satellite											
Option 1	49.99	up to 2	up to 0.75	99.00	up to 1	up to 0.5	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	129.00	up to 4	up to 1	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	149.00	up to 7	up to 1	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4							79.95	up to 12	up to 1			
Option 5							99.95	up to 20	up to 2			
Option 6							149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			
Business	4G Satellite											
Option 1	200.00	up to 6	up to 2	199.00	up to 2.5	up to 1.5	39.95	up to 1.7	up to 0.5	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3	279.00	up to 5	up to 2.5	49.95	up to 3.2	up to 0.8	79.99	up to 5	up to 1
Option 3				329.00	up to 8	up to 4	59.95	up to 6	up to 1	89.99	up to 5	up to 1
Option 4				na	up to 10	up to 5	79.95	up to 12	up to 1			
Option 5							99.95	up to 20	up to 2			
Option 6							149.95	up to 20	up to 2			
Option 7							199.95	up to 20	up to 2			
Option 8							249.95	up to 20	up to 2			

Fixed Point-to-Multipoint Wirele			
	Whitecourt (licensed/unlicensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up
Rural			
Residential			
Option 1	46.55	up to 4	up to 2
Option 2	84.55	up to 6	up to 2
Option 3	122.55	up to 10	up to 2
Option 4	151.05	up to 15	up to 2
Option 5			
Business			
Option 1	200.00	up to 7	up to 3
Option 2	300.00	up to 10	up to 7
Option 3	500.00	up to 15	up to 10
Option 4	700.00	up to 20	up to 15
Option 5			

12.2.2.15 First Nations (Growth AB)

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless					
	Arrow (unlicensed)			CCI (unlicensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Alexis Nakota						
Residential						
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75
Option 2				74.99	up to 5	up to 1
Option 3				94.99	up to 10	up to 1
Option 4						
Option 5						
Business						
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3
Option 3						
Option 4						
Option 5						

12.2.3 Lesser Slave Lake Economic Alliance (LSLEA)

12.2.3.1 Town of High Prairie

Broadband Service Availability

	Wireline Providers					
	TELUS (copper)			KBS-TV (coaxial cable)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
High Prairie Residential						
Option 1	63.00	up to 6	up to 1	55.00	up to 6	na
Option 2	68.00	up to 15	up to 1			
Option 3						
Option 4						
Option 5						
High Prairie Business						
Option 1	60.00	up to 15	up to 1	55.00	up to 6	na
Option 2						
Option 3						
Option 4						
Option 5						

	Fixed Point-to-Multipoint Wireless														
	CCI (unlicensed)			Infinity AB (licensed)			I Want			Slave Lake (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
High Prairie Residential															
Option 1	49.99	up to 2	up to 0.75	60.00	up to 5	up to 1	49.95	up to 5	up to 1	46.55	up to 4	up to 2	4G Satellite 69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	99.00	up to 10	up to 1	59.95	up to 5	up to 1	84.55	up to 6	up to 2	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1				89.95	up to 10	up to 2	122.55	up to 10	up to 2	89.99	up to 5	up to 1
Option 4							129.95	up to 15	up to 3	151.05	up to 15	up to 2			
Option 5							159.95	up to 15	up to 3						
High Prairie Business													4G Satellite		
Option 1	200.00	up to 6	up to 2	109.00	up to 10	up to 2	99.95	up to 10	up to 2	200.00	up to 7	up to 3	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3				149.95	up to 15	up to 3	300.00	up to 10	up to 7	79.99	up to 5	up to 1
Option 3							249.95	up to 20	up to 4	500.00	up to 15	up to 10	89.99	up to 5	up to 1
Option 4							800.00	up to 50	up to 10	700.00	up to 20	up to 15			
Option 5															

12.2.3.2 Town of Slave Lake

Broadband Service Availability

	Wireline Providers					
	TELUS (copper & fibre)			Eastlink (coaxial cable)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Slave Lake						
Residential						
Option 1	63.00	up to 6	up to 1	55.95	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	78.95	up to 30	up to 3
Option 3	73.00	up to 25	up to 5	88.95	up to 50	up to 5
Option 4	80.00	up to 50	up to 10	98.95	up to 100	up to 10
Option 5	85.00	up to 150	up to 150	149.95	up to 150	up to 10
Option 6				259.95	up to 400	up to 10
Option 7						
Business						
Option 1	60.00	up to 15	up to 1	na	up to 50	up to 5
Option 2	85.00	up to 25	up to 5	na	up to 100	up to 10
Option 3	100.00	up to 50	up to 10	na	up to 200	up to 10
Option 4	125.00	up to 100	up to 20			
Option 5	150.00	up to 150	up to 150			

	Fixed Point-to-Multipoint Wireless														
	CCI (unlicensed)			Bell (?)			Slave Lake (licensed)			Sniper			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Slave Lake															
Residential															
Option 1	49.99	up to 2	up to 0.75	65.00	up to 5	up to 1	46.55	up to 4	up to 2	50.00	up to 1.5	na	4G Wireless 59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1				84.55	up to 6	up to 2	80.00	up to 2	na	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1				122.55	up to 10	up to 2	120.00	up to 3	na	79.99	up to 10	up to 1
Option 4							151.05	up to 15	up to 2				109.99	up to 10	up to 1
Business															
Option 1	200.00	up to 6	up to 2				200.00	up to 7	up to 3	80.00	up to 2	na	4G Wireless 69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3				300.00	up to 10	up to 7	120.00	up to 3	na	79.99	up to 10	up to 1
Option 3							500.00	up to 15	up to 10				109.99	up to 10	up to 1
Option 4							700.00	up to 20	up to 15						

12.2.3.3 Town of Swan Hills

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless								
	TELUS (copper)			Slave Lake (licensed)			Whitecourt (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Swan Hills												
Residential										4G Satellite		
Option 1	63.00	up to 6	up to 1	46.55	up to 4	up to 2	46.55	up to 4	up to 2	69.99	up to 5	up to 1
Option 2				84.55	up to 6	up to 2	84.55	up to 6	up to 2	79.99	up to 5	up to 1
Option 3				122.55	up to 10	up to 2	122.55	up to 10	up to 2	89.99	up to 5	up to 1
Option 4				151.05	up to 15	up to 2	151.05	up to 15	up to 2			
Option 5												
Business										4G Satellite		
Option 1	60.00	up to 15	up to 1	200.00	up to 7	up to 3	200.00	up to 7	up to 3	69.99	up to 5	up to 1
Option 2				300.00	up to 10	up to 7	300.00	up to 10	up to 7	79.99	up to 5	up to 1
Option 3				500.00	up to 15	up to 10	500.00	up to 15	up to 10	89.99	up to 5	up to 1
Option 4				700.00	up to 20	up to 15	700.00	up to 20	up to 15			
Option 5												

12.2.3.4 Big Lakes County

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless											
	CCI (unlicensed)			Infinity AB (licensed)			Slave Lake (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Enilda, Jousard												
Residential	4G Satellite											
Option 1	49.99	up to 2	up to 0.75	60.00	up to 5	up to 1	46.55	up to 4	up to 2	69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	99.00	up to 10	up to 1	84.55	up to 6	up to 2	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1				122.55	up to 10	up to 2	89.99	up to 5	up to 1
Option 4							151.05	up to 15	up to 2			
Business	4G Satellite											
Option 1	200.00	up to 6	up to 2	109.00	up to 10	up to 2	200.00	up to 7	up to 3	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3				300.00	up to 10	up to 7	79.99	up to 5	up to 1
Option 3							500.00	up to 15	up to 10	89.99	up to 5	up to 1
Option 4							700.00	up to 20	up to 15			
Option 5												

	Fixed Point-to-Multipoint Wireless											
	CCI (unlicensed)			Lakeshore (unlicensed)			Slave Lake (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Faust												
Residential	4G Wireless											
Option 1	49.99	up to 2	up to 0.75	55.00	up to 2.5	up to 0.77	46.55	up to 4	up to 2	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	75.00	up to 5	up to 1	84.55	up to 6	up to 2	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1				122.55	up to 10	up to 2	79.99	up to 10	up to 1
Option 4							151.05	up to 15	up to 2	109.99	up to 10	up to 1
Business	4G Wireless											
Option 1	200.00	up to 6	up to 2	115.00	up to 10	up to 1.5	200.00	up to 7	up to 3	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3				300.00	up to 10	up to 7	79.99	up to 10	up to 1
Option 3							500.00	up to 15	up to 10	109.99	up to 10	up to 1
Option 4							700.00	up to 20	up to 15			
Option 5												

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless														
	Boreal Wireless (unlicensed)			CCI (unlicensed)			Lakeshore (unlicensed)			Slave Lake (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Kinuso															
Residential	4G Wireless														
Option 1	46.75	up to 1	up to 1	49.99	up to 2	up to 0.75	55.00	up to 2.5	up to 0.77	46.55	up to 4	up to 2	59.99	up to 5	up to 1
Option 2				74.99	up to 5	up to 1	75.00	up to 5	up to 1	84.55	up to 6	up to 2	69.99	up to 10	up to 1
Option 3				94.99	up to 10	up to 1				122.55	up to 10	up to 2	79.99	up to 10	up to 1
Option 4										151.05	up to 15	up to 2	109.99	up to 10	up to 1
Business	4G Wireless														
Option 1	116.75	up to 1	up to 1	200.00	up to 6	up to 2	115.00	up to 10	up to 1.5	200.00	up to 7	up to 3	69.99	up to 10	up to 1
Option 2				249.99	up to 7	up to 3				300.00	up to 10	up to 7	79.99	up to 10	up to 1
Option 3										500.00	up to 15	up to 10	109.99	up to 10	up to 1
Option 4										700.00	up to 20	up to 15			
Option 5															

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless											
	Arrow (unlicensed)			CCI (unlicensed)			Infinity AB (licensed)			Lakeshore (unlicensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Grouard												
Residential												
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	55.00	up to 2.5	up to 0.77	55.00	up to 2.5	up to 0.77
Option 2				74.99	up to 5	up to 1	75.00	up to 5	up to 1	75.00	up to 5	up to 1
Option 3				94.99	up to 10	up to 1						
Option 4												
Business												
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2	115.00	up to 10	up to 1.5	115.00	up to 10	up to 1.5
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3						
Option 3												
Option 4												
Option 5												

	Fixed Point-to-Multipoint Wireless					
	Slave Lake (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Grouard						
Residential						
Option 1	46.55	up to 4	up to 2	4G Satellite 69.99	up to 5	up to 1
Option 2	84.55	up to 6	up to 2	79.99	up to 5	up to 1
Option 3	122.55	up to 10	up to 2	89.99	up to 5	up to 1
Option 4	151.05	up to 15	up to 2			
Business						
Option 1	200.00	up to 7	up to 3	4G Satellite 69.99	up to 5	up to 1
Option 2	300.00	up to 10	up to 7	79.99	up to 5	up to 1
Option 3	500.00	up to 15	up to 10	89.99	up to 5	up to 1
Option 4	700.00	up to 20	up to 15			
Option 5						

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless											
	CCI (unlicensed)			Lakeshore (unlicensed)			Slave Lake (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up
Canyon Creek												
Residential												
Option 1	49.99	up to 2	up to 0.75	55.00	up to 2.5	up to 0.77	46.55	up to 4	up to 2	4G Satellite 69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	75.00	up to 5	up to 1	84.55	up to 6	up to 2	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1				122.55	up to 10	up to 2	89.99	up to 5	up to 1
Option 4							151.05	up to 15	up to 2			
Business												
Option 1	200.00	up to 6	up to 2	115.00	up to 10	up to 1.5	200.00	up to 7	up to 3	4G Satellite 69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3				300.00	up to 10	up to 7	79.99	up to 5	up to 1
Option 3							500.00	up to 15	up to 10	89.99	up to 5	up to 1
Option 4							700.00	up to 20	up to 15			
Option 5												

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			Slave Lake (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s		Cost \$/mo	Bandwidth - Mb/s		Cost \$/mo	Bandwidth - Mb/s	
	Down	Up		Down	Up		Down	Up	
Chisholm, Marten Beach, Smith									
Residential									
Option 1	49.99	up to 2	up to 0.75	46.55	up to 4	up to 2	4G Satellite 69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	84.55	up to 6	up to 2	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	122.55	up to 10	up to 2	89.99	up to 5	up to 1
Option 4				151.05	up to 15	up to 2			
Business									
Option 1	200.00	up to 6	up to 2	200.00	up to 7	up to 3	4G Satellite 69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3	300.00	up to 10	up to 7	79.99	up to 5	up to 1
Option 3				500.00	up to 15	up to 10	89.99	up to 5	up to 1
Option 4				700.00	up to 20	up to 15			
Option 5									
Flatbush									
Residential									
Option 1	49.99	up to 2	up to 0.75	46.55	up to 4	up to 2	4G LTE Fixed Wireless 59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	84.55	up to 6	up to 2	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	122.55	up to 10	up to 2	79.99	up to 25	up to 1
Option 4				151.05	up to 15	up to 2	109.99	up to 25	up to 1
Business									
Option 1	200.00	up to 6	up to 2	200.00	up to 7	up to 3	4G LTE Fixed Wireless 69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	300.00	up to 10	up to 7	79.99	up to 25	up to 1
Option 3				500.00	up to 15	up to 10	109.99	up to 25	up to 1
Option 4				700.00	up to 20	up to 15			
Option 5									
Wagner, Widewater									
Residential									
Option 1	49.99	up to 2	up to 0.75	46.55	up to 4	up to 2	4G Wireless 59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	84.55	up to 6	up to 2	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	122.55	up to 10	up to 2	79.99	up to 10	up to 1
Option 4				151.05	up to 15	up to 2	109.99	up to 10	up to 1
Business									
Option 1	200.00	up to 6	up to 2	200.00	up to 7	up to 3	4G Wireless 69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	300.00	up to 10	up to 7	79.99	up to 10	up to 1
Option 3				500.00	up to 15	up to 10	109.99	up to 10	up to 1
Option 4				700.00	up to 20	up to 15			
Option 5									

12.2.3.5 MD of Opportunity

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless											
	Arrow (unlicensed)			CCI (unlicensed)			Slave Lake (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up
Calling Lake												
Residential												
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	46.55	up to 4	up to 2	4G Satellite		
Option 2				74.99	up to 5	up to 1	84.55	up to 6	up to 2	69.99	up to 5	up to 1
Option 3				94.99	up to 10	up to 1	122.55	up to 10	up to 2	79.99	up to 5	up to 1
Option 4							151.05	up to 15	up to 2	89.99	up to 5	up to 1
Business												
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2	200.00	up to 7	up to 3	4G Satellite		
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3	300.00	up to 10	up to 7	69.99	up to 5	up to 1
Option 3							500.00	up to 15	up to 10	79.99	up to 5	up to 1
Option 4							700.00	up to 20	up to 15	89.99	up to 5	up to 1
Option 5												
Red Earth Creek												
Residential												
Option 1							46.55	up to 4	up to 2	4G Satellite		
Option 2							84.55	up to 6	up to 2	69.99	up to 5	up to 1
Option 3							122.55	up to 10	up to 2	79.99	up to 5	up to 1
Option 4							151.05	up to 15	up to 2			
Business												
Option 1							200.00	up to 7	up to 3	4G Satellite		
Option 2							300.00	up to 10	up to 7	69.99	up to 5	up to 1
Option 3							500.00	up to 15	up to 10	79.99	up to 5	up to 1
Option 4							700.00	up to 20	up to 15			
Option 5												

Sandy Lake												
Residential										4G Satellite		
Option 1					46.55	up to 4	up to 2			69.99	up to 5	up to 1
Option 2					84.55	up to 6	up to 2			79.99	up to 5	up to 1
Option 3					122.55	up to 10	up to 2			89.99	up to 5	up to 1
Option 4					151.05	up to 15	up to 2					
Business										4G Satellite		
Option 1					200.00	up to 7	up to 3			69.99	up to 5	up to 1
Option 2					300.00	up to 10	up to 7			79.99	up to 5	up to 1
Option 3					500.00	up to 15	up to 10			89.99	up to 5	up to 1
Option 4					700.00	up to 20	up to 15					
Wabasca												
Residential										Expedience		
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	46.55	up to 4	up to 2	51.99	up to 1.5	up to 0.25
Option 2				74.99	up to 5	up to 1	84.55	up to 6	up to 2	71.99	up to 3	up to 0.5
Option 3				94.99	up to 10	up to 1	122.55	up to 10	up to 2	91.99	up to 5	up to 0.5
Option 4							151.05	up to 15	up to 2			
Option 5												
Business										Expedience		
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2	200.00	up to 7	up to 3	104.99	up to 3	up to 0.8
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3	300.00	up to 10	up to 7	149.99	up to 5	up to 1
Option 3							500.00	up to 15	up to 10			
Option 4							700.00	up to 20	up to 15			

CCL Networks offers Commercial services in the MD of Opportunity

12.2.3.6 First Nations (LSLEA)

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless														
	Arrow (unlicensed)			CCI (unlicensed)			Slave Lake (licensed)			Sniper			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Bigstone Cree															
Residential															
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	46.55	up to 4	up to 2	50.00	up to 1.5	na	Expedience		
Option 2				74.99	up to 5	up to 1	84.55	up to 6	up to 2	80.00	up to 2	na	51.99	up to 1.5	up to 0.25
Option 3				94.99	up to 10	up to 1	122.55	up to 10	up to 2	120.00	up to 3	na	71.99	up to 3	up to 0.5
Option 4							151.05	up to 15	up to 2				91.99	up to 5	up to 0.5
Option 5															
Business															
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2				80.00	up to 2	na	Expedience		
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3				120.00	up to 3	na	104.99	up to 3	up to 0.8
Option 3													149.99	up to 5	up to 1
Option 4															
Option 5															

	Fixed Point-to-Multipoint Wireless														
	CCI (unlicensed)			Lakeshore (unlicensed)			Slave Lake (licensed)			Sniper			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Driftpile Cree															
Residential															
Option 1	49.99	up to 2	up to 0.75	55.00	up to 2.5	up to 0.77	46.55	up to 4	up to 2	50.00	up to 1.5	na	4G Satellite		
Option 2	74.99	up to 5	up to 1	75.00	up to 5	up to 1	84.55	up to 6	up to 2	80.00	up to 2	na	69.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1				122.55	up to 10	up to 2	120.00	up to 3	na	79.99	up to 5	up to 1
Option 4							151.05	up to 15	up to 2				89.99	up to 5	up to 1
Option 5															
Business															
Option 1	200.00	up to 6	up to 2	115.00	up to 10	up to 1.5				80.00	up to 2	na	4G Satellite		
Option 2	249.99	up to 7	up to 3							120.00	up to 3	na	69.99	up to 5	up to 1
Option 3													79.99	up to 5	up to 1
Option 4													89.99	up to 5	up to 1
Option 5															

	Fixed Point-to-Multipoint Wireless														
	Arrow (unlicensed)			CCI (unlicensed)			Infinity AB (licensed)			Lakeshore (unlicensed)			Slave Lake (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Kapawe'no															
Residential															
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	60.00	up to 5	up to 1	55.00	up to 2.5	up to 0.77	46.55	up to 4	up to 2
Option 2				74.99	up to 5	up to 1	99.00	up to 10	up to 1	75.00	up to 5	up to 1	84.55	up to 6	up to 2
Option 3				94.99	up to 10	up to 1							122.55	up to 10	up to 2
Option 4													151.05	up to 15	up to 2
Option 5															
Business															
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2	109.00	up to 10	up to 2	115.00	up to 10	up to 1.5			
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3									
Option 3															
Option 4															
Option 5															

	Fixed Point-to-Multipoint Wireless					
	Sniper			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Kapawe'no (cont'd)						
Residential						
Option 1	50.00	up to 1.5	na	4G Satellite 69.99	up to 5	up to 1
Option 2	80.00	up to 2	na	79.99	up to 5	up to 1
Option 3	120.00	up to 3	na	89.99	up to 5	up to 1
Option 4						
Option 5						
Business						
Option 1	80.00	up to 2	na	4G Satellite 69.99	up to 5	up to 1
Option 2	120.00	up to 3	na	79.99	up to 5	up to 1
Option 3				89.99	up to 5	up to 1
Option 4						
Option 5						

Fixed Point-to-Multipoint Wireless												
	Arrow (unlicensed)			Slave Lake (licensed)			Sniper			XplorNet (licensed)		
	Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s	
	\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up
Loon River												
Residential												
Option 1	65.00	up to 5	up to 1.5	46.55	up to 4	up to 2	50.00	up to 1.5	na	4G Satellite		
Option 2				84.55	up to 6	up to 2	80.00	up to 2	na	69.99	up to 5	up to 1
Option 3				122.55	up to 10	up to 2	120.00	up to 3	na	79.99	up to 5	up to 1
Option 4				151.05	up to 15	up to 2						
Option 5												
Business												
Option 1	250.00	up to 1.5	up to 1				80.00	up to 2	na	4G Satellite		
Option 2	500.00	up to 3	up to 1.5				120.00	up to 3	na	69.99	up to 5	up to 1
Option 3										79.99	up to 5	up to 1
Option 4												
Option 5												

Fixed Point-to-Multipoint Wireless												
	Arrow (unlicensed)			Slave Lake (licensed)			Sniper			XplorNet (licensed)		
	Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s	
	\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up
Peerless Trout												
Residential												
Option 1	65.00	up to 5	up to 1.5	46.55	up to 4	up to 2	50.00	up to 1.5	na	4G Satellite		
Option 2				84.55	up to 6	up to 2	80.00	up to 2	na	69.99	up to 5	up to 1
Option 3				122.55	up to 10	up to 2	120.00	up to 3	na	79.99	up to 5	up to 1
Option 4				151.05	up to 15	up to 2				89.99	up to 5	up to 1
Option 5												
Business												
Option 1	250.00	up to 1.5	up to 1				80.00	up to 2	na	4G Satellite		
Option 2	500.00	up to 3	up to 1.5				120.00	up to 3	na	69.99	up to 5	up to 1
Option 3										79.99	up to 5	up to 1
Option 4										89.99	up to 5	up to 1
Option 5												

Fixed Point-to-Multipoint Wireless												
	CCI (unlicensed)			Slave Lake (licensed)			Sniper			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Sawridge												
Residential	4G Wireless											
Option 1	49.99	up to 2	up to 0.75	46.55	up to 4	up to 2	50.00	up to 1.5	na	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	84.55	up to 6	up to 2	80.00	up to 2	na	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	122.55	up to 10	up to 2	120.00	up to 3	na	79.99	up to 10	up to 1
Option 4				151.05	up to 15	up to 2				109.99	up to 10	up to 1
Option 5												
Business	4G Wireless											
Option 1	200.00	up to 6	up to 2				80.00	up to 2	na	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3				120.00	up to 3	na	79.99	up to 10	up to 1
Option 3										109.99	up to 10	up to 1
Option 4												
Option 5												

Fixed Point-to-Multipoint Wireless												
	CCI (unlicensed)			Infinity AB (licensed)			Lakeshore (unlicensed)			Slave Lake (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Sucker Creek												
Residential												
Option 1	49.99	up to 2	up to 0.75	60.00	up to 5	up to 1	55.00	up to 2.5	up to 0.77	46.55	up to 4	up to 2
Option 2	74.99	up to 5	up to 1	99.00	up to 10	up to 1	75.00	up to 5	up to 1	84.55	up to 6	up to 2
Option 3	94.99	up to 10	up to 1							122.55	up to 10	up to 2
Option 4										151.05	up to 15	up to 2
Option 5												
Business												
Option 1	200.00	up to 6	up to 2	109.00	up to 10	up to 2	115.00	up to 10	up to 1.5			
Option 2	249.99	up to 7	up to 3									
Option 3												
Option 4												
Option 5												

	Fixed Point-to-Multipoint Wireless											
	CCI (unlicensed)			Infinity AB (licensed)			Lakeshore (unlicensed)			Slave Lake (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Sucker Creek												
Residential												
Option 1	49.99	up to 2	up to 0.75	60.00	up to 5	up to 1	55.00	up to 2.5	up to 0.77	46.55	up to 4	up to 2
Option 2	74.99	up to 5	up to 1	99.00	up to 10	up to 1	75.00	up to 5	up to 1	84.55	up to 6	up to 2
Option 3	94.99	up to 10	up to 1							122.55	up to 10	up to 2
Option 4										151.05	up to 15	up to 2
Option 5												
Business												
Option 1	200.00	up to 6	up to 2	109.00	up to 10	up to 2	115.00	up to 10	up to 1.5			
Option 2	249.99	up to 7	up to 3									
Option 3												
Option 4												
Option 5												

	Fixed Point-to-Multipoint Wireless					
	Sniper			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Sucker Creek						
Residential						
Option 1	50.00	up to 1.5	na	4G Satellite 69.99	up to 5	up to 1
Option 2	80.00	up to 2	na	79.99	up to 5	up to 1
Option 3	120.00	up to 3	na	89.99	up to 5	up to 1
Option 4						
Option 5						
Business						
Option 1	80.00	up to 2	na	4G Satellite 69.99	up to 5	up to 1
Option 2	120.00	up to 3	na	79.99	up to 5	up to 1
Option 3				89.99	up to 5	up to 1
Option 4						
Option 5						

Fixed Point-to-Multipoint Wireless															
	CCI (unlicensed)			Lakeshore (unlicensed)			Slave Lake (licensed)			Sniper (unlicensed)			XplorNet		
	Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s	
	\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up
Swan River															
Residential													4G Wireless		
Option 1	49.99	up to 2	up to 0.75	55.00	up to 2.5	up to 0.77	46.55	up to 4	up to 2	50.00	up to 1.5	na	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	75.00	up to 5	up to 1	84.55	up to 6	up to 2	80.00	up to 2	na	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1				122.55	up to 10	up to 2	120.00	up to 3	na	79.99	up to 10	up to 1
Option 4							151.05	up to 15	up to 2				109.99	up to 10	up to 1
Option 5															
Business													4G Wireless		
Option 1	200.00	up to 6	up to 2	115.00	up to 10	up to 1.5				80.00	up to 2	na	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3							120.00	up to 3	na	79.99	up to 10	up to 1
Option 3													109.99	up to 10	up to 1
Option 4															
Option 5															

	Fixed Point-to-Multipoint Wireless								
	Arrow (unlicensed)			Slave Lake (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Whitefish Lake									
Residential									
Option 1	65.00	up to 5	up to 1.5	46.55	up to 4	up to 2	4G Satellite 69.99	up to 5	up to 1
Option 2				84.55	up to 6	up to 2	79.99	up to 5	up to 1
Option 3				122.55	up to 10	up to 2	89.99	up to 5	up to 1
Option 4				151.05	up to 15	up to 2			
Option 5									
Business									
Option 1	250.00	up to 1.5	up to 1				4G Satellite 69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5				79.99	up to 5	up to 1
Option 3							89.99	up to 5	up to 1
Option 4									
Option 5									

	Fixed Point-to-Multipoint Wireless								
	Arrow (unlicensed)			Slave Lake (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Woodland Cree									
Residential									
Option 1	65.00	up to 5	up to 1.5	46.55	up to 4	up to 2	4G Satellite 69.99	up to 5	up to 1
Option 2				84.55	up to 6	up to 2	79.99	up to 5	up to 1
Option 3				122.55	up to 10	up to 2			
Option 4				151.05	up to 15	up to 2			
Option 5									
Business									
Option 1	250.00	up to 1.5	up to 1				4G Satellite 69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5				79.99	up to 5	up to 1
Option 3									
Option 4									
Option 5									

12.2.3.7 Métis Settlement (LSLEA)

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless											
	Arrow (unlicensed)			CCI (unlicensed)			Sniper			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
East Prairie												
Residential	4G Satellite											
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	50.00	up to 1.5	na	69.99	up to 5	up to 1
Option 2				74.99	up to 5	up to 1	80.00	up to 2	na	79.99	up to 5	up to 1
Option 3				94.99	up to 10	up to 1	120.00	up to 3	na	89.99	up to 5	up to 1
Option 4												
Business	4G Satellite											
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2	80.00	up to 2	na	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3	120.00	up to 3	na	79.99	up to 5	up to 1
Option 3										89.99	up to 5	up to 1
Option 4												
Option 5												

	Fixed Point-to-Multipoint Wireless											
	Arrow (unlicensed)			CCI (unlicensed)			Lakeshore			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Gift Lake												
Residential	4G Satellite											
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75				69.99	up to 5	up to 1
Option 2				74.99	up to 5	up to 1				79.99	up to 5	up to 1
Option 3				94.99	up to 10	up to 1				89.99	up to 5	up to 1
Option 4												
Option 5												
	Have stopped selling											
Business	4G Satellite											
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2				69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3				79.99	up to 5	up to 1
Option 3										89.99	up to 5	up to 1
Option 4												
Option 5												
	Have stopped selling											

Fixed Point-to-Multipoint Wireless						
	Arrow (unlicensed)			CCI (unlicensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Peavine						
Residential						
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75
Option 2				74.99	up to 5	up to 1
Option 3				94.99	up to 10	up to 1
Option 4						
Business						
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3
Option 3						
Option 4						
Option 5						

12.2.4 Peace Region Economic Development Alliance (PREDA)

12.2.4.1 City of Grande Prairie

Broadband Service Availability

	Wireline Providers									
	TELUS (copper & fibre)			Eastlink (coaxial cable)			GPNetworks (Fibre)			
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		
Grande Prairie Residential										
Option 1	63.00	up to 6	up to 1	55.95	up to 5	up to 1	Partial	49.95	up to 3	up to 1.5
Option 2	68.00	up to 15	up to 1	78.95	up to 30	up to 3		79.95	up to 5	up to 1.5
Option 3	73.00	up to 25	up to 5	88.95	up to 50	up to 5		99.95	up to 7	up to 1.5
Option 4	80.00	up to 50	up to 10	98.95	up to 100	up to 10		189.95	up to 10	up to 2
Option 5	85.00	up to 150	up to 150	149.95	up to 150	up to 10				
Option 6				259.95	up to 940	up to 10				
Business										
Option 1	60.00	up to 15	up to 1	na	up to 50	up to 5		59.95	up to 3	up to 2
Option 2	85.00	up to 25	up to 5	na	up to 100	up to 10		129.95	up to 5	up to 2
Option 3	100.00	up to 50	up to 10	na	up to 200	up to 10		219.95	up to 7	up to 3
Option 4	125.00	up to 100	up to 20							
Option 5	150.00	up to 150	up to 150							

	Fixed Point-to-Multipoint Wireless																				
	CCI (unlicensed)			Crossover			First Broadband			GPNetworks			NEXXCom (licensed)			XplorNet (licensed)					
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up				
Grande Prairie Residential																					
Option 1	49.99	up to 2	up to 0.75	na	na	na	99.00	up to 1	up to 0.5	Partial	49.95	up to 3	up to 1.5	69.95	up to 3	up to 1	4G LTE Fixed Wireless	59.99	up to 5	up to 1	
Option 2	74.99	up to 5	up to 1				129.00	up to 4	up to 1		79.95	up to 5	up to 1.5	89.95	up to 6	up to 2		69.99	up to 10	up to 1	
Option 3	94.99	up to 10	up to 1				149.00	up to 7	up to 1		99.95	up to 7	up to 1.5					79.99	up to 25	up to 1	
Option 4											189.95	up to 10	up to 2					109.99	up to 25	up to 1	
Business																		4G LTE Fixed Wireless			
Option 1	200.00	up to 6	up to 2	na	na	na	199.00	up to 2.5	up to 1.5		59.95	up to 3	up to 2	149.95	up to 5	up to 5		69.99	up to 10	up to 1	
Option 2	249.99	up to 7	up to 3				279.00	up to 5	up to 2.5		129.95	up to 5	up to 2	224.95	up to 7.5	up to 7.5		79.99	up to 25	up to 1	
Option 3							329.00	up to 8	up to 4		219.95	up to 7	up to 3	299.95	up to 10	up to 10		109.99	up to 25	up to 1	
Option 4							na	up to 10	up to 5												
Option 5																					

12.2.4.2 Town of Beaverlodge

Broadband Service Availability

	Wireline Providers					
	TELUS (copper)			Eastlink (coaxial cable)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Beaverlodge Residential						
Option 1	63.00	up to 6	up to 1	55.95	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	78.95	up to 30	up to 3
Option 3				88.95	up to 50	up to 5
Option 4				98.95	up to 100	up to 10
Option 5				149.95	up to 150	up to 10
Option 6				259.95	up to 940	up to 10
Business						
Option 1	60.00	up to 15	up to 1	na	up to 50	up to 5
Option 2	85.00	Up to 25	up to 5	na	up to 100	up to 10
Option 3				na	up to 200	up to 10
Option 4						
Option 5						

	Fixed Point-to-Multipoint Wireless																	
	CCI (unlicensed)			Crossover			First Broadband			GPNetworks			NEXXCom (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Beaverlodge Residential																		
Option 1	49.99	up to 2	up to 0.75	na	na	na	99.00	up to 1	up to 0.5	49.95	up to 3	up to 1.5	69.95	up to 3	up to 1	4G LTE Fixed Wireless		
Option 2	74.99	up to 5	up to 1				129.00	up to 4	up to 1	79.95	up to 5	up to 1.5	89.95	up to 6	up to 2	59.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1				149.00	up to 7	up to 1	99.95	up to 7	up to 1.5				69.99	up to 10	up to 1
Option 4										189.95	up to 10	up to 2				79.99	up to 25	up to 1
Option 5																109.99	up to 25	up to 1
Business																		
Option 1	200.00	up to 6	up to 2	na	na	na	199.00	up to 2.5	up to 1.5	59.95	up to 3	up to 2	149.95	up to 5	up to 5	4G LTE Fixed Wireless		
Option 2	249.99	up to 7	up to 3				279.00	up to 5	up to 2.5	129.95	up to 5	up to 2	224.95	up to 7.5	up to 7.5	69.99	up to 10	up to 1
Option 3							329.00	up to 8	up to 4	219.95	up to 7	up to 3	299.95	up to 10	up to 10	79.99	up to 25	up to 1
Option 4							na	up to 10	up to 5							109.99	up to 25	up to 1
Option 5																		

12.2.4.3 Town of Fairview

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless											
	TELUS (copper)			Eastlink (coaxial cable)			AB North			Mighty Peace (licensed/unlicensed)			Wispernet			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Fairview																		
Residential																		
Option 1	63.00	up to 6	up to 1	77.00	up to 20	up to 2	53.00	up to 1.5	up to 0.5	49.95	up to 2	up to 1	\$39.95	up to 1.5	up to 1.5	Fixed Wireless Expedience		
Option 2	68.00	up to 15	up to 1				83.00	up to 5	up to 1	74.95	up to 5	up to 1.25				51.99	up to 1.5	up to 0.3
Option 3	73.00	up to 25	up to 5							94.95	up to 7	up to 1.5				71.99	up to 3	up to 0.5
Option 4																91.99	up to 5	up to 0.5
Option 5																		
Business																		
Option 1	60.00	up to 15	up to 1				200.00	up to 10	up to 2	49.95	up to 2	up to 1	\$49.95	up to 1.5	up to 1.5	Fixed Wireless Expedience		
Option 2	85.00	up to 25	up to 5							100.00	up to 8	up to 2				104.99	up to 3	up to 0.8
Option 3																149.99	up to 5	up to 1
Option 4																		
Option 5																		

12.2.4.4 Town of Falher

Broadband Service Availability

	Wireline Provider						Fixed Point-to-Multipoint Wireless											
	TELUS (copper)			AB North			CCI (unlicensed)			I Want			Wispernet			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Falher																		
Residential																		
Option 1	63.00	up to 6	up to 1	53.00	up to 1.5	up to 0.5	49.99	up to 2	up to 0.75	49.95	up to 5	up to 1	\$39.95	up to 1.5	up to 1.5	KA2 Satellite		
Option 2	68.00	up to 15	up to 1	83.00	up to 5	up to 1	74.99	up to 5	up to 1	59.95	up to 5	up to 1				69.99	up to 5	up to 1
Option 3							94.99	up to 10	up to 1	89.95	up to 10	up to 2				79.99	up to 5	up to 1
Option 4										129.95	up to 15	up to 3						
Option 5										159.95	up to 15	up to 3						
Business																		
Option 1	60.00	up to 15	up to 1	200.00	up to 10	up to 2	200.00	up to 6	up to 2	99.95	up to 10	up to 2	\$49.95	up to 1.5	up to 1.5	KA2 Satellite		
Option 2							249.99	up to 7	up to 3	149.95	up to 15	up to 3				69.99	up to 5	up to 1
Option 3										249.95	up to 20	up to 4				79.99	up to 5	up to 1
Option 4										800.00	up to 50	up to 10						
Option 5																		

12.2.4.5 Town of Fox Creek

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless								
	TELUS (copper)			Eastlink (coaxial cable)			Slave Lake (licensed)			Whitecourt (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Fox Creek															
Residential															
Option 1	63.00	up to 6	up to 1	55.95	up to 5	up to 1	46.55	up to 4	up to 2	46.55	up to 4	up to 2	KA2 Satellite		
Option 2	68.00	up to 15	up to 1	78.95	up to 30	up to 3	84.55	up to 6	up to 2	84.55	up to 6	up to 2	69.99	up to 5	up to 1
Option 3				88.95	up to 50	up to 5	122.55	up to 10	up to 2	122.55	up to 10	up to 2	79.99	up to 5	up to 1
Option 4				98.95	up to 100	up to 10	151.05	up to 15	up to 2	151.05	up to 15	up to 2	89.99	up to 5	up to 1
Option 5				149.95	up to 150	up to 10									
Option 6				259.95	up to 400	up to 10									
Business															
Option 1	60.00	up to 15	up to 1	na	up to 50	up to 5	200.00	up to 7	up to 3	200.00	up to 7	up to 3	KA2 Satellite		
Option 2				na	up to 100	up to 10	300.00	up to 10	up to 7	300.00	up to 10	up to 7	69.99	up to 5	up to 1
Option 3				na	up to 200	up to 10	500.00	up to 15	up to 10	500.00	up to 15	up to 10	79.99	up to 5	up to 1
Option 4							700.00	up to 20	up to 15	700.00	up to 20	up to 15	89.99	up to 5	up to 1
Option 5															

12.2.4.6 Town of Grande Cache

Broadband Service Availability

	Wireline Provider			Fixed Wireless		
	TELUS (copper)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Grande Cache						
Residential						
Option 1	63.00	up to 6	up to 1	Fixed Wireless Expedience		
Option 2				51.99	up to 1.5	up to 0.25
Option 3				71.99	up to 3	up to 0.5
Option 4				91.99	up to 5	up to 0.5
Option 5						
Business						
Option 1				Fixed Wireless Expedience		
Option 2				104.99	up to 3	up to 0.8
Option 3				149.99	up to 5	up to 1
Option 4						
Option 5						

12.2.4.7 Town of Grimshaw

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless											
	TELUS (copper)			Eastlink (coaxial cable)			AB North			Bell (?)			Wispernet			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Grimshaw																		
Residential																		
Option 1	63.00	up to 6	up to 1		up to 20	up to 2	53.00	up to 1.5	up to 0.5	65.00	up to 5	up to 1	\$39.95	up to 1.5	up to 1.5	Fixed Wireless Expedience		
Option 2	68.00	up to 15	up to 1				83.00	up to 5	up to 1							51.99	up to 1.5	up to 0.25
Option 3	73.00	up to 25	up to 5													71.99	up to 3	up to 0.5
Option 4	80.00	up to 50	up to 10													91.99	up to 5	up to 0.5
Option 5																		
Business																		
Option 1							200.00	up to 10	up to 2				\$49.95	up to 1.5	up to 1.5	Fixed Wireless Expedience		
Option 2																104.99	up to 3	up to 0.8
Option 3																149.99	up to 5	up to 1
Option 4																		
Option 5																		

12.2.4.8 Town of Manning

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless					
	TELUS (copper)			AB North			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Manning									
Residential									
Option 1	63.00	up to 6	up to 1	53.00	up to 1.5	up to 0.5	KA2 Satellite		
Option 2	68.00	up to 15	up to 1	83.00	up to 5	up to 1	69.99	up to 5	up to 1
Option 3	73.00	up to 25	up to 5				79.99	up to 5	up to 1
Option 4	80.00	up to 50	up to 10						
Option 5									
Business									
Option 1	60.00	up to 15	up to 1	200.00	up to 10	up to 2	KA2 Satellite		
Option 2							69.99	up to 5	up to 1
Option 3							79.99	up to 5	up to 1
Option 4									
Option 5									

12.2.4.9 Town of McLennan

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless								
	TELUS (copper)			CCI (unlicensed)			I Want			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
McLennan Residential												
Option 1	63.00	up to 6	up to 1	49.99	up to 2	up to 0.75	49.95	up to 5	up to 1	69.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	74.99	up to 5	up to 1	59.95	up to 5	up to 1	79.99	up to 5	up to 1
Option 3	73.00	up to 25	up to 5	94.99	up to 10	up to 1	89.95	up to 10	up to 2			
Option 4	80.00	up to 50	up to 10				129.95	up to 15	up to 3			
Option 5							159.95	up to 15	up to 3			
McLennan Business												
Option 1	60.00	up to 15	up to 1	200.00	up to 6	up to 2	99.95	up to 10	up to 2	69.99	up to 5	up to 1
Option 2	85.00	up to 25	up to 5	249.99	up to 7	up to 3	149.95	up to 15	up to 3	79.99	up to 5	up to 1
Option 3							249.95	up to 20	up to 4			
Option 4							800.00	up to 50	up to 10			
Option 5												

12.2.4.10 Town of Peace River

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless												
	TELUS (copper & fibre)			Eastlink (coaxial cable)			AB North			I Want			Wispernet			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Peace River Residential																			
Option 1	63.00	up to 6	up to 1	77.00	up to 20	up to 2	53.00	up to 1.5	up to 0.5	49.95	up to 5	up to 1	\$39.95	up to 1.5	up to 1.5	Fixed Wireless Expedience	51.99	up to 1.5	up to 0.25
Option 2	68.00	up to 15	up to 1				83.00	up to 5	up to 1	59.95	up to 5	up to 1					71.99	up to 3	up to 0.5
Option 3	73.00	up to 25	up to 5							89.95	up to 10	up to 2					91.99	up to 5	up to 0.5
Option 4	80.00	up to 50	up to 10							129.95	up to 15	up to 3							
Option 5	85.00	up to 150	up to 150							159.95	up to 15	up to 3							
Peace River Business																			
Option 1	60.00	up to 15	up to 1				200.00	up to 10	up to 2	99.95	up to 10	up to 2	\$49.95	up to 1.5	up to 1.5	Fixed Wireless Expedience	104.99	up to 3	up to 0.8
Option 2	85.00	up to 25	up to 5							149.95	up to 15	up to 3					149.99	up to 5	up to 1
Option 3	100.00	up to 50	up to 10							249.95	up to 20	up to 4							
Option 4	125.00	up to 100	up to 20							800.00	up to 50	up to 10							
Option 5	150.00	up to 150	up to 150																

12.2.4.11 Town of Sexsmith

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless								
	TELUS (copper)			Eastlink (coaxial cable)			CCI (unlicensed)			Crossover			First Broadband		
	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up
Sexsmith															
Residential															
Option 1	63.00	up to 6	up to 1	55.95	up to 5	up to 1	49.99	up to 2	up to 0.75	na	na	na	99.00	up to 1	up to 0.5
Option 2	68.00	up to 15	up to 1	78.95	up to 30	up to 3	74.99	up to 5	up to 1				129.00	up to 4	up to 1
Option 3				88.95	up to 50	up to 5	94.99	up to 10	up to 1				149.00	up to 7	up to 1
Option 4				98.95	up to 100	up to 10									
Option 5				149.95	up to 150	up to 10									
Option 6				259.95	up to 940	up to 10									
Business															
Option 1	60.00	up to 15	up to 1	na	up to 50	up to 5	200.00	up to 6	up to 2	na	na	na	199.00	up to 2.5	up to 1.5
Option 2	85.00	up to 25	up to 5	na	up to 100	up to 10	249.99	up to 7	up to 3				279.00	up to 5	up to 2.5
Option 3				na	up to 200	up to 10							329.00	up to 8	up to 4
Option 4													na	up to 10	up to 5
Option 5															

	Fixed Point-to-Multipoint Wireless											
	GPNetworks			I Want			NEXXCom (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up
Sexsmith												
Residential												
Option 1	49.95	up to 3	up to 1.5	49.95	up to 5	up to 1	69.95	up to 3	up to 1	4G LTE Fixed Wireless		
Option 2	79.95	up to 5	up to 1.5	59.95	up to 5	up to 1	89.95	up to 6	up to 2	59.99	up to 5	up to 1
Option 3	99.95	up to 7	up to 1.5	89.95	up to 10	up to 2				69.99	up to 10	up to 1
Option 4	189.95	up to 10	up to 2	129.95	up to 15	up to 3				79.99	up to 25	up to 1
Option 5				159.95	up to 15	up to 3				109.99	up to 25	up to 1
Business												
Option 1	59.95	up to 3	up to 2	99.95	up to 10	up to 2	149.95	up to 5	up to 5	4G LTE Fixed Wireless		
Option 2	129.95	up to 5	up to 2	149.95	up to 15	up to 3	224.95	up to 7.5	up to 7.5	69.99	up to 10	up to 1
Option 3	219.95	up to 7	up to 3	249.95	up to 20	up to 4	299.95	up to 10	up to 10	79.99	up to 25	up to 1
Option 4				800.00	up to 50	up to 10				109.99	up to 25	up to 1
Option 5												

12.2.4.12 Town of Spirit River

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless								
	TELUS (copper)			AB North			CCI (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Spirit River												
Residential										4G LTE Fixed Wireless		
Option 1	63.00	up to 6	up to 1	53.00	up to 1.5	up to 0.5	49.99	up to 2	up to 0.75	59.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	83.00	up to 5	up to 1	74.99	up to 5	up to 1	69.99	up to 10	up to 1
Option 3							94.99	up to 10	up to 1	79.99	up to 25	up to 1
Option 4										109.99	up to 25	up to 1
Option 5												
Business										4G LTE Fixed Wireless		
Option 1	60.00	up to 15	up to 1	200.00	up to 10	up to 2	200.00	up to 6	up to 2	69.99	up to 10	up to 1
Option 2							249.99	up to 7	up to 3	79.99	up to 25	up to 1
Option 3										109.99	up to 25	up to 1
Option 4												
Option 5												

12.2.4.13 Town of Valleyview

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless								
	TELUS (copper)			I Want			XplorNet (licensed)					
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up			
Valleyview												
Residential										Fixed Wireless Expedience		
Option 1	63.00	up to 6	up to 1	49.95	up to 5	up to 1	51.99	up to 1.5	up to 0.25			
Option 2	68.00	up to 15	up to 1	59.95	up to 5	up to 1	71.99	up to 3	up to 0.5			
Option 3				89.95	up to 10	up to 2	91.99	up to 5	up to 0.5			
Option 4				129.95	up to 15	up to 3						
Option 5				159.95	up to 15	up to 3						
Business										Fixed Wireless Expedience		
Option 1	60.00	up to 15	up to 1	99.95	up to 10	up to 2	104.99	up to 3	up to 0.8			
Option 2				149.95	up to 15	up to 3	149.99	up to 5	up to 1			
Option 3				249.95	up to 20	up to 4						
Option 4				800.00	up to 50	up to 10						
Option 5												

12.2.4.14 Town of Wembley

Broadband Service Availability

	Wireline Provider					
	TELUS (copper)			Eastlink (coaxial cable)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Wembley						
Residential						
Option 1	63.00	up to 6	up to 1	55.95	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	78.95	up to 30	up to 3
Option 3	73.00	up to 25	up to 5	88.95	up to 50	up to 5
Option 4	80.00	up to 50	up to 10	98.95	up to 100	up to 10
Option 5				149.95	up to 150	up to 10
Option 6				259.95	up to 940	up to 10
Business						
Option 1	60.00	up to 15	up to 1	na	up to 50	up to 5
Option 2				na	up to 100	up to 10
Option 3				na	up to 200	up to 10
Option 4						
Option 5						

	Fixed Point-to-Multipoint Wireless																	
	CCI (unlicensed)			Crossover			First Broadband			GPNetworks			NEXXCom (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Wembley (cont'd)																		
Residential																		
Option 1	49.99	up to 2	up to 0.75	na	na	na	99.00	up to 1	up to 0.5	49.95	up to 3	up to 1.5	69.95	up to 3	up to 1	4G LTE Fixed Wireless		
Option 2	74.99	up to 5	up to 1				129.00	up to 4	up to 1	79.95	up to 5	up to 1.5	89.95	up to 6	up to 2	59.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1				149.00	up to 7	up to 1	99.95	up to 7	up to 1.5				69.99	up to 10	up to 1
Option 5										189.95	up to 10	up to 2				79.99	up to 25	up to 1
Option 4																109.99	up to 25	up to 1
Business																		
Option 1	200.00	up to 6	up to 2	na	na	na	199.00	up to 2.5	up to 1.5	59.95	up to 3	up to 2	149.95	up to 5	up to 5	4G LTE Fixed Wireless		
Option 2	249.99	up to 7	up to 3				279.00	up to 5	up to 2.5	129.95	up to 5	up to 2	224.95	up to 7.5	up to 7.5	69.99	up to 10	up to 1
Option 3							329.00	up to 8	up to 4	219.95	up to 7	up to 3	299.95	up to 10	up to 10	79.99	up to 25	up to 1
Option 4							na	up to 10	up to 5							109.99	up to 25	up to 1
Option 5																		

12.2.4.15 Village of Berwyn

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless											
	TELUS (copper)			Bell (?)			AB North			Wispernet			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Berwyn															
Residential															
Option 1	63.00	up to 6	up to 1	65.00	up to 5	up to 1	53.00	up to 1.5	up to 0.5	\$39.95	up to 1.5	up to 1.5	Fixed Wireless Expedience		
Option 2	68.00	up to 15	up to 1				83.00	up to 5	up to 1				51.99	up to 1.5	up to 0.25
Option 3	73.00	up to 25	up to 5										71.99	up to 3	up to 0.5
Option 4													91.99	up to 5	up to 0.5
Option 5															
Business															
Option 1	60.00	up to 15	up to 1				200.00	up to 10	up to 2	\$49.95	up to 1.5	up to 1.5	Fixed Wireless Expedience		
Option 2	85.00	up to 25	up to 5										104.99	up to 3	up to 0.8
Option 3													149.99	up to 5	up to 1
Option 4															
Option 5															

12.2.4.16 Village of Donnelly

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless								
	TELUS (copper)			I Want			Wispernet			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Donnelly												
Residential												
Option 1	63.00	up to 6	up to 1	49.95	up to 5	up to 1	\$39.95	up to 1.5	up to 1.5	KA2 Satellite		
Option 2	68.00	up to 15	up to 1	59.95	up to 5	up to 1				69.99	up to 5	up to 1
Option 3				89.95	up to 10	up to 2				79.99	up to 5	up to 1
Option 4				129.95	up to 15	up to 3						
Option 5				159.95	up to 15	up to 3						
Business												
Option 1	60.00	up to 15	up to 1	99.95	up to 10	up to 2	\$49.95	up to 1.5	up to 1.5	KA2 Satellite		
Option 2				149.95	up to 15	up to 3				69.99	up to 5	up to 1
Option 3				249.95	up to 20	up to 4				79.99	up to 5	up to 1
Option 4				800.00	up to 50	up to 10						
Option 5												

12.2.4.17 Village of Girouxville

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless														
	TELUS (copper)			AB North			CCI (unlicensed)			I Want			Wispernet			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Girouxville																		
Residential																		
Option 1	63.00	up to 6	up to 1	53.00	up to 1.5	up to 0.5	49.99	up to 2	up to 0.75	49.95	up to 5	up to 1	\$39.95	up to 1.5	up to 1.5	KA2 Satellite		
Option 2	68.00	up to 15	up to 1	83.00	up to 5	up to 1	74.99	up to 5	up to 1	59.95	up to 5	up to 1				69.99	up to 5	up to 1
Option 3	73.00	up to 25	up to 5				94.99	up to 10	up to 1	89.95	up to 10	up to 2				79.99	up to 5	up to 1
Option 4	80.00	up to 50	up to 10							129.95	up to 15	up to 3						
Option 5										159.95	up to 15	up to 3						
Business																		
Option 1	60.00	up to 15	up to 1	200.00	up to 10	up to 2	200.00	up to 6	up to 2	99.95	up to 10	up to 2	\$49.95	up to 1.5	up to 1.5	KA2 Satellite		
Option 2							249.99	up to 7	up to 3	149.95	up to 15	up to 3				69.99	up to 5	up to 1
Option 3										249.95	up to 20	up to 4				79.99	up to 5	up to 1
Option 4										800.00	up to 50	up to 10						
Option 5																		

12.2.4.18 Village of Hines Creek

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	AB North			Mighty Peace (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Hines Creek									
Residential									
Option 1	53.00	up to 1.5	up to 0.5	49.95	up to 2	up to 1	Fixed Wireless Expedience		
Option 2	83.00	up to 5	up to 1	74.95	up to 5	up to 1.25	51.99	up to 1.5	up to 0.25
Option 3				94.95	up to 7	up to 1.5	71.99	up to 3	up to 0.5
Option 4							91.99	up to 5	up to 0.5
Option 5									
Business									
Option 1	200.00	up to 10	up to 2	49.95	up to 2	up to 1	Fixed Wireless Expedience		
Option 2				100.00	up to 8	up to 2	104.99	up to 3	up to 0.8
Option 3							149.99	up to 5	up to 1
Option 4									
Option 5									

12.2.4.19 Village of Hythe

Broadband Service Availability

	Wireline Provider		
	TELUS (copper)		
	Cost \$/mo	Bandwidth - Mb/s Down Up	
Hythe			
Residential			
Option 1	63.00	up to 6	up to 1
Option 2			
Option 3			
Option 4			
Option 5			
Business			
Option 1			
Option 2			
Option 3			
Option 4			
Option 5			

	Fixed Point-to-Multipoint Wireless																	
	CCI (unlicensed)			Crossover			First Broadband			GPNetworks			NEXXCom (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Hythe																		
Residential																		
Option 1	49.99	up to 2	up to 0.75	na	na	na	99.00	up to 1	up to 0.5	49.95	up to 3	up to 1.5	69.95	up to 3	up to 1	4G LTE Fixed Wireless		
Option 2	74.99	up to 5	up to 1				129.00	up to 4	up to 1	79.95	up to 5	up to 1.5	89.95	up to 6	up to 2	59.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1				149.00	up to 7	up to 1	99.95	up to 7	up to 1.5				79.99	up to 25	up to 1
Option 4										189.95	up to 10	up to 2				109.99	up to 25	up to 1
Option 5																		
Business																		
Option 1	200.00	up to 6	up to 2	na	na	na	199.00	up to 2.5	up to 1.5	59.95	up to 3	up to 2	149.95	up to 5	up to 5	4G LTE Fixed Wireless		
Option 2	249.99	up to 7	up to 3				279.00	up to 5	up to 2.5	129.95	up to 5	up to 2	224.95	up to 7.5	up to 7.5	69.99	up to 10	up to 1
Option 3							329.00	up to 8	up to 4	219.95	up to 7	up to 3	299.95	up to 10	up to 10	79.99	up to 25	up to 1
Option 4							na	up to 10	up to 5							109.99	up to 25	up to 1
Option 5																		

12.2.4.20 Village of Napa

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless												
	CCI Wired (copper)			AB North			I Want			Wispernet			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Nampa																
Residential																
Option 1	69.99	up to 10	na	53.00	up to 1.5	up to 0.5	49.95	up to 5	up to 1	\$39.95	up to 1.5	up to 1.5	KA2 Satellite	69.99	up to 5	up to 1
Option 2	79.99	up to 15	na	83.00	up to 5	up to 1	59.95	up to 5	up to 1					79.99	up to 5	up to 1
Option 3	89.99	up to 25	na				89.95	up to 10	up to 2							
Option 4	109.99	up to 50	na				129.95	up to 15	up to 3							
Option 5							159.95	up to 15	up to 3							
Business																
Option 1				200.00	up to 10	up to 2	99.95	up to 10	up to 2	\$49.95	up to 1.5	up to 1.5	KA2 Satellite	69.99	up to 5	up to 1
Option 2							149.95	up to 15	up to 3					79.99	up to 5	up to 1
Option 3							249.95	up to 20	up to 4							
Option 4							800.00	up to 50	up to 10							
Option 5																

12.2.4.21 Village of Rycroft

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless															
	TELUS (copper)			AB North			CCI (unlicensed)			I Want			Wispernet			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Rycroft																			
Residential																			
Option 1	63.00	up to 6	up to 1	53.00	up to 1.5	up to 0.5	49.99	up to 2	up to 0.75	49.95	up to 5	up to 1	\$39.95	up to 1.5	up to 1.5	4G LTE Fixed Wireless	59.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	83.00	up to 5	up to 1	74.99	up to 5	up to 1	59.95	up to 5	up to 1					69.99	up to 10	up to 1
Option 3	73.00	up to 25	up to 5				94.99	up to 10	up to 1	89.95	up to 10	up to 2					79.99	up to 25	up to 1
Option 4										129.95	up to 15	up to 3					109.99	up to 25	up to 1
Option 5										159.95	up to 15	up to 3							
Business																			
Option 1	60.00	up to 15	up to 1	200.00	up to 10	up to 2	200.00	up to 6	up to 2	99.95	up to 10	up to 2	\$49.95	up to 1.5	up to 1.5	4G LTE Fixed Wireless	69.99	up to 10	up to 1
Option 2	85.00	up to 25	up to 5				249.99	up to 7	up to 3	149.95	up to 15	up to 3					79.99	up to 25	up to 1
Option 3										249.95	up to 20	up to 4					109.99	up to 25	up to 1
Option 4										800.00	up to 50	up to 10							
Option 5																			

12.2.4.22 Birch Hills County

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless											
	AB North			CCI (unlicensed)			Wispernet			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Eggleham												
Residential	KA2 Satellite											
Option 1	53.00	up to 1.5	up to 0.5	49.99	up to 2	up to 0.75	\$39.95	up to 1.5	up to 1.5	69.99	up to 5	up to 1
Option 2	83.00	up to 5	up to 1	74.99	up to 5	up to 1				79.99	up to 5	up to 1
Option 3				94.99	up to 10	up to 1						
Option 4												
Option 5												
Business	KA2 Satellite											
Option 1	200.00	up to 10	up to 2	200.00	up to 6	up to 2	\$49.95	up to 1.5	up to 1.5	69.99	up to 5	up to 1
Option 2				249.99	up to 7	up to 3				79.99	up to 5	up to 1
Option 3												
Option 4												
Option 5												

	Fixed Point-to-Multipoint Wireless											
	AB North			CCI (unlicensed)			Wispernet			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Wanham												
Residential	4G LTE Fixed Wireless											
Option 1	53.00	up to 1.5	up to 0.5	49.99	up to 2	up to 0.75	50.00	up to 2	up to 1	59.99	up to 5	up to 1
Option 2	83.00	up to 5	up to 1	74.99	up to 5	up to 1	100.00	up to 8	up to 2	69.99	up to 10	up to 1
Option 3				94.99	up to 10	up to 1				79.99	up to 25	up to 1
Option 4										109.99	up to 25	up to 1
Option 5												
Business	4G LTE Fixed Wireless											
Option 1	200.00	up to 10	up to 2	200.00	up to 6	up to 2	50.00	up to 2	up to 1	69.99	up to 10	up to 1
Option 2				249.99	up to 7	up to 3	100.00	up to 8	up to 2	79.99	up to 25	up to 1
Option 3										109.99	up to 25	up to 1
Option 4												
Option 5												

	Fixed Point-to-Multipoint Wireless								
	AB North			CCI (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Peoria, Watino Residential							KA2 Satellite		
Option 1	53.00	up to 1.5	up to 0.5	49.99	up to 2	up to 0.75	69.99	up to 5	up to 1
Option 2	83.00	up to 5	up to 1	74.99	up to 5	up to 1	79.99	up to 5	up to 1
Option 3				94.99	up to 10	up to 1			
Option 4									
Option 5									
Business							KA2 Satellite		
Option 1	200.00	up to 10	up to 2	200.00	up to 6	up to 2	69.99	up to 5	up to 1
Option 2				249.99	up to 7	up to 3	79.99	up to 5	up to 1
Option 3									
Option 4									
Option 5									

	Fixed Point-to-Multipoint Wireless											
	AB North			CCI (unlicensed)			Wispernet			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Tangent Residential										KA2 Satellite		
Option 1	53.00	up to 1.5	up to 0.5	49.99	up to 2	up to 0.75	\$39.95	up to 1.5	up to 1.5	69.99	up to 5	up to 1
Option 2	83.00	up to 5	up to 1	74.99	up to 5	up to 1				79.99	up to 5	up to 1
Option 3				94.99	up to 10	up to 1						
Option 4												
Option 5												
Business										KA2 Satellite		
Option 1	200.00	up to 10	up to 2	200.00	up to 6	up to 2	\$49.95	up to 1.5	up to 1.5	69.99	up to 5	up to 1
Option 2				249.99	up to 7	up to 3				79.99	up to 5	up to 1
Option 3												
Option 4												
Option 5												

12.2.4.23 Clear Hills County

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless					
	CCI (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Cleardale						
Residential				KA2 Satellite		
Option 1	49.99	up to 2	up to 0.75	69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1			
Option 4						
Option 5						
Business				KA2 Satellite		
Option 1	200.00	up to 6	up to 2	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3	79.99	up to 5	up to 1
Option 3						
Option 4						
Option 5						

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			Mighty Peace (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Worsley									
Residential							KA2 Satellite		
Option 1	49.99	up to 2	up to 0.75	49.95	up to 2	up to 1	69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	74.95	up to 5	up to 1.25	79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1	94.95	up to 7	up to 1.5			
Option 4									
Option 5									
Business							KA2 Satellite		
Option 1	200.00	up to 6	up to 2	49.95	up to 2	up to 1	69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3	100.00	up to 8	up to 2	79.99	up to 5	up to 1
Option 3									
Option 4									
Option 5									

12.2.4.24 MD of Fairview

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless											
	AB North			Mighty Peace (licensed/unlicens			Wispernet			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Bluesky, Whitelaw												
Residential												
Option 1	53.00	up to 1.5	up to 0.5	49.95	up to 2	up to 1	\$39.95	up to 1.5	up to 1.5	Expedience		
Option 2	83.00	up to 5	up to 1	74.95	up to 5	up to 1.25				51.99	up to 1.5	up to 0.25
Option 3				94.95	up to 7	up to 1.5				71.99	up to 3	up to 0.5
Option 4										91.99	up to 5	up to 0.5
Option 5												
Business												
Option 1	200.00	up to 10	up to 2	49.95	up to 2	up to 1	\$49.95	up to 1.5	up to 1.5	Expedience		
Option 2				100.00	up to 8	up to 2				104.99	up to 3	up to 0.8
Option 3										149.99	up to 5	up to 1
Option 4												
Option 5												

12.2.4.25 County of Grande Prairie

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			GPNetworks			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Bezanson									
Residential	4G LTE Fixed Wireless								
Option 1	49.99	up to 2	up to 0.75	49.95	up to 3	up to 1.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	79.95	up to 5	up to 1.5	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	99.95	up to 7	up to 1.5	79.99	up to 25	up to 1
Option 4				189.95	up to 10	up to 2	109.99	up to 25	up to 1
Option 5									
Business	4G LTE Fixed Wireless								
Option 1	200.00	up to 6	up to 2	59.95	up to 3	up to 2	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	129.95	up to 5	up to 2	79.99	up to 25	up to 1
Option 3				219.95	up to 7	up to 3	109.99	up to 25	up to 1
Option 4									
Option 5									

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			GPNetworks			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Demmitt									
Residential	4G Satellite								
Option 1	49.99	up to 2	up to 0.75	49.95	up to 3	up to 1.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	79.95	up to 5	up to 1.5	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	99.95	up to 7	up to 1.5	79.99	up to 10	up to 1
Option 4				189.95	up to 10	up to 2	109.99	up to 10	up to 1
Option 5									
Business	4G Satellite								
Option 1	200.00	up to 6	up to 2	59.95	up to 3	up to 2	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	129.95	up to 5	up to 2	79.99	up to 10	up to 1
Option 3				219.95	up to 7	up to 3	109.99	up to 10	up to 1
Option 4									
Option 5									

	Wireline Providers						Fixed Point-to-Multipoint Wireless								
	TELUS (copper)			Eastlink (coaxial cable)			CCI (unlicensed)			Crossover			First Broadband		
	Cost \$/mo	Bandwidth - Mb/s Down	up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Clairmont															
Residential															
Option 1	63.00	up to 6	up to 1	55.95	up to 5	up to 1	49.99	up to 2	up to 0.75	na	na	na	99.00	up to 1	up to 0.5
Option 2	68.00	up to 15	up to 1	78.95	up to 30	up to 3	74.99	up to 5	up to 1				129.00	up to 4	up to 1
Option 3				88.95	up to 50	up to 5	94.99	up to 10	up to 1				149.00	up to 7	up to 1
Option 4				98.95	up to 100	up to 10									
Option 5				149.95	up to 150	up to 10									
Option 6				259.95	up to 940	up to 10									
Business															
Option 1	60.00	up to 15	up to 1	na	up to 50	up to 5	200.00	up to 6	up to 2	na	na	na	199.00	up to 2.5	up to 1.5
Option 2				na	up to 100	up to 10	249.99	up to 7	up to 3				279.00	up to 5	up to 2.5
Option 3				na	up to 200	up to 10							329.00	up to 8	up to 4
Option 4													na	up to 10	up to 5
Option 5															

	Fixed Point-to-Multipoint Wireless											
	GPNetworks			I Want			NEXXCom (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Clairmont												
Residential												
Option 1	49.95	up to 3	up to 1.5	49.95	up to 5	up to 1	69.95	up to 3	up to 1	4G LTE Fixed Wireless		
Option 2	79.95	up to 5	up to 1.5	59.95	up to 5	up to 1	89.95	up to 6	up to 2	59.99	up to 5	up to 1
Option 3	99.95	up to 7	up to 1.5	89.95	up to 10	up to 2				69.99	up to 10	up to 1
Option 4	189.95	up to 10	up to 2	129.95	up to 15	up to 3				79.99	up to 25	up to 1
Option 5				159.95	up to 15	up to 3				109.99	up to 25	up to 1
Business												
Option 1	59.95	up to 3	up to 2	99.95	up to 10	up to 2	149.95	up to 5	up to 5	4G LTE Fixed Wireless		
Option 2	129.95	up to 5	up to 2	149.95	up to 15	up to 3	224.95	up to 7.5	up to 7.5	69.99	up to 10	up to 1
Option 3	219.95	up to 7	up to 3	249.95	up to 20	up to 4	299.95	up to 10	up to 10	79.99	up to 25	up to 1
Option 4				800.00	up to 50	up to 10				109.99	up to 25	up to 1
Option 5												

	Fixed Point-to-Multipoint Wireless											
	CCI (unlicensed)			GPNetworks			NEXXCom (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Dimsdale, Elmworth, Goodfare, Teepee Creek												
Residential	4G LTE Fixed Wireless											
Option 1	49.99	up to 2	up to 0.75	49.95	up to 3	up to 1.5	69.95	up to 3	up to 1	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1	79.95	up to 5	up to 1.5	89.95	up to 6	up to 2	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1	99.95	up to 7	up to 1.5				79.99	up to 25	up to 1
Option 4				189.95	up to 10	up to 2				109.99	up to 25	up to 1
Option 5												
Business	4G LTE Fixed Wireless											
Option 1	200.00	up to 6	up to 2	59.95	up to 3	up to 2	149.95	up to 5	up to 5	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3	129.95	up to 5	up to 2	224.95	up to 7.5	up to 7.5	79.99	up to 25	up to 1
Option 3				219.95	up to 7	up to 3	299.95	up to 10	up to 10	109.99	up to 25	up to 1
Option 4												
Option 5												

	Fixed Point-to-Multipoint Wireless											
	CCI (unlicensed)			Crossover			First Broadband			GPNetworks		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Huallen, La Glace												
Residential												
Option 1	49.99	up to 2	up to 0.75	na	na	na	99.00	up to 1	up to 0.5	49.95	up to 3	up to 1.5
Option 2	74.99	up to 5	up to 1				129.00	up to 4	up to 1	79.95	up to 5	up to 1.5
Option 3	94.99	up to 10	up to 1				149.00	up to 7	up to 1	99.95	up to 7	up to 1.5
Option 4										189.95	up to 10	up to 2
Option 5												
Business												
Option 1	200.00	up to 6	up to 2	na	na	na	199.00	up to 2.5	up to 1.5	59.95	up to 3	up to 2
Option 2	249.99	up to 7	up to 3				279.00	up to 5	up to 2.5	129.95	up to 5	up to 2
Option 3							329.00	up to 8	up to 4	219.95	up to 7	up to 3
Option 4							na	up to 10	up to 5			
Option 5												

	Fixed Point-to-Multipoint Wireless											
	I Want			NEXXCom (licensed)			XplorNet (licensed)					
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Huallen, La Glace (cont'd)												
Residential	4G LTE Fixed Wireless											
Option 1	49.95	up to 5	up to 1	69.95	up to 3	up to 1	59.99	up to 5	up to 1			
Option 2	59.95	up to 5	up to 1	89.95	up to 6	up to 2	69.99	up to 10	up to 1			
Option 3	89.95	up to 10	up to 2				79.99	up to 25	up to 1			
Option 4	129.95	up to 15	up to 3				109.99	up to 25	up to 1			
Option 5	159.95	up to 15	up to 3									
Business	4G LTE Fixed Wireless											
Option 1	99.95	up to 10	up to 2	149.95	up to 5	up to 5	69.99	up to 10	up to 1			
Option 2	149.95	up to 15	up to 3	224.95	up to 7.5	up to 7.5	79.99	up to 25	up to 1			
Option 3	249.95	up to 20	up to 4	299.95	up to 10	up to 10	109.99	up to 25	up to 1			
Option 4	800.00	up to 50	up to 10									
Option 5												

	Fixed Point-to-Multipoint Wireless																	
	CCI (unlicensed)			Crossover			First Broadband			GPNetworks			NEXXCom (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Valhalla Centre																		
Residential																		
Option 1	49.99	up to 2	up to 0.75	na	na	na	99.00	up to 1	up to 0.5	49.95	up to 3	up to 1.5	69.95	up to 3	up to 1	4G LTE Fixed Wireless		
Option 2	74.99	up to 5	up to 1				129.00	up to 4	up to 1	79.95	up to 5	up to 1.5	89.95	up to 6	up to 2	59.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1				149.00	up to 7	up to 1	99.95	up to 7	up to 1.5				69.99	up to 10	up to 1
Option 4										189.95	up to 10	up to 2				79.99	up to 25	up to 1
Option 5																109.99	up to 25	up to 1
Business																		
Option 1	200.00	up to 6	up to 2	na	na	na	199.00	up to 2.5	up to 1.5	59.95	up to 3	up to 2	149.95	up to 5	up to 5	4G LTE Fixed Wireless		
Option 2	249.99	up to 7	up to 3				279.00	up to 5	up to 2.5	129.95	up to 5	up to 2	224.95	up to 7.5	up to 7.5	69.99	up to 10	up to 1
Option 3							329.00	up to 8	up to 4	219.95	up to 7	up to 3	299.95	up to 10	up to 10	79.99	up to 25	up to 1
Option 4							na	up to 10	up to 5							109.99	up to 25	up to 1
Option 5																		

	Fixed Point-to-Multipoint Wireless																	
	CCI (unlicensed)			Crossover			First Broadband			GPNetworks			NEXXCom (licensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Wedgewood																		
Residential																		
Option 1	49.99	up to 2	up to 0.75	na	na	na	99.00	up to 1	up to 0.5	49.95	up to 3	up to 1.5	69.95	up to 3	up to 1	4G LTE Fixed Wireless		
Option 2	74.99	up to 5	up to 1				129.00	up to 4	up to 1	79.95	up to 5	up to 1.5	89.95	up to 6	up to 2	59.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1				149.00	up to 7	up to 1	99.95	up to 7	up to 1.5				69.99	up to 10	up to 1
Option 4										189.95	up to 10	up to 2				79.99	up to 25	up to 1
Option 5																109.99	up to 25	up to 1
Business																		
Option 1	200.00	up to 6	up to 2	na	na	na	199.00	up to 2.5	up to 1.5	59.95	up to 3	up to 2	149.95	up to 5	up to 5	4G LTE Fixed Wireless		
Option 2	249.99	up to 7	up to 3				279.00	up to 5	up to 2.5	129.95	up to 5	up to 2	224.95	up to 7.5	up to 7.5	69.99	up to 10	up to 1
Option 3							329.00	up to 8	up to 4	219.95	up to 7	up to 3	299.95	up to 10	up to 10	79.99	up to 25	up to 1
Option 4							na	up to 10	up to 5							109.99	up to 25	up to 1
Option 5																		

12.2.4.26 MD of Greenview

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless					
	I Want			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
DeBolt						
Residential	4G LTE Fixed Wireless					
Option 1	49.95	up to 5	up to 1	59.99	up to 5	up to 1
Option 2	59.95	up to 5	up to 1	69.99	up to 10	up to 1
Option 3	89.95	up to 10	up to 2	79.99	up to 25	up to 1
Option 4	129.95	up to 15	up to 3	109.99	up to 25	up to 1
Option 5	159.95	up to 15	up to 3			
Business	4G LTE Fixed Wireless					
Option 1	99.95	up to 10	up to 2	69.99	up to 10	up to 1
Option 2	149.95	up to 15	up to 3	79.99	up to 25	up to 1
Option 3	249.95	up to 20	up to 4	109.99	up to 25	up to 1
Option 4	800.00	up to 50	up to 10			
Option 5						

	Fixed Point-to-Multipoint Wireless														
	CCI (unlicensed)			Crossover			NEXXCom (licensed)			GPNetworks			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Grovedale, Landry Heights															
Residential	4G LTE Fixed Wireless														
Option 1	49.99	up to 2	up to 0.75	na	na	na	69.95	up to 3	up to 1	49.95	up to 3	up to 1.5	59.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1				89.95	up to 6	up to 2	79.95	up to 5	up to 1.5	69.99	up to 10	up to 1
Option 3	94.99	up to 10	up to 1							99.95	up to 7	up to 1.5	79.99	up to 25	up to 1
Option 4										189.95	up to 10	up to 2	109.99	up to 25	up to 1
Option 5															
Business	4G LTE Fixed Wireless														
Option 1	200.00	up to 6	up to 2	na	na	na	149.95	up to 5	up to 5	59.95	up to 3	up to 2	69.99	up to 10	up to 1
Option 2	249.99	up to 7	up to 3				224.95	up to 7.5	up to 7.5	129.95	up to 5	up to 2	79.99	up to 25	up to 1
Option 3							299.95	up to 10	up to 10	219.95	up to 7	up to 3	109.99	up to 25	up to 1
Option 4															
Option 5															

Fixed Point-to-Multipoint Wirele			
XplorNet (licensed)			
	Cost	Bandwidth - Mb/s	
	\$/mo	Down	Up
Little Smoky			
Residential			
Option 1	69.99	up to 5	up to 1
Option 2	79.99	up to 5	up to 1
Option 3	89.99	up to 5	up to 1
Option 4			
Option 5			
Business			
Option 1	69.99	up to 5	up to 1
Option 2	79.99	up to 5	up to 1
Option 3	89.99	up to 5	up to 1
Option 4			
Option 5			

Fixed Point-to-Multipoint Wirele			
XplorNet (licensed)			
	Cost	Bandwidth - Mb/s	
	\$/mo	Down	Up
Ridgevalley			
Residential			
4G LTE Fixed Wireless			
Option 1	59.99	up to 5	up to 1
Option 2	69.99	up to 10	up to 1
Option 3	79.99	up to 25	up to 1
Option 4	109.99	up to 25	up to 1
Option 5			
Business			
4G LTE Fixed Wireless			
Option 1	69.99	up to 10	up to 1
Option 2	79.99	up to 25	up to 1
Option 3	109.99	up to 25	up to 1
Option 4			
Option 5			

Fixed Point-to-Multipoint Wireline			
Whitecourt (licensed/unlicensed)			
	Cost	Bandwidth - Mb/s	
	\$/mo	Down	Up
Rural			
Residential			
Option 1	46.55	up to 4	up to 2
Option 2	84.55	up to 6	up to 2
Option 3	122.55	up to 10	up to 2
Option 4	151.05	up to 15	up to 2
Option 5			
Business			
Option 1	200.00	up to 7	up to 3
Option 2	300.00	up to 10	up to 7
Option 3	500.00	up to 15	up to 10
Option 4	700.00	up to 20	up to 15
Option 5			

12.2.4.27 County of Northern Lights

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless					
	AB North			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Deadwood, Dixonville, North Star, Notikewin						
Residential				KA2 Satellite		
Option 1	53.00	up to 1.5	up to 0.5	69.99	up to 5	up to 1
Option 2	83.00	up to 5	up to 1	79.99	up to 5	up to 1
Option 3						
Option 4						
Option 5						
Business				KA2 Satellite		
Option 1	200.00	up to 10	up to 2	69.99	up to 5	up to 1
Option 2				79.99	up to 5	up to 1
Option 3						
Option 4						
Option 5						

12.2.4.28 Northern Sunrise County

Broadband Service Availability

	Fixed Point-to-Multipoint Wirele		
	XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up	
Cadotte Lake, Little Buffalo			
Residential	KA2 Satellite		
Option 1	69.99	up to 5	up to 1
Option 2	79.99	up to 5	up to 1
Option 3			
Option 4			
Option 5			
Business	KA2 Satellite		
Option 1	69.99	up to 5	up to 1
Option 2	79.99	up to 5	up to 1
Option 3			
Option 4			
Option 5			

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless												
	AB North			Bell (?)			Wispernet			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Marie-Reine Residential													
Option 1	53.00	up to 1.5	up to 0.5	65.00	up to 5	up to 1	\$39.95	up to 1.5	up to 1.5	KA2 Satellite	69.99	up to 5	up to 1
Option 2	83.00	up to 5	up to 1							79.99	up to 5	up to 1	
Option 3													
Option 4													
Option 5													
Marie-Reine Business													
Option 1	200.00	up to 10	up to 2				\$49.95	up to 1.5	up to 1.5	KA2 Satellite	69.99	up to 5	up to 1
Option 2										79.99	up to 5	up to 1	
Option 3													
Option 4													
Option 5													

	Fixed Point-to-Multipoint Wireless						
	AB North			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Reno Residential							
Option 1	53.00	up to 1.5	up to 0.5	KA2 Satellite	69.99	up to 5	up to 1
Option 2	83.00	up to 5	up to 1		79.99	up to 5	up to 1
Option 3							
Option 4							
Option 5							
Reno Business							
Option 1	200.00	up to 10	up to 2	KA2 Satellite	69.99	up to 5	up to 1
Option 2					79.99	up to 5	up to 1
Option 3							
Option 4							
Option 5							

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless												
	AB North			I Want			Wispernet			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
St. Isidore Residential													
Option 1	53.00	up to 1.5	up to 0.5	49.95	up to 5	up to 1	\$39.95	up to 1.5	up to 1.5	KA2 Satellite	69.99	up to 5	up to 1
Option 2	83.00	up to 5	up to 1	59.95	up to 5	up to 1				79.99	up to 5	up to 1	
Option 3				89.95	up to 10	up to 2							
Option 4				129.95	up to 15	up to 3							
Option 5				159.95	up to 15	up to 3							
St. Isidore Business													
Option 1	200.00	up to 10	up to 2	99.95	up to 10	up to 2	\$49.95	up to 1.5	up to 1.5	KA2 Satellite	69.99	up to 5	up to 1
Option 2				149.95	up to 15	up to 3				79.99	up to 5	up to 1	
Option 3				249.95	up to 20	up to 4							
Option 4				800.00	up to 50	up to 10							
Option 5													

12.2.4.29 MD of Peace

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	AB North			Wispernet			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Brownvale									
Residential	Expediencie								
Option 1	53.00	up to 1.5	up to 0.5	\$39.95	up to 1.5	up to 1.5	51.99	up to 1.5	up to 0.25
Option 2	83.00	up to 5	up to 1				71.99	up to 3	up to 0.5
Option 3							91.99	up to 5	up to 0.5
Option 4									
Option 5									
Business	Expediencie								
Option 1	200.00	up to 10	up to 2	\$49.95	up to 1.5	up to 1.5	104.99	up to 3	up to 0.8
Option 2							149.99	up to 5	up to 1
Option 3									
Option 4									
Option 5									

12.2.4.30 Saddle Hills County

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless											
	AB North			CCI (unlicensed)			PRIS			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Woking, Blueberry Mountain												
Residential	4G LTE Fixed Wireless											
Option 1	53.00	up to 1.5	up to 0.5	49.99	up to 2	up to 0.75	40.00	up to 1.5	up to 1.5	59.99	up to 5	up to 1
Option 2	83.00	up to 5	up to 1	74.99	up to 5	up to 1	55.00	up to 3	up to 3	69.99	up to 10	up to 1
Option 3				94.99	up to 10	up to 1	80.00	up to 5	up to 5	79.99	up to 25	up to 1
Option 4							115.00	up to 5	up to 5	109.99	up to 25	up to 1
Option 5												
Business	4G LTE Fixed Wireless											
Option 1	200.00	up to 10	up to 2	200.00	up to 6	up to 2	40.00	up to 1.5	up to 1.5	69.99	up to 10	up to 1
Option 2				249.99	up to 7	up to 3	55.00	up to 3	up to 3	79.99	up to 25	up to 1
Option 3							80.00	up to 5	up to 5	109.99	up to 25	up to 1
Option 4							115.00	up to 5	up to 5			
Option 5												

Broadband Service Availability

Fixed Point-to-Multipoint Wireless						
	PRIS			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Localities Bay Tree, Gordondale						
Residential				4G LTE Fixed Wireless		
Option 1	40.00	up to 1.5	up to 1.5	59.99	up to 5	up to 1
Option 2	55.00	up to 3	up to 3	69.99	up to 10	up to 1
Option 3	80.00	up to 5	up to 5	79.99	up to 25	up to 1
Option 4	115.00	up to 5	up to 5	109.99	up to 25	up to 1
Option 5						
Business				4G LTE Fixed Wireless		
Option 1	40.00	up to 1.5	up to 1.5	69.99	up to 10	up to 1
Option 2	55.00	up to 3	up to 3	79.99	up to 25	up to 1
Option 3	80.00	up to 5	up to 5	109.99	up to 25	up to 1
Option 4	115.00	up to 5	up to 5			
Option 5						

Fixed Point-to-Multipoint Wireless									
	PRIS			XplorNet (licensed)			Xtremewave		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Localities Bonanza, Silver Valley									
Residential				4G LTE Fixed Wireless					
Option 1	40.00	up to 1.5	up to 1.5	59.99	up to 5	up to 1	78.00	up to 5	up to 5
Option 2	55.00	up to 3	up to 3	69.99	up to 10	up to 1			
Option 3	80.00	up to 5	up to 5	79.99	up to 25	up to 1			
Option 4	115.00	up to 5	up to 5	109.99	up to 25	up to 1			
Option 5									
Business				4G LTE Fixed Wireless					
Option 1	40.00	up to 1.5	up to 1.5	69.99	up to 10	up to 1	78.00	up to 5	up to 5
Option 2	55.00	up to 3	up to 3	79.99	up to 25	up to 1			
Option 3	80.00	up to 5	up to 5	109.99	up to 25	up to 1			
Option 4	115.00	up to 5	up to 5						
Option 5									

12.2.4.31 MD of Smoky River

Broadband Service Availability

		Fixed Point-to-Multipoint Wireless								
		CCI (unlicensed)			I Want			XplorNet (licensed)		
		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s	
		\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up
Guy	Residential									
	Option 1	49.99	up to 2	up to 0.75	49.95	up to 5	up to 1	4G Satellite	69.99	up to 5 up to 1
	Option 2	74.99	up to 5	up to 1	59.95	up to 5	up to 1	79.99	up to 5 up to 1	
	Option 3	94.99	up to 10	up to 1	89.95	up to 10	up to 2	89.99	up to 5 up to 1	
	Option 4				129.95	up to 15	up to 3			
	Option 5				159.95	up to 15	up to 3			
	Business									
	Option 1	200.00	up to 6	up to 2	99.95	up to 10	up to 2	4G Satellite	69.99	up to 5 up to 1
	Option 2	249.99	up to 7	up to 3	149.95	up to 15	up to 3	79.99	up to 5 up to 1	
	Option 3				249.95	up to 20	up to 4	89.99	up to 5 up to 1	
Option 4				800.00	up to 50	up to 10				
Option 5										

		Fixed Point-to-Multipoint Wireless															
		AB North			CCI (unlicensed)			I Want			Wispernet			XplorNet (licensed)			
		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		
		\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up	
Jean Côté	Residential																
	Option 1	53.00	up to 1.5	up to 0.5	49.99	up to 2	up to 0.75	49.95	up to 5	up to 1	\$39.95	up to 1.5	up to 1.5	KA2 Satellite	69.99	up to 5 up to 1	
	Option 2	83.00	up to 5	up to 1	74.99	up to 5	up to 1	59.95	up to 5	up to 1				79.99	up to 5 up to 1		
	Option 3				94.99	up to 10	up to 1	89.95	up to 10	up to 2							
	Option 4							129.95	up to 15	up to 3							
	Option 5							159.95	up to 15	up to 3							
	Business																
	Option 1	200.00	up to 10	up to 2	200.00	up to 6	up to 2	99.95	up to 10	up to 2	\$49.95	up to 1.5	up to 1.5	KA2 Satellite	69.99	up to 5 up to 1	
	Option 2				249.99	up to 7	up to 3	149.95	up to 15	up to 3				79.99	up to 5 up to 1		
	Option 3							249.95	up to 20	up to 4							
Option 4							800.00	up to 50	up to 10								
Option 5																	

12.2.4.32 MD of Spirit River

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless																	
	AB North			CCI (unlicensed)			I Want			Mighty Peace			Wispernet			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up	Cost \$/mo	Bandwidth - Mb/s Down	Bandwidth - Mb/s Up
Rural - no hamlets (Town of Spirit River and Village of Rycroft are within in its borders)																		
Residential																		
Option 1	53.00	up to 1.5	up to 0.5	49.99	up to 2	up to 0.75	49.95	up to 5	up to 1	50.00	up to 2	up to 1	\$39.95	up to 1.5	up to 1.5	4G LTE Fixed Wireless		
Option 2	83.00	up to 5	up to 1	74.99	up to 5	up to 1	59.95	up to 5	up to 1	100.00	up to 8	up to 2				59.99	up to 5	up to 1
Option 3				94.99	up to 10	up to 1	89.95	up to 10	up to 2							69.99	up to 10	up to 1
Option 4							129.95	up to 10	up to 2							79.99	up to 25	up to 1
Option 5							159.95	up to 15	up to 3							109.99	up to 25	up to 1
Business																		
Option 1	200.00	up to 10	up to 2	200.00	up to 6	up to 2	99.95	1.5 - 5		50.00	up to 2	up to 1	\$49.95	up to 1.5	up to 1.5	4G LTE Fixed Wireless		
Option 2				249.99	up to 7	up to 3	149.95	3 - 12		100.00	up to 8	up to 2				69.99	up to 10	up to 1
Option 3							249.95	3 - 20								79.99	up to 25	up to 1
Option 4							800.00	15 - 40								109.99	up to 25	up to 1
Option 5																		

12.2.4.33 First Nations (PREDA)

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	AB North			Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Duncan's									
Residential	Expedience								
Option 1	53.00	up to 1.5	up to 0.5	65.00	up to 5	up to 1.5	51.99	up to 1.5	up to 0.25
Option 2	83.00	up to 5	up to 1				71.99	up to 3	up to 0.5
Option 3							91.99	up to 5	up to 0.5
Option 4									
Option 5									
Business	Expedience								
Option 1	200.00	up to 10	up to 2	250.00	up to 1.5	up to 1	104.99	up to 3	up to 0.8
Option 2				500.00	up to 3	up to 1.5	149.99	up to 5	up to 1
Option 3									
Option 4									
Option 5									

	Fixed Point-to-Multipoint Wirele		
	XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up
Horse Lake			
Residential	4G Satellite		
Option 1	59.99	up to 5	up to 1
Option 2	69.99	up to 10	up to 1
Option 3	79.99	up to 10	up to 1
Option 4	109.99	up to 10	up to 1
Option 5			
Business	4G Satellite		
Option 1	69.99	up to 10	up to 1
Option 2	79.99	up to 10	up to 1
Option 3	109.99	up to 10	up to 1
Option 4			
Option 5			

Fixed Point-to-Multipoint Wireless						
	Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Lubicon Lake						
Residential	KA2 Satellite					
Option 1	65.00	up to 5	up to 1.5	69.99	up to 5	up to 1
Option 2				79.99	up to 5	up to 1
Option 3						
Option 4						
Option 5						
Business	KA2 Satellite					
Option 1	250.00	up to 1.5	up to 1	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	79.99	up to 5	up to 1
Option 3						
Option 4						
Option 5						

Fixed Point-to-Multipoint Wireless						
	Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Sturgeon Lake						
Residential	Fixed Wireless Expedience					
Option 1	65.00	up to 5	up to 1.5	51.99	up to 1.5	up to 0.25
Option 2				71.99	up to 3	up to 0.5
Option 3				91.99	up to 5	up to 0.5
Option 4						
Option 5						
Business	Fixed Wireless Expedience					
Option 1	250.00	up to 1.5	up to 1	104.99	up to 3	up to 0.8
Option 2	500.00	up to 3	up to 1.5	149.99	up to 5	up to 1
Option 3						
Option 4						
Option 5						

12.2.5 Regional Economic Development for Northwest Alberta (REDI)

12.2.5.1 Town of High Level

Broadband Service Availability

	Wireline Providers								
	TELUS (copper)			NorthwestTel (coaxial cable)			TekSavvy (copper)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
High Level Residential									
Option 1	63.00	up to 6	up to 1	39.95	up to 1	up to 0.25	29.99	up to 6	up to 1
Option 2	68.00	up to 15	up to 1	59.95	up to 8	up to 0.5	39.99	up to 15	up to 1
Option 3	73.00	up to 25	up to 5	79.95	up to 16	up to 0.77	44.99	up to 25	up to 5
Option 4				110.95	up to 50	up to 2			
Option 5									
Business									
Option 1	60.00	up to 15	up to 1	79.95	up to 5	up to 0.5	44.95	up to 6	up to 0.8
Option 2	85.00	up to 25	up to 5	109.95	up to 10	up to 0.77			
Option 3				129.95	up to 16	up to 1			
Option 4				149.95	up to 50	up to 2			
Option 5									

	Fixed Point-to-Multipoint Wireless								
	CCI (unlicensed)			Bell (?)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Residential									
Option 1	49.99	up to 2	up to 0.75	65.00	up to 5	up to 1	KA2 Satellite 69.99	up to 5	up to 1
Option 2	74.99	up to 5	up to 1				79.99	up to 5	up to 1
Option 3	94.99	up to 10	up to 1						
Option 4									
Business									
Option 1	200.00	up to 6	up to 2				KA2 Satellite 69.99	up to 5	up to 1
Option 2	249.99	up to 7	up to 3				79.99	up to 5	up to 1
Option 3									
Option 4									

12.2.5.2 Town of Rainbow Lake

Broadband Service Availability

	Wireline Provider						Fixed Point-to-Multipoint Wireline		
	TELUS (copper)			Town - Rainbow Lake (coaxial)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Rainbow Lake									
Residential									
Option 1	63.00	up to 6	up to 1	49.07	0.5	0.05	KA2 Satellite 69.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1				79.99	up to 5	up to 1
Option 3							Have stopped selling		
Business									
Option 1	60.00	up to 15	up to 1	49.07	0.5	0.05	KA2 Satellite 69.99	up to 5	up to 1
Option 2	85.00	up to 25	up to 5				79.99	up to 5	up to 1
Option 3							Have stopped selling		

12.2.5.3 Mackenzie County

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless								
	TELUS (copper)			CCI (unlicensed)			Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Fort Vermilion												
Residential										KA2 Satellite		
Option 1	63.00	up to 6	up to 1	49.99	up to 2	up to 0.75	65.00	up to 5	up to 1.5	69.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	74.99	up to 5	up to 1				79.99	up to 5	up to 1
Option 3	73.00	up to 25	up to 5	94.99	up to 10	up to 1						
Option 4												
Business										KA2 Satellite		
Option 1	60.00	up to 9	up to 1	200.00	up to 6	up to 2	250.00	up to 1.5	up to 1	69.99	up to 5	up to 1
Option 2	85.00	up to 25	up to 5	249.99	up to 7	up to 3	500.00	up to 3	up to 1.5	79.99	up to 5	up to 1
Option 3												
Option 4												
Option 5												
La Crete												
Residential										KA2 Satellite		
Option 1	63.00	up to 6	up to 1	49.99	up to 2	up to 0.75	65.00	up to 5	up to 1.5	69.99	up to 5	up to 1
Option 2				74.99	up to 5	up to 1				79.99	up to 5	up to 1
Option 3				94.99	up to 10	up to 1						
Option 4												
Business										KA2 Satellite		
Option 1	60.00	up to 9	up to 1	200.00	up to 6	up to 2	250.00	up to 1.5	up to 1	69.99	up to 5	up to 1
Option 2				249.99	up to 7	up to 3	500.00	up to 3	up to 1.5	79.99	up to 5	up to 1
Option 3												
Option 4												
Option 5												

	Fixed Point-to-Multipoint Wireless		
	Arrow (unlicensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up
Zama City			
Residential			
Option 1	100.00	up to 5	up to 1.5
Option 2			
Option 3			
Business			
Option 1	250.00	up to 1.5	up to 1
Option 2	500.00	up to 3	up to 1.5
Option 3			

12.2.1.37 First Nations (REDI)

Broadband Service Availability

Fixed Point-to-Multipoint Wireless									
	Arrow (unlicensed)			CCI (unlicensed)			XplorNet (licensed)		
	Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s	
	\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up
Beaver First - Boyer & Child Lake									
Residential							KA2 Satellite		
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	69.99	up to 5	up to 1
Option 2				74.99	up to 5	up to 1	79.99	up to 5	up to 1
Option 3				94.99	up to 10	up to 1			
Option 4									
Business							KA2 Satellite		
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3	79.99	up to 5	up to 1
Option 3									

Dene Tha' - Bushe River

Broadband Service Availability

Fixed Point-to-Multipoint Wireless									
	Arrow (unlicensed)			CCI (unlicensed)			XplorNet (licensed)		
	Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s	
	\$/mo	Down	Up	\$/mo	Down	Up	\$/mo	Down	Up
Dene Tha' - Bushe River									
Residential							KA2 Satellite		
Option 1	65.00	up to 5	up to 1.5	49.99	up to 2	up to 0.75	69.99	up to 5	up to 1
Option 2				74.99	up to 5	up to 1	79.99	up to 5	up to 1
Option 3				94.99	up to 10	up to 1			
Option 4									
Business							KA2 Satellite		
Option 1	250.00	up to 1.5	up to 1	200.00	up to 6	up to 2	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	249.99	up to 7	up to 3	79.99	up to 5	up to 1
Option 3									

Dene Tha' - Hay Lake & Zama Lake (Chateh)

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless					
	Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Dene Tha' - Hay Lake & Zama Lake (Amber River - recreation area only)						
Residential				KA2 Satellite		
Option 1	65.00	up to 5	up to 1.5	69.99	up to 5	up to 1
Option 2				79.99	up to 5	up to 1
Option 3						
Business				KA2 Satellite		
Option 1	250.00	up to 1.5	up to 1	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	79.99	up to 5	up to 1
Option 3						

Dene Tha' - Upper Hay River (Meander River)

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless					
	Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Dene Tha' - Upper Hay River						
Residential				KA2 Satellite		
Option 1	65.00	up to 5	up to 1.5	69.99	up to 5	up to 1
Option 2				79.99	up to 5	up to 1
Option 3						
Business				KA2 Satellite		
Option 1	250.00	up to 1.5	up to 1	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	79.99	up to 5	up to 1
Option 3						

Little Red River Cree - Fox Lake

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	Arrow (unlicensed)			Little Red River First Nation			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Little Red River Cree - Fox Lake									
Residential				Fixed Wireless			TeleSat KA2 Satellite		
Option 1	65.00	up to 5	up to 1.5	0.00	up to 2	na	69.99	up to 5	up to 1
Option 2							79.99	up to 5	up to 1
Option 3							89.99	up to 6	up to 1
Option 4									
Business							TeleSat KA2 Satellite		
Option 1	250.00	up to 1.5	up to 1				69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5				79.99	up to 5	up to 1
Option 3							89.99	up to 6	up to 1
Option 4									

Little Red River Cree - Garden River & John D'or Prairie

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless								
	Arrow (unlicensed)			Little Red River First Nation			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Little Red River Cree - Garden River & John D'or Prairie									
Residential							KA2 Satellite		
Option 1	65.00	up to 5	up to 1.5	0.00	up to 2	na	69.99	up to 5	up to 1
Option 2							79.99	up to 5	up to 1
Option 3									
Business							KA2 Satellite		
Option 1	250.00	up to 1.5	up to 1				69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5				79.99	up to 5	up to 1
Option 3									

Tallcree - North & South

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless					
	Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Tallcree - North & South						
Residential				KA2 Satellite		
Option 1	65.00	up to 5	up to 1.5	69.99	up to 5	up to 1
Option 2				79.99	up to 5	up to 1
Option 3						
Business				KA2 Satellite		
Option 1	250.00	up to 1.5	up to 1	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	79.99	up to 5	up to 1
Option 3						

Paddle Prairie Métis Settlement

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless					
	Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Paddle Prairie Métis Settlement						
Residential				KA2 Satellite		
Option 1	65.00	up to 5	up to 1.5	69.99	up to 5	up to 1
Option 2				79.99	up to 5	up to 1
Option 3						
Business				KA2 Satellite		
Option 1	250.00	up to 1.5	up to 1	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	79.99	up to 5	up to 1
Option 3						

12.2.6 Other Northern Alberta Communities

12.2.6.1 Town of Athabasca

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless					
	TELUS (copper)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Athabasca									
Residential	4G LTE Fixed Wireless								
Option 1	63.00	up to 6	up to 1	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	73.00	up to 25	up to 5	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business	4G LTE Fixed Wireless								
Option 1	60.00	up to 15	up to 1	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	85.00	up to 25	up to 5	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.6.2 Village of Boyle

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless					
	TELUS (copper)			MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Boyle									
Residential							4G LTE Fixed Wireless		
Option 1	63.00	up to 6	up to 1	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3				59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			
Business							4G LTE Fixed Wireless		
Option 1				39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2				49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3				59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4				79.95	up to 12	up to 1			
Option 5				99.95	up to 20	up to 2			
Option 6				149.95	up to 20	up to 2			
Option 7				199.95	up to 20	up to 2			
Option 8				249.95	up to 20	up to 2			

12.2.6.3 Summer Villages

Broadband Service Availability

Fixed Point-to-Multipoint Wireless						
MCSNet (licensed/unlicensed)				XplorNet (licensed)		
Cost	Bandwidth - Mb/s		Cost	Bandwidth - Mb/s		
\$/mo	Down	Up	\$/mo	Down	Up	
Summer Villages - Bondiss, Island Lake, Island Lake South, Mewatha, South Baptiste, Sunset Beach, West Baptiste, Whispering Hills						
Residential			4G LTE Fixed Wireless			
Option 1	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			
Business			4G LTE Fixed Wireless			
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3	59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			

12.2.6.4 Athabasca County

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless					
	MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Hamlets - Atmore, Breynat, Wandering River						
Residential				4G Satellite		
Option 1	39.95	up to 1.7 up to 0.5		69.99	up to 5 up to 1	
Option 2	49.95	up to 3.2 up to 0.8		79.99	up to 5 up to 1	
Option 3	59.95	up to 6 up to 1		89.99	up to 5 up to 1	
Option 4	79.95	up to 12 up to 1				
Option 5	99.95	up to 20 up to 2				
Option 6	149.95	up to 20 up to 2				
Option 7	199.95	up to 20 up to 2				
Option 8	249.95	up to 20 up to 2				
Business				4G Satellite		
Option 1	39.95	up to 1.7 up to 0.5		69.99	up to 5 up to 1	
Option 2	49.95	up to 3.2 up to 0.8		79.99	up to 5 up to 1	
Option 3	59.95	up to 6 up to 1		89.99	up to 5 up to 1	
Option 4	79.95	up to 12 up to 1				
Option 5	99.95	up to 20 up to 2				
Option 6	149.95	up to 20 up to 2				
Option 7	199.95	up to 20 up to 2				
Option 8	249.95	up to 20 up to 2				

CCL Networks offers Commercial services in Mariana Lake and Wandering River (Highway 63)

Broadband Service Availability

Fixed Point-to-Multipoint Wireless						
	MCSNet (licensed/unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Hamlets - Caslan, Colinton, Donatville, Ellscoot, Grassland, Meanook						
Residential				4G LTE Fixed Wireless		
Option 1	39.95	up to 1.7	up to 0.5	59.99	up to 5	up to 1
Option 2	49.95	up to 3.2	up to 0.8	69.99	up to 10	up to 1
Option 3	59.95	up to 6	up to 1	79.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1	109.99	up to 25	up to 1
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			
Business				4G LTE Fixed Wireless		
Option 1	39.95	up to 1.7	up to 0.5	69.99	up to 10	up to 1
Option 2	49.95	up to 3.2	up to 0.8	79.99	up to 25	up to 1
Option 3	59.95	up to 6	up to 1	109.99	up to 25	up to 1
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			
Hamlets - Perryvale, Rochester						
Residential				Fixed Wireless Expedience		
Option 1	39.95	up to 1.7	up to 0.5	51.99	up to 1.5	up to 0.3
Option 2	49.95	up to 3.2	up to 0.8	71.99	up to 3	up to 0.5
Option 3	59.95	up to 6	up to 1	91.99	up to 5	up to 0.5
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			
Business				Fixed Wireless Expedience		
Option 1	39.95	up to 1.7	up to 0.5	104.99	up to 3	up to 0.8
Option 2	49.95	up to 3.2	up to 0.8	149.99	up to 5	up to 1
Option 3	59.95	up to 6	up to 1			
Option 4	79.95	up to 12	up to 1			
Option 5	99.95	up to 20	up to 2			
Option 6	149.95	up to 20	up to 2			
Option 7	199.95	up to 20	up to 2			
Option 8	249.95	up to 20	up to 2			

12.2.6.5 Fort McMurray, urban service area (part of RM of Wood Buffalo)

Broadband Service Availability

	Wireline Providers						Fixed Point-to-Multipoint Wireless									
	TELUS (copper & fibre)			Shaw (coaxial cable)			Bell (?)			CCL Networks			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Fort McMurray Residential																
Option 1	63.00	up to 6	up to 1	55.00	up to 5	up to 0.5	65.00	up to 5	up to 1	49.95	up to 3.5	up to 1	4G Satellite	69.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	66.00	up to 15	up to 0.5				59.95	up to 6	up to 1.5		79.99	up to 5	up to 1
Option 3	73.00	up to 25	up to 5	75.00	up to 30	up to 5				79.95	up to 12	up to 2		89.99	up to 5	up to 1
Option 4	80.00	up to 50	up to 10	100.00	up to 150	up to 15				99.95	up to 18	up to 3				
Option 5	85.00	up to 150	up to 150							199.95	up to 18	up to 3				
Fort McMurray Business																
Option 1	60.00	up to 15	up to 1	51.95	up to 5	up to 0.5				189.00	up to 20	up to 4	4G Satellite	69.99	up to 5	up to 1
Option 2	85.00	up to 25	up to 5	60.95	up to 20	up to 1.5								79.99	up to 5	up to 1
Option 3	100.00	up to 50	up to 10	78.95	up to 30	up to 5								89.99	up to 5	up to 1
Option 4	125.00	up to 100	up to 20	102.95	up to 60	up to 6										
Option 5	150.00	up to 150	up to 150	119.95	up to 150	up to 15										

12.2.6.6 Regional Municipality of Wood Buffalo

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless					
	Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Fort Chipewyan Residential						
Option 1	65.00	up to 5	up to 1.5	4G Satellite	69.99	up to 5 up to 1
Option 2					79.99	up to 5 up to 1
Option 3					89.99	up to 5 up to 1
Option 4						
Option 5						
Fort Chipewyan Business						
Option 1	250.00	up to 1.5	up to 1	4G Satellite	69.99	up to 5 up to 1
Option 2	500.00	up to 3	up to 1.5		79.99	up to 5 up to 1
Option 3					89.99	up to 5 up to 1
Option 4						
Option 5						

Broadband Service Availability

	Wireline Provider						Fixed Point-to-Multipoint Wireless						
	TELUS (copper)			Shaw (coaxial cable)			Wireless (unlicensed)			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Gregoire Lake Estates													
Residential													
Option 1	63.00	up to 6	up to 1	55.00	up to 5	up to 0.5	65.00	up to 5	up to 1.5	4G Satellite	69.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	66.00	up to 15	up to 0.5				4G Satellite	79.99	up to 5	up to 1
Option 3	73.00	up to 25	up to 5	75.00	up to 30	up to 5				4G Satellite	89.99	up to 5	up to 1
Option 4	80.00	up to 50	up to 10	100.00	up to 150	up to 15							
Option 5													
Business													
Option 1				51.95	up to 5	up to 0.5	250.00	up to 1.5	up to 1	4G Satellite	69.99	up to 5	up to 1
Option 2				60.95	up to 20	up to 1.5	500.00	up to 3	up to 1.5	4G Satellite	79.99	up to 5	up to 1
Option 3				78.95	up to 30	up to 5				4G Satellite	89.99	up to 5	up to 1
Option 4				102.95	up to 60	up to 6							
Option 5				119.95	up to 150	up to 15							

	Fixed Point-to-Multipoint Wireless						
	Arrow (unlicensed)			XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	
Janvier South							
Residential							
Option 1	65.00	up to 5	up to 1.5	4G Satellite	69.99	up to 5	up to 1
Option 2				4G Satellite	79.99	up to 5	up to 1
Option 3				4G Satellite	89.99	up to 5	up to 1
Option 4							
Option 5							
Business							
Option 1	250.00	up to 1.5	up to 1	4G Satellite	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	4G Satellite	79.99	up to 5	up to 1
Option 3				4G Satellite	89.99	up to 5	up to 1
Option 4							
Option 5							

CCL Networks offers Commercial services

	TELUS (copper)			Shaw (coaxial cable)			Bell (?)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Saprae Creek												
Residential										4G Satellite		
Option 1	63.00	up to 6	up to 1	55.00	up to 5	up to 0.5	65.00	up to 5	up to 1	69.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1	66.00	up to 15	up to 0.5				79.99	up to 5	up to 1
Option 3	73.00	up to 25	up to 5	75.00	up to 30	up to 5				89.99	up to 5	up to 1
Option 4	80.00	up to 50	up to 10	100.00	up to 150	up to 15						
Option 5												
Business										4G Satellite		
Option 1	60.00	up to 15	up to 1							69.99	up to 5	up to 1
Option 2	85.00	up to 25	up to 5							79.99	up to 5	up to 1
Option 3										89.99	up to 5	up to 1
Option 4												
Option 5												

	Wireline Provider			Fixed Point-to-Multipoint Wireless					
	TELUS (copper)			Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Anzac									
Residential							4G Satellite		
Option 1	63.00	up to 6	up to 1	65.00	up to 5	up to 1.5	69.99	up to 5	up to 1
Option 2							79.99	up to 5	up to 1
Option 3							89.99	up to 5	up to 1
Option 4									
Option 5									
Business							4G Satellite		
Option 1	60.00	up to 15	up to 1	250.00	up to 1.5	up to 1	69.99	up to 5	up to 1
Option 2	85.00	up to 25	up to 5	500.00	up to 3	up to 1.5	79.99	up to 5	up to 1
Option 3							89.99	up to 5	up to 1
Option 4									
Option 5									

Broadband Service Availability

	Wireline Provider			Fixed Point-to-Multipoint Wireless					
	TELUS (copper)			Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Conklin									
Residential							4G Satellite		
Option 1	63.00	up to 6	up to 1	65.00	up to 5	up to 1.5	69.99	up to 5	up to 1
Option 2	68.00	up to 15	up to 1				79.99	up to 5	up to 1
Option 3	73.00	up to 25	up to 5				89.99	up to 5	up to 1
Option 4	80.00	up to 50	up to 10						
Option 5									
Business							4G Satellite		
Option 1				250.00	up to 1.5	up to 1	69.99	up to 5	up to 1
Option 2				500.00	up to 3	up to 1.5	79.99	up to 5	up to 1
Option 3							89.99	up to 5	up to 1
Option 4									
Option 5									

	Fixed Point-to-Multipoint Wireless		
	XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up
Fort MacKay			
Residential			
Option 1	69.99	up to 5	up to 1
Option 2	79.99	up to 5	up to 1
Option 3	89.99	up to 5	up to 1
Option 4			
Option 5			
Business			
Option 1	69.99	up to 5	up to 1
Option 2	79.99	up to 5	up to 1
Option 3	89.99	up to 5	up to 1
Option 4			
Option 5			

CCL Networks offers Commercial services

12.2.6.7 First Nations (Other Northern Alberta Communities)

Broadband Service Availability

	Fixed Point-to-Multipoint Wireless					
	Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Athabasca Chipewyan						
Residential	4G Satellite					
Option 1	65.00	up to 5	up to 1.5	69.99	up to 5	up to 1
Option 2				79.99	up to 5	up to 1
Option 3				89.99	up to 5	up to 1
Option 4						
Option 5						
Business	4G Satellite					
Option 1	250.00	up to 1.5	up to 1	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	79.99	up to 5	up to 1
Option 3				89.99	up to 5	up to 1
Option 4						
Option 5						

	Fixed Point-to-Multipoint Wireless					
	Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down	Up	Cost \$/mo	Bandwidth - Mb/s Down	Up
Chipewyan Prairie						
Residential	4G Satellite					
Option 1	65.00	up to 5	up to 1.5	69.99	up to 5	up to 1
Option 2				79.99	up to 5	up to 1
Option 3				89.99	up to 5	up to 1
Option 4						
Option 5						
Business	4G Satellite					
Option 1	250.00	up to 1.5	up to 1	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	79.99	up to 5	up to 1
Option 3				89.99	up to 5	up to 1
Option 4						
Option 5						

Fixed Point-to-Multipoint Wireless						
	CCL Networks			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Fort McKay						
Residential				4G Satellite		
Option 1				69.99	up to 5	up to 1
Option 2				79.99	up to 5	up to 1
Option 3				89.99	up to 5	up to 1
Option 4						
Option 5						
Business				4G Satellite		
Option 1	189.00	up to 20	up to 4	69.99	up to 5	up to 1
Option 2				79.99	up to 5	up to 1
Option 3				89.99	up to 5	up to 1
Option 4						
Option 5						

Fixed Point-to-Multipoint Wireless									
	Arrow (unlicensed)			CCL Networks			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Fort McMurray									
Residential							4G Satellite		
Option 1	65.00	up to 5	up to 1.5	49.95	up to 3.5	up to 1	69.99	up to 5	up to 1
Option 2				59.95	up to 6	up to 1.5	79.99	up to 5	up to 1
Option 3				79.95	up to 12	up to 2	89.99	up to 5	up to 1
Option 4				99.95	up to 18	up to 3			
Option 5				199.95	up to 18	up to 3			
Business							4G Satellite		
Option 1	250.00	up to 1.5	up to 1	189.00	up to 20	up to 4	69.99	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5				79.99	up to 5	up to 1
Option 3							89.99	up to 5	up to 1
Option 4									
Option 5									

	Fixed Point-to-Multipoint Wireless					
	Arrow (unlicensed)			XplorNet (licensed)		
	Cost \$/mo	Bandwidth - Mb/s Down Up		Cost \$/mo	Bandwidth - Mb/s Down Up	
Mikisew Cree						
Residential				4G Satellite		
Option 1	65.00	up to 5	up to 1.5	69.99 ▼	up to 5	up to 1
Option 2				79.99 ▼	up to 5	up to 1
Option 3				89.99 ▼	up to 5	up to 1
Option 4						
Option 5						
Business				4G Satellite		
Option 1	250.00	up to 1.5	up to 1	69.99 ▼	up to 5	up to 1
Option 2	500.00	up to 3	up to 1.5	79.99 ▼	up to 5	up to 1
Option 3				89.99 ▼	up to 5	up to 1
Option 4						
Option 5						

	Fixed Point-to-Multipoint Wireless			
	XplorNet (licensed)			
	Cost \$/mo	Bandwidth - Mb/s Down Up		
Smith's Landing				
Residential	4G Satellite			
Option 1	69.99 ▼	up to 5	up to 1	
Option 2	79.99 ▼	up to 5	up to 1	
Option 3	89.99 ▼	up to 5	up to 1	
Option 4				
Option 5				
Business	4G Satellite			
Option 1	69.99 ▼	up to 5	up to 1	
Option 2	79.99 ▼	up to 5	up to 1	
Option 3	89.99 ▼	up to 5	up to 1	
Option 4				
Option 5				

12.3 Appendix C – Coverage Maps

12.3.1 Fixed Wireless Provider Coverage Maps

To minimize provider costs, wireless services in rural areas are typically provided using point-to-multipoint (PMP) equipment. In this configuration, a “host” tower transmits and receives signals to a specified geographic area. Each client has dedicated reception equipment that homes on the host tower. All users in the area share the host signal.

Higher-end business services may use dedicated point-to-point (PTP) systems that are typically engineered to deliver higher quality, higher bandwidth services. Pricing is installation specific and depends on the service parameters and equipment selected.



Figure 72 – Alberta Communication Cable Services

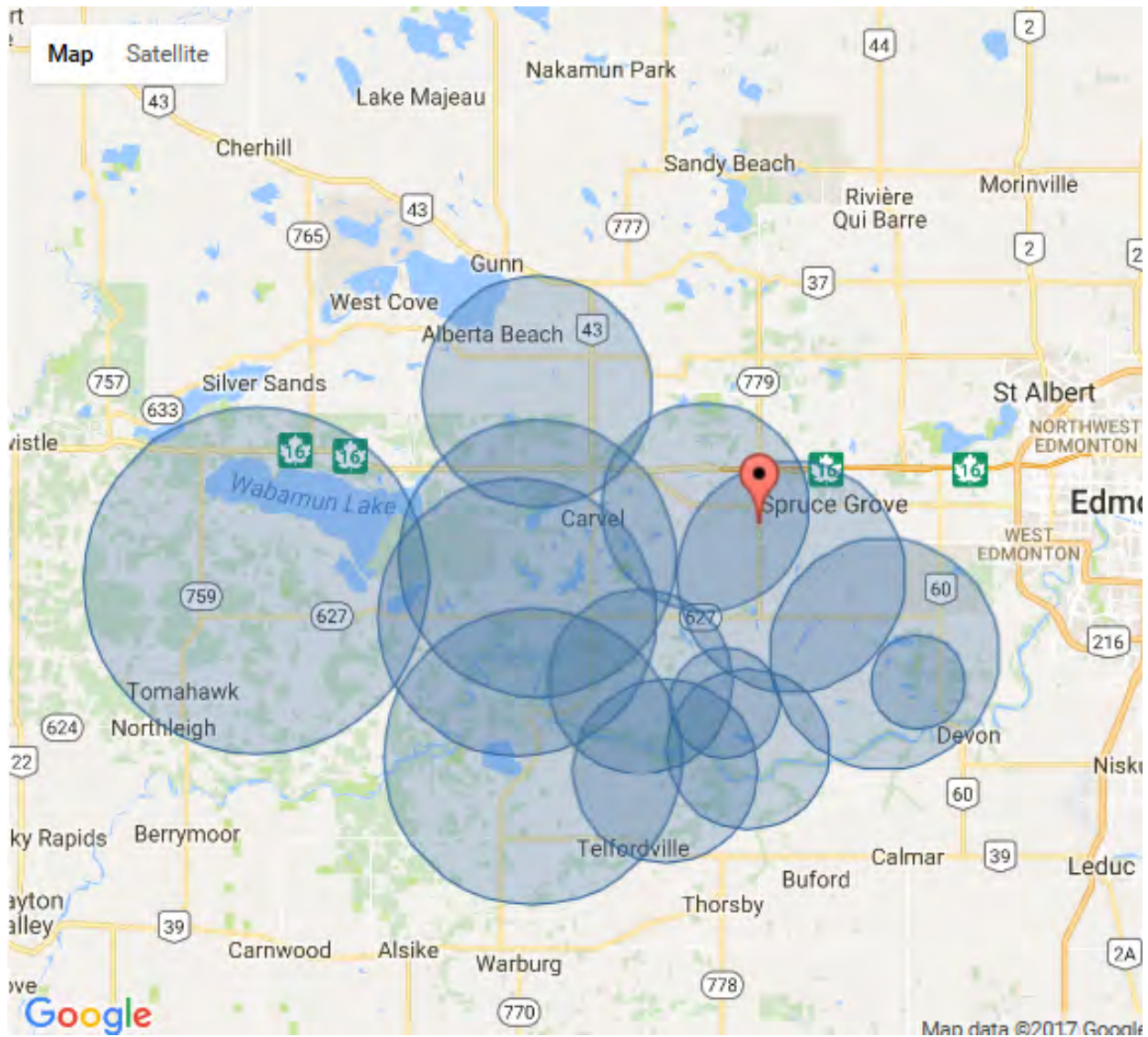


Figure 73 – Broadband Surfer

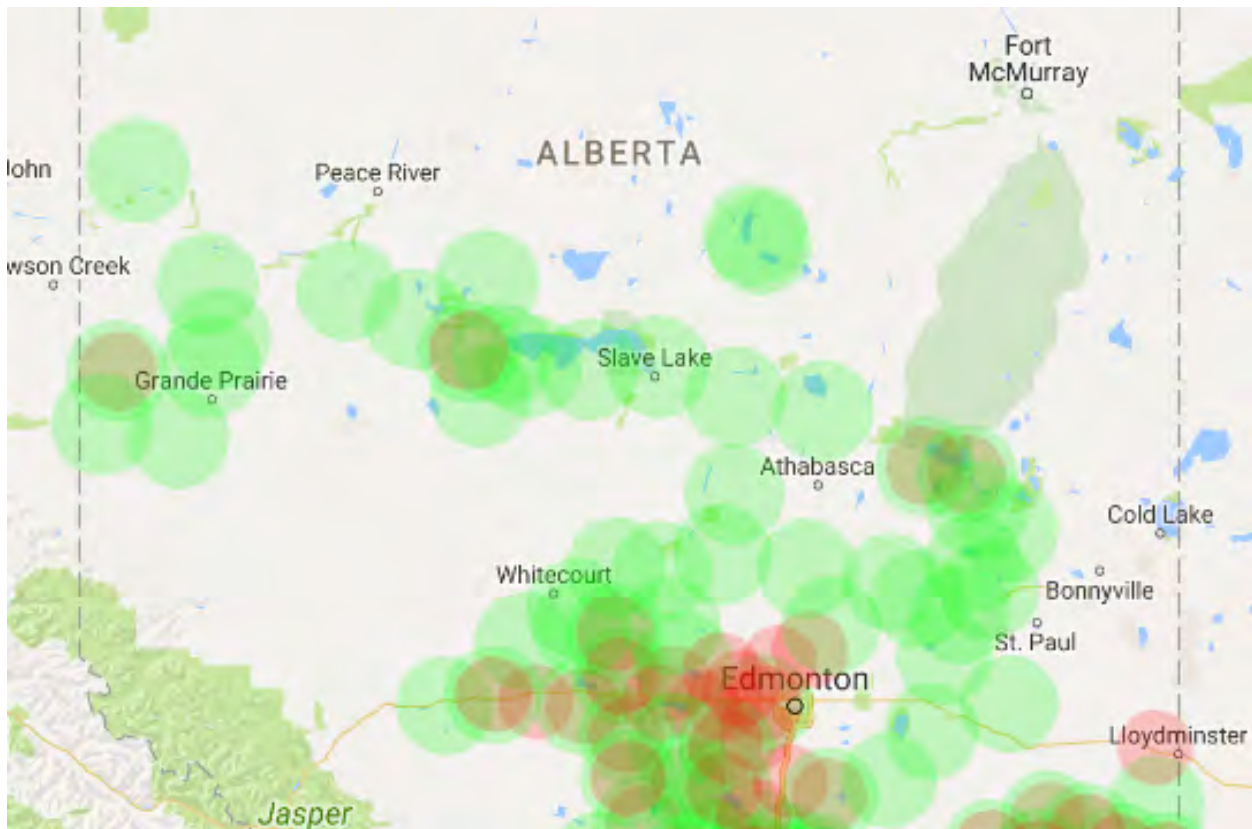


Figure 74 – Corridor Communications Inc. (CCI) (Northern Alberta)

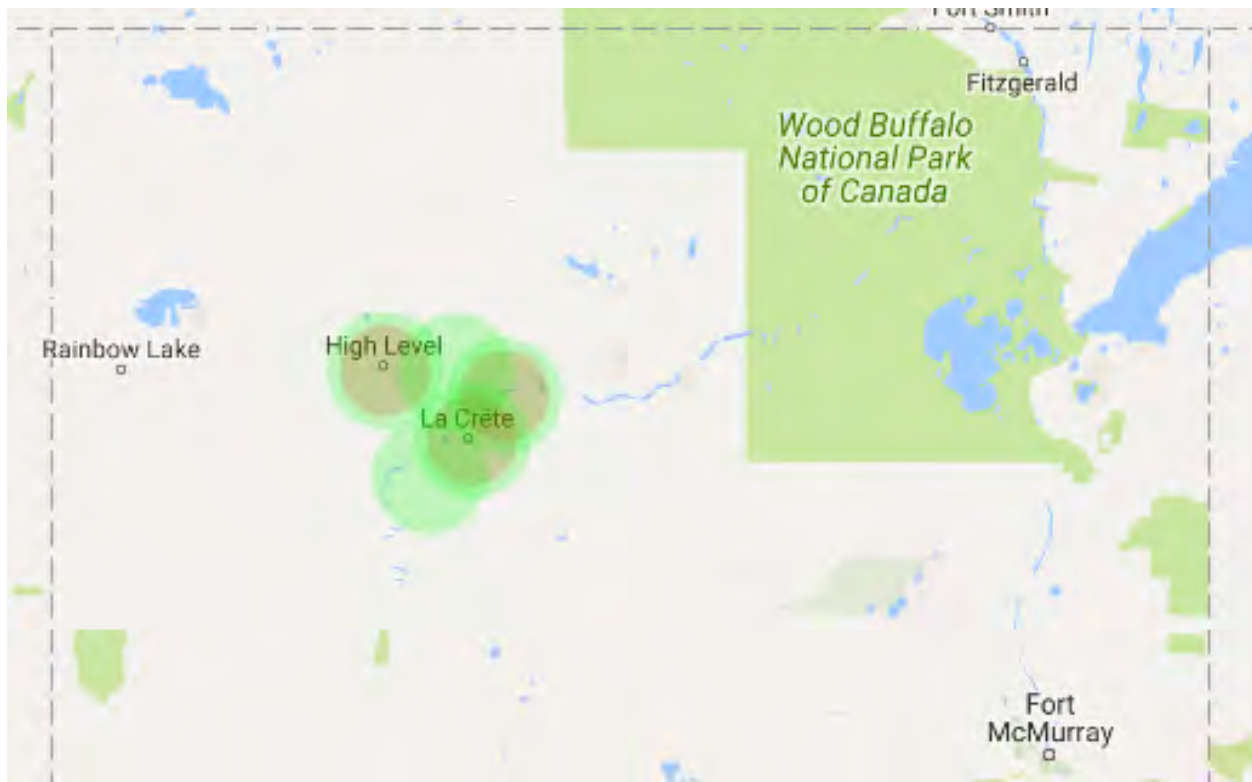


Figure 75 – Corridor Communications Inc. (CCI) (High Level Area)

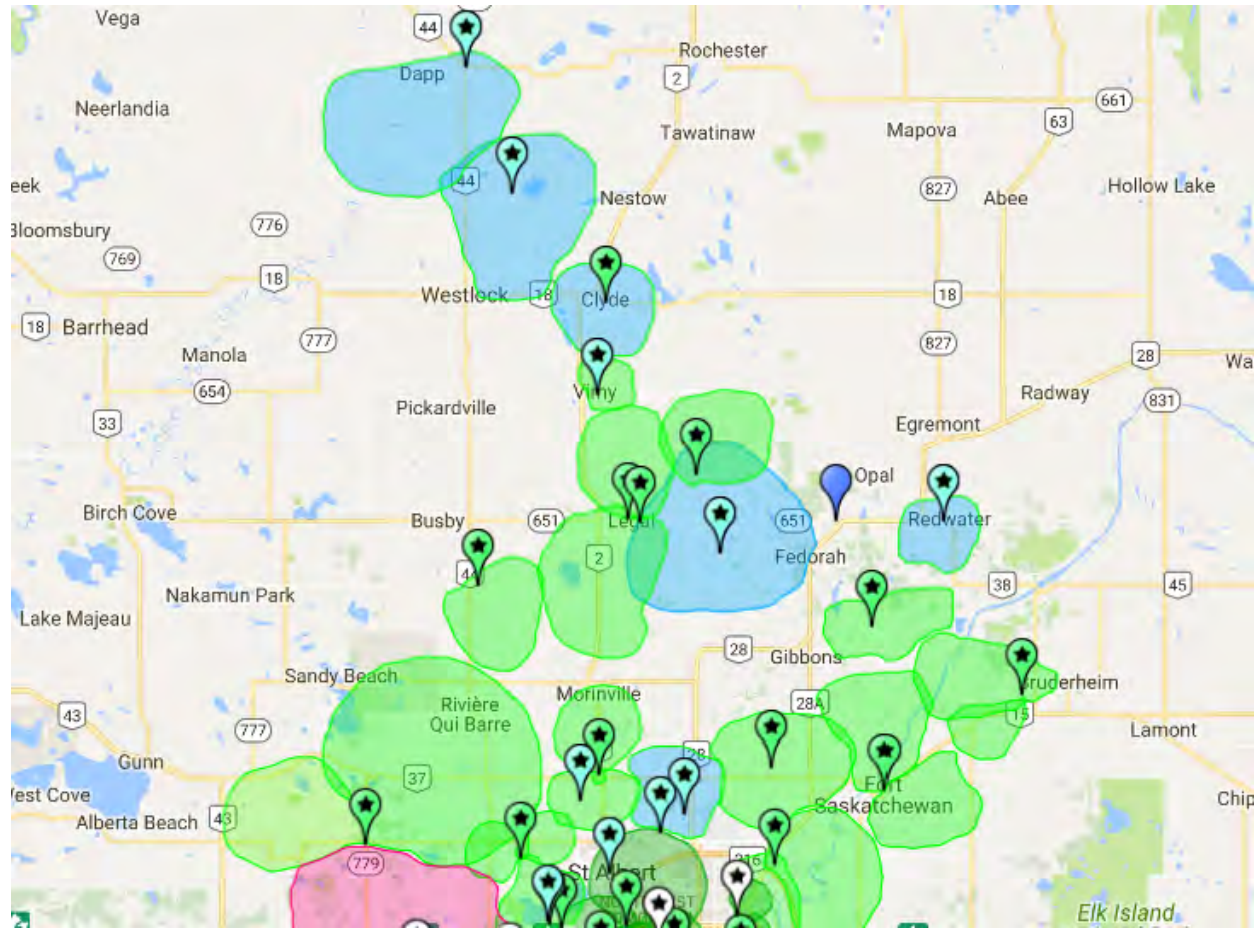


Figure 76 – Clearwave Broadband Networks

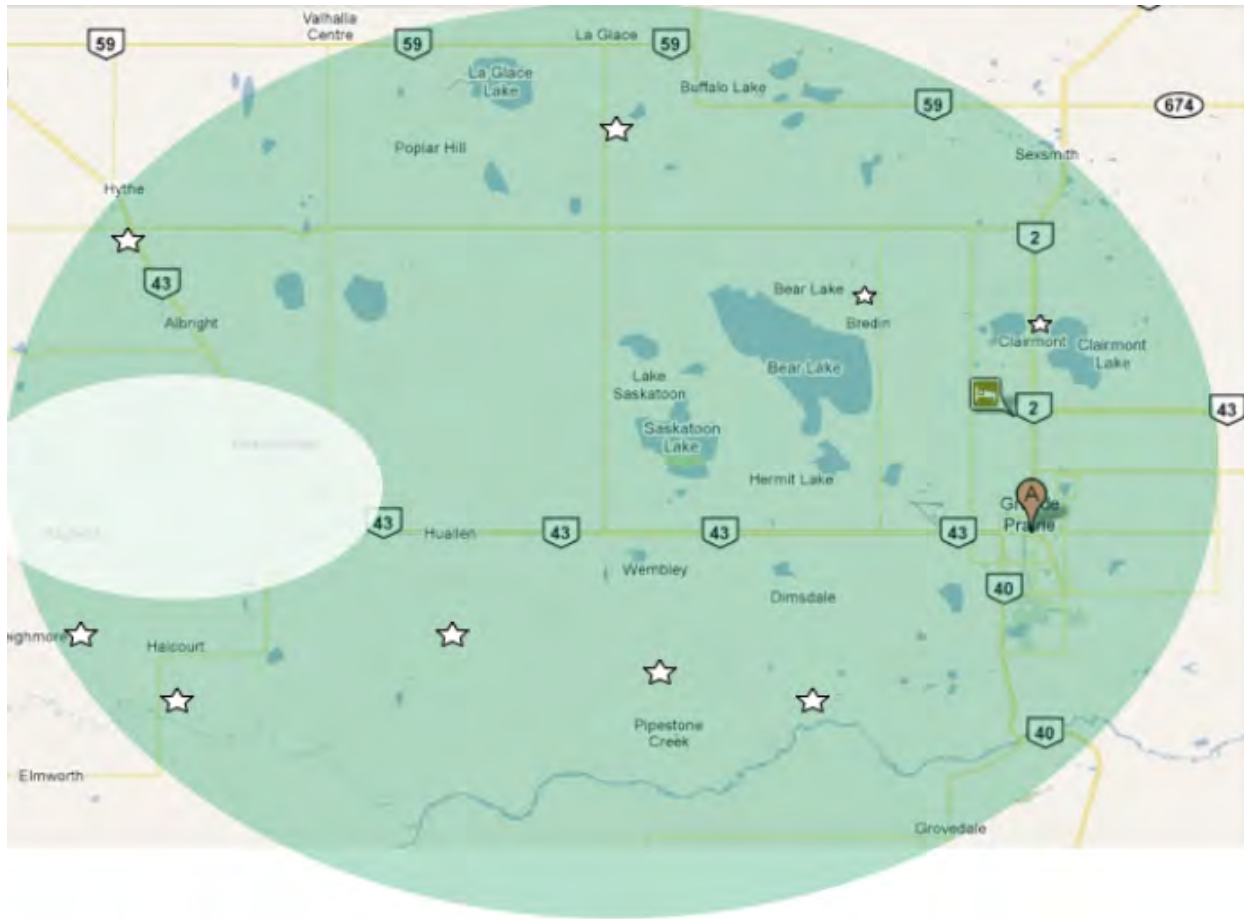


Figure 77 – First Broadband (Grande Prairie)

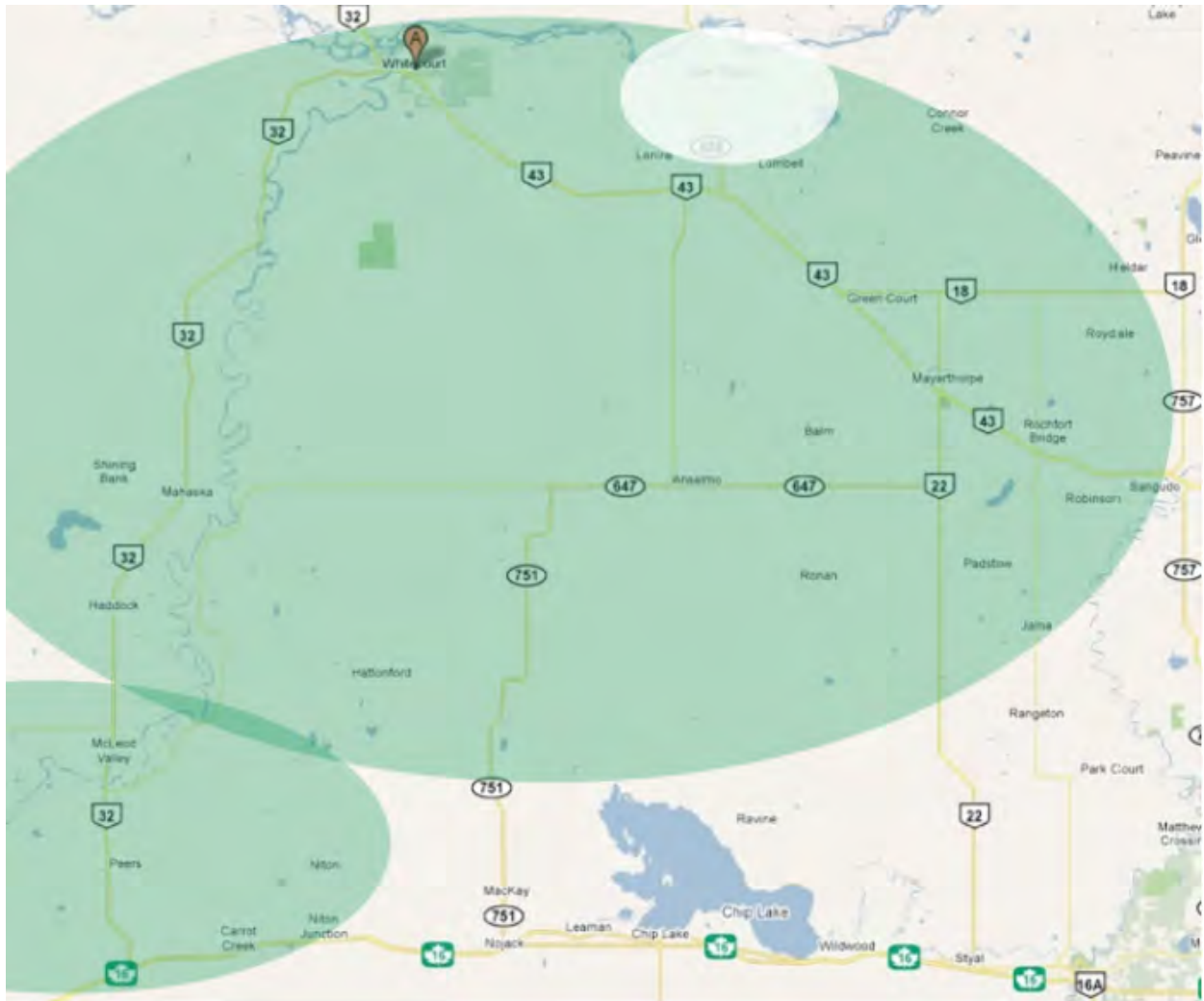


Figure 78 – First Broadband (Whitecourt)

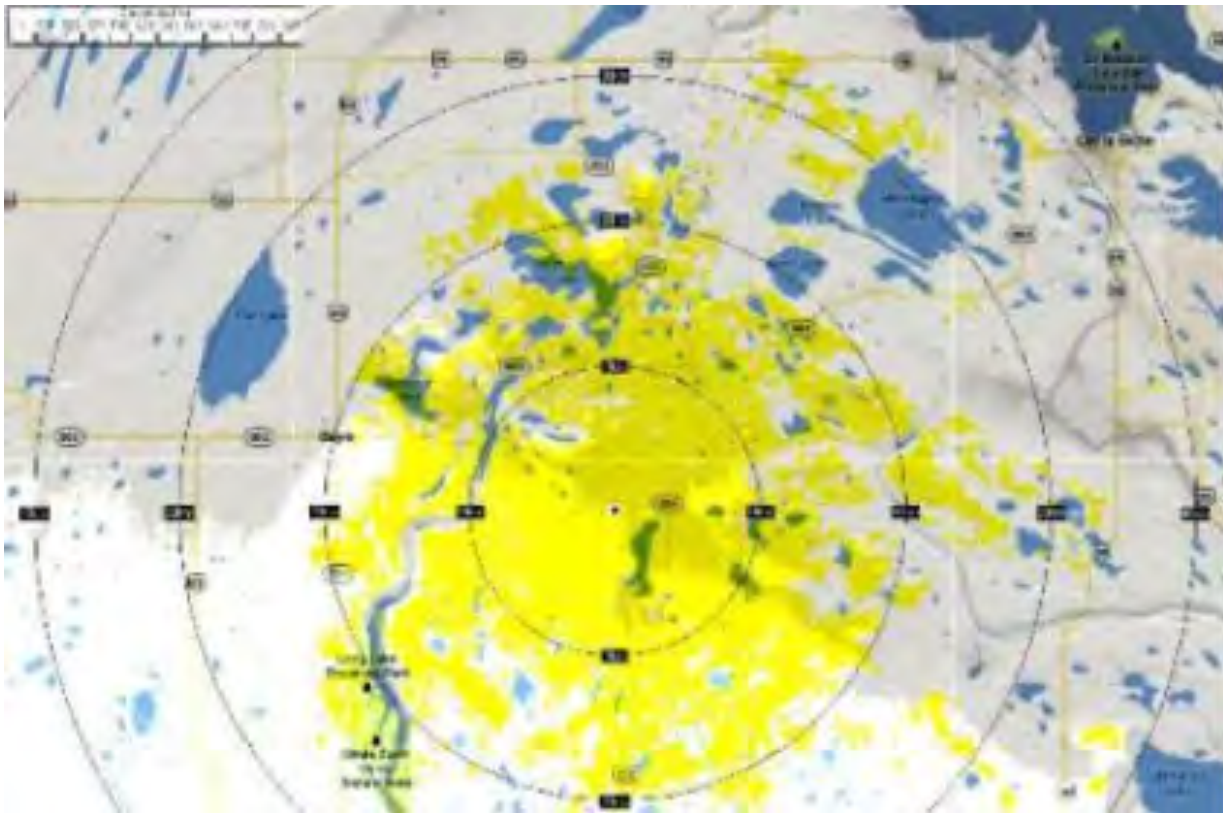


Figure 79 – Infinity Internet Solutions (Buffalo Lake Métis Settlement)

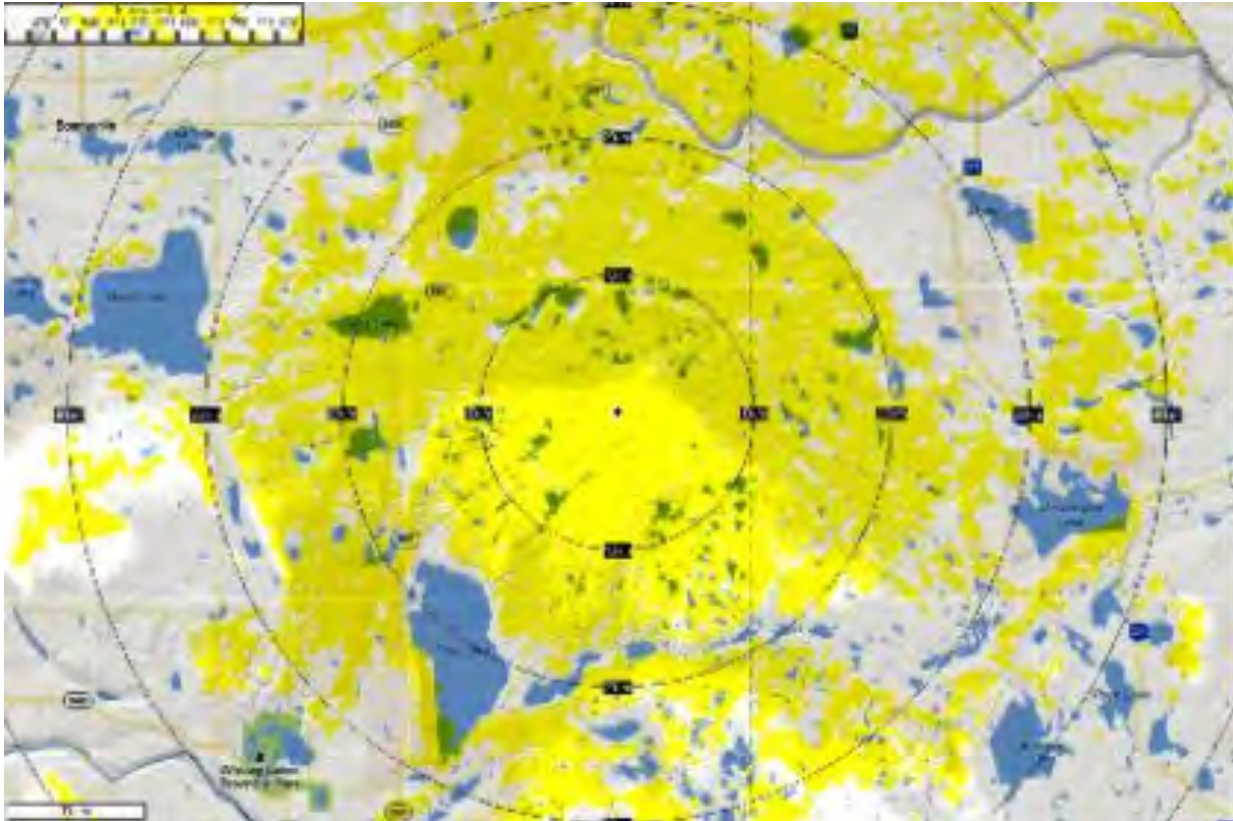


Figure 80 – Infinity Internet Solutions (Elizabeth Métis Settlement)

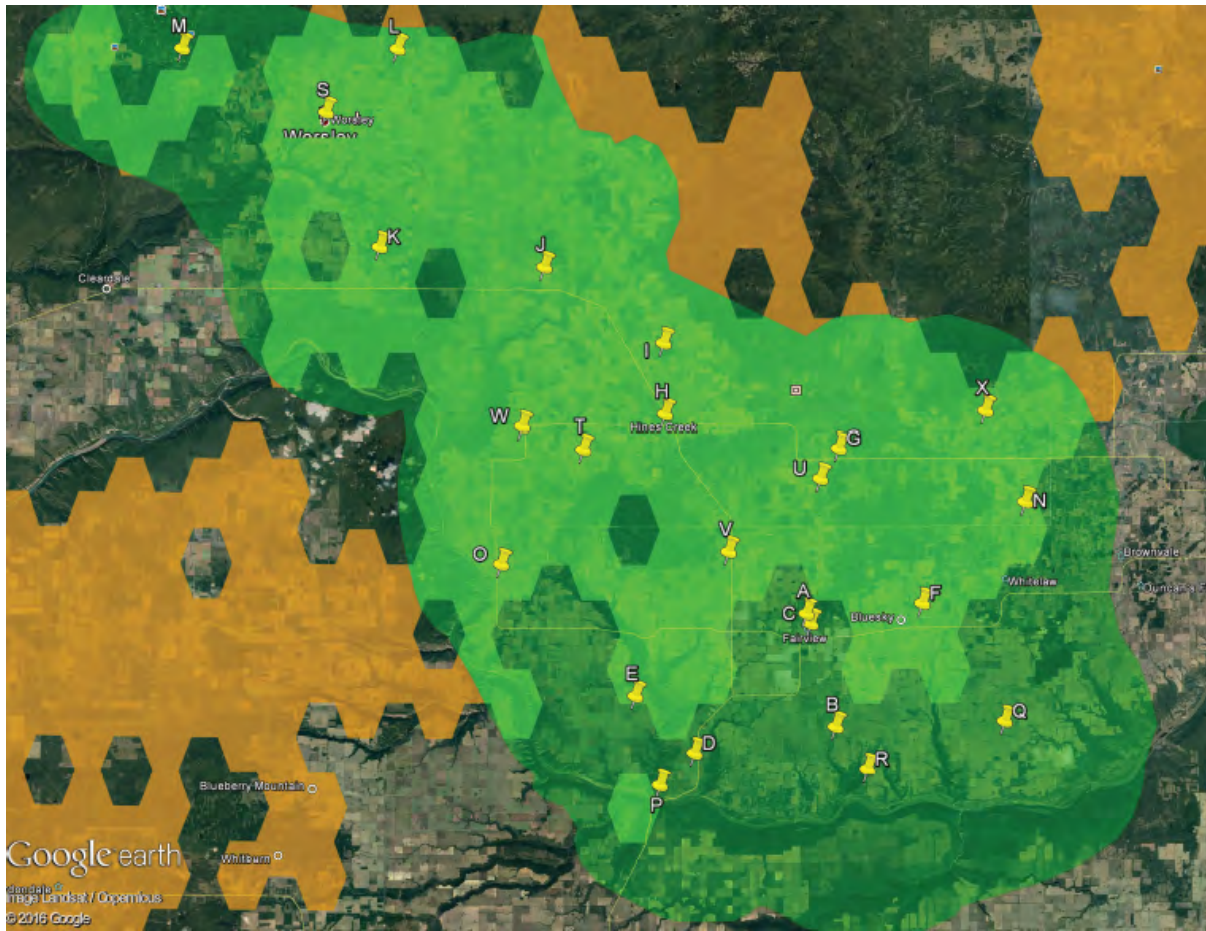


Figure 81 – Mighty Peace Wireless

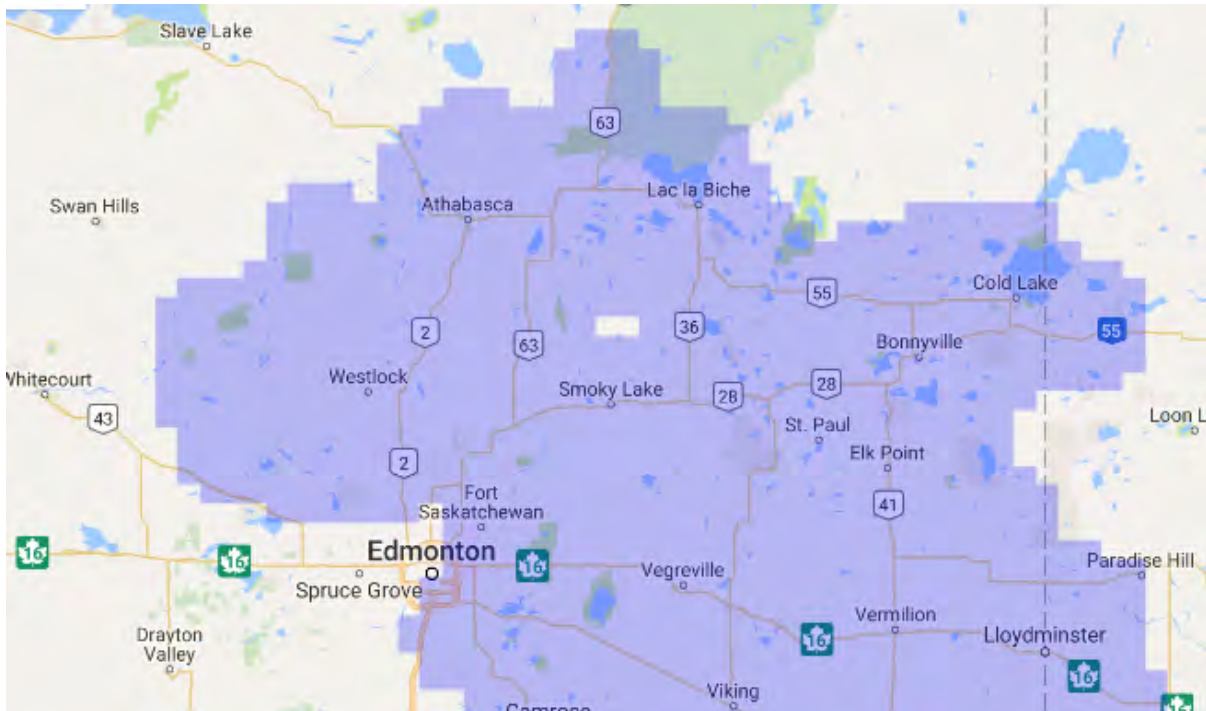


Figure 82 – MCSNet

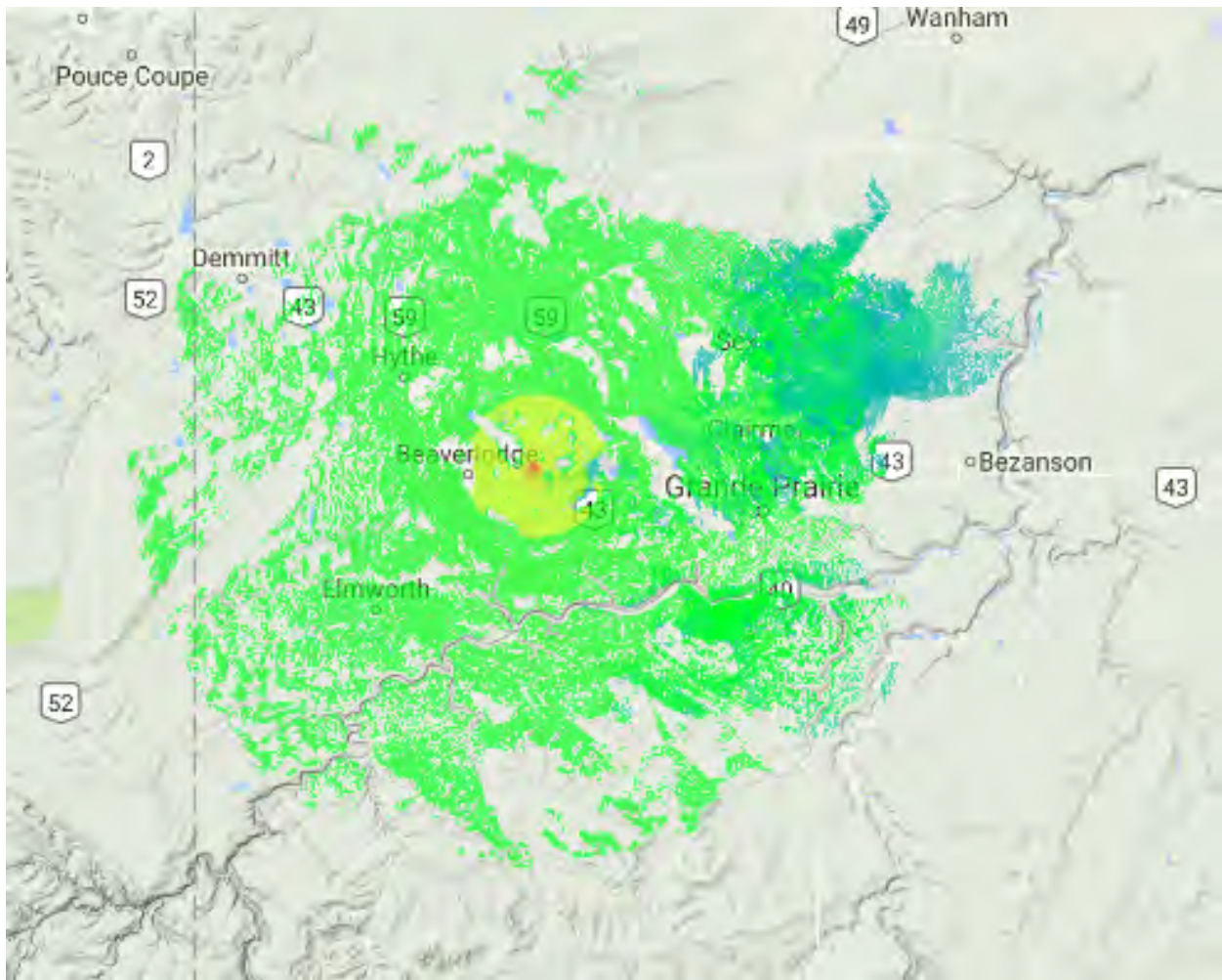


Figure 83 – NexxCom Technologies

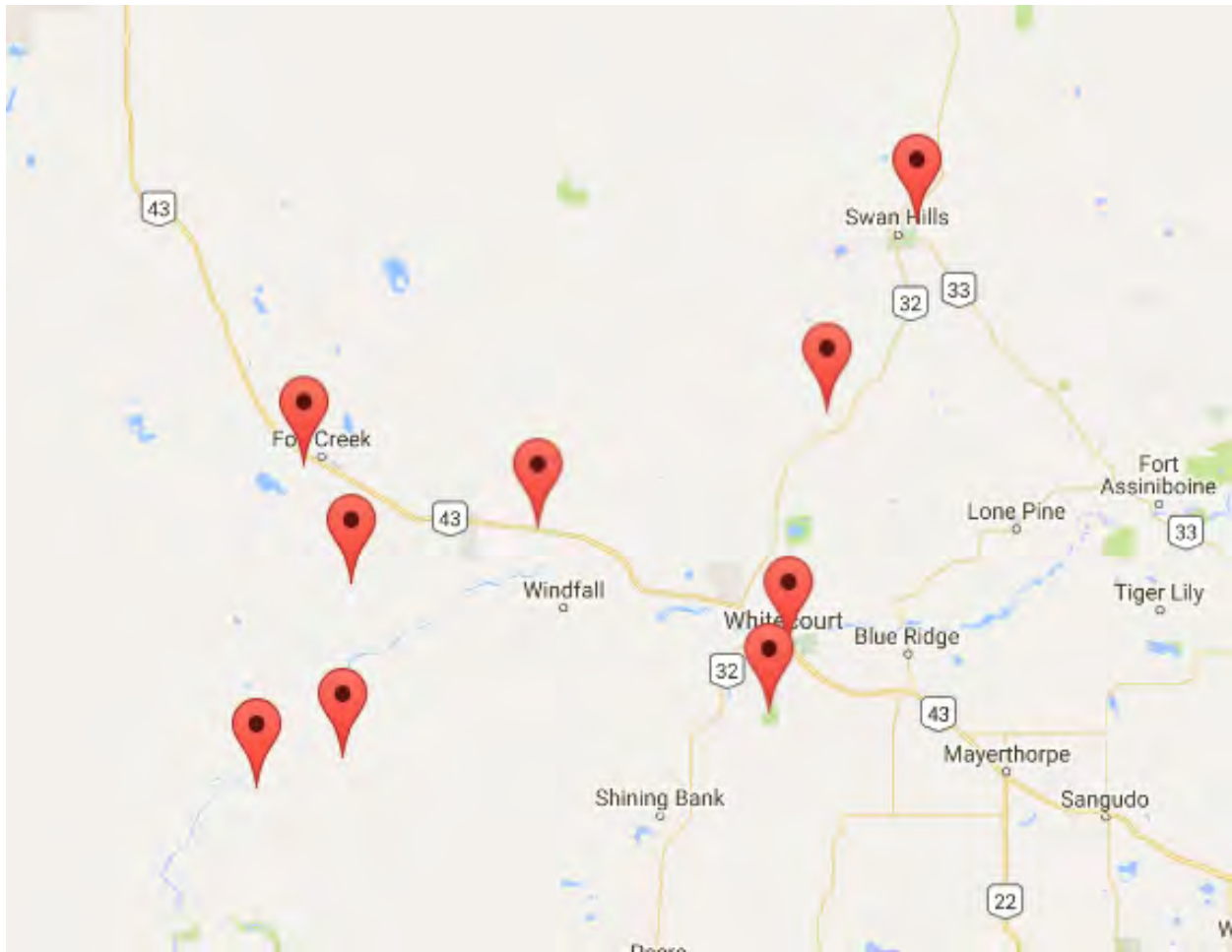


Figure 84 – Whitecourt Communications

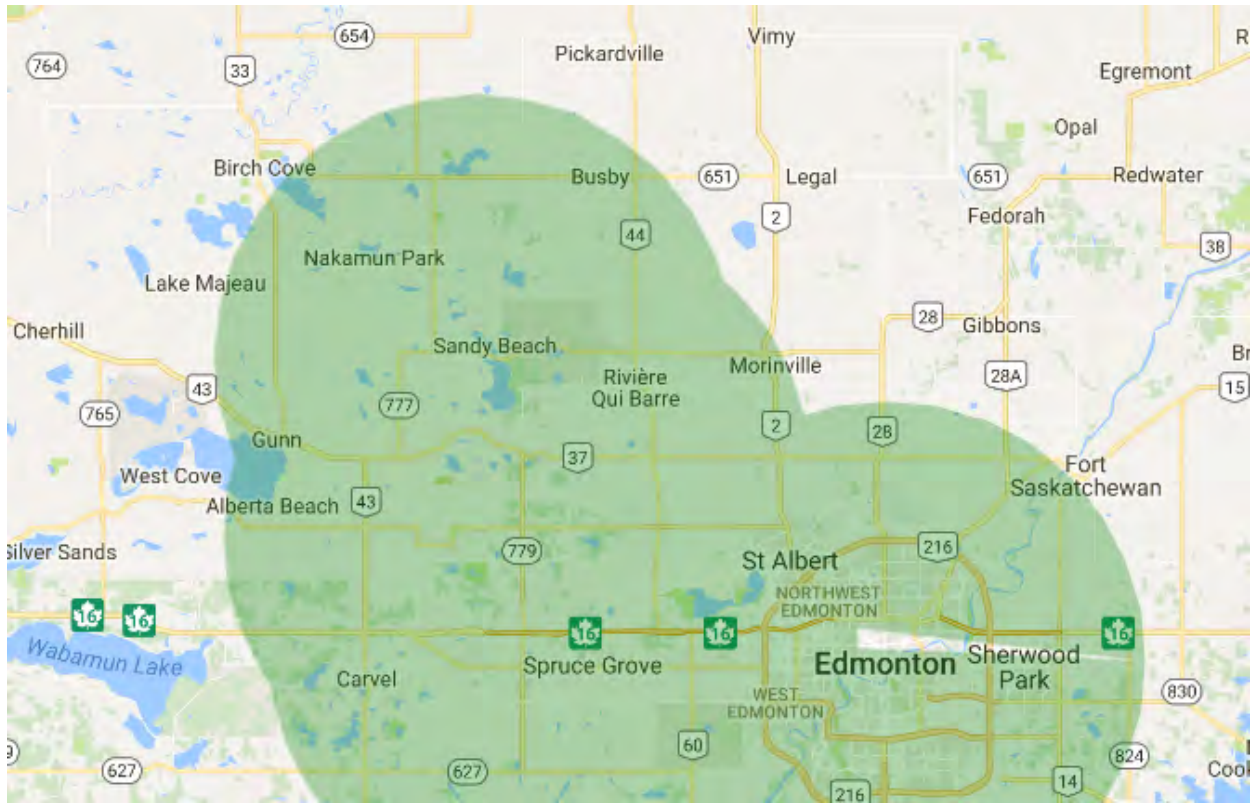


Figure 85 – Tera-Byte Wireless

12.3.2 Mobility Providers

Alberta Hub

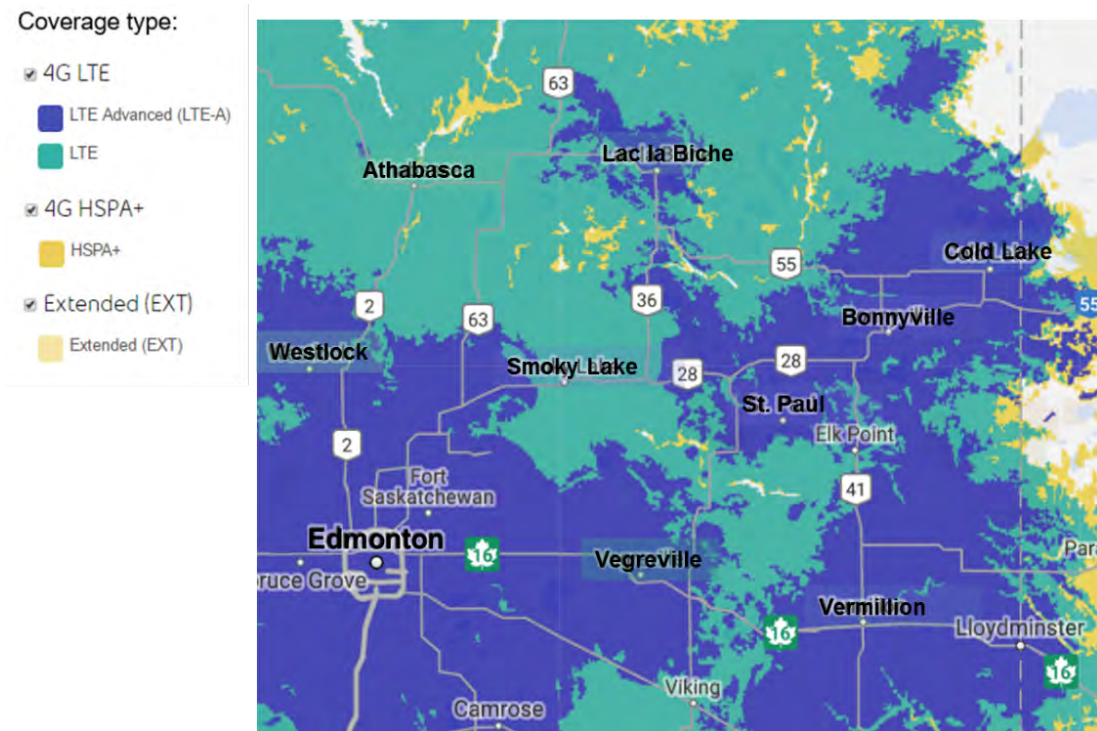


Figure 86 – Alberta Hub Mobility Coverage – TELUS/Bell



Figure 87 – Alberta Hub Mobility Coverage – Rogers

Growth Alberta & Athabasca

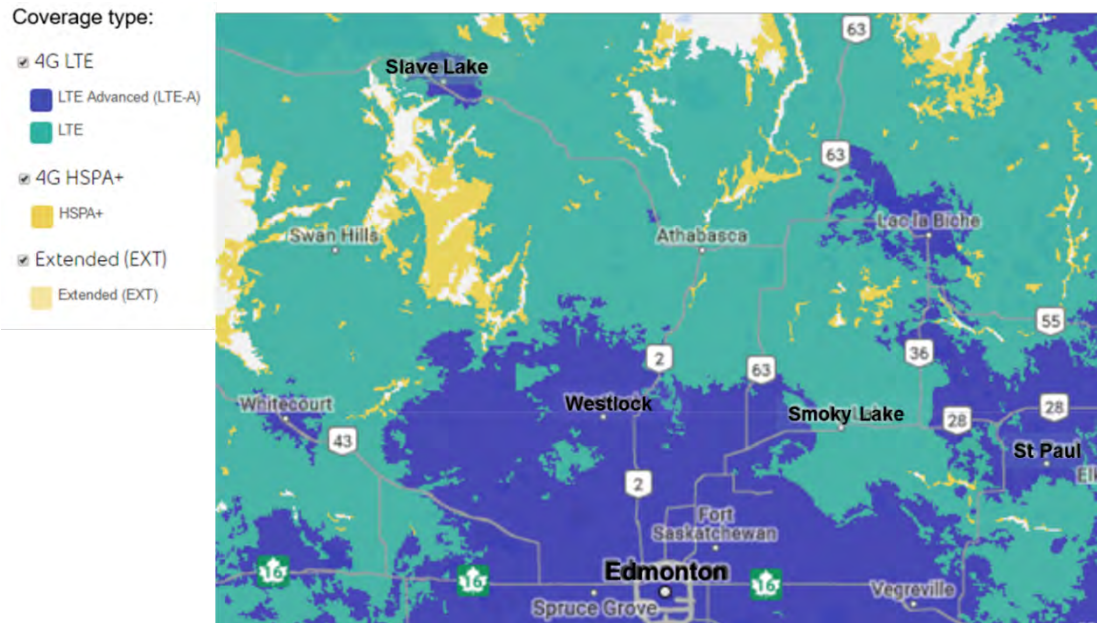


Figure 88 – Growth Alberta & Athabasca Mobility Coverage – TELUS/Bell



Figure 89 – Growth Alberta & Athabasca Mobility Coverage – Rogers

Growth Alberta (Barrhead & Whitecourt)

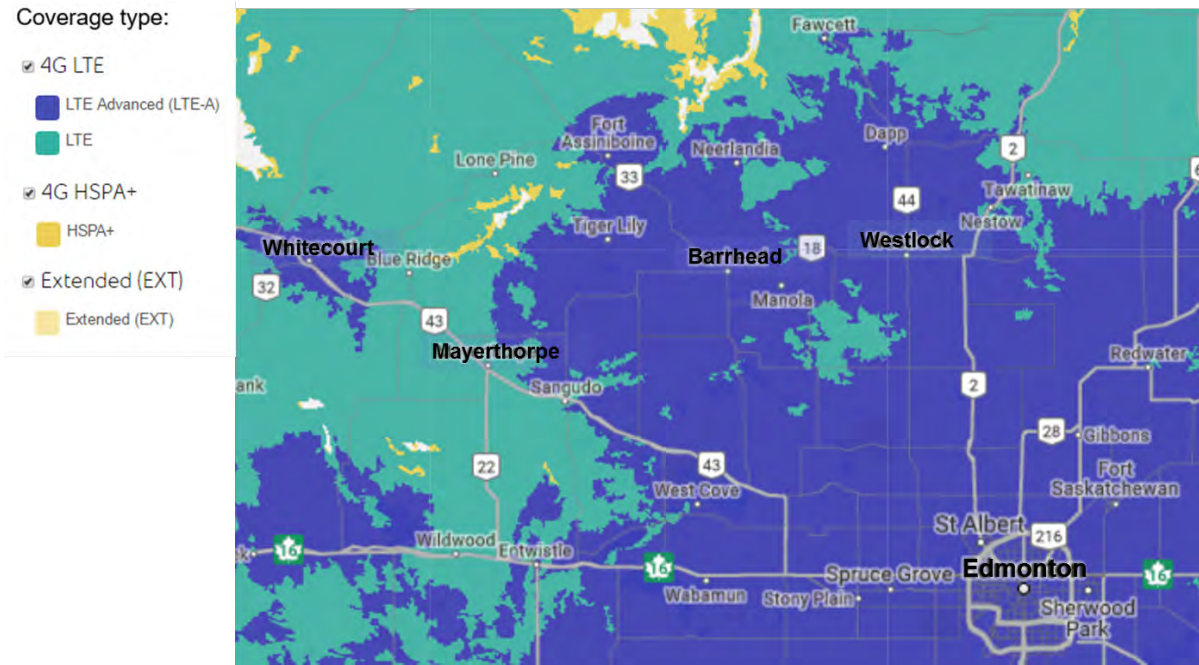


Figure 90 – Growth Alberta Mobility Coverage – TELUS/Bell



Figure 91 – Growth Alberta Mobility Coverage – Rogers

LSLEA & PREDA (County of Grande Prairie)

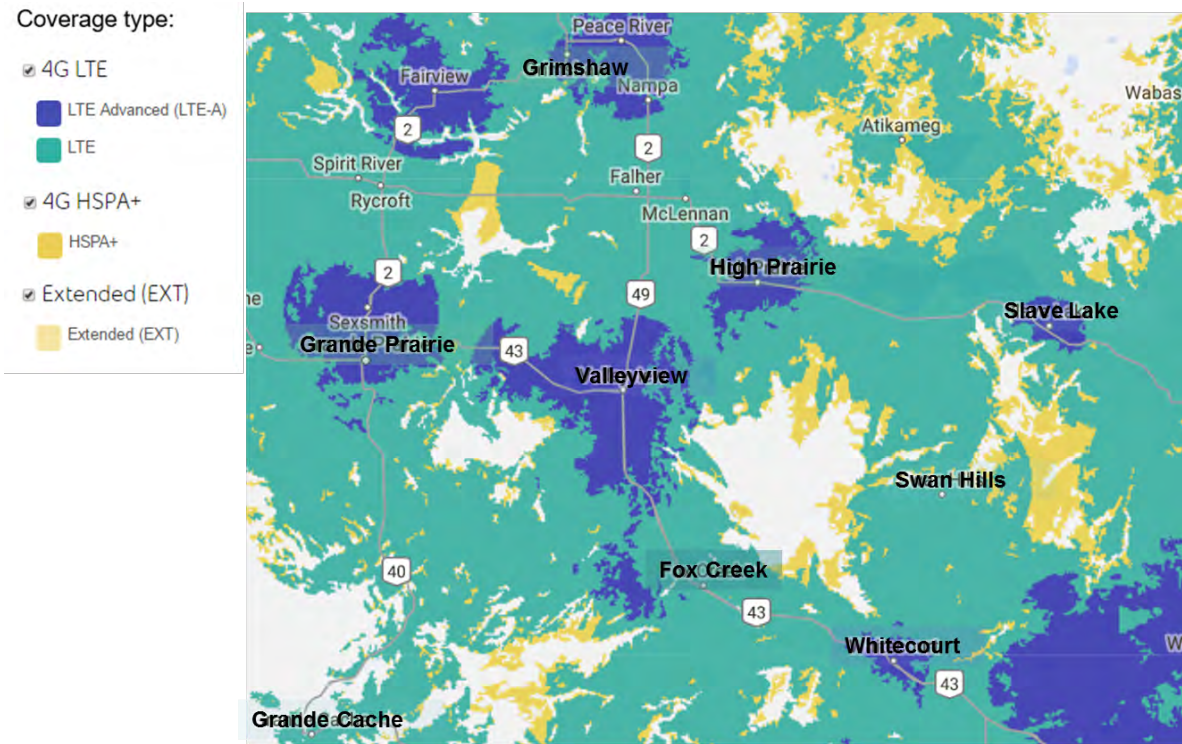


Figure 92 – LSLEA & PREDA (County of Grande Prairie) Mobility Coverage – TELUS/Bell



Figure 93 – LSLEA & PREDA (County of Grande Prairie) Mobility Coverage – Rogers

PREDA (Grande Cache)

Coverage type:

- 4G LTE
- LTE Advanced (LTE-A)
- LTE
- 4G HSPA+
- HSPA+
- Extended (EXT)
- Extended (EXT)

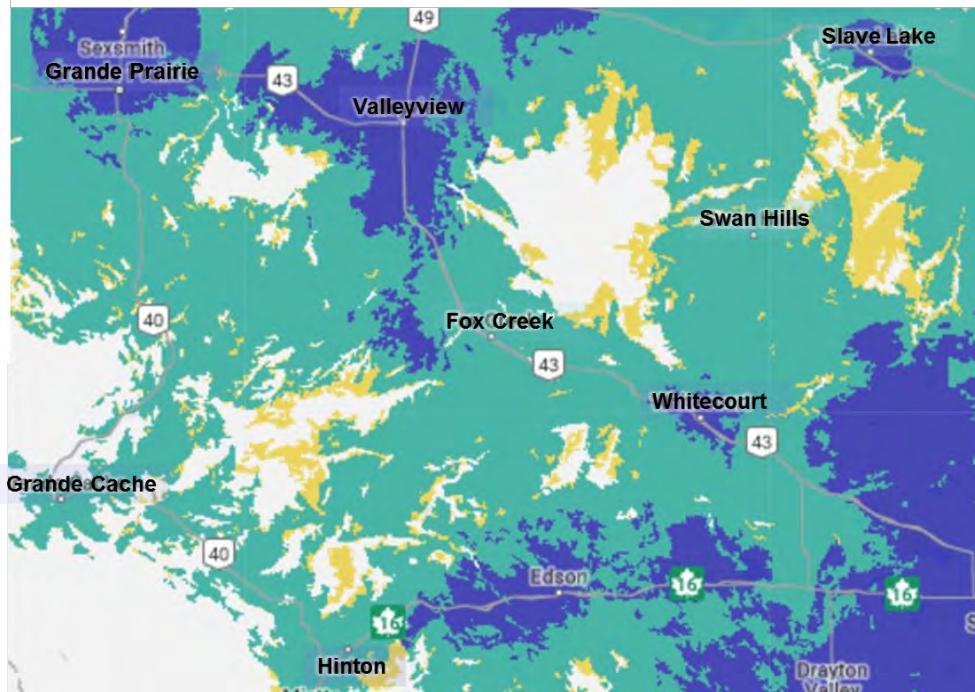


Figure 94 – PREDA (Grande Cache) Mobility Coverage – TELUS/Bell

- 2G
- HSPA+
- LTE
- Extended

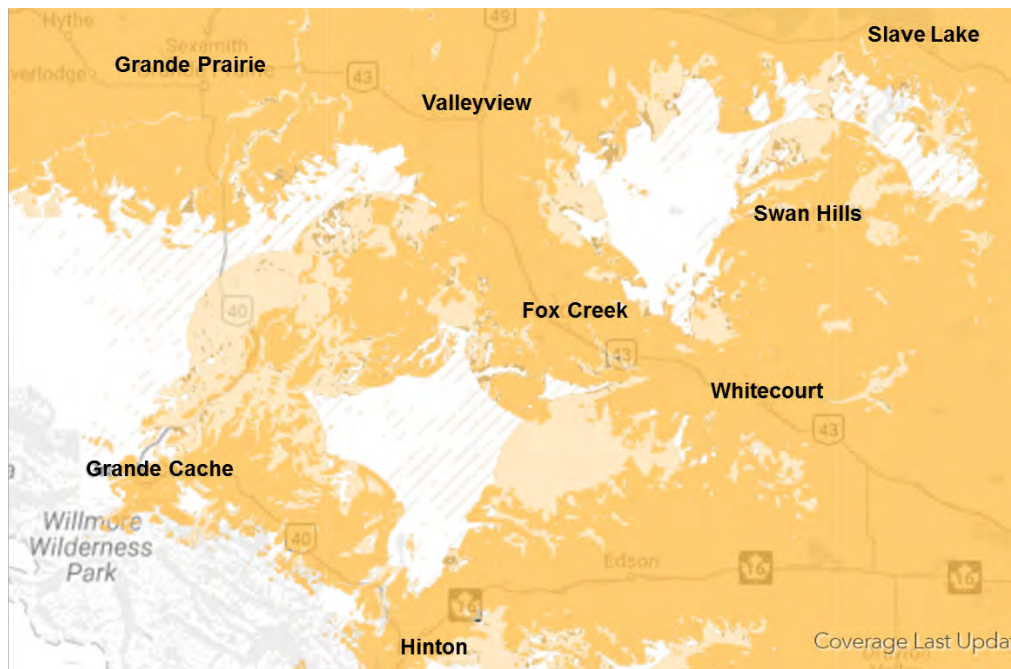


Figure 95 – PREDA (Grande Cache) Mobility Coverage – Rogers

PREDA (Grimshaw)

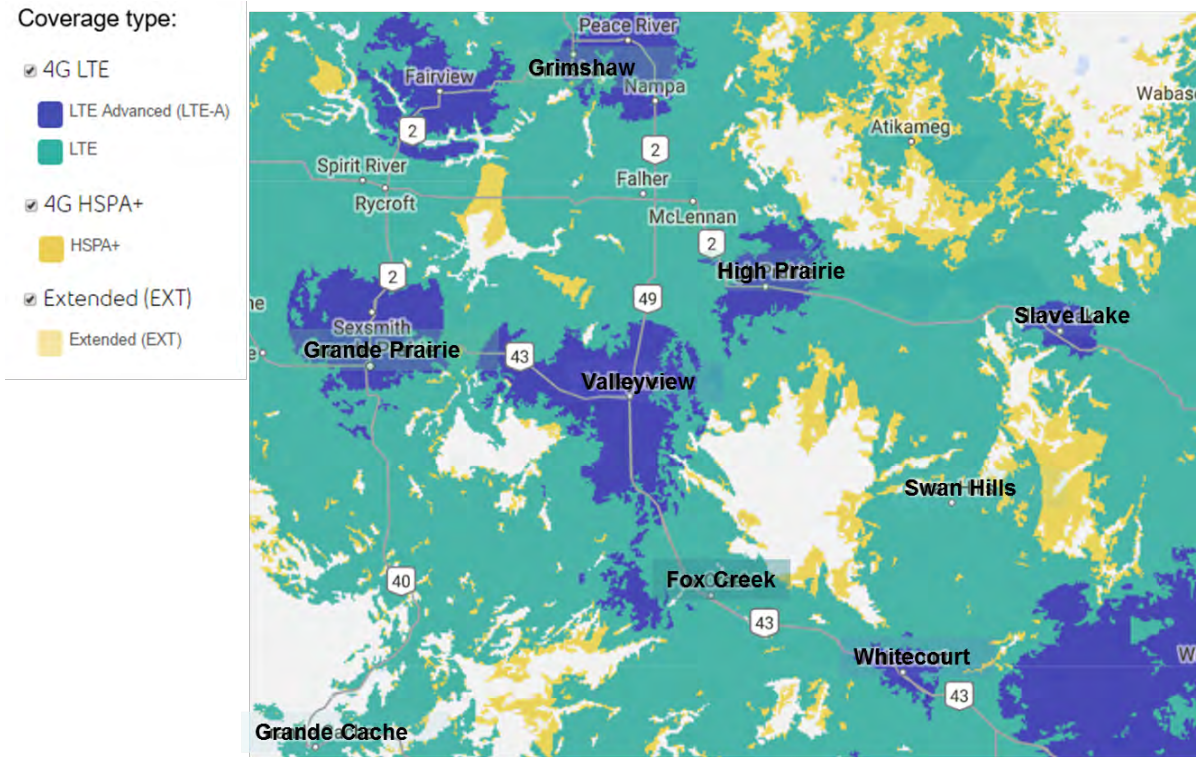


Figure 96 – PREDA (Grimshaw) Mobility Coverage – TELUS/Bell



Figure 97 – PREDA (Grimshaw) Mobility Coverage – Rogers

REDI

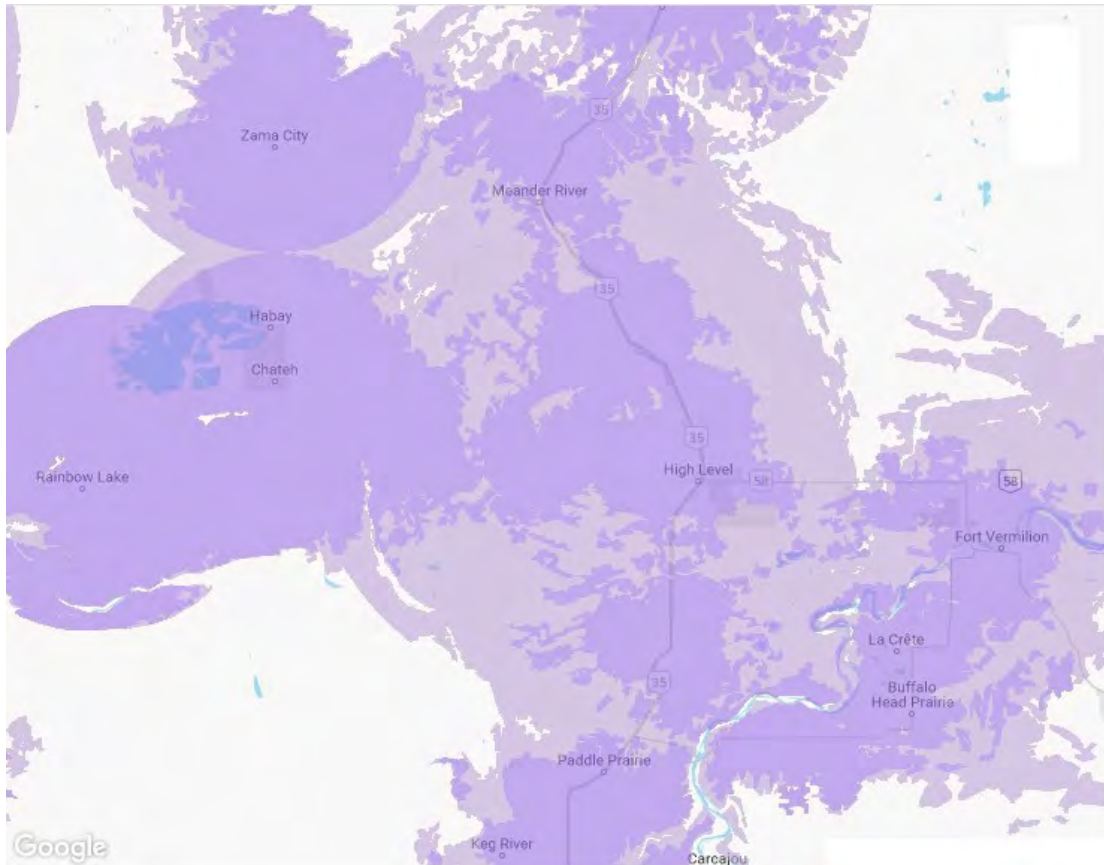


Figure 98 – REDI Mobility Coverage – TELUS/Bell

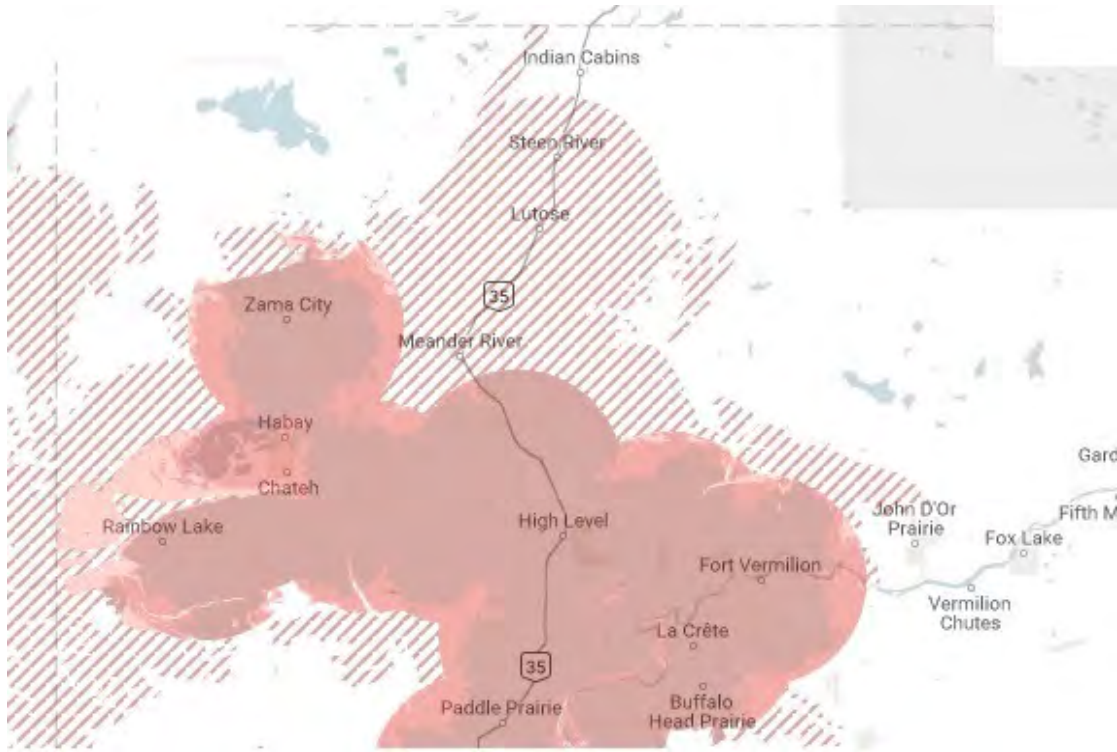


Figure 99 – REDI Mobility Coverage – Rogers

Other Communities (Fort Chipewyan)

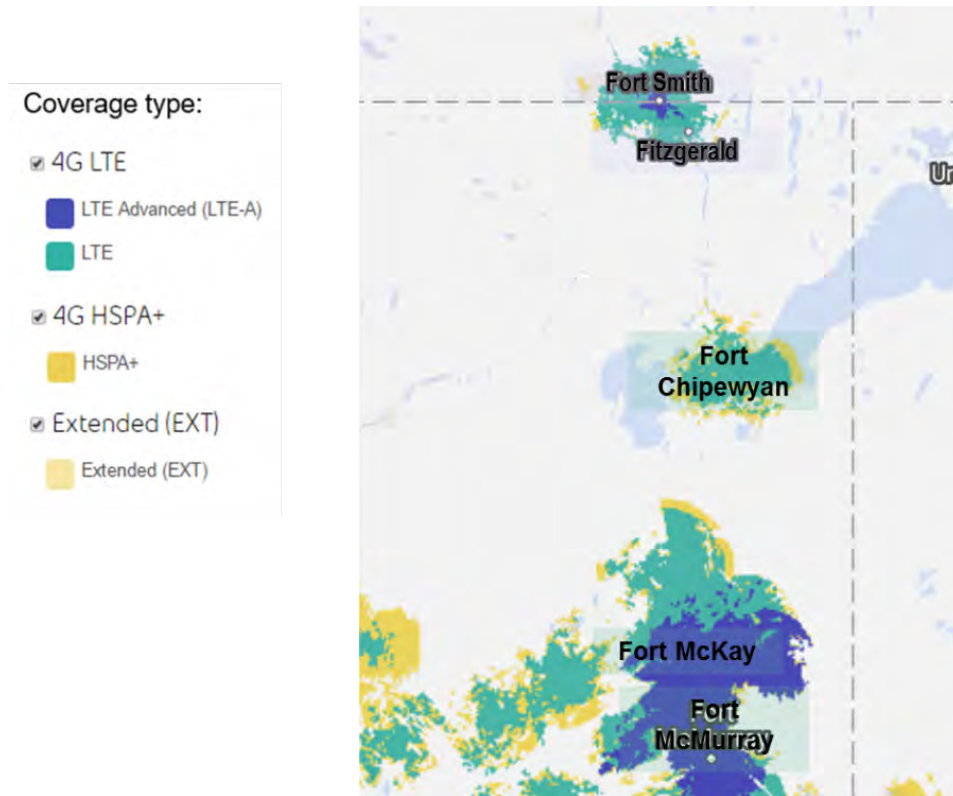


Figure 100 – Fort Chipewyan Mobility Coverage – TELUS/Bell

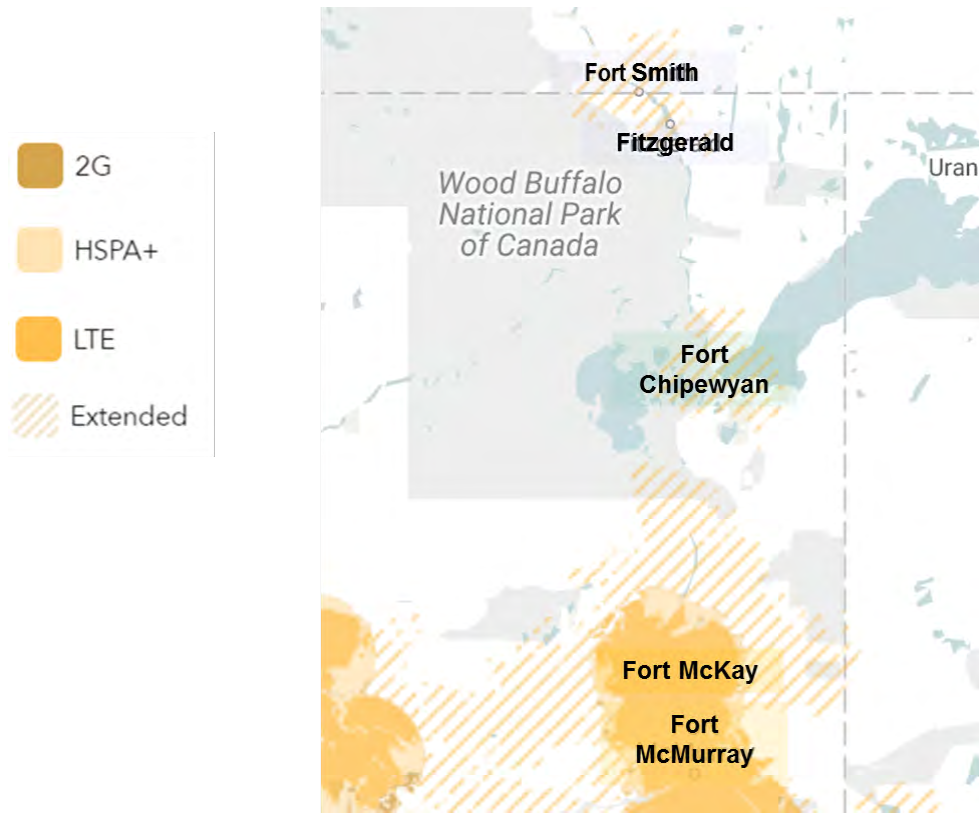


Figure 101 – Fort Chipewyan Mobility Coverage – Rogers

Other Communities Fort McMurray

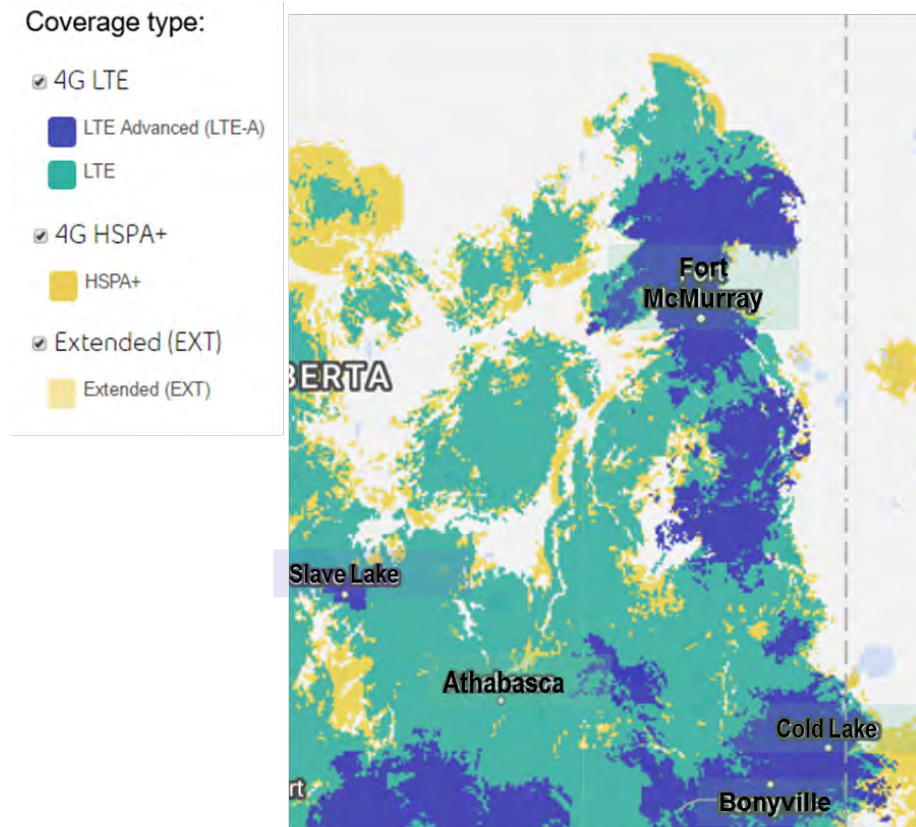


Figure 102 – Fort McMurray Mobility Coverage – TELUS/Bell



Figure 103 – Fort McMurray Mobility Coverage – Rogers

12.4 Appendix D – Alberta SuperNet

The Alberta *SuperNet* is a broadband superhighway, conceived by the Government of Alberta (GoA) in the early 2000's to connect public institutions, collectively termed the GLHLM (GoA, Learning, Health, Library, and Municipality) clients, to a broadband network for high-speed Internet access, video conferencing, and other services. The GLHLM component of the *SuperNet* links 4,200 GLHLM facilities in 429 communities. A second, wholesale backbone services, component enables rural Internet Service Providers (ISPs) to connect their access networks back to a peering point in Calgary and Edmonton. It is on this component that the discussion below is focused.

The Alberta *SuperNet* consists of the Bell-operated Base Area Network (BAN) serving 27 of the larger urban centres in the province and the Axia-operated Extended Area Network (EAN), covering the rest of the province. BAN communities in northern Alberta include Bonnyville, Cold Lake, Fort McMurray, Grande Prairie, Vegreville, Vermilion, and Whitecourt. While the *SuperNet* mostly consists of fibre-optic backbone facilities, wireless links are used to complete the network in the most rural areas.

As the *SuperNet* is operated on an “open access” basis (its services are available to all service providers on a comparable basis), to preclude any conflicts of interest, neither Bell nor Axia can offer retail services such as Internet within their *SuperNet* footprint. To date, Bell does not offer retail services within the province, but Axia NetMedia does provide retail services to corporate clients and, through AxiaConnect, provides retail Internet services in smaller communities (e.g., Town of Fairview).

Deploying fibre to smaller towns, villages, hamlets, small subdivisions, and other remote groups of premises need not be more expensive than deploying to neighbourhoods in urban areas, except for the following:

- A backhaul connection is needed to connect the community to the global network, and
- Operational costs could increase if the community is not near maintenance personnel.

The availability and monthly costs of the backhaul connections are therefore fundamental to enabling fibre deployment and sustainable operations in all of these communities. To enable triple play services in communities, a 1 Gb/s backhaul connection is the absolute minimum. The *SuperNet* operating requirement is to enable minimum 1 Gb/s (and preferably 5 or 10 Gb/s) connections between communities and a peering point in for example Edmonton at a low enough rate that these community operations are sustainable. Obviously, there are expenses other than debt service and backhaul, but those can be reduced by scale - either by outsourcing operations to a larger player or by partnering with other local communities to realize scale themselves.

Since its construction, there have been issues for users, ISPs, and municipalities with the SuperNet. Service Alberta summarized the current issues as follows:⁸⁶

- Quality and cost of services;
- Uneven playing field between ISPs and the SuperNet operator;
- Poor contracts, which are difficult to manage; and
- From Service Alberta's perspective, escalating costs to the Government of Alberta.

The SuperNet operating contract will expire on June 18, 2018 and options for improving the first two points above are currently before Cabinet. Early in 2017 a new operating contract is expected to be awarded and transition planning will begin.

⁸⁶ Service Alberta, e-mail 24 January 2017.

12.5 Appendix E – ATCO’s and Fortis Alberta’s Service Areas

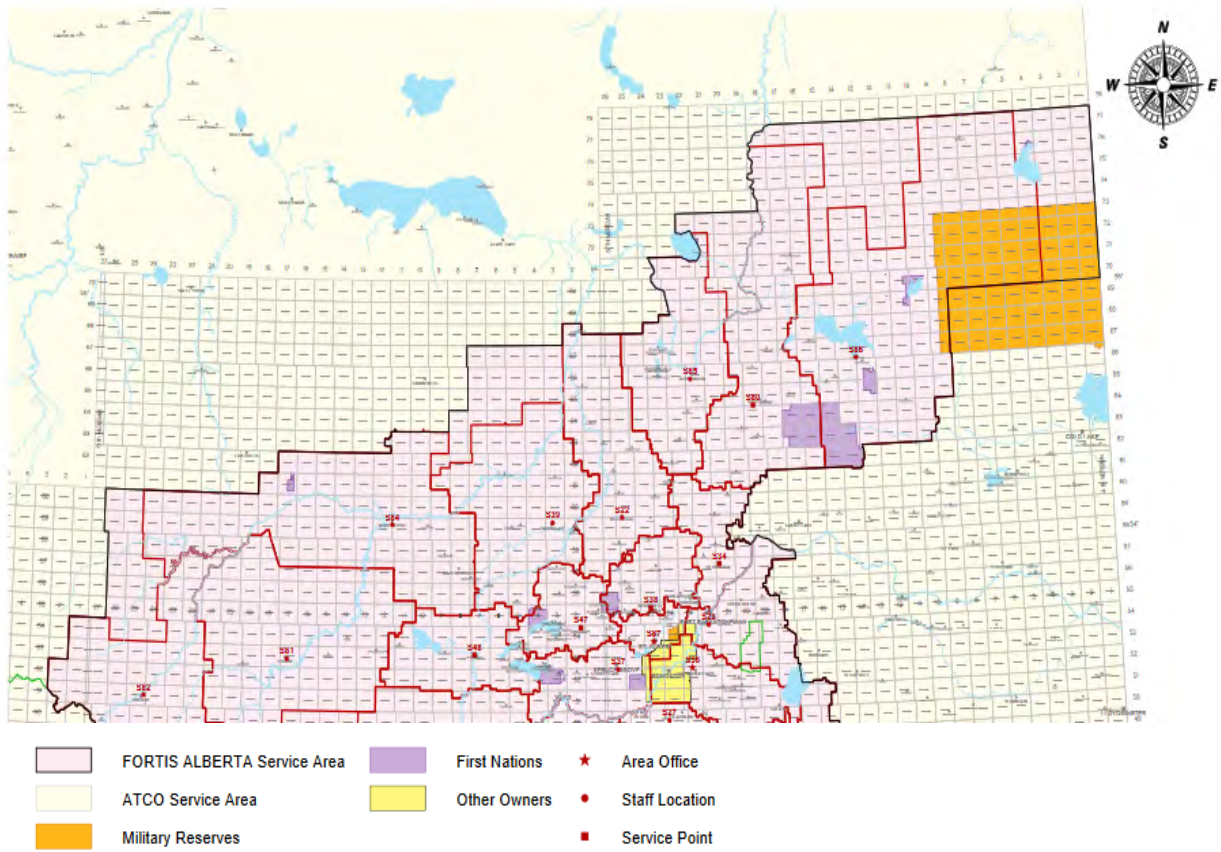


Figure 104 – ATCO Electric & Fortis Alberta Service Areas (Northern Alberta)

12.6 Appendix F – Capital Projects

Alberta Hub

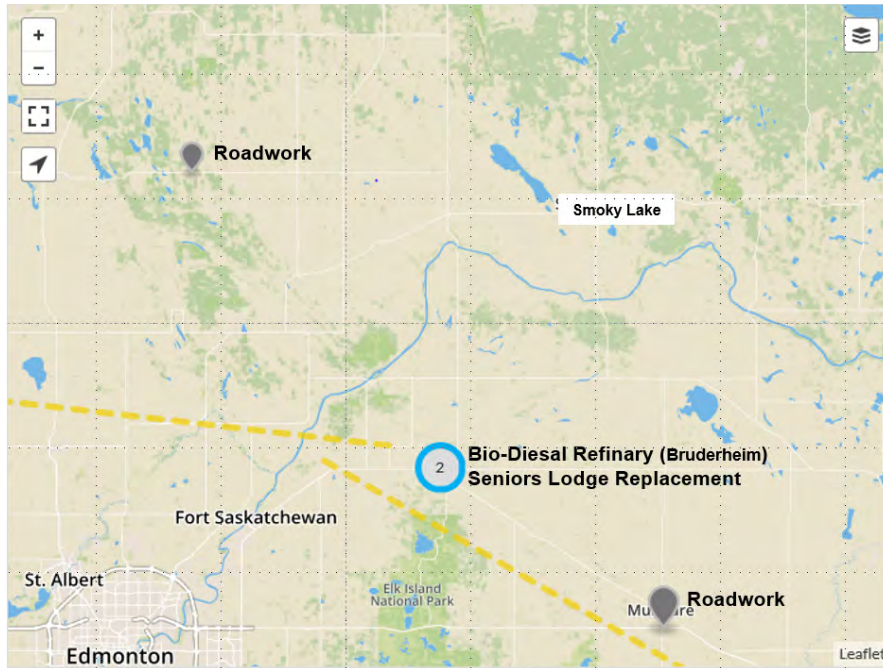


Figure 105 – Major Project – Smoky Lake Area

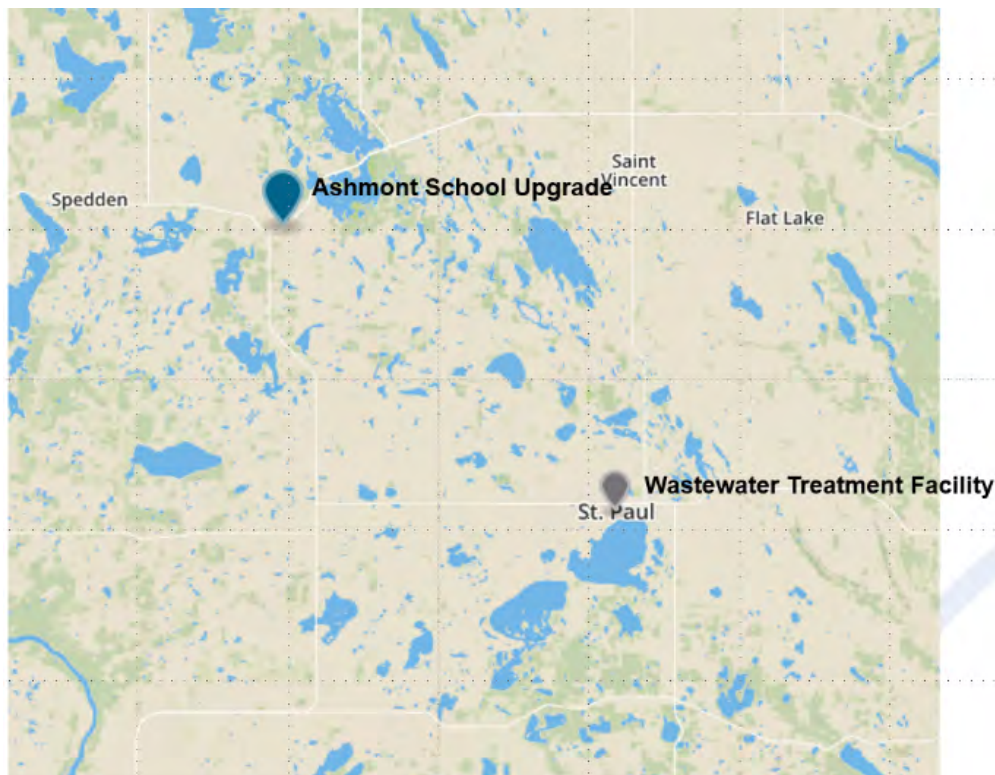


Figure 106 – Major Project – St. Paul

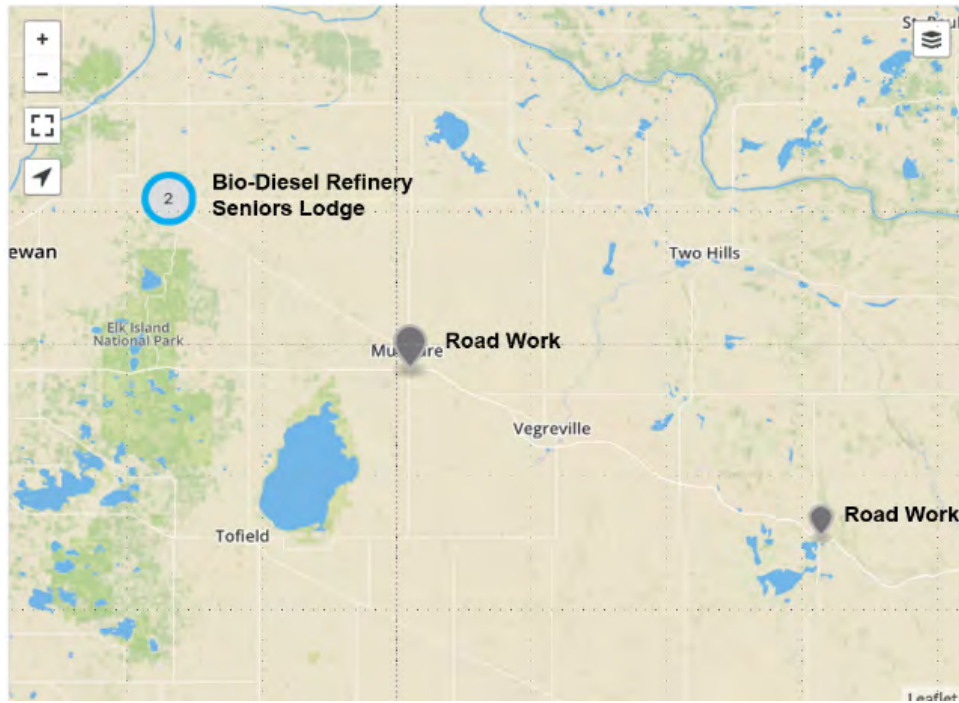


Figure 107 – Major Project – Vegreville Area

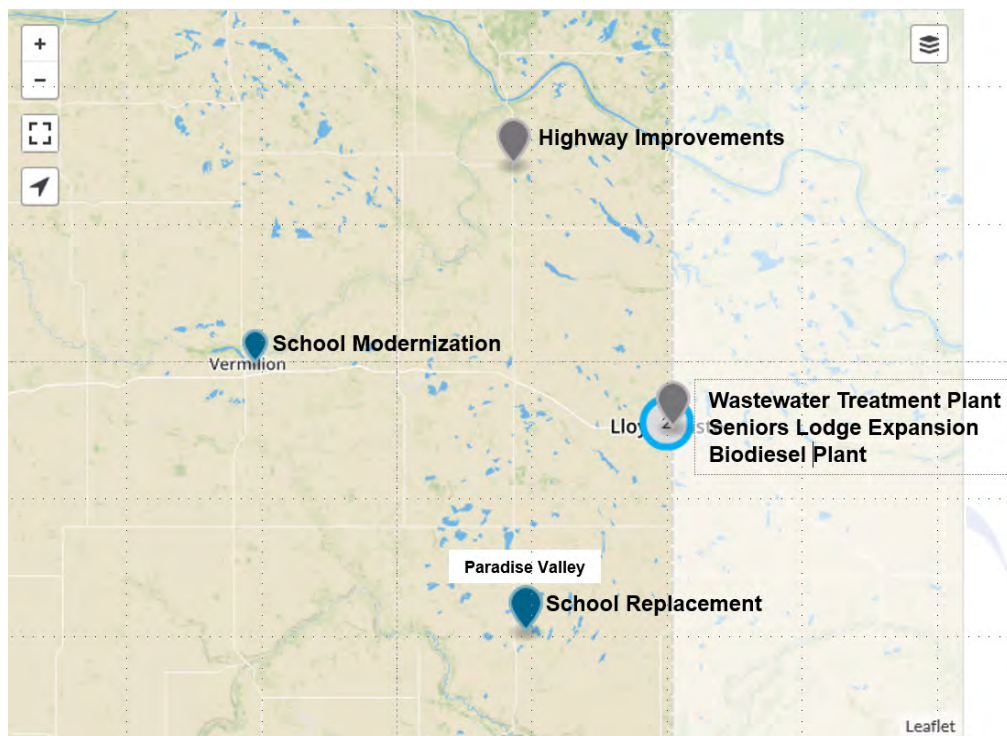


Figure 108 – Major Project – Vermilion

Growth Alberta

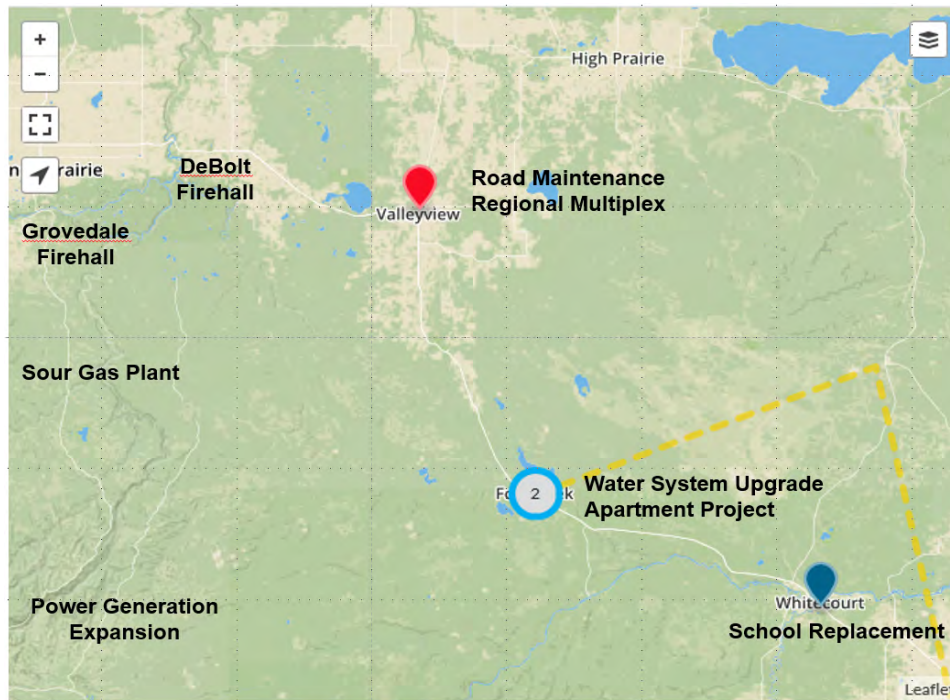


Figure 109 – Major Project – Whitecourt Area

PREDA

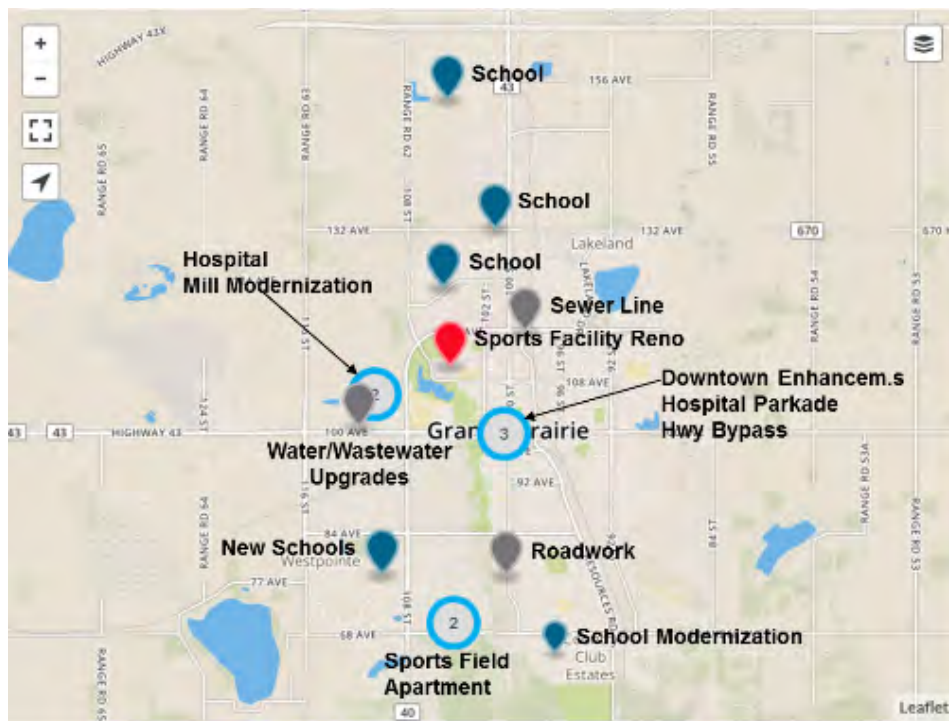


Figure 110 – Major Project – City of Grande Prairie



Figure 111 – Major Project – Grimshaw/Peace River Area

NOTE: Fibre network reference is to TELUS’s fibre optic installation.



Figure 112 – Major Project – City of Fort McMurray

12.7 Appendix G – Alberta Central East (ACE) Regional Water System

Member municipalities:

- County of Minburn
- County of Two Hills
- County of Vermilion River
- Town of Two Hills
- Town of Vermilion River
- Village of Dewberry
- Village of Innisfree
- Village of Kitscoty
- Village of Mannville
- Village of Marwayne
- Village of Myrnam
- Village of Paradise Valley
- Village of Willingdon

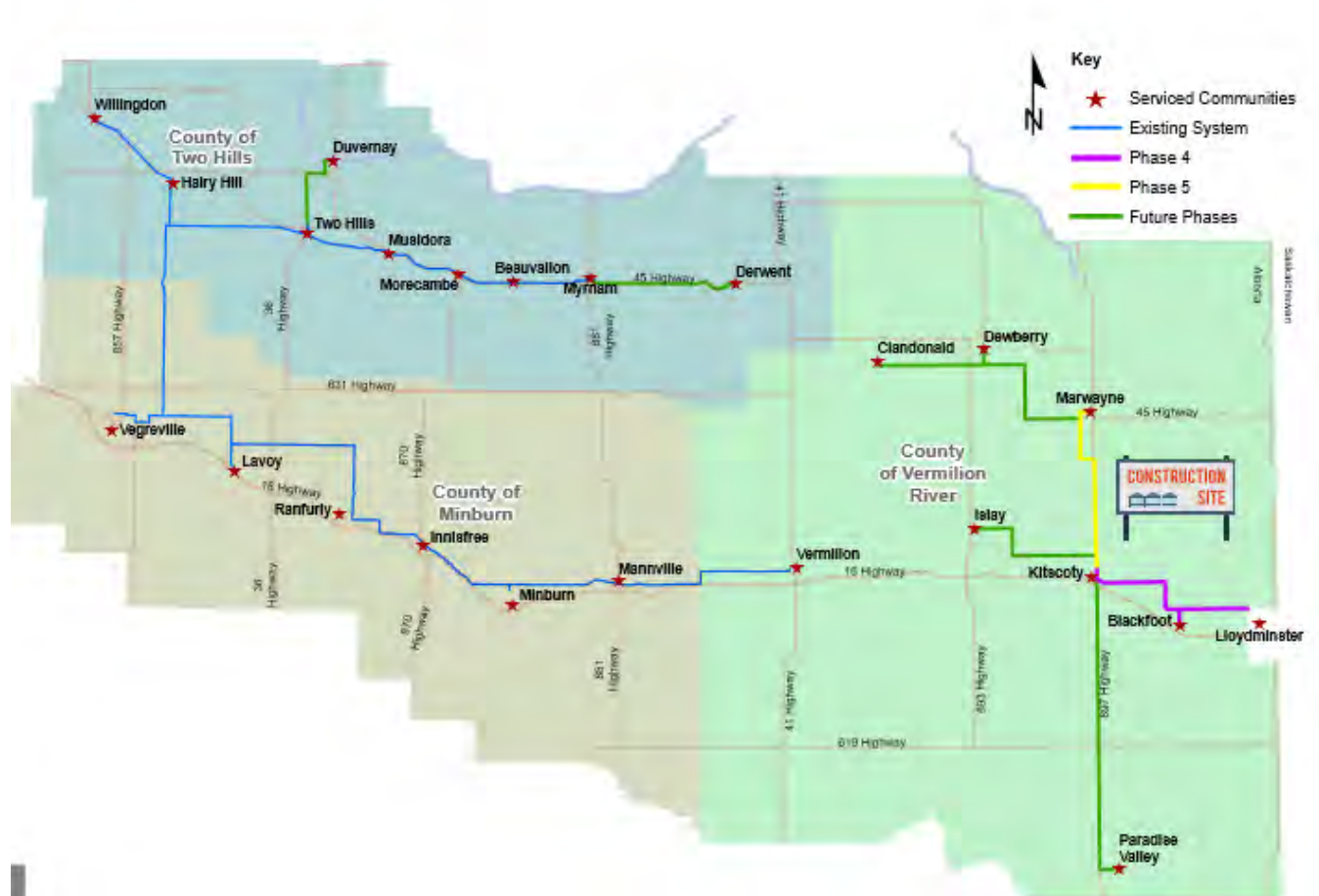


Figure 113 – ACE Regional Water System

12.8 Appendix H – Fort McMurray West 500 kV Transmission Line

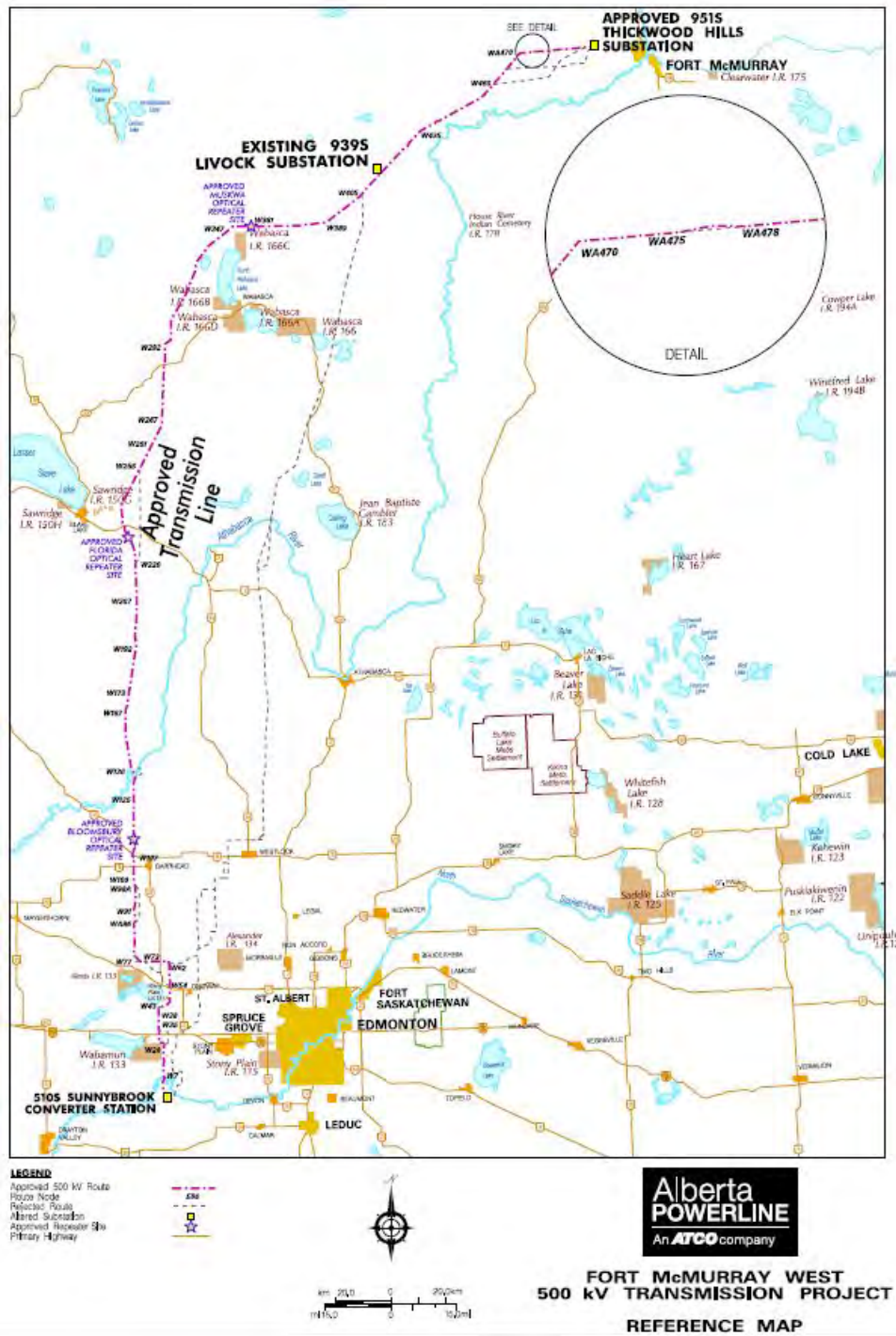
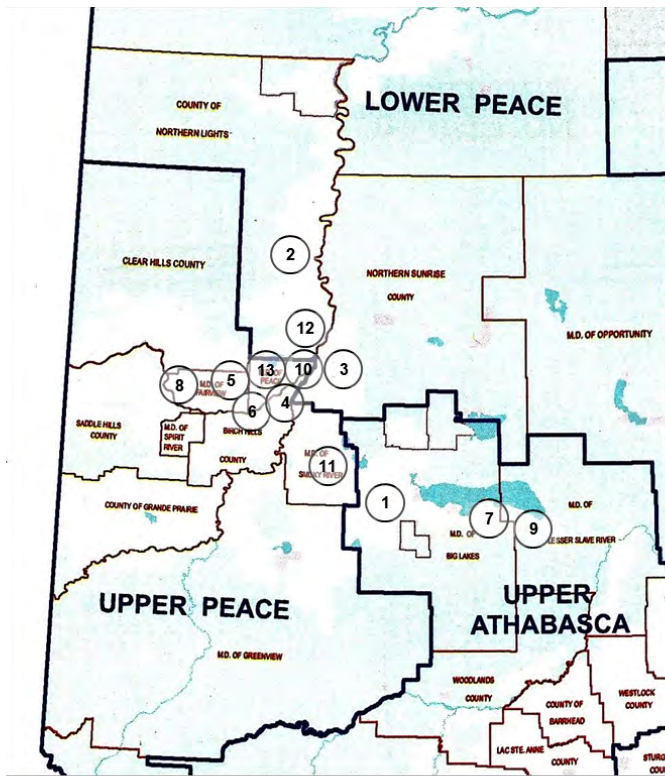


Figure 114 – Fort McMurray West 500 kV Transmission Line

12.9 Appendix I – Rural Water Co-ops' Service Areas



1. Big Meadow, Heart River, High Prairie East, North End, Northwest, Riverbend, Southside, West End
2. Northern Lights
3. East Peace
4. East Grimshaw
5. Fairview Rural Water Project Ltd.
6. Griffin Creek
7. Kinuso
8. Little Burnt River
9. Poplar Lane
10. Shaftesbury
11. Smoky River
12. Weberville
13. West Grimshaw

Figure 115 – Northwestern Alberta Rural Water Co-ops