



Submission by **Mobilexchange Limited** to the
Standing Committee on Industry, Science and Technology /
Comité permanent de l'industrie, des sciences et de la technologie (**INDU**)
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THE EFFECT OF COVID-19 ON THE AFFORDABILITY AND ACCESSIBILITY OF TELECOMMUNICATIONS SERVICES

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1.0 Executive Summary

The current COVID-19 pandemic has taught society some new lessons – while some jobs still require front-line workers “to go to work”, for other professions work is “what you do” – not “where you are”. If you have a broadband connection even Government committees can conduct business in a “virtual manner”, municipal councils can hold “public” meetings and even vote!

If you live in a serviced area, the lack of a broadband connection can be due to a lack of funds to be able to afford it – but that is a social problem not a technology issue.

If you live in a rural and remote or unserved community the lack of broadband is also likely to be because there is a lack of sufficient infrastructure.

Our submission will address one approach of tackling the latter problem.

The Government of Canada has already authorized the CRTC to organize the upgrade from today’s E911 systems to Next Generation 911 systems between 2021 and 2024 (when the legacy E911 systems will be discontinued) across the entire country. This requires coordinated infrastructure upgrades from every Telecom Service Provider and Internet Service Provider and every municipal Public Safety Answering Point in every Province and Territory over the next five years ***with the assurance that the CRTC will arrange a funding mechanism when the time comes (not before!).***

Currently anyone can make a 9-1-1 call from any mobile phone without needing a mobile subscription from a carrier. All you need is to be in range of a wireless base station from any carrier and the call will go through, ***but there must be wireless service in the area.***

This submission suggests a coordinated approach to bridge the digital divide for rural and remote communities at the same time as providing the necessary telecommunications infrastructure for Governments to be able to ensure community safety and well-being.

In summary:

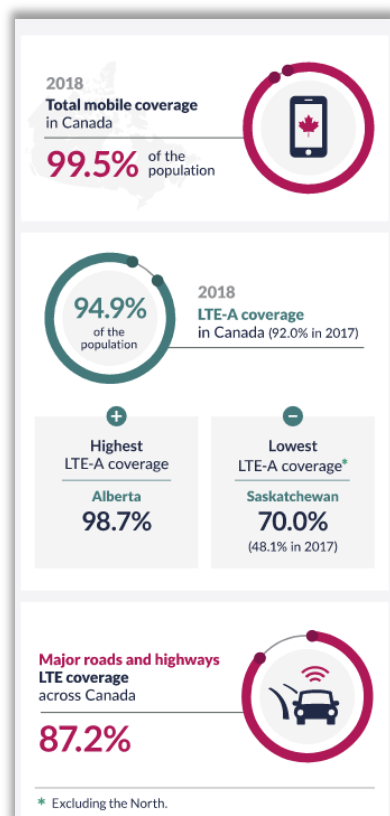
- *Financing must NOT become a barrier - proceeds of spectrum auctions plus a P3 partnership with all levels of government and industry will be required.*
- *The CRTC must co-ordinate and enforce access to structures (Rights of Way, Poles, etc.)*
- *Spectrum that has not been deployed must be released to others if needed for rural/remote communities and Band 14 must be included for Public Safety applications.*
- *A spirit of co-operation between carriers and all levels of government to "get it done" before 2024 - likely under guidance from a cross-functional Working Group organized by the CRTC.*

The COVID-19 pandemic provides a glimpse of a possible “new normal” where every Canadian family (and business) will require broadband interconnectivity for remoting working, remote educational services as well as family entertainment in future.

2.0 Background

Canada has traditionally relied on commercial facilities-based telecommunications providers to deliver essential telecom services across Canada – a tradition that started with the Bell Canada Act of 1880. This kick-started basic telephone service from coast to coast and continued when wireless technology emerged in the mid 1980's when CANTEL (now Rogers Communications) was given (for free, prior to auctions) a Tier 1 spectrum license that covered the whole of Canada while the incumbent local exchange carriers (known as ILECs) received Tier 2 provincial wireless licenses.

Since these entities need to provide a return to their shareholders, facilities are built starting with higher density (urban) areas, then expand to some rural and some remote communities over time. Any deployment schedule was and is still based on pure economic ROI principals without any obligations to serve where services are uneconomical and would require subsidies from profits elsewhere.



Measurement of progress is monitored by the CRTC in the annual Communications Monitoring Report¹, typical statistics relate to “percentage of population coverage” with current 4G/LTE (mobile) population coverage of around 99.5%.

This measurement does not provide a complete picture since in Ontario, for example, 99% of the population reside in the 444 Municipalities which covers only between 17% to 20% of the land area of the Province.

Since the CRTC declaration last year that broadband internet connectivity is an essential service like electricity and water, and in particularly a critical service now, during the Covid – 19 epidemics for all Canadians, in particularly those living in isolated remote and rural areas, **this lack of area coverage is unacceptable.**

This is unacceptable for front line workers’ - such as Public Safety First Responders, since, for example, the Ontario Provincial Police currently provides services across some 60% of the land area of Ontario – including support for First Nations, Indigenous Communities and Provincial Parks and remote Northern Communities, while coverage for broadband internet is only 17-20% of that territory.

The Federal Government has allocated special spectrum for first line responders (and other first line workers) some 9 years ago (Band 14), yet the urgently required Public Safety Broadband Network (PSBN)² to be available across the country has yet to be organized under a National Coordinating (non for Profit) Governance Body and be allocated appropriate funding to commence deployment.

¹ [CRTC Communications Monitoring Report 2019](#)

² [Public Safety Canada Interim Report for the PSBN](#)

Our primary recommendation in this brief is that funding and deployment of enhanced Rural and Remote Broadband and the PSBN be achieved at the same time as we move forward to resolve **one of the most critical aspects for recovery, post the Covid-19 situation, the critical - Digital Divide in Canada.**

2.1 Spectrum

Innovation, Science and Economic Development Canada (ISED) allocated 20 MHz of the 700 MHz spectrum (known as “Band 14”) for use in the deployment of a Public Safety Broadband Network in Canada (PSBN). In the 2019 PSBN Interim Report, Public Safety Canada recommended that the allocated spectrum be used in a **shared public safety-commercial network**, which will support both public safety and commercial usage as long as priority access and pre-emption rights for public safety users are provided when needed.

Band 14 also provides an additional advantage for use in rural networks since devices (such as customer premise equipment) can be developed using a power output of 1.25 Watts, rather than the 0.25 Watts allowed for smart phones. This is the ONLY spectrum band where this is allowed.

A **shared public safety-commercial network** ensures that the spectrum is used in an effective and efficient manner by permitting commercial use of excess spectrum capacity while ensuring that priority and pre-emption mechanisms are provided to public safety users. Such an approach is also consistent with the spirit of the *Radio Broadcasting Act* and the *Telecommunication Act*.

Currently, while no funding formula has been established for PSBN, (an essential tool for maintaining communities safe), a variety of uncoordinated funding programs for rural broadband have been announced. **Band 14 should be released by ISED to Public Safety Agencies immediately** to take advantage of its use in rural and remote underserved communities to help resolve the Digital Divide.

Any projects approved for Federal/Provincial or Municipal new broadband infrastructure enhancements for underserved areas must be build with standards that will meet the Quality of Service required to accommodate the operational needs of first responders and associated mission critical safety and healthcare agencies.

Further we strongly recommend that ISED adds to any further spectrum licence issued, a new condition: the obligation to deploy, in coordination with the PSBN authorities, band 14 capabilities through out the licensed area. This condition of licence would not be different than the current NG-911 obligation embedded in the licensing regulations.

Our proposal is to coordinate these funding initiatives with additional private (PPP) capital for both Rural and Public Safety broadband deployments under the auspices of the Canadian Infrastructure Bank, thus providing a “coordinated” capital investment opportunity.

Provinces and Municipalities should be able to partner with the (ultimate) Public Safety Broadband Network National Coordinating Office to jointly apply for funding to build and operate a Shared Canadian Rural Network that will serve the local economy and keep the communities safe and connected!

2.2 Budget 2019 initiatives

Budget 2019 included a coordinated plan to deliver up to \$6 billion in **new public and private investments** to extend high-speed internet to rural and remote communities over the next 10 years. By 2030, the goal was for every Canadian to have access to internet speeds of at least 50/10 Mbps, regardless of where they live but ***the most critical aspects for recovery, post the Covid-19 situation, the critical - Digital Divide in Canada, has revealed that this goal must be accelerated and accomplished over the next 3-4 years.***

This investment includes:

Up to \$1.7 billion over 13 years, starting in 2019–20, to establish a **new Universal Broadband Fund** that would extend “backbone” infrastructure to underserved communities and support “last-mile” connections to individual homes and businesses for the most difficult-to- reach communities.

Securing advanced Low Earth Orbit satellite capacity to provide high-speed internet service to the most rural and remote regions of Canada

The **Universal Broadband Fund** will help connect Canadians as effectively and as quickly as possible to reliable, high-speed Internet. The Government of Canada will partner with provinces, territories, municipalities, Indigenous communities, telecom companies and others, and will roll out the Fund in two phases. The design and eligibility criteria will ensure projects will best meet local needs and demonstrate strong local engagement. Consultations will take place during the first phase to ensure that community needs are met by the Fund and to maximize the impact of public investments. The second phase in 2020 will invite applicants to provide solutions to connectivity gaps in unserved and underserved rural and remote areas.

The additional funding for **Connect to Innovate** announced in Budget 2019 builds on the \$500 million already committed to the program. This funding will help ensure continued progress on building and expanding networks. This program is another example of the Government of Canada working with provincial and territorial governments, Indigenous communities and private-sector firms to deliver enhanced connectivity for Canadians from coast to coast to coast.

Investments in both Budget 2019 and Budget 2018 include new measures to connect the hardest-to-reach areas in Canada through low-Earth orbit (LEO) satellites. These satellites can offer speeds that meet the Strategy’s 50/10 Mbps target and help deliver applications such as cloud computing and advanced telemedicine that are difficult to offer with traditional satellites.

This satellite capacity could also be used to support back-haul for mobile wireless services in remote communities.

CRTC’s \$750 million Broadband Fund

On June 3, 2019, the CRTC launched its \$750 million Broadband Fund. This Fund is accepting applications for projects that include Canada’s territories and satellite-dependent communities, where there is a great need for improved broadband and mobile wireless networks. A second call for applications will

launch in fall 2019 to support all project types in underserved rural and remote areas throughout Canada. The call for applications has since been delayed to June 2020.

Rural and Northern Stream of the Investing in Canada Infrastructure Program

The Rural and Northern Stream of the Investing in Canada Infrastructure Program provides up to \$2 billion to support various infrastructure projects that improve the quality of life in rural and northern communities. The Rural and Northern Stream of the “Investing in Canada Infrastructure Program” addresses these communities’ specific infrastructure needs, including improved broadband connectivity but does not address the unique Quality of Service standards requirements of Public Safety and Emergency Management in those communities in times of disaster response when networks can become congested.

2.3 Canada Infrastructure Bank

The Canada Infrastructure Bank can support connectivity projects by investing up to \$1 billion through funding tools including loans, equity and loan guarantees. These investments can further leverage at least \$2 billion in private investment, making the impact of publicly funded projects and dollars go further.

The federal government announced on April 4th that it is replacing the top leadership of the Canada Infrastructure Bank and appointing Michael Sabia, the former head of Quebec’s pension fund, to chair the board. This re-organization should enable the Bank to more effectively execute its mandate with respect to Rural Broadband and PSBN since Michael Sabia was the CEO of Bell Canada Enterprises from 2002 until 2008 and has a deep understanding of Telecom Service Providers and the economics of broadband infrastructure deployment and operations.

At the provincial level, Saskatchewan has proposed a capital investment of \$321 million to upgrade SaskTel’s networks, and Quebec has proposed \$400 million over seven years to improve high-speed internet and cellular access in remote regions. Similarly, in its 2019 Speech from the throne, Alberta promised investments in a rural broadband strategy.

All these announcements are positive signals that nationwide broadband connectivity is a priority at multiple levels across the country and that the “need to get connected” is understood by every political party.

To accommodate economic development, particularly post Covid -19 communities must incorporate enhanced Public Safety in their enhanced rural broadband connectivity programs.

In addition, there may be potential linkages with other sectors which may need to be considered in the assessment of a nationwide Rural/PSBN shared deployments such as Electrical Grid operators and National Railroads, as well as other social taxpayer’s funded services such as healthcare and education.

The Temporary National Co-ordination Office at Public Safety Canada should also continue to monitor developments in existing and proposed initiatives to leverage opportunities presented by complementary investments.

2.4 Recommendation 1

We would like to suggest that all Federal Broadband Funding programs be aggregated and that the Canada Infrastructure Bank manages the creation of a Public Private Partnership to create a Shared Rural/ PSBN infrastructure and operating Network(s) deployments that will serve Public Safety and the communities, under the auspices of a National Broadband Governance model. This would be in alignment with ISED's Connectivity Strategy³ released in 2019.

As part of the CIB mandate a comprehensive ROI (Return on Investment) study should be undertaken by industry specialists including the commercial carriers. The ROI study for the coordinated 5-15 years deployment and operational projects will enable the combined Governments and private investments.

As part of this recommendation we suggest that the CRTC should consider issuing a new Telecom Notice in 2020 to encourage dialogue regarding the governance model to be used to create the Not for Profit National Coordinating Committee for Rural and Public Safety Broadband.

Provincial, Territorial and Municipal funds that will be needed to build Rural and Remote enhanced broadband networks, in conjunction with the construction of the associated Public Safety Broadband Network (PSBN), together with funding from Critical Industries, Mobile Wireless Operators and Telecom Service Providers would augment the Federal Funds, as appropriate, and could provide an effective solution that reduces barriers to the deployment of both broadband for rural and remote areas and ensure the associated ubiquitous usefulness for community safety operations.

3.0 Example: The UK Shared Rural Network

The UK equivalent of a Public Safety Broadband Network is called the **Emergency Services Network (ESN)** and is a Public Private Partnership between the UK Home Office and other partners including British Telecom's wireless broadband subsidiary named Everything Everywhere (**BT/EE**).

The ESN also included the construction of additional rural cell sites infrastructure in order to provide the geographic coverage for First Responders across the UK, however it has become apparent that many rural and remote areas remained without broadband services. Since the ESN network only involved one UK wireless broadband carrier (BT/EE) the UK government announced in March 2020 that it had entered into an agreement with the four mobile operators to provide grant funding to deliver a 'Shared Rural Network'.

Funding of the Shared Rural Network will be 50% by the UK Government and the remaining contributions come from the four national wireless operators.

Under the terms of this agreement, each mobile operator has committed to providing good quality data and voice coverage⁴ to **88% of the landmass by 30 June 2024**, and **90% by 30 June 2026**, subject to certain conditions (including the provision of funding for elements of the programme).

³ [High Speed Access for All](#)

⁴ [OFCOM Mobile Coverage Obligations](#)

The mobile operators have agreed to their commercial 900 MHz and/or 1800 MHz licences being varied to give effect to these commitments in the form of new coverage obligations. Each operator has also agreed to meet certain coverage thresholds in each UK nation after four and six years and provide a certain extent of new coverage in areas where roads and premises are located.

3.1 Recommendation 2

The Canada Infrastructure Bank should take the lead, with support from ISED, Infrastructure Canada and the CRTC to examine whether the a similar model to the UK Model of a Shared Rural Network would work for Canada and solve and remove the barriers to eliminate the broadband divide between the Urban/Suburban areas and the Rural/Remote areas over the next few years, while ensuring the combined requirements of the Public safety communities for a PSBN deployment.

4.0 A new Subcommittee for the CRTC?

The CRTC is dedicated to ensuring that Canadians have access to world-class communication systems that promote innovation and enriches their lives. The role of the CRTC is to implement the laws and regulations set by Parliamentarians who create legislation and departments that set policies. The CRTC regulates and supervises broadcasting and telecommunications in the public interest.

The CRTC Interconnection Steering Committee (CISC) is an organization established by the CRTC to assist in developing information, procedures and guidelines as may be required in various aspects of the CRTC's regulatory activities with a specific focus on Telecommunications Network Operators.

CISC regularly establishes specific Working Groups from across the country with representatives from all telecommunication companies, municipalities, provinces, territories and interested parties to ensure common goals are reached and technology solutions are found within a specific timeline. A current example is the Emergency Services Working Group (ESWG) which is developing the roadmap and detailed plans for delivering Next Generation 911 (NG9-1-1) to all Canadians within the next FIVE years.

Currently the ESWG consists of over 400 “volunteers”, under the auspices of CRTC staff, that work with a common goal to ensure national deployments for NG9-1-1 will start in 2021 so that existing (legacy) E911 services can be phased out by 2024 and replaced by modern networks that are “all digital”.

4.1 Recommendation 3

Our recommendation is that the CRTC be instructed to create a new Working Group with the goal of ensuring that shared facilities based digital services be provided in rural and remote communities, no later than 2025, and that such a Working Group includes the responsibility for coordinating the simultaneous deployment of Band 14 and QoS standards to ensure access for Public Safety and Emergency Service Agencies as well as a subsidy plan to resolve the affordability issue for low income Canadians.

The current CRTC ESWG committee provides an excellent blueprint for this new Committee!

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