



Telecom Regulatory Policy CRTC 2021-130

PDF version

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Review of mobile wireless services

In recent years, demand for mobile wireless services has increased significantly as Canadians have integrated these services into many aspects of their everyday lives. In this environment, it is important to ensure that the regulatory framework for mobile wireless services continues to be responsive to the needs of all Canadians.

In this proceeding, the Commission examined three main issues: (i) competition in the retail mobile wireless service market; (ii) the current regulatory framework for wholesale mobile wireless services, with a focus on wholesale mobile virtual network operator (MVNO) access service; and (iii) the future of mobile wireless services in Canada, with a focus on reducing barriers to infrastructure deployment.

The Commission's determinations in this decision are the result of a public proceeding to review mobile wireless services, including a public hearing held in Gatineau, Quebec.

In assessing the state of competition in the retail mobile wireless service market, the Commission finds that Bell Mobility, RCCI, and TCI (collectively, the national wireless carriers) together exercise market power in the provision of retail mobile wireless services in all provinces except Saskatchewan, where SaskTel exercises sole market power. Bell Mobility exercises market power in the provision of retail mobile wireless services in the Northwest Territories, Nunavut, and Yukon.

While these findings are concerning, there are also positive signs that competition is intensifying. Retail prices, although higher than what would prevail in a fully competitive market, are clearly trending down across Canada, and there is evidence of rivalrous behaviour among wireless carriers. Regional wireless carriers are having an impact on the market in terms of disciplining, to a certain extent, dominant wireless carriers; they have introduced innovative plans and features that have led to new offerings in the market such as unlimited data plans and plans that allow data to be carried over month to month, and have been successful in attracting customers, including customers switching from other wireless carriers.

However, given the extent of retail market power that exists throughout the country, the Commission considers it necessary to apply certain targeted regulatory measures to ensure that the needs of Canadians are met, having regard to the policy objectives of the *Telecommunications Act* and both the 2006 and 2019 Policy Directions.

In considering its regulatory approach, the Commission must take care not to disrupt the competition that is already occurring, but instead foster an environment where this competition can grow and be sustainable over the long term.

In the wholesale market, the Commission is taking the following actions to address its findings of retail market power:

- The Commission mandates the provision of a wholesale facilities-based MVNO access service, which will enable eligible regional wireless carriers to use the networks of Bell Mobility, RCCI, TCI, and SaskTel, where these four exercise market power, to serve new areas while they build out their networks. Terms and conditions for the service are to be filed for approval with the Commission, while rates are to be commercially negotiated between parties, with final offer arbitration by the Commission as a recourse if negotiations fail. The service will be mandated for a period of seven years. This measure aims to bring new competitive choice to millions of Canadians, while also encouraging network expansion and sustainable competition over the longer term.
- The national wireless carriers are required to implement seamless roaming as part of their wholesale roaming service. This measure will benefit consumers by helping to prevent dropped calls and data sessions when consumers move from one network to another. It will also benefit competition because it will enable wireless competitors to offer a higher overall quality of service.
- The Commission confirms that its wholesale roaming policy applies to fifth-generation (5G) networks. This confirmation is important to help ensure that competition can continue to grow as the mobile wireless service market evolves to 5G.

In the retail market, the Commission is taking the following actions:

- Bell Mobility, RCCI, TCI, and SaskTel will be expected (where they exercise market power) to offer and promote low-cost plans and occasional-use plans in an effort to benefit Canadians, including those who are elderly or low-income earners, as well as those who use their mobile devices sparingly.
- These carriers will be further expected to promote low-cost plans and occasional-use plans on their website landing pages, as well as through their customer service representatives in an effort to ensure that consumers are fully aware of their options, especially consumers seeking more affordable mobile wireless service options.
- These carriers will also be required to report back to the Commission with respect to their low-cost and occasional-use plan offerings; the Commission intends to make these reports public on its website. These semi-annual reports will be critical to ensuring transparency and accountability to Canadians, and will allow the Commission to measure the effectiveness of this decision.

- The Commission is prepared to take further action if the desired effects are not achieved.

The Commission's determinations in this decision will foster continued innovation and investment in, and affordable access to, high-quality telecommunications facilities in all regions of Canada, including rural and remote areas; promote sustainable competition that provides benefits such as affordable prices and innovative services to Canadians; and reduce barriers to entry into the market.

Introduction

1. Mobile wireless services are critically important to the everyday lives of Canadians, the country's digital economy, and Canada's international competitiveness. They are key to facilitating not only communications, but also commerce, culture, entertainment, safety, and learning.
2. Mobile wireless services have been the largest and fastest-growing sector of the telecommunications industry in recent years, and that trend is expected to continue with the deployment of new technologies such as fifth-generation (5G) networks and new applications including the Internet of Things (IoT). According to the Commission's 2020 *Communications Monitoring Report*, mobile wireless service revenue reached \$28 billion in 2019, representing over 55.5% of all telecommunications service revenues. The number of mobile wireless service subscribers was 34.4 million in 2019, an increase of 1.2 million over the previous year. Average monthly data consumption also continued to increase, with subscribers now using 2.9 gigabytes (GB) of data on average per month, more than double the average consumption of 1.4 GB per month in 2015.
3. As the prevalence and prominence of mobile wireless services continue to grow, it is important that Canada's mobile wireless service markets are supported by regulatory policies that serve to ensure that the needs of Canadians are appropriately being met. This includes regulatory policies that serve to promote sustainable competition and network investment, and the benefits these bring, including affordable prices, innovative services, an abundance of choice, extensive coverage, and a high quality of service.

Background

4. In the mid-1990s, the Commission forbore, to a significant extent, from regulating the mobile wireless services offered by wireless carriers, including at the retail level, to enable competition and market forces to guide the sector's growth.¹ This meant, among other things, that wireless carriers were not required to obtain prior Commission approval for the rates that they charged.

¹ See, for instance, Telecom Decisions 94-15 and 96-14.

5. As the retail mobile wireless service market grew and matured through the late 1990s and early 2000s, three wireless carriers emerged as the main and often only choices for Canadians: Bell Mobility Inc. (Bell Mobility), Rogers Communications Canada Inc. (RCCI), and TELUS Communications Inc. (TCI) [collectively, the national wireless carriers].² Flanker brands³ also began appearing, for example with RCCI's acquisition of Fido Solutions Inc. (Fido). The market stayed this way for several years until 2008, when Industry Canada held the *Auction of Spectrum Licences for Advanced Wireless Services (AWS-1) and Other Spectrum in the 2 GHz [gigahertz] Range*, which introduced a number of new mobile wireless service competitors into the market.⁴
6. As these new competitors deployed networks and began to offer service, the Commission monitored market developments and held public proceedings to consider a variety of regulatory measures to protect consumers and foster competition. For example, in Telecom Regulatory Policy 2013-271 the Commission imposed a mandatory code of conduct (the Wireless Code) on providers of retail mobile wireless services to address, among other things, the clarity and content of mobile wireless service contracts, and to reduce incidents of bill shock. In Telecom Regulatory Policy 2015-177, the Commission mandated the provision of wholesale roaming service by the national wireless carriers to competitors, namely the smaller, regional wireless carriers, at regulated terms, conditions, and rates.
7. The Commission provided direction regarding the terms and conditions of the national wireless carriers' wholesale roaming services in Telecom Decision 2017-56. The Governor in Council referred that decision back to the Commission to reconsider whether the scope of the national wireless carriers' wholesale roaming services, in particular the definition of "home network" in the context of wholesale roaming, should be broadened. Such a change would have enabled wireless service providers (WSPs) that could not otherwise secure access to a radio access network (RAN)⁵ to use a tariffed wholesale roaming service to provide retail services.
8. While the Commission ultimately did not broaden mandated access to wholesale roaming service, as part of its reconsideration it committed to initiating a review of its mobile wireless service framework and indicated that wholesale MVNO access policy would be examined as part of that review.

² RCCI was previously known as Rogers Communications Partnership, and TCI was previously known as TELUS Communications Company. For ease of reference, RCCI and TCI are used in this decision.

³ Flanker brands are subsidiary brands operated by or affiliated with wireless carriers. For example, Bell Mobility currently offers services under the brands Virgin Mobile and Lucky Mobile, RCCI under Fido and Chatr, TCI under Koodo and Public Mobile, and Videotron Ltd. under Fizz.

⁴ Industry Canada set aside blocks of spectrum that were available exclusively to new entrants. See [Policy Framework for the Auction for Spectrum Licences for Advanced Wireless Services and other Spectrum in the 2 GHz Range](#) for details.

⁵ A RAN consists of mobile wireless spectrum, towers, sites, and related on-site facilities and equipment.

Telecom Notice of Consultation 2019-57

9. On 28 February 2019, the Commission issued Telecom Notice of Consultation 2019-57 for the purpose of initiating a broad review of mobile wireless services and their associated regulatory framework.
10. The Commission indicated that the review would focus on three key areas:
 - (i) competition in the retail mobile wireless service market (the retail market);
 - (ii) the current regulatory framework for wholesale mobile wireless services, with a focus on wholesale MVNO access service; and
 - (iii) the future of mobile wireless services in Canada, with a focus on reducing barriers to infrastructure deployment.
11. The Commission also put forward a preliminary view that it would be appropriate to mandate that the national wireless carriers provide wholesale MVNO access service as an outcome of the proceeding. The Commission also took the preliminary view that the national wireless carriers' mandated wholesale MVNO access service should be in place for a limited amount of time and be subject to a phase-out period as market forces take hold.
12. The Commission invited comments on these matters, posing a number of specific questions to help inform parties' submissions, and asked whether there were any other matters, issues, or proposals related to mobile wireless services, beyond those listed, that it should be aware of and potentially make determinations on as part of this proceeding.⁶

The proceeding

13. Participants in the proceeding included telecommunications service providers, non-profit organizations representing consumer interests, various levels of government, industry organizations, and individual Canadians.
14. The proceeding included a public hearing, which ran from 18 to 28 February 2020.
15. On 17 March 2020, in light of the COVID-19 pandemic, the Commission suspended all deadlines associated with open proceedings. A revised deadline for the filing of final submissions was subsequently set for 15 July 2020.

RCCI's proposed transaction to purchase Shaw

16. The Commission notes that, subsequent to the close of record of the proceeding, and prior to the publication of this decision, RCCI announced that it had reached an agreement in principle to purchase Shaw Communications Inc. (Shaw), which owns and operates Freedom Mobile. As of the time of publication of this decision, the

⁶ By way of a [letter](#) dated 4 December 2019, the Commission determined that accessibility-related mobile wireless service issues would be best considered as part of a separate and dedicated proceeding, which was subsequently launched in Telecom Notice of Consultation 2020-178.

purchase of Shaw has not been concluded and remains subject to various approvals. The determinations in this decision have been made solely on the basis of the record of the proceeding.

Strategic objectives and the 2019 Policy Direction

17. In its last major review of wholesale mobile wireless services (which resulted in Telecom Regulatory Policy 2015-177), the Commission's determinations, which took into account the policy objectives set out in section 7 of the Act (the policy objectives) and the 2006 Policy Direction,⁷ were made with a view to achieving the following three strategic objectives:

- continued innovation and investment in high-quality telecommunications facilities;
- sustainable competition that provides benefits, such as reasonable prices and innovative services, to Canadians; and
- implementing efficient regulatory measures with respect to wholesale mobile wireless services, along with continued reliance on market forces where appropriate.

18. The present review is broader than that previous review, because it reaches beyond wholesale issues. Further, on 17 June 2019, following the commencement of this proceeding, the Governor in Council issued a new Policy Direction to the Commission (the 2019 Policy Direction).⁸ Section 1 of the 2019 Policy Direction reads as follows:

1. In exercising its powers and performing its duties under the *Telecommunications Act*, the Commission must implement the Canadian telecommunications policy objectives set out in section 7 of that Act, in accordance with the following:

- the Commission should consider how its decisions can promote competition, affordability, consumer interests and innovation, in particular the extent to which they
 - (i) encourage all forms of competition and investment,
 - (ii) foster affordability and lower prices, particularly when telecommunications service providers exercise market power,

⁷ *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives*, SOR/2006-355, 14 December 2006

⁸ *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives to Promote Competition, Affordability, Consumer Interests and Innovation*, SOR/2019-227, 17 June 2019

- (iii) ensure that affordable access to high-quality telecommunications services is available in all regions of Canada, including rural areas,
- (iv) enhance and protect the rights of consumers in their relationships with telecommunications service providers, including rights related to accessibility,
- (v) reduce barriers to entry into the market and to competition for telecommunications service providers that are new, regional or smaller than the incumbent national service providers,
- (vi) enable innovation in telecommunications services, including new technologies and differentiated service offerings, and
- (vii) stimulate investment in research and development and in other intangible assets that support the offer and provision of telecommunications services; and

- the Commission, in its decisions, should demonstrate its compliance with this Order and should specify how those decisions can, as applicable, promote competition, affordability, consumer interests and innovation.

19. In the Commission's view, the strategic objectives of its previous mobile wireless service framework remain generally relevant when matched against the 2019 Policy Direction. For example, the strategic objective of continued innovation and investment in high-quality telecommunications facilities espouses similar principles to subparagraphs 1(a)(i), (iii), (vi), and (vii) of the 2019 Policy Direction. Likewise, the strategic objective of sustainable competition that provides benefits, such as reasonable prices and innovative services to Canadians, espouses similar principles to subparagraphs 1(a)(i), (ii), (iv), and (vi) of the 2019 Policy Direction.
20. That said, the Commission is of the view that the strategic objectives of its regulatory framework for mobile wireless services should be refined, as set out below, to make these associations clearer.
21. Accordingly, the Commission's determinations in this decision, which take into consideration the policy objectives of the Act, as well as the 2006 Policy Direction and the 2019 Policy Direction (collectively, the Policy Directions), were made with a view to achieving the following strategic objectives with respect to mobile wireless services (changes marked in **bold**):
- continued innovation and investment in, **and affordable access to, high-quality telecommunications facilities in all regions of Canada, including rural and remote areas;**
 - sustainable competition that provides benefits, such as **affordable** prices, and innovative services, to Canadians;

- implementing efficient regulatory measures with respect to wholesale mobile wireless services, along with continued reliance on market forces where appropriate; and
 - **reducing barriers to entry into the market for competitors that are new, regional, or smaller than the incumbent national carriers.**
22. In the Commission's view, these revised strategic objectives build on those established in Telecom Regulatory Policy 2015-177 by integrating principles from the 2019 Policy Direction, and form an appropriate policy basis upon which to consider the issues before it in this proceeding.

Structure and approach

23. This decision is structured in four parts. In the first part, the Commission considers the state of competition in the retail market and includes a comprehensive market power analysis. The Commission's findings in this section inform its analysis and determinations in the subsequent sections.
24. In the second part, the Commission considers regulatory measures at the wholesale level, including those related to wholesale MVNO access service, wholesale roaming service, and access to infrastructure.
25. In the third part, the Commission considers regulatory measures at the retail level, including proposals concerning mandated low-cost and occasional-use plans.
26. In the final part, the Commission considers other issues that were raised by parties over the course of the proceeding.
27. In Telecom Decision 2021-129, also issued today, the Commission is disposing of a procedural request made by Bell Mobility relating to an expert report prepared by Dr. Tasneem Chipty of Matrix Economics (the Matrix study) and filed by the Commissioner of Competition (the Commissioner).

State of competition in the retail market

28. In Telecom Decision 94-19, the Commission established a framework to assess competitiveness in a given market and, since then, has generally applied that framework to determine whether there is market power in the provision of a service or class of services. Where the Commission finds that there is market power, it will generally make a finding of fact pursuant to subsection 34(2) of the Act that competition in the provision of that service or class of services is not sufficient to protect the interests of users.
29. Pursuant to that framework, the first step in assessing the competitiveness of a market is to define the relevant market. This is followed by an assessment of a number of criteria, including (i) the market shares of the dominant and competing firms, and (ii) demand and supply conditions, which include the availability of

substitutes, barriers to entry into the market, and evidence of rivalrous behaviour. The purpose of the market power assessment is to determine whether one or more market participants have the ability to sustainably raise prices above those that would prevail in a competitive market.

30. As part of this proceeding, parties were requested to identify which market indicators the Commission should consider for the assessment of the state of competition in the retail market. Parties proposed a number of additional factors, such as international comparisons of retail mobile wireless service prices (retail prices) and indicators of profitability.

Relevant market

31. The relevant market represents the smallest group of products and geographic area in which a firm with market power can profitably impose a significant and non-transitory (i.e. sustainable) price increase. A relevant market will therefore have both a product and a geographic component.

Relevant product market

Background

32. Defining the relevant product market involves an assessment of the group of products that consumers would consider to be substitutes for retail mobile wireless services.

Positions of parties

33. The majority of parties submitted that retail mobile wireless services comprise voice, text, and data services, and that these services should be assessed as a whole and not separately.
34. The Coalition for Cheaper Wireless Services (CCWS) submitted that in addition to voice, text, and data services, the relevant product market should include devices, because this would reflect how retail mobile wireless services are requested by consumers and sold in Canada to the vast majority of consumers.
35. Cogeco Communications inc. (Cogeco), the Commissioner, Data on Tap Inc. (Data on Tap), Ecotel Inc. (Ecotel), the Forum for Research and Policy in Communications (FRPC), Tucows Inc. (Tucows), and Xplornet Communications Inc. (Xplornet) submitted that the relevant product market consists of all retail mobile wireless services and should not be further segmented (e.g. between prepaid and postpaid services or between services available to individuals and businesses). They argued that the same competitive conditions exist regardless of product segmentation, and that these services are all close substitutes for each other.

36. Some parties indicated, however, that the market should be segmented and some types of mobile wireless services or technologies should not be considered part of the same product market as certain others. TBayTel submitted that postpaid and prepaid plans are sufficiently different so as to be in different product markets. With respect to services available to individuals and businesses, Bell Mobility; Bragg Communications Incorporated, carrying on business as Eastlink (Eastlink); Quebecor Media Inc., on behalf of Videotron Ltd. (Videotron); and RCCI submitted that they are not in the same product market, because these products are often uniquely designed to meet different needs.
37. With regard to network technology, Bell Mobility, RCCI, and Shaw submitted that it is premature to determine whether 5G services should be considered in the same product market as services delivered through third-generation (3G) and fourth-generation (4G) / long-term evolution (LTE) and LTE-Advanced (LTE-A)⁹ networks. Competitive Network Operators of Canada (CNOC) and Ice Wireless Inc. (Ice Wireless) submitted that retail mobile wireless services offered over different network technologies (e.g. 3G, 4G, or 5G) are part of different product markets, because they deliver mobile wireless data at significantly different speeds.
38. Some parties, including the British Columbia Broadband Association (BCBA), Bell Mobility, Cogeco, Distributel Communications Limited (Distributel), Ice Wireless, RCCI, Saskatchewan Telecommunications (SaskTel), SSi Micro Ltd. (SSi Micro), TBayTel, and Videotron, argued that it would be inappropriate to include IoT and machine-to-machine (M2M) communications in the same product market as retail mobile wireless services. In this regard, it was argued that IoT and M2M do not provide the same common functionalities as retail mobile wireless services sold to the general public.
39. TCI submitted that there are two relevant product markets – one for mobile wireless connections, and one for data usage, which consists of data services provided over all types of broadband connections (i.e. over wireline, wireless, and satellite networks).
40. SaskTel submitted that the relevant product market should be defined as “communications services” and include fixed and mobile wireless services, as well as other services such as video entertainment, news media, information, and music. It argued that consumers can choose how to meet their needs from a number of different communications services that are substitutes for each other.

⁹ LTE-A is the upgraded version of LTE, which increases the stability, bandwidth, and speed of LTE networks. It does this through the use of technologies including multiple antennas and simultaneous use of multiple spectrum bands.

Commission's analysis and determinations

41. Plans offered in the retail market routinely include voice, text, and data services, and the majority of consumers buy such services together as a bundle. Between 2015 and 2018, the percentage of subscribers with a data plan increased from 74% to 85%.¹⁰ The increasing prevalence of consumers subscribing to a plan that includes data constitutes a trend that is expected to continue in the near future.
42. With regard to the potential inclusion of devices in the product definition, the Commission notes that customers can purchase them separately from their mobile wireless service plans and from a wide variety of vendors, including non-carriers. Further, wireless carriers have little control over prices charged by device manufacturers. Accordingly, it would not be appropriate to include devices in the relevant product market definition.
43. In terms of functionality, an essential attribute of retail mobile wireless services is their mobility – that is, the ability to access voice, text, and data services on a mobile basis. Fixed wireless and wireline services do not provide mobility, and Wi-Fi connectivity does so on only a limited basis, that is, only in the immediate area where the service is provided. Further, there is no evidence that Wi-Fi services would be as ubiquitous as mobile wireless services are, especially in rural and remote areas. Consequently, the Commission considers that fixed wireless, wireline, and Wi-Fi services would not be acceptable substitutes for retail mobile wireless services, and will therefore not be included in the relevant product market definition.
44. Some parties submitted that the retail market should be segmented, for example, between plans offered on a prepaid and postpaid basis; between plans with varying amounts of data, minutes for voice calls, and number of text messages included in a plan; and between services offered on different technologies (i.e. 3G, LTE, LTE-A, or 5G). While there might be differences between the offerings in each of these segments, and further segmentation may be conceptually possible, the Commission considers that regardless of the sub-segment considered, the essential functionality of mobile voice, text, and data communications remains. As such, the Commission does not consider that it would be appropriate to divide the broader product market into the proposed segments.
45. However, the Commission considers that mobile wireless services sold to large businesses or institutional customers and for IoT/M2M communications are not substitutes for mobile wireless services offered and provided to individuals and small businesses. This is because they tend to be marketed differently and would not generally be available to individuals and small businesses looking for an alternative. Accordingly, mobile wireless services sold to large businesses or institutional customers and for IoT/M2M communications are in a separate product market.

¹⁰ Data obtained from the 2016 to 2019 editions of the Commission's *Communications Monitoring Report*. This trend continued in 2019. According to the 2020 *Communications Monitoring Report*, released after the close of record for this proceeding, the percentage of subscribers with a data plan was 90% in 2019.

46. That being said, the Commission is of the view that it is more appropriate to focus its competitive assessment on the retail mobile wireless services generally available to individual Canadians and small businesses, since this segment is the most relevant for the purposes of the competition and policy issues raised in this proceeding. Further, this segment represents the largest share of the retail market, in terms of both subscribers and revenues.
47. In light of the above, the Commission finds that the relevant product market consists of retail mobile wireless services, that is, retail mobile voice, text, and data services, offered to individuals and small businesses, irrespective of the network technology used.

Relevant geographic market

Background

48. Determining the relevant geographic market for a product or service involves assessing the geographic area in which a customer purchases a service and whether or not a customer would be willing to switch from a supplier in one area to a supplier in another area.

Positions of parties

49. Bell Mobility and RCCI submitted that the relevant geographic market for retail mobile wireless services is local, and suggested the use of Innovation, Science and Economic Development Canada's (ISED) tier 4 spectrum licence areas (tier 4 areas), which include 172 service areas covering all of Canada. The Commissioner submitted that, based on an analysis of price variations across census metropolitan areas (CMAs) and the census agglomeration of Timmins, Ontario,¹¹ the relevant geographic market is likely either as narrow as a city, or as broad as a province, depending on the region.
50. CNOC, Distributel, Ice Wireless, and the Independent Telecommunications Providers Association (ITPA) submitted that the relevant geographic market is provincial. Distributel argued that the approach of considering the geographic market provincial would be more administratively efficient and would recognize differences in pricing and product offerings between provinces. The Manitoba Coalition submitted that while this approach may be the best way to reflect actual competitive conditions, the Commission should consider both national and provincial characteristics of the retail market in order to properly assess their dynamics, and to take into account pricing in areas with a local WSP (for example, TBayTel in Thunder Bay) where appropriate.

¹¹ A CMA is formed by one or more adjacent municipalities centred on a population centre (i.e. core). It must have a total population of at least 100,000, of which 50,000 or more must live in the core. A smaller area with a core population of at least 10,000 is known as a census agglomeration.

51. Cogeco submitted that the relevant geographic market is national, because this was the Commission's focus in the last mobile wireless service review; the CCWS submitted that it should be quasi-national to take into account WSPs that are able to offer service in most parts of the country.
52. Videotron submitted that the relevant geographic market should be based on ISED's tier 2 spectrum license areas (tier 2 areas), which consist of 14 provincial and large regional service areas covering all of Canada. It argued that there are significant variations in market conditions in Canada that are primarily explained by the presence of regional wireless carriers and that, in most cases, these carriers align their networks and business operations with tier 2 areas.

Commission's analysis and determinations

53. While it is possible to subscribe to mobile wireless service plans over the telephone or Internet, the vast majority of such plans are still acquired in person, either at a wireless carrier's stores or at third-party stores or kiosks. The Commission considers it very unlikely that customers would travel long distances to buy their plans, such as across provincial boundaries, and there is no evidence on the record indicating that they do so.
54. A geographic market that is defined too widely – that is, on a national or quasi-national basis – would not only misrepresent how customers generally buy retail mobile wireless services, but it would also omit cross-market differentials such as prices, which differ in some cases between regions or provinces/territories, and key market conditions such as the market shares and growth of the regional wireless carriers,¹² whose operations are generally limited to certain provinces or regions. Accordingly, the Commission considers that it would not be appropriate to use a broad national or quasi-national market definition.
55. The Commission considers that the market is more local in nature. However, relying on a local geographic market definition such as Statistics Canada's CMAs or ISED's tier 4 areas comes with significant challenges. Notably, relying on CMAs to assess local markets would exclude subscribers who live outside these areas, or about 28% of the Canadian population. Also, the record of this proceeding contains very limited information on key variables at such a disaggregated geographic level, including WSPs' market shares outside the CMAs and competitive conditions at both the CMA and tier 4 area levels. In this regard, it appears that not all wireless carriers track subscriber or revenue data at so granular a level. The Commission considers that a significant administrative burden would be involved in the production, gathering, and processing of information that is sufficiently accurate and granular to assess the competitiveness of retail mobile wireless services at the level of CMAs or tier 4 areas.

¹² For the purposes of this decision, references made by the Commission to "regional wireless carriers" within the context of its analyses and determinations do not include SaskTel in the province of Saskatchewan, unless specified otherwise.

56. Defining the relevant geographic market as provincial/territorial, however, would reflect the facts that (i) the national wireless carriers generally market their plans on a provincial/territorial basis; (ii) in some cases, they price their plans differently across provinces/territories; and (iii) market conditions within a given province/territory are generally similar (i.e. consisting of the same wireless carriers operating in a similar competitive environment). It would also enable the assessment of the regional wireless carriers' impact based on the provinces/territories where they provide services. The Commission acknowledges that certain local markets may have different competitors, for example northwestern Ontario (with TBayTel) or Ottawa (with Videotron), but it considers that these markets are exceptions and that, in any event, the competitors in these local markets account for a modest share of the total number of subscribers in the province in which they operate.
57. In Telecom Regulatory Policy 2015-326, the Commission indicated that some degree of aggregation may be appropriate for markets with similar competitive conditions to achieve a balance between the use of meaningful and practical definitions for relevant product and geographic markets and the administrative burden associated with gathering and processing large amounts of data. The Commission considers that this point of view still holds in the context of this assessment of the retail market.
58. In light of all the above, the Commission finds that the relevant geographic market for retail mobile wireless services is provincial/territorial.
59. While the Commission's assessment of market conditions was performed on a provincial/territorial basis, it is being presented, unless otherwise noted, in an aggregated manner because the findings were consistent across most geographic markets.

Market shares

Background

60. Once the relevant market is defined, the next step in assessing market competitiveness is determining the market share held by the largest firm(s), as well as the market shares of other firms in the market. While the Commission did not establish any market share threshold for a finding of market power in Telecom Decision 94-19, all other things being equal, the smaller the share of a market held by the firm or group of firms with the largest share of the market, the less likely it is that they would be capable of exercising market power.

Positions of parties

61. Most parties that commented on this issue submitted that the retail market is highly concentrated because the national wireless carriers collectively account for roughly 90% of both the total mobile wireless service revenues and subscribers. CNOC, Cogeco, the Commissioner, Distributel, and the Manitoba Coalition also submitted that the national market shares of the national wireless carriers combined remained essentially unchanged since the last mobile wireless service review.

62. Bell Mobility submitted that it is not appropriate to aggregate the market shares of multiple competitors, because they compete aggressively against each other and do not operate as a single group. RCCI submitted that high combined market shares are not determinative of joint dominance. It added that such a finding must be supported by evidence that the alleged members of the group (in this case, the national wireless carriers) do not compete vigorously with one another, and that they do not face effective competition from other WSPs – which, in its view, is not the case in the retail market.
63. Bell Mobility also submitted that market shares based on total subscribers reflect outdated market circumstances, and that net subscriber additions provide a better indication of current competitive vigour in the market, a view shared by RCCI. The Canadian Internet Policy & Public Interest Clinic (CIPPIC) and OpenMedia (collectively, CIPPIC/OpenMedia), however, submitted that considering only net subscriber additions provides an incomplete view of the market.
64. CNOC, Cogeco, the Commissioner, the Manitoba Coalition, and TekSavvy Solutions Inc. (TekSavvy) submitted that the retail market remains highly concentrated, with the Herfindahl-Hirschman Index (HHI) above the 2,500 mark in every Canadian province and territory, and on a national basis.¹³ The national wireless carriers replied that a high HHI in the retail market is not indicative of market power, because a concentrated market can nonetheless be competitive. They added that, in any event, the Canadian HHI is lower than that of the United States, as well as the averages of the Organisation for Economic Co-operation and Development (OECD) and European countries.

Commission's analysis and determinations

65. Despite the fact that most regional wireless carriers have grown their subscriber bases over the last five years, the market shares in terms of both revenues and subscribers of these carriers has not changed significantly over that period in the provinces/territories in which they operate. In most provincial or territorial markets, the regional wireless carrier is the wireless carrier with the smallest market share and, with the exception of SaskTel in Saskatchewan, they all hold market shares that are either close to 20% or below that amount in the provinces/territories in which they operate, with most regional carriers having less than 10% market share.
66. In each province, except Saskatchewan, the market is highly concentrated among the national wireless carriers, who have a combined market share close to or above 80% in terms of both revenues and subscribers. While market share alone does not establish market power, it does serve as a significant indicator of potential market power, and the Commission is concerned by the levels of market concentration

¹³ The HHI is the sum of the squares of the market share of each firm in a given market. It provides a measure of concentration in which larger firms are assigned greater importance in the market in comparison to all other firms in the market. Markets are considered moderately concentrated when the index is between 1,500 and 2,500 and highly concentrated when it is above 2,500.

among the national wireless carriers in most provinces. Consequently, the Commission considers that relevant demand and supply factors must be closely examined, as set out in greater detail below, in order to determine whether or not there is market power in those markets.

67. In the case of Saskatchewan, SaskTel is the carrier with the largest market share in the retail market, and by a significant margin. In the three territories, Bell Mobility holds a very large market share, much greater than any of its competitors in those markets. The Commission therefore considers that the market shares held by SaskTel and Bell Mobility suggest that these carriers may exercise unilateral market power in Saskatchewan and the territories, respectively.
68. A conclusion of highly concentrated markets is confirmed when looking at the HHIs, which are above 2,500 in all provinces and territories. With respect to the net subscriber addition measure proposed by Bell Mobility and RCCI, while this measure is informative in the context of assessing the competitiveness of the mobile wireless service market, it does not in and of itself measure market concentration. The question of net subscriber additions will be assessed below in the section on rivalrous behaviour.
69. In light of the above, the Commission finds that market shares in the retail market are highly concentrated in every province and territory.

Demand conditions

Background

70. In Telecom Decision 94-19, the Commission indicated that a number of factors should be considered in addition to market share in assessing market power, starting with demand conditions, because they affect the potential ability of a dominant firm or dominant firms to exercise market power. The Commission also indicated that in assessing demand conditions, the focus was on the ability of customers to switch to another supplier or reduce consumption of the good or service in response to a price increase. Demand conditions include the availability of economically feasible and practical substitutes, and the costs to customers of switching suppliers.

The availability of economically feasible and practical substitutes

Positions of parties

71. The Canadian Wireless Telecommunications Association (CWTA) and the national wireless carriers submitted that Canadians can choose from diverse retail mobile wireless service plans from four wireless carriers in every province (i.e. the three national wireless carriers plus one regional wireless carrier) with 10 or more mobile wireless service brands, including flanker brands. TCI added that Canada counts 13 independently owned MVNOs, a number that it submitted was between the average and the median numbers of independently owned MVNOs among OECD countries.

72. Distributel submitted that options are generally limited to retail mobile wireless services offered by the national wireless carriers or by a regional wireless carrier, provided that the customer is located within a network coverage area of the carrier. Similarly, Ecotel submitted that in rural and remote areas where it offers services, customers do not have a wide choice of options when it comes to selecting their WSP, a view shared by Bob Boron, Bruce Kirby, and Alek Krstajic (collectively, Boron et al.).
73. CNOC, Cogeco, Distributel, Ice Wireless, the Manitoba Coalition, and TekSavvy submitted that other than a few marginal branded resellers such as Petro-Canada Mobility and 7-Eleven's SpeakOut Wireless, there is no MVNO market in Canada. Distributel and TekSavvy added that MVNO arrangements with the national wireless carriers do not provide MVNOs with any control over their service offerings and pricing, and that they pose minimal competitive threat to the national wireless carriers. The Manitoba Coalition also argued that there has been virtually no MVNO activity that would provide additional competitive retail options to customers. The Commissioner submitted that, after reviewing the agreements currently in place between the MVNOs and wireless carriers, he considered certain terms to be highly restrictive, which limits the MVNOs' ability to compete.

Commission's analysis and determinations

74. Based on the conclusion concerning the relevant product market definition reached above, the Commission considers that there exists no other retail service that would constitute an acceptable substitute for retail mobile wireless services; that is, there is no alternative that would provide a substitute for their mobile functionality and ubiquity. Accordingly, the Commission considers that the only acceptable substitute for the mobile wireless service of one WSP is a similar service offered by another WSP.
75. Regional wireless carriers have made important investments in their mobile wireless networks and now reach significant portions of the population in many provinces. Nonetheless, regional wireless carriers tend to deploy their networks first in the more profitable urban centres, such that customers' access to their services is more limited in rural and remote areas. Regional wireless carriers' services, consequently, do not constitute a substitute that is available across all of the regions that comprise Canada's geographic markets. In most provinces, the regional wireless carrier's network does not cover the entire market in which it operates, and it therefore does not have as ubiquitous a network as those of the national wireless carriers, or of SaskTel in Saskatchewan. Furthermore, viewed nationally, the regional wireless carriers' collective market share, although growing, has increased by a very modest two percentage points in the last five years, to about 10% in 2019.¹⁴ This suggests that there are likely certain factors that influence the willingness of customers to switch to a regional wireless carrier, which the record of the proceeding suggests

¹⁴ The data used to inform this figure includes data pertaining to SaskTel.

includes issues related to dropped calls when users' calls transit between two networks.

76. All three national wireless carriers also offer services on flanker brands. While these services constitute an option in the retail market, they are nonetheless ultimately provided by the same wireless carriers or their affiliates, thereby allowing for control over what products these brands offer and their marketing strategies so as to avoid competition with and cannibalization of related premium brands. Accordingly, the Commission considers that the national wireless carriers' flanker brands are not independent competitors and that their services do not represent additional competitive substitutes in the retail market.
77. While services offered by existing MVNOs are an option for some consumers, the MVNOs currently offering services in Canada essentially resell the services of the national wireless carriers and target very narrow segments of the market. Furthermore, current MVNO agreements in Canada are highly restrictive. All of this serves to limit the ability of these MVNOs to effectively compete with their wholesale service providers. As such, while MVNOs do exist in the market as alternative WSPs, their offerings are limited and these services do not represent meaningful competitive substitutes in the retail market.
78. Further, consumers have even fewer alternatives in the North, since no territory counts more than three wireless carriers.
79. From a theoretical point of view, reducing consumption is also an option available to consumers faced with rising prices. However, there is no ambiguity in the evidence that demand for, and importance of, retail mobile wireless services is consistently increasing, making this scenario highly impractical and unlikely.
80. In light of the above, the Commission finds that there remains a significant number of retail mobile wireless service customers who have limited access to economically feasible and practical substitutes if faced with rising prices.

The costs to customers of switching suppliers

Positions of parties

81. RCCI submitted that customers are willing and able to switch WSPs, and indicated that some 3.3 million users did so in 2018. According to RCCI, switching between competing WSPs has been facilitated by wireless number portability and by the requirements set out in the Wireless Code, including that all new cell phones must be sold unlocked, and that term service contracts may be terminated on payment of any remaining device subsidy amount.
82. CNOC, Distributel, and Ice Wireless considered that the costs of switching WSPs remain high, despite the measures adopted in the Wireless Code to reduce them. Distributel submitted that a customer looking to switch to another WSP may face significant fees associated with device subsidy repayment amounts. CNOC

submitted that certain practices by the national wireless carriers continue to make switching WSPs costly and make it more difficult for a new entrant to attract customers from the national wireless carriers.¹⁵

83. The CCWS submitted that there is a perception in some cases, specifically among low-income demographics, that customers receive poor service from the national wireless carriers' premium brands, so there is no incentive to switch to their flanker brands. Ice Wireless argued that customers are dissuaded from switching by the amount of time and effort required. CIPPIC/OpenMedia and the Commissioner submitted that the way WSPs present their retail mobile wireless service plans on their websites generally lacks clarity and transparency, thereby making it difficult for customers to make informed decisions on the purchase of a new plan.

Commission's analysis and determinations

84. The Commission has addressed a number of significant impediments to customers' switching WSPs through various actions. For instance, wireless number portability, which enables customers to keep the same telephone number when changing WSPs, was introduced in 2005. Also, the Wireless Code, introduced in 2013 and amended in 2017, effectively eliminated three-year contracts, limited early cancellation fees, and ensured that customers are provided with unlocked devices. Notwithstanding these measures, there remain barriers to switching WSPs in the retail market.
85. The Commission acknowledges that it can be costly for some customers wishing to switch WSPs if they have to pay the remaining balance for their device when cancelling their current contract. These costs are growing with the increasing costs of popular devices. Other costs of switching include one-time ancillary fees charged to new customers, such as network connection fees, or fees associated with subscriber identity module (SIM) cards, which could represent non-negligible up-front costs, especially for lower-income Canadians.
86. There is also a perception among some users that switching WSPs may not be easy. According to the *Telephone Survey on Mobile Wireless Services in Canada* conducted for the Commission by Phoenix Strategic Perspectives Inc. (the Phoenix telephone survey), commissioned for this proceeding, 37% of respondents who had never switched WSPs expressed the view that, were they to switch, it would be "somewhat difficult" or "very difficult."¹⁶

¹⁵ As an example, CNOC mentioned two-year contracts and alleged that some WSPs imposed penalties on their call centre representatives when a customer cancels or reduces their services, which creates an incentive for those representatives to adopt tactics to avoid that outcome.

¹⁶ This telephone survey was administered to a nationally representative sample of 1,208 Canadians aged 18 or older, between 25 November and 12 December 2019. To be eligible to complete the survey, respondents had to have a cell phone for personal use.

87. Certain parties offered explanations that could explain this perceived difficulty in switching. For example, information relevant to selecting a new WSP may not be presented clearly enough on the new WSPs' websites (e.g. important terms presented in footnotes or in a small font). Also, there is a significant number of offers and promotions available in the retail market that are not publicized. The Commission considers that these factors can decrease transparency and make it difficult for customers to research, shop comparatively, and ultimately make informed decisions regarding their retail mobile wireless services. Although these factors do not themselves constitute direct economic costs for customers switching WSPs, they are nonetheless important to take into consideration to fully understand customers' experience in the retail market, because they represent barriers to switching for certain customers.
88. In light of the above, the Commission finds that there remain financial costs to switching WSPs, such as repayment of outstanding device balances and one-time ancillary fees for new customers. The Commission considers that these could be significant enough to prevent some customers from switching, especially those with lower incomes. In addition, there are non-economic barriers to switching WSPs, including, for some customers, a perception that switching is complex, as well as a certain lack of clarity and transparency in retail mobile wireless service offers and the adverse impact this can have on customers' ability to make informed decisions.

Supply conditions

Background

89. The Commission indicated, in Telecom Decision 94-19, that supply conditions need to be considered in its assessment of a market. Supply conditions affect the ability of other firms in the market to respond to a change in the price of the product or service. Supply conditions include likelihood of entry and barriers to entry, evidence of rivalrous behaviour, and innovation and technological change.

Likelihood of entry and barriers to entry

Positions of parties

90. Several parties, including CNOc, Cogeco, the Commissioner, the ITPA, the Manitoba Coalition, Shaw, SSi Micro, and Xplornet, submitted that barriers to entry and expansion in the retail market are high. These parties, in addition to the BCBA and Distributel, argued that spectrum scarcity and high acquisition costs for spectrum are significant barriers for new entrants in the market. The Commissioner and Shaw argued that the national wireless carriers continue to hold the vast majority of spectrum in Canada, which limits the coverage and capacity that competitors' networks can offer against the national wireless carriers' networks.
91. CNOc, Cogeco, the Commissioner, Ice Wireless, the ITPA, the Manitoba Coalition, and Shaw submitted that another significant barrier is the high cost of investment in facilities (e.g. towers, antennas, and backhaul). Shaw added that new competitors

face both physical and technical barriers to competition and investment, and challenges in gaining timely access at reasonable rates to infrastructure, including access to municipal rights-of-way and incumbent local exchange carrier (ILEC)-owned and -controlled support structures.

92. The Commissioner and the Manitoba Coalition argued that the national wireless carriers and incumbent regional wireless carriers have taken decades to construct their existing infrastructure, and therefore possess a considerable advantage over a new company attempting to establish or grow its presence in the mobile wireless service industry.
93. RCCI and TCI submitted that competitors were granted advantages at recent spectrum auctions that have allowed them to acquire spectrum at below-market rates. They also pointed to regulatory benefits by way of the Commission's mandated wholesale roaming service (whereby domestic roaming can be obtained from the national wireless carriers at regulated rates) as another competitive advantage for competitors. Bell Mobility submitted that while a new competitor may not be able to acquire sufficient spectrum to enter the retail market on a national basis, strong regional Canadian facilities-based competitors would be able to come into the market. It also argued that mobile wireless networks were duplicated in the past. RCCI submitted that while further competitive entry into the retail market would be possible, the probability of a fifth entrant in a market with declining prices and existing competition between four facilities-based wireless carriers is very low.
94. Several parties, including Cogeco, Distributel, TekSavvy and Tucows, indicated that their attempts to gain MVNO access failed because the national wireless carriers were unwilling to negotiate. TekSavvy argued that the national wireless carriers resist all efforts from competitors to access their networks in any way that would allow for meaningful, stable competition. The CWTA and the national wireless carriers, however, submitted that wireless carriers are negotiating with prospective MVNOs in good faith and that they would voluntarily enter into an agreement if it were beneficial for them to do so. Bell Mobility indicated that it was not generally interested in entering into MVNO agreements with parties seeking access to its network in order to offer similar services in similar market segments as those already served by Bell Mobility, since this would undermine its competitive differentiation efforts.

Commission's analysis and determinations

95. In Telecom Regulatory Policy 2015-177, the Commission found that the barriers to entry into the retail market were very high and included access to and cost of spectrum as well as the high cost of investment in facilities. Since then, both the Commission and ISED have applied measures to address certain barriers to entry and expansion (e.g. mandated access to wholesale roaming service under regulated rates, terms, and conditions, as well as spectrum set-aside – that is, blocks of spectrum

reserved for a particular type of bidder, typically new entrants¹⁷). Despite these measures, the Commission considers that barriers to entry and expansion in the retail market remain high for a number of reasons.

96. Spectrum is a scarce resource and, while set-asides may have improved access for competitors, it can still prove to be relatively expensive to acquire. For example, large amounts were invested in the 600 megahertz (MHz) auction by each successful WSP, and these amounts were proportionally higher for carriers that benefited from the set-asides.
97. Further, market participants do not control when and what types of spectrum are made available. Spectrum auctions may also take place well before wireless carriers are ready to use the spectrum. This can affect their business cases because they have to carry the related costs until they start generating revenues, a toll that might be disproportionate for smaller wireless carriers.
98. The mobile wireless service industry is also highly capital-intensive: it takes considerable investments to build, upgrade, and maintain a RAN, and mobile wireless network deployment involves lengthy construction periods. Furthermore, it takes time to build the minimum subscriber base required to generate sufficient revenue for a WSP to generate positive cash flows, which makes new entrants and smaller wireless carriers particularly vulnerable to both their competitors and creditors. These barriers are exacerbated in markets with low population densities, such as Saskatchewan and the territories, since the subscriber base to support the deployment of mobile wireless networks is more limited in these areas.
99. A key impediment to the entry of MVNOs specifically into the retail market lies in accessing the RAN of a wireless carrier. Without such access, a prospective MVNO cannot provide mobile wireless services. Few MVNOs have been able to successfully negotiate RAN access with the national wireless carriers and, as indicated above, current MVNO arrangements tend to be highly restrictive. This suggests that the national wireless carriers are only willing to provide access to their RANs on a very limited basis, which, in turn, limits the ability of prospective MVNOs to successfully enter the retail market and efficiently compete with their wholesale service providers.
100. In light of the above, the Commission finds that barriers to entry into the retail market remain high and adversely impact new market entry or market expansion by regional wireless carriers and others.
101. The Commission also finds that those barriers relate mainly to the availability of spectrum, the capital-intensive nature of the industry, the time it takes to deploy mobile wireless networks and to generate positive cash flows, and, for prospective MVNOs, the ability to access the RANs of wireless carriers.

¹⁷ For example, see ISED's [Technical, Policy and Licensing Framework for Spectrum in the 600 MHz Band](#), 28 March 2018.

Evidence of rivalrous behaviour

102. In Telecom Decision 94-19, the Commission indicated that evidence of rivalrous behaviour may include falling prices, vigorous and aggressive marketing activities, or an expanding scope of activities by competitors in terms of products, services, and geographic boundaries. As part of this proceeding, several parties suggested that the Commission also consider price and profit levels, and how they compare internationally, in its assessment of the retail market's competitiveness. As previously indicated, the Commission considers it appropriate to also consider, as part of its assessment of rivalrous behaviour, the matter of net subscriber additions.

Positions of parties

103. Many parties submitted that Canadians pay some of the highest prices in the world for retail mobile wireless services, and supported such submissions by pointing to various international price comparison studies and reports. CNOC, the Commissioner, Ice Wireless, and the Manitoba Coalition argued that despite the challenges associated with international comparisons, different approaches that use different data and different methodologies come to the same conclusions that prices in Canada are generally substantially higher than those in other countries.

104. While acknowledging that prices have been trending downwards, Boron et al., the CCWS, CIPPIC/OpenMedia, CNOC, Cogeco, Distributel, the FRPC, Ice Wireless, the Manitoba Coalition, TekSavvy, and TNW Wireless Inc. submitted that the decline in prices has been slower than that experienced in other countries.

105. CNOC, the Commissioner, Ice Wireless, and the Manitoba Coalition also submitted that prices in Canada are lower in areas where there is a strong regional competitor. The Commissioner argued that, based on the Matrix study, markets with no regional wireless carrier, or with a regional wireless carrier with a market share below 20%, are experiencing the effects of an exercise of market power since the national wireless carriers can charge significantly higher prices in these areas. Videotron argued that the lower prices in Quebec relative to other markets in the country were attributable to the competitive discipline that it offers.

106. Several parties further submitted that profits in the Canadian mobile wireless market are also high. The Manitoba Coalition submitted that based on the national wireless carriers' earnings before interest, taxes, depreciation, and amortization (EBITDA) margins, Canada's mobile wireless network operations remained highly profitable despite the entry of new carriers and various regulatory measures designed to aid competition. Cogeco and TekSavvy submitted that profitability is significantly higher for Canada's national wireless carriers than in Australia and the United States.

107. In addition, CIPPIC/OpenMedia submitted that despite the regional wireless carriers' relatively high numbers of net subscriber additions, it will take many years before they reach market shares comparable to those of the national wireless carriers in their respective markets. The CCWS added that the national wireless carriers' decreasing churn rates over the last few years demonstrates a lack of competition in the retail market.

108. With regard to the extent to which these revenues are being redirected back into mobile wireless networks, CIPPIC/OpenMedia, the Commissioner, and the Manitoba Coalition argued that, having regard to capital intensity (i.e. capital expenditure as a percentage of revenue), Canadian wireless carriers do not invest as much as those in other countries.
109. In response, the national wireless carriers submitted that the studies relied upon to support the claim that prices in Canada are high compared to those in international markets were based on flawed methodologies, do not reflect promotional activities, and fail to take into account market-specific factors including differences in quality, geography, population density, and market conditions. At the national level, the CWTA and the national wireless carriers submitted that the national and regional wireless carriers compete aggressively against each other by offering a wide variety of plans at different price points, including prepaid and postpaid options and various combinations of voice, text, and data. They also submitted that competition in the retail market has led to a significant downward trend in prices, providing Canadians with greater choice, better services, more value, and, ultimately, affordable prices.
110. Eastlink, SaskTel, Shaw, TBayTel, SSi Micro, Videotron, and Xplornet submitted that sustainable competition is beginning to gain momentum in Canada and that regional wireless carriers are having a positive impact on competition by disciplining the national wireless carriers. Eastlink, SaskTel, Shaw, TBayTel, and Videotron argued that retail prices have been decreasing in markets served by regional wireless carriers, and that these carriers continue to expand network coverage and invest to improve services to their customers.
111. The national wireless carriers raised concerns about the Matrix study. They submitted that the use of a plan-limit adjusted price¹⁸ in the study is not an appropriate proxy for actual prices, since this measure can vary with usage without any variation in prices. Bell Mobility, the CWTA, and TCI also argued that the study did not take into account recent developments in the retail market (e.g. the introduction of unlimited plans by the national wireless carriers) and the acceleration of competitive activity since the data used to inform the report was collected.
112. Bell Mobility argued that provincial price differences were not caused by differences in the level of competition experienced in different markets but rather reflected differences in network quality, a claim that other parties, notably the Commissioner, disputed. TCI submitted that lower prices in Quebec were due to a higher uptake of flanker brands, and that average revenue per user (ARPU) levels in Quebec were lower than those elsewhere in Canada even before Videotron entered the retail market, which demonstrates that the lower prices for those services in the province are not due to the presence of Videotron.

¹⁸ This variable is calculated by dividing the total revenues of a carrier in a month by the number of subscribers with a data plan, and multiplying that by the data limit of such plans.

113. The CWTA and the national wireless carriers argued that the intense rivalry between wireless carriers was evidenced by thousands of offers in the retail market, including device discounts, bonus data, gifts with purchase, in-store credits, gift cards, bill credits, and other types of promotions.
114. Bell Mobility, the CWTA, and RCCI submitted that in 2018, the regional wireless carriers accounted for over 25% of net subscriber additions in Canada, which suggests a highly competitive dynamic between four wireless carriers in every market. RCCI indicated that a significant number of subscribers are changing WSPs and that, in every year since 2015, five to six million customers have switched WSPs, which represents over 17% of the retail market. RCCI also argued that its falling churn rate is attributable to increased promotional activities and focus on customer service in order to retain customers in the face of competition.
115. With regard to the question of profitability, RCCI and TCI disagreed with the use of EBITDA as a proxy for profitability, noting that this measure does not include the cost of capital expenditures, spectrum purchases, interest, and income taxes. They argued that it is therefore not appropriate for the capital-intensive mobile wireless service industry.
116. The national wireless carriers submitted that Canadian wireless carriers invest more in their mobile wireless networks than is the case in peer countries, resulting in high-quality networks. Bell Mobility and RCCI argued that Canada ranks third highest in capital expenditure per subscriber among the G7 countries and Australia, and TCI added that the difference would be even greater if spectrum costs were included in the calculations. The CWTA and the national wireless carriers submitted that Canadian wireless carriers have paid significantly higher spectrum costs than their international peers.

Commission's analysis and determinations

117. Given that market power is defined as the ability to raise prices above what would prevail in a competitive market, higher prices in a given area in comparison to others can provide direct evidence relevant to a determination regarding market power.
118. Most international studies provided or referred to by parties found retail prices in Canada to be among the highest in the world. For instance,
- ISED's 2019 edition of the Wall Report found that Canadian retail prices were either the highest or second highest across a range of categories of plans among the eight countries surveyed;
 - data from the OECD suggested that Canada had among the highest retail prices in the 35 countries surveyed in 2017;¹⁹

¹⁹ See tables 4.2, 4.4, and 4.6 of the [OECD Broadband Portal](#).

- a study by tefficient AB showed that Canada had the highest total mobile wireless service revenue, whether considered on a per-GB-consumed or per-SIM-per-month basis in 2018.

119. Some parties submitted or referred to studies that used econometric techniques to control for factors other than the level of competition that could explain price differences across jurisdictions. For instance, in a 2019 study, Seong Hun Yun, Yongjae Kim, and Minki Kim found that after controlling for factors other than competition (such as network quality), prices in Toronto are the highest or second highest among the 12 major cities analyzed for the study, which are located in 10 countries (i.e. all G7 countries plus Australia, Spain, and Sweden).²⁰ Another example, from the United States, is the Federal Communications Commission's (FCC) 2018 study that looked into international retail prices using an econometric model to correct for the potential effects of country-level differences in costs, demographics, and network quality. The study found that Canada had some of the most expensive retail prices in the 29 OECD countries surveyed. These two studies suggest that it is the lack of competition that drives Canadian retail prices to be among the highest in the world, and not other factors such as income, network costs, or network quality.

120. The Commission acknowledges that there are challenges associated with the comparisons of retail prices across countries. In this regard, considerable debate occurred with regard to the validity or appropriateness of the methodologies and data used in studies cited in this proceeding. That being said, almost all international reports and studies that were submitted or referred to throughout this proceeding, despite using different methodologies and different datasets, pointed to similar conclusions and consistently reported higher retail prices in Canada.

121. One notable exception, though, which came to a different conclusion, is the study prepared by Dr. Christian Dippon of NERA Economic Consulting and commissioned by TCI. This study found that, after controlling for factors such as income, network quality, and costs, retail prices in Canada are actually lower than international benchmarks. Despite the fact that the study appears to generally be using a sound methodology, the study has a significant flaw insofar as it uses an unrepresentative sample of Canadian retail mobile wireless service plans. This serves to artificially lower the average price index used in the study, and leads to underestimating the prices Canadians actually pay for retail mobile wireless services. In the Commission's view, this selection bias in the data sheds doubt on the validity of the conclusions drawn in the study.

²⁰ Seong Hun Yun, Yongjae Kim, and Minki Kim, "Quality-adjusted international price comparisons of mobile telecommunications services," *Telecommunications Policy* 43, 4: (May 2019) 339-352.

122. The Commission is satisfied that the evidence before it shows that retail prices are higher in Canada than in other comparable jurisdictions. Furthermore, factors such as network costs or network quality do not appear to explain the price differentials. Rather, it is likely that insufficient competition in Canada contributes to higher prices in comparison to other countries.
123. The Commission recognizes that retail prices have been falling in Canada over the last decade, a fact cited by the national wireless carriers as evidence that they are vigorously competitive with each other and with regional wireless carriers, and by regional wireless carriers to support their position that it is effective competition from them that has resulted in the decline in prices. The recent introduction of unlimited plans by the national wireless carriers represented a notable development in the Canadian retail market and appears to have put additional downward pressure on retail prices. However, this price reduction applied to large data plans specifically, and the extent to which it was driven by competition in the market is not clear.
124. Regardless, with retail prices clearly trending downwards, the Commission acknowledges that the market is moving in the right direction, and that it is reasonable to expect that this trend will continue in the future as wireless carriers' network capacity increases as a result of ongoing investments and innovation.
125. Notwithstanding the above, however, falling retail prices in Canada are part of a worldwide trend, because retail prices have also declined in other countries over the same period. The Commission notes that Canadian retail prices have not fallen as much as they have in other jurisdictions, and remain above international benchmarks. This also serves to suggest that competition is not currently sufficient to discipline the market and protect the interests of consumers.
126. Evidence pertaining to wireless carriers' profitability also corroborates this conclusion. Since market power is an ability to raise prices above competitive levels, the presence of excessive profits would constitute an indicator of market power.
127. Although subject to debate as to its appropriateness as a measure of profitability for the mobile wireless service industry, EBITDA remains a widely used metric by the industry to report financial performance and profitability. While it is not uncommon for EBITDA margins to exceed 40% in the industry, profits of the Canadian national wireless carriers are on the higher end when compared to the G7 countries and Australia. This indicates that the Canadian national wireless carriers are highly profitable, and that they have consistently been reporting relatively high EBITDA for a number of years, which is inconsistent with assertions of a highly competitive market. With regard to SaskTel, its profits have increased over the last number of years, with an EBITDA level now higher than that of other regional wireless carriers, and closer to that reported by the national wireless carriers. This is also inconsistent with assertions of vigorous competition in Saskatchewan.

128. A number of parties argued that the prices and profit levels in the Canadian market are reflective of the highly capital-intensive nature of the mobile wireless industry, which requires significant investment in both capital and spectrum. The Commission acknowledges that while the level of capital investments made by wireless carriers at a single point of time may not provide an accurate picture of their expenditures, because such expenditures depend on where the wireless carriers are in their investment cycle, this concern is mitigated by looking at average investment levels over a period of time. Over the 2009 to 2018 period, Canada had an average capital expenditure (excluding spectrum) per subscriber (capital expenditure to subscriber ratio) that ranked relatively highly among the G7 countries and Australia. However, when put in relation to revenue per subscriber, that ratio for Canadian national wireless carriers over the same period is actually one of the lowest. In other words, these carriers are spending less on capital investments on average in relation to their revenues on a per-subscriber basis than most of their peers in the G7 countries and Australia.
129. Similarly, the national wireless carriers argued that their prices and profit levels are justified because of their high levels of expenditures on spectrum relative to other countries. Canadian spectrum prices are indeed high when compared to other countries. However, spectrum prices in Canada are determined through an auction process; accordingly, the prices are a reflection of not only the number of bidders involved in the auctions, but also of the expected profits to be realized from the assets being bid on. As such, spectrum auction prices in Canada can be seen as confirming the level of profits that wireless carriers expect to generate from that resource.
130. The Commission acknowledges that the capital expenditures and spectrum costs of Canadian wireless carriers are high, and that they have had, and continue to have, an impact on retail prices because wireless carriers need to recoup the associated costs. However, these costs do not fully justify the retail price and profit level differentials seen between Canada and peer countries.
131. At the national level, cross-provincial comparisons of retail prices and the causes behind any price differences were subject to much debate. Historically, lower retail prices have been observed in Manitoba, Quebec, and Saskatchewan relative to other markets.
132. A number of parties submitted that these regional retail price variations were attributable to differences in the level of competition across markets – the Commissioner in particular presented evidence and argued that lower retail prices in Manitoba, Quebec, and Saskatchewan were a result of the strong competitive presence of MTS Inc. (now Bell MTS, a division of Bell Canada), Videotron, and SaskTel, respectively.
133. The national wireless carriers presented evidence and argued that retail price differences between provinces/territories were due to factors such as differences in network quality, penetration of flanker brands (which typically offer lower-priced services), and data usage. However, these factors either exhibit little correlation with

provincial/territorial retail pricing or do not consistently explain the differences in all provinces/territories. For example, according to 2018 network quality data collected by PCMag and referred to in the Commissioner's submission, network quality is higher in Quebec compared to the Atlantic provinces, but retail prices are higher in those provinces compared to Quebec. With respect to flanker brand penetration, provinces with higher retail prices, such as British Columbia and New Brunswick, also have high flanker brand penetration rates when compared to other provinces, and provinces with lower retail prices, such as Manitoba and Saskatchewan, have relatively low flanker brand penetration rates. Lastly, compared to Manitoba and Quebec, retail prices are higher in provinces with lower usage rates, such as New Brunswick, Newfoundland and Labrador, and Nova Scotia; however, retail prices in Alberta, a province with higher average data usage, are similar to those in New Brunswick, which had lower average data usage.

134. With respect to TCI's claim that ARPU in Quebec demonstrates that retail prices were lower in that province even before Videotron entered the market, ARPU alone is not a measure of retail prices. Furthermore, retail prices in Quebec were comparable to those in other provinces, with the exception of Manitoba and Saskatchewan, prior to Videotron's entry into the retail market.
135. Based on the above, the Commission concludes that retail price variations between provinces are not explained by differences in the quality of networks, flanker brand penetration, or data usage level among provinces.
136. The existence of lower retail prices in Manitoba, Quebec, and Saskatchewan alone does not lead to the conclusion that such prices in these jurisdictions are competitive. Rather, retail prices in these markets are still high by international standards. This is so even in Quebec where prices are generally among the lowest in Canada, and where Videotron holds a relatively significant share of the market (albeit less than any national wireless carrier), which suggests that subscribers across Canada, including in Manitoba, Quebec, and Saskatchewan, would benefit from increased competition.
137. Notwithstanding the above, the Commission recognizes the presence of encouraging signs showing a level of rivalry among wireless carriers. Notably, the national wireless carriers and most regional wireless carriers, including SaskTel, offer a large number of promotions and discounts on retail mobile wireless service plans and devices.
138. Another example of evidence of rivalrous behaviour can be seen from recent net subscriber addition figures, which is defined as the number of new subscribers minus the number of customers that drop service, as well as from porting data, which represents the number of subscribers' telephone numbers that have been transferred to and from different carriers. Most of the regional wireless carriers have been successful in attracting customers, including customers switching from other wireless carriers.

139. Despite the fact that net subscriber addition figures and porting data suggest that the market is moving in the right direction in terms of growing regional wireless carriers, the provincial/territorial market shares of the national wireless carriers combined have not changed in any significant way over the last five years. The same is also true for SaskTel in Saskatchewan; the carrier has largely maintained its market share over the last five years. In addition, even if the growth patterns witnessed in the last five years continued, this would very likely not result in gains large enough that the regional wireless carriers' market shares would grow in a significant way in the foreseeable future in most parts of Canada.
140. In conclusion, although the Commission considers that markets have generally been moving in the right direction, retail prices remain high in Canada compared to other jurisdictions, and factors such as costs or network quality do not entirely explain these differences. High profit levels, even accounting for the large investments made by the national wireless carriers and by SaskTel, in addition to their high and stable market shares over the last five years, also point to a lack of rivalrous behaviour in Canada.
141. In light of the above, the Commission finds that there is still an insufficient amount of rivalrous behaviour among the national wireless carriers and between these carriers and SaskTel in Saskatchewan, and that rivalry between these carriers and regional wireless carriers in the retail market, although present, is still limited in all provinces and territories.

Innovation and technological changes

142. In Telecom Decision 94-19, the Commission indicated that the nature of innovation and technological change in the relevant market may be a useful indicator to assess market power, because industries characterized by rapid innovation in products, processes, and technology tend to experience greater price movements and more new entry, thereby making it difficult to exercise market power.

Positions of parties

143. The national wireless carriers submitted that the telecommunications industry is a leader in research and development in Canada, that they continue to roll out LTE-A on their mobile wireless networks, and that they are undertaking massive investments towards the successful deployment of 5G infrastructure throughout the country. They further submitted that Canadian wireless carriers are innovating to improve their products and services to keep up with an intensely competitive market.
144. Eastlink, SaskTel, Shaw, Videotron, and Xplornet submitted that they provide innovation in the retail market. Most of these parties, in addition to TBayTel, argued that they are also undertaking efforts to build and enhance their mobile wireless networks, including by working toward the transition to 5G services.

145. The CCWS and CIPPIC/OpenMedia submitted that Canada's retail market lacks innovation because many of the services or options that have emerged in other jurisdictions, such as data rollover, are not widely available in Canada. CIPPIC/OpenMedia submitted that the national wireless carriers' recently introduced unlimited data plans do not compare favourably with similar plans offered in other jurisdictions because they are generally more expensive, offer a lower data usage threshold before data is throttled, and/or throttle data to a lower speed. The Commissioner and TekSavvy questioned the timing of the introduction of these plans, arguing that the threat of regulatory intervention may have played a role in their launch.

Commission's analysis and determinations

146. The Commission notes that wireless carriers have expanded the scope of their products and services. A notable example was the national wireless carriers' introduction of unlimited data plans across the country. However, while these offerings represent a new option in various parts of the country, unlimited plans have been available for some time in other jurisdictions, such as the United States and some European countries, as well as some areas in Canada, notably in Saskatchewan, prior to their introduction by the national wireless carriers.

147. With regard to technological changes, Canadian wireless carriers have deployed LTE networks that cover virtually all of the Canadian population, and are continuing to invest with a view to upgrading their networks to handle growing data demand. Accordingly, the Commission considers that Canadian wireless carriers are adopting technological innovations into their networks at a relatively rapid pace.

148. However, adopting network innovation comes at a cost; the mobile wireless industry has proven to be a capital-intensive industry, as discussed above, and there are no indications that it will be less so with the deployment of 5G networks.

149. The deployment of 5G networks is likely to be particularly challenging for regional wireless carriers that are still in the process of building and expanding their networks, and are working towards strengthening their financial performance. Under these circumstances, instead of helping competition by facilitating entry and expansion, technological changes in the industry may actually impede regional wireless carriers' ability to compete against bigger and more established wireless carriers and may compromise their financial viability. This is particularly true in areas with low population densities, since the capacity of the market to support these investments is even more limited.

150. In light of the above, the Commission finds that innovation and technological changes in the Canadian mobile wireless industry do not prevent an exercise of market power in any province or territory for the provision of retail mobile wireless services.

Conclusion

151. Despite evidence of growing rivalrous behaviour among WSPs and downward trends in retail prices in Canada, the Commission considers that, with the exception of Saskatchewan and the territories, the national wireless carriers together exercise market power and that the competitive dynamics in Canada are not currently sufficient to discipline the exercise of market power of these carriers. In these markets, market share is highly concentrated between the national wireless carriers. Furthermore, prices and profits are high and not fully accounted for by way of investments made in networks. Competitive discipline is limited by the presence of barriers to entry into the retail market and by barriers to switching service suppliers. Finally, innovation in the market would not prevent an exercise of market power in the mobile wireless service industry.
152. Accordingly, the Commission finds, as a question of fact, that the national wireless carriers together exercise market power in the provision of retail mobile wireless services in all provinces except Saskatchewan.
153. In the case of Saskatchewan, SaskTel, the incumbent WSP, controls the majority of the retail market, and its market share has remained essentially unchanged in the last five years. In addition to SaskTel's dominant and stable market share, the retail market is characterized by barriers to entry that, if anything, would be higher in Saskatchewan given the low population density and the size of the territory to cover. In addition, SaskTel's increasing profit levels are inconsistent with assertions of a highly competitive market in Saskatchewan and rather indicate, when considered in conjunction with the factors described above, that SaskTel exercises market power on a unilateral basis in the province.
154. In light of the above, the Commission finds, as a question of fact, that SaskTel exercises market power as regards the provision of retail mobile wireless services in Saskatchewan.
155. With respect to the North, Bell Mobility holds the vast majority of market shares in each of the three territories, and competitors in those markets have only modest presences. Also, customers in the North have access to fewer options than customers in the provinces when they consider switching WSPs, since no territory counts more than three wireless carriers. In addition, barriers to entry are prevalent in these markets like elsewhere in Canada. Given the low population density and the size of the territory to cover, these barriers are likely more significant in each of the territories.
156. In light of the above, the Commission finds, as a question of fact, that Bell Mobility exercises market power for the provision of retail mobile wireless services in the territories.

157. Following these findings, the analysis now turns to assessing potential regulatory measures, at both the wholesale level and retail level, to address market power and protect the interests of consumers, having regard to the policy objectives of the Act and the 2006 and 2019 Policy Directions.

Regulatory measures at the wholesale level

Regulatory approach to wholesale services

158. Generally speaking, wholesale regulatory measures are used to address competition concerns in the retail market. If the retail market is sufficiently competitive, there is generally no need to inquire into the appropriateness of wholesale market intervention. However, if an analysis of the retail market demonstrates competitive concerns in that market, such as one or more firms exercising market power, which the Commission has found to be the case in relation to the provision of retail mobile wireless services in all geographic markets, then wholesale market intervention may be appropriate.

159. While there may be other reasons to support wholesale market intervention, as a general matter, it is appropriate to view such regulatory intervention as a means of addressing situations of undue preference or unjust discrimination, such as the differential treatment that may arise as a result of the dynamic between a carrier's retail and wholesale operations. Such intervention is typically done by mandating that firms exercising market power provide competitors with access to their networks, or parts thereof, at regulated rates, terms, and conditions.²¹

160. In Telecom Regulatory Policy 2015-326, the Commission set out its analytical framework for determining whether to mandate the provision of a wholesale service.

161. The first step is to define the relevant product and geographic markets for the wholesale service. These markets are typically characterized as the smallest group of services and geographic area over which a firm could profitably impose a significant and non-transitory (i.e. sustainable) price increase.

162. The next step is to apply the essential services test (referred to hereafter as the Essentiality Test), which has three components (the essentiality criteria) – the input component, the competition component, and the duplicability component. A wholesale service must meet all three components, as described below, to be considered essential.

- Input component: the facility is required as an input by competitors to provide telecommunications services in a relevant downstream market.

²¹ For example, the national wireless carriers are mandated to provide wholesale roaming service at regulated rates, terms, and conditions. In the wireline market, incumbents are mandated to provide wholesale high-speed access service to competitors at regulated rates, terms, and conditions.

- Competition component: it is controlled by a firm that possesses upstream market power such that withdrawing mandated access, or denying access to the facility, would likely result in a substantial lessening or prevention of competition in the downstream market.
- Duplicability component: it is not practical or feasible for competitors to duplicate the functionality of the facility.

163. These criteria, which are aimed at determining whether a wholesale service is a bottleneck, and whether access to the service is necessary for successful retail competition, help inform the Commission's assessment as to whether a wholesale service provider's conduct results in it unduly preferring itself or disadvantaging a competitor or a group of subscribers, contrary to subsection 27(2) of the Act. As such, these criteria inform a specific method of identifying compliance with subsection 27(2). However, in the Commission's view, the Essentiality Test applies fairly narrow economic criteria to the assessment and would not, absent further considerations, fully reflect the range of matters that section 47 of the Act requires the Commission to take into account in exercising its powers.

164. In this regard, in Telecom Regulatory Policy 2015-326, the Commission indicated that it would evaluate whether there are policy considerations that would inform, support, or reverse a decision to mandate the provision of a wholesale service. Among the policy considerations it highlighted are those relating to innovation and investment. Where appropriate, the Commission may use a policy consideration to justify a decision to mandate the provision of a wholesale service that does not meet the Essentiality Test. Conversely, the Commission may use a policy consideration to justify a decision not to mandate the provision of a wholesale service that meets the Essentiality Test.

165. The policy considerations discussed in Telecom Regulatory Policy 2015-326 play a critical role in informing the Commission's findings of fact under subsection 27(3) of the Act as to whether a carrier has complied with the prohibition set out in subsection 27(2) in a manner that is consistent with the requirements of section 47.²²

166. In light of its findings in the previous section concerning the presence of retail market power, the Commission will consider the appropriateness of mandating wholesale MVNO access.

²² The policy considerations also serve to reflect that the essential facilities analytical framework set out in Telecom Regulatory Policy 2015-326 is also applied, albeit on a more limited basis, to give effect to statutory powers other than subsection 27(2), such as those set out in section 40 of the Act.

Wholesale MVNO access

Background

167. In Telecom Regulatory Policy 2015-177, the Commission found that both wholesale roaming service and wholesale MVNO access service met the three components of the Essentiality Test. For both services, the Commission defined the relevant geographic market as national in scope. Although wholesale MVNO access service met the Essentiality Test, the Commission determined that the service would not be mandated at that time owing to policy considerations. In particular, the Commission was concerned about the potential for wholesale MVNO access to undermine network investment, particularly by competitor wireless carriers, and particularly outside of core urban areas.

168. In Telecom Notice of Consultation 2019-57, the Commission took the preliminary view that subsequent developments in the market were such that it would now be appropriate to require the national wireless carriers to provide wholesale MVNO access service, on a time-limited basis, as an outcome of this proceeding.

Reviewing the essentiality of wholesale MVNO access service

Positions of parties

169. In addition to debating the policy reasons for and against mandating wholesale MVNO access service, certain parties called into question the Commission's finding in Telecom Regulatory Policy 2015-177 that wholesale MVNO access service meets the Essentiality Test.

170. Several parties submitted that before the Commission makes a determination with respect to mandating wholesale MVNO access service, it is necessary to reassess the essentiality of the service.

171. In particular, Shaw argued that the Commission's concurrent analysis of both wholesale roaming and wholesale MVNO access services in Telecom Regulatory Policy 2015-177 was flawed because the considerations for MVNOs and roaming are different. Shaw submitted that while wholesale roaming service was required for regional wireless carriers that need broad national coverage to offer competitive services, the same does not necessarily hold for MVNOs. It argued that MVNOs do not face the same barriers and competitive foreclosure risks as those who need to build their own home networks, and therefore argued that the Commission needs to revisit the essentiality of wholesale MVNO access service before it can properly assess the appropriateness of the service.

Commission's analysis and determinations

172. Given the evolution of wireless service markets since 2015, and the new evidence and arguments that were raised in this proceeding, it would not be appropriate for the Commission to make a determination on whether to mandate wholesale MVNO

access service by relying on the determinations it reached in 2015. The Commission therefore considers that a new assessment of whether wholesale MVNO access service satisfies the Essentiality Test is required.

Defining wholesale MVNO access service

173. At the outset, the Commission notes that the analysis below focuses on the concept of a full MVNO model, which would grant mandated permanent access to the RAN of a host carrier. The RAN consists of spectrum, towers, and related facilities and equipment located at tower sites. In a full MVNO model, all other facilities and equipment required by an MVNO beyond the RAN would not be mandated, but would be supplied or otherwise obtained by the MVNO itself, including the core network, billing systems, customer care, and devices.
174. Various parties proposed their own variants of a full MVNO model. For example, CNOC, Distributel, and TekSavvy, among others, supported a broad-based full MVNO model with minimal or no restrictions on eligibility for prospective MVNOs. Cogeco proposed a hybrid MVNO model under which eligibility would be tied to a prospective MVNO owning wireless or wireline facilities in a given area, used to serve retail customers. The ITPA proposed a full MVNO model that included an option for prospective MVNOs to also gain mandated access to a host carrier's core network.
175. In the Commission's view, the essentiality analysis for each of the full MVNO options proposed by parties is the same, since they are all ultimately predicated on a prospective MVNO having mandated permanent, rather than incidental, access to a host carrier's RAN. The conclusions reached with regard to the essentiality of wholesale MVNO access service therefore apply equally to each proposal.²³
176. The Commission considers that the Commissioner's facilities-based MVNO proposal would also constitute a full MVNO model. However, given the targeted nature of that model, in terms of both geography and eligibility, the Commission has performed a separate evaluation of it.

Relevant product and geographic markets

177. As discussed above, the first step in applying the Essentiality Test is to define the relevant product and geographic markets for the service in question.

²³ This analysis does not capture the optional access to core network components requested by the ITPA. However, given the Commission's determinations on the question of mandated RAN access, it does not consider that it needs to perform an assessment of whether wholesale access to core network components qualifies as access to essential facilities or services and whether such access should be mandated.

Positions of parties

178. Parties in favour of mandated wholesale MVNO access service generally submitted that the previously established relevant product and geographic markets continue to be appropriate.
179. Bell Mobility argued that wholesale roaming service and wholesale MVNO access service do not need to have the same relevant geographic market, since an MVNO can have the ability to resell access to a wireless network in one area (wholesale MVNO access), while its customers in that area are able to use their wireless service anywhere in the country by way of wholesale domestic roaming access. Bell Mobility submitted that the relevant geographic market for the purposes of applying the Essentiality Test to a wholesale MVNO access service is local, and can most appropriately be represented by tier 4 areas, which collectively cover every square kilometre of Canada.
180. Similarly, it was the Commissioner's view that the appropriate geographic market for assessing wholesale MVNO access service is likely the local market. To that end, the Commissioner submitted that tier 4 areas are a reasonable proxy for local markets.
181. Shaw argued that competitors have demonstrated that they are able to enter the mobile wireless service market on a regional basis through self-supply and deploy networks to an extent sufficient to compete with the national wireless carriers.

Commission's analysis and determinations

182. The Commission considers that there are significant functional differences between wholesale roaming service and wholesale MVNO access service. Each service addresses a different type of customer: wholesale MVNO access service addresses service providers seeking permanent RAN access to enable their retail services to be offered, while wholesale roaming service addresses wireless carriers seeking incidental RAN access to support their customers when they travel outside the footprint of their carrier's network. In the Commission's view, the difference in functionality between the two services places them in two separate product markets, with the relevant product market for wholesale MVNO access service being defined as permanent access to the RAN.
183. With respect to the geographic market, the Commission considers that the geographic market for wholesale MVNO access service is more localized than the national market. When looking more closely at the likelihood of entry into the market and the geographic basis on which that entry might occur, the Commission considers that an entrant would not necessarily require a wholesale MVNO access service on a national level in order to be able to develop a viable business. While national coverage, through roaming, is necessary for any service provider to give its customers connectivity wherever they go, a WSP (be it a carrier or MVNO) does not necessarily have to sell its services nationally in order to provide its customers with

national coverage. An entrant could, rather, enter in one city or province and negotiate to use a combination of the host carrier's network and roaming arrangements to offer its customers in that local area a viable service, which would include national coverage. This is similar to how regional wireless carriers have entered the market, that is, by targeting select areas for entry and using wholesale roaming service to supplement their serving territories and enable their customers to have national coverage.

184. In these circumstances, the Commission considers that tier 4 areas represent a significantly more localized geographic area than the national market, and are a reasonable proxy for local markets because they are roughly approximate to a city and its surrounding area, a regional municipality, or a larger rural area with several small towns. Tier 4 areas have established boundaries and are familiar to market participants.

185. In light of the above, the Commission determines that the relevant product market for wholesale MVNO access service is permanent access to the RAN and that the relevant geographic market is the tier 4 area.

Applying the Essentiality Test to mandated MVNO access service

186. Below, the Commission applies the Essentiality Test to wholesale MVNO access service using the market definitions established above, with the relevant product market being permanent access to the RAN for the purpose of operating as an MVNO, and with the relevant geographic market being the tier 4 area.

Positions of parties

187. The CCWS, CNOC, and Ecotel agreed with the Commission's finding in Telecom Regulatory Policy 2015-177 that wholesale MVNO access service is an essential service.

188. Cogeco argued that access to the RAN of a mobile wireless carrier is an essential service, because it is a required input to provide an equivalent mobile service offering, it is controlled by firms that together exercise market power, and it is not practical to duplicate.

189. Bell Mobility argued that wholesale MVNO access service is not essential because there is no evidence to support a conclusion that MVNOs would substantially increase competition. Instead, their presence would likely result in less competition in retail markets. Further, it argued that mandated MVNO access service fails the duplicability component because carriers that have entered into the market since 2008 have demonstrated that every aspect of a facilities-based wireless service offering can be duplicated. It noted, by way of example, that Bell Mobility and TCI previously duplicated RCCI's Global System for Mobile communications (GSM) network in every geographic market.

190. RCCI argued that, for the input component, MVNOs do not require access to the national wireless carriers' RANs to provide retail service. It pointed to the new regional wireless carriers that have built competitive businesses to argue that others could do the same on a relatively cost-effective basis. As for duplicability component, RCCI referred to the new entrants to demonstrate that the RAN is duplicable and that it is easier than ever for new entrants to enter the market and build their own RANs. RCCI further submitted that, to the extent that a new entrant may need to rely on an existing RAN, it does not necessarily need access to the national wireless carriers' RANs. Further, and with specific regard to the competition component, RCCI argued that while MVNOs may bring some additional competition, it would be likely short lived and unlikely to help consumers.
191. Shaw argued that mandating wholesale MVNO access would substantially lessen or prevent competition in the downstream retail market. It submitted that the overwhelming evidence in this proceeding shows that mandating MVNO access will weaken facilities-based competitors by eroding their subscriber bases and inhibiting their ability to compete effectively and sustainably against the national wireless carriers in the mid and long term. Shaw also submitted that the presence of regional facilities-based competitors, like Freedom Mobile, in the mobile wireless service market through self-supplied networks is clear evidence that mobile wireless facilities are duplicable on a regional basis.
192. TCI disagreed with the Commission's 2015 finding of essentiality, arguing that competitors can duplicate RANs and that this has led to regional and national wireless carriers building RANs across the country.

Commission's analysis and determinations

Input component

193. Any WSP – whether it is a facilities-based carrier or a virtual operator – requires access to a RAN to offer mobile wireless services, including retail services. Since MVNOs are virtual operators that, by definition, do not own RAN components such as spectrum, towers, and sites, they would not be able to operate without wholesale access to a carrier's RAN. This is true in any tier 4 area.
194. As a result, the Commission finds that wholesale MVNO access service meets the input component.

Competition component

195. In Telecom Regulatory Policy 2015-177, the Commission determined that the national wireless carriers collectively possessed market power in the national market for wholesale MVNO access service. In the Commission's view, this determination of collective upstream market power remains true for most tier 4 areas in the country. In these areas, MVNOs seeking RAN access are limited to either the Bell Mobility-TCI shared network, the RCCI network, or the network of a regional wireless carrier that may have only partial coverage. The Commission considers that,

even in tier 4 areas where a regional wireless carrier has coverage, the national wireless carriers would, with the exception of tier 4 areas in Saskatchewan and the territories, still exercise upstream market power, having regard to the limited number of networks with extensive coverage, namely the Bell Mobility-TCI shared network and RCCI's network.

196. In Saskatchewan, SaskTel owns the vast majority of the network facilities. Other carriers have only a minimal network presence, and this presence is in a limited number of tier 4 areas in the province. For these reasons, the Commission considers that SaskTel solely exercises upstream market power over the RAN for the purposes of wholesale MVNO access service in the geographic markets in Saskatchewan.
197. In the territories, Bell Mobility owns the vast majority of network facilities, with a number of smaller wireless carriers operating in some tier 4 areas. In these circumstances, the Commission considers that Bell Mobility has sole upstream market power over the RAN for the purposes of wholesale MVNO access in the territories.
198. The Commission considers that while Bell Mobility, RCCI, TCI, and SaskTel exercise upstream market power over the RAN for the purposes of wholesale MVNO access service in the areas described above, the competition component of the Essentiality Test requires it to assess whether an exercise of this upstream market power to foreclose meaningful wholesale RAN access for the purpose of supporting MVNOs would result in a substantial lessening or prevention of competition in the downstream retail market. In this regard, the Commission considers that MVNOs are likely to focus their efforts on tier 4 areas in larger cities where they would be able to use the service to reach the greatest number of potential customers.
199. With respect to customer segments that MVNOs would likely target, the Commission considers that MVNOs are likely to compete for similar customers as those targeted by regional wireless carriers (e.g. price-sensitive customers or younger and more technologically savvy customers that have a greater willingness to switch carriers). In this regard, the national wireless carriers position their flanker brands for a similar purpose: to defend against the competitive threats posed by regional wireless carriers to specific customer segments, namely budget-conscious consumers. As such, the Commission considers that it is likely that, upon entry into retail markets, MVNOs would take a greater share of subscribers from regional wireless carriers than from the national wireless carriers or SaskTel, particularly with respect to their main brands, and would therefore have a disproportionate impact on regional wireless carriers. In these circumstances, the Commission considers that while there may be some initial downward pressure on overall pricing as MVNOs seek to gain customers, over the longer term the net impact of broad-based MVNO presence on competition, particularly as a means of affecting retail market power, is not likely to be substantial.

200. Furthermore, in the Commission's view, while competition is intensifying and prices are lower in areas where a regional wireless carrier operates in competition with the national wireless carriers, and it is reasonable to expect prices to decline further in the future as the regional wireless carriers grow their market shares, the potential beneficial impacts on retail competition resulting from the mandated provision of a broad MVNO access service are speculative at best. Further, the available evidence is not persuasive enough to support a conclusion that any such impact would outweigh any negative impacts on established regional wireless carriers with regard to their subscriber base and their corresponding ability to invest in expanding and upgrading their network coverage and, thus, on their ability to discipline retail market power.
201. In light of the above, the Commission finds that the absence of a broad-based wholesale MVNO access service is not likely to result in a substantial lessening or prevention of competition, and that the presence of such a service is not likely to result in a substantial increase in downstream competition. Therefore, wholesale MVNO access service does not meet the competition component of the Essentiality Test.

Duplicability component

202. There are 172 tier 4 areas in Canada, and in 114 of these areas, regional wireless carriers, including SaskTel, have already invested in spectrum and RAN facilities, thereby providing approximately 70% of the Canadian population with a competitive alternative to the national wireless carriers. This is clear evidence that RANs have been practically and feasibly duplicated by reasonably efficient competitors that vary in size from larger carriers with significant wireline operations such as Shaw and Videotron, to mid-sized carriers such as Eastlink and TBayTel, to smaller carriers such as Ice Wireless and SSi Micro.
203. Furthermore, in the remaining 58 tier 4 areas, there is at least one regional wireless carrier that has purchased spectrum but has not yet built RAN facilities. In many cases, it has already announced plans to build RAN facilities. The Commission considers that this is a strong indication that RAN facilities are likely to continue to be duplicated in the future.
204. The Commission is not persuaded by arguments that it is infeasible or too costly to construct a wireless network. The evidence shows otherwise, namely that multiple companies have built their wireless networks – in both densely populated tier 4 areas and in more sparsely populated tier 4 areas – and have indicated that they intend to continue doing so.
205. Regarding arguments that spectrum is a finite resource that can only be acquired at specific times set by ISED, the Commission considers that all companies make choices about how and when to invest. Some companies chose to bid on spectrum in past auctions and launch retail wireless operations. Other companies chose not to, or were not successful with their bids. Simply making a business choice against

building a RAN, or losing out in an auction process, does not mean that it is not possible to build one.

206. The Commission acknowledges that building a wireless network is not without significant challenges. Spectrum is typically expensive, is in limited supply, and is only made available at certain times by ISED. Network infrastructure such as towers and backhaul facilities take time to build and often require consultations and permits. As already discussed, these constitute barriers to entering and expanding in the mobile wireless service market that impact the ability of competitors to serve consumers. However, the Commission considers that, as the evidence above demonstrates, these challenges are not insurmountable by reasonably efficient operators. They have, in fact, entered the market and are expanding their operations to more consumers as time goes on.

207. In light of the above, the Commission determines that the functionality of wholesale MVNO access service can be practically and reasonably duplicated by reasonably efficient competitors.

Conclusion

208. In light of the above, since wholesale MVNO access service does not meet two of the three components of the Essentiality Test, the Commission determines that wholesale MVNO access service is not an essential service.

Policy considerations

Background

209. In the essential services framework set out in Telecom Regulatory Policy 2015-326, the Commission indicated that, in addition to applying the specific conditions or components informing the Essentiality Test, it would use policy considerations to inform, support, or reverse a decision to either mandate or not mandate the provision of a wholesale service.

210. The Commission listed three policy considerations that it would take into account: public good,²⁴ interconnection, and innovation and investment. In the case of wholesale MVNO access service, the Commission considers that it is neither a public good nor interconnection service and, as such, the first two policy considerations are not relevant. However, innovation and investment is of particular relevance, since one of the strategic policy objectives of this proceeding is continued innovation and investment in, and affordable access to, high-quality telecommunications services and facilities in all regions of Canada, including rural and remote areas.

²⁴ For example, the Commission mandates the provision of wholesale Enhanced 9-1-1 service as a public good service.

211. In this proceeding, parties made arguments regarding the impact that mandated wholesale MVNO access would have on the market and much of the evidence filed in this regard relates to innovation and investment in a number of different ways. Parties' views on this matter were generally made in the context of a broad-based full wholesale MVNO access service.

212. With this in mind, the Commission has structured its analysis on innovation and investment as follows:

- Impact on innovation – Plans and pricing
- Impact on innovation – Technology and service delivery
- Impact on investment – National wireless carriers and SaskTel
- Impact on investment – Regional wireless carriers
- Impact on investment – Network capacity

Positions of parties

Impact on innovation – Plans and pricing

213. Parties that opposed mandated wholesale MVNO access, including the national and regional wireless carriers, generally argued that MVNO competition would have little to no impact on innovation with respect to new plans and pricing structures. Expert evidence filed by these wireless carriers concluded that broadly mandated wholesale MVNO access would not have a significant impact on prices. For instance, Richard Feasey, on behalf of RCCI, argued that there is no credible evidence that having more MVNOs in a market or mandating access for those MVNOs leads to lower retail prices. Furthermore, Dr. Christian Dippon and Dr. Georg Serentschy, both on behalf of TCI, argued that in other countries where there is a significant MVNO presence in retail markets, MVNOs are generally unable to set or even influence market prices.

214. Parties that opposed mandated wholesale MVNO access also argued that the evidence shows that entities seeking MVNO access would most likely seek to offer their customers services that are comparable to those already available and to make these available at prices similar to those prevailing in the market. Bell Mobility, RCCI, and Videotron argued that wireless carriers already offer a wide range of plans at different price points, including voice, text, and data plans for under \$20 per month. They argued that given the availability of lower-priced plans in most markets, there is very little room for MVNOs to compete on price. Eastlink argued that it would be highly optimistic to assume that any properly costed wholesale pricing model would result in substantial changes to the price of services already occurring and increasingly being offered by the numerous existing WSPs in Canada today.

215. Parties that supported mandated wholesale MVNO access, including CNOc and prospective MVNOs, argued that MVNOs are able to put downward pressure on retail pricing. Evidence provided by these parties pointed to a wide variety of MVNOs operating in different international markets that offer wireless plans that include large data allotments at rates that, in their assessment, were significantly lower than the standard offerings by large carriers in those markets. For instance, Dr. Martyn Roetter, on behalf of CNOc, pointed to an MVNO in the United Kingdom offering plans containing up to 10 GB of data for £10. TekSavvy gave the example of Ting Mobile (an MVNO operated by Tucows) that bills customers for the least expensive plan available each month based on their usage.
216. The Commissioner suggested that it was unlikely that MVNOs would be able to effectively compete on price and submitted that mandated wholesale MVNO access service rates would need to be up to 64% lower than current mandated wholesale roaming service rates for MVNOs to be able to offer plans that are comparable to those of Freedom Mobile, SaskTel, and Videotron.

Impact on innovation – Technology and service delivery

217. Parties that supported mandated wholesale MVNO access, including CIPPIC/OpenMedia, CNOc, and the Manitoba Coalition submitted that MVNOs would have a positive impact on Canada's mobile wireless service market. CNOc filed a report prepared by Dr. Zhiqi Chen arguing that MVNOs will target niche and underserved areas of the market with affordable and innovative new services, which will, in turn, pressure wireless carriers to respond with their own enhancements to affordability and innovation. Dr. Roetter similarly argued that MVNOs in foreign jurisdictions have developed innovative solutions, including targeting niche population segments, to distinguish themselves from the service offerings of established service providers. CIPPIC/OpenMedia and the Manitoba Coalition argued that this kind of innovation could help improve Canada's mobile wireless service adoption rate. In this regard, CIPPIC/OpenMedia highlighted data indicating that mobile wireless service adoption in Canada, in terms of subscriptions, was below the OECD average.
218. Certain parties that supported mandated wholesale MVNO access also argued that MVNOs distinguish themselves through joint marketing and co-branding with non-telecommunications companies, such as those offering financial services, and, similar to the arguments set out above, by making niche offerings targeting customers that existing WSPs have underserved.
219. Data on Tap submitted that there is room for MVNOs to innovate through a number of product differentiation strategies focusing, for example, on solving problems where wireless usage is moderate, variable, temporary, seasonal, or transient. The company argued that because MVNOs do not manage numerous brands, they would not be concerned about cannibalizing their own customers, and would be free to design products that target a wide range of consumers.

220. Parties that opposed mandated wholesale MVNO access, including the national and regional wireless carriers, generally argued that in markets where there is a strong MVNO presence, the MVNOs pursue niche strategies, with the most common targeted market niche being budget-conscious consumers. They argued that in Canada there is no need or role for MVNOs because the niche segments they are most likely to target are already served by regional wireless carriers and flanker brands.
221. TCI also argued that mandated wholesale MVNO access will provide minimal benefit to consumers. Dr. Dippon concluded in his report that MVNOs do not cause decreases in price or increases in service quality. Specifically, his examination of the impact of MVNOs in OECD countries found that MVNO market shares in those countries remain very small, and that there is no statistical relationship between the presence of MVNOs and an increase in consumer benefits such as faster download speeds, broader LTE deployment, or carrier ARPUs.
222. A report prepared by Dr. Eric Emch and filed by Shaw argued that there is a stark contrast between mobile network operator innovation and MVNO innovation. It noted that 5G networks promise increased speed, decreased latency, and increased connectivity, all of which will support new use cases in the mobile wireless service industry, including IoT and augmented or virtual reality applications. The report suggested that if mandated wholesale MVNO access decreases carrier investment, then these type of innovations cannot be replaced by the kinds of innovations that MVNOs might bring to market, which, it was argued, are limited to marketing and product differentiation.

Impact on investment – National wireless carriers and SaskTel

223. Parties that supported mandated wholesale MVNO access, including the CCSA, the CCWS, CNOC, Distributel, the ITPA, and TekSavvy, argued that it is difficult to demonstrate a correlation between MVNO entry and lower investment levels. They argued that it is unlikely that mandated wholesale MVNO access will deter investment and that it is possible that the national wireless carriers would be encouraged to increase network investment in response to increased demand for network capacity driven by MVNOs. They argued that the national wireless carriers have a strong incentive to roll out 5G technology and submitted that those carriers have made every indication that they will be 5G investment leaders regardless of the presence of MVNOs.
224. CNOC argued that while 5G deployment will require significant investment, the presence of MVNOs will not have a negative impact on that investment. In his report, Dr. Chen argued that MVNO growth is unlikely to reduce investments by wireless carriers, and could possibly stimulate wireless network investment by the national wireless carriers. He argued that the mandated entry of MVNOs into the retail market will likely increase the number of mobile wireless service subscriptions, and therefore increase overall demand for network capacity.

225. Generally, all parties that opposed mandated wholesale MVNO access, including the CWTA, the national wireless carriers, regional wireless carriers, and SaskTel, argued that such access would negatively impact investment by wireless carriers. They argued that mandated wholesale MVNO access would reduce the incentive to invest, particularly in rural areas, and would stifle 5G investment. Margaret Sanderson, in a report for Bell Mobility, and Dr. Dippon, in his report, argued that economic studies of international markets confirm that there are negative investment repercussions from mandated wholesale MVNO access.
226. Bell Mobility argued that if wholesale MVNO access is mandated, carriers' weighted average cost of capital (WACC) would likely rise, driven by lower equity valuation and a higher cost of debt that incorporates higher risk levels. It argued that a higher WACC will increase the hurdle rate for investment, and that lower return on investment capital and higher WACC will make investment projects less likely to be approved by the directors and officers of corporations involved in mobile wireless services.
227. The Commissioner submitted that through his own research, he did not find conclusive evidence of reduced investment incentives resulting from mandated wholesale MVNO access internationally. He noted that in Austria, Japan, and Spain, where, in his view, mandated wholesale MVNO access has contributed to placing downward pricing pressure on mobile wireless service markets, there does not appear to have been any significant decrease in investment.

Impact on investment – Regional wireless carriers

228. CNOC and TekSavvy argued that mandated wholesale MVNO access would positively impact regional wireless carriers. They argued that these carriers are well positioned to become MVNOs and that profits generated from a full MVNO business could be used to invest in, and expand the footprint of, their networks.
229. CNOC argued that rural areas will not be disproportionately affected by any cuts to investment as a result of mandated MVNO access and that rural carriers such as Ice Wireless will continue to invest in networks even if wholesale MVNO access is mandated. CNOC also argued that a significant amount of investment in rural network infrastructure is funded by government programs that would not be affected by a mandate to provide wholesale MVNO access.
230. The national and regional wireless carriers argued that mandated wholesale MVNO access would have the greatest negative effect on regional wireless carriers. They argued that MVNOs are most likely to target the core customers of the regional wireless carriers, and that this would be particularly damaging due to the smaller scale of those carriers' operations. They also argued that mandating wholesale MVNO access would increase overall uncertainty in the market including with respect to the assumptions (e.g. that there is no mandated MVNO access service in place) and return on investment calculations on which capital markets' support for regional wireless carriers has been based to date. Finally, they argued that regional wireless carriers' investment decisions would be affected, both with respect to 5G deployment, and to the expansion of 4G networks.

231. Eastlink submitted that since 2008, it has invested hundreds of millions of dollars to expand its business, and argued that it was able to take this kind of risk due to policies that support facilities-based competitors. It argued that mandating wholesale MVNO access would compromise the sustainability of the investments it has made to date and would drastically reduce all its future investments. SaskTel made similar arguments and argued that mandated wholesale MVNO access would hurt regional wireless carriers in favour of tiny, unstable competitors and larger national carriers.
232. The report by Dr. Emch, filed by Shaw and supported by Videotron, indicated that regional wireless carriers have high investment intensity levels and low margins, all of which put them particularly at risk if faced with MVNO competition.

Impact on investment – Network capacity

233. The national wireless carriers generally submitted that they do not, at present, have a large amount of unused capacity in their networks to support new MVNOs, and indicated that there are many urban locations that are already above 90% capacity utilization at peak times. They were of the view that MVNO entry would add additional traffic to their networks and that it would be difficult for them to forecast this capacity, therefore making it difficult to make the necessary investments at the necessary times. They argued that the additional demands on capacity could lead to reduced network quality and/or higher capital costs to continue to provide high-quality services to their subscribers.
234. Wireless carriers generally submitted that they monitor their network utilization based on various technical parameters and quality metrics, including download speed, upload speed, and latency. They submitted that the end goal of network planning is for carriers to never provide a service that falls below a minimum level of service quality. They submitted that this objective was accomplished by predicting those times and places where network investment is required and adding just enough capacity, on a just-in-time basis.

Commission's analysis and determinations

Impact on innovation – Plans and pricing

235. A fundamental question in this proceeding is whether mandated wholesale MVNO access would result in innovative plans and pricing options for consumers, thus leading to lower prices overall.
236. Generally speaking, it is reasonable to expect at least some downward pressure on pricing if MVNOs were to enter the market on a broad basis. The magnitude of this impact would depend on many factors, including the number of MVNOs that enter; the market segments they choose to target; their relative size, experience, and sophistication; and, perhaps most importantly, the wholesale rates, terms, and conditions that are either negotiated between the parties or set by the Commission.

237. Several parties submitted evidence regarding MVNO activity in other jurisdictions to provide insights about what might occur in Canada. Generally, MVNOs capture between 5% and 30% of the markets that they enter. In many instances, after MVNOs entered those markets, there were price reductions, particularly in relation to niche customer segments, such as the youth market or the prepaid, lower-cost service market. However, the impact of MVNO entry varied depending on the country being studied. Given the differences in market conditions between Canada and the countries under consideration, this evidence cannot be relied upon to conclusively predict the potential impacts MVNOs might have in Canada.
238. With that said, the Commission expects that MVNOs entering a new market would want to compete on price in order to build a customer base, thereby placing downward pressure on market prices, particularly over the short term.
239. However, in a number of international markets referenced by parties, MVNOs successfully negotiated access to carrier networks without access being mandated. In those markets, it is likely that it was market conditions such as, for example, the presence of carriers with a large amount of spare network capacity, that facilitated negotiated wholesale MVNO access at a rate that enabled price competition. In certain countries, including Austria, Germany, and Ireland, wireless carriers were required by regulators to provision wholesale network access to MVNOs as a merger remedy.
240. In any event, if the Commission were to mandate wholesale MVNO access, the rate would either be commercially negotiated or set by the Commission. If left to negotiation, it is unlikely that carriers and MVNOs would successfully negotiate a wholesale rate that allows for an MVNO to compete aggressively on price, due to the significant disparity in size and bargaining power. On the other hand, if the Commission were to determine the wholesale rate, then the MVNOs' profit margins, and their services offerings, will constantly be tied to that rate and restrict differentiation. As a result, the Commission is concerned that a mandated regime allowing for broad MVNO entry would be difficult to sustain over the long term without careful and ongoing regulatory assistance.
241. For these reasons, the Commission considers that mandated wholesale MVNO access may result in a moderate downward impact on price as MVNOs first enter the market, but that these effects would be difficult to sustain over the long term.

Impact on innovation – Technology and service delivery

242. Parties contested whether and to what degree MVNOs would be able to innovate in terms of technology and service delivery if mandated wholesale MVNO access were broadly introduced to the Canadian market.
243. In the Commission's view, technical innovation delivers many important benefits to Canadians by consistently improving network performance and leading to the introduction of new services over time. This type of innovation is largely driven by

carriers that spend millions of dollars annually on research and development, and work with educational institutions and technology companies to bring the latest technical innovations to market. Since MVNOs by definition do not own RANs, and generally do not have the same capital as carriers do that can be dedicated to funding research and development, it is unlikely that MVNOs can have any significant impact with respect to technical innovation at the network level.

244. With respect to innovation in service delivery, internationally, a majority of MVNOs target budget-conscious consumers by offering low-cost plans, bundling wireless service with non-telecommunications services, such as financial services, or providing deals on international calling. In Canada, the budget-conscious consumer is largely served by a combination of regional wireless carriers, the national wireless carriers' flanker brands, and a small number of "white label"²⁵ MVNOs that have entered into resale arrangements with the national wireless carriers. Moreover, various regional wireless carriers are demonstrating more impactful marketing innovation. For example, Shaw introduced unlimited mobile wireless data offerings and developed tailored mobile wireless service plans for customers who bundle their plans with retail Internet service, and Videotron has begun offering data rollover options through its Fizz flanker brand. The Commission considers that an MVNO attempting to enter this space would face significant challenges attempting to create innovative service offerings, or finding significant niche markets that have been neglected by WSPs already in the market.

245. The Commission considers that there is a stronger case for MVNO innovation with respect to differentiated service delivery models. Submissions by potential MVNOs suggest that wireless carriers may lack the incentive or flexibility to introduce certain cutting-edge service delivery technologies. While there was little data filed on the record of this proceeding with respect to MVNO innovation in this particular regard, the idea that full MVNOs could implement high-tech solutions and lean business models to efficiently deliver service has some merit. High-tech solutions, such as cloud services and virtualized core networks, could significantly reduce costs while allowing for the creation of new wireless products. The Commission considers that by employing these solutions it is possible that, rather than targeting a niche market, an MVNO could identify a broad swath of customers that may be seeking a new kind of wireless product to address a need that is currently not being met.

246. For these reasons, the Commission considers that mandated wholesale MVNO access would likely have a low impact on technical innovation and a moderate impact on service delivery innovation.

²⁵ "White label" is a term used to generally describe pure resale arrangements. In the context of an MVNO arrangement, a white label MVNO would not have any facilities of its own and would be reselling the service of a mobile wireless carrier using its own brand name.

Impact on investment – National wireless carriers and SaskTel

247. In this section, the Commission considers the broader impacts that mandated wholesale MVNO access might have on the dominant wireless carriers' network deployment, particularly the deployment of 5G networks.
248. Several parties submitted international examples to support their arguments that mandated MVNO entry in Canada would have negative impacts on overall investment levels, particularly for 5G deployment. In the Commission's view, this evidence was generally not compelling. For example, studies containing international comparisons generally attributed changes in investment levels by carriers directly to MVNO competition. However, there could be other factors at play, including the cyclical nature of capital investment in telecommunications markets, the timing of spectrum availability, and the maturity of specific countries' wireless markets, factors that were generally ignored in the relevant studies.
249. No party filed persuasive evidence that the introduction of MVNO competition in other countries necessarily results in significant underinvestment by well-established or incumbent wireless carriers. There were no examples from international markets where MVNO competition significantly deterred investment in a way that some parties suggested would happen in Canada. The most compelling evidence provided regarding the impact that MVNOs might have on investment was a discussion concerning capital costs, returns on investment, and the incentive to invest. The argument that investment could be reduced because an influx of new competitors would lower a carrier's equity valuation and increase its cost of capital due to a higher risk profile is, in the Commission's view, straightforward and convincing, and consistent with economic and financial principles.
250. However, it is not clear to the Commission that any disincentive to invest resulting from mandated wholesale MVNO access would outweigh broader incentives to invest that might also exist. In that regard, the Commission is not persuaded by arguments that mandated wholesale MVNO access would be a threat to the 5G investments of dominant wireless carriers. As wireless technology transitions towards 5G, any wireless carrier that wants to remain competitive will have very little choice but to invest in networks in order to grow and maintain their user base, and the presence of MVNOs in the market is not likely to affect that to any great degree. Given the new lines of business that 5G service will enable, including large-scale industrial applications in the enterprise market, it is extremely unlikely that a dominant wireless carrier would put itself in a position where it delays or avoids deploying 5G and risks leaving those markets to its competitors.
251. In light of the above, the Commission considers that mandated wholesale MVNO access would have little to no impact on the national wireless carriers' investments.

Impact on investment – Regional wireless carriers

252. Over the years, regional wireless carriers have invested billions of dollars in spectrum and networks in order to compete with the established wireless carriers. At this point in time, although retail prices are generally above competitive levels across Canada, competition is getting stronger and prices tend to be lower in areas where a regional wireless carrier operates in competition with the dominant wireless carriers. However, it is very challenging for a new entrant to grow its network and simultaneously compete with established WSPs. To be successful, regional wireless carriers need to maintain a high capital intensity to grow their networks, keep prices low enough that they can make their retail service offerings competitive, and maintain sufficient margins to recover costs and reinvest.
253. Regional wireless carriers typically target budget-conscious consumers. As a result, these carriers' EBITDA margins are generally lower than those of the established dominant wireless carriers. The Commission considers that the combination of high levels of investment and typically lower margins leaves these regional wireless carriers in a situation where changes to the market could significantly impact their bottom line.
254. The Commission considers that if wholesale MVNO access were mandated, MVNOs would be able to enter the mobile wireless service market while contributing comparatively little capital and taking on very little risk relative to regional wireless carriers. MVNO competitors would likely target the same budget-conscious consumers targeted by these regional wireless carriers. If these regional wireless carriers, which tend to operate at lower margins than the established wireless carriers, such as the national wireless carriers, suddenly faced competition for their core customers from MVNOs that have fewer financial constraints (e.g. significantly less debt and minimal capital expenditure needs), the impact on the regional wireless carriers would undoubtedly be negative. These negative consequences are highlighted in Dr. Emch's study for Shaw.
255. To illustrate, regional wireless carriers have invested billions of dollars in the acquisition of spectrum and the funding of capital projects to build their networks, and these costs must be recovered. MVNOs, by comparison, would not have to purchase spectrum or build RANs, and could therefore enter and exit the market with comparatively little risk. In the Commission's view, this would put regional wireless carriers at a significant disadvantage at a critical time in their growth, and would have a significant negative impact on future investment, particularly in areas outside the major urban centers, as well as on 5G deployment. Improving network investment outside the major urban centres was a major concern raised by several parties in this proceeding, notably by local governments.
256. Accordingly, the Commission concludes that mandating the provision of a broad-based wholesale MVNO access service would likely have a high negative impact on the sustainability of regional wireless carriers and the competition that they bring to the market.

Impact on investment – Network capacity

257. Parties that argued that capacity increases will be required to support the introduction of MVNOs assumed that there would be a significant amount of new traffic on wireless carriers' networks as a result of mandated wholesale MVNO access. The Commission considers that it is likely that many of the customers that would be captured by new MVNOs would come from existing wireless carriers, which would not result in a significant net increase in network traffic and, by extension, capacity requirements.
258. The Commission recognizes that there may be certain locations in carriers' networks where network capacity is already limited, and that wireless carriers' service quality could be negatively affected in those areas if wholesale MVNO access is mandated. However, it is the Commission's view that carriers would likely already be aware that these areas are close to capacity and would therefore have plans to upgrade their networks in order to ensure high-quality service for their own customers. The Commission considers that these planned network upgrades would be sufficient to address any capacity concerns related to MVNOs.
259. For these reasons, the Commission considers that mandated wholesale MVNO access is likely to have a low impact on wireless carriers' network capacity.

Conclusion

260. In light of all of the above, the Commission determines that mandating the provision of a broad-based wholesale MVNO access service would likely
- have a moderate positive impact on price as MVNOs first enter the market, but that these effects would be difficult to sustain over the long term without careful and ongoing regulatory intervention;
 - have a low overall impact on technological innovation and a moderate impact on service delivery innovation;
 - have little to no impact on the national wireless carriers' or SaskTel's investment, particularly with respect to 5G networks;
 - have a high negative impact on the sustainability of regional wireless carriers and the competition and investment they bring to the market; and
 - have a low impact on the network capacity of carriers.
261. In the Commission's view, while the degree to which certain factors such as investment would be affected varies from neutral with respect to the national wireless carriers, to high with respect to regional wireless carriers, the Commission considers that the overall impact of a broadly mandated full wholesale MVNO access regime would be negative. The Commission considers it likely that competition from an influx of unconstrained MVNOs would increase the investment hurdle rate for capital projects of regional wireless carriers, and would more generally reduce the attractiveness of investing in mobile wireless service markets across the country.

262. Given the above analysis as to the detrimental impact on regional wireless carriers and the adverse consequences this would have on the competitive discipline they have begun to bring to the retail market, the Commission concludes that mandating the provision of a broad-based wholesale MVNO access service would detract from the fulfillment of the telecommunications policy objectives set out in paragraphs 7(c) and (f) of the Act.²⁶
263. Additionally, given the negative impacts described above, mandating such a service would not be consistent with the 2019 Policy Direction with respect to the consideration that the Commission has been directed to give to reducing barriers to competition, and to fostering affordability and lower prices in areas where there is market power. Arguably, while a broad-based wholesale MVNO access service would encourage broader service-based competition, for the reasons discussed above, this would likely come at the expense of more sustainable competition brought about by facilities-based competitors. Furthermore, such an approach would not be consistent with the 2006 Policy Direction, which instructs the Commission to rely on market forces to the maximum extent feasible to achieve the policy objectives, and to neither deter economically efficient competitive entry nor promote economically inefficient entry through its regulations.
264. Having regard to the above, the Commission considers that while the failure by wireless carriers with both upstream and downstream market power to provide broad-based wholesale MVNO access results in these carriers providing a preference to their retail operations and subjecting prospective MVNOs to a disadvantage, such advantage or disadvantage is not undue or unreasonable. Accordingly, the Commission determines that the policy considerations do not support a decision to mandate the provision of a broad-based wholesale MVNO access service at this time.

Wholesale measures to support competition

Introduction

265. In the preceding section, the Commission found that wholesale MVNO access service does not satisfy the essentiality criteria and concluded that mandating the provision of a broad-based wholesale MVNO access service would, among other things, negatively impact regional wireless carriers and the sustainable competitive discipline they bring to the market. However, the Commission considers that there is a need for additional inquiry into whether and, if so, what wholesale intervention is warranted with regard to certain concerning findings that it has made, including its finding that certain wireless carriers exercise market power in retail markets across the country, that these same carriers have upstream market power, and that, while a

²⁶ The cited objectives of the Act are 7(c) to enhance the efficiency and competitiveness, at the national and international levels, of Canadian telecommunications; and (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.

RAN is duplicable from an economic perspective, barriers to the entry and expansion of competitors do exist and are significant.

266. As discussed in the analysis of the retail market, competition is intensifying, prices are lower in areas where a regional wireless carrier operates in competition with the dominant wireless carriers, and it is reasonable to expect prices to decline further as the regional wireless carriers grow their market shares. The competitive rivalry brought about by the introduction of new wireless carriers in the market has developed steadily since the 2008 Advanced Wireless Services spectrum auction and has been assisted by various regulatory measures designed to help facilities-based competition, including the Commission mandating wholesale roaming service and ISSED setting aside spectrum for regional wireless carriers. In the following section, the Commission considers whether there are additional regulatory measures that could be applied at the wholesale level to further support and expand the competition that these carriers have already demonstrated they are capable of bringing to the market. In particular, the Commission will examine whether an assessment of policy considerations leads to the conclusion that failure to provide wholesale network access to competitor wireless carriers engages subsection 27(2) of the Act.

Facilities-based wholesale MVNO access service

Positions of parties

267. The Commissioner argued that a weakness of a broadly mandated wholesale MVNO access service is that new-entrant MVNOs would be reliant on an adversarial supplier that has the incentive to raise costs and take other actions to make service-based MVNOs less effective downstream competitors. The Commissioner suggested that, relative to facilities-based competitors, service-based MVNOs are inferior because, without any networks of their own, they must rely on network operators and the regulator to set the bounds in which they operate. Furthermore, he submitted that the introduction of a range of new WSPs with access to the incumbents' networks through a broadly mandated wholesale MVNO access service would likely have a specific negative impact on investment and the overall sustainability of regional wireless carriers in Canada, given their narrower margins and higher capital intensity. In light of these concerns, the Commissioner proposed that the Commission adopt a narrowly focused, facilities-based MVNO access policy.

268. The Commissioner recommended that wholesale network access be mandated and made available to regional wireless carriers only in areas where they own a sufficient quantity and mix of spectrum but have not yet built their networks. Under the Commissioner's approach, wholesale network access would be limited to a five-year time period, after which regional wireless carriers would be expected to serve all customers with their own facilities. The Commissioner submitted that this approach would ensure that the progress made by regional wireless carriers continues by spurring price competition in the short term, while avoiding the risk of declining network investment in the long term. He suggested that this may also pave the way

for organic MVNO entry in the future. This is because as regional wireless carriers expand their networks, they create alternative options for wholesale services and add to the total available network capacity, and thus increase the likelihood that a market will develop.

269. Although they were generally opposed to mandating the provision of a broad-based wholesale MVNO access service, several parties, including Bell Mobility, the CWTA, Eastlink, RCCI, Shaw, and Videotron, indicated that the Commissioner's proposal was the least flawed of the proposed MVNO models. Eastlink submitted that the model could help accelerate facilities-based competition from regional wireless carriers that have spectrum and are building their networks. Videotron submitted that the Commissioner's proposal is a preferable approach, because it would not jeopardize the financial viability of regional wireless carriers. While Shaw remained opposed to mandating the provision of a broad-based wholesale MVNO access service, it agreed that mandating limited MVNO access in areas where there is currently no regional wireless carrier could help ensure that all Canadians reap the benefits of competition.
270. Regional wireless carriers generally agreed that the Commissioner's proposal recognized the contribution they have made to the development of a competitive market and that it was designed not to impede their progress, but instead to accelerate the competitive discipline created by regional competition. Xplornet submitted that the proposal represented an appropriate intervention to stimulate competition because it is designed to give facilities-based regional wireless carriers assistance in expanding their networks and expediting deployment.
271. RCCI submitted that the evidence does not justify even this more measured intervention and argued that regional wireless carriers do not require MVNO access in order to effectively compete, as shown by their ability to acquire a disproportionately high share of net new customers each quarter.
272. Bell Mobility maintained that having to accommodate the need for increased capacity on its network due to broadly mandated wholesale MVNO access in any form would require it to pull funding from other projects and would negatively impact its incentives to invest.
273. TCI argued that the Commissioner's approach introduces an impairment on competitive market forces by imposing service-based competition remedies in markets where facilities-based competition is already working. It also questioned why a company like Videotron, in its most successful year to date in terms of growth, needed regulatory advantages to enter new areas. According to TCI, the Commissioner's proposal is not an MVNO model but rather mandated network sharing, which would be unprecedented in the world.
274. Several parties opposed the Commissioner's proposal on the basis that it would be unlikely to add new WSPs to the market and that the requirement to own spectrum was too great a barrier to eligibility. These parties also argued that, due to its focus

on facilities, the proposal would not add enough competition nor would it increase consumer choice, particularly in rural communities. They added that this model also ignores the 2019 Policy Direction by failing to encourage all forms of competition and by asking entities that do not hold spectrum to wait until the next mobile wireless service review before the question of providing them with mandated MVNO access is reassessed.

275. TekSavvy submitted that although the Commissioner mentioned several potential candidates, only Shaw would have the subscriber base and resources to be in a position to fully benefit from the proposal. It argued that regulatory regimes should not be designed to pick winners and losers.
276. Certain parties, including CIPPIC/OpenMedia and Data on Tap, submitted that it is time to move away from a focus on facilities-based competition because it has not achieved sufficient choice, competition, and affordability, despite many years and policies aimed at supporting it.
277. In response to concerns raised by other parties, the Commissioner argued that his model improves the business case for regional wireless carriers in areas where they have not yet deployed network facilities because it enables them to build a subscriber base and revenue base while building their facilities, rather than having to wait to start recouping costs until after network deployment.
278. In addition, the Commissioner argued that his model preserves carrier investment incentives. This is due to the fact that the access is limited and an incumbent would be competitively disadvantaged if it did not invest in its own infrastructure, because at the end of the access period, it would likely face increased competition from newly created or expanded facilities-based competitors.

Commission's analysis and determinations

279. While the Commission considers that mandating the provision of a broad-based wholesale MVNO access service would ultimately be detrimental for the reasons discussed earlier in this decision, it has determined that there are clear barriers to entering and expanding in the retail market. It has also determined that market power with regard to retail mobile wireless services exists in all geographic markets in Canada. The Commission has further determined that the carriers with retail market power, namely the national wireless carriers collectively, Bell Mobility, or SaskTel, as the case may be, generally also exercise market power in wholesale markets in corresponding geographic areas.
280. The evidence also shows that leaving wholesale network access to market forces alone has generally limited the offering of these services. While some MVNOs do currently exist, the restrictive terms under which they are able to offer service limits the effectiveness of the competition that they can bring to the retail market.

281. All of this points to important policy objectives not being met by the current state of affairs, in which certain wireless carriers with upstream market power in the wholesale market fail to offer or provide effective wholesale access, hindering market entry and expansion of competitive forces, and thereby further entrenching their downstream market power in the retail market. In particular, the objectives set out in paragraphs 7(a), (b), (c), (f), and (h) of the Act are not being satisfactorily addressed.²⁷ This is particularly the case in light of subparagraphs 1(a)(i), (ii), (v), and (vi) of the 2019 Policy Direction.
282. As discussed previously, while the Commission has found that mandating the provision of a broad-based wholesale MVNO access service available to all would not likely impact the incentives to invest faced by the dominant wireless carriers, it has found that such a regime would adversely impact regional wireless carriers' existing incentives to invest. Furthermore, the Commission has determined that such a regime would have a low overall impact on technological innovation and a moderate impact on service delivery innovation. These findings, along with the related finding that broad-based wholesale MVNO access service would negatively impact the ability of regional wireless carriers to expand their customer bases and revenue streams, informed the Commission's determination that failure to provide an effective broad-based wholesale MVNO access service did not violate subsection 27(2) of the Act.
283. As discussed in this decision, regional wireless carriers are uniquely positioned to introduce more effective and sustainable competition in the retail market, to the long-term benefit of consumers. The retail market assessment has demonstrated that, even if there is retail market power, markets are generally becoming more competitive, and the Commission considers that this is largely attributable to the impact of regional wireless carriers.
284. Parties that opposed the facilities-based wholesale MVNO access service proposal made many of the same investment-related arguments that were made in the context of a broadly mandated wholesale MVNO access service. That is, they argued that any form of mandated MVNO access, even a narrowly focused model, would still divert investment toward increasing capacity on existing networks to accommodate MVNOs and, as a result, would reduce investment in new network builds. The Commission considers that these arguments have little merit. The Commission assessed the impacts on investment in the context of a broadly mandated wholesale MVNO access service and concluded that there would be a minimal risk to

²⁷ The cited objectives of the Act are 7(a) to facilitate the orderly development throughout Canada of a telecommunications system that serves to safeguard, enrich and strengthen the social and economic fabric of Canada and its regions; (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; and (h) to respond to the economic and social requirements of users of telecommunications services.

investment by the national wireless carriers and SaskTel in Saskatchewan, who have significant financial incentives to invest in capacity upgrades and 5G networks, with or without MVNOs operating in the market. In the Commission's view, when this analysis is applied to a more contained MVNO proposal, there would be even less of an impact on the investment levels of the national wireless carriers and SaskTel in Saskatchewan.

285. Furthermore, a facilities-based wholesale MVNO access service would not entail the investment incentive risk for regional wireless carriers that would result from a broadly mandated wholesale MVNO access service. Under the facilities-based model, regional wireless carriers would not be at risk of losing a significant part of their subscriber bases and revenues to MVNOs that have minimal capital expenditures to recover and that would target a similar customer base as that typically targeted by regional wireless carriers, namely younger and budget-conscious consumers who are not particularly brand loyal. On the contrary, regional wireless carriers could grow their subscriber bases and revenues by expanding into new areas where there is no alternative to the established carriers faster than they would otherwise. In other words, a facilities-based wholesale MVNO access service would serve to expedite competitive expansion by regional wireless carriers and promote their ability to invest in network upgrades and expansion into new areas where, in time, they would transition customers onto their newly built networks, ensuring the sustainability of competition by supporting network investment.
286. When contrasted with a broadly mandated wholesale MVNO access service, the Commission considers that mandating a facilities-based wholesale MVNO access service is a more surgical approach that focuses on bringing the benefits of competition to areas where they will more readily be sustainable.
287. Regarding concerns that a mandated facilities-based wholesale MVNO access service would not result in any new entrants into the market, the Commission considers that the number of competitors is not as important as the strength and sustainability of competition, which such a model supports.
288. A number of competitor wireless carriers entered the market just over ten years ago, and some more recently, such as Xplornet. They have faced many challenges as they have grown their wireless operations. They have had to acquire spectrum, build networks, and market aggressively to win customers in a relatively short period of time, while competing against dominant wireless carriers, which collectively exercise both retail and wholesale market power across much of the country. The Commission considers that while the growth of these competitors is a positive sign, they must be given time, as well as positive regulatory conditions, to grow and build capacity to counter existing retail market power.
289. Some parties argued that facilities-based competition has not achieved sufficient choice and competition in the retail market, and that it is time to prioritize other forms of competition. They argued that a policy that focuses on facilities-based

competition would not be in line with the 2019 Policy Direction, which requires the Commission to encourage all forms of competition, or the 2006 Policy Direction, which calls on network access regulations to be technologically and competitively neutral, to the greatest extent possible, and to not artificially favour either carriers or resellers. The Commission does not consider these arguments to be persuasive. In the Commission's view, the best way to achieve a sustainable competitive retail market that responds to consumers' interests over the long term, with a healthy mix of all forms of competition, is to continue to foster the deployment of competing networks.

290. Wireless carriers that add capacity in order to expand their coverage enhance their networks and compete for customers by increasing and innovating in the plans and features they offer. When enough capacity accrues, wireless carriers have an incentive to sell excess or unused capacity to an MVNO and earn revenue for it, rather than have it sit idle. As this occurs, the Commission anticipates that market forces will result in resale competition emerging without further regulatory intervention, as has been the case in countries such as Australia and the United States. In short, in the Commission's view, the optimal way to encourage all forms of competition is by adopting targeted regulatory measures to ensure that there is a sustainable foundation of facilities-based competitors and then relying generally on market forces to deliver the benefits of competition to consumers.
291. The Commission considers that the facilities-based model would serve to further the policy objectives that are not being met by the current state of affairs and would be consistent with the policy considerations relating to the essentiality framework. In particular, it would encourage innovation and network investment by regional wireless carriers while not discouraging such investment by wireless carriers with market power. Finally, it would be consistent with the 2006 Policy Direction. In this regard, by adopting a targeted, facilities-based wholesale MVNO access regime that would maintain incentives to invest, the Commission would be minimally interfering with the operation of market forces and adopting measures that are proportionate to the policy objectives pursued, principally those set out in paragraphs 7(a), (b), (c), (f), and (h) of the Act.
292. Accordingly, the Commission considers that mandating the provision of a facilities-based wholesale MVNO access service would reduce barriers to entry, particularly for regional wireless carriers, while maintaining proper incentives for carriers to continue making the significant investments required to build networks and upgrade existing networks and, ultimately, would promote sustainable competition and the availability of affordable retail prices for consumers.
293. In light of the above, in particular its finding with regard to investment incentives, competition, the policy objectives, and the Policy Directions, the Commission finds, as a question of fact, that where a wireless carrier with both upstream and downstream market power fails to provide meaningful access to a wholesale MVNO service, it is – with respect to facilities-based regional wireless carriers – conferring

upon itself an undue or unreasonable preference and subjecting those regional carriers to an unreasonable disadvantage.

294. For similar reasons, the Commission also considers that the failure to provide such an MVNO service results in subjecting retail customers to an undue disadvantage. Competitive forces in the retail market are being precluded from developing to their full extent, and retail customers are being precluded from reaping the benefits of a more vibrantly competitive market.

295. Accordingly, the Commission determines that it will mandate the provision of a facilities-based wholesale MVNO access service, as more fully described below.

Composition of the mandated facilities-based wholesale MVNO access service

296. In the sections that follow, the Commission considers how the mandated facilities-based wholesale MVNO access service is to be composed and implemented, in the following respects:

- Scope of the mandate
- Eligible wireless carriers
- Eligible geographic areas
- Wholesale rates, terms, and conditions
- Duration of the mandate
- Investment requirements

297. Parties' comments on the various issues noted above were predominantly made in the context of a broadly mandated wholesale MVNO access service and not necessarily in the specific context of a mandated facilities-based one. However, parties generally indicated that their views remained the same regardless of the form or model of mandated wholesale MVNO access service that was being discussed.

Scope of the mandate

Background

298. In Telecom Regulatory Policy 2015-177, the Commission determined that the obligation to provide wholesale roaming service was limited to the national wireless carriers, since they were the only carriers with the national network coverage needed to provide roaming. The Commission's preliminary view in this proceeding was that a mandate to provision wholesale MVNO access service would, as with wholesale roaming service, apply only to the national wireless carriers. In this section, the Commission considers which wireless carriers should be subject to the obligation to make available the mandated facilities-based wholesale MVNO access service.

Positions of parties

299. Most parties who supported some form of mandated wholesale MVNO access service were generally of the view that the national wireless carriers should all be required to provide the service.
300. The national wireless carriers did not support any regulatory measure that would impose an obligation on them to provide a wholesale MVNO access service in any form.
301. The CCSA suggested that mandated RAN access should apply to SaskTel in addition to the national wireless carriers because its coverage in Saskatchewan is more extensive than that of any other wireless carrier.
302. SaskTel disagreed that it should be subject to an obligation to provide a wholesale MVNO access service, and indicated that RCCI, through its network presence in the urban areas of Saskatchewan in combination with its roaming arrangement with SaskTel, should instead be subject to the mandate in that province.

Commission's analysis and determinations

303. Wholesale regulatory remedies are generally applied to address a lack of competition in the retail market. As such, the question of which carriers should be subject to a wholesale mandate should be informed by the retail market analysis. In this decision, the Commission has concluded that the national wireless carriers generally exercise retail market power throughout Canada. However, there were two exceptions. First, the Commission concluded that in Saskatchewan, SaskTel exercises unilateral retail market power. Second, the Commission concluded that in the territories, Bell Mobility exercises unilateral retail market power.
304. At the wholesale level, the same conclusions generally hold true. The national wireless carriers have joint upstream market power over the RAN in the markets where they operate, with two exceptions. First, in the 11 tier 4 areas in Saskatchewan, SaskTel has sole upstream market power over the provision of RAN access, and its prominent position in that province is subject to only some limited competition in some of those tier 4 areas. Second, Bell Mobility is the only national wireless carrier with a network presence in the three tier 4 areas in the territories and has upstream market power over RAN access in those tier 4 areas.
305. As a result of this, the Commission is of the view that the obligation to provide the mandated facilities-based wholesale MVNO access service should apply to the national wireless carriers in all tier 4 areas in Canada where they have both upstream and downstream market power. However, the Commission considers that both Saskatchewan and the territories should be considered separately. For the reasons set out above, in Saskatchewan, the obligation should apply solely to SaskTel, and in the territories, the obligation should apply solely to Bell Mobility.

306. Accordingly, the Commission determines that the obligation applies to the national wireless carriers in all tier 4 areas across Canada with two exceptions: (i) the obligation applies exclusively to SaskTel in the tier 4 areas covering Saskatchewan, and (ii) the obligation applies exclusively to Bell Mobility in the tier 4 areas covering the three territories.

Eligible wireless carriers

Background

307. The purpose of the mandated facilities-based wholesale MVNO access service is to accelerate the sustainable competitive discipline that regional wireless carriers have brought to the market by assisting them in overcoming the barriers they face to expanding their networks to new areas where they have spectrum but have not yet built infrastructure. In this section, the Commission considers which wireless carriers should be eligible for the service.

Positions of parties

308. The Commissioner proposed that eligible wireless carriers would be those with operational, managerial, and financial capabilities demonstrating that they could build a business and compete effectively in the market. The Commissioner submitted that this would typically require the Commission to review a potential MVNO's business plan and financial standing, and assess whether it held a sufficient mix of spectrum.

309. RCCI proposed that the Commission further restrict eligibility to existing regional wireless carriers that have mobile spectrum licences and have deployed their own networks, including RANs. RCCI submitted that this would ensure that only those who have proven expertise and a desire to deploy and invest in a market over the long term are eligible.

310. Likewise, Shaw proposed that access should be limited to companies that have secured access to spectrum in applicable tier 4 areas and have demonstrated an increasing trajectory of investment beyond spectrum alone. Shaw argued that this commitment to mobile wireless service investment is necessary to incentivize long-term sustainable competition.

311. SaskTel submitted that the national wireless carriers should not be eligible to access the service.

Commission's analysis and determinations

312. The Commission considers that adopting eligibility criteria such as those proposed by the Commissioner would require significant Commission oversight in terms of screening and would likely require parties to participate in additional regulatory processes to determine the parameters of the eligibility model and how it could be implemented. For these reasons, the Commission does not favour such an approach.

313. Instead, the Commission considers that a simpler, more objective, and ultimately more reasonable approach is to provide mandated access to the service to regional wireless carriers in areas where they have secured a spectrum licence at the tier 4 level or higher.²⁸ Given what is involved in the acquisition of spectrum, the Commission considers that investment in spectrum is sufficiently demonstrative of a wireless carrier's commitment to maintaining and expanding its operations to make it eligible for access.
314. In this regard, such an approach would be consistent with paragraph 1(a) of the 2006 Policy Direction in that the absence of a need for follow-up proceedings specifically to establish assessment criteria and then to vet whether an entity has met any adopted criteria would, in the Commission's view, constitute the adoption of a measure that is proportionate to its purpose.
315. The Commission considers that the national wireless carriers and their affiliates should be excluded from eligibility to access the service. In the Commission's view, because the national wireless carriers generally exercise market power and broad network coverage, they do not require additional regulatory assistance to expand their networks.
316. The Commission therefore determines that in order to be eligible to access the mandated facilities-based wholesale MVNO access service, wireless carriers must possess a mobile spectrum licence at the tier 4 level or higher in a given tier 4 area. The Commission also determines that the national wireless carriers and their affiliates are not eligible.

Eligible geographic areas

Background

317. Above, the Commission considered that the relevant geographic market for the purpose of the mandated facilities-based wholesale MVNO access service would be regional, with the tier 4 spectrum area acting as a proxy for local markets. In this section, the Commission considers which geographic areas are eligible for the service.

Positions of parties

318. The Commissioner suggested that the Commission use tier 4 areas as a starting point for setting out the geographic area where the service would be available. He argued that tier 4 areas could be aggregated into different categories based on the penetration rate of regional wireless carriers and then apply the mandate to one or more of those categories. The Commissioner did not provide a view on which

²⁸ That is, spectrum at the tier 4, tier 3, tier 2, or tier 1 levels, [as defined by ISED](#). For example, if a regional wireless carrier holds tier 3 spectrum that covers multiple tier 4 areas, that carrier would be eligible for the service in those tier 4 areas.

category would be most appropriate for regulatory intervention but submitted that the Commission can weigh the costs and benefits of applying the mandate in each.

319. In addition, the Commissioner supported partial eligibility in some tier 4 areas in certain circumstances where the Commission deems it appropriate to do so. For example, the Commissioner suggested that it may be appropriate to allow a wireless carrier to offer MVNO service in a city where it has no coverage, even if the carrier has coverage in another city within the same tier 4 area that might otherwise disqualify it from eligibility within that entire area.
320. Shaw argued that access should only be made available in tier 4 or smaller areas where there is no mobile wireless network infrastructure operated by an entity that competes with the national wireless carriers. Shaw submitted that this would ensure that the model would broaden the impact of competitors to a greater number of Canadians and bring competition to rural and remote areas. The company further submitted that this approach would mitigate the potential danger to competitors' competitive positions and ability to gain scale while maintaining investment incentives necessary to sustain competition, and could also simplify the administrative burden since the alignment with ISED licence areas makes it immediately clear whether a facilities-based competitor is present or not.
321. Similarly, RCCI argued that if the Commission were to mandate the provision of a facilities-based wholesale MVNO access service, access should be limited to the specific tier 4 areas covered by a regional wireless carrier's spectrum licences where the carrier has not already deployed a network. RCCI submitted that this would maintain incentives to invest and assist regional wireless carriers in deploying into new markets within their spectrum-licensed service areas.
322. Bell Mobility argued that access on a broader basis than the local market would be especially inappropriate, since it would needlessly impose costly regulation in geographic markets that are competitive, leading to a reduction in investments and deterioration in the quality of Canadian wireless networks without providing any corresponding benefits.

Commission's analysis and determinations

323. In the Commission's view, there are effectively three options for defining the geographic scope of the mandated facilities-based MVNO access service. All three options use the tier 4 spectrum area as a baseline.
324. The first option, proposed by the Commissioner, is to categorize tier 4 areas according to regional wireless carrier penetration rates, weigh the costs and benefits of mandating the service at each of these different penetration levels, and then mandate the service where the benefits outweigh the costs. As the Commission understands it, the Commissioner's proposal could result in the service being mandated for an entire tier 4 area if there is no regional wireless carrier network presence at all in that area, or mandated in a portion of a tier 4 area if a regional wireless carrier has partial network coverage.

325. The Commission is concerned about the administrative complexity that would be involved in such a proposal, because there would likely be a need for processes to identify regional wireless carrier presence, the extent of that presence, network boundaries, and other factors. This may involve acquiring the market share data and coverage areas of multiple regional wireless carriers across 172 tier 4 areas, and this information would have to be updated and maintained as network footprints and penetration levels change. In the Commission's view, this would entail significant administrative burden. There is also the question of how the Commission would practically go about identifying and weighing the benefits against the costs of mandating the service in different tier 4 areas, even if they were to be categorized and aggregated according to market penetration rates, including identifying the specific qualitative and quantitative factors to consider.
326. The second option, which is consistent with Shaw's proposal, is to limit the obligation to provide the service to tier 4 areas where there is no regional wireless carrier presence at all. Tier 4 areas with partial coverage by a regional wireless carrier would be excluded entirely. Compared to the first option, this approach would involve significantly less administrative burden than the Commissioner's approach since it would make each tier 4 area either wholly eligible or wholly ineligible based on fairly objective criteria. As such, it would be relatively simple to assess whether a regional wireless carrier is present in a tier 4 area.
327. However, eliminating partially covered tier 4 areas would also result in a much smaller addressable market for regional wireless carriers in terms of the number of new customers they would be able to serve. Some tier 4 areas are roughly equivalent to the size of a city and its surrounding area, while others in more rural areas encompass a larger area with a number of smaller communities. A regional wireless carrier could be present in a small part of a tier 4 area, thereby excluding all other communities in that tier 4 area from eligibility and denying those consumers the potential for more choice.
328. Restricting the availability of the service to tier 4 areas where there is no regional wireless carrier presence would significantly limit the ability of those carriers to avail themselves of the service in order to expand their subscriber bases and accelerate their network construction. As a result, it would also run counter to the objective of accelerating the increased competitive discipline that those carriers bring to the market.
329. A third option is to make the service available to regional wireless carriers in any tier 4 areas where they have spectrum at the tier 4 level or above, regardless of the extent of their network presence in those areas. This includes areas where regional wireless carriers currently operate and have deployed network facilities, and areas where no regional wireless carrier has yet entered. The Commission considers that this approach has the advantages of administrative simplicity and objectivity, because it is a relatively straightforward matter for carriers to verify the possession of spectrum, which is publicly available information. There would also be no need for further processes to identify the presence and network boundaries of regional

wireless carriers within tier 4 areas. Another key benefit of this approach is that the addressable market would be significantly greater than if the Commission were to exclude partially served tier 4 areas from the mandate.

330. The Commission considers that this last option would best satisfy the 2019 Policy Direction's call to ensure that affordable access to high-quality telecommunications services is available in all regions of Canada, including rural and remote areas, and to reduce barriers to entry into the market and to competition for TSPs that are new, regional, or smaller than the incumbent national service providers. Furthermore, by being administratively simpler to implement for all parties concerned, while still providing incentives to expedite the build-out of competitive networks in markets where none are present, this approach would be consistent with paragraph 1(a) of the 2006 Policy Direction in that it would result in the adoption of regulatory intervention that is more proportionate to the goals of mandated facilities-based MVNO access. Finally, the Commission considers that this approach better addresses the concerns associated with section 27(2) of the Act addressed above by increasing the addressable market made available through the service and thus better assisting in disciplining the retail market power found to exist in all geographic markets across the country.

331. The Commission therefore determines that the mandated facilities-based wholesale MVNO access service is to be made available to regional wireless carriers in any tier 4 areas where they have spectrum at the tier 4 level or higher. This includes tier 4 areas where they have partial coverage and tier 4 areas they have yet to enter.

Wholesale rates, terms, and conditions

Background

332. In Telecom Notice of Consultation 2019-57, the Commission expressed the view that properly structured wholesale rates, terms, and conditions would mitigate the potential negative impacts of mandated wholesale MVNO access on future investments. In this section, the Commission considers the appropriate way to structure the rates, terms, and conditions associated with the mandated facilities-based MVNO access service.

333. The Commission notes that it has retained its powers under section 24 of the Act in relation to the offering and provision of mobile wireless services. That provision empowers the Commission to establish conditions of service in relation to the mandated facilities-based wholesale MVNO access service. Accordingly, the Commission already has the ability to establish terms and conditions for the service.

334. With regard to the matter of rates, there are three principal methods of setting wholesale rates: cost-based plus a markup, which is the Commission's standard approach; retail minus, which takes the retail rate and applies a markdown; or commercial negotiations, which could include arbitration as a backstop.

335. In order to set these rates, the Commission would first need to reassert its powers under subsections 27(1) and (5) of the Act. Such reassertion would be required regardless of whether the Commission decided to impose a specific rate, adopt a rate ceiling, or provide itself with the ability to establish a rate as the outcome of a dispute resolution process, such as arbitration. To impose specific rates, terms, and conditions in a tariff, the Commission would also need to reassert its powers under section 25 of the Act.

Positions of parties

336. A number of parties argued that wholesale MVNO access should be subject to tariffed rates that are cost-based on the basis that dominant wireless carriers have no incentive to negotiate in good faith.

337. Several wireless carriers proposed that the Commission leave wholesale MVNO access to commercial negotiation. These parties argued that the entities involved are sophisticated enough to be able to negotiate rates and terms that meet their particular needs and reflect the market.

338. Bell Mobility submitted that no party proposed practical ways to structure rates, terms, and conditions to protect investment. It further argued that even if there were a practical proposal, those rates, terms, and conditions could not realistically be maintained year over year.

339. With regard to rates, RCCI submitted that commercially negotiated arrangements could mitigate the risks of mandated wholesale MVNO access because the parties can negotiate rates that enable MVNOs to compete, while reducing the impact on investment, because the negotiated rates would account for the underlying costs of the network provider. In this regard, most of the major wireless carriers submitted that in no other country in the world has a regulator set wholesale MVNO access rates.

340. The Commissioner recommended adopting a negotiated approach to rate setting with final offer arbitration (FOA) as a regulatory backstop in order to avoid the difficulties associated with cost-based rate setting, which can be a long and challenging process that could distort the market significantly if the rate is not properly established.

341. Shaw supported commercial negotiations between parties and opposed specific rates or terms being set by the Commission. It argued that it would be impossible for the Commission to determine the right single backstop rate, given that MVNO arrangements can vary widely, and that a suboptimal rate could have serious ramifications on network investment and expansion.

342. A number of parties argued that some form of regulatory backstop would be necessary if the Commission were to leave the rates, terms, and conditions to commercial negotiation, since wireless carriers required to provide wholesale

MVNO access have more bargaining power, more information, and an incentive to prolong negotiations.

343. Several parties, including SaskTel, proposed that the Commission adopt FOA as its regulatory backstop to create incentives for entities to put forward reasonable proposals, because the arbitrator can pick only one proposal or the other. Similarly, Xplornet proposed allowing for commercial negotiations backstopped by mechanisms other than tariffs, such as a rate ceiling or an arbitration process to allow for more rapid introduction of MVNO services to the market.
344. Several parties favoured using a third-party arbitrator rather than the Commission. RCCI submitted that FOA performed by a third party would not contravene the prohibition on delegation of the Commission's authority to set just and reasonable rates. RCCI argued that pursuant to section 27 of the Act, the Commission has broad authority to determine the methodology used to set rates and that, by directing the arbitrator to set those rates based on FOA, the Commission is ensuring that the rates are just and reasonable, in accordance with the Act.
345. RCCI and Videotron proposed an arbitration process like the one defined in *Industry Canada's Arbitration Rules and Procedures*²⁹ because it is well defined and already familiar to parties.
346. Bell Mobility, SaskTel, TCI, and Tucows argued that parties must do more than merely claim negotiations have failed, but must adduce evidence of negotiation in bad faith, or meet conditions set by the Commission before relying on arbitration.
347. A number of parties indicated that since the wireless carriers mandated to provide wholesale MVNO access have no incentive or desire to offer reasonable rates, terms, and conditions, arbitration could become necessary with every attempt at negotiation.

Commission's analysis and determinations

348. When the Commission mandates the provision of a wholesale service, its general approach is to use its powers under sections 24 and 25 and subsections 27(1) and (5) of the Act to create a tariff containing the applicable rates, terms, and conditions.³⁰ Rates are generally cost-based with an applicable markup. This provides a measure of certainty that all parties have access to rates, terms, and conditions that the Commission has found to be just and reasonable.

²⁹ [Industry Canada's Arbitration Rules and Procedures](#), CPC-2-0-18, 7 March 2013

³⁰ This general approach also includes permitting parties to enter into forborne off-tariff agreements, without the need for Commission approval, which allows them to adopt different rates, terms, and conditions if doing so is mutually acceptable.

349. However, the process for establishing wholesale rates can be long and complex and depends on the specific terms and conditions that are associated with the service. The purpose of the mandated facilities-based wholesale MVNO access service is to expedite competitive expansion by regional wireless carriers by granting them wholesale network access while they expand and upgrade their networks. With this in mind, the Commission is concerned that engaging in a process to set cost-based rates for the service risks unduly delaying its implementation and thus working against its very purpose, which is to accelerate the development of competition.
350. While the Commission could set an interim rate to mitigate delays, it does not consider that the evidence on the record as to what an appropriate interim rate should be is persuasive, and is concerned that setting an interim rate that is too high or too low would risk distorting the market. The Commission also notes that the regional wireless carriers themselves, who would be the principal users of the service, are sophisticated companies and generally favoured commercial negotiations over a tariffed rate.
351. With respect to FOA, the Commission considers such a mechanism to be appropriate where there is a single issue under dispute, such as a rate, with all other potentially controversial issues such as the terms and conditions of access having been previously resolved. This approach is appropriate because, in the Commission's view, parties are incented to propose a just and reasonable rate because should they propose a rate that is either too high or too low, the Commission can adopt the rate proposed by the other party.
352. Further, the Commission has an existing process in place for FOA as part of its suite of dispute resolution procedures.³¹ The Commission considers that this FOA process is generally appropriate when there is a single issue subject to a bilateral dispute. The setting of a rate for the mandated facilities-based wholesale MVNO access service would fit this description. Accordingly, given that a generally appropriate Commission-specific process already exists, there is no need to seek a third party to act as arbitrator in the circumstances.
353. While FOA may be appropriate for setting rates, the Commission has concerns with its use in the context of setting terms and conditions. In a situation where FOA is used to determine more than just a rate (e.g. terms and conditions as well), parties may come to the table effectively proposing rates, terms, and conditions for what amount to different services with different attributes. In this scenario, the Commission considers that FOA would lack the necessary safeguards to ensure that parties' rate proposals are reasonable or even comparable and, as a result, would impair the Commission's ability to establish a just and reasonable rate. While it may be possible to mitigate this concern by running two FOA processes – the first to determine terms and conditions and the second to establish rates – this would effectively double the administrative burden associated with what is intended to be an expedient process.

³¹ See paragraphs 17 to 33 of Broadcasting and Telecom Information Bulletin 2019-184.

354. Accordingly, the Commission considers that it would be more appropriate to establish *ex ante* terms and conditions for the service while leaving the rates to be commercially negotiated between parties. If negotiations fail, a party may bring the matter to the Commission for resolution by way of FOA. This approach has the benefit of establishing a common set of terms and conditions, which would make any arbitration process more effective in ensuring just and reasonable rates than if terms and conditions were also subject to FOA. Furthermore, such an approach would avoid a lengthy cost-based rate-setting process, which parties generally opposed in this context, and would also be consistent with the purpose of this service, which is to expedite network deployment. In addition, the Commission's established FOA process allows, in exceptional cases, for the rejection of both offers where neither would be in the public interest. The Commission considers that such a safeguard also helps to ensure that the process ultimately arrives at a just and reasonable rate for the service.
355. The Commission considers that the existing wholesale roaming service tariffs already contemplate many of the terms and conditions associated with wholesale RAN access, such as those related to the resale of services by a wholesale customer. In this regard, these tariffs contain an MVNO subscriber roaming condition, whereby subscribers of MVNOs operating on regional wireless carriers' networks can access the national wireless carriers' networks on the same terms as the subscribers of those regional wireless carriers. The Commission considers that an analogous resale term is appropriate in the MVNO context as well, since it gives regional wireless carriers additional flexibility to enter into arrangements with other WSPs if they so choose, which is consistent with the objectives of this proceeding, including fostering competition. Accordingly, they would serve as an appropriate basis for establishing the terms and conditions of the mandated facilities-based wholesale MVNO access service.
356. The Commission notes that in order to implement the facilities-based wholesale MVNO access regime, it is necessary to first reassert certain powers under the Act that are currently forborne, namely those set out in sections 25 and 31³² and subsections 27(1) and (5). For the reasons that follow, the Commission considers that it is appropriate to reassert these powers only insofar as is necessary to implement the above-noted regime.
357. The Commission has found that the national wireless carriers exercise market power in the wholesale MVNO access service markets in all provinces, except for Saskatchewan, where SaskTel has upstream market power. The Commission has also found that Bell Mobility has upstream market power in the wholesale MVNO access service markets of all three territories.

³² Section 31 of the Act provides that no limitation of a carrier's liability in respect of a telecommunications service is valid unless it has been authorized or prescribed by the Commission. The Commission notes that limitation of liability provisions are common in tariffs, and that using this power would be consistent with the manner in which limitations of liability with respect to tariffed wholesale roaming are regulated.

358. The Commission has also found that the effective denial, by these carriers, of access to a wholesale facilities-based MVNO access service is resulting in a situation of undue preference and unjust discrimination, ultimately to the detriment of a vibrantly competitive retail market.
359. Accordingly, and with regard to subsection 34(2) of the Act, the Commission determines, as a question of fact, that market conditions with regard to the offering and provision of a mandated wholesale MVNO access service by the above-noted carriers, and to eligible regional wireless carriers, are not – and will not in the near term – be sufficient to protect the interests of users.
360. The Commission considers that a failure to reassert its powers under sections 25 and 31 and subsections 27(1) and (5) of the Act with respect to the provision of the service would preclude it from bringing about the targeted regulatory mandate set out in this decision. This mandate is designed to (i) introduce greater competition in the retail market, (ii) accelerate the investment in and expansion of competitive networks and innovative services in diverse areas across the country, and (iii) further the implementation of a number of key policy objectives, including those set out in paragraphs 7(a), (b), (c), (f), and (h) of the Act. Therefore, pursuant to subsection 34(1) of the Act, the Commission determines, as a question of fact, that to continue to refrain from exercising its powers and performing its duties under sections 25 and 31 and subsections 27(1) and (5) of the Act would not be consistent with the policy objectives.
361. In order to ensure that the mandated facilities-based wholesale MVNO access service these carriers are to provide is made available according to reasonable rates, terms, and conditions, the Commission declares that the offering and provision of that service by the national wireless carriers and by SaskTel, in the markets where they are obligated to provide the service, shall be subject to the Commission's powers and duties under sections 25 and 31 and subsections 27(1) and (5) of the Act as necessary to implement the regime.³³
362. The Commission **directs** each of the national wireless carriers and SaskTel to file tariff pages for approval containing proposed terms and conditions for a facilities-based wholesale MVNO access service within **90 days** of the date of this decision, having regard to all of the above and using the national wireless carriers' wholesale roaming tariffs as their basis, with any necessary modifications to enable permanent RAN access for eligible regional wireless carriers.

³³ As discussed above, the Commission has maintained its powers under section 24 of the Act with regard to the provision of wholesale mobile wireless services by the concerned carriers. The Commission has also maintained its powers under subsections 27(2) and (3) with regard to mobile wireless voice and data services and maintained the burden of proof scheme set out in subsection 27(4).

363. Finally, consistent with the Commission's general approach with respect to mandated wholesale services subject to a tariff, entities will be permitted to enter, with no need for Commission approval, into agreements whose terms and conditions depart from those that will be adopted by the Commission. However, where there is recourse to FOA, it will be done on the basis of the tariffed terms and conditions established by the Commission as a result of the process initiated by the directions set out in paragraph 362 above. Furthermore, any off-tariff agreements are to be submitted to the Commission upon execution for monitoring purposes.

Duration of the mandate

Background

364. In Telecom Notice of Consultation 2019-57, the Commission set out a preliminary view that any mandate to provide a wholesale MVNO access service would be in place for a limited amount of time and subject to a phase-out as market forces take hold. This section discusses the appropriateness of a phase-out period and, if one is appropriate, what the phase-out time frame should be.

Positions of parties

365. The Commissioner submitted that mandated facilities-based wholesale MVNO access should be a temporary measure in place only as long as required for regional wireless carriers to establish themselves using their own RANs, in order to encourage continued investment and dissuade them from operating as MVNOs indefinitely. The Commissioner proposed a five-year access period but, in light of the COVID-19 pandemic and the uncertainty it brings, suggested that this period could be extended.

366. Similarly, Shaw argued that five years would strike the right balance between accelerating market entry and avoiding entrenched dependence on mandated facilities-based wholesale MVNO access. To illustrate the amount of expansion possible in such a time frame, Shaw noted that it only purchased Freedom Mobile in 2016 and has since purchased spectrum and expanded into a number of new areas.

367. RCCI argued that it is critical that mandated access last no longer than five years in order to reduce the negative impacts on wireless carriers' future investments. According to RCCI, this period is sufficient for them to expand coverage into new markets while leveraging existing networks.

368. Many wireless carriers expressed skepticism that mandated access would be phased out, even if the Commission determines that it should be. Bell Mobility and SaskTel argued that it is possible that whatever conditions the Commission establishes to trigger a phase-out may never occur. Many parties considered it unlikely that the Commission would allow customers to be stranded at the end of the five-year period if regional wireless carriers failed to sufficiently expand their networks and facilities-based wholesale MVNO access was no longer mandated. RCCI submitted that it was inevitable that the Commission would receive requests to extend the

duration of the mandate. Bell Mobility, Eastlink, and TCI also pointed to previous instances where a temporary mandate to provide a wholesale service was extended beyond the original time frame, namely with respect to unbundled local loops.

369. Some parties proposed alternatives to a strict five-year deadline. Xplornet recommended that at the end of five years, MVNOs be allowed to keep the customers they gained but not acquire any additional customers using the facilities-based wholesale MVNO access service. It submitted that this would enable carriers to aggressively leverage the service without fear that customers will be stranded.
370. Several parties suggested that the Commission conduct a review after five years to assess market conditions and the effectiveness of the service. These parties argued that five years was an arbitrary number that did not accurately reflect investment cycles or the challenges associated with the deployment of high-quality networks.
371. Parties were also divided as to when the mandate should begin, if implemented. RCCI and Shaw suggested that the clock start on the date of the decision. However, RCCI submitted that if carriers acquire new spectrum after the date of the decision, the start date for that spectrum could be tied to the date of its acquisition.

Commission's analysis and determinations

372. The purpose of applying a time limit to the obligation to provide a mandated facilities-based MVNO access service is twofold. First, the temporary nature of the access would incent regional wireless carriers to expedite and implement their deployment plans while they temporarily use the network of another carrier to extend service and expand their customer bases. Second, it provides a measure of certainty to the market, which is important to carriers as they formulate business plans and make investment decisions.
373. However, there are also risks associated with setting a fixed phase-out period. As discussed above, one issue of particular concern is that a phase-out period could extend far beyond what was originally intended. A second risk is selecting an appropriate time period – if it is set too short, regional wireless carriers will not have enough time to deploy before the mandate ends; if it is set too long, it may undermine investment incentives. While five years is a common time frame for certain types of planning, it is not necessarily reflective of planning and investment cycles in a capital-intensive industry where deployment often requires access to the infrastructure of other entities, such as towers and support structures, and depends on the availability of spectrum.
374. There is also the question of when a fixed phase-out period should start. One option would have it begin on the date this decision is issued, which would be simple and easy to track. However, delays such as those resulting from associated regulatory proceedings or prolonged implementation of the service could reduce the period that the service is available to regional wireless carriers. A second option would be to

begin the phase-out period on a carrier-specific basis once an agreement is reached between a host carrier and a regional wireless carrier. However, this could lead to agreements having different end dates, depending on when they are finalized, which could become administratively burdensome, particularly if carriers acquire spectrum in the future at different points in time.

375. The Commission considers that the facilities-based wholesale MVNO access service mandated as a result of this decision is intended to be a temporary measure to assist regional competition and expedite network deployment until market forces can take hold. The Commission is of the view that this would be best achieved by setting a fixed phase-out period. In the circumstances, the Commission considers that a period of seven years from the date the tariffed terms and conditions are finalized would strike an appropriate balance to give regional wireless carriers sufficient time to deploy their networks while also maintaining investment incentives and respecting investment cycles. While the risk would remain that regional wireless carriers could face a situation where they have not been able to deploy sufficient network facilities to serve their customers in a given area by the end of the phase-out period, the Commission considers that this risk is acceptable and is mitigated by the length of the phase-out period.

376. Accordingly, the Commission determines that the obligation to provide the mandated facilities-based wholesale MVNO access service will be phased out seven years from the date the tariffed terms and conditions are finalized. However, if delays occur as a result of prolonged regulatory processes or other impediments to the timely implementation of the service, additional time may be added to the phase-out period.

377. Regarding proposals to conduct a review of the mandate after a period of time, the Commission considers that doing so could assist it in determining whether its regulatory measures have had the desired effects on the market, based on evidence at that time. However, the Commission also recognizes that regulatory certainty is important for the industry. As a result, and absent any significant developments in the marketplace or otherwise, the Commission does not intend to conduct a future review of the mandated facilities-based wholesale MVNO access service, or of its mobile wireless service regulatory framework more broadly, prior to five years from the date of this decision.

Investment requirements

Background

378. As a part of his proposal, the Commissioner recommended that access to a mandated facilities-based wholesale MVNO access service be tied to build-out commitments. The Commissioner submitted that this was necessary to ensure that those using the service transition to being effective, facilities-based competitors in the areas where they initially benefit from MVNO access. Accordingly, in this section, the Commission examines whether it would be appropriate to establish investment or build-out requirements on eligible carriers as a condition of access.

Positions of parties

379. The Commissioner submitted that the Commission will need to preserve the incentive for regional wireless carriers to continue to invest, and to avoid creating an incentive to divert funds that otherwise would have been used in building facilities in rural areas to urban areas instead. The Commissioner argued that strong build-out requirements would be critical to achieving this goal. The Commissioner did not consider that he had enough information to propose a threshold for a credible commitment, but argued that the initial level should be set so as to make it undesirable for a carrier to walk away from its investment.
380. Some parties argued that the build-out requirements associated with spectrum conditions of licence would be sufficient to ensure continued investment in networks. According to Shaw, the benefit of using these conditions is that the Commission would not have to create or monitor discrete obligations.
381. Ice Wireless indicated that the spectrum conditions of licence relating to build-out requirements are not uniform but rather vary on the basis of spectrum tier. Therefore, there would need to be some uniformity brought to the conditions before they could be used in this manner.
382. Distributel submitted that since the existing spectrum conditions of licence do not contain requirements related to investment tracking or reporting, annual reports to the Commission could be an administratively efficient method to track investment activity.

Commission's analysis and determinations

383. Conceptually, the Commission considers that there would be some merit in setting investment or deployment targets and monitoring whether those targets are being met as a means of ensuring that the regulatory measure that is being applied, in this case mandated facilities-based wholesale MVNO access, is achieving its desired purpose.
384. However, the Commission is concerned that, in practice, it would not be feasible to set an investment target at the correct level to encourage sufficient build-out without placing the smaller carriers most likely to be eligible for the service in a precarious financial situation. This difficulty is reflected on the record, because no party, including the Commissioner, was able to provide a satisfactory means of setting a simple, practical, and concrete investment target.
385. The Commission notes that wireless carriers are already subject to build-out requirements imposed by ISED as a spectrum condition of licence and, as such, considers that there is no need to duplicate and enforce similar requirements as part of its own regulatory measures. The Commission also notes that ISED's build-out requirements vary depending on the spectrum tier, with time frames of up to 20 years in some cases, which go far beyond the short-term nature of the mandated facilities-based wholesale MVNO access service.

386. In the Commission's view, the application of a phase-out period would itself motivate eligible wireless carriers to build facilities in the concerned markets in order to serve their customer bases after the end of the phase-out period. Furthermore, a failure to adequately build facilities would expose a regional wireless carrier to potentially significant reputational harm should it no longer be in a position to serve its customers due to an expired mandate. This should serve as sufficient incentive for eligible wireless carriers to build their networks without having to meet specific, pre-determined targets.

387. However, the Commission considers that a degree of monitoring would assist in tracking investment progress over the duration of the mandate, and that it would be appropriate to require annual updates from wireless carriers that make use of the service as to the progress of their network deployment.

388. In light of the above, the Commission will not impose investment targets. Instead, the Commission **directs** wireless carriers making use of the mandated facilities-based wholesale MVNO access service to submit, pursuant to paragraph 37(1)(b) of the Act, annual updates that include the following information with respect to the areas in which they make use of the service:

- information on tower and site deployments over the course of the year,
- which new communities they are serving,
- how many customers they have acquired, and
- a description of their deployment or expansion plans in the upcoming year.

389. This reporting requirement will commence for an eligible carrier **one year** after it subscribes to the service (i.e. one year after it finalizes an agreement with a carrier mandated to provide wholesale MVNO access service or after the rate for the service has been determined by means of an FOA process and the eligible carrier is able to begin offering service on that basis) and will continue until the end of the phase-out period.

Conclusion

390. To summarize, the Commission's determinations with respect to the mandated facilities-based wholesale MVNO access service are as follows:

- In order to be eligible to use the service, a wireless carrier must possess a spectrum licence at the tier 4 level or higher in a given tier 4 area. The national wireless carriers and their affiliates are not eligible to use the service.
- The service is available to an eligible wireless carrier in any tier 4 area where it has mobile wireless spectrum at the tier 4 level or higher. This includes tier 4 areas where a regional wireless carrier already has partial coverage and tier 4 areas it has yet to enter.

- The obligation to provide the service applies to the national wireless carriers in all tier 4 areas across Canada, with two exceptions: it applies exclusively to SaskTel in the tier 4 areas of Saskatchewan and to Bell Mobility in the tier 4 areas in the territories.
- Terms and conditions for the service are to be set on an *ex ante* basis and set out in a tariff. Each of the national wireless carriers and SaskTel are to file proposed terms and conditions for a facilities-based wholesale MVNO access service within **90 days** of the date of this decision, with the national wireless carriers using their existing wholesale roaming service tariffs as the baseline and making any necessary modifications. As with wholesale roaming, these should include a condition whereby subscribers of MVNOs operating on a regional wireless carrier's network can access the host carrier's network on the same terms as those of the regional wireless carrier.
- Rates are to be commercially negotiated between parties, with FOA by the Commission as a recourse if negotiations fail.
- Parties may enter into off-tariff arrangements if they so choose. Any such agreement must be filed with the Commission upon completion for information purposes.
- The service will be mandated for a period of seven years from the date the tariffed terms and conditions are finalized, and will be phased out upon the end of that time period. Any delays incurred due to prolonged regulatory processes or implementation of the service may result in additional time being added to the phase-out period.
- The Commission does not intend to conduct a review of the service, or of its mobile wireless service regulatory framework, prior to five years from the date of this decision, absent any significant developments in the market or otherwise.
- Regional wireless carriers are not required to meet any specific investment targets. However, regional wireless carriers making use of the service are to file annual progress updates with the Commission. This reporting requirement will commence **one year** after such a carrier subscribes to the service and will continue until the end of the phase-out period.

Changes to wholesale roaming policy

391. In Telecom Notice of Consultation 2019-57, the Commission noted that both wireless technology and the wireless service market are constantly evolving, and considered that there may be aspects of the Commission's existing wholesale roaming policy that need to be modified.³⁴ Parties were invited to provide comments

³⁴ The Commission also clarified that it would not revisit the issue of whether wholesale roaming service should continue to be mandated nor the matter of tariffed rates for the service as part of this proceeding.

on whether any such modifications are required at this time. In their submissions, parties identified two major areas where clarifications and modifications could be made to wholesale roaming policy: (i) seamless roaming, and (ii) the applicability of mandated wholesale roaming service to 5G networks.

Seamless roaming

Background

392. Seamless roaming involves networks handing off and receiving calls and data sessions to and from other networks without any interruption in service. In the absence of such a capability, when a regional wireless carrier's subscriber moves outside that carrier's network footprint to an area served by a carrier from whom the regional wireless carrier has purchased a wholesale roaming service, the subscriber's call and data sessions are dropped.

Positions of parties

393. The regional wireless carriers generally submitted that seamless roaming is important for them because it enables them to offer a higher quality of service to Canadians and, therefore, be more competitive. Eastlink submitted that the issue is especially important for users travelling along highways. Shaw and Videotron submitted that the absence of seamless roaming is the biggest barrier to their growth, particularly outside urban centres. They submitted that dropped calls at the periphery of their networks are a key reason why their customers switch from their services to the national wireless carriers' services. Shaw attributed thousands of dropped calls per day to this issue.

394. Shaw estimated that a reasonable range of implementation costs for a national wireless carrier to implement seamless roaming would be \$500,000 to \$850,000 nationally. This estimate included costs for billing changes, testing, proof of concept, making necessary changes to the network, and activating interfaces between the networks.

395. Shaw submitted that the national wireless carriers would not have to upgrade every cell in their networks to implement seamless roaming, but instead would need to upgrade and maintain only the cells that are at the perimeter of a regional wireless carrier's network. As an example, it submitted that this corresponds to 257 of RCCI's cells, which is about 1.1% of the total number of RCCI cells nationwide. Shaw added that updates to network configuration are required only where there is a change in the network coverage area of neighbouring networks (e.g. where a regional wireless carrier proceeds to geographically extend its network), which it argued is not often. It further submitted that the maintenance of seamless roaming can be done on a monthly or quarterly basis with ease using standard industry tools. For example, it already exchanges data with the national wireless carriers on a quarterly basis to maintain existing roaming arrangements and, therefore, the maintenance of seamless roaming would not require the creation of any new process.

396. The Commissioner submitted that mandated seamless roaming is one of the main issues that requires the Commission's consideration to enhance competition. He argued that seamless roaming increases the value proposition that newer facilities-based entrants can bring to their customers along with the competitive pressure they can put on the national wireless carriers. He also submitted that ensuring that smaller carriers have access to seamless roaming as part of their roaming arrangements would work to level the competitive playing field and meet the intended policy goals of the mandated wholesale roaming service regime.
397. The national wireless carriers argued that they do not need to provide mandated wholesale roaming service on a seamless basis. The national wireless carriers and SaskTel submitted that the design and implementation of seamless roaming poses significant technical and engineering obstacles. They argued that seamless roaming would also involve significant costs to acquire new hardware, additional transport capacity facilities, additional backhaul capacity, information technology (IT) / billing modifications, and radio optimization and interoperability testing. RCCI added that there are no standard industry procedures to enable seamless roaming for second-generation (2G) and 3G circuit-switched calls, and that it could take up to five years to develop, test, and roll out a solution.
398. The national wireless carriers and SaskTel provided cost estimates to implement and maintain seamless roaming. A range of estimates was provided, each with different assumptions and implementation scopes. The estimated initial setup costs ranged from \$3 million for a single border between networks to \$25 million for national coverage. The estimated annual maintenance costs ranged from \$300,000 at a single border to \$14 million for national coverage.
399. Bell Mobility and RCCI submitted that seamless roaming would be a disincentive for the regional wireless carriers to expand their networks because they would not invest in their network builds when their subscribers could simply roam onto one or more of their competitors' networks. They argued that the increased costs to provide seamless roaming would also discourage their own investments in infrastructure. They submitted that the regional wireless carriers can avoid having their subscribers' calls drop by extending their networks further out into rural communities.
400. The national wireless carriers and SaskTel argued that if seamless roaming is mandated, the rate for wholesale roaming service would be affected, because the costs of implementation would need to be incorporated into the rates. Eastlink, Ice Wireless, Shaw, and Xplornet argued that seamless roaming is a key functionality that should be incorporated as part of the mandated wholesale roaming service, and that current wholesale roaming rates should not change. They argued that seamless roaming should apply to all existing and future wireless technologies. Eastlink submitted that it would prefer to not have seamless roaming mandated if doing so meant that the wholesale roaming service rate would increase.

Commission's analysis and determinations

401. The Commission considers that mandated seamless roaming would benefit (i) consumers, since they would no longer experience the frustration of dropped calls when moving from one network to another; and (ii) competition, since regional wireless carriers would be able to market and offer their customers a higher quality of service.
402. Evidence suggests that dropped calls occur thousands of times per day near the borders of the regional wireless carriers' networks, and that dropped calls happen at a much higher rate near the edges of networks than elsewhere. While a portion of these calls may be dropped for reasons other than a lack of seamless roaming, in the Commission's view, this represents a significant concern that could largely be addressed by seamless roaming.
403. The Commission considers that seamless roaming would provide an additional layer of support for competition as regional wireless carriers build their networks. By addressing the dropped call problem, mandated seamless roaming would help regional wireless carriers offer a more enticing service to consumers, even at the edges of their networks.
404. The Commission considers that technical standards and solutions exist today that can be used to implement seamless hand-offs between carriers and, if prioritized, seamless roaming could be implemented within a significantly shorter time frame than proposed by the national wireless carriers. The Commission considers that modification and maintenance activities to implement seamless roaming would be mainly limited to cell sites at network border locations, and that the technical information required to maintain seamless roaming can be exchanged using existing processes and with minimal effort and changes by the national wireless carriers. This would significantly reduce the costs associated with implementation. The national wireless carriers have acknowledged that standards for implementing seamless roaming generally already exist, and although they argued that technical difficulties make implementation impractical, they agreed that it is possible. At the same time, Shaw indicated that other global carriers have also implemented seamless roaming using these standards. Accordingly, the Commission considers that workable seamless roaming standards exist today for the implementation of the service.
405. While cost estimates vary widely, in the Commission's view, none of these cost estimates would outweigh the overall benefits to competition and consumers of having seamless roaming in place. Further, if a wholesale roaming service provider considers that their tariffed rate no longer reflects the incremental costs it incurs to provide the service, mechanisms exist by which its concerns can be addressed.
406. Regarding arguments that mandated seamless roaming would be a disincentive for network expansion, the Commission considers that the regional wireless carriers' need to reach more customers will drive the expansion of their networks even if seamless roaming is mandated. Regional wireless carriers also have an incentive to

expand their own networks to minimize their wholesale roaming costs. Essentially, the more coverage a carrier has, the more potential customers it can serve and the less roaming its customers will require.

407. In light of these considerations, the Commission considers that mandating the provision of seamless roaming would be consistent with the 2019 Policy Direction's call to reduce barriers to entry into the market and to competition for telecommunications service providers that are new, regional, or smaller than the incumbent national service providers. Consistent with paragraph 7(b) of the Act, it would also help to ensure that affordable access to high-quality telecommunications services is available in all regions of Canada, including rural areas. Furthermore, given the adverse impact that the absence of seamless roaming has on the regional wireless carriers' retail customers, the absence of this capability serves to undermine the quality of service that is provided to them and further undermines the development throughout Canada of a telecommunications system that serves to safeguard, enrich, and strengthen the social and economic fabric of Canada and its regions, which is inconsistent with paragraph 7(a) of the Act. By adversely affecting the regional wireless carriers' ability to compete with the national wireless carriers and other carriers that have seamless roaming or network-sharing arrangements with a national wireless carrier, the non-ubiquitous availability of this functionality undermines the efficiency and competitiveness of Canadian telecommunications, which is further inconsistent with paragraph 7(c) of the Act.
408. Given the above, including the absence of widespread seamless roaming arrangements involving the newer regional wireless carriers, market forces cannot be relied upon to ensure that this functionality is available to all carriers and their retail customers. A decision to mandate the provision of seamless roaming and make it subject to cost-based rates would be an efficient and proportionate means of further implementing the policy objectives identified above, all of which would be consistent with paragraph 1(a) of the 2006 Policy Direction.
409. The Commission considers that seamless roaming is not a new service but can be properly characterized as an additional condition under which the existing mandated wholesale roaming service must be offered.
410. In light of the above, the Commission **directs** the national wireless carriers to (i) file for approval, within **90 days** of the date of this decision, tariffs for wholesale roaming service (wholesale roaming tariffs) with updated terms and conditions to support seamless roaming; and (ii) begin offering seamless roaming within **one year** of the date of this decision.
411. The Commission acknowledges the potential of additional operational costs associated with seamless roaming. Further, the Commission notes that the existing wholesale roaming tariffs were subject to a five-year cost study when they were finalized in Telecom Orders 2017-433 and 2018-99. Accordingly, an assessment of the underlying costs associated with the implementation of seamless roaming and the

proper reflection of these in the tariffed rates may be appropriate upon implementation of seamless roaming.

Applicability of mandated wholesale roaming to 5G networks

Background

412. Parties were asked whether there have been any developments, technological or otherwise, that would require the current wholesale roaming policy to be modified. Much of the discussion in this regard focused on whether or not mandated wholesale roaming applies to 5G networks, which are currently in the early stages of deployment.

Positions of parties

413. Shaw and Videotron were of the view that the current wholesale roaming tariffs apply to 5G. However, they argued that the Commission should clarify that this is the case. Shaw argued that it is necessary to include an obligation for the national wireless carriers to support voice over LTE (VoLTE) roaming, and to revisit terms and conditions to address restrictive terms, such as those that provide the national wireless carriers with the discretion to refuse to make additions or modifications to their networks to accommodate new technologies.

414. Generally, the national wireless carriers argued that the current roaming policy applies to one-way domestic wireless roaming for wireless voice, text, and data roaming based on GSM network standards,³⁵ but does not include access to 5G technologies. They argued that because 5G is in its infancy, most carriers are starting off on an equal footing when it comes to introducing 5G services; therefore, it is not appropriate to give other carriers access to 5G roaming when the network technology and associated services are just being rolled out.

415. RCCI submitted that if the wholesale roaming tariffs were to apply to 5G, there would need to be an explicit exclusion for IoT and M2M services.

416. Many parties, including the national wireless carriers and Xplornet, argued that if the Commission determines that the current wholesale roaming policy applies to 5G, the wholesale roaming tariffs will need to be amended to reflect 5G applications. Generally, these parties argued that it is too early in the development of 5G networks and applications to determine what the rates, terms, and conditions of a 5G wholesale roaming service would be.

³⁵ GSM network standards include EDGE [Enhanced Data GSM Evolution], GPRS [General Packet Radio Service], HSPA [High-Speed Packet Access], and LTE (data).

Commission's analysis and determinations

417. In the coming years, wireless carriers will continue to deploy 5G technology in their networks across the country. These technology upgrades will mean that wireless networks will become exponentially faster, more pervasive, and more versatile. With a predicted maximum throughput of 10 Gbps, this technology will support innovative and bandwidth-intensive new services, and enable new technologies.
418. While 5G network deployment is in the early stages, it is important for the Commission to provide, to the extent it can, a degree of certainty and clarity to the industry on regulatory matters related to 5G. In Telecom Regulatory Policy 2015-177, the Commission determined that wholesale roaming offered on GSM-based networks and code division multiple access (CDMA)-based networks are not substitutes, since retail customers would typically not have the kinds of devices that would support use on both types of networks. Therefore, the Commission found that GSM-based wholesale roaming service is a distinct product market from CDMA-based wholesale roaming service, and ultimately only mandated wholesale roaming service for GSM-based networks.
419. In this regard, a key factor is whether 5G mobile wireless services are GSM-based. While there was no specific evidence filed to support an assertion that 5G is, or is not, a GSM-based service, the Commission considers that it is appropriate to view 5G technology as an evolutionary advancement in GSM technology.³⁶
420. Further, the Commission is not persuaded by arguments that smaller carriers should not have mandated wholesale roaming access to the national wireless carriers' 5G networks because 5G is in its infancy and all carriers are on equal footing. While the national wireless carriers and regional wireless carriers will all have the same 5G starting point – that is, they initially would have no 5G technology deployed – in addition to their national network coverage and retail market power, the national wireless carriers have a significant advantage in terms of the sites, towers, spectrum ownership, permits, and access agreements with various entities for infrastructure access. In the Commission's view, these advantages will continue as 5G technology is deployed, and the need for wholesale roaming on 5G networks will be necessary to support competition as the mobile wireless service market evolves.
421. For all of these reasons, the Commission confirms that the wholesale roaming policy applies to 5G networks. The Commission **directs** the national wireless carriers to make any amendments to the terms and conditions of their tariffs that are necessary to reflect this determination and to file, for approval, the amended tariffs within **90 days** of the date of this decision.

³⁶ The Commission's view in this matter is shared by the GSM Association (GSMA), an industry organization that represents the interests of mobile operators worldwide and that has more than 750 mobile operators as full members and more than 400 companies as associated members. See, for example, the GSMA's [5G Guide](#), which indicates that "...4G and 5G networks can coexist for a long while because the transition from 4G to 5G does not imply or require a paradigm shift in the philosophy of the underlying technology."

422. 5G networks will employ various new technologies, including network virtualization and software-defined networks, which will have different cost structures than previous generations of wireless service. 5G deployment was not factored into the cost studies filed in support of and reflected in the wholesale roaming service rates approved in Telecom Order 2018-99, since 5G was not yet deployed and was not expected to be widely deployed over the five-year duration of the cost study period. Accordingly, and consistent with the above discussion on seamless roaming, it may be appropriate to conduct an assessment of the underlying forward-looking incremental costs associated with wholesale roaming service and the proper reflection of these costs in the tariffed rates upon implementation of seamless roaming.

Access to infrastructure

423. In Telecom Notice of Consultation 2019-57, the Commission indicated that one of the areas it would examine in this proceeding is reducing barriers to infrastructure deployment. In this regard, parties provided comments on the issues associated with obtaining access to various types of infrastructure in order to deploy mobile wireless networks and whether changes could or should be made to the Commission's existing rules to facilitate such access.

424. Parties' comments regarding access to infrastructure generally fell into one or more of the following categories:

- Delays or denials associated with access to ILEC support structures
- Small cell attachments and existing ILEC support structure tariffs
- Access to towers and sites
- Access to municipal infrastructure

Delays or denials associated with access to ILEC support structures

Background

425. ILEC-owned or controlled support structures include poles, which support aerial facilities such as strands, which are steel wires between two poles that support transmission facilities and related equipment, and conduits, which are reinforced passages or openings capable of containing communications facilities and are often located beneath ground level.

426. The Commission mandates that ILECs provide wholesale access to their support structures as a public good service.³⁷ The provision of these services is subject to the rates, terms, and conditions established by the Commission and set out in the various

³⁷ Mandated access applies to support structures that are owned by ILECs as well as to support structures to which ILECs have the ability to provide third-party access.

ILEC support structure tariffs. Under existing regulations, ILECs must provide access to these structures, on request, when spare capacity is available.

427. Nevertheless, many wireless carriers reported experiencing difficulties accessing ILEC support structures and suggested that changes may be required in order to improve the process for gaining access and to ensure that 5G networks can be deployed efficiently.

Positions of parties

428. The concerns of non-ILEC parties generally focused on denials of access based on (i) a lack of spare capacity or future use needs, and (ii) make-ready costs. These parties proposed various ways to mitigate their concerns over what they described as unreasonable denials, and most agreed that a follow-up proceeding to revise the ILEC support structure tariffs is needed.

429. Several parties, including Eastlink, RCCI, Shaw, and Videotron, provided examples of instances where they were denied access and outlined what they described as ILECs engaging in tactics that display a pattern of excessive denials and delays. However, they were not generally able to track denials in great detail.

430. Conversely, ILECs asserted that they approved the majority of access requests, and generally tried to work with parties to find alternatives where possible. For example, Bell Mobility claimed that it denied only approximately 1% of access requests on the basis of future use in Ontario and Quebec. TCI also submitted that it accepts a very high percentage of permit applications for access to its support structures.

431. Parties proposed various ways to mitigate their concerns, such as the establishment of clearer limits on reservations for future use and implementation of mechanisms to document and track future use claims, the introduction of time limits for the consideration of access requests, and expedited and simplified dispute resolution mechanisms.

432. Bell Mobility and TCI opposed these proposals, arguing that they would essentially void spare capacity and future use allowances in the ILEC support structure tariffs. They further argued that it would be inappropriate to impose an obligation to document and track reserved capacity because this information is commercially sensitive, and because a documentation obligation would add additional cost and regulatory burden without any corresponding additional benefits.

433. RCCI submitted that access to ILEC support structures will become more and more important as small cell deployment increases, and proposed that the Commission initiate a follow-up proceeding to review and amend the ILEC support structure tariffs in order to address concerns surrounding access.

Commission's analysis and determinations

434. The Commission notes that most of the evidence provided by parties regarding the denial of access to support structures was anecdotal. While some of the examples provided are concerning, the Commission cannot discern at this time whether these examples are outliers or are reflective of more prevalent problems, because parties filed very little evidence to quantify the problem with respect to the number of denials, particularly as a percentage of total requests.
435. As such, the Commission considers that the record before it is insufficient to determine whether, or what, modifications to the ILEC support structure tariffs or additional regulatory requirements would be appropriate to address concerns regarding delays and denials of access to ILEC support structures. With limited data on the number of denials and without a better understanding of the reasons for those denials, the Commission determines that it would be inappropriate to adopt specific regulatory measures at this time. Furthermore, the Commission notes that, after the initiation of the present proceeding, it issued Telecom Notice of Consultation 2020-366, to examine the issue of timely and efficient access to certain support structures, namely poles.
436. With respect to the proposal for a follow-up proceeding, the Commission notes that in Telecom Notice of Consultation 2020-366, it invited comments on many of the issues raised in this proceeding, including spare capacity, joint-use agreements, and dispute resolution. In light of that proceeding, the Commission determines that it is unnecessary to initiate an additional follow-up proceeding in the specific context of ILEC support structure access for mobile wireless service deployment at this time.

Small cell attachments and existing ILEC support structure tariffs

Background

437. In Telecom Decision 2014-77, the Commission determined that the Support Structure Service item of TCI's General Tariff should be modified to read that a licensee is not required to apply for a permit to place strand equipment³⁸ on its own cable located on strand leased from TCI. That decision resulted from a dispute between TCI and Shaw regarding the attachment of Wi-Fi strand equipment on Shaw's own cabling, which was supported by TCI strand. Subsequently, and by way of Telecom Decision 2014-389, the other ILECs were required to modify their tariffs in a similar way. As a result, licensees do not require permits for the addition, rearrangement, transfer, replacement, or removal of their own strand equipment when they already lease space on ILEC strand.
438. In this proceeding, TCI argued that the ILEC support structure tariffs currently in place were designed to facilitate wireline competition and did not contemplate attachments for mobile wireless service, such as small cells; therefore, amendments

³⁸ "Strand equipment" refers to communications-related equipment inserted into cabling located on strand.

to the existing tariffs would be required to fully account for such attachments. TCI argued that such attachments give rise to spectral interference issues and to load and safety issues that are different from those associated with wireline facilities. Furthermore, TCI argued that in contrast to the determinations made in Telecom Decision 2014-77, which concerned Wi-Fi equipment, small cells are used purely for mobile wireless network connectivity and, as such, are properly viewed as comprising a new attachment to enable a technology that is unrelated to existing mounted facilities. In light of this, TCI argued that the tariffs must provide ILECs with an ability to review and approve small cell attachments and proposed that such attachments be made subject to a permit requirement.

Positions of parties

439. Most of the regional wireless carriers, including Eastlink, Shaw, Videotron, and Xplornet, opposed TCI's proposal. Several of these parties asked the Commission to confirm the applicability of the existing ILEC support structure tariff provisions in the context of 5G small cell equipment. They argued that to accept TCI's proposal would result in a significant administrative burden and impair 5G deployment by increasing opportunities for ILECs to engage in unjust discrimination.

440. Eastlink argued that the ILEC support structure tariffs already address the processes for carriers attaching their equipment, both wireline and wireless, to support structures, and that the tariffs allow for the placement of power supply attachments comparable in size to small cells.

441. Similarly, Videotron asserted that Commission decisions on access to ILEC support structures have always been technology neutral and that TCI's proposal is anti-competitive.

442. TCI responded that, in addition to the concerns outlined above, rates need to be updated to take into account costs associated with small cell attachments. TCI submitted that this will provide certainty to WSPs as they invest in and deploy their 5G facilities.

443. Bell Mobility argued that a new process to modify the ILEC support structure tariffs is not appropriate because small cells fall under ISED's jurisdiction.³⁹

Commission's analysis and determinations

444. The Commission considers that parties did not provide adequate evidence to demonstrate whether or not small cells are sufficiently different from Wi-Fi deployments such that amendments to the existing ILEC support structure tariffs are warranted. Adequate evidence would relate to the technical requirements of the various types of 5G equipment and related deployment concerns, including capacity,

³⁹ Bell Mobility cited [Conditions of Licence for Mandatory Roaming and Antenna Tower and Site Sharing and to Prohibit Exclusive Site Arrangements](#), CPC-2-0-17, 7 March 2013 (CPC-2-0-17).

construction standards, and radiofrequency interference, all of which were considered when the Commission made its determinations with respect to Wi-Fi equipment in Telecom Decision 2014-77.

445. As a result, the Commission is unable to render a decision as to what, if any, modifications to the existing ILEC support structure tariffs, including permitting requirements, are warranted with regard to small cell attachments.

Access to towers and sites

Background

446. Pursuant to the *Radiocommunication Act*, the Minister of Industry is responsible for issuing licences in relation to spectrum use and fixing the terms and conditions of any such licence. The *Radiocommunication Act* also provides the Minister with the ability to approve the siting of radio apparatus, including antenna systems, and the erection of towers and other antenna-supporting structures. Pursuant to its authorities under that Act, ISED requires wireless carriers to share space on cellular towers as a condition of spectrum licence,⁴⁰ and has established a mandatory dispute resolution process in *Industry Canada's Arbitration Rules and Procedures*. In Telecom Regulatory Policy 2015-177, the Commission indicated that it may also employ its own powers under the *Telecommunications Act* to prevent unjust discrimination and undue preference in the provision of telecommunications services to resolve disputes between carriers with respect to tower and site sharing. To date, the Commission has not received any such formal dispute resolution requests.

Positions of parties

447. Eastlink submitted that it faces ongoing challenges with respect to tower siting and tower sharing, including for small cells. It submitted that these challenges are due to the municipal consultation process required by ISED and the difficulties associated with attempting to gain access to the incumbent's infrastructure. Eastlink indicated that Commission oversight to handle such disputes and to establish precedents for reasonable approaches to such issues, would be of significant value.
448. CNOC argued that mandated tower and site sharing at rates set by the Commission would stimulate competition and would particularly assist regional wireless carriers in rural and remote areas, where costs of deployment are high.
449. RCCI submitted that the existing regime functions well and that additional regulation is not warranted. Bell Mobility suggested that the fact that no party has brought a tower-related dispute to the Commission was a strong indication that no further regulatory intervention is necessary or appropriate.

⁴⁰ See CPC-2-0-17.

450. From a consumer perspective, EMF-OFF! expressed concern over risks to human and environmental health and safety from 5G due to the anticipated ubiquity of 5G and its related infrastructure. It submitted that the Commission should not encourage deployment of 5G technology until the health and safety effects associated with spectrum to be used for purposes of 5G networks have been properly studied.

Commission's analysis and determinations

451. Regarding Eastlink's submission, the Commission notes that it does not have general jurisdiction over tower siting, and that ISED already has well-established rules in this regard, including a municipal consultation process.

452. While CNOC argued for mandated access to towers and sites with tariffed rates, terms, and conditions, this view was not generally shared by other parties, and CNOC itself provided little justification or evidence that there is a problem that requires such intervention.

453. In addition, to date the Commission has not been approached to resolve any dispute alleging undue preference or unjust discrimination with regard to access to towers or sites. This suggests that for the most part, carriers have been able to secure tower-sharing agreements without the need for Commission intervention.

454. Therefore, it is not necessary for the Commission to take additional action in relation to tower and site sharing at this time. However, the Commission continues to be prepared to consider disputes between carriers.

455. With respect to health and safety considerations raised by EMF-OFF!, while the Commission is empowered to adopt technical standards with regard to telecommunications facilities operated by or connected to those of a Canadian carrier, as a general matter, health-related concerns fall within a field that is well occupied by existing government agencies with the requisite expertise.⁴¹ Furthermore, EMF-OFF!'s submissions mostly addressed matters relating to the allocation of spectrum, the imposition of spectrum licence conditions, and antenna siting. These matters are beyond the Commission's jurisdiction.

Access to municipal infrastructure

Background

456. Many parties raised issues with respect to access to municipal rights-of-way (ROWs). Both carriers and municipalities have an interest in this infrastructure, though these interests may conflict. Municipalities have an interest in managing and protecting their ROWs for the benefit of all who seek access, and they also have an

⁴¹ For instance, ISED already requires compliance with Health Canada's exposure guidelines set out in [*Limits of Human Exposure to Radiofrequency Electromagnetic Energy in the Frequency Range from 3 kHz to 300 GHz*](#), Safety Code 6 (2015).

interest in minimizing costs associated with use of these ROWs and resulting construction disruptions in the community. Conversely, carriers seek timely and cost-effective access to these ROWs to deploy, maintain, and upgrade networks in order to remain competitive and better serve consumers of telecommunications services, including mobile wireless services.

457. Issues raised in relation to access to municipal infrastructure touched on whether the Commission's jurisdiction in this area extended to access for the purposes of constructing, operating, and maintaining mobile wireless infrastructure, namely small cell attachments, and whether the Commission could regulate access to publicly owned passive infrastructure.
458. The Commission's jurisdiction with respect to access to municipal infrastructure is set out in sections 42 through 46 of the Act. These provisions provide carriers with a qualified right of access to highways or other public places. Under this regime, access is obtained by way of consent from the relevant public authority. Where such access cannot be obtained under terms deemed appropriate for the carrier or where the public authority is unable to reach an agreement with a carrier, the Commission is empowered to resolve access disputes upon receiving an application.
459. The Commission has resolved various disputes by way of reference to the principles first established in Decision 2001-23 (the Leducor decision). The principles set out in that decision touch on such matters as cost allocation, coordination, and documentation. The Commission anticipated that these principles would assist carriers and municipalities in negotiating terms and conditions under which carriers construct, maintain, and operate transmission lines within municipal ROWs.
460. In Telecom Decision 2013-618, the Commission approved a model municipal access agreement (MAA), which was drafted by a CRTC Interconnection Steering Committee (CISC) working group. This model MAA reflects the principles enunciated in the Leducor decision and is meant to assist parties in reaching mutually acceptable MAAs.

Positions of parties

Access regime

461. Several wireless carriers expressed the view that having timely access to municipal ROWs and passive infrastructure will be critical to the success of 5G deployment. Some suggested that the Commission should not require municipal consent for 5G small cell site deployments, or should at least push for legislative amendments to this effect. To illustrate the need for this change, Bell Mobility claimed that access delays of up to two years are common, which creates significant uncertainty for deployment and deters investment.

462. Conversely, municipal entities, or groups representing the interests of municipalities, such as the Federation of Canadian Municipalities (FCM), Municipalité régionale de comté de Témiscouata, and Ville de Montréal (Montréal), commented on what they believe to be the important and unique role municipalities will play in coordinating the deployment of 5G. The FCM submitted that municipalities are the only entities capable of ensuring that ROWs function efficiently and effectively for all users over the long term, and argued that municipal ROW management has not caused systemic operational delays in network deployment.

The Commission's jurisdiction

463. Many parties submitted that there is a lack of clarity with respect to the Commission's jurisdiction over 5G equipment and municipal ROWs. Several carriers suggested that the Commission should clarify its jurisdiction or seek to expand it if necessary by pursuing legislative amendments in order to facilitate the deployment of 5G small cell sites on existing municipal infrastructure and ROWs.

464. Parties raised the question of whether sections 43 and 44 of the Act are available to resolve disputes with regard to the construction, operation, and maintenance of wireless transmission equipment. These sections make reference to "transmission lines," a term that is not defined in the Act.

465. Several wireless carriers argued that these legislative provisions grant the Commission jurisdiction to resolve issues involving access to municipal ROWs for the purpose of constructing, operating, and maintaining small cells. They submitted that a distinction between "wireline" and "wireless" in this context is untenable, and that an interpretation of "transmission line" that excludes wireless antennas would be outdated, contrary to the principle of technological neutrality, and inconsistent with the rules of statutory interpretation. For instance, TCI argued that the Act should be interpreted to give effect to Parliament's intent to create a comprehensive regime supporting network deployment. RCCI argued that the Act is intended to regulate all means of telecommunications, regardless of transport technology.

466. Conversely, the FCM argued that when looking at the meaning of "transmission line," the Supreme Court concluded that this term did not include electrical "distribution lines" and that, therefore, it would likewise not be appropriate to interpret it to include wireless "transmission paths."⁴² It further argued that when Parliament chooses different words within a statute – for instance, "transmission line," which appears in section 43, and "transmission facility," which appears elsewhere in the Act – it is expressing different intentions or different ideas.

467. In addition, several wireless carriers argued that the Commission should adopt a broad interpretation of "highways and other public places," as found in section 43 of the Act, to grant wireless carriers similar terms of access as they would have with

⁴² Citing *Barrie Public Utilities v. Canadian Cable Television Association*, [2003] 1 S.C.R. 476.

respect to wireline facilities, in line with the determinations set out in Telecom Decision 2005-36 with respect to the City of Edmonton's (Edmonton) light rail transit (LRT) tunnels.⁴³ In that decision, the Commission identified factors such as ownership, public purpose, and degree of access in order to determine whether a given place was a "public place" for the purposes of the relevant statutory provisions.

468. The FCM countered that on a plain reading, the term "a highway or other public place" in section 43 of the Act refers to access to "places" rather than "structures," and that the Federal Court of Appeal decision⁴⁴ disposing of an appeal of Telecom Decision 2005-36 further supported this view. Moreover, it argued that "highway" has consistently been treated as meaning the municipally owned ROW or road allowance, and that infrastructure located within the ROW has never been included. Finally, the FCM noted that the Commission has consistently stated that the conditions of access for "other public places" had to be determined on a case-by-case basis.

Dispute resolution

469. Several parties argued that there is a need for a streamlined and expedited dispute resolution mechanism to settle disputes over rates, terms, and conditions between carriers and municipalities.

470. Some parties, including RCCI, SaskTel, and TCI, suggested that the Commission follow the example of the FCC, which set out guidelines with respect to state and local fees and set out "shot clocks" for local approvals.⁴⁵

471. Shaw and Videotron supported the view that the Commission should adopt principles to assist carriers and municipalities in negotiating the terms and conditions for access involving wireless transmission equipment, and argued that the Commission should establish an expedited dispute resolution process and impose approval timelines.

472. Xplornet argued that section 58 of the Act empowers the Commission to make non-binding statements with respect to any matters within its jurisdiction. Xplornet submitted that the Commission could therefore make non-binding statements that

⁴³ In that decision, the Commission found that LRT lands in Edmonton are an "other public place" within the meaning of section 43 of the Act. The Commission directed Edmonton and MTS Allstream Inc. to negotiate a fee structure based on causal costs for the company to have ongoing access to the LRT lands for the purpose of constructing, maintaining, and operating its transmission lines.

⁴⁴ *Edmonton (City) v. 360Networks Canada Ltd.*, [2007] 4 FCR 747

⁴⁵ See [Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment; Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment](#), FCC 18-133, 27 September 2018. In that policy, the FCC issued guidance and adopted new rules to streamline wireless infrastructure siting to facilitate next-generation deployments.

would assist parties in understanding what the Commission considers reasonable terms of access should it be required to adjudicate a dispute.

473. Montréal submitted that a mechanism of accelerated dispute resolution could help to settle disputes, but must allow the municipalities to put forward their points of view and assert their rights.
474. Some parties argued that following the FCC example would not be feasible. SSi Micro submitted that the shot-clock policy has been controversial in the United States, with legislation introduced to invalidate the order. Similarly, the FCM noted that the FCC's approach led to extended litigation, creating lengthy and costly delays. It argued that the Canadian approach of a regulator arbitrating individual disputes was preferable.

Commission's analysis and determinations

Access regime

475. Parties did not provide persuasive evidence that municipalities systematically act as barriers to deployment. While certain wireless carriers described examples of delays they have encountered with respect to municipal approvals, this evidence does not demonstrate that there is a pattern of denial by municipalities that would require Commission intervention to address.
476. The concept of municipal consent is built into the qualified statutory right of access provided to Canadian carriers in the Act. Furthermore, while the Commission has, in the past, approved terms of access that do not require the concerned carrier to obtain permits for certain activities, such terms were determined in the context of active access disputes brought to the Commission after the parties involved were unable to reach agreement on mutually acceptable terms, as envisioned by the Act. Eliminating the requirement for municipal consent on an *ex ante* basis would require legislative amendment.

The Commission's jurisdiction

477. The crucial question, as it relates to the Commission's jurisdiction, has to do with whether the provisions of the Act dealing with access to public places apply to mobile wireless transmission facilities, namely small cell apparatus such as those that would be deployed in 5G networks. Sections 43 and 44 of the Act set out a consent-based regime governing access by Canadian carriers to highways and other public places controlled by municipalities and other public authorities for the purposes of constructing, operating, and maintaining transmission lines. These provisions, which evolved from provisions found in the *Railway Act*, provide the Commission with certain powers to regulate such access.
478. If this question is answered in the negative, then neither the qualified access right, nor the ability for the Commission to resolve disputes between Canadian carriers and public authorities set out under those provisions, would apply with respect to mobile

wireless transmission facilities such as 5G small cells, which transmit intelligence wirelessly, rather than through a physical line.

479. Ultimately, in light of the arguments made on the record and the applicable principles of statutory interpretation, the Commission considers that these statutory provisions do not provide the Commission with jurisdiction to adjudicate disputes involving mobile wireless transmission facilities. The Commission's conclusion largely turns on the use of the term "transmission line" in the relevant statutory provisions.
480. Where a tribunal or court is asked to interpret statutory provisions, it is attempting to discern the intent of the legislative body that has enacted the relevant provisions.⁴⁶ In accomplishing this, the tribunal or court looks not only to the ordinary and natural meaning of the words under consideration but also to the surrounding context and the purpose of the provision.⁴⁷ Furthermore, the tribunal or court must also consider the well-established canon of statutory interpretation that a legislature is presumed to speak with meaning and, where it uses different terms, these terms are presumed to have different meanings.⁴⁸
481. The term "transmission facility" is defined in section 2 of the Act as "any wire, cable, radio, optical or other electromagnetic system, or any similar technical system, for the transmission of intelligence between network termination points, but does not include any exempt transmission apparatus." The presence of this definition demonstrates that Parliament was aware that there were technologies that transmit telecommunications wirelessly – a "transmission facility" would clearly include a radio apparatus used for the wireless transmission of intelligence, such as a small cell.
482. However, in sections 43 and 44 of the Act, Parliament notably used the distinct term "transmission line." While this term is not defined in the Act, it must mean something other than "transmission facility" – otherwise, Parliament would have simply used that term, which was available to it. Further, given the all-encompassing scope of the term "transmission facility," it is very likely that "transmission line" is meant to have a narrower meaning.
483. Dictionary definitions of the term "line" are varied but for the most part contemplate a physical and tangible pathway. For example, the *Canadian Oxford Dictionary* defines "line," in the context of telecommunications facilities, to mean "a wire or cable for a telephone."⁴⁹ The Act uses the term "ligne de transmission" in French.

⁴⁶ See paragraph 26 of *R. v. Monney*, [1999] 1 S.C.R. 652.

⁴⁷ See, for example, paragraph 21 of *Rizzo & Rizzo Shoes Ltd. (Re)*, [1998] 1 S.C.R. 27.

⁴⁸ See, for example, paragraph 81 of *Agraira v. Canada (Public Safety and Emergency Preparedness)*, [2013] 2 SCR 559.

⁴⁹ Oxford University Press Canada. (2004). Line. In *Canadian Oxford Dictionary* (2nd ed., p. 892).

Le Petit Robert offers numerous definitions for the term “ligne,” a number of which contemplate intangible entities or constructs. However, the only references provided to telecommunications facilities and the transmission of information are found in a grouping of definitions under the heading “fil tendu dans une direction déterminée,” with the heading indicating the existence of a tangible pathway.⁵⁰

484. In light of the above, the Commission considers that, in using the term “transmission line,” Parliament meant to capture “transmission cables” and “transmission wires,” both of which are identified in the Act’s definition of “transmission facility” as types of such facilities.

485. Far from frustrating Parliament’s intent, an interpretation limiting transmission lines to transmission cables and wires appropriately recognizes the broader statutory scheme enacted by Parliament, including the scheme of the closely related *Radiocommunication Act*, which provides the Minister of Industry with the power to approve sites for the placement of radio apparatus, as set out in subsection 5(1) of that Act.

486. Further, given the above, the Commission considers that it does not need to make a determination on the precise meaning of the term “other public place” as it is used in section 43 of the Act.

Dispute resolution

487. The Commission considers that parties have not demonstrated that an approach similar to what the FCC has adopted in the United States would be appropriate or even feasible in the Canadian context. The Commission’s jurisdiction is different than that of the FCC. Further, the Commission already has several policies in place that address similar issues with respect to timelines and costs. For example, with respect to municipal access for wireline facility deployment, the Leducor decision principles outline causal costs, and, more generally, the Commission has policies and procedures in place that facilitate dispute resolution on a case-by-case basis. Where a matter falls under section 43 or 44 of the Act, disputes are to be resolved by the Commission. Additionally, these statutory provisions do not establish timelines limiting when such applications may be brought to the Commission.

488. Given the above, including consideration of its jurisdiction and its existing policies and procedures, the Commission considers that there would be little utility in establishing additional guidelines, as proposed by Xplornet, under section 58 of the Act at this time.

⁵⁰ Éditions Le Robert. (2015). Ligne. In *Le Petit Robert* (p. 1458).

Conclusion

489. In light of all the above, the Commission determines that no further action is necessary or appropriate with respect to municipal access issues at this time. Insofar as these issues are within the Commission's jurisdiction, existing policies and procedures are sufficient to address them.

Regulatory measures at the retail level

490. In adopting the wholesale measures described above, the Commission is taking concrete action to facilitate and accelerate the development of sound and lasting competition across Canada. These measures are designed to encourage competitors to expand to areas where there is less competition and to drive investment and add competitive pressure on the national wireless carriers and SaskTel, which were found to exercise retail market power in every province and territory, whether together in the case of the three national wireless carriers in most provinces, or by SaskTel in Saskatchewan and Bell Mobility in the territories.

491. Notwithstanding the wholesale measures adopted in this decision, the Commission considers that it is necessary to assess whether regulatory measures at the retail level are also warranted in order to ensure that the mobile wireless service market is adequately responding to the needs of consumers.

492. In this regard, many parties urged regulatory intervention to address potential gaps in the market. Specifically, they requested that the Commission mandate the offering and provision of specific mobile wireless service plans. Notably, concerns were raised that there is a lack of affordable plans for lower-income Canadians, to the detriment of those consumers.

493. Some of the proposed plans were characterized as "low-cost plans." Though there was some divergence in terms of the specific proposals, these plans would generally include a certain minimum number of minutes for Canada-wide calls, messaging (text, or SMS [short message service], and MMS [multimedia message service]) and a minimum data allowance, and would be offered at a set price considered to be affordable. Other proposed plans were characterized as "occasional-use plans," and were intended to provide ongoing access to mobile wireless networks for users who do not require service on a regular basis, but want to have it available for sporadic uses, including plans with minimal attributes to use in cases of emergency.

494. A number of other matters related to regulation at the retail level were also raised during this proceeding, including issues relating to winback activities and data overage charges. Moreover, the matter of the continuing appropriateness of reporting requirements associated with the national wireless carriers' lower-cost data-only plans was also raised.⁵¹

⁵¹ In Telecom Decision 2018-475, the national wireless carriers were directed to submit information concerning these plans every six months, measures that were to remain at least until the issuance of a decision on the review of mobile wireless services.

495. Finally, the Commission assesses the continued appropriateness of its current forbearance regime with regard to the offering and provision of retail mobile wireless services in light of the conclusions in this decision. These assessments of retail measures and forbearance have been performed on the basis of the record before the Commission. As with any Commission determinations, developments over the course of time may require that these assessments be revisited.

Positions of parties

Low-cost plans

496. The CCWS submitted that consumers should be able to find at least one comprehensive mobile wireless service plan that includes sufficient voice minutes, text messages, and data to meet the needs of an average user and that is provided at a price that would be affordable for all Canadians, including those with lower incomes. They also submitted that such a plan would ensure that vulnerable Canadians have a trustworthy option that would reduce the risks of being misled or upsold by sales representatives.

497. A number of consumer groups, such as Ageing + Communication + Technologies (ACT), the CCWS, CIPPIC/OpenMedia, and the Manitoba Coalition, submitted that low-cost plans with specific attributes should be mandated. These attributes included being offered on 4G or LTE networks, unlimited voice minutes and text messages, and between 2 GB and 4 GB of data per month. The CCWS and CIPPIC/OpenMedia submitted that their requested low-cost plans should be priced in the range of \$20 to \$30 monthly, a proposal supported by ACT; the Manitoba Coalition suggested a monthly price of \$35 maximum, including the device, or \$25 without the device. ACT, the CCWS, CIPPIC/OpenMedia, and the Manitoba Coalition also generally agreed that there should be no data overage charges, but that throttled data speeds on usage past a certain threshold were acceptable. Of those parties that commented on whether the device should be included, the Manitoba Coalition submitted that it could, while the CCWS submitted that the plans should be offered on a bring-your-own-device (BYOD) basis.

498. The Manitoba Coalition submitted that regulatory action with regard to retail service offerings is needed to meet the policy objectives set out in section 7 of the Act, and because the 2019 Policy Direction emphasizes affordable access to telecommunications services for all Canadians. A similar view was taken by the CCWS and CIPPIC/OpenMedia. In the CCWS's view, the Commission would be justified in requiring all WSPs to offer a low-cost plan with specific attributes. CIPPIC/OpenMedia indicated that low-cost plans should be offered by the WSPs' premium brands in order to ensure broader availability and adoption. In addition, the Manitoba Coalition argued that its proposed low-cost plan should be offered by all WSPs, not limited to flanker brands, and marketed along with other mobile wireless services in print, online, and in-person advertising.

499. The CCWS and the Manitoba Coalition proposed that the low-cost plans be offered on a postpaid basis. The CCWS submitted that postpaid plans are secure and easy for customers, while prepaid plans raise concerns, such as the expiration of calling minutes. The Province of British Columbia (Province of BC) submitted that it has heard many complaints about unused credits expiring at the end of the service coverage period and that prepaid plans provide less billing transparency. The CCWS acknowledged that some customers might prefer prepaid plans because they do not require a credit check; however, it was of the view that mandated plans should be offered on a postpaid basis, but that BYOD plans should not require a credit check, which can be a social barrier to access for some consumers. The CCWS further submitted that its proposed low-cost plan should be available on a postpaid basis in order for consumers to benefit from full protection under the Wireless Code. TCI was of the view that the line between a prepaid and a postpaid plan is now blurring since the difference between a BYOD monthly plan and a pay-as-you-go recurring monthly plan is minimal.
500. Certain WSPs submitted that existing lower-cost data-only plans respond to the needs of budget-conscious consumers and, therefore, mandating low-cost plans is not necessary. The CCWS submitted that the lower-cost data-only plans are not fully responding to the needs of budget-conscious consumers because, in its view, consumers generally prefer direct, cellular network-based voice calls and text messaging as opposed to application (app)-based replacements for such services that use mobile data from their data allotments. The CCWS added that seniors are also less likely to understand the app-based approach to data-only access and that both seniors and low-income users are less likely to have or to use home (wireline) Internet to offload their use to Wi-Fi.
501. Shaw and Videotron were of the view that mandating the provision of low-cost plans would provide nothing that does not already exist in the market today, and that it would be harmful for the regional wireless carriers by limiting their ability to compete and differentiate themselves from other WSPs or, in some cases, by requiring them to offer plans below cost. Shaw added that providing a 4 GB plan at \$25 to \$30 per month would cause a significant recalibration of its existing plans because similar plans are typically provided at a much higher retail price; Eastlink and TBayTel submitted that they would be hard-pressed to profitably offer such a plan because of the associated costs. TBayTel indicated that it would be hard to offer a 2 GB plan at \$25 per month with a device because of the increasing costs of mobile devices; Eastlink submitted that it would likely not recover its costs if it were to offer a 4 GB plan at \$25 per month.
502. The national wireless carriers, the CWTA, and SaskTel were of the view that there is no need for regulatory intervention since the market offers a wide range of wireless plans to suit Canadians' needs and budgets. TCI further argued that there will always be a segment of the population that cannot afford certain important goods or services, such as wireless services, but that this is reflective of a broader problem for which a regulatory solution, such as prescribing the rates for a single commodity, may not be appropriate. SaskTel indicated that low-cost plans are already available, and that consumers can choose from multiple WSPs and their flanker brands.

503. With regard to the submissions made to the effect that WSPs should be mandated to provide low-cost plans on their premium brands, the national wireless carriers submitted that they differentiate their brands and were of the view that flanker brands respond to the needs of customers looking for low-cost plans. Bell Mobility indicated that its premium brand is aimed at consumers for whom network quality was of primary importance, while its flanker brands are aimed at those looking for more affordable options. RCCI indicated that its premium brand targets users looking for “high-touch” service, i.e. service from a customer service representative (CSR), and that its flanker brands are tuned to a market segment that values lower price over high-touch customer support. TCI submitted that its premium brand is aimed at users who want premium devices and use a lot of data, while its flanker brands are aimed at consumers looking for more affordable rates. However, the Manitoba Coalition raised doubts as to the extent the national wireless carriers were upfront in referring consumers looking for lower-cost plans to their flanker brands.
504. SaskTel argued that if a portion of the retail market is found to be insufficiently competitive to protect the interests of users, then directed and targeted retail action should be taken; however, it also submitted that no such action is required at this time in the broader retail market. Bell Mobility submitted that retail price regulation directly conflicts with key elements of the Policy Directions because it does not rely on market forces at all.
505. TCI argued that the issue is not one of availability of low-cost plans or of affordability, but rather may be one of awareness in terms of the offers that are already in the market for more budget-conscious Canadians. It suggested that the Commission could assist by requiring WSPs to report periodically on their low-cost plans and by aggregating this information in a centralized website for consumers to reference. RCCI was of the view that the industry has failed to adequately communicate that Canada has an intensely competitive mobile wireless service market that continues to deliver affordability and value for Canadians. Consumer groups and the Commissioner both argued that low-cost plans are not being adequately promoted on the WSPs’ websites.

Occasional-use plans

506. The CCWS, the Manitoba Coalition, the Province of BC, and l’Union des consommateurs (l’Union) were in favour of the Commission mandating occasional-use plans.
507. ACT indicated that cell phones provide older adults with a sense of security and safety, and that the consumers whose needs are not being met in the current marketplace may include those who use their cell phones infrequently yet face what they perceive to be high costs to keep them connected. WSPs indicated that the national wireless carriers (on both their premium and flanker brands), SaskTel, regional wireless carriers, and resellers offer a variety of occasional-use plans. Shaw submitted that every major Canadian WSP actively competes in this segment of the market. RCCI indicated that plans in the market include text-only plans; data-only

plans; talk and text plans; and talk, text, and data plans that respond to the requirements of persons with only an occasional need for service.

508. Various consumer groups and many individuals expressed concerns about whether existing occasional-use plans are meeting consumers' needs, particularly in regard to what is included in the plans, the cost of the plans, applicable data overage charges (which they described as being high), and service speeds. Certain consumer groups and the Province of BC submitted that when customers, particularly low-income and older Canadians, advise sales representatives that they need a plan for occasional use, they are being pressured or misled into purchasing a more expensive plan that exceeds their needs.
509. The CCWS was of the view that such plans should be offered at a very low price, such as \$5 a month or less than \$100 a year, with no extra charges, and allow the subscriber to have control over the total cost, such as when and how much to pay.
510. ACT, the CCWS, the Manitoba Coalition, the Province of BC, and I'Union indicated that such plans should be voice-focused, though the CCWS, the Province of BC, and I'Union were also of the view that such plans should nonetheless include some text messages. ACT, Data on Tap, the Province of BC, and I'Union were of the view that such plans should also include some data.
511. The CCWS and the Manitoba Coalition believed that a prepaid option would be appropriate and noted that prepaid plans, unlike postpaid plans, do not require credit checks or other identification requirements that some consumers may not meet. The CCWS acknowledged that postpaid plans get the full protection of the Wireless Code, but are typically too expensive. The CCWS, Data on Tap, Distributel, the Manitoba Coalition, the Province of BC, and I'Union took issue with certain prepaid plans as a result of the expiry of account balances.
512. Certain consumer groups, Data on Tap, and the Province of BC cited concerns regarding high pay-per-use and overage rates, as well as costs for customers to keep their cell phones connected. ACT added that socially marginalized people live in fear of excessive overage fees and that seniors frequently turn off their cell phones to conserve minutes to be used only in cases of emergencies.
513. Notwithstanding their expressed views on attributes, the CCWS and I'Union suggested that it may be appropriate for the Commission to conduct a survey to ascertain what constitutes appropriate minimum attributes with regard to voice minutes, text messages, and data in occasional-use plans.
514. All wireless carriers that commented argued that there was no need for regulatory intervention given that, in their view, there is no demonstrated market failure because a variety of such plans is already being offered by the national and regional wireless carriers, as well as by resellers. However, RCCI, Videotron, and Xplornet submitted that should the Commission consider mandating occasional-use plans, a follow-up proceeding would be required. Some wireless carriers and the ITPA added that some of the proposed plans may not fully recover the associated costs at the proposed price points; therefore, the rates would not be just and reasonable.

515. Bell Mobility, SaskTel, TBayTel, and TCI submitted that prepaid plans offer low barriers to entry for budget-conscious and low-income consumers, because the plans require no deposit, credit check, or commitment term.
516. Consumer groups, the Commissioner, Data on Tap, and Tucows were generally of the view that occasional-use plans in the market are not being sufficiently or adequately promoted, particularly on WSPs' websites. For example, they largely agreed that the way WSPs' websites present their plans generally lacks clarity and transparency, thereby making it difficult for consumers to do comparative shopping and make informed decisions. CIPPIC/OpenMedia and I'Union argued that such plans are often absent from the home page and the main package presentation pages on the WSPs' websites. As noted above, TCI suggested that the Commission require WSPs to report periodically on their low-cost plans, including occasional-use plans, and suggested that the Commission aggregate this information in a centralized website for consumers to reference.
517. Certain consumer groups and TCI were of the view that consumer awareness of available plans in the market may be low. ACT submitted that seniors are not necessarily aware of the most affordable options for their current needs and situation. It also submitted that seniors are not generally aware that flanker brands are associated with the national wireless carriers, and that these individuals are concerned about network quality.
518. Bell Mobility and TCI were of the view that the Commission does not need to mandate the way that WSPs brand and promote their plans. Bell Mobility argued that any regulation in regard to how WSPs brand and promote their plans would be highly intrusive and beyond the Commission's jurisdiction. Furthermore, Bell Mobility argued that such regulation is not necessary, because the company has every incentive to keep ensuring consumers are aware of the full range of its available plans.

Winback activities

519. Shaw submitted that the national wireless carriers engage in anti-competitive tactics to win back customers who have switched to Freedom Mobile by, notably, providing better offers only after customers have switched to Freedom Mobile, and by targeting its recently acquired customers directly with instructions on how to cancel a contract during the trial period mandated under the Wireless Code. Shaw proposed that a 90-day prohibition of targeted anti-competitive winback activities be applied to those carriers. Shaw described a targeted anti-competitive winback offer as one that is made only to customers that have moved to a regional wireless carrier. CNOC and the ITPA supported Shaw's proposal; Ice Wireless opposed it, but submitted that winback activities should be limited to advertised plans only.
520. Bell Mobility submitted that it does not call customers who make requests to port numbers. TCI submitted that it reaches out to all customers who leave TCI, regardless of the carrier to which they switched and does this at two different points

in the customer lifecycle: first, within several days of their leaving TCI, in an effort to determine if there is anything TCI can do to retain the customer; second, prior to their contract expiration with the new WSP, approximately 22 months from the time they leave TCI. RCCI indicated that it tries to call ported-out customers within 24 hours to try to retain their business, and added that this is an opportunity to provide more choices to the customer. RCCI was of the view that a time-limited prohibition on winback activities would be anti-consumer and that customers who are willing to engage with the market will get better deals. The national wireless carriers were generally of the view that winback activities are a sign of healthy competition that benefits consumers, and that the Commission should not prohibit this practice.

521. The CCWS and the Manitoba Coalition submitted that winback activities are a sign of market power by the national wireless carriers, are anti-competitive, and benefit only a select number of consumers. These groups suggested that the Commission impose a cooling-off period during which ported-out customers could not be contacted by their previous WSP with winback offers, and adopt measures to make winback offers publicly available to all consumers to increase transparency. The Commissioner submitted that, while winback activities can, in some cases, have negative effects on competition (such as if undertaken to discipline, exclude, or otherwise substantially prevent or lessen competition), these activities can benefit some customers.

Data overage charges

522. ACT, the CCWS, the FRPC, the Manitoba Coalition, and the Province of BC submitted that Canadians are concerned about data overage charges being too high and that regulatory measures concerning this issue are needed. The FRPC added that users' interests are only protected when they know that they are exceeding their data allotment and that an unexpected overage charge of \$49 (i.e. just beneath the \$50 threshold in the Wireless Code) is substantial to those with insecure, unstable, low, or fixed incomes. The Manitoba Coalition was of the view that it would be appropriate to regulate data overage charges through the establishment of either a price ceiling or tariffed rate. Some WSPs, notably the national wireless carriers and SaskTel, indicated that the retail price per GB of data has decreased over the last few years, and that data management tools and the recent introduction of unlimited data plans enable customers to use their full data allowance without fear of overage charges.
523. With regard to data plans advertised as being unlimited, CIPPIC/OpenMedia submitted that while these can prevent bill shock, consumers will still restrict their data consumption in order not to have their service's speed throttled. The CCWS submitted that those plans also treat lower-income Canadians inequitably because these plans are expensive and beyond their financial means in most cases.
524. Most WSPs, including the national wireless carriers, Eastlink, SaskTel, Shaw, SSi Micro, Videotron, and Xplornet, as well as the CWTA, were of the view that the Commission should continue to forbear from regulating data overage charges and rely on market forces.

Commission's analysis and determinations

Low-cost plans

525. During the course of this proceeding, a number of individual Canadians and consumer groups expressed concerns that mobile wireless services are expensive in Canada. The results of the Phoenix telephone survey provided a more nuanced view that only one in six Canadians are somewhat (10%) or very (6%) dissatisfied with their WSP. Of those customers who indicated being dissatisfied, however, 65% mentioned the cost/price of service as the main reason for their dissatisfaction and 38% mentioned the cost/price of data.
526. This decision details certain reasons that might explain such dissatisfaction. In its assessment of market power, the Commission concluded that, notwithstanding the difficulties associated with comparing prices across countries, retail prices are higher in Canada than in other comparable jurisdictions and that this cannot be explained adequately by factors such as network costs or network quality. The Commission further concluded that prices in Canada have not fallen as much as international benchmarks in the last decade.
527. The Commission acknowledges that higher prices can also disproportionately impact lower-income individuals, who are more likely to face affordability issues. Accordingly, an important issue raised in this proceeding is whether lower-income households and other Canadians, seniors notably, are being priced out of the market.
528. As a potential remedy, many consumer groups made proposals for a Commission-mandated low-cost plan. Before assessing the appropriateness of such a plan, however, the Commission must first determine the attributes of a potential low-cost plan.
529. In the Commission's view, to be meaningful, an affordable low-cost plan should include a minimum amount of data that is enough to enable Canadians to participate in the digital economy. According to the Commission's 2019 *Communications Monitoring Report*, the average data usage in Canada was 2.7 GB in 2018, and usage has been increasing every year. The Commission considers that an appropriate data allocation for a mandated low-cost plan would be 3 GB minimum.
530. To the extent that cell phones are increasingly used as substitutes for landline telephones, which provide unlimited minutes for local calls, and that mobile wireless service plans often include unlimited minutes and text messages, the Commission considers that an affordable mandated low-cost plan should include unlimited nationwide voice minutes and text messages.
531. While access to LTE has advantages, 3G speed does not prevent the user from navigating the web and using most applications. As such, plans limited to 3G speeds would generally well serve the segment of the population looking for lower-cost

options. Therefore, 3G plans can be considered responsive to a consumer's most significant needs.

532. The consumer groups generally supported the idea that the plan could be offered on a BYOD basis, although the Manitoba Coalition submitted that, as an alternative, the device could be included for an additional \$10 on the plan's retail monthly price. Adding the cost of providing a mobile device as part of a low-cost plan offering could increase significantly the monthly retail price associated with the plan. Given that one of the main purposes of such a plan is that it be offered at an affordable monthly rate, consumers should be given the option to bring their own device.
533. A number of WSPs commented that some of the consumer groups' proposed prices would not allow them to cover their costs. Based on the record of the proceeding, the Commission is unable to conclusively determine what price level would be commensurate with carriers' costs. Nonetheless, given the attributes deemed as acceptable for a low-cost plan, the fact that the purpose of such plans would be to ensure that consumers (particularly lower-income Canadians) can afford plans that enable them to participate effectively in the digital economy, and the fact that retail wireless prices are generally falling, the Commission considers that a \$35 maximum monthly rate for a plan that would include these attributes would be appropriate in the circumstances.
534. According to the 2019 *Communications Monitoring Report*, in 2018 over 88% of mobile wireless service subscribers were on a postpaid plan, in comparison to about 12% on a prepaid plan, a proportion that has increased from about 83% in 2013. There are certain advantages with postpaid plans that are not offered with prepaid options. For instance, the Wireless Code requires WSPs to provide postpaid plan customers a copy of a Critical Information Summary. In the Commission's view, although prepaid plans might be a good option for certain consumers, given that most people are looking for postpaid options to meet their needs, it would be more appropriate to put the emphasis on postpaid low-cost plans.
535. Regarding the offering of postpaid plans, a subset of advertised BYOD postpaid plans with different data allocations, including 1 GB, 2 GB, and 4 GB (and 3 GB in the case of TBayTel), were compiled in two exhibits and made available to parties during the public hearing.⁵² In general, these exhibits demonstrated that plans were available with data allocations in the range identified by consumer groups as desirable for low-cost plans. However, the advertised monthly prices of those plans at the time of the public hearing, which ranged between \$35 for a 2 GB plan in Quebec (a plan offered at \$50 in the other provinces) and \$55 for a 4 GB plan, were generally above what was proposed by the consumer groups. In addition to those advertised plans posted on the WSPs' websites, the record shows that certain carriers were also offering, in 2019, BYOD non-advertised plans that included, in addition to

⁵² [Exhibit 1a](#)) and [Exhibit 1b](#)) included some of the WSPs' posted mobile wireless service plans offered in November 2019 and February 2020, respectively.

3 GB of data, between 500 and unlimited voice minutes and unlimited text messages per month. These plans, mostly offered by flanker brands, tended to be somewhat cheaper than the advertised offers, that is, in the \$30 to \$45 per month price range.

536. Comparable plans were generally more expensive when looking at the national wireless carriers' premium brands and SaskTel. Low-cost plan options offered on the national wireless carriers' premium brands were all priced at \$40 per month and above for plans with 3 GB of data and unlimited voice minutes and text messages. In the case of SaskTel, the cheapest BYOD postpaid plans it was advertising at the time of the hearing were its 1 GB plan for \$40 per month and a 5 GB plan for \$55 per month.
537. Having established the parameters of potential low-cost plans, the Commission must now consider whether to mandate the provision of such plans. The Commission acknowledges that the plans that were available during the course of this proceeding that included a data allocation similar to what was sought by the consumer groups, in addition to unlimited voice minutes and text messages, were generally offered at prices that were somewhat misaligned with what the consumer groups perceived as affordable.
538. There were, nonetheless, a number of plans in the market that were not too different from what the consumer groups sought. In addition, with the mobile wireless service market evolving quickly, wireless service prices are generally declining. Accordingly, the Commission considers that the market has been moving in the right direction in terms of offering more affordable options and considers that mandating the provision of defined plans with specific attributes would be an unnecessarily prescriptive measure in the circumstances detailed on the record.
539. Notwithstanding the above, the Commission considers that there are persistent issues regarding the availability and discoverability of postpaid low-cost plans with respect to the national wireless carriers' premium brands and SaskTel.
540. In this regard, the Commission is concerned with the claims that CSRs are not appropriately responding to consumers' needs, particularly those of low-income Canadians, when consumers are shopping for low-cost plans, and that low-cost plans are not being sufficiently or adequately promoted, particularly on WSPs' websites. The Commission considers that there may be a consumer awareness problem and issues regarding pricing transparency such that Canadians are not fully informed about their options.
541. With respect to plans that would have the desired attributes of a low-cost plan, flanker brands tend to offer and promote more affordable options, which appears to coincide with the national wireless carriers' general marketing approach. In fact, they submitted that their premium and flanker brands offer different value propositions, with their flanker brands focused on affordability and low-cost options.

542. However, the Phoenix telephone survey indicates that many Canadians, and those with lower incomes in particular, are reluctant to sign up for flanker brand service. About 50% of respondents reporting an annual household income under \$40,000 indicated that they would not switch to a flanker brand, in comparison to between 35% and 40% for people in the \$40,000 to \$80,000 income bracket. The fact that low-cost plans appear to be offered and promoted only on the national wireless carriers' flanker brands likely makes it harder for consumers to find a low-cost plan that meets their needs on the service brand of their choice.
543. In the Commission's view, this creates an unnecessary barrier to consumers who are looking for low-cost plans to find an option that meets their needs, and likely leads to some consumers being upsold, that is, subscribing to a plan the attributes and cost of which exceed their actual needs and budget. The Commission is of the view that it is crucial to ensure that consumers, and in particular lower-income individuals, looking for a low-cost plan find an affordable plan that meets their needs on the service brand of their choice.
544. In light of the above, the Commission considers that it would be appropriate, at this time, to adopt clear expectations and let the market respond to these expectations. Should the market not develop in a manner that adequately responds to these expectations, the Commission could then revisit the issue. Accordingly, the Commission expects that at least one postpaid, low-cost plan will be offered and promoted by SaskTel and each of the national wireless carriers, on their premium brands, in the geographic areas where they were found to exercise retail market power.
545. While the Commission considers that the national wireless carriers and SaskTel should have some flexibility in designing the postpaid low-cost plans they will offer and promote, it also needs to ensure that consumers' needs are met. Consequently, the Commission sets out the minimum service attributes and maximum monthly price of the plans in question. Specifically, these plans are expected to

- be offered at a monthly rate not exceeding \$35;
- allow customers to bring their own device; and
- include
 - unlimited Canada-wide incoming and outgoing calls and SMS messages,
 - the ability to send and receive MMS messages, and
 - a minimum of 3 GB of data per month.

Occasional-use plans

546. Despite a general trend of Canadians increasingly relying on their mobile devices, certain segments of the Canadian population want a mobile wireless service plan only for occasional use. The Commission considers that a properly developed and

functioning mobile wireless service market should respond to the economic and social requirements of all users, including those looking for limited-use options.

547. Parties advocating for regulatory intervention on this issue generally called for a requirement for WSPs to provide plans that would include voice calling and text messaging, and, in some instances a modest data allocation, at a low price.
548. WSPs provided descriptions of a number of plans that were offered at a monthly price of \$15 or less that they considered suitable for consumers having only an occasional need for mobile wireless services. While the plans generally offered the ability to place and receive calls as well as to send and receive text messages, only a small number included some data. Furthermore, the plans were generally offered on a prepaid basis.
549. Freedom Mobile filed evidence that, at the time of this proceeding, it offered a plan for \$15 monthly including 100 outgoing Canada-wide voice minutes and unlimited incoming calls, unlimited incoming and outgoing SMS and MMS messages, 250 megabytes (MB) of data, and no data overage charges (speeds are throttled after 250 MB of usage), on a postpaid basis. The Commission is of the view that the price point and attributes of this plan would likely address a number of concerns raised by consumer groups, since the plan allows subscribers to bring their own device and provides assurances that they will not incur fees on incoming calls, sending and receiving text messages, or using data. However, a plan offered by a regional wireless carrier would not be available to Canadians in all geographic markets.
550. While the evidence demonstrates that some occasional-use plans are available on national wireless carriers' premium brands and from SaskTel, the Commission considers that there is insufficient availability of plans offered on a postpaid basis. This state of affairs limits the ability of certain consumers to find a plan that meets their needs. Based on the above, the Commission concludes that consumers wishing to subscribe to a postpaid occasional-use plan on the brand of their choice are not all well served by the market.
551. The Commission is of the view that SaskTel and the national wireless carriers (with respect to their premium brands) should each offer and promote a postpaid occasional-use plan in order to better ensure that consumers have access to and can easily find a plan that meets their needs. In this regard, the Commission considers it important that appropriate postpaid occasional-use plans be made available by SaskTel and the national wireless carriers on their premium brands in areas where they have been found to have retail market power. As discussed above in the context of low-cost plans, there is a sizable section of the population that is reluctant to sign up for flanker brand service and this reluctance, coupled with the general lack of such postpaid plans offered on the main brands of the dominant wireless carriers, results in a certain gap in the market.

552. As also indicated in the low-cost plan section above, service offerings evolve and prices are expected to continue to decline in the future. Accordingly, the Commission considers that it is more appropriate, at this time, to adopt clear expectations on the offering of occasional-use plans and let the market respond to these expectations, rather than mandating such plans, which would be an unnecessarily prescriptive measure in these circumstances. Nevertheless, the Commission could revisit the issue should the market not develop in a manner that adequately responds to these expectations. The Commission therefore expects that at least one postpaid occasional-use plan that meets the attributes and price point set out in paragraph 553 below, exclusive of plans geared to emergency use which are discussed below, will be offered and promoted by each of SaskTel and the national wireless carriers, on their premium brands, in the geographic areas where they were found to exercise retail market power.

553. While the Commission considers that the national wireless carriers and SaskTel should have some flexibility in designing the postpaid occasional-use plans they will offer and promote, it also needs to ensure that consumers' needs are met. Consequently, the Commission sets out the minimum service attributes and maximum monthly price of the plans in question. Specifically, these plans are expected to

- be offered at a monthly rate not exceeding \$15;
- allow customers to bring their own device; and
- include
 - a minimum of 100 outgoing Canada-wide voice minutes,
 - unlimited incoming calls,
 - unlimited incoming and outgoing SMS messages,
 - 250 MB of data, and
 - no data overage charges.

554. In the Commission's view, however, the \$15-per-month postpaid occasional-use plan described above would not respond to the needs of those seeking a low-cost plan for emergency purposes only.

555. The record shows that Bell Mobility, RCCI, and SaskTel each offered at least one prepaid occasional-use plan in the \$5 to \$10 monthly price range in early 2020. Since then, however, they have ceased promoting these options on their websites, and are now promoting more expensive plans, each at a minimum monthly price of \$15. The Commission is concerned that, without those basic options, the most vulnerable segments of the population might not have access to mobile wireless services for emergency purposes.

556. The Commission notes that TCI currently offers, on its premium brand, a plan branded as “Talk + Text 100.” This prepaid plan is offered for \$100 and is valid for a full year. The plan includes up to 400 minutes for local calls and 400 text messages per year. The Commission is of the view that this plan would address the needs of someone looking for the ability to access mobile wireless services in order to respond to emergencies at a monthly rate equivalent below \$10. In the Commission’s view, by including reasonable minimum allocations for two key functionalities, namely text messaging and voice calling, without the need to regularly reload one’s account, a plan designed to resemble TCI’s Talk + Text 100 plan would be more likely to be readily available for emergency uses than many other options currently offered in the market over which consumer groups have raised concerns, such as monthly reloadable prepaid plans. In this regard, the Commission considers that emergency use of mobile wireless services would be sporadic and that a person’s consumption of such services would vary from month to month. A service providing yearly allotments rather than monthly allotments would better reflect this reality and better ensure that, in times of emergency, the consumer is able to make use of the service in an effective manner.

557. In order to better ensure that all Canadians, regardless of socio-economic factors, can access mobile wireless services for, at a minimum, emergency use, the Commission expects SaskTel and the national wireless carriers (with respect to their premium brands) to each offer and promote, in the markets where they were found to exercise retail market power, prepaid occasional-use plans that meet the following minimum attributes and maximum price:

- available on a prepaid basis for a yearly maximum of \$100;
- allow customers to bring their own device;
- not expire prior to 365 days (rate plan and any add-ons);
- 400 anytime local minutes per year, plus 400 incoming/outgoing SMS messages per year;
- \$0.15 per minute for local calls after the allotted minutes are used;
- \$0.50 per SMS message after allotted messages are used; and
- \$0.50 per minute for long distance calls originating in Canada and terminating in either Canada or the continental United States, in addition to local airtime.

Terms and conditions applicable to the Commission’s expected low-cost and occasional-use plans

558. The Commission expects these plans to be offered within **90 days** of the date of this decision. To ensure that the expected low-cost plans, postpaid occasional-use plans, and prepaid occasional-use plans are all made widely available, the Commission further expects each qualifying plan

- to be offered broadly and made available to all Canadians, regardless of income and age, for instance;
- to be offered year-round (i.e. not only during periods when there are a lot of promotions, such as back to school or holidays);
- if offered as part of a bundle, to also be offered on a stand-alone basis, with no additional conditions limiting its access, and not linked or tied in any way to other services offered by the WSP; and
- to clearly articulate and communicate to the customer whether any extra charges apply. Such charges could include taxes, device subsidy installment payments, connection fees, long distance, additional airtime, and pay-per-use charges.

559. Finally, while the Commission acknowledges that additional or ancillary fees may be charged for services not included as part of the expected plans (for instance, connection fees, pay-per-use charges), it intends to monitor such fees, in part through the reporting requirements set out in greater detail below. The Commission expects that fees charged to subscribers of the expected plans will not be disproportionate as compared to other subscribers so as to represent an unjust form of discrimination against them. Should intervention be required in that regard, the Commission has tools at its disposal to take appropriate action.

Promotional efforts for the Commission’s expected low-cost and occasional-use plans

560. As indicated above, the Commission is concerned that some consumers, particularly vulnerable Canadians, cannot easily find a plan that meets their needs, even where such plans are available, and that they may not, in some cases, be adequately served by CSRs when shopping for a plan. The Commission considers that setting promotional-related expectations on the national wireless carriers and on SaskTel with respect to the Commission’s expected low-cost and occasional-use plans would help ensure that consumers can easily find and subscribe to such plans when they wish to do so.

561. Accordingly, the Commission sets the following expectations on the national wireless carriers and on SaskTel with regard to promotional efforts for the low-cost plans described in paragraph 545 above:

A. Digital promotion:

- i. Each WSP is expected to post on its website’s first landing page that features its specific mobile wireless service offerings, i.e. the first page on which the WSP introduces its mobile wireless service plans, in a manner similar to that which it uses to promote the offers that appear on the landing page,

- key details of the low-cost plan that it offers, i.e. the price and service attributes described in paragraph 545 above; and
 - a prominent and descriptive link to the low-cost plan offering (e.g. an anchor link) at the top of the landing page referred to above.
- ii. For WSPs that offer, or will eventually offer, a customer self-service application that allows customers to change plans, the low-cost plan should be presented as an option for customers and be displayed and promoted in a similar manner as other plans appearing as options.

B. CSRs:

- i. Each WSP is expected to ensure that all CSRs who interact with the public (in person, online, over the telephone, or otherwise) are trained on the low-cost plan that it offers. As a result of this training, CSRs should mention this plan to customers who indicate that they are looking for a low-cost option. Accordingly, each WSP should, at a minimum, ensure that
- all the relevant information is included in the training materials provided to CSRs (e.g. training manuals, bulletins, and emails) to make new and existing CSRs aware of the low-cost plan offered by the WSP; and
 - relevant questions are included in the questionnaire/decision tree that CSRs use when assessing a customer's needs in person, on the telephone, or online. The Commission expects that questions to determine whether a low-cost plan would be appropriate for that customer would be featured early in the questionnaire/decision tree.

C. In stores and kiosks:

- i. Each WSP is expected to publicly display in an easily visible way information about the low-cost plan that it offers in a visual format (via, for instance, an exhibit, flyers, or posters) in each of their stores and kiosks.

562. While the Commission considers it important to ensure that occasional-use plans are properly promoted, it is mindful that there is a need to balance consumers' interests and WSPs' marketing choices, especially when it comes to marketing plans that will target niche market segments and are expected to garner a limited number of subscribers. Accordingly, the Commission sets the following expectations on the national wireless carriers and on SaskTel in regard to promotional efforts for these plans described in paragraphs 553 and 557 above:

A. Digital promotion:

- i. Each WSP is expected to post on its website's first landing page that features its specific mobile wireless service offerings, i.e. the first page on which the WSP introduces its mobile wireless service plans, in a manner similar to that which it uses to promote the offers that appear on the landing page,
 - key details of the occasional-use plans it offers, i.e. the price and service attributes described in paragraphs 553 and 557 above; and
 - a prominent and descriptive link to each occasional-use plan offering (e.g. an anchor link) at the top of the landing page referred to above.

B. CSRs:

- i. Each WSP is expected to ensure that all CSRs who interact with the public (in person, online, over the telephone, or otherwise) are trained on the occasional-use plans that it offers. As a result of this training, CSRs should mention these plans to customers who indicate that they are looking for an occasional-use option. Accordingly, each WSP should, at a minimum, ensure that
 - all the relevant information is included in the training materials provided to CSRs (e.g. training manuals, bulletins, and emails) to make new and existing CSRs aware of the occasional-use plans offered by the WSP; and
 - relevant questions are included in the questionnaire/decision tree that CSRs use when assessing a customer's needs in person, on the telephone, or online; the Commission expects that questions to determine whether an occasional-use plan would be appropriate for that customer would be featured early in the questionnaire/decision tree.

Monitoring and reporting

563. To further ensure that the Commission's expected low-cost and occasional-use plans are offered and promoted as per the Commission's expectations and to assess whether further regulatory action might be appropriate, the Commission considers it necessary to impose certain reporting requirements on the relevant WSPs. Furthermore, the Commission considers that the objectives pursued through its expectations will be assisted through the provision of objective information to Canadians to help them make informed decisions when seeking low-cost or occasional-use plans.

564. Accordingly, the Commission considers it appropriate to require the national wireless carriers and SaskTel to each report back to the Commission with respect to their low-cost and occasional-use plan offerings so that the Commission may (i) ascertain whether the established expectations are being met, (ii) assess the market response to these expectations and adoption of these plans, and (iii) have a basis for any follow-up proceedings that might be required if there is any failure to fulfill the Commission's expectations.
565. Wireless carriers might choose to offer more than the expected low-cost plan defined in paragraph 545. For example, these carriers may also choose to offer low-cost plans under a flanker brand and might also decide to offer similar plans but on a prepaid basis. Given this, and in order to permit the Commission to better monitor the market, the reports to be filed by the national wireless carriers and SaskTel shall include information not only on any low-cost plan option that meets or exceeds the minimum service attributes and that is offered at or below the expected maximum monthly rate but also on any plans that would otherwise meet the expected attributes save for the fact that they are offered on a prepaid basis. Furthermore, these carriers shall also include in their reports information on such plans that are offered by their flanker brands.
566. In order to provide the public with as much information as possible regarding these plans and how they satisfy the Commission's expectations with respect to maximum price and minimum service attributes, and to gauge the promotional activities undertaken, the Commission expects that the relevant WSPs will strive to limit the confidentiality claims made with regard to information provided in response to the reporting requirement set out below.
567. In light of the above, the Commission **directs** the national wireless carriers and SaskTel to each provide a semi-annual report (including an abridged version for publication on the Commission's website should certain information be provided in confidence), pursuant to paragraph 37(1)(b) of the Act, that will include the information below relating to their offering and promotion of low-cost and occasional-use plans in areas where they have been found to exercise retail market power:
- I. For each of the low-cost and occasional-use plans offered that meets or exceeds the minimum service attributes and is offered at or below the maximum price set out in paragraphs 545, 553, and 557 above, as well as any low-cost plan captured by the requirement to report set out in paragraph 565, provide information on each of the following elements. With regard to occasional-use plans, the list of plans should also include any appropriate plan offered by flanker brands.
 - name of the plan;
 - the brand it is offered on;
 - whether the plan is offered on a prepaid or postpaid basis, or both;

- price (excluding 9-1-1 fee);
- number of voice minutes (broken down by incoming and outgoing minutes if the plan makes this distinction; identifying any time of day or day of week limitations and calling areas, i.e. local, nationwide, United States, or international);
- number of SMS and MMS messages (broken down by incoming and outgoing messages if the plan makes this distinction);
- any geographic limitations, e.g. messages to Canadian, American, or international telephone numbers;
- data allocation;
- whether data overage charges are applied past a certain usage threshold and, if so, the corresponding details;
- whether data speeds are throttled past a certain usage threshold, and, if so, the corresponding details;
- the network/network speed on which it is offered (3G, 4G, or 5G);
- whether a device is included;
- included features (e.g. voicemail or call display)
- any add-ons available with the plan;
- a list of all applicable additional or ancillary fees, including the circumstances in which these are incurred and the specific charge (e.g. fees for connection, to change the telephone number or plan, for device setup, or for support from a CSR);
- any limitations on availability (e.g. whether the plan is offered only by customer retention department, or whether the customer must be enrolled in autopayment);
- coverage and provinces/territories where the plan is available; and
- the number of subscribers per plan, by province/territory.

II. For each of the low-cost and occasional-use plans offered that meets or exceeds the minimum service attributes and is offered at or below the maximum price set out in paragraphs 545, 553, and 557 above, as well as any low-cost plan captured by the requirement to report set out in paragraph 565, provide information on each of the following promotional efforts. With regard to occasional-use plans, the report should also include any appropriate plan offered by flanker brands:

- screenshots of web pages displaying the plan;
- a description of the path to be used by the consumer from the home page to the web page where the plan appears;

- copies of any other means to promote the plan (e.g. letters, billing inserts, emails, or screenshots of text messages);
- a description of the training received by CSRs about the plan (e.g. a description of how the reference to low-cost and occasional-use plans was added to the training manuals and the CSRs' scripts, highlighting passages in the manuals where the text has been modified); and
- for low cost plans specifically, information on how each plan is promoted in stores and kiosks, including copies of any flyers, posters, or advertisements for the plan.

568. The first semi-annual report is to be filed by **30 September 2021**, and subsequent semi-annual reports are to be filed by **31 March** and **30 September** of each year.

569. In Telecom Decision 2018-475, the Commission indicated that it expected the national WSPs to implement proposed lower-cost data-only plans, and that these plans should remain available at least until the issuance of a decision with respect to the review of mobile wireless services. The national wireless carriers were also directed to submit information concerning these plans every six months.

570. The Commission considers that in light of the record and the determinations made in this decision, the reporting requirement imposed on WSPs in Telecom Decision 2018-475 is no longer justified.

571. Accordingly, the Commission eliminates the requirement established in Telecom Decision 2018-475 for the national wireless carriers to each submit a report every six months concerning their lower-cost data-only plans. Notwithstanding the elimination of this requirement, the Commission encourages WSPs to continue offering their existing lower-cost data-only plans because they bring value to consumers who are seeking such options.

Winback activities

572. The evidence on the record, including evidence of port-in and port-out requests between carriers, does not support the claim that winback activities taking place in the market target customers moving to a regional wireless carrier. It does not demonstrate the existence of winback activities constituting anti-competitive acts undertaken to discipline or exclude a competitor, or to substantially prevent or lessen competition such that it would be appropriate to introduce new rules governing these activities.

573. The Commission acknowledges that winback activities sometimes take the form of non-advertised offers, which some have argued can be unfair because these offers are not always made available to all consumers. However, generally speaking, prohibiting or limiting winback activities would impede customers' ability to negotiate with their WSPs to get better deals or plans that are more tailored to their

needs. Evidence from the Phoenix telephone survey indicates that customers who threaten to leave their current WSPs are often able to negotiate lower rates for their services.

574. For these reasons, the Commission is of the view that winback activities do not unduly harm regional wireless carriers or competition generally. Further, the Commission considers that winback promotions or special offers can be legitimate business practices and that consumers benefit from them in the form of lower prices or offers that better meet their needs.
575. In light of the above, the Commission concludes that the overall benefits to consumers outweigh the costs of imposing limits on or prohibiting winback activities at this time. Refraining from limiting or prohibiting winback activities aligns with the policy objectives in that such activities, as a general matter, assist in rendering reliable and affordable telecommunications services of high quality accessible to Canadians and enhance the efficiency and competitiveness of telecommunications in Canada. Furthermore, the determination to refrain from imposing regulatory measures aligns with the objective of fostering reliance on market forces. In addition, it furthers the 2019 Policy Direction's call to encourage all forms of competition and enable innovation in telecommunications services, including differentiated service offerings.
576. Notwithstanding the above, although it does not appear that winback activities are targeting particular carriers, a demonstration that such practices are taking place would be worrisome. Accordingly, the Commission emphasizes that winback activities are not to be used to give an undue advantage to a given WSP or customer or unjustly discriminate against a competitor.

Data overage charges

577. Concerns about data overage charges were raised throughout the proceeding. Over the course of the last several years, a number of options that would appear to address these concerns in various ways have become increasingly available across the country, including plans with more generous data allowances, unlimited data plans, and options such as data rollover and data top-up. The Commission acknowledges that consumers with smaller data allotments are more likely to incur overage charges if they subscribe to a postpaid service. It also acknowledges that unlimited data plan options (i.e. plans that offer throttled speeds past a given data cap) currently mostly apply to larger full-speed data allotments and more expensive plans, so they might not be an appropriate answer for all consumers looking for a solution to avoid data overage charges.
578. Nonetheless, the Commission considers that a number of tools and options are being offered to help consumers prevent the bill shock that may be caused by data overage charges. These include the measures in the Wireless Code (such as the overage fee cap), carriers' practices with respect to data usage notification, and prepaid plans for which overages charges cannot be applied.

579. As a result, no further regulatory measures with respect to data overage charges are required at this time. The Commission expects that the national wireless carriers and SaskTel will continue to offer plans without such charges, and encourages all WSPs to offer additional consumer-friendly mobile wireless service plans and functionalities that would enable customers to minimize data overage charges, regardless of their plans' data allowances.
580. Having regard to the industry practices highlighted above, the Commission considers that, with respect to data overage charges, the market has largely developed so as to respond to the economic and social requirements of consumers. The Commission considers that these developments reflect innovation in telecommunications services, including the provision of differentiated service offerings, and, as such, considers that it would be appropriate, at this time, to continue to rely on market forces in this area.

Forbearance from the regulation of retail mobile wireless services

581. In general, the Act contemplates a regime of *ex ante* regulation of the offering and provision of telecommunications services by Canadian carriers. However, pursuant to section 34 of the Act, the Commission may and, in some circumstances must, forbear from the exercise of certain powers in relation to a telecommunications service or class of services provided by a Canadian carrier; such forbearance may be in whole or in part and conditional or unconditional.
582. In particular, the Commission may forbear, under subsection 34(1) of the Act, where it finds, as a question of fact, that doing so would be consistent with the policy objectives; the Commission must forbear, under subsection 34(2), where it finds, as a question of fact, that a telecommunications service or class of services is or will be subject to competition sufficient to protect the interests of users. However, pursuant to subsection 34(3), the Commission must not forbear where it finds, again as a question of fact, that doing so would likely impair unduly the establishment or continuance of a competitive market for the relevant service or class of services.
583. Since the mid-1990s, the Commission has largely forborne from regulating mobile wireless services, except with respect to its powers under section 24 and subsections 27(2), (3), and (4) of the Act. As a result of forbearance, wireless carriers are, among other things, not generally required to obtain prior Commission approval of the rates, terms, and conditions for their mobile wireless services.
584. In the current proceeding, the Commission has analyzed the state of competition in the retail market based on the record and using the market power assessment first articulated in Telecom Decision 94-19, which looks at market share as well as relevant demand and supply conditions.
585. This assessment reveals that there are certain positive signs in the retail market: retail prices for mobile wireless service in Canada have generally been decreasing in the last several years. Furthermore, there are indications of rivalrous behaviour between

dominant and competitive firms and, when looking at price comparisons across provinces and territories, prices are generally lower in areas where there is competition from a regional wireless carrier.

586. However, the retail market assessment qualifies these data points by placing them in a broader context in which they may be seen as positive developments but ones that have not yet produced the results that would transpire in a fully competitive market. Barriers to both entry and expansion, while not insurmountable, do exist. Retail market power is currently exercised in all geographic markets in the country and retail prices across provinces and territories are higher than they otherwise would be in a workably competitive market.
587. Based on this assessment, the Commission finds that it is unable to conclude that the conditions prevailing in the retail market are such that they require continued forbearance under subsection 34(2) of the Act. The Commission considers that the record of this proceeding does not allow it to find, as a question of fact, that competition alone in the retail market is, or will be in the short term, sufficient to protect the interests of users.
588. However, notwithstanding the above, the full-scale reassertion of regulation over retail mobile wireless services would be a disproportionate response. The positive market developments outlined above should be accelerated by the adoption of the wholesale measures mandated by the Commission in this decision, and the identified gaps in the retail market should be addressed by the provision of the low-cost and occasional-use plans that the Commission expects certain carriers to offer and promote. Conversely, the Commission considers that there would be significant harm caused by the broad reassertion of forbore powers to regulate the offering and provision of retail mobile wireless services, based on the record.
589. For instance, this could serve to depress the ability of regional wireless carriers competing with dominant wireless carriers to invest in their networks and grow their customer bases. Such an adverse effect would impede their ability to exert greater price discipline and enhance service offering innovation and competition. Simultaneously, reintroducing retail regulation would introduce significant regulatory costs and limit the ability of established carriers to quickly respond to market changes.
590. Furthermore, the Commission highlights that it has maintained its powers under section 24 of the Act with regard to the offering and provision of mobile wireless services and has used these powers to impose the Wireless Code, which provides significant protections for retail users of mobile wireless services.
591. Ultimately, it is preferable that the interests of users be met through the operation of competitive forces, accompanied by targeted wholesale and retail regulatory measures, rather than through broad-based retail regulation. These targeted measures constitute a more efficient and effective means of achieving the implementation of the policy objectives, taken as a whole. As rates are generally decreasing, regional

wireless carriers have been competing against dominant wireless carriers, growing in size, and increasing their competitive impact; therefore, there is a need to avoid regulatory measures that would slow regional wireless carriers' growth.

592. More specifically, based on the record, the Commission finds that continued reliance on market forces with respect to the provision of retail mobile wireless services is the best way to ensure the long-term efficiency and competitiveness of Canadian telecommunications and to ensure that the market is responsive to the economic and social requirements of users of telecommunications services. Furthermore, and relatedly, this approach will serve to maintain the incentive to innovate in the provision of telecommunications services.
593. In light of all the above, the Commission finds, as a question of fact, that maintaining retail forbearance would be consistent with the policy objectives, under subsection 34(1) of the Act.
594. Further, the record shows that competitors have been making significant investments in order to increase the quality and coverage of their networks, increasingly strengthening their market positions, and exerting an increasing amount of market discipline. The targeted wholesale measures mandated in this decision will serve to further accelerate the development of those entities best suited to compete with the dominant wireless carriers and the market discipline that they are currently in the process of providing.
595. Accordingly, pursuant to subsection 34(3) of the Act, the Commission finds, as a question of fact, that continued forbearance would not be likely to impair unduly the establishment or continuance of a competitive market for retail mobile wireless services.
596. In addition, the Commission considers that the approach it has described above is consistent with the Policy Directions. This approach seeks to rely on market forces to the maximum extent feasible as the means of achieving the policy objectives and adopts targeted regulatory measures as a complement to those forces, including time-limited measures. The ultimate goal of the Commission's approach is to accelerate the expansion of retail competition, especially from regional wireless carriers competing with dominant wireless carriers. As a corollary, the approach is aimed at the acceleration of the erosion of retail market power, which is mainly exercised by the national wireless carriers. Finally, this approach permits greater service innovation and differentiation than the alternative of broadly regulating retail offerings.
597. As such, the approach adopted by the Commission, which helps ensure that network investment incentives are protected, will better ensure that sustainable market forces develop such that Canadians throughout the country have access to reliable and affordable telecommunications services of high quality and that the market properly responds to the economic and social requirements of users of telecommunications services. For the same reasons, this approach will promote the orderly development

throughout Canada of a telecommunications system that serves to safeguard, enrich, and strengthen the social and economic fabric of Canada and its regions.

598. However, the Commission reminds the national wireless carriers and SaskTel that it intends to closely monitor the implementation of its expectations with respect to the offering and promotion of low-cost and occasional-use plans. If these expectations do not result in market forces addressing the concerns identified for consumers seeking these types of retail options, the Commission's determinations under subsection 34(1) of the Act may need to be revisited.

599. More generally, as with any Commission determination, the determinations made under section 34 of the Act on the basis of the record of the proceeding can be revisited in the event of significant changes in circumstances.

600. Finally, the Commission notes that nothing in the present decision is to be interpreted as disposing of any of the issues raised in Telecom Notice of Consultation 2020-178 with respect to the accessibility of mobile wireless service plans for persons with various disabilities. The Commission may, if it is appropriate to do so on the basis of the record of that proceeding, make additional determinations with respect to forbearance from the regulation of retail mobile wireless services in that forum.

Other issues

Establishing a 5G working group

Background

601. Certain parties proposed that the Commission create a working group to enable stakeholders to address various issues related to wireless network deployment. Overall, these suggestions were aimed at streamlining 5G deployment through developing common standards and processes.

Positions of parties

602. A number of parties supported the general concept of a working group that would aid in ensuring that 5G deployment is timely, efficient, and cost effective.

603. For the most part, parties that favoured the establishment of such a working group suggested that it consist of representatives from the Commission, industry, consumer groups, and the various levels of government implicated in 5G deployment. With respect to the organization of the group, SSi Micro and TBayTel supported a structure similar to CISC.

604. There was, however, disagreement on the required level of participation in such a group. TBayTel submitted that it is necessary to have full participation by all stakeholders, while SSi Micro submitted that members should be permitted to decide whether to participate. Bell Mobility and TCI argued that though stakeholders often

do in fact work together to resolve deployment issues, mandating participation in a 5G working group would be inefficient and could result in greater delays. Eastlink added that mandated participation would create difficulties for smaller companies that may have more limited resources.

605. Furthermore, parties' views on the scope and mandate of such a group were inconsistent. Parties suggested that the working group deal with a variety of issues, with some wanting it to deal with policy issues, and others submitting that it would only be appropriate for technical issues to be discussed. Specific topics proposed included implementation and deployment issues, setting equipment technical standards, matters relating to municipal approvals and infrastructure access, and establishing best practices.
606. The FCM cautioned that the Commission should endeavour to avoid the types of issues experienced during the CISC Model MAA process, which, in their view, was time consuming, did not result in concrete progress on contentious issues, and ended up straining relationships. Bell Mobility, RCCI, and TCI held similar views.

Commission's analysis and determinations

607. Based on its own experience with various past working group initiatives, the Commission considers that while working groups can be useful, they work best when they arise out of an agreed need to resolve discrete issues between specific stakeholders.
608. A 5G working group would be a significant undertaking involving numerous stakeholder groups with competing interests. Further, in this proceeding, parties' views on the scope and mandate of such a group were inconsistent and wide-ranging. As a result, it is difficult to reconcile parties' arguments that a working group must have clear and achievable goals to be effective with the disparate views that were submitted with respect to the governance, membership, and scope of such a group.
609. As a result, the Commission questions the potential efficacy of such an initiative. It appears unlikely that a successful working group would result from the numerous suggestions as to what the focus of the group should be, what it should be empowered to do, and who should participate. Once 5G deployment is widely underway, certain issues may arise. At that time the Commission may then consider establishing a working group or working groups that are narrower in scope and are designed to address discrete issues affecting specific stakeholders.
610. In light of the above, the Commission determines that it is not appropriate to establish a 5G working group at this time. However, the Commission encourages parties to collaborate as they deploy 5G networks.

Changes to the IMSI Guidelines

Background

611. The Canadian Electricity Association (CEA) and the Railway Association of Canada (RAC), which represent electrical utilities and railway operators respectively, requested that the Commission direct the CISC Canadian Steering Committee on Numbering (CSCN)⁵³ to revise the International Mobile Subscription Identity [IMSI] Assignment Guideline (IMSI Guideline) to allow critical infrastructure operators (CIOs) to acquire mobile network codes (MNCs).

Positions of parties

612. The CEA and the RAC submitted that negotiating access to individual existing mobile wireless networks is no longer meeting their members' needs, and that it is critical that they get access that will meet their evolving connectivity requirements. For example, they submitted that their membership will require increased broadband connectivity to accommodate millions of IOT and M2M devices to be used in their members' operations in the coming years, as well as in applications like smart electricity grids.

613. They further explained that having MNCs would mean that their members would not need to depend on a single wireless carrier for RAN access. Instead, they could rely on many networks, including those of wireless carriers, the Public Safety Broadband Network (PSBN),⁵⁴ or others, possibly in conjunction with CIO-deployed networks. With their own core networks, CIOs would be able to operate an integrated network using their own MNCs, which would be distinct from, and, in their view, more reliable than, the individual networks on which they currently depend for RAN access. In addition, CIOs would be able to route their own communications through their own core networks, which they considered to be more secure than commercially available options.

614. Wireless carriers were generally of the view that the current proceeding is the wrong forum for this request and that the needs expressed by CIOs could largely be addressed by the carriers' existing commercial offerings in the market.

615. Shaw also expressed concern about granting MNCs to CIOs, given the limited number of MNCs available. It submitted that granting the request could lead to other industries seeking MNCs, which could quickly exhaust the remaining MNC supply.

⁵³ The CSCN was established in 1991 to consider and resolve numbering resource issues and became a subtending CISC working group in 1998.

⁵⁴ A PSBN is a secure high-speed wireless data communications network that emergency responders and public safety personnel use to communicate with each other in emergency situations and during day-to-day operations. This [initiative](#) is being led by Public Safety Canada.

616. In reply, the CEA and the RAC reiterated that their members' needs have not been met in the market, and that there is a strong case justifying this narrow extension of access to MNCs. Nevertheless, in recognition of the scarcity of this resource, the CEA proposed several possible limitations, such as MNC sharing among members of a CIO group. They argued, however, that these limitations could affect how their members put their services into operation.

Commission's analysis and determinations

617. The Commission considers that granting the CEA and the RAC's request would have clear benefits to the public interest, because it would lead to more reliable, innovative, and integrated networks for CIOs. However, MNCs are a finite resource that must be allocated carefully and used responsibly.

618. As a result, the Commission considers that the CSCN should explore ways to allocate MNCs to CIOs, with a view toward striking the appropriate balance between network complexity and efficiency, while mitigating the potential risk to MNC supply, and make a recommendation to the Commission in this regard.

619. Accordingly, the Commission requests that the CSCN (i) explore the best way to allocate MNCs efficiently to CIOs, (ii) amend the IMSI Guideline to allow CIOs to acquire MNCs, and (iii) submit the amended IMSI Guideline for Commission approval within **120 days** of the date of this decision.

Public safety MVNOs

Background

620. Halton Regional Police Service (HRPS) proposed that the Commission mandate wholesale MVNO access to any available network for non-profit public safety MVNOs (PSMVNOs). HRPS projected that this new class of PSMVNO would enhance reliability and resiliency for public safety entities, such as police services, by allowing them to access a "network of networks" rather than having them rely on the access services of any one mobile wireless carrier. HRPS also requested that these PSMVNOs have wholesale access at specialized rates that would potentially be below the rates charged to commercial MVNOs.

621. HRPS's submission also raised several proposals that the Commission considers to be out of scope, such as legislative amendments, issues under ISED's jurisdiction, such as spectrum policy, and the PSBN process currently underway at Public Safety Canada.

Positions of parties

622. Several parties, including Bell Mobility, RCCI, SaskTel, Shaw, and Videotron, argued that the current proceeding is not the appropriate forum for HRPS's request. Many of these parties argued that the request is premature because Public Safety Canada has not yet finalized the PSBN or the eligibility criteria for access to the service.

623. In addition, some parties argued that HRPS's request could be served by existing service offerings. Shaw argued that there is no need to mandate PSMVNO access because provisions already exist for public safety associations to obtain MNCs. Similarly, Bell Mobility and TCI argued that a PSMVNO solution should be implemented on a negotiated basis through services they already offer, including those specifically marketed to first responders.
624. HRPS responded that it was appropriate to seek mandated PSMVNO access from the Commission at this time in order to implement the capabilities of both a PSMVNO and PSBN at the same time as two prongs of the same overall solution that combines the capabilities of both services. Further, HRPS reiterated that existing service offerings do not meet all its needs.

Commission's analysis and determinations

625. HRPS's PSMVNO proposal is laudable as an example of long-term thinking about how to leverage technology to improve public safety. Over the coming years, in order to ensure that the Commission fulfils its role in supporting the development throughout Canada of a telecommunications system that serves to safeguard, enrich, and strengthen the social and economic fabric of Canada and its regions, it will be important for the Commission to consider how it can support public safety organizations like HRPS as they modernize their services.
626. However, in practice, the Commission is concerned that this significant and far-reaching request would require extensive work by wireless carriers to accommodate not just HRPS, but potentially hundreds of other first responder organizations across the country that would likely want to use a mandated PSMVNO service. This would also involve establishing a specific RAN access service that is custom-made for the particular requirements of first responders with guaranteed quality of service, traffic prioritization and digital ROWs, intersystem seamless roaming, network sharing with wireless carriers, and access to VoLTE, 4G, and 5G network technologies, and that would be available to first responder organizations at reduced rates set by the Commission.
627. Furthermore, the PSBN is being designed for the very purpose HRPS has described – to provide public safety entities with a secure, robust, and dedicated network at specialized rates. Despite this, HRPS proposed that the Commission mandate a PSMVNO service that would work in tandem with the PSBN, once it is operational, to maximize effectiveness and network redundancy. The Commission is not persuaded at this time that the benefits of such redundancy would outweigh the costs, because there is insufficient evidence on the record to make such an assessment.
628. In addition, the Commission is concerned that jurisdictional considerations were not adequately addressed and notes, in this regard, that HRPS's submission did not address how the Commission could impose or put into operation such regulatory measures.

629. Finally, several carriers submitted that they are currently offering specialized services for public safety organizations.

630. In light of all the above, the Commission determines that it would not be appropriate to mandate the provision of a PSMVNO access service at this time.

Policy Directions

631. Throughout this decision, the Commission has taken care to demonstrate how its determinations advance the policy objectives in a manner consistent with the 2006 and 2019 Policy Directions.

632. The Commission is imposing targeted measures to constrain the market power of dominant wireless carriers, expand competitive options, and promote the broad availability of a variety of retail options at affordable rates. In this way, the Commission's determinations in this proceeding advance the policy objectives set out in paragraphs 7(a), (b), (c), (f), and (h) of the Act. These determinations are aimed at facilitating the orderly development throughout Canada of a telecommunications system that serves to safeguard, enrich, and strengthen the social and economic fabric of Canada and its regions; rendering reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas; enhancing the efficiency and competitiveness of Canadian telecommunications; fostering increased reliance on market forces for the provision of telecommunications services while ensuring that regulation, where required, is efficient and effective; and responding to the economic and social requirements of users.

633. The 2006 Policy Direction requires, among other things, that the Commission rely on market forces to the maximum extent feasible as the means of achieving the policy objectives. The 2006 Policy Direction also requires the Commission to regulate, where there is still a need to do so, in a manner that interferes with market forces to the minimum extent necessary to meet the policy objectives.

634. The determinations made in this proceeding comply with the 2006 Policy Direction. Specifically,

- consistent with subparagraph 1(a)(i) of the 2006 Policy Direction, the Commission considers that market forces alone cannot be relied upon to ensure that the policy objectives are achieved, especially in light of its findings of market power in markets across the country, and considers that wholesale obligations and retail expectations are necessary;
- consistent with subparagraph 1(a)(ii) of the 2006 Policy Direction, the regulatory requirements established are efficient and proportionate to their purpose, and minimally interfere with competitive market forces, since the wholesale measures adopted, including the narrow and time-limited mandate to provide an MVNO service, will support those firms that are best positioned to disrupt the market power of the dominant firms;

- consistent with subparagraph 1(b)(ii) of the 2006 Policy Direction, relying on commercial negotiation to establish MVNO rates, with an FOA backstop, will neither deter economically efficient competitive entry into the market nor promote economically inefficient entry, because it will ensure that the rates for the mandated wholesale MVNO access service will be just and reasonable and established with the close involvement of the wholesale service providers and customers;
- consistent with subparagraph 1(b)(iii) of the 2006 Policy Direction, the Commission has determined that the mandate to provide a facilities-based wholesale MVNO access service will be imposed on all wireless carriers exercising market power and that this mandate will be limited to the areas in which it is exercised. By imposing the mandate on the basis of such objective criteria, the Commission has ensured that the mandate is imposed in a symmetrical and competitively neutral manner; and
- consistent with subparagraph 1(b)(iv) of the 2006 Policy Direction, the determinations in this decision will enable competition from new technologies insofar as they promote expansion of and access to 5G networks; to the extent that these determinations may favour carriers over resellers, the Commission does not consider this to be artificial, given the findings in this decision concerning the relative likely impacts of broad-based and facilities-based wholesale MVNO access mandates.

635. The 2019 Policy Direction provides that when the Commission is exercising its powers and performing its duties under the Act, it should consider how its decisions can promote competition, affordability, consumer interests, and innovation. The determinations in this decision comply with the 2019 Policy Direction as follows:

- consistent with subparagraph 1(a)(i), the determinations encourage all forms of competition and investment. By providing regulatory support to regional wireless carriers, network capacity should be increased, which would make the organic emergence of a broader MVNO market more likely;
- consistent with subparagraphs 1(a)(ii) and (iii), the determinations foster the availability of affordable and lower-priced services of high quality across the country. By creating the conditions for an expansion of sustainable retail competition and creating clear expectations for specific types of service offerings, lower prices should be more broadly available;
- consistent with subparagraph 1(a)(v), the determinations reduce barriers to entry into the market and to competition for telecommunications service providers that are new, regional, or smaller than the incumbent national service providers. By mandating access to the networks of dominant firms, regional wireless carriers will be able to expand their own coverage, expedite the expansion of their own networks, and serve more customers; and

- consistent with subparagraph 1(a)(vi), the determinations enable innovation in telecommunications services, including new technologies and differentiated service offerings. Targeted wholesale measures will permit regional wireless carriers to expand their networks, including next-generation networks, without impeding the ability of the dominant firms to continue to invest. Continued forbearance at the retail level ensures that the ability of WSPs to innovate in their service offerings is not adversely affected.

Secretary General

Related documents

- *Bell Mobility Inc. – Request to strike the Commissioner of Competition’s expert report from the record of the proceeding initiated by Telecom Notice of Consultation 2019-57, and related procedural matters*, Telecom Decision CRTC 2021-129, 15 April 2021
- *Call for comments – Accessibility – Mobile wireless service plans that meet the needs of Canadians with various disabilities*, Telecom Notice of Consultation CRTC 2020-178, 1 June 2020; as amended by Telecom Notices of Consultation CRTC 2020-178-1, 26 August 2020; 2020-178-2, 29 September 2020; and 2020-178-3, 23 March 2021
- *Practices and procedures for dispute resolution*, Broadcasting and Telecom Information Bulletin CRTC 2019-184, 29 May 2019
- *Review of mobile wireless services*, Telecom Notice of Consultation CRTC 2019-57, 28 February 2019; as amended by Telecom Notices of Consultation CRTC 2019-57-1, 28 October 2019; 2019-57-2, 20 March 2020; and 2019-57-3, 23 June 2020
- *Lower-cost data-only plans for mobile wireless services*, Telecom Decision CRTC 2018-475, 17 December 2018
- *Wholesale mobile wireless roaming service tariffs – Final rates*, Telecom Order CRTC 2018-99, 22 March 2018
- *Follow-up to Telecom Decision 2017-56: Wholesale mobile wireless roaming service tariffs – Final terms and conditions*, Telecom Order CRTC 2017-433, 6 December 2017
- *Wholesale mobile wireless roaming service tariffs – Final terms and conditions*, Telecom Decision CRTC 2017-56, 1 March 2017
- *Review of wholesale wireline services and associated policies*, Telecom Regulatory Policy CRTC 2015-326, 22 July 2015; as amended by Telecom Regulatory Policy CRTC 2015-326-1, 9 October 2015
- *Regulatory framework for wholesale mobile wireless services*, Telecom Regulatory Policy CRTC 2015-177, 5 May 2015

- *Follow-up to Telecom Decision 2014-77 – Show cause regarding permit requirements for strand equipment*, Telecom Decision CRTC 2014-389, 24 July 2014
- *Shaw Communications Inc. – Application concerning the administration of TELUS Communications Company’s tariff for support structure service*, Telecom Decision CRTC 2014-77, 20 February 2014
- *CISC Model Municipal Access Agreement Working Group – Report on a Model Municipal Access Agreement*, Telecom Decision CRTC 2013-618, 21 November 2013
- *The Wireless Code*, Telecom Regulatory Policy CRTC 2013-271, 3 June 2013
- *Part VII Application by Allstream Corp. seeking access to Light Rail Transit (LRT) lands in the City of Edmonton*, Telecom Decision CRTC 2005-36, 17 June 2005
- *Ledcor/Vancouver – Construction, operation and maintenance of transmission lines in Vancouver*, Decision CRTC 2001-23, 25 January 2001
- *Regulation of mobile wireless telecommunications services*, Telecom Decision CRTC 96-14, 23 December 1996
- *Review of regulatory framework*, Telecom Decision CRTC 94-19, 16 September 1994
- *Regulation of wireless services*, Telecom Decision CRTC 94-15, 12 August 1994