

2 October 2017

Innovation, Science and Economic Development Canada (ISED)  
c/o Senior Director, Spectrum Licensing and Auction Operations  
235 Queen Street, 6th Floor  
Ottawa, Ontario K1A 0H5

e-mail: [ic.spectrumauctions-encheresduspectre.ic@canada.ca](mailto:ic.spectrumauctions-encheresduspectre.ic@canada.ca)

**Re: Gazette Notice SLPB-005-17 – ISED Consultation on a Technical, Policy  
and Licensing Framework for Spectrum in the 600 MHz Band – Cogeco  
Comments**

---

In accordance with the procedures set out in the above-noted consultation, please find attached the comments of Cogeco Communications Inc. (“Cogeco”).

Cogeco thanks ISED for the opportunity to submit comments in this proceeding and remain available to answer any questions you may have regarding this submission.

Yours very truly,

Michel Messier  
Senior Director, Regulatory Affairs, Telecommunications

c.c.: Nathalie Dorval, VP Regulatory Affairs and Copyright, Cogeco Inc.  
Luc Noiseux, Chief Technology and Strategy Officer, Cogeco Inc.  
Philippe Perron, Director, Technology Strategy, Cogeco Communications Inc.

**Innovation, Science and Economic Development Canada  
Spectrum Management and telecommunication**

**Consultation on a Technical, Policy and  
Licensing Framework for  
Spectrum in the 600 MHz Band**

***Canada Gazette, Part I, August 19, 2017,  
Notice No. SLPB-005-17***

**Comments of  
Cogeco Communications Inc.**

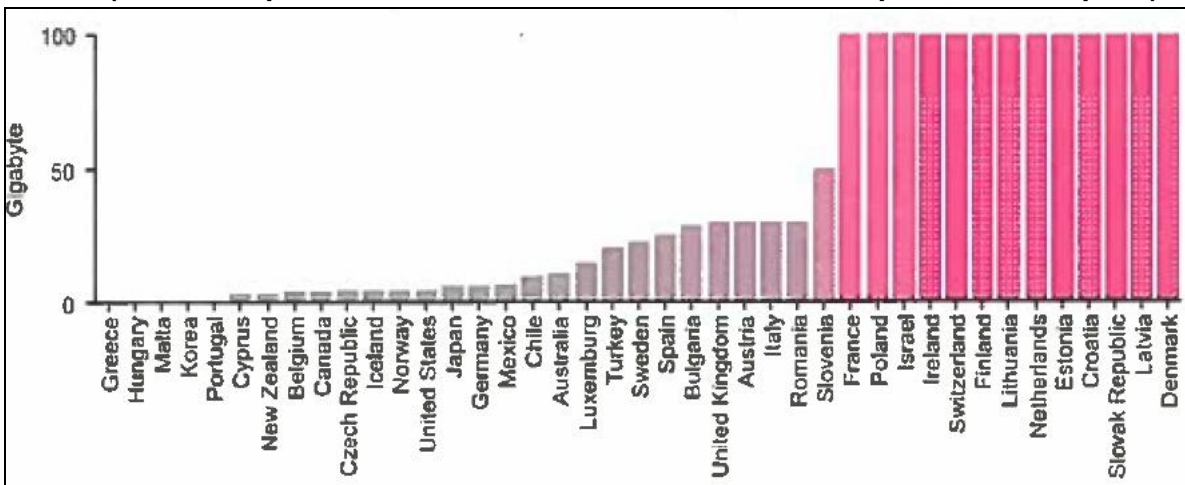
**2 October 2017**

## **Introduction**

1. Cogeco Communications Inc. (“Cogeco”) is pleased to submit these comments on the proposed rules for the tier sizes applicable to 600 MHz spectrum and the eligibility requirements for facilities-based new entrants to bid on set-aside spectrum, in accordance with the procedures set out by Innovation, Science and Economic Development Canada (ISED) in *Consultation on the Technical, Policy and Licensing Framework for Spectrum in the 600 MHz Band, Canada Gazette, Part I, SLPB-005-17*, dated 19 August 2017 (the “Consultation Document”),
2. Cogeco is a diversified communications company headquartered in Montreal, Quebec that provides video, Internet and telephony services through its affiliate Cogeco Connexion Inc. to residential and business customers as well as offering third party Internet access and transport services to Internet service providers on a wholesale basis in Ontario and Quebec.
3. Cogeco also provides an entire suite of information technology services to its business customers through Cogeco Peer 1 (Canada) Inc. Included among the services provided by this entity are collocation, network connectivity services, hosting and cloud services, all of which are supported by 16 data centres, an extensive fibre network in Montreal and Toronto, as well as points-of-presence in North America and Europe.
4. As a competitive communications service provider that has invested heavily in infrastructure in Canada over many years, Cogeco has always supported the development of a regulatory framework whose objectives are to encourage investment in facilities and to promote competition among facilities-based carriers.
5. The market for mobile wireless service in Canada, however, continues to be characterized by limited competition and, consequently, mobile consumers pay among the highest retail rates in the world. As shown in the chart below, Canadians

receive a lot less for their money than their counterparts in other OECD countries for wireless services, strongly suggesting that intervention is required to address the interests of Canadian consumers.<sup>1</sup>

**Figure 1 – Number of GB for €30 – April 2017**  
**(Mobile 4G plans with at least 1000 minutes voice, 3 Mbps download speed)**



Source: Digital Fuel Monitor – Data caps and prices: country comparison. <http://dfmonitor.eu/prices/country/>

6. As noted by the Competition Commissioner, the three incumbent carriers (Bell Mobility Inc., Rogers Communications Partnership (RCP), and TELUS Communications Company, known collectively as the “national incumbent Mobile Network Operators” or “MNOs”) have market power in the provision of retail mobile wireless services:<sup>2</sup>

*The Bureau submits that the incumbents possess market power in retail mobile wireless services markets in Canada. The evidence put forward in the Brattle Report demonstrates that Canadian retail mobile wireless services markets are characterized by above-normal profits*

<sup>1</sup> Similarly, data from the OECD that shows that mobile wireless service prices in Canada are among the highest in any country, whatever the basket (service) chosen as a base of comparison. See OECD Digital Economy Outlook 2015, p. 120.

<sup>2</sup> Competition Bureau, Intervention in *Wholesale mobile wireless roaming in Canada—Unjust discrimination/undue preference*, Telecom Notice of Consultation CRTC 2013-685, 29 January 2014, paragraph 9.

*and comparatively low service penetration levels, both direct indicators of market power.*<sup>3</sup>

7. In some regions, entities have entered the market or have been acquired by other communications services providers<sup>4</sup> at various times and in various localities to compete with the national incumbent MNOs. Where they do, consumers have benefited from lower prices,<sup>5</sup> in particular in Vancouver and Toronto (Freedom Mobile<sup>6</sup>), in Montreal (Vidéotron) and in Halifax (Eastlink) (the “regional MNOs”). In spite of these few encouraging cases, the existing level of competition clearly remains insufficient in the Canadian wireless market.

8. Cogeco notes that viable MNOs in Canada have all shared one common characteristic. MNOs that have operated as “mobile-only” service providers, such as Clearnet Communications, Microcell, WIND, Mobilicity and Public Mobile, were not viably competitive and in each case found themselves in difficult or unsustainable financial positions, and were eventually acquired by a fixed or by an integrated (fixed + mobile) operator. This is an important distinguishing characteristic and Cogeco believes that the evolving regulatory framework in Canada must be informed by such lessons from the past. New entrants must be welcomed and encouraged but factors related to their viability (in particular, having existing facilities and service offerings in the areas of interest) must be taken into account such that real potential contenders are supported through policies and regulations.

---

<sup>3</sup> See also Competition Bureau, Intervention in *Review of wholesale mobile wireless services*, Telecom Notice of Consultation CRTC 2014-76, 15 May 2014, paragraph 25.

<sup>4</sup> As noted above, Wind Mobile Corp. was acquired by Shaw Communications in 2016. Public Mobile Inc. was acquired by Telus in 2013 and converted into a flanker brand in 2014. Data and Audio-Visual Enterprises Wireless Inc. d/b/a Mobilicity was acquired by Rogers Communications in 2015 following bankruptcy proceedings and converted into a flanker brand in 2016.

<sup>5</sup> Competition Bureau statement regarding Bell’s acquisition of MTS, 15 February 2017, paragraph 3. See also Nordicity Group Ltd, *2016 Price Comparison Study of Telecommunications Services in Canada and Select Foreign Jurisdictions*, 22 March 2016, pages 32 and 59.

<sup>6</sup> Wind Mobile Corp. was acquired by Shaw Communications in 2016 and re-named Freedom Mobile.

9. There are significant barriers to entry to the mobile wireless market, starting with the limited availability of cellular mobile spectrum. This scarce resource is essential to the provisioning of wireless services but there are few options available to a prospective new alternative wireless service provider seeking its own spectrum in order to operate as an MNO and there is no wholesale market to which a new alternative wireless service provider can turn for radio access network services for the purpose of operating as a full Mobile Virtual Network Operator (MVNO).

10. Another significant barrier to entry is the lack of access to reasonably-priced wholesale mobile roaming services as this limits the ability of new entrants to compete effectively with the national incumbent MNOs.<sup>7</sup> This issue is currently before the Canadian Radio-Television and Telecommunications Commission (“CRTC”) and Cogeco is hopeful that final outcome will support fair and sustainable competition in this country.

11. The foregoing serves to highlight the importance of the upcoming 600 MHz spectrum auction, which will be critical to the future of broadband and to the success of 5G in Canada, and ultimately for Canadians everywhere across the country.<sup>8</sup>

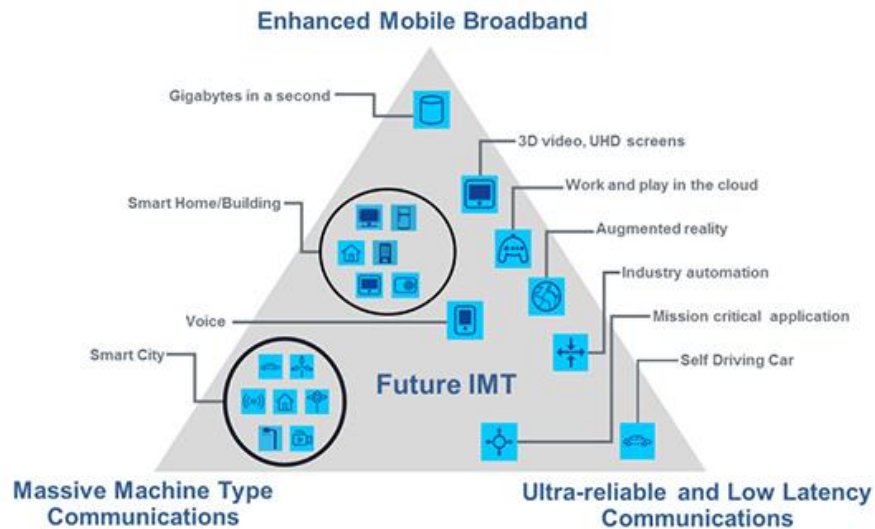
12. The figure below highlights the wide scope, breadth and reach of potential 5G technologies and applications. 5G is expected to impact every consumer, every business and every vertical segment of the Canadian economy, ranging from connected cars to smart home networking, automation and massive machine communications and media, to name a few.

---

<sup>7</sup> See for example, Bragg Communications Inc. comments in response to *Consultation on a Licence Renewal Process for Advanced Wireless Services and Other Spectrum*, Canada Gazette Notice SLPB-002-17, 25 July 2017, paragraphs 5-6.

<sup>8</sup> In its 15 September 2017 submission in *Consultation on Releasing Millimeter Wave Spectrum to Support 5G*, SLPB-001-17 (17 June 2017), Cogeco encouraged ISED to consider coherent strategies for the licensing of spectrum in the 600 MHz band and mmWave bands (paragraph 13).

**Figure 2 – Usage scenarios of IMT for 2020 and beyond<sup>9</sup>**



13. Cogeco notes that a wireless connection (via Wi-Fi) to fixed wireline access networks is the norm,<sup>10</sup> and expects 5G to accelerate the convergence of today’s fixed and mobile access networks towards one comprehensive type of “access network” using different and varying proportions of fixed and wireless technologies.<sup>11</sup>

14. From a public policy perspective and in anticipation of 5G’s far-reaching impact on consumers, businesses and the Canadian economy, it is imperative that the Canadian government ensure both strong network competition for 5G services as well as rapid widespread availability of 5G services in all corners of Canada, not only in large urban centres.

<sup>9</sup> IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond, Recommendation ITU-R M.2083-0, September 2015, Figure 2.

<sup>10</sup> See for example. Cogeco Initial Comments, *Call for Comments Reconsideration of Telecom Decision 2017-56 regarding final terms and conditions for wholesale mobile wireless roaming service*, Telecom Notice of Consultation 2017-259, 8 September 2017, at paragraphs 19 and 26.,

<sup>11</sup> Cogeco Initial Comments, *Call for Comments – Reconsideration of Telecom Decision 2017-56 regarding final terms and conditions for wholesale mobile wireless roaming service*, Telecom Notice of Consultation 2017-259, 8 September 2017, at paragraphs 15 – 21.

15. While a number of MNOs operate in Canada today, Cogeco notes that many of them have become associated by entering into network sharing agreements, which in effect reduces the number of separate mobile networks in operation in Canada. Cogeco submits, therefore, that in order to ensure the success of 5G and of networks using 600 MHz spectrum in Canada, ISED must put in place a regulatory and policy framework leading to more than only two or three facilities-based mobile networks everywhere. Specifically, such a framework should focus on ensuring there are service providers **able and ready to deploy these technologies** in smaller urban centres and in rural areas without undue delay.

16. This focus must start now with the rules being put in place for the 600 MHz spectrum auction. The deployment of 5G technologies and networks in Canada will coincide with the timeline for repurposing the 600 MHz spectrum band for deployment by mobile carriers, which means 600 MHz spectrum will be a key success factor in enabling viable and timely 5G across the vast geography that is Canada.

17. Cogeco has proposed below a number of changes to the technical, policy and licensing framework for the 600 MHz spectrum which it believes will provide the necessary conditions for effective and sustained competition. If ISED adopts these proposals, Cogeco is able to commit with confidence to participating in the auction for 600 MHz spectrum. The two most critical proposed changes are:

- a) increasing the spectrum set-aside to 40 MHz and introducing a 20 MHz cap for set-aside-eligible bidders who have already benefited from spectrum set-asides in the AWS-1 or AWS-3 auctions; and



- b) licensing set-aside spectrum on the basis of Tier 4 service areas, including modification of four specific Tier 4 service areas.<sup>12</sup>

18. Cogeco is firmly committed to robust, facilities-based competition and, as expressed on many occasions, is very keen to enter the mobile services market. However, the Company can only do so if the conditions for entry support a viable business case by enabling the establishment of new facilities-based entrants, including the above critical proposed changes to the 600 MHz licensing framework. Cogeco would very much welcome the opportunity to provide Canadians with expanded mobile offerings.

### **ISED Objectives**

19. In the Consultation Document, ISED notes it is guided by the policy objective of the *Spectrum Policy Framework for Canada* and by the policy objectives set out in section 7 of the *Telecommunications Act*. Following from these, ISED states its specific policy objectives for the allocation of the 600 MHz spectrum licences are:

- to foster innovation and investment;
- to support sustained competition, so that consumers and business benefit from greater choice; and
- to facilitate deployment and timely availability of services across the country, including rural areas.

20. In order to achieve these objectives, ISED proposes a number of pro-competitive measures. These include reserving 30 MHz of the total 70 MHz (or approximately 40% of the licences) to be made available (the “set-aside”) for certain eligible carriers. In order to be eligible, a bidder would have to be, at the time of application to participate in the 600 MHz auction:

---

<sup>12</sup> Cogeco has no objection to using Tier 2 service areas for the non-set-aside spectrum.

- registered with the CRTC as a facilities based carrier;
- not a national incumbent service provider (i.e. with less than 10% of national wireless subscriber market share); and,
- actively providing commercial telecommunications services to the general public in the licence area of interest.

21. ISED also proposes restrictions on the transferability of the set-aside licences during the first five years in order to ensure the effectiveness of the set-aside and to deter mere speculation.

### **Comments**

22. At a broader level, Cogeco encourages ISED to consider coherent strategies for the licensing of spectrum in the 600 MHz and mmWave<sup>13</sup> bands. Because of the respective propagation characteristics of the two bands, a network relying on mmWave frequencies requires a greater number of sites to cover the same area compared to a 600 MHz band network. However, the two bands can be expected to complement each other in supporting the roll-out of 5G services.

23. Cogeco is in full support of ISED's stated objectives, and is generally in support of the measures proposed by ISED to foster competition.

24. Specifically, Cogeco supports ISED's proposal to establish a spectrum set-aside for certain "set-aside-eligible" entities. Cogeco agrees with ISED that it is in the public interest to define "set-aside-eligible" to include all facilities-based carriers operating in the relevant licence area as this will increase the number of potential bidders and best establish conditions for long-term viability of the winning bidder. Cogeco also supports the proposal that the set-aside licences acquired by set-aside-

---

<sup>13</sup> "millimetre wave".

eligible bidders not be transferable to set-aside-*ineligible* entities for the first 5 years of the licence term.

25. While Cogeco is generally in support of the measures proposed by ISED, Cogeco considers other measures are crucial in order to facilitate access to spectrum by new wireless entrants as well as regional service providers. In particular, Cogeco submits that ISED should increase the amount of spectrum in the proposed set-aside. As well, Cogeco strongly recommends that ISED reconsider the use of Tier 2 service areas particularly in the set-aside spectrum allocation where Tier 4 service areas would much better serve the public interest.

26. The current proposal of a 30 MHz set-aside is not likely to go far towards achieving ISED's specific policy objectives for the allocation of 600 MHz spectrum. Given that 20 MHz of spectrum is necessary to offer the kinds of services Canadians are increasingly expecting from their mobile service providers (10 MHz up and 10 MHz down), a 30 MHz set-aside would only give one set-aside-eligible bidder the required spectrum. Other bidders, if any, would then be limited to the remaining 10 MHz (5 MHz up and 5 MHz down) of set-aside spectrum. This amount of spectrum is wholly insufficient to offer Canadians the level and quality of services they demand.

27. By establishing a 40 MHz set aside, ISED would be able to accommodate two set-aside-eligible bidders. Further, Cogeco proposes that ISED cap at 20 MHz the amount of set-aside spectrum that certain set-aside-eligible bidders can acquire, namely, those who have already benefited from pro-competitive measures in the AWS-1 and AWS-3 auctions. By doing so, ISED would be able to support both the existing regional MNOs and potential new competitors, thereby achieving sustainable competition and greater choice for consumers and businesses.

28. Cogeco strongly urges ISED to establish rules for the set-aside spectrum which specifically encourage new mobile operators in the 600 MHz band. This would ensure a greater number of organizations would be able to use the 600 MHz spectrum to support mobile services, which in turn would lead to greater innovation and investment as well as competition that is fair and sustainable. Failing to do so now could easily lead to existing operators consolidating their market power through their spectrum holdings, which would severely stifle competition.<sup>14</sup>

29. Cogeco understands the concerns behind ISED's position that licensing 600 MHz spectrum on the basis of larger service area tiers (e.g. Tier 2) could reduce the level of coordination required between adjacent licensees.<sup>15</sup>

30. However, Cogeco believes that relying on Tier 2 licensing would in fact fail to accomplish the goals set out for the use of radio spectrum in Canada.

31. The one over-arching policy objective in the *Spectrum Policy Framework for Canada* is:

*To maximise the economic and social benefits that Canadians derive from the use of the radio frequency spectrum resource.*

32. In the Consultation Document, ISED stated that its objectives for the allocation of the 600 MHz spectrum licences included, in particular:

- *To support sustained competition, so that consumers benefit from greater choice; and*
- *To facilitate deployment and timely availability of services across the country, including rural areas.*

---

<sup>14</sup> This approach could be reversed if necessary at a future time by ISED in the unlikely event smaller new mobile operators fail to exploit this set-aside successfully.

<sup>15</sup> Paragraph 36 of the Consultation Document.

33. Achieving these objectives would be significantly more challenging and take significantly longer, however, if 600 MHz spectrum were to be licensed on the basis of Tier 2 service areas.

34. The first reason for this follows from the fact that Tier 2 service areas include major urban centres. It is reasonable to assume that a service provider who has been assigned 600 MHz spectrum would seek to roll out its network in those urban centres first, before extending services to more outlying areas.

35. Indeed, the coverage obligation as proposed in the consultation would fully accommodate this urban-centric approach. For example, the Eastern Ontario and Outaouais Tier 2 service area covers a population some 2.4 million. The five-year coverage obligation of 25% would be 600,000 persons, which could easily be satisfied by serving the City of Ottawa alone (population 947,000). Similarly, the British Columbia Tier 2 service area covers a population of some 4.6 million. The five-year coverage obligation of 25% would be 1.15 million, which could be satisfied simply by serving a portion of the Lower Mainland alone (population 2.5 million).

36. This means Canadians living outside of those major urban centres might have to wait five to ten years, once the ten-year coverage obligations apply, before receiving services using the 600 MHz spectrum band. Canadians living in rural and remote areas might need to wait even longer.

37. Clearly, this would be contrary to the goal of “*deployment and timely availability of services across the country, including rural areas.*”

38. Cogeco recommends instead that ISED license 600 MHz set-aside spectrum on the basis of Tier 4 service areas (with four specific area modifications) in conjunction with coverage obligations. This would reduce the ability of licensees to roll out services only in major urban areas at the expense of smaller urban or rural or remote

areas, ensuring that all Canadians are able to enjoy the benefits of 600 MHz services on a timely basis.

39. Cogeco notes that the Federal Communications Commission (“FCC”) has assigned 600 MHz spectrum in the United States (“US”) on the basis of Partial Economic Areas, which are roughly equivalent to Tier 4 service areas.<sup>16</sup> There have not been reports of insurmountable spectrum coordination issues at the boundaries of the PEAs and there is no reason, in Cogeco’s view, to believe the situation in Canada would be different if ISED were to license 600 MHz spectrum on the basis of Tier 4 service areas (including the modifications to the four Tier 4 service areas described in Annex A).

40. The second reason that Tier 2 licensing cannot achieve the stated objectives for Canadian radio spectrum is due to the fact that the use of larger service areas will necessarily limit the number of entities capable and/or willing to bid on the spectrum because the larger areas entail higher opening bid prices as a result of the vastly superior population sizes in Tier 2 areas.

41. Competition is fostered and consumers benefit when additional service providers enter a market. The assignment of additional spectrum to mobile service providers already operating in a market may affect the quality or type of services they provide, but it will likely not increase the level of competition among those operators, prod incumbents to innovate, or result in lower prices for consumers.

42. For these reasons, Cogeco urges ISED to foster competition in the provision of mobile wireless services by adopting policies which encourage entry and facilitate viable new wireless entrants, including the use of Tier 4 services areas (including the modifications to the four Tier 4 service areas described in Annex A).

---

<sup>16</sup> See Gazette Notice SLPB-001-17, *Consultation on Releasing Millimetre Wave Spectrum to Support 5G*, dated 5 June 2017, paragraph 89.

43. Cogeco acknowledges that licensing 600 MHz spectrum on a Tier 2 basis might, at first glance, be seen to be well suited to the characteristics of that spectrum, and indeed Cogeco has no objection to the use of Tier 2 service areas for the non-set-aside spectrum. However, ISED must auction set-aside spectrum using Tier 4 service areas if it is to support multiple regional and new entrants, who are critical to ISED achieving key public policy objectives. Cogeco notes that set-aside eligible entities can leverage package bidding to aggregate areas to meet their specific business case needs with the flexibility they require, as opposed to the unwieldy Tier 2 or Tier 3 service areas. As described below, the FCC has clearly concluded that licences with service areas similar to Tier 4 were the appropriate approach for 600 MHz spectrum.

44. The remainder of this submission addresses selected questions posed by ISED in the Consultation Document. Where Cogeco does not address a specific question, this should not be construed as agreeing or disagreeing with the proposal, as lack of interest in the subject matter, or as taking a position on the specific issue. Cogeco will be interested in analyzing the submissions of other interested parties and reserves the right to comment in the reply phase.

### **Answers to Specific Questions**

***Question 1A: ISED is seeking comments on its proposal to implement a set-aside as a pro-competitive measure in the auction process for the 600 MHz band.***

45. Cogeco fully agrees with the analysis put forward by ISED that a spectrum set-aside is needed as a pro-competitive measure in this auction. In light of the dominant

presence in the market of the national incumbent MNOs, Cogeco considers that a set-aside is absolutely necessary “to address issues of market power.”<sup>17</sup>

46. However, Cogeco strongly urges ISED to increase the spectrum set aside to 40 MHz and to modify its structure to facilitate the entry of viable new operators into the market. This is described in detail in the answer to the next question.

**Question 1B: ISED is seeking comments on its proposal to set aside 30 MHz of spectrum in the 600 MHz band for eligible entities and to have open bidding (no pro-competitive measures) on the remaining 40 MHz in the band.**

47. Cogeco agrees with the proposal to reserve a certain amount of spectrum in the 600 MHz band for “set-aside-eligible entities.” Cogeco strongly recommends, however, that ISED set aside 40 MHz instead of 30 MHz, and that ISED cap at 20 MHz the amount of set-aside spectrum available to certain regional MNOs (as described below).

48. ISED described in some detail in section 6 of the Consultation Document the need for pro-competitive measures, including set-aside spectrum. ISED also noted that:

*The Competition Bureau has stated that incumbent service providers have market power in the provision of retail mobile wireless services.<sup>18</sup> There is a risk that competition in the post auction marketplace could suffer without measures to facilitate regional carrier’s access to spectrum. Furthermore, the Competition Bureau recently concluded that the lower prices are caused by the presence of a strong regional competitor.[footnote omitted]<sup>19</sup> Consistent with the above comments, ISED is of the view that these incumbent entities likely have the means*

---

<sup>17</sup> Consultation Document, paragraph 20.

<sup>18</sup> See footnote 2 of the Consultation Document.

<sup>19</sup> See footnote 3 of the Consultation Document.



*and ability to prevent other service providers from acquiring spectrum licences in an open auction.<sup>20</sup>*

49. In light of these concerns, Cogeco recommends ISED pay particular attention to the design of the spectrum set-aside.

50. Cogeco points to the very high prices paid by Canadian consumers for mobile service and the lack of unlimited mobile data services, which is in stark contrast to the lower prices and higher service levels enjoyed by consumers in many countries and cities in the United States and Europe.

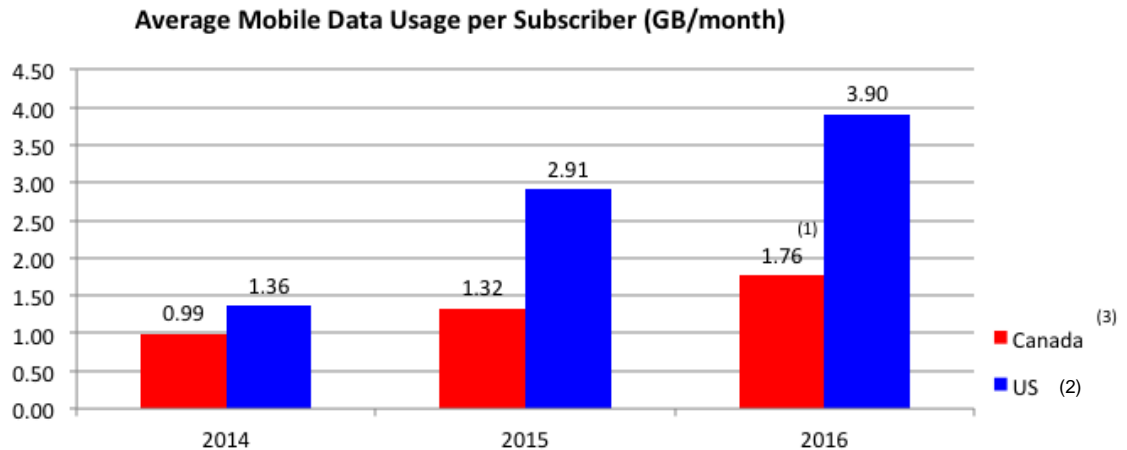
51. High prices coupled with lower data usage caps lead to a lower consumption of mobile data services in Canada compared to the United States, as demonstrated by statistics released by the FCC and the CRTC.

52. The average Canadian mobile data consumer uses ***less than half*** the mobile data **per month compared to his/her American counterpart**. This is a significant and troubling statistic, highlighted in Figure 2 below, which in Cogeco's view is largely explained by the difference in competitive dynamics between the two countries.

---

<sup>20</sup> ISED, Consultation Document, paragraph 22.

**Figure 3 - Average Mobile Data Usage per Subscriber (GB/month)**



(1) Data point for Canada 2016 is estimated using the growth rate from 2014 to 2015.

(2) 20th Annual Mobile Wireless Competition Report, Appendix I: Chart 2 (Mobile Data Usage per Subscriber 2010-2016)

(3) Communications Monitoring Report 2016, Table 5.5.6 (Average data usage per subscriber with a data plan (MB/month))

53. Increased competition and broadband availability to bridge the digital divide across all areas of the country is an objective of Canada’s government and of its Innovation Agenda.

54. A spectrum set-aside that is well-designed in terms of both its implementation and selection of the right-sized licence areas is necessary to achieve Government’s objectives and to ensure that Canadian consumers reap the same benefits from mobile broadband services as our American counterparts.

55. Cogeco therefore believes that ISED needs to expand its assignment of the appropriate quantum of proposed spectrum set-aside and further refine its implementation. The following factors must be considered:

- a) the low band (< 1 GHz) spectrum assets currently being used by mobile carriers, both national incumbents MNOs and regional MNOs, in light of

their existing spectrum holdings and of the network sharing agreements currently in place.

- b) the result of the FCC's 600 MHz Incentive Auction effectively establishing the 600 MHz spectrum band as a band for telecommunications service
- c) providers with little or no spectrum below 1 GHz. Cogeco highlights that there were many winners in the US 600 MHz auction that currently have no mobile networks. This includes two new large companies such as DISH-Network L.L.C. and Comcast, as well as several small, local operators, that are now in a position to deploy new mobile broadband networks in the future.

56. Spectrum below 1 GHz is a critical component for any mobile carrier because of its better propagation and indoor penetration characteristics. The 600 MHz spectrum auction is likely also the last opportunity for the foreseeable future for Canadian telecommunications service providers looking to enter the market to obtain such spectrum.

57. In light of the above, Cogeco strongly recommends that ISED consider the following with respect to the quantum of spectrum set-aside and its implementation:

- a) ISED should establish a set-aside of 40 MHz. This will enable more than one entity to acquire this critical spectrum and to deploy high performance networks while encouraging new operators to enter the market. Cogeco notes that there is a precedent for this approach as a similar proportion of available spectrum was set aside in the 2015 AWS-3 auction.
- b) Of this 40 MHz, however, a maximum of 20 MHz should be made available to those set-aside-eligible entities (as defined by ISED in the

Consultation Document) who benefited from similar set-asides in the AWS-1 auction of 2008 and the AWS-3 auction of 2015. These parties have already benefited from pro-competitive measures designed to facilitate their entry and they are now established in the market. Pro-competitive measures applied in this spectrum auction should be focused primarily on those new facilities-based entrants who did not enjoy similar advantages.

58. Establishing a spectrum set-aside of 40 MHz, and imposing a 20 MHz limit on the set-aside spectrum that could be acquired in any licensed area by set-aside-eligible bidders who have already benefited from prior set-asides, would enable the development of strong competitors to the national incumbent MNOs, leading to lower prices and better services for Canadians.

***Question 1C: ISED is seeking comments on its proposal to limit the eligibility criteria to bid on set-aside spectrum to those registered with the CRTC as facilities-based-providers<sup>21</sup>, that are not national incumbent service providers, and that are actively providing commercial telecommunication services to the general public in the licence area of interest, effective as of the date of application to participate in the 600 MHz auction.***

59. Cogeco agrees with ISED's proposal to limit eligibility to bid on set-aside spectrum to those entities who are:

- a) registered with the CRTC as facilities-based providers;
- b) not national incumbent MNOs; and,

---

<sup>21</sup> See footnote 6 of the Consultation Document.

c) actively providing commercial telecommunications services to the general public in the licence area of interest, effective as of the date of application to participate in the 600 MHz auction.

60. However, those set-aside-eligible entities who benefited from similar set-asides in the AWS-1 auction of 2008 and the AWS-3 auction of 2015 should not be permitted to acquire more than 20 MHz of set-aside spectrum in the 600 MHz auction. These MNOs have already benefited from earlier pro-competitive measures designed to facilitate their entry and they are now established in the market. While they should be permitted to bid for set-aside spectrum, they do not require the same supportive measures now as true new entrants.

***Question 1D: ISED is seeking comments on its proposal to limit the transferability of the set-aside spectrum for the first five years of the licence term.***

61. Cogeco agrees with ISED's proposal to limit, as described in the Consultation Document, the transferability of the set-aside spectrum for the first five years of the licence term. Spectrum acquisition, and especially the acquisition of set-aside spectrum, should never be an opportunity merely to acquire and quickly flip a licence for profit.

62. In particular, Cogeco agrees that set-aside spectrum licensed to a set-aside-eligible entity be transferable only to another set-aside-eligible entity for the first five years of the licence term. These measures will limit the ability of the national incumbent MNOs to consolidate their control over spectrum and will allow a reasonable amount of time for the pro-competitive measures adopted by ISED following this consultation to result in effective and sustained competition.

**Question 1E: ISED is seeking comments on its proposal to auction the set-aside spectrum as three separate paired blocks of 5+5 MHz.**

63. Cogeco agrees with the proposal to make the set-aside spectrum available in paired blocks of 5+5 MHz. However, as noted above, Cogeco recommends that the spectrum set-aside be increased to 40 MHz (i.e. four paired blocks of 5+5 MHz).

**Question 2: ISED is seeking comments on its proposal to use Tier 2 service areas across the country, except in the three Territories (Yukon, Northwest Territories and Nunavut) where Tier 4 service areas would apply.**

64. ISED has proposed to license 600 MHz spectrum on the basis of Tier 2 service areas. In support of this proposal, ISED noted:

*Licensing based on larger geographic areas, especially for low-band spectrum, such as 600 MHz, results in less coordination being required between adjacent licensees and allows more effective use of radio spectrum. Tier 2 service areas provide licensees with wide regional coverage. Larger geographic service areas also enable deployment of large-scale networks that can be more cost-efficient due to economies of scale, which is critical to the deployment of spectrum given that wireless mobile networks are capital-intensive.<sup>22</sup>*

65. Cogeco disagrees that coordination between smaller service areas for 600 MHz spectrum would be particularly difficult, that Tier 2 service areas allow for more effective use of spectrum, and that network deployment across Tier 2 service areas would necessarily be more cost-efficient. Cogeco notes that the use of smaller service areas has a number of advantages, including those noted by ISED in the consultation document,<sup>23</sup> and proposes instead that ISED license 600 MHz spectrum

---

<sup>22</sup> Consultation Document, paragraph 36.

<sup>23</sup> See the first sentence of paragraph 35 of the Consultation Document.

on the basis of Tier 4 service areas, certainly for the set-aside portion. On a going-forward basis, Cogeco recommends Tier 4 or lower be the starting point for the release of all new spectrum licensed on the basis of competitive licence service areas.

66. With respect to ease of coordination, it may be the case in theory that larger service areas appear to reduce the complexity of coordination between adjacent licensees compared to smaller service areas. In practice, however, the level of the complexity will depend upon a number of factors, including the number of adjacent Tier 4 service areas a licensee may hold and how the licensee has chosen to build its network. It is not at all a given that the level of complexity will be significantly higher.

67. Further, even where there might be some issues this complexity can be managed, and is being managed today. There are regions of the country where coordination among service providers is already required to reduce and avoid interference and, all along the Canadian border, Canadian service providers must consider impacts to their American counterparts. This is particularly true for the following adjacent areas:<sup>24</sup>

- a) Windsor (Ontario) / Detroit (Michigan) border;
- b) Sarnia (Ontario) / Port Huron (Michigan);
- c) Niagara Falls (Ontario) / Niagara Falls (NY);
- d) Fort Erie (Ontario) / Buffalo (NY);
- e) Niagara-on-the-Lake (Ontario) / Youngstown (NY).

---

<sup>24</sup> These are all areas where Cogeco provides wireline services. If Cogeco were to become a mobile operator, Cogeco would need to coordinate with American operators on the equivalent of a Tier 4 basis (Partial Economic Areas) and expects to be able to do with Canadian operators as well.

68. If incumbent service providers are capable of dealing with neighboring service providers along the 44 kilometers of the Detroit River and the 58 kilometers of the Niagara River in existing low band frequencies, it can be done anywhere else in Canada, particularly since there are generally tens of kilometers separating the urban centers of Tier 4 service areas.

69. Cogeco also notes that the use of smaller service areas have not proven to be an issue in the United States, where the FCC chose to licence 600 MHz on the basis of Partial Economic Areas (PEAs) which are roughly equivalent to Tier 4 service areas. The need to coordinate among service providers in the US did not prevent operators from bidding for and acquiring spectrum in the auction.

70. ISED could also establish conditions of licence which would give licensees an incentive to minimize interference, spill-over and coordination issues. For example, ISED could expressly mandate the sharing of towers where RANs using set-aside spectrum might span a service area border. This would provide incentives to service providers to plan their network deployment diligently in order to minimize spill-over across service area boundaries, but would not prevent service providers from serving their customers if spill-over were to occur. However, Cogeco believes it is unlikely these measures would be necessary.

71. With respect to the argument that Tier 2 service areas would allow more effective use of radio spectrum, Cogeco respectfully disagrees and notes that the opposite might well be true. As pointed out earlier, large service areas which encompass densely-populated urban centres allow service providers to meet their coverage obligations by serving only the core urban centres. Other parts of the service area, then, do not need to be covered by that licensee's network at all, leaving radio spectrum there completely unused. Cogeco notes that Roger's 30 MHz PCS Block A is still unused in 28 Tier 4 service areas of Quebec and Ontario some 22 years after assignment (see the Table in Annex B). Similarly, Bell's PCS Block E



of 10 MHz is not used in 12 Tier 4 service areas in Eastern Quebec or Bell's PCS Blocks C3 and D (20 MHz) are not used in 6 Tier 4 service areas in Southern Quebec and in Eastern Ontario and Outaouais.<sup>25</sup> Cogeco submits that this is not an effective use of licensed radio spectrum nor is it in the public interest to sanction such cream-skimming when an alternative, workable approach could be employed.

72. With respect to the argument that larger geographic service areas enable deployment of large-scale networks that can be more cost-efficient due to economies of scale, Cogeco submits that this is quite a generalization. Whether an operator can benefit from network cost-efficiencies depends upon a number of factors, including the actual service area (as a number of smaller licence service areas can amount to a large service area in fact) and, of course, whether or not they fully deploy across the land mass in question.

73. Cogeco also notes that the cost of the network is not the only cost incurred by an operator and ISED's argument fails to address the very real issue of whether the money spent to acquire spectrum licences was employed as efficiently as possible.

74. By way of example, Cogeco operates wireline networks in parts of all of the Tier 2 service areas in Quebec and Ontario (with the exception of 2-007 Northern Quebec). The population in those Tier 2 service areas is approximately 20.6 million, based on 2011 census data. Cogeco is actually capable of serving less than 20% of the people in those same Tier 2 service areas.

75. In other words, an auction on the basis of Tier 2 service areas for the areas currently served by Cogeco would require Cogeco to acquire spectrum covering a population of 20.6 million when in fact it only wishes to serve less than 20% of the population in those Tier 2 areas in its existing operating footprint as an integrated regional service provider. Acquiring spectrum access to more than five times the

---

<sup>25</sup> Based on ISED "Spectrum Licences Site Data" of August 2017, [http://www.ic.gc.ca/engineering/SMS\\_TAFL\\_Files/Site\\_Data\\_Extract\\_2017-08-02.zip](http://www.ic.gc.ca/engineering/SMS_TAFL_Files/Site_Data_Extract_2017-08-02.zip)

population needed to serve Cogeco’s market clearly cannot be considered the most efficient use of spectrum, particularly if there are other entities who may wish to serve the areas where Cogeco does not currently have a wireline network.

76. Another consequence of an auction using Tier 2 service areas would be to artificially inflate Cogeco’s spectrum acquisition costs in relation to what it actually requires.

77. In all but one of the five Tier 2 service areas in which Cogeco operates in Quebec and Ontario, there is a single metropolitan city that accounts for more than 50% of the Tier 2 service area’s population:

**Table 1 - Tier 2 Service Areas Major Metropolitan City**

Tier 2	Tier 2 Service Area Name	Tier 2 2011 Census Pop.	Tier 4 Metropolitan area name	Tier 4	Tier 4 2011 Census Pop.	Ratio
2-004	Eastern Quebec	1,668,504	<b>Quebec</b>	4-030	865,499	51%
2-005	Southern Quebec	5,683,127	<b>Montreal</b>	4-051	4,176,198	73%
2-006	Eastern Ontario and Outaouais	2,347,556	<b>Ottawa</b>	4-055	1,378,972	58%
2-008	Southern Ontario	10,091,045	<b>Toronto</b>	4-077	6,646,250	65%

78. In each of these four metropolitan areas, other broadcasting distribution undertakings are the primary cable providers and Cogeco serves less than 4% of the population. Even in the 4-077 Toronto service area, where Cogeco is the primary service provider west of Mississauga, Cogeco serves significantly less than a quarter of the population of the service area.

79. Cogeco notes that the cost of spectrum in metropolitan areas can be materially higher than the cost of spectrum in other areas. For example, the 2008 AWS-1 spectrum auction included blocks offered at a Tier 2 service area level and others at a Tier 3 service area level. An analysis of the per-MHz-pop prices for all blocks auctioned for the Tier 3 service areas in Ontario and Quebec based on the information published by ISED<sup>26</sup> is set out in the table below and illustrates a wide range in prices, with those in metropolitan areas being significantly higher than those in most other service areas.

**Table 2 - 2008 AWS-1 Tier 3 Service Areas Prices**

Tier 3	Tier 3 Service Area Name	New entrant price per MHz-Pop	Open-to-all price per MHz-Pop	Average New entrant price	Average Open-to-all price
3-009	Quebec	\$0.27	\$1.83	\$1.84	\$2.44
3-013	Montreal	\$2.55	\$2.93		
3-015	Ottawa	\$2.14	\$1.96		
3-025	Toronto	\$1.57	\$2.31		
3-08	Bas du fleuve/Gaspésie	\$0.33	\$0.42	\$0.55	\$0.95
3-10	Chicoutimi-Jonquière	\$0.15	\$0.59		
3-11	Eastern Townships	\$0.70	\$0.98		
3-12	Trois-Rivières	\$0.70	\$1.41		
3-14	Upper Outaouais	\$0.48	\$0.57		
3-16	Pembroke	\$1.23	\$0.92		
3-17	Abitibi	\$0.19	\$0.59		
3-18	Cornwall	\$2.23	\$1.48		

<sup>26</sup> Based on the weighted average of the data on “Auction of Spectrum Licences for Advanced Wireless Services and Other Spectrum in the 2 GHz Range — Summary by Licence Winner”, <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf09004.html>

3-19	Brockville	\$1.88	\$1.24
3-20	Kingston	\$0.67	\$0.85
3-21	Belleville	\$0.55	\$0.83
3-22	Cobourg	\$2.36	\$1.70
3-23	Peterborough	\$0.47	\$0.68
3-24	Huntsville	\$0.70	\$0.92
3-26	Barrie	\$0.45	\$1.01
3-27	Guelph/Kitchener	\$0.43	\$0.92
3-28	Listowel/Goderich/Stratford	\$0.66	\$0.94
3-29	Niagara-St. Catharines	\$0.39	\$1.23
3-30	London/Woodstock/St. Thomas	\$0.57	\$1.23
3-31	Chatham	\$0.87	\$0.79
3-32	Windsor/Leamington	\$0.42	\$0.71
3-33	Strathroy	\$0.44	\$0.87
3-34	North Bay	\$0.44	\$0.46
3-35	Sault Ste. Marie	\$0.32	\$0.82
3-36	Sudbury	\$0.47	\$1.00
3-37	Kirkland Lake	\$0.43	\$0.75
3-38	Thunder Bay	\$0.34	\$0.70

80. The table indicates that the average spectrum price for the 2008 AWS-1 Tier 3 blocks for new entrants was 3.3 times more expensive in metropolitan areas than in the others (\$1.84 versus \$0.55) and 2.5 times more expensive in metropolitan areas for blocks open to all bidders (\$2.44 versus \$0.94).

81. In other words, not only would a Tier 2 auction cause a provider like Cogeco to have to purchase significantly more spectrum than needed to serve its existing

population but also the excess spectrum in metropolitan areas is between 2.5 to 3.3 times more expensive based on 2008 prices. This would put Cogeco in the unenviable position not only of acquiring spectrum it does not intend to use but also of paying significantly higher prices for it. This is clearly not cost-efficient for Cogeco. It also represents a terrible use of a public asset, particularly if there were other parties who may have been interested in the blocks in the metropolitan areas.

82. Nor would Cogeco be able to mitigate these costs. In order to respect the licence conditions for minimum population coverage or 25% at the Tier 2 level, Cogeco would have to either build its wireless network beyond its existing wireline footprint or sub-divide its licences and either transfer or sub-license them to other service providers willing to use them.

83. Building out the wireless network beyond the wireline footprint implies expanding commercial operations into geographic markets where Cogeco's brand is not known, where Cogeco has no fibre infrastructure to support the backhaul, and where Cogeco would be relegated to operating as a mobile-only service provider. In fact, under this scenario Cogeco would need to operate as a mobile-only provider to more people in the Quebec and Ontario Tier 2 service areas than it would operate as an integrated provider.

84. However, the evidence is overwhelming that mobile-only new-entrant business models have systematically failed in Canada. Cogeco submits that the mobile-only new entrant business is not any more likely today to result in sustainable competition. The business model simply does not work in Canada.

85. Transferring or sub-licensing the excess spectrum would be limited only to other regional service providers in the first five years, and Cogeco is prevented by the anti-collusion rules (which, for the avoidance of doubt, Cogeco does not oppose) from exploring such options with other providers ahead of the auction. Further, so much of

the spectrum that would be acquired would have to be transferred or sub-licensed that, in effect, its acquisition would become more of a speculative investment than an operating business model ultimately benefiting Canadians.

86. Cogeco submits that ISED should adopt a licensing framework for set-aside 600 MHz spectrum that ensures the set-aside spectrum is acquired by viable operators who are ready and able to use it. This means ISED should license it on the basis of Tier 4 service areas or smaller. Such an approach would avoid the problems described above and would best serve the interests of Canadians.

87. Moving forward and as noted earlier, Cogeco recommends that ISED adopt Tier 4 service areas when releasing new spectrum (unless there are particular and compelling reasons not to in any specific case). The advantages to Tier 4 licensing are many:

- a) Tier 4 licensing will not impact large carrier participation in the auction or impact their ability to continue to develop national or regional footprints, especially considering the use of a CCA format. On the other hand, smaller licence areas would encourage participation by small operators.
- b) Tier 4 licensing is clearly supported by the US experience with the 600 MHz auction. The FCC had originally proposed to award the 600 MHz spectrum across large Economic Areas. After discussions with small carriers in the US, the FCC agreed that there should be smaller licence areas than originally proposed, the Partial Economic Areas (PEAs) of which there are 416 in the US, and the results of the US auction validate this decision.
- c) Tier 4 licensing would improve longer-term utilization of spectrum resources, since smaller pockets of geography can often be ignored inside larger areas even while meeting the deployment requirements set by ISED, and is

consistent with ISED’s goals of putting spectrum in the hands of those that will use it as soon as possible.

88. These points are addressed in more detail below.

***Small licence areas would impact neither the ability of large carriers to participate in the auction nor their ability to continue to develop their networks and services offerings, contrary to the case of small operators***

89. The review of auctions in Canada shows that outcomes for the large carriers are independent of the tier size used. A carrier acquiring national coverage can do so by acquiring a collection of Tier 2 licences, Tier 3 licences or Tier 4 licences, and there is no indication that licence tier size has had any impact on the ability of Canada’s three largest carriers – Bell, TELUS and Rogers – to acquire licences.

90. As shown below, whether an auction was run on a Tier 2, Tier 3 or Tier 4 basis, Bell, TELUS and Rogers accounted for the majority of auction proceeds and, in the case of the 700 MHz spectrum auctioned on a Tier 2 basis, where there were spectrum caps but no blocks specifically set aside, they accounted for 95% of proceeds.

**Table 3 – Percent of Proceeds Accounted by Rogers, Bell and TELUS in Spectrum Auctions**

% of Auction Proceeds	TIER 4	TIER 3		TIER 2
	2.3/3.5 GHz (1)	AWS1 (2)	2500 MHz (3)	700 MHz (4)
Bell	52%	17%	4%	11%
TELUS	13%	21%	63%	22%
Rogers	16%	23%	3%	62%
Bell+TELUS+Rogers	81%	62%	70%	95%

NOTES

1. Combined results 2004/2005 auction processes
2. Auction held in 2008; All non-set aside AWS-1 licenses were awarded on a Tier 3 basis (blocks A, E, F)
3. Auction held in 2015; Bell and Rogers were extremely limited in bidding due to incumbency
4. Auction held in 2014

91. While tier size does not appear to represent an impediment for the national incumbent MNOs, the same is not true for small carriers. Quite the opposite.

92. A small operator cannot acquire large licences at auction and then provide service only in a small area. For example, a small operator could not acquire the Southern Quebec Tier 2-05 licence, which includes Montreal, for the sole purpose of providing service in the Eastern Townships. The economics of this proposal are quite simply unviable.

***The use of smaller licence areas are fully supported by the recent success of the US 600 MHz auction***

93. For the 600 MHz auction in the US, the FCC had originally been planning to use the Economic Area (“EA”) of which there are 176 covering the US.<sup>27</sup>

94. Smaller carriers, however, successfully demonstrated to the FCC the benefits of smaller licence areas, notably:<sup>28</sup>

- a) dividing EAs into Partial Economic Areas (“PEAs”) would enable smaller and rural carriers to bid on portions of EAs to obtain more efficiently sized spectrum licences.
- b) PEAs would ensure that some licences consist of large population centers while other PEAs consist of less populous areas, with the goal of attracting a variety of bidders, including carriers that would be foreclosed from bidding on entire EAs.
- c) PEAs would not establish a wholly new geographic licensing scheme, as they would respect existing Cellular Market Area boundaries to the extent possible, consistent with the Cellular Market Area licences that were employed in

---

<sup>27</sup> Referenced in FCC Public Notice DA 13-2351, December 11, 2013

<sup>28</sup> Competitive Carriers Association (CCA), Ex parte presentation in FCC Docket 12-268, November 27, 2013



numerous previous auctions, including Auctions 73 (700 MHz), 78 (AWS-1), and 92 (Lower 700 MHz), and most importantly, PEAs “nest” within existing EAs.

- d) licensing spectrum on the basis of PEAs would entail some of the benefits of smaller geographic licences, including promoting participation by a broader array of carriers, while employing geographic units that are capable of nesting into larger EAs.

95. The FCC subsequently conducted the 600 MHz auction using PEAs for licence areas, of which there are 416 covering the US. The small size of many PEAs, with total population below 100,000 in many cases, was a key enabler for small carriers to participate in the auction and to acquire licences. As a result, there was strong participation by small and rural operators in the 600 MHz auction, and 35 such bidders won licences as illustrated in the table below.

96. The US 600 MHz auction clearly validates the use of smaller licence areas, resulting in many smaller operators acquiring licences – from one to three blocks depending on the area in the examples shown below.

**Table 4 – Examples of 600 MHz Spectrum Blocks Acquired by Small Carriers in PEAS in the FCC Incentive Auction**

Small Carrier	PEA	600 MHz Spectrum Blocks Acquired	Population per PEA	PEA Name
Agri-Valley Communications, Inc.	PEA081	1	767,362	Saginaw, MI
	PEA203	2	303,041	Traverse City, MI
	PEA260	2	208,861	Alpena, MI
Bluegrass Consortium	PEA096	1	620,049	Richmond, KY
	PEA112	1	526,621	Bowling Green, KY
	PEA162	1	364,517	Elizabethtown, KY
	PEA204	1	301,206	Owensboro, KY
Chariton Valley Telephone Corporation	PEA367	1	66,156	Moberly, MO
	PEA385	1	49,159	Hannibal, MO
	PEA393	1	36,158	Macon, MO
CT Cube, L.P.	PEA288	2	165,252	Abilene, TX
	PEA320	2	119,412	San Angelo, TX
	PEA363	2	70,297	Big Spring, TX
	PEA390	2	45,514	Snyder, TX
	PEA402	2	23,231	Brady, TX
	PEA408	2	14,964	Ballinger, TX
CWW Consortium	PEA115	1	512,200	Asheville, NC
	PEA208	2	297,865	Salisbury, NC
	PEA215	1	282,468	Hickory, NC
	PEA233	2	244,153	Shelby, NC
	PEA234	1	242,524	Lexington, NC
	PEA266	2	197,430	Lenoir, NC
	PEA304	2	143,013	Mount Airy, NC
	PEA346	2	80,814	Franklin, NC
	PEA349	1	78,393	Marion, NC
Farmers Telephone Cooperative, Inc.	PEA154	2	394,573	Myrtle Beach, SC
	PEA238	2	239,989	Florence, SC
	PEA239	1	238,596	Kannapolis, NC
	PEA248	3	223,344	Sumter, SC
Pine Belt Cellular, Inc.	PEA170	1	358,396	Dothan, AL
	PEA258	1	210,229	Cullman, AL
	PEA300	2	144,376	Selma, AL
	PEA344	2	82,318	Clanton, AL
	PEA377	2	57,694	Demopolis, AL
	PEA397	1	34,310	Aliceville, AL
Pioneer-Nex-Tech Wireless-Rural Tel Consortium	PEA211	1	291,829	Ardmore, OK
	PEA251	2	219,945	Salina, KS
	PEA277	2	183,101	Hutchinson, KS
	PEA302	2	143,731	Enid, OK
	PEA305	2	142,644	Altus, OK
	PEA368	1	65,577	Concordia, KS

97. Cogeco notes that the FCC is planning to use even more granular licence areas than PEAs in future auctions. For both the anticipated 3.5 GHz CBRS Auction and future mmWave auctions, the FCC is considering licensing on the basis of Census Tracts, of which there are 74,000 covering the US. For the 28 GHz band it is planning on licensing by County of which there are 3,000 across the US.

98. The FCC has set out a number of reasons for proposing to use Census Tracts for 3.5 GHz:<sup>29</sup>

- a) Census tracts provide a level of geography allowing for flexible and targeted network deployments, promoting intensive and efficient use of spectrum, but also allowing easy aggregation to accommodate a larger network footprint.
- b) Census tracts nest into counties and other political subdivisions. In turn, they nest into the standardized licence areas commonly used by the Commission (e.g. CMAs, EAs, and Partial Economic Areas).
- c) Census tract-level licensing also aligns well with small cell deployment. Due to their low power and small size, small cells can provide broadband coverage and capacity in targeted geographic areas.
- d) The FCC's goal of "providing economic opportunity to a wide variety of applicants" is "particularly compelling in light of the opportunities for participation with much lower capital investment requirements associated with smaller service areas..." and,
- e) The FCC noted "*Traditional licensing areas will not allow users of the band to acquire (licenses) only for those specific geographic areas they intend to serve. Divesting large, unwanted swaths through secondary markets transactions could impose significant transactions costs. On the other hand, should users of the band desire to provide service within traditional geographic license areas, they can aggregate multiple contiguous census tracts, which as discussed above, nest into the standardized license areas commonly used by the Commission.*"

---

<sup>29</sup> Report and Order and Second Further Notice of Proposed Rulemaking, GN Docket 12-354, FCC 15-47, April 21, 2015, paragraphs 96-100

99. Cogeco submits that the rationales used by the FCC for 3.5 GHz apply equally well to 600 MHz licensing in Canada. Small licence areas align well with targeted network deployment and provide greater opportunity for a wide variety of operators.

***Smaller licence areas would promote greater spectrum utilization, and ensure that resources are put into the hands of those who can most benefit from them***

100. Recent ISED developments also support the trend to smaller licence areas. Of note, ISED is considering applying network deployment conditions on a Tier 4 basis for renewal of licences issued on a Tier 2 basis.<sup>30</sup> In the Consultation Document, ISED proposed mid-term deployment requirements on increasingly granular basis (going from Tier 2 to Tier 4) over time, to ensure the continuing build-out of networks over the licence term.<sup>31</sup> This would mean that even if a licence has been issued for a broad geographic area, conditions of licence would require deployment across smaller subdivisions of the licensed area. This would promote greater spectrum utilization even in cases where overall deployment targets, if considered at the level of the Tier 2, can be met while leaving “pockets” of geography not covered.

101. Cogeco is encouraged that ISED recognizes the problem of uneven network deployment where spectrum is licensed on the basis of large service areas. However, while establishing network deployment requirements on a more granular basis can mitigate this issue, it does not result in the benefits noted above of licensing on the basis of smaller service areas. Further, network deployment requirements that apply to progressively smaller service areas over time still allow network operators to ignore more rural and remote areas as long as possible. Licensing spectrum on the basis of small service areas and establishing network coverage requirements for all such areas is the only way to ensure that all

---

<sup>30</sup> Gazette Notice SLPB-002-17, *Consultation on a Licence Renewal Process for Advanced Wireless Services and other Spectrum*, 17 June 2017

<sup>31</sup> Consultation Document, paragraph 134.

Canadians will benefit from the spectrum at the same time and that no areas are left neglected for years.

102. Based on the foregoing considerations, Cogeco urges ISED to license set-aside 600 MHz spectrum on the basis of Tier 4 service areas.

103. Cogeco notes, however, that a number of Tier 4 service areas are unusually large, and recommends that some of these should be slightly modified by excluding certain large Census Metropolitan Areas from the Tier 4 areas in which they are currently located, such as Toronto, Montreal and other large cities. These small modifications could be completed rapidly and would have no impact on the schedule of the auction, while enabling regional and smaller carriers to participate in the 600 MHz auction for the benefit of Canadian consumers wherever they live. This proposal is described in greater detail in the Annex A to this submission.

***Question 5: ISED is seeking comments on:***

***a) The advantages and disadvantages of the three auction formats being considered for the 600 MHz auction:***

- i. Combinatorial clock auction, using the WARP-based activity rule (annex A);***
- ii. Combinatorial clock auction, using the GARP-based activity rule (annex B);***
- iii. Enhanced combinatorial clock auction (annex C).***

***b) Where there is a preference for one of the options, respondents are asked to provide a rationale and explanation.***

104. The Enhanced Combinatorial Clock Auction (“ECCA”) proposal has a number of desirable features, which Cogeco believes would be positive for the CCA auction process. In particular:

- a) provision of discount information to bidders during the clock rounds,
- b) certainty surrounding the max and protection bids, ensuring bidders can be sure of winning their final clock package, and,
- c) capping of supplementary round bid values to reduce the impact of “strategic bidding”.

105. Cogeco looks forward to reading the comments of other interested parties on the technical parameters of the three options proposed by ISED.

***Question 6: ISED is seeking comments on:***

- a) The proposal that winners of more than one block in a single service area be assigned contiguous blocks; and***
- b) The proposed structure of the assignment stage, including the order of the assignment rounds and the combination of service areas into a single assignment round.***

106. Cogeco agrees with ISED’s proposal that winners of more than one block in a single service area be assigned contiguous blocks. As ISED notes, using contiguous spectrum is generally more efficient than using fragmented spectrum.

***Question 8: ISED is seeking comments on the proposed Affiliated and Associated Entities rules that would apply to bidders in the 600 MHz auction.***

107. ISED proposes to apply the following definition of associated entity<sup>32</sup> and to permit such entities to participate separately<sup>33</sup> in the auction for 600 MHz spectrum:

---

<sup>32</sup> Consultation Document, paragraph 92.

*Any entities that enter into any partnerships, joint ventures, agreements to merge, consortia or any arrangements, agreements or understandings of any kind, either explicit or implicit, relating to the acquisition or use of any spectrum in the 600 MHz band will be treated as associated entities. Typical roaming and tower sharing agreements would not cause entities to be deemed associated.*

108. Cogeco notes that consumers in many parts of Canada are served by entities that provide service via network sharing agreements. These include Bell and Telus across the country, and Rogers and Videotron in Quebec. Cogeco is very concerned that allowing associated entities to bid separately could compromise the integrity of the spectrum assignment process.

109. The Bell-Telus network sharing agreement has been in place since 2001, mainly implemented via license subordination agreements. Based on the definition proposed by ISED, therefore, Bell and Telus are clearly “associated entities,” as their network sharing agreement relates to the “acquisition and use” of the spectrum acquired at auction and there is no reason to believe that they would treat any differently any 600 MHz spectrum obtained in this auction.

110. Cogeco notes that, by pooling their spectrum licences, the network sharing agreement has given Bell and TELUS access to low band spectrum on a nationwide basis in both 700 MHz and 850 MHz and, in effect, to build out as a single network. This means that, across Canada, there are effectively two incumbent network providers that have low band (<1 GHz) spectrum holdings: Rogers and Bell-TELUS.

111. Bell and Telus also appear to have built out their networks disproportionately in different parts of the country, with relatively little overlap in their respective build-outs. The table below summarizes the geographic distribution of sites deployed Bell and TELUS, based on ISED site data for the AWS-1 and 700 MHz bands. These two bands were chosen because the spectrum was new spectrum auctioned after the

---

<sup>33</sup> Consultation Document, paragraph 96.

2001 network sharing agreement came into effect, both Bell and Telus acquired licences, and both have deployed networks.

**Table 5 – Impact of TELUS and Bell Network Sharing on Site Deployment**

<b>Deployment of AWS-1 and 700 MHz</b>	ISED Site Records (1)	
	Eastern Canada	Western Canada
Bell	36,991	1,023
	97%	3%
TELUS	9,174	18,503
	33%	67%

*NOTE 1. per ISED database, version of June 2017; Eastern Canada meaning from Ontario east, Western Canada meaning from Manitoba west*

112. As shown above, the deployment of sites by Bell and Telus is highly complementary, with Bell almost exclusively in Eastern Canada and Telus predominantly in Western Canada. Of particular note is the fact that Telus has no sites at all in Atlantic Canada, even though it has licences there, and that Telus' Eastern Canada deployment is focused on those parts of Quebec where it is the incumbent local exchange carrier (ILEC).

113. The inescapable conclusion is that Bell and Telus are treating their networks as one.

114. Bell and TELUS were, however, allowed to bid separately in the 700 MHz auction. This enabled them to jointly acquire 20 MHz of prime spectrum, which then appears to have been deployed in complementary fashion across their networks (based on the table above), even though the spectrum cap for national incumbents in that auction was in fact 10 MHz. This in turn limited regional carriers to only 10 MHz which is an amount too low to provide significant benefits in the age of LTE and evolution to 5G.



115. Cogeco does not consider this to be in the national interest and ISED should ensure associated entities cannot bid separately to double the spectrum available to them.

116. Rogers and Videotron have a similar network sharing agreement in Quebec which they entered into in 2013. The only auction process where the impact of this agreement can be seen is the 700 MHz auction held in 2014.

117. In that auction, Rogers acquired the Lower A and B blocks covering Quebec and Eastern Ontario, and the Lower C block in Northern Quebec, while Videotron acquired the Upper C1 block in those same areas. Cogeco notes Videotron was limited in its ability to acquire more than 1 block of prime 700 MHz spectrum because Bell and Telus were bidding as two entities.

118. Rogers has since extensively deployed its 700 MHz spectrum in Quebec while Videotron has not deployed any sites using their Upper C1 block.<sup>34</sup> However, Videotron has access to the Rogers 700 MHz spectrum via its sharing agreements with Rogers. Essentially, the agreement between Rogers and Videotron in Quebec appears to mirror the Bell and TELUS agreement across the country.

119. For purpose of bidding in Quebec, therefore, Rogers and Videotron should be considered “associated”, and thus only allowed to bid as one bidder.

120. Cogeco points out that its concern regarding separate bidding by associated entities appears to be shared by other parties. Ice Wireless, for instance, noted in its 14 August 2017 comments in ISED’s *Consultation On a Licensing Framework For Residual Spectrum Licences in the 700 MHz, 2500 MHz, 2300 MHz, PCS and 1670-1675 MHz Bands*:

---

<sup>34</sup> Based on ISED “Spectrum Licences Site Data” of August 2017, [http://www.ic.gc.ca/engineering/SMS\\_TAFL\\_Files/Site\\_Data\\_Extract\\_2017-08-02.zip](http://www.ic.gc.ca/engineering/SMS_TAFL_Files/Site_Data_Extract_2017-08-02.zip)

*Ice Wireless is opposed to any rule that allows Affiliated or Associated entities to make separate bids or that applies spectrum aggregation limits separately between Affiliated or Associated entities. Specifically, Ice Wireless is concerned that the rules regarding Associated entities will enable manipulation to allow aggregation in excess of what is permitted by the licensing framework. Such separation works strongly against smaller providers and new entrants, does not further telecommunications policy with regards to competitiveness and affordability [footnote omitted], and is not in the best interest of the consumer.<sup>35</sup>*

**Question 10: ISED is seeking comments on its proposal to issue spectrum licences in the 600 MHz band with a 20-year licence term and the proposed wording of the condition of licence above.**

121. ISED proposes to include the following conditions of licence in the spectrum licences for the 600 MHz band:

*The term of this licence is 20 years. At the end of this term, the licensee will have a high expectation that a new licence will be issued for a subsequent term through a renewal process unless a breach of licence condition has occurred, a fundamental reallocation of spectrum to a new service is required, or an overriding policy need arises.*

*The process for issuing licences after this term and any issues relating to renewal, including the terms and conditions of the new licence, will be determined by the Minister following a public consultation.*

122. Cogeco agrees with ISED's proposal to issue spectrum licences with 20-year licence terms. This duration gives shareholders and lenders the confidence to support expensive builds and provides the appropriate incentives and opportunities to innovate.

<sup>35</sup> Ice Wireless Comments, *Consultation On A Licensing Framework For Residual Spectrum Licences In the 700 MHz, 2500 MHz, 2300 MHz, PCS and 1670-1675 MHz Bands*, Canada Gazette Notice No. SLPB-003-17, 14 August 2017, at paragraph 16.

123. Cogeco notes, however, that issuing 20-year licences with “*a high expectation ... for a subsequent term*” on the basis of Tier 2 service areas could in fact reduce the incentive for the licensee to ensure that the licensed spectrum is deployed in all parts of the service area. If ISED were to decide to license set-aside 600 MHz spectrum using Tier 2 service areas (which Cogeco does not recommend), ISED would also need to implement effective mechanisms for the return of spectrum which has not been used in a given Tier 4 service area within a reasonable period of time, and to re-issue that spectrum to persons who are able and willing to deploy it. It is contrary to the public interest to allow licensees to let valuable public resources like spectrum lie fallow. As noted above, the PCS Block A remains unused across a significant number of Tier 4 service areas in Ontario and Quebec (see Annex B).<sup>36</sup>

124. Cogeco points out that these concerns would be greatly reduced if ISED were to issue set-aside 600 MHz spectrum on the basis of Tier 4 service areas as proposed in this submission (including the modifications to the four Tier 4 service areas described in Annex A). The greater granularity of these Tier 4 service areas ensures bidders only seek spectrum in the areas where they are most interested in deploying networks and providing services, which vastly increases the likelihood of the spectrum being put to good use.

***Question 11: ISED is seeking comments on the proposals on the condition of licence related to transferability and divisibility, and the proposed wording above.***

125. Cogeco agrees with ISED’s proposed licence conditions permitting the divisibility and transferability, both in terms of geographic area and bandwidth, of the

---

<sup>36</sup> Based on ISED “Spectrum Licences Site Data” of August 2017, [http://www.ic.gc.ca/engineering/SMS\\_TAFL\\_Files/Site\\_Data\\_Extract\\_2017-08-02.zip](http://www.ic.gc.ca/engineering/SMS_TAFL_Files/Site_Data_Extract_2017-08-02.zip). Other examples include 4-023 Matane and 4-065 Port Cartier / Sept-Iles, where Rogers has deployed no network using 850 MHz Block A spectrum.

600 MHz spectrum licences. As noted in the response to Question 1D above, the proposed limit on the transferability of the two spectrum set-asides for the first five years of the licence term will limit the ability of the national incumbent MNOs to consolidate their control over spectrum in Canada and will allow a reasonable amount of time for pro-competitive measures to result in effective and sustained competition.

**Question 13: ISED is seeking comments on proposed conditions of licence outlined in annex G that would apply to licences issued through the proposed auction process for spectrum in the 600 MHz band.**

126. Cogeco generally agrees with proposed conditions of licence in annex G for network deployment but is concerned that the process for negotiating tower sharing is reported to be difficult and long as noted by Eastlink:

*At the same time, wholesale tower sharing rates continue to be excessively high with the incumbent wireless service providers – other tower owners are more reasonable. It is considerably less expensive to build our own tower than to colocate on towers owned by Bell, Telus and/or Rogers, yet the Department mandates Eastlink to colocate wherever possible. At current rates, this mandate adds unnecessary and unreasonable costs to each network deployment and hinders our ability to launch services in new markets and to fill in coverage gaps within our serving area, prolonging our reliance on wholesale roaming in areas where we could otherwise build out our network.*

*The high cost of sharing the incumbents' towers is made worse by the considerable delays, unreasonable requirements, and other issues we experience. These significant delays in gaining access to each incumbent tower directly delays our planned service launches in new markets. For example, Eastlink must have a minimum satisfactory level of network coverage in a community before we can launch service there, in order to provide a positive customer experience, and to minimize our high wholesale roaming costs. Prolonged delays gaining access to incumbent towers in one market hold up deployment in all the*

*subsequent communities where we plan to deploy our network and offer competitive services.*<sup>37</sup>

127. Cogeco strongly recommends ISED review the process and intervene to ensure the sharing of tower space is provided at reasonable cost and in reasonable timeframe, and benefits Canadians by reducing the number of new towers where not necessary.

***Question 14: ISED is seeking comments on the proposed opening bids as presented in table 1.***

128. Cogeco is proposing ISED issue licences on the basis of Tier 4 service areas (including the modifications to four Tier 4 service areas). The opening bids, therefore, would need to be adjusted to reflect the population of the actual service areas adopted at a price per MHz per pop which reflects the relative value of large metropolitan cities versus other regional municipalities. The results of the 2008 AWS-1 auction at a Tier-3 level could be used to determine the relative value of these Tier 4 services areas relative to the proposed Tier 2 opening bids.

***Question 15: ISED is seeking comments on the proposed eligibility points for spectrum licences in the 600 MHz as outlined in table 2, and pre-auction deposits as outlined above.***

129. Consistent with the response to Question 14, the proposed pre-auction deposits and eligibility points would need to be adjusted to reflect the population of the actual service areas adopted by ISED, as Cogeco is proposing ISED issue set-aside

---

<sup>37</sup> Comments of Bragg Communications, Inc., operating as Eastlink, *Consultation on a Licence Renewal Process for Advanced Wireless Services and Other Spectrum*, Canada Gazette SLPB-002-17, 25 July 2017, at paragraphs 7-8.

spectrum licences on the basis of Tier 4 service areas (including the modifications to four Tier 4 service areas).

***Question 16: ISED is seeking comments on the proposed renewal process for spectrum licences in the 600 MHz band.***

130. Cogeco agrees with the proposed renewal process. However, as noted in the response to question 10 above, if ISED should decide to license 600 MHz spectrum on the basis of Tier 2 service areas (which Cogeco is opposed to particularly for the set-aside portion), ISED must also implement and apply effective mechanisms for the return of spectrum which has not been used in a given Tier 4 service area within a reasonable period of time. Following this, ISED would divide and re-issue that spectrum to persons who are both able and willing to deploy it. It is not in the public interest to allow licensees to let valuable public resources like spectrum lie fallow for extended periods of time.

## Annex A

### Proposed Subdivision of Selected Tier 4 Service Areas

1. While having clearly demonstrated earlier why spectrum set-aside for regional operators must be at a Tier 4 service area, a number of Tier 4 service areas are still too large and fail to adequately represent Statistics Canada census analysis, census agglomerations (CA) or census metropolitan areas (CMA).
2. Other companies have made similar comments in other consultations that Tier 4 areas are often still too large and this severely hinders the business case of smaller regional operators or new entrants. For example, in its comments in *Consultation on a Licensing Framework for Residual Spectrum Licences in the 700 MHz, 2500 MHz, 2300 MHz, PCS and 1670-1675 MHz Bands*, Ecotel Inc. stated:

*Tier-4 license areas would allow Ecotel and other small carriers to focus on specific markets where they want to offer service and not have to take an entire tier-2 or tier-3 to do so.<sup>38</sup>*

3. Ecotel recommended as a result that the residual licences should be auctioned on a per-Tier 4 basis, and presented a case study around Edmonton indicating that the metropolitan population of the city hindered its business case. BC Broadband Association, a commenter in that same proceeding, suggested that even Tier 4 service areas were too large:

*By subdividing licences into smaller licence areas, local operators will be able to obtain these licences and put them to immediate*

---

<sup>38</sup> Ecotel Inc. Comments, *Consultation on a Licensing Framework for Residual Spectrum Licences in the 700 MHz, 2500 MHz, 2300 MHz, PCS and 1670-1675 MHz Bands*, Gazette Notice SLPB-003-17, 11 August 2017, at paragraph 21.

*use. Tier-4 licence areas are too large to facilitate services to rural Canadians.<sup>39</sup>*

4. There are 172 Tier 4 service areas and in general each Tier 4 service area has a single CA or a single CMA. Having studied extensively the Tier-4 areas in Ontario and Quebec, Cogeco illustrates here that some service areas are too large and comprise too many markets. We recommend other regional operators identify similar concerns in their operating regions.
  
5. As a baseline, consider the following two service areas of 4-083 Fort Erie and 4-080 Fergus. The municipality of Fort Erie is part of the Statistics Canada's CMA of St. Catharines - Niagara yet it was issued its own Tier-4 service area.

**Table 6**

Service Area	2011 Census pop.	Width	Height	Nearest larger urban centre
4-083 Fort Erie	30,344	~20 km	~15 km	Niagara Falls (27 km)

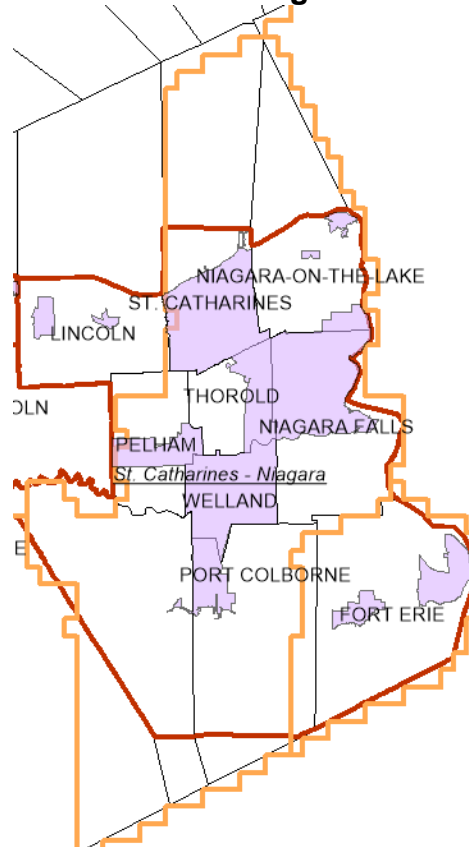
6. The map below illustrate census subdivisions in black, the CA or CMA in red, the existing Tier-4 boundary in yellow and the purple areas illustrate the urban ecumene.

---

<sup>39</sup> BC Broadband Association Comments, *Consultation on a Licensing Framework for Residual Spectrum Licences in the 700 MHz, 2500 MHz, 2300 MHz, PCS and 1670-1675 MHz Bands*, Gazette Notice SLPB-003-17, 15 August 2017 at paragraph 7



**Figure 4**



**Table 7**

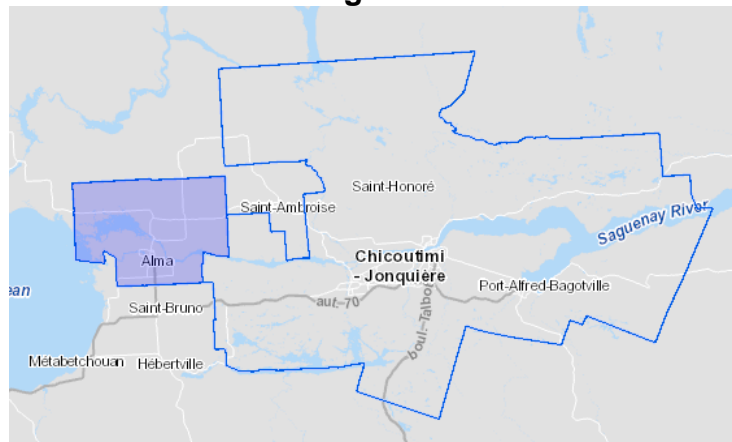
Service Area	2011 Census pop.	Width	Height	Nearest larger urban centre
4-080 Fergus	28,354	20 km	30 km	Guelph (20 km) Kitchener-Waterloo (25 km)

7. Now consider the following municipalities and Tier-4 service areas:

Alma, Québec

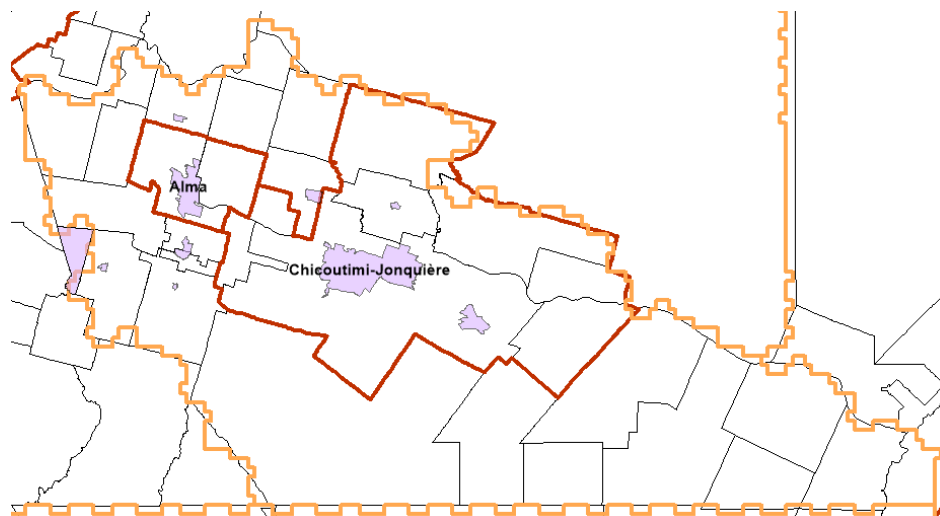
8. Alma is a Census Agglomeration (CA) adjacent to the CMA of Chicoutimi-Jonquière:

**Figure 5**



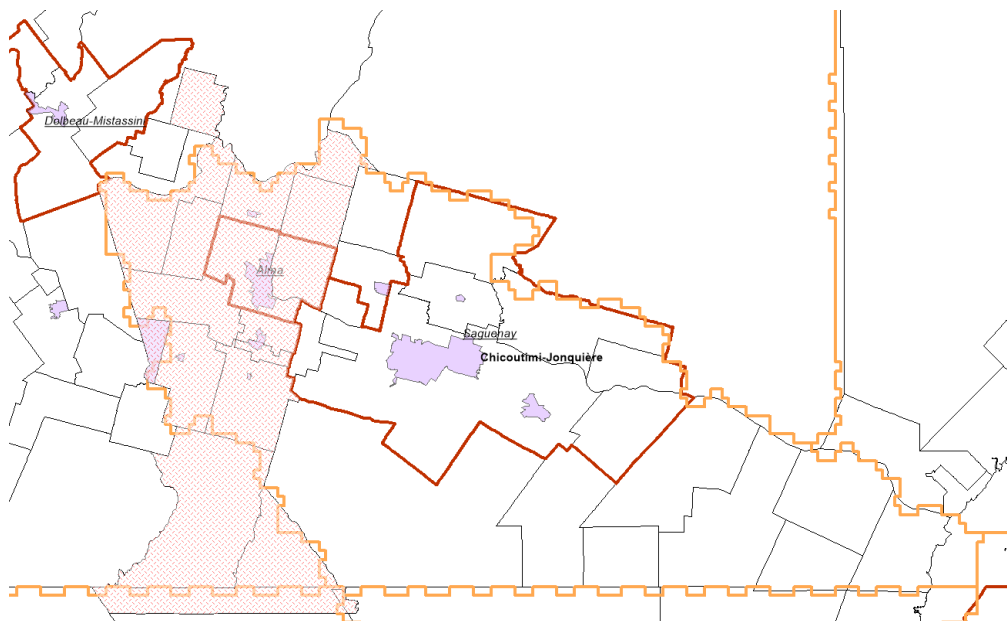
9. The Alma CA has been lumped into Tier 4-028 Chicoutimi - Jonquière. The map below illustrates census subdivisions in black, the CA or CMA in red, the existing Tier-4 boundary in yellow and the purple areas illustrate the urban ecumene.

**Figure 6**



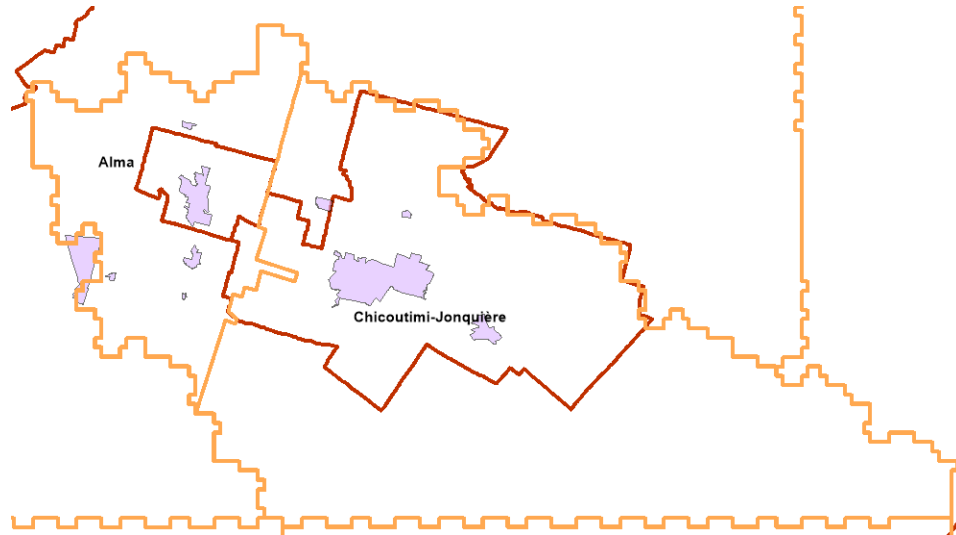
10. If Fort Erie in Ontario is part of the CMA of St. Catharines - Niagara and was given its own Tier 4-083 with a population of only 30,344, then Alma as a distinct CA also deserves its own service area. The diagram below superimposes the limits of Statistics Canada census division of Lac-St-Jean-Est which matches the Quebec “Municipalités Régionales de Comté” (MRC) of Lac-St-Jean-Est which includes Alma.

**Figure 7**



11. Using the census division or MRC information the government of the Province of Quebec considers to be a logical division to identify which census subdivision should be divided from 4-028 to become part of the Alma service area, we would obtain the following map. Note that the census subdivision of Larouche has been grouped with Alma.

**Figure 8**



12. The population and approximate dimensions of a new Alma service area are shown below. It would be larger in both population and size to the existing 4-083 Fort Erie service area. Note that the distance to the larger municipality of Chicoutimi - Jonquière is over 42 km, significantly more than the distance that separates Fort Erie to Niagara Falls. The revised Tier-4 of Chicoutimi - Jonquière with a new population of 163,356 would place it at the 31st rank of the largest Tier-4 service areas down from position 22. The new Alma service area would be at the midpoint ranking of the largest Tier 4s.

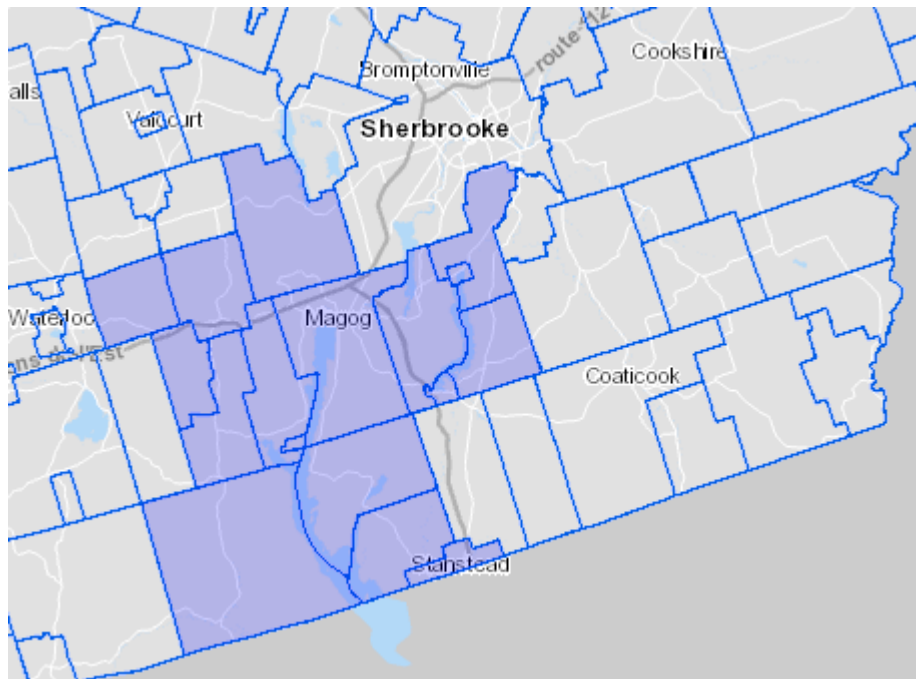
**Table 8**

New Service Area	2011 Census pop.	Width	Height	Nearest larger urban centre
4-173 Alma	52,497	25 km	50 km	Chicoutimi - Jonquière (42 km)
4-174 Chicoutimi-Jonquière (revised)	163,356	-	-	-

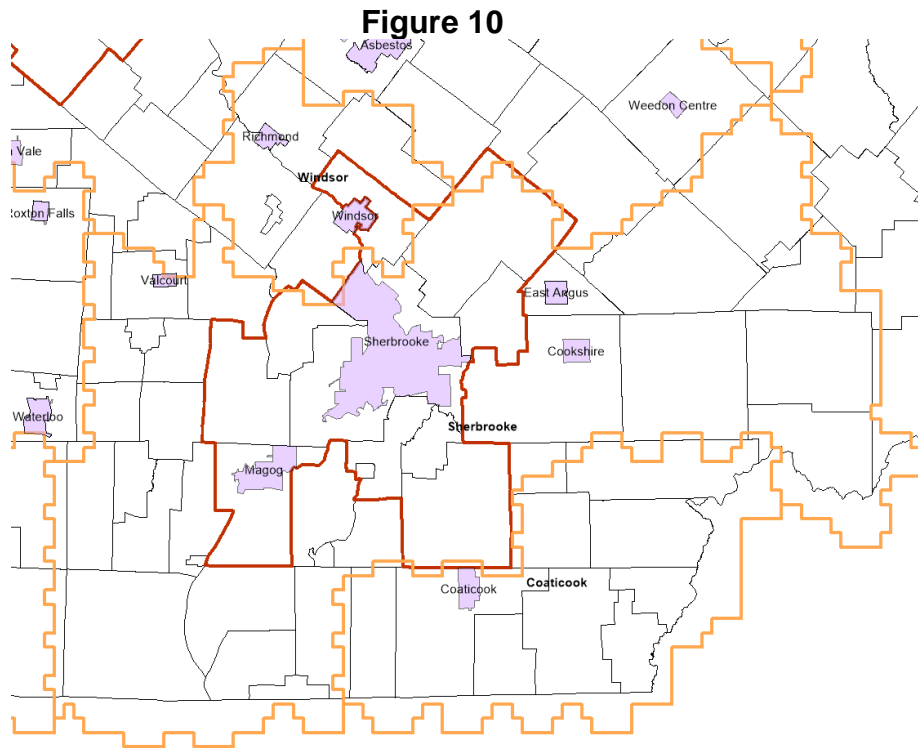
Memphrémagog, Québec

13. Memphrémagog is a Census Division that includes the city of Magog which is part of the CMA of Sherbrooke.

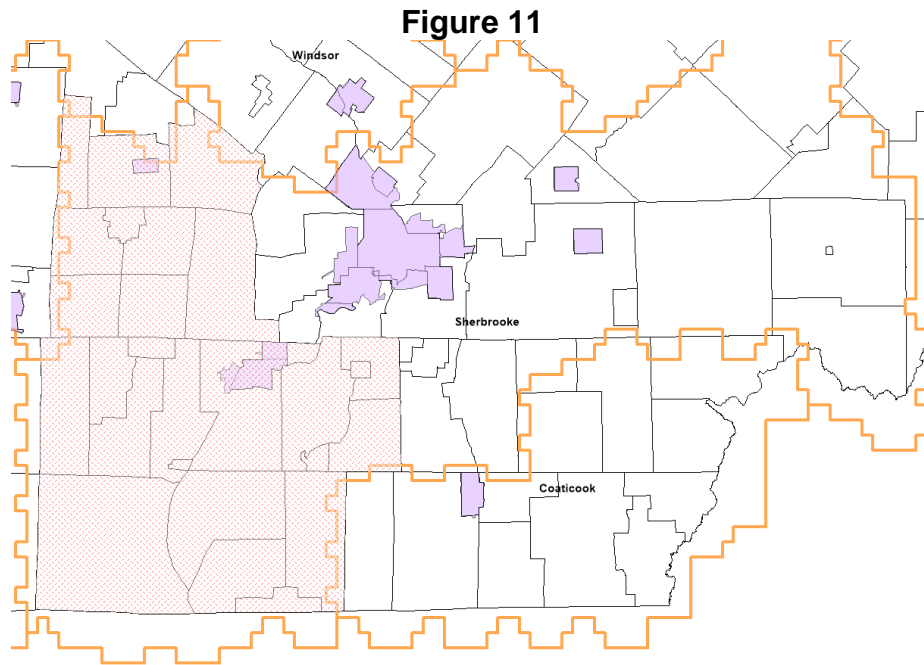
**Figure 9**



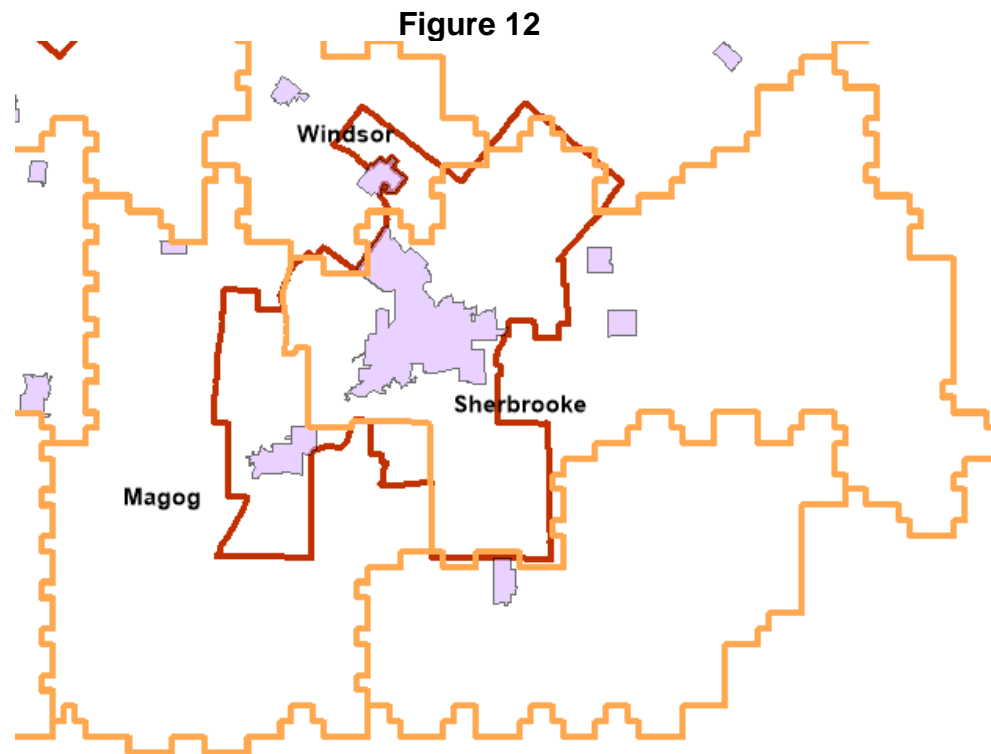
14. Memphrémagog has been lumped into Tier 4-042 Sherbrooke service area. The map below illustrates census subdivisions in black, the CMA in red, the existing Tier 4 boundary in yellow and the purple areas illustrate the urban ecumene. Of interest is how the much smaller municipality of Windsor to the north of Sherbrooke has its own service area but Magog does not.



15. If Fort Erie in Ontario is part of the CMA of St. Catharines - Niagara and was given its own Tier 4-083 with a population of only 30,344, then the city of Magog and its MRC Memphrémagog as a distinct census division also deserves its own service area. The diagram below superimposes the limits of the MRC Memphrémagog.



16. Using the MRC information the government of the Province of Quebec considers to be a logical division to identify which census subdivision should be divided from 4-042 to become part of the Memphrémagog service area, we would obtain the following map.



17. The population and approximate dimensions of a new Memphrémagog service area are shown below. It would be larger in both population and size to the existing 4-083 Fort Erie service area. Note that the distance to the larger municipality of Sherbrooke from Magog is over 32 km, more than the distance that separates Fort Erie to Niagara Falls. The revised Tier 4 of Sherbrooke with a new population of 163,356 would place it at the 25th rank of the largest Tier 4 service areas down from position 20. The new Memphrémagog service area would be at the midpoint ranking of the largest Tier 4s.



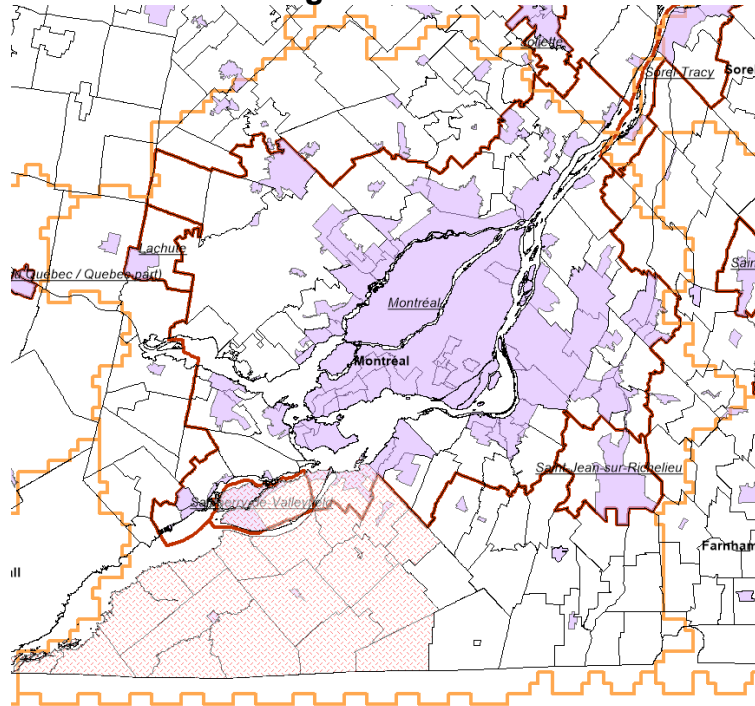
**Table 9**

<b>New Service Area</b>	<b>2011 Census pop.</b>	<b>Width</b>	<b>Height</b>	<b>Nearest larger urban centre</b>
4-175 Memphrémagog	56,588	35 km	55 km	Sherbrooke (32 km)
4-176 Sherbrooke (revised)	183,917	-	-	-

Beauharnois-Salaberry, Québec

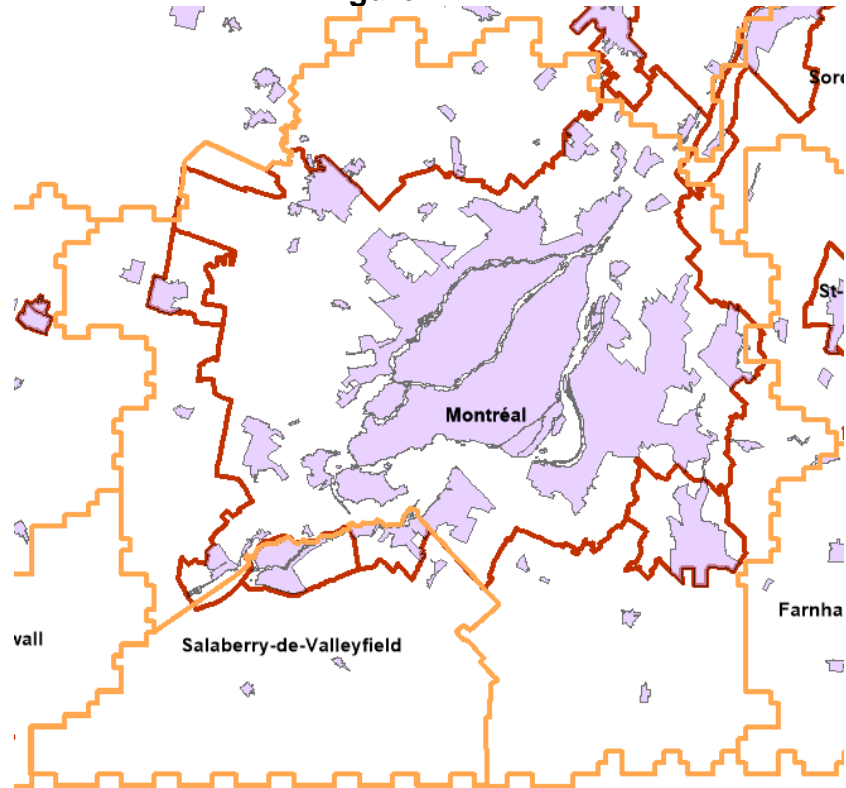
18. Salaberry-de-Valleyfield is a census agglomeration that is adjacent to the CMA on Montreal and which has been lumped into Tier 4-051 Montreal service area along with two other CAs (Lachute to the northwest and St-Jean-sur-Richelieu to the southeast). Of interest is that the CA of Joliette to the north east and which is also adjacent to the CMA of Montreal already has its own Tier-4 service area.
  
19. The map below superimposes the census divisions and MRC of Beauharnois-Salaberry and MRC Le-Haut-Saint-Laurent in shaded red.

**Figure 13**



20. If Fort Erie in Ontario is part of the CMA of St. Catharines - Niagara and was given its own Tier 4-083 with a population of only 30,344, then the census agglomeration of Beauharnois-Salaberry as a distinct census division also deserves its own service area.
21. Using the MRC information the government of the Province of Quebec considers to be a logical division to identify which census subdivision should be divided from 4-051 to become part of the Beauharnois-Salaberry service area, we would obtain the following map:

**Figure 14**



22. The population and approximate dimensions of a new Beauharnois-Salaberry service area are shown below. It would be almost three times the population and size to the existing 4-083 Fort Erie service area. Note that the distance to the Island of Montreal is about 25 km, about the same distance that separates Fort Erie to Niagara Falls. The new Beauharnois-Salaberry service area would be the 58th largest Tier 4.

**Table 10**

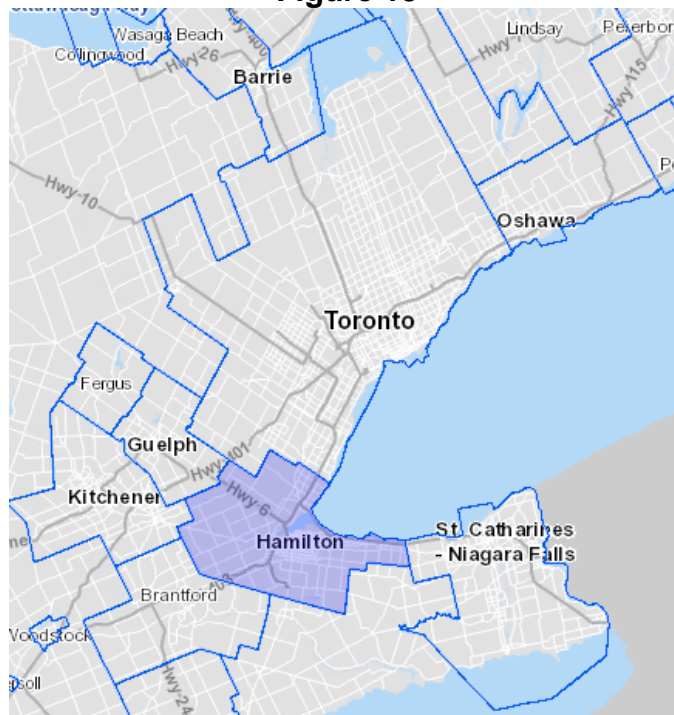
New Service Area	2011 Census pop.	Width	Height	Nearest larger urban centre
4-177 Beauharnois-Salaberry	86,774	>60 km	>30 km	Montreal (25 km)

23. Cogeco also suggests that to the north end of Tier 4-051 Montreal, that the municipalities of St-Sauveur, Sainte-Anne-des-Lacs and Piedmont be divided and grouped with Tier 4-052 Sainte-Agathe-des-Monts. These are outside the CMA of Montreal and the first two are part of the MRC Les Pays-d'en-Haut that includes the city of Sainte-Adèle less than 10 km away. The federal riding of Laurentides - Labelle also groups all these municipalities with those in Tier 4-052 rather than with Montreal and this represents the reality of this region.

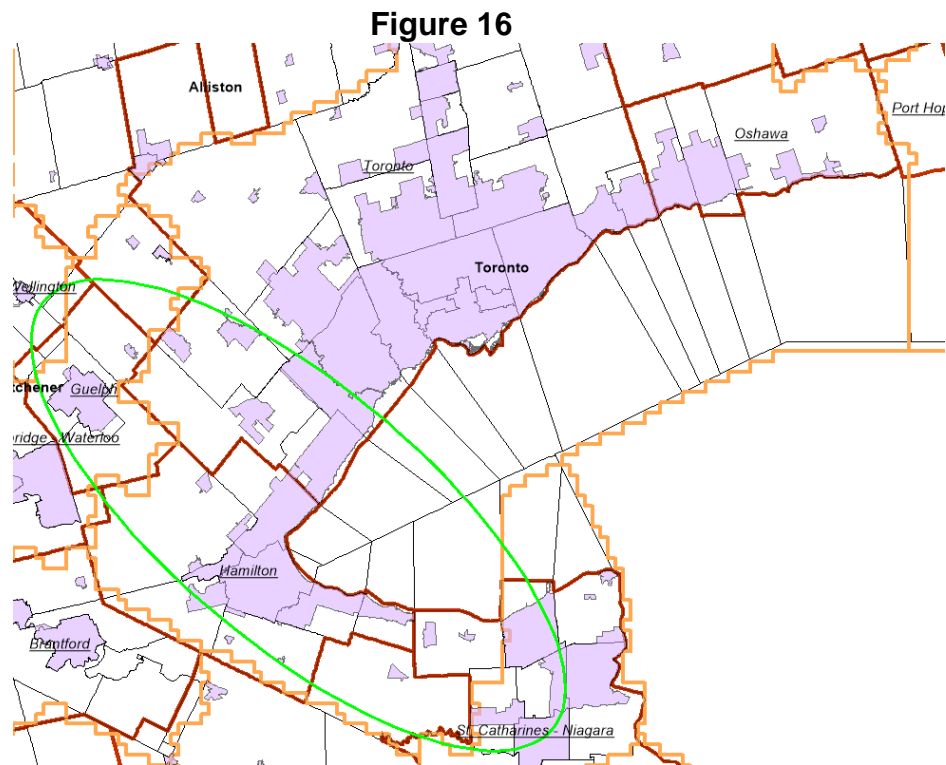
Hamilton - Halton, Ontario

24. Hamilton, besides the city, is a Census Metropolitan Area (CMA) of its own adjacent the CMA of Toronto and CMA St. Catharines - Niagara. It includes a significant part of the regional municipality of Halton as well as Grimsby :

**Figure 15**



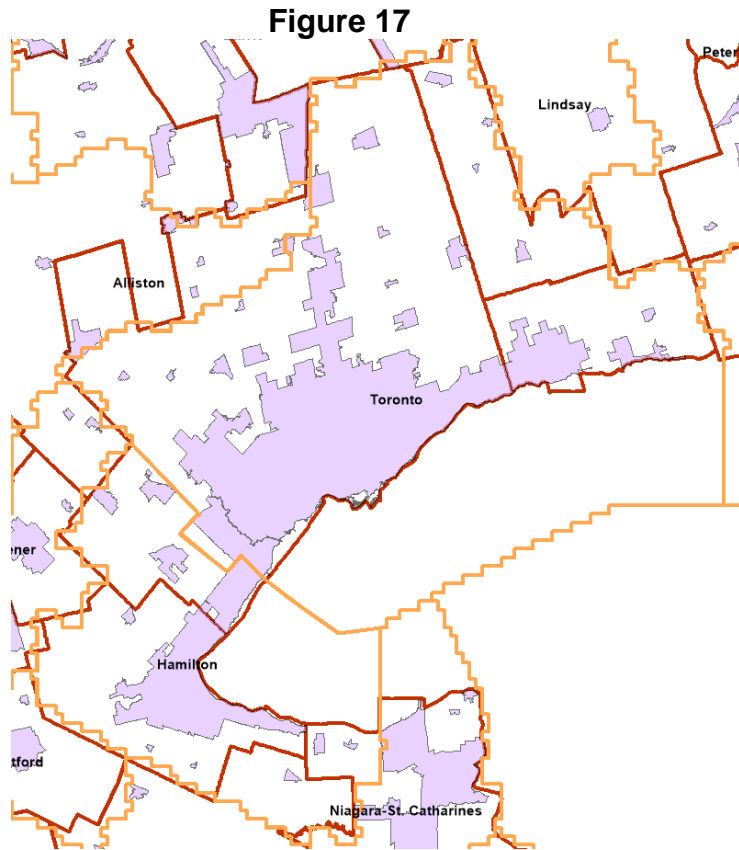
25. The CMA of Hamilton is lumped into the Tier 4-077 Toronto service area. 4-077 is unique in Canada as it is the only Tier 4 service area that includes not one but three census metropolitan areas (CMA Hamilton, CMA Toronto, and CMA Oshawa). Other Tier-4 service areas that include a CMA will have 1 to 3 CAs but never another CMA.



26. Tier 4-077 Toronto is the only Tier 4 in Tier 3-025 Toronto, meaning the Tier 4 service area serves no purpose to further refine the divisions of the Tier 3 area.
27. Cogeco is therefore proposing that Tier 4-077 be divided such that each census metropolitan area be a Tier-4 service area. The argument in the past to argue for a single service area has been that the population ecumene is contiguous from Oshawa to the edge of Hamilton but ISED has held spectrum auctions at both Tier 2 and Tier 3 service areas. Furthermore, Cogeco has suggested measures ISED may impose as licence conditions to enforce

cooperation amongst regional and new entrant operators that will easily and very simply mitigate any concerns of dividing 4-077. Also, the most recent auctions have included package bidding rules that allow a regional operator to limit exposure risks of not obtaining all the Tier 4 service areas needed for its business plan if required.

28. Since the CMA of Hamilton includes a portion of the Regional Municipality of Halton and that Halton is a census division (CD), Cogeco is proposing that the boundary of a new Tier 4 Hamilton include all of Halton census division.
29. It is important to understand how Statistics Canada determines if a municipality or census subdivision is part of a CMA, is its own CA or is a subdivision on its own using the "Delineation rules for CMA and CA" (see <http://www12.statcan.ca/census-recensement/2011/ref/dict/geo009-eng.cfm?=&wbdisable=true>). These rules include forward and reverse commuting flows and it is based on this information that the city of Burlington is associated with the CMA of Hamilton while Oakville is part of the CMA of Toronto. The city of Burlington as a ratio of the new Hamilton service area has a much more statistically important in percentage terms than Oakville has in proportion to Toronto. Maintaining the integrity of CMA Hamilton and giving it additional scale is therefore more important.
30. The map below indicates the new proposed boundary between Toronto and Hamilton and it is proposed the agricultural area to the east of Milton (along highway 403) acts as the limit, leaving highway 403 as part of the revised Toronto **service area**.



31. The population of a new Hamilton service area is shown below. With over 1.15 million in population, it would be the 7th largest Tier 4 in the country and the revised Toronto service area would still be the largest.

**Table 11**

New Service Area	2011 Census pop.
4-178 Hamilton	1,150,953

## Annex B

### Tier 4 Service Areas with Un-deployed Spectrum

**Table 12 - Tier 4 Service Areas in Ontario and Quebec where PCS block "A" (30MHz) has not been deployed**

Tier 4	Tier 4 Service Area Name	2011 Census Pop.
4-023	Matane	116151
4-024	Mont-Joli	39410
4-025	Rimouski	55043
4-026	Rivière-du-Loup	85102
4-027	La Malbaie	29287
4-031	Sainte-Marie	51853
4-032	Saint-Georges	70299
4-033	Lac-Mégantic	24977
4-034	Thetford Mines	42644
4-035	Plessisville	22441
4-036	La Tuque	16396
4-039	Asbestos	30367
4-040	Victoriaville	54163
4-041	Coaticook	13434
4-043	Windsor	16332
4-054	Mont-Laurier/Maniwaki	48925
4-059	Notre-Dame-du-Nord	16493
4-060	La Sarre	19817
4-063	Roberval/Saint-Félicien	59365
4-064	Baie-Comeau	45869
4-065	Port-Cartier/Sept-Îles	47167
4-066	Chibougamau	43185
4-083	Fort Erie	30344



4-102	Timmins	43453
4-103	Kapuskasing	37921
4-104	Kenora/Sioux Lookout	56600
4-107	Marathon	24905
4-109	Fort Frances	20342
<b>Total</b>		<b>1162285</b>

**Table 13 - Tier 4 Service Areas in 2-006 Eastern Ontario and Outaouais where Videotron has not deployed AWS-1**

Tier 4	Tier 4 Service Area Name	2011 Census Pop
4-056	Pembroke	82,043
4-057	Arnprior/Renfrew	30,906
4-067	Cornwall	67,288
4-068	Brockville	71,078
4-069	Gananoque	12,961
4-070	Kingston	175,895
4-071	Napanee	42,687
4-072	Belleville	152,877
4-073	Cobourg	62,837
4-074	Peterborough	161,498
4-075	Lindsay	44,663
<b>Total</b>		<b>2,347,556</b>

\*\*\* End of document \*\*\*