**Rural Communications – What is a Rural Municipality’s Role?**

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A Rural Broadband Round Table was held in Calgary, Alberta in 2008. The objective was to bring together the rural broadband stakeholders, such as wireless internet service providers, mobility providers, academic representatives, government personnel, information and communication technology (ICT) associations, First Nations, and rural municipalities[[1]](#footnote-1). It was assumed that by bringing together all the stakeholders that the rural broadband problem would be identified and this would provide the Alberta Government a framework for future rural broadband programs and initiatives. Among those attending the meeting was myself, Allan Bly, the president of ViTel Consulting as a volunteer director with the Alberta Council of Technologies (ABCTech). (www.abctech.ca)

ABCTech is a volunteer organization that advocates on behalf of Alberta’s technology-based enterprises, entrepreneurs, and industries for the creation of wealth in Alberta. ABCTech had initiated a research project on the status of rural broadband in Alberta and its impact on Alberta’s current and future economic development.

Also in attendance was the newly elected mayor of Parkland County[[2]](#footnote-2). Parkland County had recently issued a Request-For-Proposal (RFP) to complete a rural broadband study. ViTel Consulting was awarded the contract to complete the Parkland County Rural Broadband Study.

Parkland County and all the rural municipalities in Alberta are governed by provincial legislation that states that the purpose of rural municipalities is to provide services, facilities or other things that, in the opinion of council, are necessary or desirable for all or a part of the municipality. Traditionally these services have included utilities such as electricity, natural gas, water, and sewage. The capital funds to build the infrastructure to provide these services are provided to the rural municipalities through federal and provincial capital programs and grants. For example, each rural municipality is provided a yearly grant from the Alberta Provincial Government called the Municipal Sustainability Initiative (MSI). The MSI funds are used by each rural municipality for municipal infrastructure projects. Rural municipalities may also apply for additional capital funds for special projects such as water and sewage upgrades. Residential and business taxes are used to maintain and operate the services provided by the rural municipality.All rural municipalities face difficult choices as their economies evolve from dependence on agriculture and natural-resource-based industries to dependence on less traditional sources of income and employment such as light manufacturing and knowledge based businesses. In addition, a rural municipality often finds itself sandwiched between the growing demands for more services and continuous reductions in federal and provincial capital funding.

Upon completion of broadband study, ViTel Consulting informed the Parkland County council and administration that it is an “Economic Problem” and includes not just broadband communications, but all communications including broadband, mobility (cellular), and public safety (fire, police ambulance). Wireless service providers are unable to build and maintain wireless communication networks in rural areas where the population densities are too low to provide a sufficient Return-On-Investment (ROI) for the service provider. The Parkland County council recognized that reliable and sustainable rural communications is a basic requirement to sustain and improve the quality of life in the County. Reliable and financially sustainable rural communication networks are the enabler for future economic and community development, and will allow the residents and businesses to get access to e-commerce, e-government, e-health, and e-learning, resulting in better jobs, improved health care, and greater education opportunities.

Parkland County positions rural communications as a means for future economic diversification and building community capacity and considers it a key survival mechanism. Reliable, scalable, and financially sustainable communications is a basic requirement and service, and as a result has formally classified rural communications as a utility.

Many governments in the world have now recognized that communications is a utility, and as a result have implemented regulations and provided capital and operating funding to ensure that all communication services (broadband, mobility, public safety) are available to all residents and businesses. The term public utility refer to a set of services consumed by the public and traditionally have included electricity, natural gas, water, and sewage. It is essential that rural municipalities recognize that communications is a public utility and understand that their role in assisting private industry in removing the economic barriers to building reliable, scalable, and sustainable communication networks in rural areas.

In the attempt to identify and categorise a rural municipality’s role in the deployment of economically feasible rural communication networks in their communities, it is helpful to consider the circumstances of three blind men who happen upon an elephant in their journeys. The first man touches the elephant’s trunk and determines that he has stumbled upon a serpent. The second man touches one of the elephant’s massive legs and determines that the object is a large tree. The third man touches one of the elephant’s ears and determines that he has stumbled upon a huge bird. All three of the men envision different things because each man has examined only a small part of the elephant. In this case, think of the elephant as the rural municipality’s role in solving the rural communications economic problem. Rural municipalities will understand the problem differently and as a result see their role differently.

As any other utility the rural municipality must develop a three to five year strategy that includes broadband, mobility, and public safety communications. The strategy selected by the municipality is dependent on three factors:

1. The type of communications coverage, broadband, mobility, public safety does the municipality want to ensure there is adequate coverage and capacity.
2. The readiness to partner with private industry to build and operate a communications network.
3. The access to capital and operating funds to invest in a communications network.

Based on the three factors the rural municipality must select a strategy that fits their community. There are three basic rural communication strategies: (1) Status Quo, (2) Preferred Partner, and (3) Utility Communications.

**1. Status Quo Strategy**

Municipality allows the market forces to provide communications coverage. Multiple providers compete for market share.

**Advantages:**

* No additional municipal resources are required.
* No capital investment required by the municipality.

**Disadvantages:**

* Traditionally providers will provide coverage only in higher density areas.
* Each provider designs and builds separate single purpose communication towers resulting in multiple towers close to high density areas.

Most of the Alberta rural municipalities have by default selected the status quo strategy. The rural municipality may be aware that there are rural communication coverage and capacity issues and may have classified it as a utility, but has decided to let the wireless service providers determine how to build and maintain the communication networks within their community.

**2. Preferred Partner Strategy**

Municipality selects a preferred partner to provide rural communications coverage. The partner is subsidized by the rural municipality and is responsible for building and operating the communications network(s).

**Advantages:**

* Reduces the partner’s capital investment improving their overall cash flow.

**Disadvantages:**

* Traditionally the preferred partner provides only one of the three rural communication services such as broadband, mobility, and public safety.
* Reduces market forces which may ultimately increase monthly costs to the residents.
* Preferred partner may have to receive ongoing capital funding to maintain profitable.
* Ownership of the network infrastructure may eventually transfer from the rural municipality to the partner which does not provide the rural municipality a long term asset.

Several Alberta rural municipalities have selected the preferred partner strategy with Wireless Internet Service Providers (WISPs) including Brazeau County, Strathcona County, Camrose County, and Wetaskiwin County. The rural municipality works with and may subsidize the preferred partner to ensure that there is adequate broadband coverage in the area.

Northern Sunrise County has identified that mobility coverage is high priority and as a result has partnered with TELUS Communications to build one or more mobility towers to improve mobility coverage and capacity

The preferred partner strategy is generally a good first step for a rural municipality. The municipality has classified that either broadband, mobility, and public safety is a utility and as a result invested capital funds to improve rural communications coverage.

**3. Utility Communications Strategy**

The Utility Communications strategy is similar to constructing a roadway system. The strategy recognizes that communications is a “Utility”, and a critical component of the municipality’s infrastructure. The municipality builds the infrastructure, contracts out its operation, and leases tower space to broadband, mobility and public safety wireless providers. This network supports the full range of communications services, including: broadband, mobility, and public safety communications. This strategy is sustained by collecting collocation revenue from multiple wireless providers that collocate on utility-grade towers.

**Advantages:**

* Supports all communications including broadband, mobility, and public safety.
* Enhances market forces and will ultimately improve services and reduce costs.
* Collocation revenue will subsidize the network’s monthly operating costs.
* Municipality controls which areas get a higher priority.
* The network is open access and technology neutral, which allows the municipality to take

advantage of any emerging technologies that may ultimately reduce costs and improve

coverage and capacity.

**Disadvantages:**

* More complex implementation than the other strategies.
* Requires ongoing municipal resources to manage the utility-grade towers.

Alberta rural municipalities including Parkland County, Leduc County, Lac Ste. Anne County, Saddle Hills County, Lacombe County, and Clearwater County have selected the utility strategy and are either building or planning to build municipal owned utility communication towers. A utility communications network is typically built over a five to ten year period and is dependent on available infrastructure-based capital funds.

ViTel Consulting recommended that Parkland County build and operate a utility communications network. The Parkland County Utility Communications Network will have nineteen (19) utility grade communications towers operational by June 2013. Each tower is a thirty year municipal asset, and is designed to support broadband, mobility, and public safety wireless service providers. When completed it will be the largest utility communications network in the world.



Parkland County received both federal and provincial capital funding to build the utility towers west of and including the Duffield tower. The towers east of Duffield have been funded using the County’s Municipal Sustainability Initiative (MSI) fund. The ongoing operating costs will be recovered by monthly collocation fees paid by the broadband, mobility, and public safety wireless providers. The network will be cash flow positive in 3 to 5 years.

**Summary**

Implementing an open access utility network will maintain competition in high density areas, ensure that medium to low density areas receive adequate service, will give residences and businesses a choice in communication services, and will ensure that communication services are able to meet the rural community's current and future coverage and capacity requirements.

A utility network provides the means for a rural municipality to grow a knowledge workforce that creates economic value through acquisition, processing and use of information. A knowledgeable workforce supports community development initiatives that help rural communities remove barriers to community development and economic growth.

The Parkland County utility network will enable its residents and businesses the ability to understand how to leverage communications to improve their lifestyle and initiate economic initiatives. The end result is a revitalized rural community that is better for the people who live and work in them. Rural municipalities play a key role in solving the knowledge divide problem by identifying new skills, developing training and learning programs, and delivering training to the community.

1. Alberta rural municipalities include Counties, Specialized Municipalities, Special Areas, Improvement Districts, Towns, Villages, Summer Villages, and Hamlets. [↑](#footnote-ref-1)
2. Parkland County is located on the western outskirts of Edmonton, Alberta, and extends approximately 80km to the Pembina River. The southern boundary is marked by the North Saskatchewan River, while the northern boundary separates Parkland County from Lac Ste. Anne and Sturgeon Counties. [↑](#footnote-ref-2)