



In requirement of the Ontario Economic Development Conference White Paper Competition and Professor Frank Miele Assessment, the following will discuss

How to use Technology to benefit Businesses in Canadian Rural Municipalities

Economic Development PAD 270
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Thursday April 19, 2018

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Abstract

This paper examines the lack of technological advancement in rural communities, specifically in its relation to local small businesses. The purpose of the research is equip local economic developers in small and rural communities with the tools to enhance local businesses through greater implementation of technology. Moreover, primary and secondary research was used to gather research. Compared to its urban counterpart, rural municipalities are facing great difficulty in attracting and retaining businesses due to lack of or poor quality access to internet. This paper encompasses the importance of broadband internet to Canada as whole because as a society we are connected online more than before. Furthermore, having the ability to connect with individuals across greater geography will allow small businesses in small and rural communities to reach greater audiences and thrive. The paper measures success based on a community and business's ability to adopt and adapt to technological advancements. In addition, recommendations are offered on how to integrate technology into rural businesses to ensure there is equal opportunity for success for all Ontarian despite geographic location. All recommendations provided however hold no value if broadband internet access is not available, it is imperative for businesses, communities and all levels of government to invest in rural areas and ensure that broadband is deemed an essential service.

Introduction

There is a digital divide between urban and rural areas within Canada. This divide is creating extreme loss of opportunity and growth for these areas. As broadband internet has become an essential right, it is of increasing importance to ensure each municipality is giving the right resources to continue to grow and innovate. The research conducted is in effort to determine best suitable practices to help businesses in rural communities with the use of technology.

The group experienced limitations regarding best practices from rural community members. At the annual EDCO conference, round table discussions were facilitated to gain understanding of the issue and how individuals and communities are dealing with technology or lack thereof was revealed. However, much of the conversation focused on the issue to what was wrong but little offered how others are resolving the issue of technology in rural communities, specifically as a tool for success for small businesses.

Methodology

Research was conducted through a series of primary and secondary research. A large portion of our findings were uncovered through scholarly literature reviews as well as articles which assisted in background knowledge and statistics of data. Alongside literary reviews, primary research was conducted through round-table discussion facilitated with the Ontario Economic Development Conference. This facilitated discussion allowed opportunity for a question and answer period with leading economic development professionals throughout Ontario. This experience allowed us with the opportunity to fully understand challenges faced with professionals in the area who are currently working on solutions to combat these concerns. This process added an application based approach to our already existing research.

Results/Findings

Broadband availability at a glance

Download speed (Mbps)	Large population centers	Medium population centres	Small population centres	Rural areas	HSPA+ and LTE
1.5-4.9	100%	100%	100%	87%	11%
5-9.9	100%	100%	99%	75%	11%
10-15.9	99%	98%	93%	37%	0%
16-24.9	99%	98%	88%	32%	0%
25-29.9	99%	97%	83%	29%	0%
30-49.9	99%	96%	80%	28%	0%
50-99.9	97%	95%	73%	26%	0%
100+	96%	93%	69%	25%	0%
Source: Industry Canada and CRTC data collection					

Small population centres: 1,000 and 29,000.
Medium population centres: 30,000 and 99,999
Large population centres: greater than 100,000
Rural areas: less than 1,000 or fewer than 400 people per square kilometre.

Figure 1: (CIRA 2016) This chart captures broadband availability across the country. The chart divides Canada into four regions: Large population, Medium population, Small population and Rural areas. Despite Canada being a fairly interactive and connected country, rural areas disproportionately have lower download speeds than the rest of population centres.

Region	Download speed (average Mbps)*	Upload speed (average Mbps)*
National	18.86	7.26
Urban	19.80	7.66
Rural	14.81	5.96
*Data is from April 2016. It is important to note that since this data is crowdsourced, it includes only users with some connection speed and the distribution of the sample is not perfectly random.		

Figure 2: (CIRA 2016) this chart further displays the disparities between urban and rural communities based on their download and upload speed.

**Population, urban and rural, by province and territory
(Ontario)**

	Population	Urban	Rural	Urban	Rural
	number			% of total population	
Ont.					
1851	952,004	133,463	818,541	14	86
1861	1,396,091	258,192	1,137,899	18	82
1871	1,620,851	355,997	1,264,854	22	78
1881	1,926,922	575,848	1,351,074	30	70
1891	2,114,321	818,998	1,295,323	39	61
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1911	2,527,292	1,328,489	1,198,803	53	47
1921	2,933,662	1,706,632	1,227,030	58	42
1931	3,431,683	2,095,992	1,335,691	61	39
1941	3,787,655	2,338,633	1,449,022	62	38
1951	4,597,542	3,251,099	1,346,443	71	29
1956	5,404,933	4,102,919	1,302,014	76	24
1961	6,236,092	4,823,529	1,412,563	77	23
1966	6,960,870	5,593,440	1,367,430	80	20
1971	7,703,105	6,343,630	1,359,480	82	18
1976	8,264,465	6,708,520	1,555,945	81	19
1981	8,625,107	7,047,032	1,578,075	82	18
1986	9,101,695	7,469,420	1,632,275	82	18
1991	10,084,885	8,253,842	1,831,043	82	18
1996	10,753,573	8,958,741	1,794,832	83	17
2001	11,410,046	9,662,547	1,747,499	85	15
2006	12,160,282	10,351,135	1,809,147	85	15
2011	12,851,821	11,045,785	1,806,036	86	14

Notes:
Starting with the 2011 Census, the term 'population centre' replaces the term 'urban area'. For more information, please see the note titled, [From urban areas to population centres](#), available on our website, explains the new terminology and classification of population centres.
The rural population for 1981 to 2011 refers to persons living outside centres with a population of 1,000 AND outside areas with 400 persons per square kilometre. Previous to 1981, the definitions differed slightly but consistently referred to populations outside centres of 1,000 population.
Source: Statistics Canada, 2011 Census of Population.

Figure 3: (Statistics Canada 2011)

The following chart outlines population divides between both Urban and Rural areas. As presented, population has dramatically increased in Urban areas and has created a substantial population gap between the two demographics. This data presented in this table are presented in an effort to better present current population divides as well as provide context to our findings on technologies benefits to rural areas. Comparing these two demographics better supports many of our claims of population density which are to be further explained.

Discussion

The technological divide between urban and rural areas is far greater than many are aware. With urban areas offering Wi-Fi in almost every corner available, it becomes hard to imagine locations without such privileges. Technology alone has progressed and led to the continuous growth and innovation of some of our leading areas. As we are moving towards a digital ara, it becomes increasingly more important for all to utilise the tools available to perform to similar capacities. With Reference to Figure 1, population density differences between urban and rural areas within Canada differ by a population of roughly 10,000 people (Statistics Canada 2011). These differences in population density affect technological opportunities in these lesser populated regions.

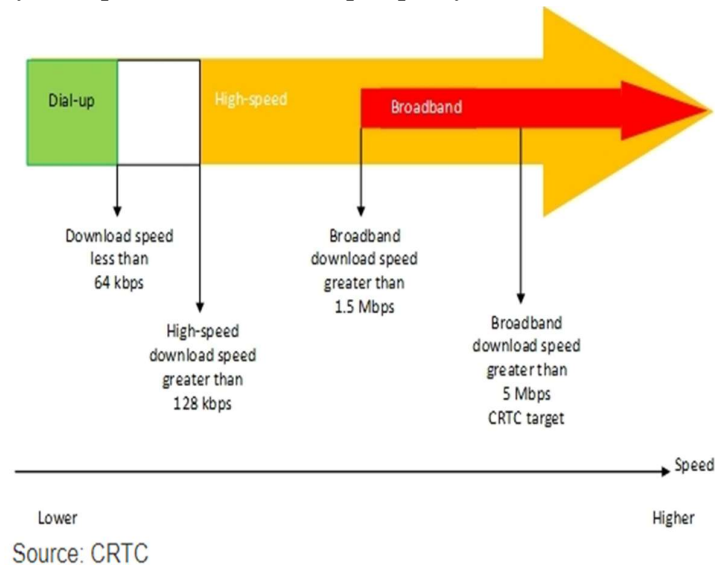
The first step in maximizing the potential use of technology is to ensure access to internet services. The issue of broadband has been evident for years and is the main reason for large urban and rural digital divides. Internet in rural communities has been referred to as spotty at best for many Northern communities in Canada and is causing great obstacles (Pringle 2017). Broadband is currently defined by the speed of internet, 25 mbps down and 3 mbps up (Singleton 2015). These speeds could be the difference between usable and non-usable technology. If internet is so slow that it cannot perform basic functions, and can hinder the growth of a community.

Broadband is said to have the ability to improve the economic prosperity of a rural community by increasing income, lowering

unemployment, and creating jobs (Whitacre 2018). "The future of our economy, our prosperity and our society — indeed, the future of every citizen — requires us to set ambitious goals, and to get on with connecting all Canadians for the 21st century," (Kupfer 2016) Unfortunately,

Broadband is not available everywhere because of the cost to do so. It is more efficient to

install new communication lines in areas with higher densities because there are more people per square kilometre. In urban areas, communications lines typically have 2,000 individuals within a square kilometre, which could be contradictory to the possibility of as low as 10 individuals per square kilometre in a rural area. Older communication wires were made of copper, which for many urban areas has been changed, although for rural areas this creates communication distance limitations. To reach these wide areas, many rural areas require access multipliers which cost rural customers more money. Overall, urban areas have a higher concentration of individuals per square kilometre, due to this they have access to better internet which can be sold at lower prices due to the population density. Rural areas have less people per square kilometre, and therefore worse internet service and have to pay more for their underperforming service due to their low population density (Whitacre 2018).



Technology adds opportunity to advance existing businesses and products and provides room for future development. In firstly understanding how technology could improve businesses and what technologies are available, can greatly affect the success of applying these new business strategies. An understanding of e-knowledge is required before a municipality could better their economic situation with the use of technology. Understanding technologies and the potentials of certain technologies for existing or new businesses and projects is a major component for future technological growth. Even if the issue of broadband is addressed, there

will continue to be a digital divide without proper e-knowledge. Many municipalities are beginning to recognize these gaps and addressing this lack of awareness through workshops. There are a variety of ways to foster an environment that encourages e-learning, a few suggestions are through online-based learning practices and workshops. Among the many, Google offers a variety of tools to assist local businesses gain digital knowledge. There is a particular program entitled, Get Your Business Online, which is a partnership based program run by Google and registered communities that helps to educate locals and business owners on how to better enhance their businesses through technology. Workshops are undertaken in local communities and partnered with Google to provide in-person interactions, helpful tips, and strategies to grow. These opportunities allow for personable interactions and foster both personal business growth and overall economic development within a community. Google also offers a multitude of other educational opportunities from online e-knowledge certifications in a variety of technology related fields, as well as opportunities such as Grow with Google which are much like the workshops, although they host international events targeted to spreading e-knowledge. These technology coaching tools are excellent ways to begin discussing the possibility of technological innovations and making those possibilities more realistic for rural areas.

Once e-knowledge is established it's important to re-evaluate your business and understand your niche. In doing this and better understanding the businesses mission, target audience, and strong points, it is easier to establish which technologies best work for an organization. Websites, online-stores, as well as social media are all great tools to market an existing or new business through the use of technology. Understanding what there is to offer and who you are attracting makes finding the right technology for your personal business easier. For instance, a baker might consider creating a website, facebook, and instagram as opposed to a twitter or blog. A baker's main attraction is their baked goods, so showcasing those through photos is key. There is less focus on dialogue based messages, like tweets through twitter, as it is not showcasing the businesses strongest asset, its baked goods. Using technology tools such as these to showcase images, events, and post about upcoming news or events positively affects business.

After there is a re-evaluation and understanding of which technology tools best work for your business one can then implement optimization tools to better their online productivity. Firstly a business requires clients. There are three effective ways to optimize online traffic and business awareness which include:

1. Paid Advertisements

Paid Advertisements can help get a business's technology outlets recognized faster and to a wider audience. Paid Advertisements could be used on a variety of social media sites as well as larger technology sites such as Google. This method may cost money, although can help bring awareness to a company and its technology outlets at faster rates than self-marketing alone.

2. Search Engine Optimization (SEO)

Search Engine Optimization is an excellent tool to ensure customers find you faster. When searching for a product or service your company can be one of the first seen with using keywords for search optimization that will allow a customer to link key services or products to your corporation faster.

3. Contests and Giveaways

Contests and Giveaways are another way to get your business recognized sooner and to a wider audience. Contests and Giveaways entice others to further look into your corporation. Things such as Groupon packages or deals are also ways to use special packages to promote your business. These marketing tools are used to first draw a customer in for the deal, and then to keep them there with exceptional customer service and a good product or service.

All of these tools help spread your message and ultimately increases one's customer base.

Once you have their attention you need to keep it. After all you're work getting online customers you want to keep them, ways to do this is through:

- **Keeping it Personable**

Keeping it personable is important to all businesses no matter the size. With regards to smaller rural communities, keeping a personable touch allows for an extended customer relations online. Adding things like the large chain Indigo has, marking CEO Heather's Choice on all recommended products keeps a sense of personalization even within a large chain.

- **Looking Professional**

Another component to keeping online attention is through looking professional. If you are unable to make a website, pay to get a website made properly. Keep your online tools looking professional and approachable. This is especially important for businesses who want to also promote online sales, if the site does not appear professional or legitimate, others will be sceptical to invest their money in your company, or worse, they could question the legitimacy of your business or products/service.

- **Showing you're trusted**

Adding personalized touches such as commentary from other customer's experiences or areas where customers could interact and ask questions shows a level of trust in the product or service. Hearing about the quality service from an actual customer who has used a business's products or service makes it easier to trust the company.

- **Proving Web Security**

This mainly applies to businesses with online sale options, but essentially this is an extension of promoting customer trust while online. Proving web security through enforced messages and notes letting the customer know they will be using trusted web security or that they will be moved to a web secure site will help reassure them before they make their online purchase.

- **Mitigating Customer Risk**

Lastly, mitigating customer risk is an important factor in keeping customer trust. For instance, if shipping is not free to all areas, disclose that information. Customers want to know about small factors that could appear later. Disclosing this will again reinforce trust between the business and the customer. Others ways to continue to draw in customers as well as keep your customers coming back are through tools like:

- **Email marketing**

Email marketing is a great way to keep customers and make them aware of upcoming deals or events. Email marketing is a great tool when used properly, a overuse or underuse of this tool could make it a nuisance to customers or unimportant. Finding a balance of when to use this tactic and what works for your customer base is important.

- **Free Wi-Fi**

In-store tips to draw customers in using technology is through Wi-Fi. Offering free Wi-Fi increases the chance of individuals entering your business, internet is important and many are attracted to the idea of Wi-Fi while they shop.

- **Increased Mobile Options**

Increased Mobile Options is a great way to bring technology into your business. These methods could be through reusable payable card, loyalty card, or payment through mobile device. These methods expand opportunity for your business and create more incentive for an individual to use your business as it creates user-friendly and faster alternatives to paying or gaining points.

- **Bringing Technology to Stores**

Another great way to promote technology is to incorporate it into stores. Placing an iPad or Computer in stores that allows individuals to see or use your other technology outlets such as websites etc help create a link between the in-store and the online and creates more opportunities for increased feedback.

An important thing to remember is that many of these tools do not work unless you work. It is not enough to make a website one time and to never update it, or to make a social media account and to never post content. Constant contact and news for customers helps keep your business relevant and in their minds and continues to promote new and existing customer relations.

Closing this gap and improving the technological possibilities for rural municipalities. Firstly, The possibilities of broadband have been recognized by the Canadian Radio-Television and Telecommunications Commission (CRTC) who declare broadband internet an essential service (Pringle 2017). In declaring broadband essential, it stresses its importance to community development and creates more incentive to provide these services to municipalities across areas. "The whole idea of just formally including broadband internet into the concept of basic service is a really important milestone" (Kupfer 2016).

In an effort to alleviate financial pressures of rural municipalities while continuing to promote broadband services as essential, the Canadian Radio-Television and Telecommunications Commission (CRTC) has created a program so that internet providers pay into a fund that is proposed to grow to \$750 million within 5 year. This money is being accumulated to provide these services to rural municipalities to ensure all have access to broadband internet.

To combat the broadband access problem faced within much of Rural Canada, many municipalities are taking it upon themselves to provide their own form of internet, this process is referred to as Municipal Broadband. Municipal Broadband is public internet provided by the community to its residents. A municipality does not have to become an Internet Service Provider for this to occur, they must simply build a network and then allow other companies to sell services over it. As well, this is something that can be accomplished without raising taxes. As seen in Olds, Alberta, the profits from their municipal broadband, O'Net, were projected to completely pay off the communities loans from the government within ten years due to the flourishing business of the municipality. Another thing to consider is looking for dark fibres, areas where infrastructure is built but not used and update and sell internet from there. This process saves money and time while bringing efforts to get broadband internet. Places in Canada already employing this method include Olds Alberta, Stratford Ontario, Coquitlam British Columbia, and some parts of Eastern Ontario. Some of rural Canada has already been taking steps to close the digital divide and taken the responsibility of internet access into their own hands.

Business Retention and Expansion Plans have been ways to examine and improve the economic state for many municipalities for quite some time. Mixing these tactics with innovative technology to better equip businesses with the tools and knowledge they need to enhance their businesses are steps that need to be done in our technology era. Providing webinars and workshops are just some of the ways Municipalities have begun to incorporate technology into their economic development and growth of local businesses.

Conclusion and Recommendations

After much research it has been discovered that in order to use technology to better rural businesses and rural economies there first has to be access to broadband internet. Once the obstacles of gaining access to broadband internet are surpassed, there has to be stressed importance on e-knowledge as access to even the greatest tools cannot be optimized if there is not an understanding of them. Lastly, once these measures are taken into place, we offer

several recommendations for businesses in rural communities to best increase business and overall economic development of the municipality through technological tools and tips.

To better advance rural businesses and economy with technology we recommend:

1. Gaining access to broadband internet a priority for all municipalities.
 - a. We recommend looking into possibilities of municipal broadband for a more affordable long-term process.
2. Municipalities utilize e-learning tools such as Google workshops and webinars.
3. There be emphasis on Business Expansion and Retention Plans that incorporate e-knowledge
 - a. That e-knowledge would include tips to better maximize technological use, through appropriate online sites and tools.

Appendix

Population, urban and rural, by province and territory (Ontario)

	Population	Urban	Rural	Urban	Rural
	number			% of total population	
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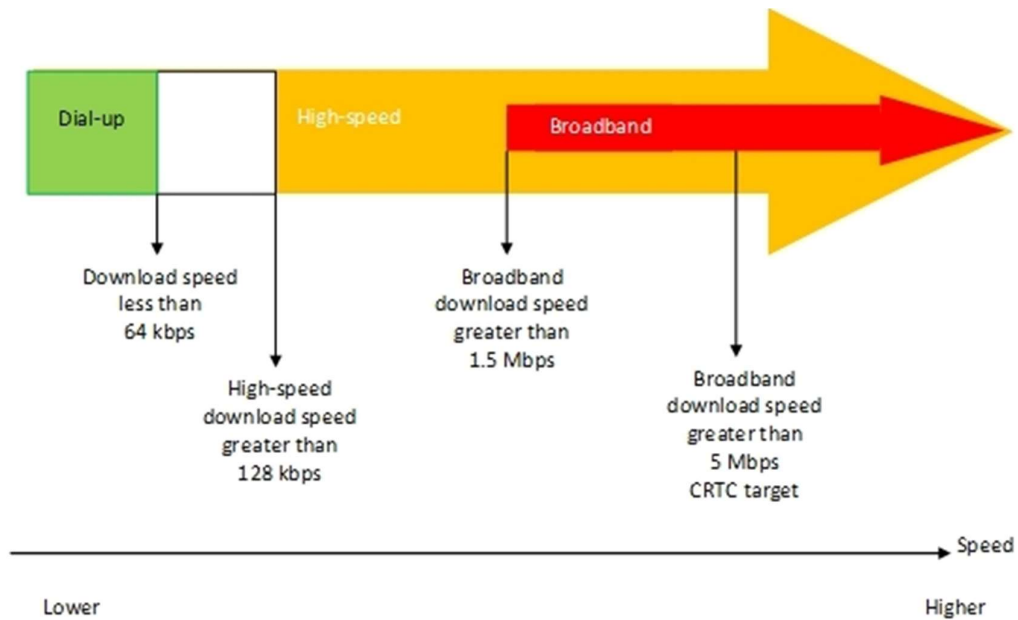
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Source: Statistics Canada, 2011 Census of Population.

Figure 1: (Statistics Canada 2011) This table compares the population of Urban and Rural areas within Canada between the years of 1851 to 2011.

Population by type of community within each census division, Ontario, 2011											
			*** Total population by type of community ***								
Census Division ID	Name of Census Division ranked by percent non-metro	Total population, 2011	Metro (CMA)	Non-metro (non-CMA)						Percent non-metro (i.e. percent of population residing in a CSD that is outside a CMA)	
				Non-metro (non-CMA) (subtotal)	Census agglomerations (CAs)	Rural and small town areas					
						Rural and small town (subtotal)	Strong MIZ	Moderate MIZ	Weak MIZ	No MIZ	
Metro census divisions											
3506	Ottawa	883,391	883,391	-	-	-	-	-	-	-	0
3519	York	1,032,524	1,032,524	-	-	-	-	-	-	-	0
3520	Toronto	2,615,060	2,615,060	-	-	-	-	-	-	-	0
3521	Peel	1,296,814	1,296,814	-	-	-	-	-	-	-	0
3524	Halton	501,669	501,669	-	-	-	-	-	-	-	0
3525	Hamilton	519,949	519,949	-	-	-	-	-	-	-	0
3553	Greater Sudbury	160,376	160,376	-	-	-	-	-	-	-	0
3529	Brant	136,035	135,501	534	-	534	-	534	-	-	0
Partially-non-metro census divisions											
3526	Niagara	431,346	417,509	13,837	-	13,837	13,837	-	-	-	3
3510	Frontenac	149,738	143,340	6,398	-	6,398	-	6,398	-	-	4
3539	Middlesex	439,151	419,644	19,507	-	19,507	16,856	1,369	-	1,282	4
3518	Durham	608,124	575,121	33,003	-	33,003	32,910	-	-	93	5
3530	Waterloo	507,096	477,160	29,936	-	29,936	29,936	-	-	-	6
3515	Peterborough	134,933	118,975	15,958	-	15,958	9,146	6,812	-	-	12
3558	Thunder Bay	146,057	121,596	24,461	-	24,461	5,909	3,145	13,906	1,501	17
3537	Essex	388,782	319,246	69,536	49,765	19,771	19,600	171	-	-	18
3523	Wellington	208,360	141,097	67,263	26,693	40,570	10,770	29,800	-	-	32
3534	Elgin	87,461	55,142	32,319	-	32,319	27,162	5,157	-	-	37
3522	Dufferin	56,881	35,521	21,360	-	21,360	21,360	-	-	-	38
3543	Simcoe	446,063	245,324	200,739	95,391	105,348	104,066	1,249	-	33	45
3502	Prescott and Russell	85,381	38,432	46,949	10,551	36,398	36,398	-	-	-	55
3511	Lennox and Addington	41,824	16,221	25,603	-	25,603	7,560	18,043	-	-	61
Non-metro census divisions											
3552	Sudbury	21,196	394	20,802	-	20,802	5,885	12,414	2,309	194	98
3501	Stormont, Dundas and Glengarry	111,164	-	111,164	58,957	52,207	31,162	21,045	-	-	100
3507	Leeds and Grenville	99,306	-	99,306	39,024	60,282	30,160	30,122	-	-	100
3509	Lanark	65,667	-	65,667	-	65,667	29,180	36,487	-	-	100
3512	Hastings	134,934	-	134,934	92,540	42,394	26,223	8,317	5,348	2,506	100
3513	Prince Edward	25,258	-	25,258	-	25,258	-	25,258	-	-	100
3514	Northumberland	82,126	-	82,126	34,733	47,393	23,392	24,001	-	-	100
3516	Kawartha Lakes	73,214	-	73,214	73,214	-	-	-	-	-	100
3528	Haldimand-Norfolk	109,118	-	109,118	63,175	45,943	44,876	-	-	1,067	100
3531	Perth	75,112	-	75,112	30,886	44,226	16,021	28,205	-	-	100
3532	Oxford	105,719	-	105,719	65,201	40,518	40,518	-	-	-	100
3536	Chatham-Kent	104,075	-	104,075	104,075	-	-	-	-	-	100
3538	Lambton	126,199	-	126,199	89,555	36,644	18,083	18,561	-	-	100
3540	Huron	59,100	-	59,100	-	59,100	-	30,109	28,991	-	100
3541	Bruce	66,102	-	66,102	-	66,102	-	31,628	34,474	-	100
3542	Grey	92,568	-	92,568	32,092	60,476	17,537	42,939	-	-	100
3544	Muskoka	58,047	-	58,047	-	58,047	-	23,372	34,465	210	100
3546	Haliburton	17,026	-	17,026	-	17,026	-	17,026	-	-	100
3547	Renfrew	101,326	-	101,326	40,005	61,321	5,684	53,979	1,658	-	100
3548	Nipissing	84,736	-	84,736	60,179	24,557	4,728	19,749	80	-	100
3549	Parry Sound	42,162	-	42,162	3,854	38,298	5,082	20,581	12,377	258	100
3551	Manitowlin	13,048	-	13,048	-	13,048	-	406	11,847	795	100
3554	Timiskaming	32,634	-	32,634	13,566	19,068	1,549	8,456	8,728	335	100
3556	Cochrane	81,122	-	81,122	43,165	37,957	-	10,599	24,909	2,469	100
3557	Algoma	115,870	-	115,870	91,148	24,722	7,758	10,095	6,058	811	100
3559	Rainy River	20,370	-	20,370	-	20,370	-	563	17,566	2,241	100
3560	Kenora	57,607	-	57,607	15,348	42,259	951	9,341	22,481	9,486	100
Ontario		12,851,821	10,270,006	2,581,815	1,133,127	1,448,688	644,299	555,931	225,197	23,261	20

Source: Statistics Canada, (2012) GeoSuite: 2011 Census (Cities: Statistics Canada, Catalogue no. 92-150) (<http://www5.etaican.gc.ca/basic/bic-cel/cic-ca/fratno/92-150-Xbchngg-1/1lang-eng>)

Figure 2: (Rural Ontario Institute) This image further goes into detail of some of the populations within Ontario in 2011.



Source: CRTC

Figure 3: (Statistics Canada 2011) This image details a schematic representation of internet access speeds

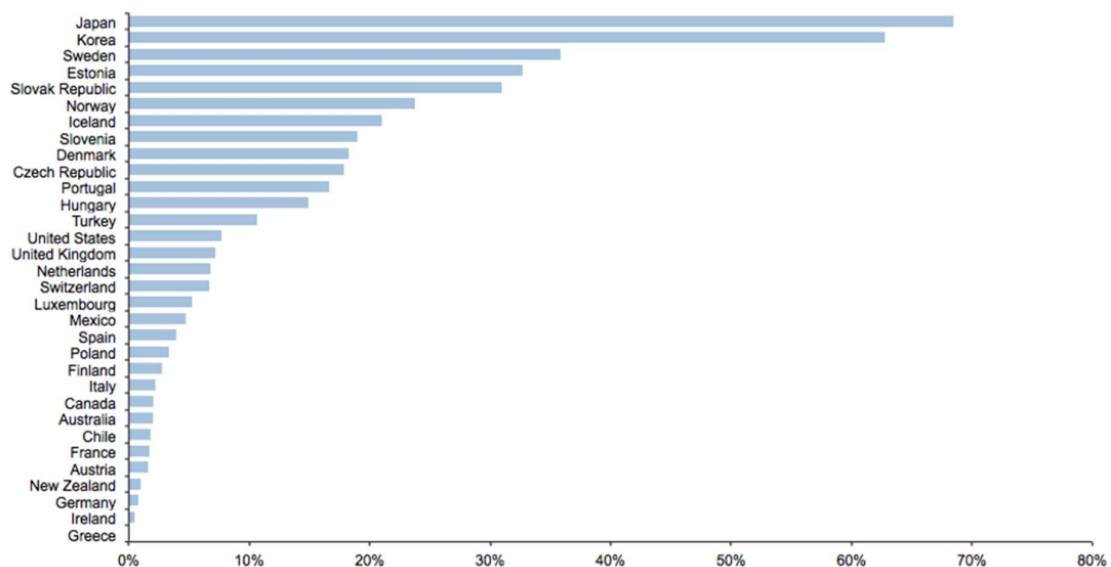


Figure 4: (Cybera) This image details how Canada compares other nations part of the Organisation for Economic Co-operation and Development (OECD) in relation to the percentage of fibre connections in the nation.

Broadband availability at a glance

Download speed (Mbps)	Large population centers	Medium population centres	Small population centres	Rural areas	HSPA+ and LTE
1.5-4.9	100%	100%	100%	87%	11%
5-9.9	100%	100%	99%	75%	11%
10-15.9	99%	98%	93%	37%	0%
16-24.9	99%	98%	88%	32%	0%
25-29.9	99%	97%	83%	29%	0%
30-49.9	99%	96%	80%	28%	0%
50-99.9	97%	95%	73%	26%	0%
100+	96%	93%	69%	25%	0%

Source: Industry Canada and CRTC data collection

Small population centres: 1,000 and 29,000.
 Medium population centres: 30,000 and 99,999
 Large population centres: greater than 100,000
 Rural areas: less than 1,000 or fewer than 400 people per square kilometre.

Figure 5: (CIRA 2016) This chart captures broadband availability across the country.

Region	Download speed (average Mbps)*	Upload speed (average Mbps)*
National	18.86	7.26
Urban	19.80	7.66
Rural	14.81	5.96

**Data is from April 2016. It is important to note that since this data is crowdsourced, it includes only users with some connection speed and the distribution of the sample is not perfectly random.*

Figure 5: (CIRA 2016) This chart displays the disparities between urban and rural communities based on their download and upload speed.

Glossary

Rural: There is no concrete definition for the term rural, however for the purpose of this research paper we define rural as inclusive of all population living in rural areas of a census metropolitan area and census agglomerations, as well as population living in rural areas outside of census metropolitan areas and census agglomerations.

Urban: Similar to the rural definition, the term urban carries several meanings. For the purpose of our work, urban refers to census metropolitan areas (CMAs) which comprise of populations of 100, 000 or more. This population includes residents within the commuting zone around these centres (areas where 50% or more the employed workforce commutes to the CMA)

BR+E Planning: Involves the relationship between the local development office and the businesses within a community. Further to this, it is the responsibility of these bodies to

attract and retain local small businesses in a given space. It is detrimental to plan for current and future businesses to ensure a successful business community.

Broadband: Is a term for internet service which, is the most used form of internet access.

This is because broadband offers access to higher internet speeds compared to outdated dial-up connection. Broadband is offered in four different models namely, DSL, fibre-optic, cable and satellite.

Success: For the purposes of this paper, success is defined as the ability for small businesses in rural communities to effectively adopt and use technology.

Municipal Broadband:

Big Telecom: Is a service provider that runs Canada's Internet Market. They are the companies that sell majority of the Internet services across Canada.

Indie Provider: Indie Providers are alternative options to Big Telecom. They consist of smaller party Internet service providers.

Digital Divide: Digital divide refers to the ever widening gap between adequate and inadequate internet access. This has been proven to relate to geographic and socioeconomic lines.

Dark Fibre: Dark fibre refers to spaces where infrastructure for internet access has been built but it currently unused.

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