

Developing Broadband Solutions for your Community

AUMA is advocating for the federal government and the province to address the critical lack of dependable and affordable broadband service that continues to affect many communities in Alberta. But what exactly is broadband, and how can a municipality best access and support its benefits?¹

Broadband is, above all, about connectivity – providing individuals, organizations and communities with a new range of service possibilities. Far more than just “fast internet,” broadband is increasingly being viewed as a basic service that brings a wide range of social, economic, educational and health benefits to municipalities of all sizes.

Broadband connection

Broadband connections come in two main types – wired (copper, cable, fibre) and wireless (wireless, satellite). Fibre is currently the fastest connection type, with upload/download speeds typically exceeding 1,000 megabits per second (Mbps). To put this in perspective, 1,000 Mbps is about 18,000 times faster than a traditional dial-up connection.



SuperNet

To understand broadband connectivity in Alberta it is important to also understand SuperNet – a fibre and wireless network designed to provide broadband connectivity to public institutions across the province, such as schools, hospitals and

government offices. Completed in 2005, SuperNet was a multi-million-dollar strategic infrastructure investment funded by the Government of Alberta and Bell Canada. The province invested in the rural portion of SuperNet

but the network itself is owned almost entirely by private sector telecommunications providers and leased back to the province.

(Continued on page 2)

¹ Some of the information provided in the article is derived from [Understanding Community Broadband: the Alberta Broadband Toolkit](https://sites.ualberta.ca/~digicom/) prepared by the University of Alberta and the Government of Alberta. For more information on this project, please visit <https://sites.ualberta.ca/~digicom/>



SuperNet

(Continued from page 1)

The lease grants the province exclusive use of the infrastructure until 2045 with a requirement that the province pay maintenance costs. SuperNet is currently managed and operated by the company Axia SuperNet Ltd., under contract to the Government of Alberta. With the SuperNet operating contract expiring in June 2018, the province is looking at how SuperNet might maintain and improve service for the public sector, while also determining what, if any,

role it will take in advancing the broadband needs of Albertans living in small and remote communities².

SuperNet provides one of the backbones of fibre infrastructure in the province, with numerous connection points where Internet Service Providers (ISPs) can tie into the network and deliver broadband service -- via local networks -- to homes and businesses in Alberta communities. The Government of Alberta set a base universal fee structure across the province, which means

that all ISPs can access the backbone fibre infrastructure at a monthly flat rate regardless of geographic location. In principle, this makes broadband more accessible; however, leveraging the benefits of broadband has proven challenging for communities that lack the local "last mile" infrastructure to connect to the SuperNet or any other broadband infrastructure. The high cost of such development has proven to be a major barrier for many communities.

Community-led opportunities

Some communities have found different ways to bring broadband service to their residents and businesses. The Town of Olds, for example, built its own fibre infrastructure, becoming the first community-owned and operated Fibre-to-the-Premises network in Canada. Olds' "last mile" infrastructure connects to the Calgary Internet Exchange

through "middle mile" fibre infrastructure that it leases from Shaw. Unable to find existing ISPs willing to provide service over their local infrastructure, Olds established [O-Net](#), an independent ISP that offers internet, telephone and television services to local residents. The connection speeds offered by Olds are among the best in the province,

with service packages ranging from \$90/month for 50 Mbps transfer speeds to \$125/month for 1,000 Mbps speeds³. The Olds model may not be the answer for everyone, but provides a great example of a community-driven solution for broadband connectivity.

² [Click here for a June 2016 Government of Alberta presentation on SuperNet, which includes more information about the contract renewal.](#)

³ <http://o-net.ca/internet/>



Broadband technology options

While fibre currently offers the fastest connectivity, more affordable broadband options such as wireless technology may be a better choice for some communities, particularly those with populations spread over large areas. It is also important to remember that each broadband connection type comes with its own set of considerations. For example, deploying fibre above ground (e.g., attaching it to community pole infrastructure) is significantly cheaper than laying it in trenches; however, trenched fibre is less prone to service disruptions. Choosing the right

broadband solution for your community will depend on many factors, including population, geography, topography, and local needs and desires. Before making any decisions, communities should engage with their residents and undertake a feasibility study to determine which mix of broadband infrastructure is best for them, and assess what role they would like the municipal government to play in developing the system.

To help alleviate the high costs of local broadband development, a growing number of

municipalities are signing contracts with private ISPs (e.g., Axia, TELUS) to build the “last mile” infrastructure that connects broadband to the community’s homes and businesses. Partnering with a private ISP is one way for underserved communities to gain access to the benefits of broadband connectivity. However, while this option can reduce costs in the short term, it may also reduce community control over broadband assets and limit the revenue potential that can come from locally-owned and operated infrastructure.

Regional opportunities

The challenges that many small communities face around broadband connectivity are often similar, which provides an opportunity to consider regional

broadband infrastructure models. Developing regional solutions aligns with the recent MGA amendments, which encourage intermunicipal collaboration in

service delivery. Regional approaches can be more efficient and cost effective, and may also allow for more control over valuable broadband assets.

CRTC Ruling

In December 2016 the Canadian Radio-television and Telecommunications Commission (CRTC) declared broadband internet a basic telecommunications service⁴. The move recognizes that well-devel-

oped broadband infrastructure is essential to help Canadians participate in the digital economy. The ruling sets new targets for internet service providers to offer customers in all parts of Canada

download speeds of at least 50 Mbps, upload speeds of at least 10 Mbps, and that the option of unlimited data must be offered.

⁴ [CRTC Decision on Broadband Internet](#)



Questions to Consider

There is no “one size fits all” solution for bringing broadband to communities. There are, however, important questions that municipalities should be asking themselves when deciding on a broadband solution. With private ISPs offering to build and operate the infrastructure to connect municipalities to broadband, we encourage communities to carefully consider any contractual arrangement and think both long-term and regionally about their broadband service needs. To support communities in the decision-making process, we have developed a list of questions that you may wish to ask or consider before signing a contract with a private ISP:

- Which ISPs are offering service to my community and what are their service track records? Are they offering service to all areas of my community? Are neighbouring communities receiving similar offers?
- Will the ISP own the broadband infrastructure now or at any point in the future? Is there opportunity to purchase the infrastructure from the ISP or can my municipality sign a first right of refusal agreement to purchase infrastructure?
- Does the contract provide flexibility to accommodate my community’s future broadband needs? For example, will the contract allow for increased local ownership and/or management of infrastructure over time?
- Does the contract allow for revenue-sharing agreements?
- Will the ISP sign a municipal access agreement?
- Will my municipality have ability or opportunity to determine the type and price of service offered?
- Does the contract allow for multiple ISPs to provide service at the same time over the broadband network? (Multiple ISPs often means better prices and choice for residents.)
- What infrastructure choices (e.g., fibre, wireless) is the ISP proposing and how do those choices fit with my community’s current and anticipated needs for upload and download speeds? Are the ISP’s suggested infrastructure developments suited to my community’s topography and population density?
- What are my neighbouring communities doing to address broadband challenges? Are there opportunities for us to develop a shared solution? For example, does the contract allow for neighbouring communities to connect to my community’s broadband infrastructure in the future?

Each municipality will have its own answers for these questions, and there are often trade-offs to be made when deciding on broadband solutions. We encourage you to consider the costs, benefits and risks of various options to help determine the approach that will best serve your community.