Petition to the Governor in Council concerning Telecom Regulatory Policy
CRTC 2015-326 – Reference Number DGTP-002-2015

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I. Executive Summary and Introduction

1. The days of thinking about the development and use of broadband networks as mere matters of “telecommunications policy” are over. Broadband networks are now crucial to the social and economic well-being of Canadian citizens and Canadian businesses. Unless it is overturned by the Governor in Council, however, a recent decision by the Canadian radio-Television and Telecommunications Commission (“CRTC”) will undermine the continued investment in these crucial networks.

2. More than ever, the fate of Canada is tied to broadband networks: as go the networks, so goes the nation. Greater adoption of broadband Internet has been linked to better economic, environmental, and health outcomes, to mention just a few areas. For example, studies from the EU and the US demonstrate that increased broadband penetration leads to increased economic growth, and a New Zealand study found that broadband adoption will lead to billions of dollars in health care benefits as a result of reduced costs and improved access to medical resources.

3. US studies have also found that broadband adoption could save as much as one billion tons of greenhouse gas emissions over the course of a decade as a result of widespread adoption of e-commerce, telecommuting and teleconferencing, and the use of electronic rather than physical products. In other words, broadband Internet is transformational: beyond its own intrinsic benefits, it benefits nearly every area of the economy and society. To provide greater detail on the positive effects of broadband Internet on society generally, TELUS attaches as Appendix A the expert report of Dr. Jason Whalley, Professor of Digital Economy, Newcastle Business School and Dr. Bert Sadowski,
Associate Professor of Technological Change and Innovation, School of Innovation Science, TU Eindhoven, entitled *Innovation and the development of a digital economy: assessing the socioeconomic effects of broadband.*

4. If left in place, the CRTC decision in Telecom Regulatory Policy 2015-326 ("the TRP") will work to deprive Canada and Canadians of these important benefits. As explained further below, aspects of the TRP should therefore be overturned, as they are inconsistent with the present government’s stated intention to support the continued development of broadband Internet. Indeed, overturning the TRP will *advance* the priorities of the new government. Prime Minister Trudeau instructed the Honourable Navdeep Bains, Minister of Innovation, Science and Economic Development to “[i]ncrease high-speed broadband coverage and work to support competition, choice and availability of services, and foster a strong investment environment for telecommunications services to keep Canada at the leading edge of the digital economy.”¹

5. But the transformative power of broadband Internet access means that continued investment and infrastructure support is critical to helping the government accomplish not only its Internet-specific goals, but also its broader policy objectives, including improving health and environmental outcomes. Facilitating ultra-high speed Internet investment and adoption is also consistent with the telecommunications policy objectives set out in the *Telecommunications Act*² and the Policy Direction issued by the Governor in Council, which requires the CRTC to rely on market forces to the maximum extent

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feasible (the “Policy Direction”). As such, the CRTC’s decision is at odds with crucial government priorities.

6. Of course, in order to realize the benefits of Internet adoption, Canadians must have access to the Internet at a sufficient quality and speed. While speeds delivered using current technology are sufficient for Internet use at present, Internet applications increasingly require greater speeds and better technology. Canada needs an Internet policy that motivates and incentivizes telecommunications companies to invest in network development and upgrades so Canadians will have access to the speeds that will allow them to fully exploit the benefits of the Internet not just now, but also in the future.

7. The current frontier in ultra-high speed Internet connectivity is fibre-to-the-premises (“FTTP”), which directly connects individual businesses and residences to the Internet through fibre-optic cables. This is orders of magnitude faster than the technology most Canadians have now and will allow Canadians to reap the full benefits of the Internet as bandwidth demands increase and future-proof Canada’s networks as we drive towards greater innovation. To this end, TELUS recently announced a massive investment in FTTP in its operating territories in British Columbia, Alberta and Eastern Quebec. This project requires an immense capital investment over many years that comes with significant risk to the Company. The reason TELUS decided to invest despite this risk is simple: investments in ultra-high speed Internet access facilities allow TELUS to keep pace in the face of fierce competition, especially from cable companies that in many cases are already able to deliver ultra-high speed Internet access.

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3 Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives, SOR/2006-355, s.1(a) (“Policy Direction”).
8. Unfortunately, the TRP threatens TELUS’ planned investments because, if applied to Western Canada and Eastern Quebec, it will force TELUS to share all existing and all future FTTP infrastructure by mandating access to TELUS’ competitors at discounted rates. This turns already risky investments into potentially untenable ones. If the TRP is left in place and TELUS’ FTTP investments are forcibly shared with its competitors, TELUS will be compelled to reconsider the scale and timing of its FTTP investments, and instead focus its capital investments elsewhere. The business case for investments on a generational scale, with a generational payback period, is acutely sensitive to regulatory risk. The federal government should be encouraging such investments—not allowing the CRTC to frustrate them by conferring these gigantic investments on competitors at deeply discounted rates.

9. TELUS’ fears in this respect are not hypothetical. A number of European countries have mandated access to broadband facilities in much the same way that the TRP mandates access to ultra-high speed facilities provided by TELUS, Bell, and other broadband Internet access providers, including cable companies. The results have been near universally poor. In countries where incumbent providers have been mandated to provide their competitors access to ultra-high speed broadband facilities further to regulations similar to the TRP, levels of investment and broadband penetration are markedly lower than in countries where there is no mandated access. For example, as a result of mandated access in Germany, Deutsche Telekom cut its wireline expenditure by 15 percent and has been cautious about future infrastructural investment. Similar policies have also led to similar results in Croatia and the UK. The expert report of Dr. Georg Serentschy, entitled
Mandated Access to Fibre: Lessons for Canada from Europe, is attached as Appendix B and describes in greater detail the European experience with mandated access—and why mandated access fails consumers. Dr. Serentschy has served as Chairman of the Body of European Regulators for Electronic Communication (BEREC) and Chief Executive Officer of the Austrian Regulatory Authority for Broadcasting and Telecommunication.

10. The TRP should therefore be overturned for three reasons. First, international experience demonstrates that mandated access leads to lower investment levels by all providers in the market (both entrants and incumbents) which in turn leads to lower levels of network quality and innovation. Citizens, companies, and countries suffer under such policies. This gap in network investment levels is acutely illustrated when the US and Europe are compared. Capital spending per communications path by incumbent telecommunications companies in the US is, on average, nearly double that of the EU-15, as a result of the US Federal Communication Commission’s ("FCC") refusal to mandate access to broadband networks. Europe has many poor quality networks and no equivalent of Google, Apple, Amazon or Facebook. All of Europe is paying the price of misguided communications policies.

11. Second, the CRTC’s decision will lead to outcomes that directly contradict Prime Minister Trudeau’s instructions to the Minister of Innovation, Science and Economic Development to increase broadband coverage and foster telecommunications investment. The international empirical evidence is conclusive that mandated access to broadband networks does not expand broadband coverage and does not increase investment levels. It does the opposite.
12. Third, the TRP is at odds with crucial policy objectives in the *Telecommunications Act* and the Policy Direction, including those relating to investment, innovation and reliance on market forces. International experience tells us that the TRP will suppress innovation and investment by making it more rational to seek regulatory access to networks than to build networks. The TRP mandates access to broadband networks that in most instances have yet to be built. For all of these reasons, it is crucial that the Governor in Council take action to ensure that the CRTC’s policies support, rather than contradict, larger government policy goals for the economy and the nation.

13. TELUS therefore supports the relief sought by Bell in its petition and asks the Governor in Council to strike paragraphs 137 to 143 of the TRP. If the Governor in Council does so, Canadians will be able to continue to enjoy cutting edge Internet access as technologies develop, and Canada will remain a leader in the field. If the TRP is left in place, however, Canadians’ access to new Internet technologies will be compromised.

14. Beyond taking action to bring the CRTC’s decision into better alignment with broader government policy, there are other crucial things that the federal government can do. The government has many levers at its disposal to create an environment hospitable to network investment and innovation. One example of this is tax policy, where accelerated depreciation can be used to spur investment in networks. Another example is digital literacy. It is not enough just to have networks; Canadians must also be able to fully and effectively use these networks. Nationally, 97 percent of households have access to broadband, yet only 80 percent of households subscribe. This is a significant gap. Much of the remaining digital divide in Canada is a result of socioeconomic rather than
geographic factors. The federal government is uniquely positioned to make skills training investments to increase use and adoption of broadband networks. This is a major opportunity for Canada and one on which the government can provide constructive leadership and have a positive impact.

15. TELUS’ submission proceeds as follows. First, this submission outlines the TRP and explains that what is at stake is much more than mere Internet policy. Second, the submission discusses how the benefits of ultra-high speed Internet investment support this Government’s priorities. Third, the submission demonstrates that the TRP policy of mandated access will undermine investment and thus undermine the government’s policy goals—and that the opposite, a regulatory structure of platform competition, will facilitate these goals. Finally, the submission suggests alternative avenues for government intervention, such as digital literacy initiatives, that will help drive ultra-high speed Internet adoption and lead to the policy outcomes this government seeks to achieve.

II. This proceeding is about more than just Internet policy

A. Background to the TRP

16. The CRTC issued the TRP following the CRTC’s proceeding initiated by Telecom Notice of Consultation 2013-551 (“the TNC”). In the TNC, the CRTC stated that “Issues to be examined include: the current state of deployment; the economic and social impacts this technology will have on consumers, competitors, and incumbent carriers; the drivers for investment by incumbent carriers; and ultimately whether regulatory intervention is
needed with respect to mandated sharing of FTTP facilities and, if so, to what degree.”

In the end, the CRTC came to the conclusion that incumbent local exchange carriers (ILECs) should be required to share their FTTP facilities and cable companies should be required to share their own advanced broadband facilities. It held that “disaggregated wholesale [high speed access] services, including those over FTTP access facilities, are to be mandated for the incumbent carriers subject to this decision.”

17. On October 20, 2015, Bell Canada filed a Petition to the Governor in Council in respect of the TRP. Bell requested “the Governor in Council to vary the CRTC’s decision so that it does not extend legacy wholesale regulation to [FTTP] nor, recognizing the stated desire for regulation to maintain competitive neutrality, to next-generation DOCSIS 3.1 cable networks.” TELUS supports Bell’s requested relief.

B. Broadband investment is critical to Canada’s role in the 21st century

18. Broadband Internet is a platform for commerce, health, and social interaction. Increasingly, it is the conduit through which Canadians connect with each other and share information. In short, broadband policy is more than Internet policy; it is social policy and economic policy. It is thus critical that broadband policy achieve the goals for which it is designed.

19. FTTP is the current frontier of broadband Internet. Until now, most homes and businesses have been served by a copper loop installed by their ILEC for wireline telephone service

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6 Bell Canada Petition to the Governor in Council to Vary Telecom Regulatory Policy CRTC 2015-326, Review of wholesale wireline services and associated policies (“Petition”) at para. 8.
or by coaxial cable installed by their local television provider. In some cases, copper loops connect to fibre-optic cable close to the house or residence, a technology known as “fibre-to-the-node.” In other cases, however, copper loops do not connect to fibre-optic cable until they reach a telecommunications company’s central office for that town or neighbourhood. In either case, the speed of Internet access remains limited both by the fact that the cable to the premises in question remains an old technology copper loop, as well as by the length of the loop. As Internet use and bandwidth demand increase, as they have done in the past and continue to do, the speeds provided by traditional copper loop technology will eventually be insufficient. Enter FTTP technology. With FTTP, each home or business is connected directly with fibre-optic cable and will allow speeds of one gigabit (1000 megabits) per second, compared to current speeds of between 10 and 100 megabits per second (“Mbps”).

20. As part of their report, Drs. Whalley and Sadowski review the literature on the benefits of broadband Internet. They demonstrate benefits that are immense and wide-ranging and include the economy, health care, and the environment:

a. With respect to the economy as a whole, Drs. Whalley and Sadowski report, among other things, that a study of 22 OECD member states between 2002 and 2007 found that an increase of 1 percent in broadband penetration increased economic growth by an average of 0.025 percent, and a study finding that the use of broadband in EU member states between 2005 and 2011 contributed 1.36

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percent annually to GDP. They refer to a number of studies finding a positive relationship between the availability of broadband Internet and employment. An Australian study in turn finds that broadband Internet could generate an annual benefit of A$3,800 (approximately CAD$3,700) per household by 2020.

b. On a somewhat narrower level, Drs. Whalley and Sadowski also report that broadband Internet makes for more productive and innovative firms. They report, among other studies, a German study that found that broadband Internet access resulted in more innovative activity; an Irish study finding that broadband adoption has a positive impact on firm productivity and productivity growth; and an Italian study showing that small and medium businesses benefit more when they adopt advanced rather than basic broadband Internet service.

c. While some stakeholders may argue that broadband Internet prices are too high, Drs. Whalley and Sadowski cite a UK government study that found that

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broadband Internet actually saved individuals £560 (approximately CAD$1,138) annually.\textsuperscript{14} They note that prices of goods and services online are often lower than those in traditional retail stores, and that broadband Internet eases the ability of consumers to compare prices across different vendors.\textsuperscript{15} One study in the Netherlands and Belgium on teleworking found savings due to reduced relocation time of administrative personnel, savings in travel time, decreases in carbon dioxide emissions, and reduced paper waste. It estimated the total value of these savings between 2010 and 2030 to be €930 million using traditional broadband and €1.14 billion using advanced fibre technologies.\textsuperscript{16}

d. With respect to healthcare, a New Zealand study found health care benefits of NZD$5.9 billion (approximately CAD$5.3 billion) over 20 years.\textsuperscript{17} A US study examined the benefits of tele-medicine in Midwestern hospitals and found an average financial gain of USD$500,000 (approximately CAD$674,000) per year.\textsuperscript{18} Other studies have noted that broadband Internet can help patient

\textsuperscript{17} Whalley-Sadowski Report at pp.10-11, citing Alacatel-Lucent, Building the benefits of broadband. How New Zealand can increase the social and economic impacts of high-speed broadband, 2012.
monitoring and improve quality of life for the elderly by allowing them to stay in their own homes rather than be admitted to a hospital.\textsuperscript{19}

e. With respect to environmental benefits, Drs. Whalley and Sadowski report that broadband Internet reduces the need to travel, for example, to medical appointments.\textsuperscript{20} A 2007 US report found that widespread adoption of broadband could save as much as one billion tons of greenhouse gas emissions over the course of a decade.\textsuperscript{21} Yet another study found that telecommuting could reduce greenhouse gas emissions by almost 600 million tons over a ten year period.\textsuperscript{22} Other studies have shown environmental benefits from using cloud computing for file storage\textsuperscript{23} and from online film distribution.\textsuperscript{24}

21. TELUS also commissioned a report on the European experience with broadband policy from Dr. Serentschy. Like Drs. Whalley and Sadowski, Dr. Serentschy concluded that


existing research shows that broadband Internet brings significant economic benefits. According to one well accepted study, for every dollar spent on end user demand for broadband Internet, overall economic output will increase by between $1.45 and $3.60.  

Dr. Serentschy concludes that the “theoretical and empirical analysis shows that broadband—and particularly broadband speed—is of great importance to social and economic welfare including job creation and a precondition for a fast moving innovation system…”

22. The upshot of these studies should be clear: broadband Internet is important not only for its own sake, but as a platform that drives the economy and is important to social policy. As the applications that Canadians use over the Internet require faster and faster speeds, ultra-high speed Internet access in turn becomes critical to achieving these policy outcomes. The Governor in Council now has the opportunity to create an investment climate that will facilitate these positive policy outcomes.

III. Investment in ultra-high speed Internet will advance this government’s priorities

23. Encouraging investment in ultra-high speed Internet infrastructure is integral to achieving the priorities set out by the government. In his mandate letter to the Honourable Navdeep Bains, Minister of Innovation, Science and Economic Development, Prime Minister Trudeau instructed the Minister to “[i]ncrease high-speed broadband coverage and work to support competition, choice and availability of services, and foster a strong investment

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26 Serentschy Report at p.12.
environment for telecommunications services to keep Canada at the leading edge of the
digital economy.” The Prime Minister further instructed Minister Bains to develop “an
Innovation Agenda” that includes “expanding effective support for incubators,
accelerators, the emerging national network for business innovation and cluster support,
and the Industrial Research Assistance Program.”

24. These messages are consistent with mandate letters that the Prime Minister sent to other
Cabinet members as well. The Prime Minister instructed the Honourable Mélanie Joly,
Minister of Canadian Heritage, to work “with the Minister of Infrastructure and
Communities to make significant new investments in cultural infrastructure as part of our
investment in social infrastructure.” The Prime Minister instructed the Honourable
Jean-Yves Duclos, Minister of Families, Children and Social Development to work “with
the Minister of Employment, Workforce Development and Labour to develop a Social
Innovation and Social Finance strategy.” The Prime Minister also instructed the
Honourable Amarjeet Sohi, Minister of Infrastructure and Communities, to develop a
plan to deliver funding to provinces, territories, and municipalities to ensure, among other
things, increased investment in social infrastructure, “cultural and recreational
infrastructure,” and “green infrastructure.” The Prime Minister further instructed Minister
Sohi to work with the Minister of Finance to establish the Canada Infrastructure Bank to

28 Mandate letter to Minister of Canadian Heritage, 13 November 2015.
29 Mandate letter to Minister of Families, Children and Social Development, 13 November 2015.
“make it easier—and more affordable—for municipalities to finance the broad range of infrastructure projects their communities need.”

25. These priorities are also reflected in the Liberal Party of Canada’s platform for the October 2015 general election. Among other things, the platform promises that the government will:

   a. Focus the New Building Canada Fund on “separate investments in public transit, social infrastructure, and green infrastructure…”

   b. “Invest $200 million each year in a new Innovation Agenda to significantly expand support for incubators and accelerators, as well as the emerging national network for business innovation and cluster support”;

   c. Deliver better online access to government services, by making “the process easier and faster through individualized, secure accounts for Canadians who want to access their benefits and review key documents”; and

   d. “Explore new ways to use technology to crowdsource policy ideas from citizens.”

26. It is clear that this government’s priorities align with the benefits of increased Internet investment. The question is how this should be accomplished. TELUS’ answer is that it can only be accomplished where providers are not mandated to provide their competitors

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30 Mandate letter to Minister of Infrastructure and Communities, 13 November 2015.
32 LPC Platform at p.15.
33 LPC Platform at p.35.
34 LPC Platform at p.35.
with discounted access to their investments. It requires that private sector network builders be incentivized to continue investing in next generation broadband networks. In other words, the TRP directly undermines this government’s priorities.

IV. The TRP will undermine broadband investment and conflicts with the Telecommunications Act and Policy Direction

27. Until the release of the TRP, there had been no mandated access requirement in respect of FTTP, and as a result, Internet providers—including TELUS—embarked on large scale ultra-high speed Internet investment projects. Unfortunately, the mandated access regime set out in the TRP will reduce the incentive for providers to invest in better and broader facilities and thus reduce the availability and quality of Internet access throughout Canada. In the immediate future, this will mean that many Canadians will have reduced and delayed access to FTTP technology and its cable equivalents than they would have but for the TRP. Going forward, this departure from platform competition will mean that the private sector will be disincentivized from investing in any new and costly technology that becomes available and from deploying it broadly throughout Canada. Innovation and investment will be compromised. For this reason, the TRP also leads to results that contradict the policy goals set out in the Telecommunications Act and the Policy Direction issued to the CRTC by the Governor in Council. By undermining the case for continued and expanding investment in broadband technology, the TRP all but assures some Canadians will have poorer broadband Internet access, and accordingly that poorer social and economic outcomes will be obtained.
A. Canadian Internet infrastructure is good at the moment, but ultra-high speed penetration is low

28. More and more Canadians make use of bandwidth-intensive Internet applications to enrich their social and economic lives. This will continue for the foreseeable future, as technological evolution is a given. No matter how much bandwidth is available to Canadians using existing legacy technology, Canadians will always require faster and faster speeds in order to fully realize the social and economic gains that broadband Internet access can bring. The only way to do this is to continually invest in the infrastructure that can carry faster speeds.

29. For TELUS in 2015, continual investment in broadband technology means putting resources into FTTP deployment. At present, only 6.2 percent of Canadian residential lines are FTTP. A further 25.3 percent of residential lines are fibre-to-the-node connections. In turn, 68.5 percent of residential Internet connections in Canada are non-fibre until they reach a telecommunications central office. While our infrastructure is very good for the moment, Canada needs to ensure that there is continued investment in and wide scale deployment of next generation technologies like FTTP.

B. Platform competition is a proven success; mandated access is a proven failure

30. Prior to the release of the TRP, there was no requirement that any provider share its ultra-high speed access facilities with competitors. The regime prior to the TRP can be considered a policy of platform competition: providers build their own infrastructure and thus compete, at least in part, on the basis of which provider has the better infrastructure. The rationale is simple: if entrant service providers are permitted to piggyback on

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35 CRTC, Communications Monitoring Report (Ottawa: CRTC, 15 October 2015) at p. 163 (“CMR”).
incumbent providers’ facilities, the entrants will no longer have an incentive to invest in their own facilities. In turn, incumbent providers will have no incentive to invest in their own infrastructure, since they know they will be forced to turn over their infrastructure to their competitors. On the other hand, if providers are forced to compete to build infrastructure, they will invest in newer, better, and wider reaching technology.36

31. Multiple studies have shown that platform competition leads to increased broadband penetration. There is also a body of literature that demonstrates that platform competition increases broadband Internet penetration, but that mandated access has the opposite result. As part of its submissions to the CRTC in the proceeding leading to the TRP, TELUS provided the expert report of Dr. Robert Crandall of The Brookings Institution Technology Policy Institute. A copy of Dr. Crandall’s report, entitled The Effects of Mandated Network Unbundling on FTTP Deployment, is attached as Appendix C. Dr. Crandall summarized the literature on this point in a report prepared for TELUS as part of its submissions to the CRTC in the proceeding leading to the TRP:

The preponderance of the empirical evidence from studies of broadband penetration shows that inter-platform competition (principally, between cable television and telecommunications companies) increases broadband penetration, but intra-platform competition (from entrants relying on access to incumbent facilities) based on forced network sharing does not. Only one study using recent data finds a positive, but small impact of intra-platform competition that is facilitated by local-loop unbundling, but this effect erodes after three years.37

36 Consider, for example, competition between rival smartphone operating systems iOS (from Apple) and Android (from Google). Apple and Google consistently push each other to develop newer and better products. If one were instead simply allowed access to the other’s technology, then there would be no push to innovate...

32. Dr. Crandall compares the data on investment by incumbent telephone providers and notes that between 2002 and 2011, incumbent capital expenditure per communications path in the US—where there was no mandatory unbundling—was nearly double that of the EU-15, where there was.

![Figure 1: Incumbent Telecom Companies’ Capital Spending per Communications Path](image)

Source: OECD, *Communications Outlook, 2013.*

33. Dr. Crandall goes on to cite a literature review, which concludes that while further research could be useful, “most of the evidence shows that local loop unbundling discourages both [incumbents and entrants] from investing in networks.”

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38 Crandall Report at Fig. 2.
finds that “promoting market entry by means of regulated access undermines incentives to invest in facilities-based competition.”

34. Dr. Crandall concludes that “[t]he difference in the extent of FTTP investment by EU and US carriers suggests that the more aggressive regulatory approach in the European Union has suppressed capital spending and the deployment of new FTTP networks.” The Figure below illustrates this difference fibre deployment between the US and the EU. The figure also shows that Canada’s cycle of FTTP investment is just beginning, which demonstrates that the TRP could stop FTTP investments even before they start.

Figure 2
Fibre connections per thousand persons, 2012
Europe versus North America

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41 Crandall Report at para. 23 (emphasis added).

42 Crandall Report at Fig. 2.
35. Dr. Serentschy provides considerable insight into the European experience. He writes that European regulators have experimented with mandated access, caused significant damages, and have now awoken to the harm they caused. Dr. Serentschy concludes that the CRTC is failing to heed the warnings of Europe and is falling into the same trap. “While Europe—recognizing its policy failures—is heading towards a more investment friendly environment, Canada has put in place a decision that would adopt failed European policies. This route would obviously be detrimental for the country.”

36. Dr. Serentschy writes that the European experience with mandated access is premised on a theory known as the “ladder of investment.” This theory holds that new entrants need mandated access to incumbent facilities at first in order to build their customer base. As new entrants gain customers and resources, they invest more—climb the ladder—and with every rung need less access to incumbent facilities. Eventually—and in theory only—the entrant becomes a facilities-based carrier. Dr. Serentschy writes that, while the ladder of investment may have some intuitive appeal, in practice its results have been very poor: new entrants have remained stuck on the initial rungs of the ladder where they have free access to incumbent facilities and compete solely on price. Dr. Serentschy notes a review of studies from 2003 to 2011 and concludes that there is “strong evidence that the ‘ladder of investment’ theory has not proven effective and the current EU framework does not provide sufficient investment incentives.”

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43 Serentschy Report at p.6 (emphasis in original).
37. Dr. Serentschy provides some helpful case studies. For example, he writes that in the United Kingdom, a regime of “[s]trict wholesale price regulation” on broadband “led to a no-go situation for investments in FTTP.” He writes that in Germany, in response to a mandated access regime, Deutsche Telekom “cut its wireline broadband expense in Germany by 15 [percent] … and has since then been very cautious in pursuing any aggressive infrastructure investment in Germany.” And he writes that in Croatia, as a result of mandated access policies, incumbent Hrvatski Telecom “refocused its investment approach on less risky investments” and another large operator “was effectively discouraged from pursuing any fiber [investment], leaving any investment in fiber to a limited number of financially weak entrants.”

38. The evidence is clear and it is damning: mandated access has been a near universal failure. On the other hand, platform competition incentivizes investment in new technologies, and with it will deliver to Canadians ultra-high speed Internet and other new technologies as they develop.

C. The TRP will cause TELUS to scale back its own planned investments in FTTP

39. In 2013, before the CRTC had implemented any mandated access, TELUS embarked on a very large program of systematic investments to replace legacy copper networks with FTTP on a community-by-community basis. The goal of this generational investment is to ensure TELUS can continue to provide its customers with the Internet service they want in the future. This process has an extremely long planning horizon and is very

45 Serentschy Report at p.21.
46 Serentschy Report at pp.21-22.
47 Serentschy Report at p.22.
expensive and labour intensive. TELUS has to string fibre-optic cable to every home and business in the area: the project is a complete overlay of TELUS’ existing copper network.

40. More recently, TELUS announced that it will be investing $1 billion in each of Edmonton and Vancouver to build FTTP in these cities. This will connect more than 300,000 homes and businesses in Edmonton and 400,000 in Vancouver within six years and five years respectively. In 2016, TELUS plans to connect another 18 communities. The project is planned to extend to 2025 and beyond, at which point TELUS intends to have FTTP deployed as widely as possible in its incumbent territory (that is, its traditional operating territory in which it offers wireline service) in British Columbia, Alberta and Quebec.

41. TELUS undertook this program in order to remain Canada’s leading broadband Internet provider in the face of fierce competition. Consumers are generally indifferent to the technology used to deliver service: most people do not care whether their Internet access is delivered over fibre, coaxial cable, copper, or through wireless access, as long as it meets their needs. And needs, measured in terms of Internet speeds and network capacity, are increasing. TELUS must continue to invest in next generation technologies in order to remain competitive and meet customers’ ever-increasing demands for bandwidth.

42. But a shift to mandated access changes TELUS’ business calculations. TELUS can only continue its investment program if the business risk is reasonable. While TELUS has already announced its investments in Edmonton and Vancouver, and will continue these

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48 TELUS press releases announcing these investments are attached at Appendix D.
projects regardless of the disposition of this petition, a new regulatory regime would cause TELUS to review each community where FTTP has been planned but not yet confirmed. There is no commitment to continue building infrastructure if the business case disappears—particularly in remote and rural areas where geography and population density make the business case challenging even in the absence of regulatory risk. In some of these communities, even under the pre-TRP regulatory regime, TELUS’ return on investment was measured by a decade or more. With investments measured in decades, not years, mandated access may tip the scales against expansion of the FTTP project in many communities. This includes both present plans for FTTP investment, and any other improved infrastructure and technology that is developed going forward.

43. The business risk to TELUS is particularly acute—more so than to Bell—in light of the geographical constraints of TELUS’ market. While Bell has stated that it intends to build fibre to 90 percent of its customers within 10 years,\(^\text{49}\) TELUS will not be able to do so, even at current build rates. Bell’s operating territory in central Canada includes major urban centres in Ontario and Quebec. While TELUS’ territory includes the urban centres of Vancouver, Calgary, and Edmonton, much of TELUS territory in rural British Columbia, Alberta, and Eastern Quebec is mountainous, remote, and sparsely populated—all factors that increase the time and cost of FTTP deployment. In some cases, especially in high-cost areas, mandated access will potentially tip the balance from investment to stagnation.

D. As a result, the TRP is inconsistent with the Telecommunications Act and the Policy Direction

44. The anti-investment regime set out by the TRP conflicts directly with the goals set out by Parliament in the Telecommunications Act and the Policy Direction issued by the Governor in Council to the CRTC.

45. The Telecommunications Act sets out a number of objectives of Canadian telecommunications policy, including the following that are directly relevant to this petition:

   (b) to render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas in all regions of Canada;

   (c) to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications;

   (f) to foster increased reliance on market forces for the provision of telecommunications services and to ensure that regulation, where required, is efficient and effective;

   (g) to stimulate research and development in Canada in the field of telecommunications and to encourage innovation in the provision of telecommunications services;

   (h) to respond to the economic and social requirements of users of telecommunications services.\(^{50}\)

46. In turn, the Governor in Council issued the Policy Direction, an order stipulating how the CRTC is to apply these objectives. The Policy Direction stipulates, among other things, that the CRTC should “rely on market forces to the maximum extent feasible as the means of achieving the telecommunications policy objectives” and “when relying on regulation, use measures that are efficient and proportionate to their purpose and that

\(^{50}\) Telecommunications Act, S.C. 1993, c. 38, s.7.
interfere with the operation of competitive market forces to the minimum extent necessary to meet the policy objectives.”

47. The TRP undercuts the policy objectives and Policy Direction. The TRP will reduce the availability of “high quality” telecommunications services to Canadians—especially those in high cost rural areas. The TRP will reduce the efficiency and competitiveness of Canadian telecommunications as Canadian infrastructure will lag behind that of countries without mandated access to ultra-high speed Internet facilities. The TRP will reduce reliance on market forces and use measures completely disproportionate—indeed contradictory—to their purpose, as entrant providers will be shielded by mandated access and thus will have no incentive to build their own facilities. Similarly, the TRP will reduce research, development, and innovation not only in the telecommunications sector but also in other sectors, as innovators and entrepreneurs will be deprived of the tools they need to be globally competitive. Finally, the TRP will lead to Internet infrastructure that will not meet the “economic and social requirements” of users: Canadians will increasingly find themselves left behind as countries with competitive Internet policies adopt newer and better technology.

V. Encouraging greater broadband access and adoption requires a broader toolbox than that available to the CRTC

48. As discussed above, the benefits of ultra-high speed Internet access and adoption encompass economic policy, health policy, environmental policy, and more. These policy issues require policy levers that are beyond the institutional wherewithal of the CRTC. Broad public policy issues demand broad policy tools. Mandated access is a policy

\[51\] Policy Direction, s.1(a).
remedy from another era for a policy challenge that no longer exists: monopoly networks. Canada is now benefitting from a level of platform competition (between cable, telephone company and wireless networks) that renders monopoly-era remedies like mandated access unnecessary and harmful. The world has moved on, but the CRTC’s toolbox has not. A far more productive, positive, and impactful focus for government efforts would be to take steps to address “the other digital divide,” namely the socio-economic factors that are delaying broadband adoption. The private sector can build networks. But government can help to ensure that more Canadians use those networks.

A. Promoting adoption

49. To fully exploit the benefits of ultra-high speed Internet, there must not only be access but also adoption. It is one thing for people to be able to sign up with a provider; it is quite another for them to do so. And while platform competition will encourage innovation and investment, it cannot, on its own, encourage adoption. This is a key area for government support.

50. The gap between availability and access is in some cases significant. Nationally, 97 percent of households have access to broadband, yet only 80 percent of households subscribe. In certain regions the availability-access gap is even more acute; for example, in Saskatchewan, 99 percent of households have broadband access, but only 72 percent subscribe.52

51. In a recent paper “The Evolution of Digital Divides in Canada,” Karine Landry of Industry Canada and Anik Lacroix of Statistics Canada determined that age, education,

52 CMR at p. 207.
and income are key predictors of an individual’s Internet use.\textsuperscript{53} Their results show that non-Internet users most often cite a lack of interest and a lack of skills or training as key reasons why they do not access the Internet. The cost of service or equipment was cited as a reason by only 9.1 percent of non-Internet users in 2010 and only 7.7 percent of non-Internet users in 2012.\textsuperscript{54} A similar US study found that two-thirds of households who do not subscribe to broadband Internet would not do so at any price.\textsuperscript{55} Therefore, while subsidies will assist a portion of Canadians in adopting broadband Internet, cost alone is not the biggest impediment to adoption.

52. Other studies have identified skill deficits as contributing to non-adoption. Notably, Hauge and Prieger challenge the notion that supply-side regulatory responses alone can stimulate broadband adoption. They underscore the importance of focusing on demand-side policies to encourage adoption, including building knowledge, such as digital skills, about new technologies among potential adopters.\textsuperscript{56} Similarly, Atkinson shows how different rates of Internet adoption in Japan versus South Korea, two countries with wide-scale broadband availability, can be explained by well-funded programs targeting usability and affordability, such as digital literacy programs that target Internet population groups that lag behind in terms of Internet adoption.\textsuperscript{57}


\textsuperscript{54} Landry and Lacroix at p.13.


53. This an area where government intervention could make a significant difference. Drs. Whalley and Sadowski write of governmental institutions as “bridging institutions” and note their importance in promoting adoption:

Learning of examples of ‘best practices’ in the use of new Internet-based services in areas like e-health and e-education will play a pivotal role in facilitating the evolution of the digital economy that is taking shape. In addressing the societal challenges of today’s digital economy, governmental initiatives should target areas that are considered as vital for the development of society as a whole. In the areas of health and environmental benefits, broadband and the use of Internet-based services can provide innovative solutions by contributing to the self-reliance of the elderly and by reducing emissions due to teleworking. Training and education will play a vital role in developing the Internet-related skills of individuals and businesses, especially in small- and medium-sized enterprises.\footnote{Whalley-Sadowski report at p.23.}

54. Some digital literacy programs are already in effect. For example, the federal government presently administers the Canada Job Grant skills training programs and provides grants for internship in high-demand fields. Similarly, the Business Development Bank of Canada supports digital technology adoption through its work with small and medium-sized businesses. Many of these programs are outlined in the federal government’s current \textit{Digital Canada 150} initiative,\footnote{For more information on these and other programs, see Industry Canada, \textit{Digital Canada 150 2.0}, available at \url{www.canada.ca/digitalcanada}.} but there is always more that can be done. These programs can be enhanced. New programs can be created. The federal government can work with its provincial counterparts, as well as its partners in Canadian industry, to coordinate developments in classroom education and healthcare. All of these are important programs and initiatives that are beyond the resources and scope of the CRTC, yet of critical importance to broadband adoption.
B. Helping providers promote network investment and construction

55. In addition to supporting adoption, the federal government can assist providers in broadening networks by helping them overcome regulatory hurdles. For example, the federal government could adjust corporate income tax policy to allow for an accelerated capital cost allowance rate with respect to infrastructure acquired to build FTTP networks. This would encourage further investment in broadband networks.

56. The federal government can also assist by coordinating laws and regulations with its provincial and municipal counterparts. For example, the CRTC can take a more active role in resolving municipal access disputes so that carriers can deploy their networks efficiently—and consistently with the rights granted by Parliament under section 43 of the Telecommunications Act. The federal government could also encourage the Attorney General to play an active role in disputes where provinces or municipalities resist well-established federal frameworks for the construction and deployment of both wireline and wireless networks. Networks need to be built and continuously updated. Active federal support for a unitary national dimension in telecommunications legislation and regulation would materially assist the construction of these networks.

VI. Conclusions and relief sought

57. The overwhelming evidence is that broadband Internet adoption leads to favourable outcomes across almost all areas of social and economic life. The task at hand is to ensure the greatest number of Canadians access the best available broadband Internet

60 Among other things, s.43 provides that “a Canadian carrier or distribution undertaking may 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.”
now and in the future. With the right regulatory structure, Canadians will have access to ultra-high speed Internet soon, as well as any number of technological innovations that arise in the future.

58. In a regulatory environment of platform competition, Internet providers have no choice but to invest in the facilities that will provide Canadians with cutting edge technology. Otherwise, their customers will switch to the competition. However, Internet providers are for profit enterprises and cannot commit to business propositions with little chance of success. Thus, if TELUS is forced to share its FTTP facilities with its competitors, it will likely scale back its planned FTTP investment and will consider all future investment decisions in light of a regulatory environment that makes the business case more difficult. On the other hand, if TELUS is assured that it will not be required to share its FTTP infrastructure with its competitors at discounted rates, it will continue to invest. This is borne out in the academic literature as well: where a regulator mandates competitor access to incumbent facilities, investment by all providers stagnates, but where a regulator allows platform competition to flourish, investment by all providers increases. By imposing regulation that forces Internet providers to share their FTTP networks with competitors, the TRP directly contradicts the Canadian telecommunication policy objectives and renders the CRTC in violation of the Policy Direction.

59. Access to ultra-high speed Internet is important not only for its own sake, but for the many public policy benefits that accrue from it. The improvements in economic, health, environmental, and social policy that increased investment promises to deliver will help this government achieve the policy goals it has set out to accomplish. If this government
wants to put Canada on the cutting edge of ultra-high speed Internet adoption, it needs to look to cutting edge regulatory policy. This means continuing the policy of platform competition, and eschewing the outdated, monopoly-era, mandated access policies of the CRTC. International experience has demonstrated that these policies drive down investment in networks and therefore harm the digital aspirations of nations. It is no surprise that Europe’s heavy-handed mandated access regime has left it with lower levels of network investment and innovation—and no equivalent of Google, Apple, Amazon or Facebook. Canadians deserve better.

60. The federal government is best positioned to further the digital aspirations of Canadians. It can foster increased broadband adoption by using its broad policy tools that fall outside the institutional wherewithal of the CRTC. Through training and educational programs, and support for all telecommunications companies as federally regulated enterprises, this government can make a significant contribution to increasing ultra-high speed Internet adoption. The path to optimal results is straightforward: this government should steer clear of mandated access and should devote resources to increasing adoption. The CRTC can also make a constructive contribution by facilitating network deployment, as explained above.

61. Accordingly, TELUS supports Bell’s petition, and requests that the Governor in Council vary the TRP by striking paragraphs 137 to 143 entirely.

ALL OF WHICH IS RESPECTFULLY SUBMITTED THIS 21ST DAY OF DECEMBER 2015