

Responding to the New Environment: A Call for Comments

**Review of the Canadian Communications Legislative
Framework**

**Submission by Canadian Wireless Telecommunications
Association (CWTA)**

January 11, 2019

Executive Summary

Since the introduction of wireless service in 1985, Canada's wireless operators have worked continuously and successfully to connect Canadians to increasingly innovative wireless products and services. In doing so, Canadian wireless operators have built some of the best wireless networks in the world, with LTE networks being available to 99% of Canadians and average download speeds being the fastest in the G7 and among the fastest in the world.

The quality of Canada's wireless networks, and Canadians' heavy adoption and use of wireless technologies, would not have happened without the massive investments made by Canada's facilities-based wireless providers. And this level of investment would not have happened without a regulatory environment that recognizes facilities-based competition as the best way to encourage investment in Canada's wireless infrastructure. It is because of policies that encourage facilities-based investment that Canada is at the forefront of the global wireless industry and Canadians have access to world-class wireless services.

However, Canada cannot rest on its laurels. The importance of wireless networks to Canada's competitiveness and Canadians' standard of living will only increase with the introduction of the next-generation of wireless networks, known as 5G. 5G will revolutionize the way in which digital technologies are used, propel innovation across industries, and significantly improve Canadians' quality of life. Estimates show that the adoption of 5G networks will deliver a \$40B annual GDP uplift by 2026 to the Canadian economy and contribute close to 250,000 permanent jobs in the same period. But the timely introduction of 5G will require massive new investments by Canada's facilities-based wireless providers.

To ensure that Canadians benefit from the massive investments and innovations made by Canada's facilities-based service providers and continue to have access to safe, secure and high-quality telecommunications at affordable prices, the focus of any changes to the *Telecommunications Act* should be on continuing to encourage investment and removing barriers to the deployment of wireless infrastructure.

Our recommendations are as follows:

Recommendation No.1: *Canada should maintain its long-standing policy of encouraging investment through facilities-based competition. This policy has kept Canada at the forefront of the global wireless industry with world-class wireless networks reaching the vast majority of Canadians.*

Recommendation No.2: *Section 43 of the Telecommunications Act, including the meaning of the term "transmission lines" in Section 43(2), should be clarified and, if necessary, expanded to give the CRTC authority to set rates and settle disputes regarding access and attachment rights for wireless equipment when it is placed on all types of public infrastructure, including light posts, bus shelters, and sides of buildings.*

Recommendation No.3: *The CRTC should be granted jurisdiction under the Telecommunications Act for setting attachment rates and resolving any disputes regarding access to electrical utility poles and ducts.*

Recommendation No.4: *Changes to the Telecommunications Act to address the concepts of safety and security are not needed. The concepts of safety and security are already addressed in the policy objectives set forth in Section 7 of the Telecommunications Act. These objectives have been relied upon by the CRTC to mandate the provision of services related to public safety. The current legislation provides the regulator and industry with the necessary flexibility to adapt to ever-changing technology and any related safety and security concerns.*

Recommendation No.5: *The current Telecommunications Act provides the CRTC with the authority it requires to apply network neutrality principles to future innovative telecommunication services and technology.*

Recommendation No.6: *The federal government should declare that the Wireless Code is the exclusive wireless consumer contract regulation in Canada.*

Recommendation No.7: *Given the enactment of PIPEDA, paragraph 7(i) of The Telecommunications Act should be removed from the Act.*

Recommendation No.8: *The provisions of the Act previously relied upon by the CRTC to make orders regarding accessibility are sufficient to address any future accessibility concerns. Rather, to ensure that Canadians with disabilities have access to the latest in wireless technologies and services, it is most important that the Government of Canada implement the recommendations in this submission dealing with the encouragement of investment and removing barriers to the deployment of wireless infrastructure.*

The review panel should also recommend that the federal and provincial governments work together to remove unnecessary overlap, duplication, and uncertainty resulting from the telecommunications industry being subject to multiple federal and provincial statutes pertaining to accessibility for Canadians with disabilities.

Introduction

The Canadian Wireless Telecommunications Association (CWTA) is pleased to provide its comments to the Government of Canada's Review of the Canadian Communications Legislative Framework. CWTA is the authority on wireless issues, developments and trends in Canada. Its membership is comprised of companies that provide services and products across the wireless industry, including wireless carriers and manufacturers of wireless equipment, who combine to deliver Canada's world-class wireless services, one of the key pillars on which Canada's digital and data-driven economy is built.

As set out in the Government of Canada's consultation discussion paper, *Responding to the New Environment: A Call for Comments* ("Discussion Paper"), the world is undergoing a digital revolution that presents enormous benefits and opportunities as well as potential negative consequences. The challenge for government is to ensure that the regulatory framework that governs Canada's telecommunications and broadcasting industries strikes the proper balance between protecting Canadians from potential negative consequences that cannot be dealt with other than through regulation, and ensuring that any such regulation does not stifle the innovation and investment that are necessary to provide Canadians with access to transformational products and services.

While the Discussion Paper raises many important questions, CWTA's focus is on the wireless telecommunications industry and, as such, we have limited our comments to questions concerning the *Telecommunications Act* and to two of the four themes set forth in the Discussion Paper; namely:

- Reducing barriers to access by all Canadians to advanced telecommunications networks; and
- Improving the rights of the digital consumer.

Several of our members are also members of the Radio Advisory Board of Canada (RABC) who we understand will be providing comments pertaining to the *Radiocommunications Act*.

A. REDUCING BARRIERS TO ACCESS BY ALL CANADIANS TO ADVANCED TELECOMMUNICATIONS NETWORKS

It has become more important than ever to ensure that all Canadians are able to benefit from innovation and investment in state-of-the-art infrastructure that enables access to safe, secure and high-quality telecommunications services at affordable prices.

(Responding to the New Environment: A Call for Comments)

CWTA agrees that all Canadians should have access to safe, secure and high-quality telecommunications at affordable prices, and benefit from the massive investments and innovations made by its members. Since its introduction in 1985, Canada's wireless industry has worked continuously and successfully to connect more and more Canadians to increasingly innovative wireless products and services. As of

December 2017, there were 31.7 million wireless subscribers in Canada,¹ which represents an almost 86.5% increase from 2005 and a 25% increase from 2010.

While the number of wireless subscribers shows that wireless connectivity has been made available to most Canadians, ensuring that Canadians can also benefit from the latest in wireless technology is equally important. In this regard, Canadians enjoy some of the most expansive and best performing networks in the world. Long term evolution (LTE) networks², which deliver higher speeds than previous generation networks, were, as of December 2017, available to 99% of Canadians.³ LTE-advanced (LTE-A) networks, offering even higher speeds than LTE, were available to 92% of Canadians as of the same date;⁴ an impressive 9% increase from the previous year

Not only are Canada's LTE networks available to the vast majority of Canadians, when compared to other countries, they are amongst the best-performing in the world. According to OpenSignal, Canadian wireless subscribers enjoy the fastest average mobile download connection speeds in the G7, including twice the average speed found in the United States.⁵ The November 2018 Speedtest by Ookla ranks Canada as having the 4th fastest wireless networks in the world, 144.3% faster than the world average.⁶

The availability and performance of Canada's wireless networks are all the more remarkable given Canada's relatively low population, spread over a vast and varied geography. Canada ranks 33rd out of 35 OECD countries with just 13 wireless connections per square kilometre of wireless network.⁷ This, together with Canada's harsh climate, makes it more expensive to develop and maintain a wireless network in Canada than in most other countries.

Despite these challenges, since the launch of wireless services in Canada in 1985, Canada's facilities-based wireless carriers – the carriers that invest in the development of Canada's wireless networks – have been building and re-building their networks to provide broader coverage to reach more Canadians, and to incorporate the latest wireless standards that provide Canadians with world-class wireless services. Between 1985 and 2017, Canada's facilities-based wireless carriers have invested approximately \$48 billion in wireless communications infrastructure.⁸ This is in addition to over \$14.1 billion in spectrum auction fees paid by facilities-based carriers between the years 1987-2016,⁹ and the nearly \$3.3 billion in spectrum license fees paid between 1987-2016.¹⁰

¹ CRTC, Communications Monitoring Report, 2018

² LTE networks are a type of 4G, or fourth generation, wireless network which delivers up to ten times faster connection than 3G.

³ CRTC, Communications Monitoring Report, 2018

⁴ *Ibid*

⁵ OpenSignal, State of LTE – Global, February 2018

⁶ For comparison, the U.S. ranks 41st.

⁷ The State of Competition in Canada's Telecommunications Industry – 2017 – MEI, May 2017

⁸ Historical data from Nordicity, CRTC, and CWTA

⁹ Department of Innovation, Science and Economic Development (ISED)

¹⁰ CWTA statistics collected from ISED

While these investments have resulted in Canada having some of the best and most widely-available wireless networks in the world, CWTA and its members recognize that there are still Canadians who live in areas where broadband service, whether wired or wireless, is not available. While delivering service to these Canadians can be difficult, our members continue to expand their coverage to rural and remote areas of Canada. In some cases, members are partnering with government to connect remote areas, and in other cases, members are utilizing the latest in wireless technology developments to deliver wireless connectivity to rural Canadians.

While these efforts take time and, as referenced below, there exist regulatory barriers that make it difficult to deploy wireless infrastructure, it remains the goal of our members to make wireless connectivity available wherever Canadians work and live. This will be more readily achievable by implementing the recommendations set out herein.

1. Regulatory Framework Must Encourage Investment in Wireless Infrastructure

“The Canadian telecommunications carriers that have evolved from yesterday’s telephone and cable TV companies currently operate sophisticated digital network facilities. These facilities must, however, be continuously updated and expanded to ensure all Canadians have access to advanced services. A number of new entrants have contributed to the rollout of new services and facilities, enhancing both the availability and affordability of services.” (Responding to the New Environment: A Call for Comments)

Canada’s telecommunication policy has long-recognized facilities-based competition as the best way to encourage investment in wireless infrastructure, and this policy must be maintained. Only through significant investment by Canada’s facilities-based wireless operators can Canadians be assured robust, secure, world-class wireless networks that satisfy their increasing demands for wireless connectivity, and allow them to maximize their participation in the digital economy. Canada’s facilities-based wireless providers have embraced the challenge of building such networks, consistent with the government’s policy. Indeed, Canadian operators’ investment in telecommunications as a percentage of revenue is 1st in the G7 and 4th amongst OECD nations,¹¹ and Canadian operators generate the most capital expenditure per subscriber among the G7 and Australia.¹² Accordingly, through significant network investment, Canadians are able to enjoy world-class wireless networks, and only through continued investment – incited by the maintenance of a policy that supports investment through facilities-based competition – will their increasing demands for wireless communications and Internet use be met.

As Canada endeavors to transform into a data-driven, digital economy, its wireless networks will play an ever-more prominent role in such efforts. We are increasingly becoming a wireless society, with

¹¹ OECD Digital Economy Outlook, October 2017,

¹² BoA Merrill Lynch, Global Wireless Matrix, 2018.

Canadians consuming more wireless data than ever, and estimates predict continued mobile data consumption growth. According to the Cisco VNI Forecast Highlights, 2018:¹³

- Canada's mobile data traffic grew by 38% in 2017;
- In Canada, mobile data traffic will grow 4-fold from 2017 to 2022, a compound annual growth rate of 34%; and
- In Canada, mobile data traffic in 2022 will be equivalent to 2x the volume of the entire Canadian internet in 2005.

The recent CRTC *Communications Monitoring Report 2018* found that the average wireless subscriber used 163% more data in 2017 than they did in 2014.¹⁴ According to Ericsson, when taking both wireless networks and Wi-Fi into account, the average smartphone in North America will generate approximately 50GB of traffic per month by the year 2023.¹⁵

This increase in usage will coincide with the introduction of the next generation of wireless infrastructure, known as fifth-generation, or 5G. 5G will revolutionize the way Canadians interact with the world. It will not only enhance current uses of mobile communications but will also pave the way for new digital and data-driven businesses and services. Whether it is transportation, natural resources, retail, entertainment, advanced manufacturing, agriculture, "smart cities" or healthcare, there are very few sectors that will not be transformed by the introduction of 5G wireless networks. In large part, Canada's successful transition to a digital and data-driven economy will depend on a successful and timely introduction of 5G wireless.

In a recently published report commissioned by CWTA, Accenture found that "the adoption of 5G technology in Canada will propel innovation across industries and significantly improve Canadians' quality of life and the economy to the tune of a nearly \$40B annual GDP uplift by 2026."¹⁶ Accenture adds that 5G will also contribute to sustained job creation and add close to 250,000 permanent jobs by 2026.

The benefits of 5G are a result of its transformative characteristics. While current networks focus primarily on data transmission (i.e. throughput), 5G networks are being designed to not only provide faster transmission speeds but also to ensure more widespread coverage, handle more connected devices and traffic types, and support different use cases, including mission critical applications that require ultra-low latency. 5G will connect infrastructure, vehicles, sensors, buildings, machinery, and people in ways that will change how we use technology and data to work, play, and interact.

According to Accenture, initial 5G deployment in Canada will require \$26B in investment between 2020-2026, not including the costs associated with the acquisition of spectrum and annual spectrum license

¹³ Cisco, VNI Mobile Forecast Highlights 2018.

¹⁴ CRTC, Communications Monitoring Report, 2018.

¹⁵ Ericsson Mobility Report, November 2018.

¹⁶ Accenture, Fuel for Innovation: Canada's Path in the Race to 5G, <https://bit.ly/2tAEhn3>

fees.¹⁷ Only through investment by facilities-based carriers will Canada be able to keep pace with the development of the next-generations of networks, including 5G.

Despite the success that facilities-based competition has had in stimulating private sector investment, and providing the vast majority of Canadians with access to advanced telecommunications, some parties advocate for regulatory change that would require Canada's facilities-based carriers to give resellers or alternative wireless service providers (AWSPs) access to their wireless networks at regulated wholesale rates. Such a measure would negatively impact investment in Canada's wireless networks, slow the expansion of wireless connectivity to Canadians (especially in rural and remote regions), and delay the introduction of the latest wireless technologies, including 5G wireless.

As pointed out in expert evidence submitted during recent CRTC proceedings,¹⁸ international studies show that mandating reseller or AWSP access is associated with a 17% to 33% reduction in investment intensity.¹⁹ Evidence was also provided that illustrates mandating roaming access for non-facilities based carriers will negatively impact the "ability and incentive of mobile wireless carriers to invest in wireless facilities while increasing the cost and risk associated with those investments."²⁰ It was also shown how the European Union (EU) experienced drops in investment when it mandated access to broadband networks, and how that experience has led the EU to realize that if big private-sector investments are to occur, for example in the future 5G wireless networks, it cannot repeat the same mistakes.²¹

While mandating access to facilities-based carriers' networks would negatively impact investment by all facilities-based carriers, investment by new entrants and regional providers will be particularly impacted. The potential of losing customers to a reseller or AWSP that does not make comparable investments to provide wireless services would require regional carriers to re-evaluate their investments in building out their own networks.²² The negative impact would be particularly felt by Canadians in rural and remote areas where the economics of network deployment are already challenging, and where new entrants have played a role in helping to connect Canadians.

One does not have to rely solely on the position put forward by CWTA and its members on this issue. The CRTC's analysis in Telecom Regulatory Policy 2015-177, Telecom Decision 2016-20, Telecom Decision 2017-56, and Telecom Decision 2018-97 concluded that mandated AWSP access to the national carriers' networks would be too harmful to investment and would not be in the public interest.

Mandated access would have a negative impact on investment by facilities-based carriers. With resellers and AWSPs not assuming any of the risk of network investment, the resulting decline in investment would risk losing Canada's leadership role in wireless telecommunications, worsen the

¹⁷ *Ibid*

¹⁸ TN CRTC 2017-259

¹⁹ Bell Mobility Intervention in TN CRTC 2017-259, paragraph E30, referencing the report by Margaret Sanderson (Sanderson Report).

²⁰ Shaw Intervention in TN CRTC 2017-259, paragraph 54, referencing Emch White Paper.

²¹ See Rogers Intervention in TN CRTC 2017-259, Appendix 2, Report provided by Monti Stampa Furrer & Partners (Furrer Report). The European experience is also referenced in Shaw Intervention paragraphs 58-59.

²² Sanderson Report, page 7.

urban/rural digital divide and jeopardize Canada’s opportunity to be a world leader in the development and deployment of 5G technology and services. It would also hamper Canadians’ – and nearly every industry sector’s – ability to utilize the latest mobile innovations to increase productivity, grow the economy, and create well-paying, middle-class jobs.

Recommendation No.1: Canada should maintain its long-standing policy of encouraging investment through facilities-based competition. This policy has kept Canada at the forefront of the global wireless industry, with world-class wireless networks reaching the vast majority of Canadians.

2. Reducing Barriers to Deployment of Wireless Infrastructure

“Facilities-based telecommunications carriers must be able to efficiently roll out new infrastructure to increase the functionality, capacity, and reach of their networks to address consumer demand, particularly for an increasing range of domestic and foreign online services and applications. The proliferation of devices, operators and users that will emerge in the era of 5G wireless networks – and beyond – requires a legislative framework that is able to ensure the provision of adequate spectrum for advance services, safe and efficient radio apparatus, and access to the ‘passive infrastructure’ (i.e. poles, ducts and rights-of-way) required to accommodate the advanced and ubiquitous networks of tomorrow.” (Responding to the New Environment: A Call for Comments)

As projected dates for the launch of 5G services approach, many countries are recognizing the need to better facilitate the timely and cost-effective deployment of 5G technologies, such as small cells. Small cells, which are already being used as part of some 4G networks, are operator-controlled radio access nodes that use less power than macro-towers and typically have a range from ten metres to several hundred metres. Unlike macro cells, which often come in the form of 200-foot cell towers, small cell equipment is about the size of a pizza box, or backpack, and can be installed on existing infrastructure such as utility poles, light posts or the sides of buildings, where capacity is available.²³ These smaller cells are a practical and affordable way to create high-capacity mobile connections that are both ubiquitous and reliable. However, to achieve the coverage and capacity levels necessary to deliver a fully connected society requires a high density of small cells. This will require more precise cell positioning and a greater number of cell sites.

Accenture estimates that up to 273,000 small cells will be deployed across Canada over the next five to seven years; a huge increase over the approximately 33,000 large cell towers that have been deployed over the last 20 years or more.²⁴ Yet, many of the existing rules, regulations and fees governing the deployment of wireless infrastructure were established to address the siting of 200-foot tall cell towers,

²³ CTIA, Blog, “Modern Rules are Needed to Build Out Wireless Future”, June 28, 2018 [CTIA, June 28, 2018]

²⁴ Accenture, Fuel for Innovation at fn 16.

and are not fit-for-purpose with respect to small cell deployment and related telecommunications attachments.

Ensuring that the benefits of 5G are fully realized will require:

- (i) Fair and reasonable access to public land, buildings, streetlights and other street-furniture, as well as provincially-regulated electrical utility poles;
- (ii) The streamlining of municipal administrative processes, including shorter timelines, appropriate exemptions, and the use of objective standards; and
- (iii) Reasonable and non-discriminatory fees for the use of the above-referenced infrastructure.

Access to infrastructure for the deployment of wireless networks currently falls under a patchwork of federal, provincial and municipal jurisdiction, which adds complexity, cost and confusion to the efficient deployment of wireless networks. We are encouraged that, in the recently announced agreement by federal, provincial and territorial ministers on making broadband a priority, the ministers identified addressing deployment barriers as a key priority.²⁵ In the context of this statutory review, we make the following recommendations to help streamline the processes and oversight of deploying wireless infrastructure so that more Canadians can enjoy the benefits of advanced wireless telecommunications.

Access to Public Lands, Buildings and Street Furniture

Currently, Section 43(2) of the *Telecommunications Act* grants Canadian carriers a right “to enter on and break up any highway or other public place for the purpose of constructing, maintaining or operating its *transmission lines* and may remain there for as long as is necessary for that purpose, but shall not unduly interfere with the public use and enjoyment of the highway or other public place.” (emphasis added).

The right to access highways and public spaces is qualified by the requirement to obtain the consent of the municipality or other public authority with jurisdiction over the highway or public space (s. 43(3)). In the event that a carrier is unable to obtain consent on acceptable terms, it may apply to the CRTC for permission to construct (s. 43.4).

In a 2001 dispute between Ledcor Industries Limited (Ledcor) and the City of Vancouver relating to the terms and conditions under which Vancouver would grant Ledcor consent to construct a fibre optic transmission system in Vancouver, the CRTC determined the conditions under which Ledcor could have access to 18 street crossings and, in doing so, set out general principles to guide municipalities and telecommunications companies in their dealings regarding access to municipal rights-of-way.²⁶

While the so-called “Ledcor Principles” contain several elements, the key principle relating to costs associated with accessing municipal property is that: a municipality is entitled to recover from the carrier its causal costs, but those carriers should not be required to pay a land-based charge as a condition to constructing, maintaining and operating their transmission lines. In addition, with respect

²⁵ <https://www.canada.ca/en/innovation-science-economic-development/news/2018/10/federal-provincial-territorial-ministers-agree-to-the-principles-of-a-canadian-broadband-strategy-that-will-improve-access-to-high-speed-internet-f.html>

²⁶ CRTC Decision 2001-23. These principles have been applied in subsequent CRTC decisions.

to the costs of relocation of transmission lines for municipal work, the CRTC has directed that these costs be shared based on such factors as which party requested the relocation, the reason for the relocation, and when the request was made in relation to the original date of construction.

These principles have guided the telecommunications industry and municipalities in negotiating access agreements regarding the installation of wireline networks. However, some argue that the term “transmission lines”, and thus the Ledcor Principles, do not apply to wireless equipment and/or to access to all types of passive public infrastructure such as light poles, bus shelters, and sides of buildings. Currently, many municipal access agreements do not cover wireless equipment, and some municipalities expect carriers to pay land-based and other charges for the installation of wireless equipment that are not permissible with respect to wireline networks. The lack of clarity and resultant disparity will result in increased delay and costs in the deployment of wireless equipment. These delays and costs will adversely affect Canadians’ access to the latest wireless products and services.

As stated in the Call for Comments, it is imperative that facilities-based telecommunications carriers “be able to efficiently roll out new infrastructure to increase the functionality, capacity, and reach of their networks,” and that “the era of 5G networks – and beyond – requires a legislative framework that is able to ensure... access to the ‘passive infrastructure’ (i.e. poles, ducts and rights-of-way) required to accommodate the advanced and ubiquitous networks of tomorrow.”

Unnecessarily limiting the types of public infrastructure on which service providers can attach small cell equipment will frustrate the goal of providing advanced wireless telecommunications to Canadians. This can easily be addressed by clarifying and, if necessary, expanding the scope of the CRTC’s authority under Section 43 of the *Telecommunications Act*.

With respect to the authority of Parliament to make such a legislative change, it is clear that Parliament has such authority. The planning, construction, siting, maintenance and preservation of telecommunication networks fall under federal jurisdiction pursuant to subparagraph 92(10)(a) of the *Constitution Act, 1867*. While granting the CRTC authority to rule over matters of access to municipal property for such purposes might have incidental effects upon matters of provincial jurisdiction, such property and civil rights, it is well established that federal laws granting access to, or rights upon, property otherwise regulated under provincial jurisdiction for the purpose of a federal undertaking are valid.²⁷

Recommendation No.2: Section 43 of the Telecommunications Act, including the meaning of the term “transmission lines” in Section 43(2), should be clarified and, if necessary, expanded to give the CRTC authority to set rates and settle disputes regarding access and attachment rights for wireless equipment when it is placed on all types of public infrastructure, including light posts, bus shelters, and sides of buildings.

²⁷ See for example *Federation of Canadian Municipalities v. AT&T Canada Corp.*, [2002] F.C.J. No. 1777 (QL), 2002 FCA 500 (“Ledcor”) and *Barrie Public Utilities v. Canadian Cable Television Assn.*, [2002] 1. S.C.R. 476, 2003 SCC 28 (see Bastarache J. dissenting opinion in which he discusses constitutional question).

Access to Electrical Utility Poles

Most electrical utilities are provincially regulated so the rates they charge for accessing their support structures (poles and ducts) are not influenced by the CRTC, vary from jurisdiction to jurisdiction, are established using different methodologies, and often experience significant price hikes. Unlike the CRTC, provincial utility boards have no mandate to advance broadband connectivity or innovation, yet their behaviour significantly impacts the economic viability of deploying networks, especially in rural and remote areas.

The government should resolve this issue by expanding the CRTC's jurisdiction to include oversight of access to support structures (i.e. poles and duct) owned by provincially regulated utilities, and in doing so, empower the CRTC to set attachment rates and resolve related disputes as required.

As was the case with recommendation No.2 above, the federal government has the authority to enact such a regulation. In the *Barrie Public Utilities* case cited above, the Supreme Court ruled that s. 43(5) of the *Telecommunications Act* was not sufficiently broad, as written, to give the CRTC the authority over the utilities' power poles. It did not decide that Parliament could not grant such wider authority to the CRTC. Rather, the majority conclusion was based on its interpretation of the regulation itself and, as a result, found that it was unnecessary to address the constitutional question.

However, in his dissenting opinion, Justice Bastarache ruled that answering the constitutional question was a key part of the judicial review at issue. He noted that, in deciding that s. 43(5) did give it authority over the utilities' power poles, the CRTC undertook a thorough constitutional analysis and "for future cases it may assist the CRTC to have comments from this Court on its reasoning. Moreover, my analysis may be helpful to Parliament should it decide, in light of the majority's decision, to amend s. 43(5)".²⁸

In reviewing the CRTC's constitutional analysis, Justice Bastarache concluded that the CRTC was correct in deciding that its interpretation of s. 43(5) is constitutionally valid. The dominant characteristic of s. 43(5), as construed by the CRTC, is to empower "the CRTC to aid federal undertakings by granting them access to the infrastructure of provincially regulated utilities when they have otherwise failed to obtain access on acceptable terms",²⁹ and such "pith and substance of the law is properly assigned to s. 92(10)(a) of the *Constitution Act, 1867*."³⁰ Since it is a valid law, "incidental effects upon matters of provincial jurisdiction are constitutionally irrelevant."³¹ In short, if Parliament were to amend the *Telecommunications Act* to allow the CRTC to permit access to the power poles of provincially regulated utilities, such regulation would be *intra vires* Parliament.

Recommendation No.3: The CRTC should be granted jurisdiction under the Telecommunications Act for setting attachment rates and resolving any disputes regarding access to electrical utility poles and ducts.

²⁸ *Barrie Public Utilities*, paragraph 102.

²⁹ *Ibid*, paragraph 106.

³⁰ *Ibid*, paragraph 107.

³¹ *Ibid*, paragraph 107.

3. Safety and Security

“Safety, security, and privacy are broad issues that extend well beyond the Telecommunications Act and Radiocommunication Act. Economic security, national security, public safety, and the security of critical infrastructure are distinct and yet closely linked. These concepts are more broadly addressed through other statutes and legislative authorities. In considering the Telecommunications Act/Radiocommunication Act, key considerations are how to balance security, privacy, and the potential for economic growth and innovation, and whether changes are warranted in this context or are best addressed elsewhere.

Keeping in mind the broader legislative framework, to what extent should the concepts of safety and security be included in the Telecommunications Act/Radiocommunication Act?” (Broadcasting and Telecommunications Legislative Review - Terms of Reference)

(a) Public Safety

Canada’s wireless industry is a valuable contributor to the safety of Canadians. Working with the CRTC and other federal, provincial and territorial government agencies, such as Public Safety Canada, the wireless industry has adapted its services to provide important public safety services. Examples include: Enhanced 9-1-1 (E9-1-1), which provides more precise information regarding the location of a 9-1-1 caller; Text with 9-1-1, which allows members of the deaf, deafened, hard-of-hearing or speech-impaired (DHHSI) community in Canada who have registered for the service to communicate with 9-1-1 call centres using text messaging; and Wireless Public Alerting (WPA), which is one component of Alert Ready, or the National Public Alerting System (NPAS), which is overseen by the Government of Canada, through the CRTC and Public Safety Canada.

Each of the above services was created, at least in part, under the authority granted to the CRTC pursuant to the *Telecommunications Act*. In mandating actions by wireless service providers to help facilitate these services, the CRTC cited its obligation to exercise its powers to implement the policy objectives set forth in Section 7 of the Act.³²

Each of the above examples shows that the *Telecommunications Act* already allows the CRTC, often working in concert with other government departments and agencies responsible for public safety, to implement policies aimed at enhancing public safety. We are not aware of any evidence to suggest that public safety is ill-served under the current legislative framework, or that the CRTC lacks any necessary direction or authority pertaining to public safety and telecommunications. On the contrary, amending the *Telecommunications Act* to add provisions dealing with public safety could reduce the flexibility that the CRTC currently has to evaluate circumstances on a case-by-case basis, and to adapt to the ever-changing technological landscape. In addition, overly-prescriptive legislation could impose obligations on the industry that are not appropriate for all participants, unnecessarily add to the cost of providing wireless services to Canadians, and ultimately the price that Canadians pay for wireless services.

³² See for example Telecom Regulatory Policy CRTC 2009-40, Broadcasting and Telecom Regulatory Policy CRTC 2009-430

(b) Security

The protection and privacy of wireless communications is at the forefront of Canadian wireless operators' concerns. Each year, significant resources are invested by wireless service providers and equipment vendors on measures to protect the privacy and integrity of customer and network communications. These measures include embedding security mechanisms into the network (e.g. encryption), advanced threat detection, participating in the creation –and following – of international and national best practices, and employing teams of security experts to design, implement and manage security services and operations.

In addition, international standard-setting bodies for mobile wireless networks have made security a top architectural priority.³³ With the advent of 5G, new cybersecurity considerations have been taken into account when developing the standards for 5G, including new visibility and control elements that allow network operators to protect the security of their networks and customers.

While the barriers to compromising mobile security are very high,³⁴ Canada's wireless service providers routinely engage with other industry members, government stakeholders, and international associations to share information and to develop best practices. For instance, to complement and advance individual company efforts, the international carrier association GSMA,³⁵ develops security best practices and guidelines, and shares threat intelligence so that members can adapt their security practices when new threats emerge.

Canadian telecommunications companies are also working with the Government of Canada through the Canadian Security Telecommunications Advisory Committee (CSTAC), and its Canadian Telecom Cyber Protection (CTCP) Working Group, to share knowledge and best practices regarding potential security threats. For example, CSTAC's telecommunication industry members created the *Canadian Telecommunications Service Providers' (TSP) Security Best Practices*, a series of voluntary measures "designed to guide service providers on implementing the appropriate level of network security required to meet their customers' needs."³⁶

The not-for-profit Canadian Cyber Threat Exchange has also been established to provide a forum for private sector companies, including telecommunication companies, to share information regarding cybersecurity threats. Finally, wireless service providers are required under Canada's privacy regulations to safeguard any personal information that they collect, and to report any applicable privacy breaches.

There is "no one size fits all" solution that will work for all carriers and platforms. As such, wireless carriers and their dedicated cybersecurity teams closely monitor emerging threats, and introduce those controls that are suitable for their networks and customers.

³³ See *The Evolution of Security in 5G*, 5G Americas, October 2018 - http://www.5gamericas.org/files/8815/4092/3086/5G_Americas_5G_Security_White_Paper_Final.pdf.

³⁴ See *GSMA Mobile Policy Handbook 2017* at page 193

³⁵ Canada's national and most regional facilities-based carriers are members of GSMA – see <https://www.gsma.com/membership/who-are-our-gsma-members/full-membership/>

³⁶ https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h_sf10727.html

All of the above measures illustrate the importance that Canada's wireless industry places on security and the level of cooperation among wireless industry participants and domestic and international government departments, agencies, and industry associations to ensure that all participants have the latest information and share their best security practices. We are not aware of any evidence that Canada's wireless industry is not acting responsibly with respect to the security of Canada's wireless network infrastructure, or that there is the need to amend the *Telecommunications Act* to add provisions dealing with security.

If there arose a concern regarding the security practices of a wireless service provider, we suspect that the CRTC would, just as it has on issues dealing with public safety, take the position that it has authority under the policy objectives of Section 7 of the Act to investigate such concerns. Adding prescriptive regulations to deal with security would not only be unnecessary, but risk reducing the flexibility that the government and industry currently have to adapt to future circumstances and needs. As stated above, there is no one size fits all solution for security threats, and rigid regulation will be less efficient and effective than the current regulatory framework and the wireless industry's adoption of best practices.

Recommendation No.4: Changes to the Telecommunications Act to address the concepts of safety and security are not needed. The concepts of safety and security are already addressed in the policy objectives set forth in Section 7 of the Telecommunications Act. These objectives have been relied upon by the CRTC to mandate the provision of services related to public safety. The current legislation provides the regulator and industry with the necessary flexibility to adapt to ever-changing technology and any related safety and security concerns.

4. Network Neutrality

“Are current legislative provisions well-positioned to protect net neutrality principles in the future?” (Broadcasting and Telecommunications Legislative Review - Terms of Reference)

The CRTC refers to network neutrality (or net neutrality) as “the concept that all traffic on the Internet should be given equal treatment by Internet providers with little to no manipulation, interference, prioritization, discrimination or preference given”.³⁷ The CRTC has given effect to this concept in a series of decisions regarding the management or treatment of internet traffic. These decisions, taken together, make up what is effectively Canada’s net neutrality framework.

Statutory Basis for Network Neutrality

The statutory authority for the Canadian network neutrality framework is derived from several sections of the *Telecommunications Act*. The objectives set forth in Section 7 of the *Act* have been broadly interpreted to mandate policy that advances competition, innovation, and investment in telecommunications.³⁸ Section 27 of the *Act* confers broad powers on the CRTC to police the exercise of discrimination by carriers,³⁹ with subsection 27(2) requiring that “no Canadian carrier shall, in relation to the provision of a telecommunications service or the charging of a rate for it, unjustly discriminate or give an undue or unreasonable preference toward any person, including itself, or subject any person to an undue or unreasonable disadvantage.”⁴⁰ Subsection 27(4) establishes that the burden of proof that any discrimination is not unjust, or that any preference or disadvantage is not undue or unreasonable, lies on the Canadian carrier that discriminates, gives the preference, or subjects the person to the disadvantage. Finally, Section 36 of the *Act* states that “except where the CRTC approves otherwise, a Canadian carrier shall not control the content or influence the meaning or purpose of telecommunications carried by it for the public.” In applying these provisions to specific fact situations, the CRTC has established a framework for how the *Act* will be applied to specific activities.⁴¹

In Regulatory Policy 2017-104, the CRTC determined that there was no need to create a new, separate code for net neutrality in Canada, since Parliament’s intentions, as expressed through the *Act* (in particular subsection 27(2)) – together with Regulatory Policy 2017-104, the ITMP framework (2009-

³⁷ CRTC website, “Strengthening Net Neutrality”.

³⁸ Alexander J Adenyinka, “Avoiding ‘Dog in the Manger’ Regulation – A Nuanced Approach to Net Neutrality in Canada” (2009), *Ottawa Law Review* 40:1 at 4; see also *Telecommunications Act*, s 7.

³⁹ Richard D French, “Net Neutrality 101” (2007), *University of Ottawa Law & Technology Journal* 4:109 at 117-118 [French].

⁴⁰ *Telecommunications Act*, s. 27(2).

⁴¹ See CRTC, The Canadian Association of Internet Providers’ Application Regarding Bell Canada’s Traffic Shaping of its Wholesale Gateway Access Service, Telecom Decision 2008-108, Nov 20, 2008 [CAIP]; CRTC, Review of the Internet Traffic Management Practices of Internet Service Providers, Telecom Regulatory Policy 2009-657, Oct 21, 2009 [“ITMP Framework”]; CRTC, Usage-based Billing for Gateway Access Services and Third-Party Internet Access Services, Telecom Decision 2011-44, Jan 25, 2011 [UBB for GAS and TPIA]; CRTC, *Framework for assessing the differential pricing practices of Internet service providers*, Telecom Regulatory Policy 2017-104, April 20, 2017 at para 126 [ITMP Differential Pricing Practices Framework].

657), the Mobile TV decision (2015-26), and Telecom Decision 2017-105 – effectively constitute Canada’s net neutrality code.

CWTA strongly agrees there is no need to create a new, separate code for net neutrality in Canada, or to amend the *Telecommunications Act* to deal further with the concept of net neutrality. Without commenting on the merits of the decisions and policies identified above, these decisions and policies show that sections 7, 27, and 36 of the *Act* provide the CRTC with the necessary authority and flexibility to consider specific fact situations and to determine whether, in its opinion, the activities under consideration are consistent with the concept of net neutrality.

Attempts to define and codify net neutrality could have negative unintended consequences. There is no single, unanimously accepted definition of net neutrality and an effort to expressly enshrine the concept of net neutrality into the *Telecommunications Act* could have a chilling effect on the introduction of innovative products and services to Canadians,⁴² products and services that the majority of Canadians want and that will be beneficial to Canadian society. For example, most Canadians would agree that giving preference to data used to facilitate mission-critical applications (such as public safety services, the operation of automated vehicles, or remote surgery), above data for streaming a movie or playing a video game, is desirable.

CRTC Chairperson and CEO, Ian Scott, stated so much in his address to the annual conference of the Canadian Chapter of the International Institute of Communications in November, 2018:

The *Telecommunications Act* provides the CRTC with the tools and flexibility to establish and enforce a net neutrality framework. The framework we have built over the past 10 years will likely be tested as needs and technology continues to evolve. There may indeed be situations relating to public safety or security, telemedicine, or self-driving cars where a certain flexibility will be required and should therefore be maintained in the legislation.⁴³

The current provisions of the *Telecommunications Act* provide the CRTC with the authority and flexibility to assess future wireless service offerings, and to determine whether they comply with the provisions and objectives of the *Act*. A more rigid codification of the concept of net neutrality could make it more difficult for the CRTC to make decisions that are for the benefit of Canadians.

In summary, CWTA supports an open Internet that allows Canadians to access lawful content of their choice in accordance with Canadian laws. As the CRTC stated in its testimony before Parliamentary and Senate committees, and in Chairperson Scott’s comments referenced above, the *Telecommunications Act* provides the CRTC with all the necessary powers and flexibility it requires to look at questions of network neutrality on a case-by-case basis.

⁴² Scott Wallsten and Stephanie Hausladen, “Net Neutrality, Unbundling, and their Effects on International Investment in Next-Generation Networks” (2009), *Review of Network Economics* 8:1 at 91 [Wallsten].

⁴³ <https://www.canada.ca/en/radio-television-telecommunications/news/2018/11/ian-scott-to-the-annual-conference-of-the-canadian-chapter-of-the-international-institute-of-communications.html>

Recommendation No. 5: The current Telecommunications Act provides the CRTC with the authority it requires to apply network neutrality principles to future innovative telecommunication services and technology.

B. IMPROVING THE RIGHTS OF THE DIGITAL CONSUMER

“As telecommunications services pricing and contracts have grown more complex, measures to protect consumer interests have become more important. The ability for Canadians with physical disabilities to be able to fully engage with modern communications services is critical to their social and economic wellbeing. Relevant legislative provisions include the policy objective to respond to the economic and social requirements of users and CRTC authority to attach conditions of service. Currently, the CRTC requires that telecommunications service providers participate in the consumer protection framework administered by the Commission for Complaints for Telecommunications Services and to abide by the CRTC's Wireless Code of Conduct. Similarly, the CRTC has regulations in place to compel accommodations for Canadians with disabilities such as Video Relay Service, which is a sign-language translation service used by Canadians with hearing disabilities.

Are further improvements pertaining to consumer protection, rights, and accessibility required in legislation?” (from Broadcasting and Telecommunications Legislative Review - Terms of Reference)

Digital technologies and the innovative use of data are, and will increasingly be, at the forefront of how Canadians interact with one another, businesses increase their productivity, and governments deliver services. As Canadians embrace digital technologies and the use of data, they will increasingly do so using wireless communications.

Today, over 31.7 million Canadians subscribe to wireless services.⁴⁴ Data traffic on Canada's mobile wireless networks is expected to grow four-fold from 2017-2022,⁴⁵ with mobile data traffic in 2022 expected to be equivalent to two times the volume that the entire Canadian internet created in 2005.⁴⁶

Canadians' extensive adoption and use of wireless technologies, and with it the adoption of digital technologies and growing consumption of data, is due in large part to the fact that Canadians enjoy some of the best-performing wireless networks in the world. It can also be attributed to the fact that Canadians trust wireless technology and services, and know that their rights are protected by the responsible business practices of wireless service providers and the applicable regulations governing the relationships between service providers and consumers. The Wireless Code and the *Personal*

⁴⁴ CRTC, Communications Monitoring Report 2018.

⁴⁵ Cisco, VNI Mobile Forecast Highlights 2018.

⁴⁶ Ibid.

Information Protection and Electronic Documents Act, as well as industry-run programs like Device Check Canada⁴⁷, are examples of some of the broad protections that exist for consumers of wireless services.

The Wireless Code

In 2013, following broad public consultation and with the support of Canada's wireless service providers, the CRTC established the Wireless Code⁴⁸, a mandatory code of conduct for providers of retail mobile wireless voice and data services which aims to "make it easier for individual and small business consumers to get information about their contracts with wireless service providers and about their associated rights and responsibilities, establish standards for industry behaviour, and contribute to a more dynamic marketplace"⁴⁹ The Wireless Code was preceded by the wireless industry's voluntary Code of Conduct.⁵⁰ It similarly sought to ensure that wireless subscribers had the information they needed to make informed purchasing decisions in order to safeguard their rights as customers and ensure that any concerns they had were addressed.

After nearly five years in practice, the Wireless Code is largely achieving these objectives. By providing a set of guidelines for wireless customers across Canada, the Wireless Code has helped alleviate the administrative burden on provincial governments, regulators and wireless service providers, and has reduced consumer confusion. The contents of the Code, and its consistent application at the point-of-sale, have provided Canada's wireless consumers with an even better understanding of their rights and responsibilities in Canada's wireless market. As a result, despite the number of Canadian wireless subscribers increasing year over year, the number of confirmed breaches of the Wireless Code fell from 582 for the year ending July 31, 2015 to 111 for the year ending July 31, 2018; a decrease of 80.93%.⁵¹

Despite the success of the Wireless Code, there remains confusion and conflict between the Wireless Code and various provincial consumer protection regulations. During the proceedings which preceded the establishment of the Wireless Code, CWTA submitted that "the preeminent measure of a successful Wireless Code is one set of regulations that applies to all wireless agreements made in Canada."⁵²

While the CRTC, in its final determination, concluded that "the Wireless Code should apply to all individual Canadian consumers of wireless services equally wherever they reside," and stated that "where the Wireless Code is in direct conflict with a valid provincial law, the Wireless Code takes precedence," it failed to declare that the Wireless Code is the exclusive regulation dealing with wireless consumer contracts in Canada.

⁴⁷ Device Check Canada, administered by CWTA, provides instant access to the Canadian national database of mobile devices reported lost and stolen. Consumers can use Device Check Canada when purchasing a pre-owned device to check if the device has been reported lost or stolen. See www.devicecheck.ca.

⁴⁸ Telecom Regulatory Policy CRTC 2013-271. The Wireless Code was subsequently updated in 2017 – see Telecom Regulatory Policy CRTC 2017-200

⁴⁹ Preamble to the Wireless Code.

⁵⁰ <https://www.cwta.ca/for-consumers/code-of-conduct/>

⁵¹ CCTS Annual Reports.

⁵² CWTA Final Written Comments – Telecom Notice of Consultation 2012-557 – Proceeding to establish a mandatory code for mobile wireless services – March 1, 2013

Failure to make such a declaration resulted in continued efforts by provinces to legislate in areas already covered by the Wireless Code. For instance, while Nova Scotia has repealed its existing consumer legislation in light of the Wireless Code, Manitoba, Quebec and Newfoundland still have active wireless consumer legislation. Ten months after the Wireless Code decision was issued, the province of Ontario enacted its own *Wireless Services Agreements Act*.⁵³ In 2017, the province of Alberta enacted changes to its consumer protection legislation which deal with unilateral contracts across industries, including wireless service contracts.⁵⁴ These changes introduced provisions which conflict with the Wireless Code, and in some cases are detrimental to the interests of wireless subscribers in Alberta.

These conflicting provincial regulations continue to confuse and frustrate wireless consumers and increase the administrative burden on service providers that must account for multiple sets of rules. The Consumers Council of Canada predicted this scenario during the Wireless Code proceeding when it submitted that references to the Code co-existing with provincial regulations would “create the confusion that we believe a national Code ought to eliminate.”

CWTA agrees with the Council, and submits that the federal government should address the existing confusion by clearly declaring, pursuant to its constitutional authority to regulate federal undertakings such as telecommunications, that the Wireless Code is the only valid wireless consumer contract regulation in Canada.

Recommendation No.6: The federal government should declare that the Wireless Code is the exclusive wireless consumer contract regulation in Canada.

Privacy and the Protection of Personal Information

Like other private sector organizations, wireless service providers’ collection, use and disclosure of personal information is governed by the *Personal Information Protection and Electronic Documents Act* (PIPEDA) and overseen by the Office of the Privacy Commissioner of Canada. However, unlike other private sector organizations, Canada’s wireless service providers’ collection, use and disclosure of personal information is currently also subject to oversight by the CRTC.

Paragraph 7(i) of the *Telecommunications Act* states that one of the policies of the *Act* is “to contribute to the protection of the privacy of persons”.⁵⁵ Section 24.1 of the *Act* further states that “[t]he offering and provision of any telecommunications service by any person other than a Canadian carrier are subject to any conditions imposed by the CRTC, including those relating to:(b) protection of the

⁵³ The Ontario government has recently introduced Bill-66, which if passed, will eliminate the Wireless Services Agreements Act. In explaining the reasons for introducing Bill-66, Bill Walker, Minister of Government and Consumer Services stated that the Act “has been superseded by federal regulations which provide nearly identical protections for all Canadians...Repealing the provincial Wireless Services Agreement Act frees businesses from burdensome duplicate regulations and provides consumers with clarity on their wireless service rights.” – see <https://mobilesyrup.com/2018/12/06/ontario-bill-66-wireless-services-agreement-act/>

⁵⁴ Bill 31: *A Better Deal for Consumers and Businesses Act*. <https://www.alberta.ca/consumer-protection-changes.aspx>

⁵⁵ *Telecommunications Act*, para. 7(i).

privacy of those users.”⁵⁶

This has led to Canadian wireless service providers being subject to two different legislative regimes when it comes to dealing with personal information. For example, in addition to its obligations under PIPEDA, wireless service providers must also comply with the privacy-related provisions of the Wireless Code. Conversely, other private sector organizations, including large multinational companies like Google, Facebook and Amazon, that collect a massive amount of personal information from Canadians, are subject to only PIPEDA.

Given that the *Telecommunications Act* was enacted prior to PIPEDA, it made sense for the CRTC to be given authority to oversee the protection of the privacy of individuals. However, now that PIPEDA is in effect, and the Office of the Privacy Commissioner are recognized experts in the protection of personal information, it does not make sense to have two government regulators sharing responsibility for the privacy practices of wireless service providers. In his testimony before the Standing Senate Committee on Transport and Communications, Privacy Commissioner Therrien raised this very issue:

Let me answer your question directly: is it right and proper, is it desirable, for telecommunications companies to be subject to a slightly different system? They are subject to the same general system, but they are also subject to a system of their own. Is that what we want? Is it fair that companies—and let me be very specific—like Bell and Telus are subject to a system that, in theory, is a little more stringent than are Facebook and Google as they carry out similar activities?

I do not have the answer. You are starting this study. The government has given CRTC a mandate to conduct a study too. I have no answer for you, but I do feel that it is a matter you should be looking into.⁵⁷

The Office of the Privacy Commissioner, as the administrator of PIPEDA, is well-equipped to address the challenges of future technologies, including big data and artificial intelligence. When PIPEDA was developed nearly 20 years ago, it was hailed as a remarkable achievement, built through consultation amongst consumer, business and government representatives. The legislation encompasses ten commonly accepted fair information principles that reflect the concepts of openness and transparency, knowledge and consent, and sensitivity and harm. Equally important, it was drafted in technology neutral language that was as broad as possible, in order to stand the test of time.

The technical advances and innovations that have occurred since PIPEDA’s inception have introduced new ways for individuals to interact with other individuals, businesses and government, and – in some cases – the amount and type of personal information that they share with others. Notwithstanding these advances, PIPEDA and the privacy principles on which it is based have withstood the test of time, and continue to provide a sound framework that balances the right to privacy with the need for organizations to collect, use and disclose personal information for reasonable purposes and with informed consent.

⁵⁶ *Telecommunications Act*, s. 24.1.

⁵⁷ Testimony of Daniel Therrien, Privacy Commissioner, Office of the Privacy Commissioner of Canada before the Standing Senate Committee on Transport and Communications on October 16, 2018 - <https://sencanada.ca/en/Content/Sen/Committee/421/TRCM/54279-e>

As technology and the collection and use of personal information have evolved, so too have the concepts of transparency, informed consent and what individuals consider to be reasonable. This has resulted in investigations, findings and guidelines issued by the Privacy Commissioner that have introduced new ways and methods for organizations to ensure transparency and informed consent when collecting personal information. Privacy By Design guidelines, transparency reports, and the new consent guidelines are concrete examples of how PIPEDA and tools created to support it have successfully met the challenges of an evolving world of information sharing.

Recommendation No.7: Given the enactment of PIPEDA, paragraph 7(i) of The Telecommunications Act should be removed from the Act.

Accessibility - Persons with Disabilities

With respect to the question of whether the *Telecommunication Act* requires amendment to address the needs of Canadians with disabilities, it is clear from the historical record that the CRTC has found that the current provisions of the *Act* provide it with the power and authority necessary to impose conditions of service where it has concluded that the market is not sufficiently addressing accessibility needs.⁵⁸ But it is equally important to recognize that, for years, the wireless industry has also been working to ensure that the wireless services they provide are accessible to Canadians with disabilities. Examples include:

- Equipment with accessible features for those with vision, hearing, physical, cognitive, and speech limitations;
- Wireless rate plans to accommodate unique needs;
- The development and proliferation of virtual personal assistant services for smartphones and other equipment such as home appliances;
- Third party applications;
- Services like Text with 9-1-1 and Video and IP Relay;
- Special web pages with information on accessible products and services; and
- Accessible formats for bills and other documents and information, including the production of American Sign Language (ASL) and Quebec Sign Language (Langue des signes du Quebec (LSQ)) videos regarding the Wireless Code.

Some of these initiatives were undertaken under the direction of, or in collaboration with, the CRTC, while others were undertaken independently. To fully understand the breadth of these initiatives and offerings, the following is a brief overview.

⁵⁸ See for example, Broadcasting and Telecom Regulatory Policy CRTC 2009-430 (Accessibility of Telecommunications and Broadcasting Services), in which the CRTC relies on s.24, s.47 and the policy objectives set out in paragraphs 7(a), 7(b), 7(c), 7(g) and 7(h) of the *Act* as its authority to impose regulatory measures pertaining to accessibility of telecommunication services.

Wireless Handsets

Wireless handset and operating system manufacturers continue to improve and expand the features that make it easier for persons with disabilities to utilize wireless communication services.⁵⁹ For individuals who are blind or visually impaired, or have other physical limitations, Android devices include a variety of settings and apps that allow the user to interact with and control their device through voice commands, including:⁶⁰

- TalkBack describes the user’s actions and tells them about alerts and notifications;
- Screen display can be customized by changing font size, adjusting contrast and colour options, as well temporarily enlarged using the magnification feature;
- Voice Access allows the user to use spoken commands to control their device, such as opening apps, navigating and editing text hands-free;
- Switch Access lets a user interact with an Android device using one or more switches instead of the touch screen;
- Brailleback allows user to connect a braille display to their device to offer a combined speech and braille experience; and
- Closed captioning support.

Apple devices provide similar capabilities through features such as VoiceOver, Speak Screen, Audio Descriptions and more.⁶¹

Handset manufacturers are also offering handsets that have been designed, tested and certified to improve performance for consumers who use hearing aids. These handsets are designed for reduced RF interference and compatibility with telecoil hearing aids.⁶²

Handset manufacturers also offer devices in a variety of sizes and configurations to accommodate various needs, such as so-called “phablets” that offer larger screens which make it is easier to operate the device.

Virtual Personal Assistants

The last few years have seen the introduction of a variety of virtual personal assistants, including Apple’s Siri, Google Assistant, Amazon’s Alexa, Samsung’s Bixby, and Microsoft’s Cortana. These services allow individuals to use voice commands to ask their virtual assistant questions, control their smartphone or tablet and other devices such as household appliances, manage tasks like email, calendar and to-do-lists, play games, and monitor health.⁶³ Virtual assistants are not restricted to use on a smartphone or tablet,

⁵⁹ See <http://www.gari.info/index.cfm> for a comprehensive database of accessible devices and apps.

⁶⁰ See https://support.google.com/accessibility/android/answer/6006564?hl=en&ref_topic=6007234 for more information.

⁶¹ See <https://www.apple.com/ca/accessibility/iphone/> for more details.

⁶² For example, see Samsung’s list of current HAC phones as listed on its U.S. website - <https://www.samsung.com/us/accessibility/mobile/>

⁶³ The functions supported by virtual assistants continues to grow. See for example <https://www.digitaltrends.com/home/2018-top-amazon-alexa-skills/> and <https://www.tomsguide.com/us/pictures-story/917-best-google-assistant-features.html#s11>

but are also being incorporated into an increasing number of other products such as security cameras, door locks, thermostats, smart plugs and smart light bulbs.

While any individual can use virtual personal assistants, they are particularly useful to persons with disabilities. As virtual personal assistants continue to proliferate, they will enable persons with disabilities to perform more and more tasks that they had previously been unable to perform, or that required much more effort and time to complete.⁶⁴

Third Party Applications

In addition to the features and applications provided by smartphone operating system developers and handset manufacturers, third party developers have created a variety of applications to assist users with physical disabilities.⁶⁵

For consumers who are blind or visually impaired, there are navigation applications such as Nearby Explorer⁶⁶ which not only provides directions but also describes the environment around the user. Be My Eyes connects blind or visually impaired consumers to a network of sighted users who can assist the user through a live audio-visual connection.⁶⁷ Apps such as Dolphin EasyReader⁶⁸ can be used in conjunction with online accessible libraries such as BookShare to access large libraries of titles that are in formats that are adapted to the needs of the blind, visually-impaired or with other reading difficulties. These are just a few examples of the many third party applications available to assist those who are blind or are visually impaired.

Consumers who are deaf or hard of hearing are also being served by third party developers. Ava⁶⁹ is a portable translator that can be used by a member of the deaf, deafened, hard of hearing, or speech-impaired (DHHSI) community to translate the speech of the person with whom they are speaking into text. Padius⁷⁰ uses speech synthesis and voice recognition technologies to allow persons who are deaf or hard of hearing make phone calls. Sound Alert⁷¹ makes the user aware of sounds in their environment by using visuals, flashing lights and vibrations.

Wireless Service Plans

Canada's wireless service providers offer a wide range of wireless service plans at varying price points that serve the needs of individual Canadians. In addition, for Canadians who self-identify as having a disability, wireless service providers offer special plans or add-ons, such as complimentary additional data allowance, discounted rates, and extended trial periods.

⁶⁴ *Voice Assistants are Changing How Users with Disabilities Get Things Done*, Modev (April 19, 2018)

<https://www.modev.com/blog/voice-assistants-are-changing-how-users-with-disabilities-get-things-done>

⁶⁵ For a comprehensive list of applications for persons with dexterity, vision, hearing, and cognition disabilities see <http://www.gari.info/index.cfm>.

⁶⁶ <https://play.google.com/store/apps/details?id=org.aph.avigenie>

⁶⁷ <https://play.google.com/store/apps/details?id=com.bemyeyes.bemyeyes>

⁶⁸ <https://play.google.com/store/apps/details?id=com.yourdolphin.easyreader&hl=en>

⁶⁹ <https://www.ava.me/>

⁷⁰ <http://www.padius.org/us/home/>

⁷¹ <https://play.google.com/store/apps/details?id=com.ugs.soundAlert&hl=en>

Specialized Wireless Services

In addition to equipment and software designed to enhance accessibility to wireless services, Canada's wireless service providers also offer specialized services tailored to the needs of consumers with disabilities.⁷² These include:

- Text with 9-1-1 (T9-1-1): a service that enables members of the DHHSI community in Canada that have registered for T9-1-1 to communicate with 9-1-1 call centres using text messaging;⁷³
- Internet Protocol (IP) Relay Service: allows members of the DHHSI community to connect via on-line chat to specially trained operators who place phone calls on their behalf and facilitate conversations;
- Video Relay Service (VRS): similar to IP relay, VRS allows consumers who use sign language to communicate with voice telephone users via VRS operator and internet-based videoconferencing;
- Voicemail to Text: converts voice messages to text;
- Alternative Format for contracts and related documents: customers who are blind or visually impaired can receive relevant documents in alternative formats, such as large font, Braille, screen-reader compatible, audio-CD;
- Complimentary in-store sign language interpreter services;
- Customer service personnel with training in serving persons with disabilities; and Web content designed in accordance with Web Content Accessibility Guidelines (WCAG 2.0).

Consumer Resources

As the availability of accessible wireless services and products increases, so do the resources available for learning about these offerings. Wireless service providers include sections of their websites that are dedicated to information about services, products and features that are beneficial to consumers with disabilities.

CWTA also works with its members and the accessibility community to promote services and products that are important to the community. For example:

- CWTA has produced a series of videos in ASL/LSQ describing consumers' rights under the Wireless Code, as well as explaining common terminology used by wireless service providers;
- CWTA is currently developing and producing a similar series of ASL/LSQ videos that will explain wireless public alerting;
- CWTA maintains the Text with 9-1-1 website, which provides consumers with information about the service and how to obtain it, including videos in ASL and LSQ;⁷⁴ and
- CWTA undertakes consultation and outreach activities that allow wireless providers to solicit feedback from impacted stakeholders.

⁷² Availability and terms for each particular service provider can be found on their respective website.

⁷³ <https://www.textwith911.ca/en/home/>

⁷⁴ <https://www.textwith911.ca/en/home/>

CWTA is also in the initial stages of revising the wirelessaccessibility.ca website to provide consumers with up-to-date information about the accessibility products and services relevant to them.

The Importance of 5G to the Needs of Persons with Disabilities

5G will enable the introduction of new advances in important sectors such as transportation, health care, education and public safety, many of which will improve the lives of people with disabilities.⁷⁵

Examples include:

- Self-driving vehicles that will allow those with mobility issues and other disabilities to be more independent and create more job opportunities;⁷⁶
- Remote healthcare that connects patients with health care providers, improving patient access to specialists and the use of wireless health-monitoring devices, thus improving patient outcomes;
- Virtual and augmented reality programs to assist individuals with cognitive and learning disabilities;
- Expansion of home automation services, within and outside the home, as 5G enables “smart city” applications of voice and physical gesture commands;
- Vast improvements to quality of video conferencing, which will be particularly beneficial for those who use ASL/LSQ to communicate; and
- As a result of denser small cell networks, improved geolocation and navigation services that will assist individuals who are blind or have low vision to better navigate their community.

In order for Canadians, including those with disabilities, to enjoy the benefits of 5G, it is important that the recommendations in this submission regarding encouragement of investment in wireless networks – and the removal of barriers to the deployment of wireless infrastructure – are implemented.

Eliminating Regulatory Overlap and Redundancy

Access to wireless telecommunication services is rightfully a matter that is subject to the authority of the CRTC. As such, we are pleased that, notwithstanding the introduction of Bill C-81 – *An Act to Ensure a Barrier-Free Canada*, the CRTC will, even if the Bill is passed, continue in its current role with regards to regulation of accessibility to wireless telecom products and services.

We do, however, have some concerns that Bill C-81 will give jurisdiction, and create reporting obligations, to a new regulatory body over non-product and service aspects of telecommunications businesses. Being governed by multiple federal statutes, as well as some provincial accessibility

⁷⁵ For a more comprehensive discussion of the wireless industry’s contribution to meeting the needs of those with disabilities and the importance of 5G to these efforts, see CTIA Public Notice Comments – Accessibilities of Communications Technologies - <https://api.ctia.org/wp-content/uploads/2018/05/180503-CTIA-Comments-for-CVAA-2018-Biennial-Report.pdf>. Many of the comments made in the CTIA submission are applicable to Canada.

⁷⁶ In the U.S. self-driving vehicles are projected to enable new employment opportunities for approximately 2 million individuals with disabilities, and save \$19 billion annually in healthcare expenditures from missed medical appointments. Self-Driving Cars: The Impact on People with Disabilities, January 2017, Ruderman Family Foundation.

legislation, raises the potential for unnecessary overlap, duplication, and uncertainty, resulting in harm to the interests of the very Canadians the legislation is seeking to assist

Summary

In summary, as the above makes clear, the CRTC has the authority under the *Telecommunications Act* to impose conditions of service on wireless service providers where it has concluded that market forces have not adequately addressed the needs of persons with disabilities. In addition, the wireless industry has worked diligently to offer an increasingly wide array of products and services that assist persons with disabilities to use wireless services and make them more accessible. CWTA and its members are committed to continuing such efforts and continuing to work with the various groups that represent persons with disabilities.

However, in order to bring the full benefit of wireless services to persons with disabilities, including the transformative offerings of 5G, the regulatory barriers which impede the deployment of 5G infrastructure discussed earlier in this submission must be addressed. It is by ensuring that Canada can maintain its position as a world leader in wireless networks that the Government of Canada can best ensure that persons with disabilities can access the latest in wireless technologies and services that can assist them with their everyday lives, gain meaningful employment, and otherwise improve their quality of life.

Recommendation No.8: The provisions of the Act previously relied upon by the CRTC to make orders regarding accessibility are sufficient to address any future accessibility concerns. Rather, to ensure that Canadians with disabilities have access to the latest in wireless technologies and services, it is most important that the Government of Canada implement the recommendations in this submission dealing with the encouragement of investment and removing barriers to the deployment of wireless infrastructure.

The review panel should also recommend that the federal and provincial governments work together to remove unnecessary overlap, duplication, and uncertainty resulting from the telecommunications industry being subject to multiple federal and provincial statutes pertaining to accessibility for Canadians with disabilities.

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