13 Conclusions

Whereas wealth creation in the industrial era required significant physical resources, access to raw materials, manpower, and efficient transportation, wealth creation in knowledge-based economies is largely independent of place, local resources, and physical assets. In contrast, wealth now arises from human ingenuity, intellectual property, and novel business models. With growth and development timeframes in the new economy largely unconstrained by the building of physical infrastructure and the movement of goods and services, knowledge-based businesses often grow exponentially. As a foundational cornerstone of these emerging systems of wealth creation, access to information and communications technology has become critical to sustainable economic development in virtually every community and society on the planet.

To accommodate both present and future economic development needs, facilitate full citizen inclusion, and help eliminate any digital divides within the REDI region, regionally- or municipally-driven, utility-based, fibre-to-the-premise deployments capable of enabling symmetric access up to and beyond 1 Gb/s to all are recommended. The hybrid fibre wireless infrastructure suggested will cost-effectively scale to meet all future bandwidth requirements, minimize cost to all potential clients, and enable the region to maintain control of critical civic infrastructure.

The financial sustainability of stand-alone urban utility fibre operations is largely a function of size and the options a community decides to go with. In general, centres with populations of 4-5 thousand or greater can do what they wish. Smaller communities are typically more constrained and will require access to grant funding or other communities to partner with to make things work.

Figure 182 provides a view of the rural and urban populations and densities for each MD and county in the northern Alberta study region.

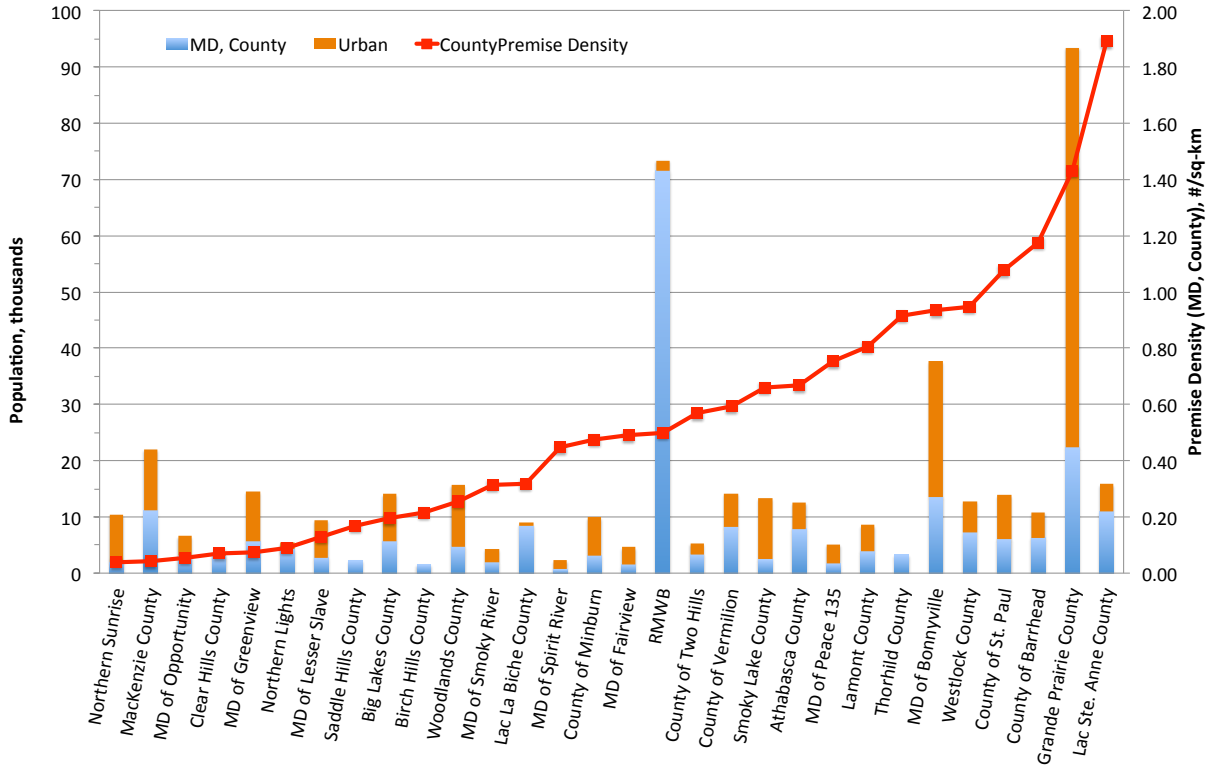

Figure 182 – Population and premise densities in northern Alberta.

The blue bars show the population of each MD or county and the orange bars, the aggregate population in the urban areas (cities, towns, and villages). Red squares show the rural premise density within each MD and county. In general, the larger the rural population and the lower the density, the more expensive a fibre deployment will be and the more difficult it will be to produce a financially sustainable operation. Should larger population centres (orange) be present in the area and partner with the MD or county, the increased operational scale will help ensure a sustainable operation for both.

The financials developed for Big Lakes County and the VRRA indicate that regional utility-based fibre networks are possible and would be sustainable in those counties over the longer term. The results bold well for MDs and counties with similar or higher density characteristics, rural populations concentrated in smaller areas of the MD or county, and several urban centres with similar or larger aggregate populations. Without grant funding or aerial deployments, those with both lower densities and fewer population centres will need to rely more on wireless and hybrid fibre/wireless solutions.

Through this work, REDA members (and non-members) are now in a better position to weigh their options and select those that best align with each's vision for the future of their area. Enhancing broadband has the potential to set the stage to dramatically and positively impact the fabric of life throughout the region by helping to enable exceptional network services; learn-in-place, work-in-place, and age-in-place opportunities for all generations; innovation and diversification in every economic sector; and positioning the region's brand as dynamic, progressive and relevant to the future.

14 Next Steps

This document provides a starting place for communities, sub-regions, and regions across northern Alberta looking to enhance the availability and quality of broadband services in their areas. A range of options, from staying with the status quo, to negotiating with private enterprise, to establishing a fibre utility are presented and discussed. For the latter options, illustrative financials are presented.

While regional and municipal options do involve more responsibilities and risks than simply transferring control to private enterprise, they come with significant advantages. As well, to manage the level of their involvement, close to turn-key options do exist and can be easily incorporated into regional, sub-regional, and community deployment programs – once the community has decided upon the business and governance structure, operational arrangements, and financing.

Some areas, such as Big Lakes County and the Vermilion River Regional Alliance have already chosen a direction and are evaluating their direction further. The initial next step for those communities not there yet, is to work with key stakeholders and determine if something beyond the status quo is required and, if so, which of the many options available to enhance broadband infrastructure, is most appropriate. Once consensus on a direction has been reached, the direction will need to be verified based on negotiation, feasibility studies, or businesses case development as appropriate.

Whether or not cities, towns, villages, First Nation communities, Métis settlements, counties and MDs elect to move (or, for those that already are, continue moving) forward with broadband now or not, in order to position for future broadband planning and expansion, the following interim straightforward and inexpensive approaches to enabling significant future cost-savings should be considered:

Municipal Planning:

- Work with your community, sub-region, or REDA to leverage planning/policy and financial resources;
- Develop a Broadband Services Strategic plan specific to your community;
- Embed fibre network requirements in internal IT planning processes; and
- Accelerate currently planned IT infrastructure deployment.

Leverage Planned Civil Works: