



Submission to Ministry of Finance re 2019 Budget

The West Parry Sound SMART submission focuses on high speed rural internet. Our submission comprises two perspectives:

- The first portion answers the question WHY, looking at current and future trends and the impact these will have on our economy and why high-speed internet is so critical to our future,
- The second portion provides a list of recommendations on what we believe needs to be done now,

High speed rural internet will drive tax savings in the near term and ensure relevant jobs and economic growth in Ontario. The benefits and cost savings of building out the infrastructure for high speed internet will be clearly evident and measurable within 3-4 years.

According to the World Economic Forum, internet will be the primary driver of economic growth in the coming years. The economy is an ecosystem comprised of jobs, healthcare, education, investment attraction, business opportunity, social interactions, entertainment, tourism, service delivery, industry, etc. All are interconnected. Not one can be looked at individually as a stand-alone entity. Internet connectivity is critically important and central to this ecosystem. It drives innovation, productivity, cost reduction, and enhanced service delivery. High speed internet connectivity is the common denominator that we cannot ignore and desperately need in rural Ontario.

Cost savings derived from high speed internet can be attributed to all segments of the ecosystem. Take healthcare for example. Consider the savings from the provision of services such as remote and robotic surgeries, video consultations, remote monitoring, interconnectivity amongst healthcare providers, reduced travel costs, and the reduced exposure to illness, etc. It has been projected that these savings in healthcare alone would cover the cost of building the internet infrastructure required.

The near-and-long term cost of NOT investing in rural high-speed internet is very high. Consider for instance the cost of having to maintain a 2 tier service delivery method by the Province - with the digital divide becoming larger and larger between rural and urban, there will be no option but for Ontario tax payers to pay the incremental costs for service delivery to rural areas where slow connectivity will not allow the low cost methods.

Ontario's economic future will be determined by our actions now. The world is in the Fourth Industrial Revolution. The rate of change enabled by technology is unprecedented. The impact of robotics, driverless cars, implantable technologies, 3D printing, blockchain in government, blockchain in banks, artificial intelligence, and the internet of things (IOT) are and will continue to be transformational. Each will have a significant impact on all components of the ecosystem and specifically jobs (current and future). We are already seeing the technological shifts of these and many will start to hit mainstream in the next 3-5 years.

Investing in high speed internet will enable rural educators to offer the relevant technology-based curriculum desperately needed in rural communities. The resulting skills will create the jobs, (current and new to replace those that will be lost due to the technological shifts)!

High speed internet requires federal and provincial government funding, at least for the fibre backbone (backhaul) required. Even 5G is highly dependent on internet backhaul. There are many excellent plans and projects that are on hold because funding is not available or too difficult to access. Even the \$750M promised by CRTC will leave many rural areas out due to the restrictive eligibility criteria. Approx. 30% of Ontario's population live in rural communities. High speed internet is more critical to the future of rural Ontario than public transportation is in urban areas.

We believe that the key factor that has constrained the build out of high-speed internet infrastructure is that there has not been a national or provincial strategy. We have outlined some key facts and recommendations that we hope the Province of Ontario will take into consideration in preparation of the 2019 budget (see Appendix 1).

Finally, we ask the Ministry to allocate funding for rural high-speed internet infrastructure and make this funding available in 2019. Our future depends on it! Groups like WPS SMART are here to help.

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Attachments:

1. Appendix 1 – Recommendations and What Needs to be Done

2. Recommended Reading:

- The Fourth Industrial Revolution, Klaus Schwab:
<https://luminariaz.files.wordpress.com/2017/11/the-fourth-industrial-revolution-2016-21.pdf>
- Digital Communications Inter-relationships/Dependencies: Illustration by World Economic Forum
- Deep Shift – Technology Tipping Points and Social Impact: Excerpt from World Economic Forum

Appendix 1

Recommendations, What Needs to be Done

1. Develop a strategy for rural internet – with all the information available today, that should not be a long process – in other words let’s not re-invent the wheel
 - Set a timeline and allocate budget
 - Focus on fibre backbone and evolving transmission technology to build capacity for local distribution
 - Engage rural communities (they can tell you first hand what speeds and service they are getting – not just what is promised by the ISPs) - those communities that currently have organizations like WPS SMART focused on internet can help
 - Act fast, the digital divide is ever increasing and Canada as a whole is slipping every year in global ranking (yet internet will be the primary driver of economic growth in the future)
 - Simplify the application process, make it quick and responsive – a six-month application intake to decision timeframe is reasonable

2. Set up an immediate fund in the 2019 budget to fund projects that are ready to go but awaiting funding.

3. Promote the growth of smaller regional internet service providers (ISPs). They understand rural communities and collaborate well with communities to address local priorities.

4. Establish incentives and policies that promote multi-purpose projects. For instance, lay conduit (or equivalent) along new roadways, gas lines, energy projects for future fibre optic cable runs.

5. Urge the Federal Government to Act Quickly to make the necessary changes to:
 - The eligibility rules set out by the CRTC for the promised \$750M funding will leave much of rural Canada ineligible to apply for this funding
 - Ensure all funding provided to internet service providers (ISP) protects tax payer’s investment. Millions and millions of tax payer’s dollars have been granted to the “Big Three” for the purpose of internet for rural communities and yet these tax payers are still getting less than 5 Mbps download and 1 Mbps upload. Compare that with the standard set by CRTC of 50 Mbps download and 10 Mbps upload. Even worse, the networks built are often not shared with other providers or priced out of range to be competitive. The funding approach from the Canadian government to the “Big Three” has contributed to the lack of competition in the marketplace. For instance, Canada is a global outlier for wireless data – no other country has wireless carriers that generate more revenue with less usage per SIM than Canada! (Obviously, data is too expensive for Canadian consumers – consider where that places the Canadian consumer in relation to those in other countries)
 - Ensure that CRTC’s policies are consumer centric, not ISP centric as is the current trend
 - Simplify and speed up the application process

2.2 Tipping Points

When these megatrends are discussed in general terms, they seem rather abstract. They are, however, giving rise to very practical applications and developments.

A World Economic Forum report published in September 2015 identified 21 tipping points – moments when specific technological shifts hit mainstream society – that will shape our future digital and hyper-connected world.¹⁴ They are all expected to occur in the next 10 years and therefore vividly capture the deep shifts triggered by the fourth industrial revolution. The tipping points were identified through a survey conducted by the World Economic Forum’s Global Agenda Council on the Future of Software and Society, in which over 800 executives and experts from the information and communications technology sector participated.

Table 1 presents the percentage of respondents who expect that the specific tipping point will have occurred by 2025.¹⁵ In the Appendix, each tipping point and its positive and negative impacts are presented in more detail. Two tipping points that were not part of the original survey – designer beings and neurotechnologies – are also included but do not appear on Table 1.

These tipping points provide important context as they signal the substantive changes that lie ahead - amplified by their systemic nature - and how best to prepare and respond. As I explore in the next chapter, navigating this transition begins with awareness of the shifts that are going on, as well as those to come, and their impact on all levels of global society.

Tipping Points, Expected to occur by 2025 (World Economic Forum)

	%
10% of people wearing clothes connected to the internet	91.2
90% of people having unlimited and free (advertising-supported) storage	91.0
1 trillion sensors connected to the internet	89.2
The first robotic pharmacist in the US	86.5
10% of reading glasses connected to the internet	85.5
80% of people with a digital presence on the internet	84.4
The first 3D-printed car in production	84.1
The first government to replace its census with big-data sources	82.9
The first implantable mobile phone available commercially	81.7
5% of consumer products printed in 3D	81.1
50% of the population using smartphones	80.7
90% of the population with regular access to the internet	78.8
Driverless cars equalling 10% of all cars on US roads	78.2
The first transplant of a 3D-printed liver	76.4
30% of corporate audits performed by AI	75.4
Tax collected for the first time by a government via a blockchain	73.1
Over 50% of internet traffic to homes for appliances and devices	69.9
Globally more trips/journeys via car sharing than in private cars	67.2
The first city with more than 50,000 people and no traffic lights	63.7
10% of global gross domestic product stored on blockchain technology	57.9
The first AI machine on a corporate board of directors	45.2

Source: *Deep Shift – Technology Tipping Points and Societal Impact*, Global Agenda Council on the Future of Software and Society, World Economic Forum, September 2015.