



**Telecom Notice of
Consultation
CRTC 2013-551**

*Review of wholesale services and
associated policies*

**Presentation to the
Canadian Radio-television and
Telecommunications
Commission**

28 November 2014



THE CITY OF
CALGARY

Good afternoon Mr. Chairman and Members of the Commission:

A. INTRODUCTION

1. The City of Calgary has a current population of approximately 1.2 million residents. It is experiencing and forecasting unprecedented growth of approximately 40,000 residents a year. As a result, the city's management is focused on municipal capital investment for the development of required new infrastructure. New residents require access to essential City services, such as water, power, sewage and transportation, which require high speed telecommunication networks for central monitoring and control. Growth necessitates accelerated deployment of municipal networks as well as privately owned networks for services that are increasingly seen by customers as virtually essential.
2. Calgary's role in the telecommunication wholesale services market is two-fold: it is a non-dominant carrier providing infrastructure in the form of support structures and dark fibre to telecommunication service providers ("TSPs"), but also owns and manages rights-of-way (ROWs) and other structures where telecommunication facilities are installed.
3. In this proceeding, Calgary focuses its presentation on those issues of municipal concern affecting, or affected by, the wholesale services market. Specifically, Calgary is advancing awareness about ROW capacity, or space, in high density urban environments. ROW space, when constrained, functions like an essential service in the wholesale services market. An incumbent's use of ROW space for installation of telecommunication facilities substantially lessens or prevents downstream competition where ROW space cannot be duplicated or accessed by a competitor.
4. Therefore, since Incumbents' existing rights to support structures and ROW space provide them significant advantage in building out a fibre-to-the-premise ("Fibre") network, Calgary is recommending the Commission mandate access to

Incumbents' Fibre networks. Calgary is also recommending the Commission consider the benefit that municipal fibre networks can provide in promoting competition in the downstream market and seeks additional policy support from the Commission for municipal fibre networks.

B. THE WHOLESALE SERVICES FRAMEWORK

(1) The Wholesale Services Framework – Focus on FTTP

5. The existing wholesale services framework recognizes that a duopoly of an incumbent local exchange carrier and a cable carrier (“Incumbents”) may not generate sufficient competitive pressure to ensure that the policy objectives of the *Telecommunications Act* are being met.¹ In the Commission’s latest Communications Monitoring Report (the “Report”), the Commission finds that five TSPs, Bell, Quebecor, Rogers, Shaw and Telus, “collectively dominate[] the market for Internet services”² and account for 85% of telecommunication services revenues.³ Typically, only two of these five providers compete with each other in a given geographical market.
6. With the goal of driving competition, the Commission has imposed mandatory network sharing polices on Incumbents, obligating Incumbents to make those parts of their networks deemed “essential” available to competitors at regulated rates. The dilemma that the Commission must address is that promoting competition between TSPs is not simply a matter of considering and applying economic principles. The physical reality of the installation of *all* telecommunication infrastructure has to be taken into account, which becomes particularly important with the construction of new Fibre networks.

(2) Support Structures and Above-Ground Installations in ROWs

7. Support structures are categorized as a “public good” wholesale service based on the fact that duplicate support structure facilities would result in an inefficient use of public land and private resources and would be an inconvenience to the public.⁴ During the course of the Consultation, Interventions emphasized the importance of

support structures when building new facilities.⁵ In its Intervention filed 31 January 2014, Bell Canada emphasized that “... support structures ... are one of the most significant aspects of constructing an FTTP network”.⁶ Bell Canada asserted that one of the reasons why Fibre networks are duplicable, and why Incumbents’ competitors have a significant advantage, is because they can access Incumbents’ support structures at low regulated rates.⁷ However, a primary issue for those competitors may be whether there is capacity on the most readily available and cost-effective support structures for installation of additional Fibre network facilities.

[SLIDE #1- POWER POLES]

8. For example, one the most cost-effective and efficient methods of deploying fibre optic cable is to use electric power poles. In Calgary, the power poles are owned by Enmax Corporation, which has an exclusive franchise to distribute electricity in Calgary. A “communication zone” on the power poles is available for installing fibre optic cable, within which only three installation points are available. One is occupied by Telus, the second is occupied by Shaw; the third is occupied by Enmax Envision, now owned by Shaw. As a result, one of the most accessible and cost-effective resources for deploying fibre optic cable is unavailable to any other TSP. Even the City cannot access Enmax’s power poles for its telecommunication installations.

[SLIDE #2 / SLIDE #3 - FIBRE CABINET INSTALLS]

9. Large cabinets need to be located above ground in ROWs or on private property for installation of Fibre networks.

[SLIDE #4 - MULTIPLE FIBRE CABINET INSTALLS]

10. Multiple installations of Fibre network cabinets by carriers are also an inefficient use of public land and private resources and a significant inconvenience to the public, similar to duplicate installations of support structures. Incumbents have the first opportunity to install cabinets above ground and as more TSPs want space for their cabinets, residents are likely to express increasing dissatisfaction, similar to the ongoing complaints received from the public with respect to cell towers.

11. In summary, the capacity of accessible, cost-effective support structures, such as power poles, may be limited or exhausted in many cases. The above ground capacity in ROWs is also limited as Fibre network cabinets are a visual blight and nuisance in residential neighbourhoods.

(3) Deployment and Regulation of Fibre-to-the-Premises Networks

12. The issue of mandated access to fibre-to-the-premise services has risen to the fore during this Consultation process. One of the significant issues before the Commission is whether the course set in 2008 to forbear from regulating high speed fibre based access and transport facilities should be reversed.⁸ Fibre networks are viewed by many as a game-changer in the telecommunication industry.⁹
13. The main drawback for Fibre networks is the upfront cost and process of building out to connect homes, institutions and businesses. Although the price for fibre optic cable is declining, costs associated with labour and construction remain high.¹⁰ Incumbents with access to support structures and ROWs and strong market share have competitive advantage in building out a Fibre network. Despite claims that deregulation will increase investment in Fibre networks, the chairman of the FCC observed in a recent speech that in the U.S. “as bandwidth increases, competitive choice decreases”.¹¹ Next generation broadband does not mean that its access comes with competitive choices.
14. Generally, the Incumbents’ submissions advocated for the Commission to continue to support facilities-based competition and for the Commission to forbear from regulating Fibre networks. Given the concept of duplicability and its application in determining whether a service should be determined to be “essential”,¹² it is not clear to Calgary how competitors could duplicate the Fibre networks built by Incumbents.
15. The Incumbents insist that their legacy networks do not provide them with any advantage. This claim does not appear to be true from the perspective of the City of Calgary in its role as owner and manager of ROWs. Incumbents enjoy a

significant advantage in regard to both their existing access to support structures of other utility providers in the geographic areas in which they dominate, and their existing rights to space in municipal ROWs.

16. The foregoing issues could be addressed if Incumbents were willing to share non-essential facilities. However, for the most part, Incumbents indicated that they do not have plans to install extra fibre capacity or license extra fibre capacity to competitors.¹³

(4) ROW Capacity

17. The market advantage enjoyed by the Incumbents is reinforced by their existing rights to ROW capacity. Although ROWs, unlike support structures, are not a wholesale service, capacity in ROWs for installation of facilities is essential if a TSP wants to install a Fibre network. However, underground ROW space is limited. As new entrants enter the telecommunication market and Incumbents construct new Fibre networks, ROWs in many Calgary communities are at, or reaching, capacity. Moreover, it is not only the telecommunication industry that constructs Fibre networks. Municipalities, other utility providers (electrical and gas companies) and some private businesses all build Fibre networks.

[SLIDE #6 - CONGESTED ROW AREAS IN CALGARY]

18. The area circumscribed by the black circle on the map on the screen indicates the communities in Calgary that have a high level of congestion in their ROWs. As you can see, they represent a significant proportion of the city, including areas of dense business activity (and high potential revenue) such as downtown.
19. If a ROW has reached capacity, the Incumbent has the advantage of being able to remove their old facilities within the ROW to make room for new facilities or to install additional facilities within the same alignment. Although these may not be optimal solutions, they are solutions available to the Incumbent that are not available to a new entrant to the market wanting to install its first telecommunication facilities.

[SLIDE #7 - EXAMPLE OF CONGESTED ROADWAY AND LANEWAY]

20. This diagram is an example of an older Calgary roadway and laneway. It shows the installation of the essential deep utilities (water, sewer) and essential shallow utilities (gas, power). Telus' and Shaw's telecommunication facilities are hung on Enmax's power poles due to lack of available space in the ROW. The roadway and laneway cannot accommodate any additional shallow utilities (including telecommunication facilities).¹⁴

[SLIDE #8 - DESIGN CONSTRAINTS OF UTILITIES IN ROW (*electric, natural gas, sewer, water, telecommunications*)]

21. The diagram on the screen shows how various utility lines are placed within Calgary's ROWs in newly developed areas. The facilities for each type of utility placement are separated to ensure safety in installation, maintenance and repair, and to support the structural integrity of the ROW. Telus' and Shaw's facilities are located with Enmax and Atco Gas in a joint utility trench. Two locations, adjacent to each curb, are available for installing shallow utilities. Installation in these locations is significantly more costly than installing utilities in the joint utility trench during the development process.
22. Additional examples of congested roadways and laneways can be found in Calgary's Reply Comments filed 31 October 2014. We encourage any questions the Commission may have in regard to these diagrams.

C. MUNICIPALITIES AS NON-DOMINANT CARRIERS

23. Calgary's unprecedented growth requires continuing development of Calgary's own fibre network for long term sustainability, reliability and security of municipal services. Municipalities have a mandate to act in the public interest and to ensure that the public is being served. Their focus on the public interest rather than on profit aligns with the Commission's policy objectives, which are concerned with the beneficial effects telecommunication services have on communities rather than on companies.¹⁵

24. Municipal networks can complement the Fibre networks constructed by commercial carriers by providing a neutral supply of dark fibre to TSPs. In the process of building its own fibre network, Calgary finds it is cost-effective and efficient to install more fibre than is necessary for its own use. This unused, or “dark” fibre, is and will be licensed to TSPs or other utilities on a non-discriminatory basis. This has a number of positive impacts on competition in the telecommunication marketplace:
- i. Competition in the downstream market is not impeded by the limited capacity of ROWs or conveniently accessible support structures;
 - ii. Fibre deployment is ubiquitous, as municipal governments are mandated to provide infrastructure to *all* citizens, regardless of location or economic benefit;
 - iii. Bottlenecks for the installation of facilities are eliminated;¹⁶ and
 - iv. ROWs can be managed more efficiently and effectively in a manner that supports all stakeholders.
25. Municipal governments need the assistance and support of the Commission to carry out these initiatives. As a non-dominant carrier and owner of telecommunication infrastructure, Calgary submits that such support should come in the form of either freedom from regulation or with minimal regulation that does not affect a municipality’s operation of its core business of municipal services. This requires insight into community issues and political communication at a level outside the mandate of the Commission. Excessive regulation would interfere in this complicated process and make it more difficult for municipalities to support the growth of healthy communities, which the policy objectives strive for and which are a municipality’s over-arching purpose.
26. One method for the Commission to achieve this is to continue to forbear from regulating non-dominant carriers that license dark fibre, or, alternatively, to establish a “government” class of non-dominant carriers whose telecommunication

services are forborne from regulation so long as they are not competing in the downstream market. Such would acknowledge that the objectives of municipal government and the goals of the Commission align in several important ways in a manner that does not conflict with the competitive sector's goals.

D. CONSIDERATIONS FOR POLICY DEVELOPMENT

27. In summary, Calgary puts forward the following considerations to the Commission in its task of effective policy development for wholesale services:

- i. Consider the following physical constraints related to installation of telecommunication facilities:
 - Incumbents may already have exhausted space on the most convenient and cost-effective support structures for installation of their Fibre networks; and
 - above-ground ROW space is limited for the addition of large cabinets for Fibre networks, similar to the issues related to support structures already identified by the Commission; and
 - Incumbents with existing rights to ROW space have a significant advantage in installing new facilities in geographic locations where underground ROW space is at capacity.
- ii. The architecture of Fibre networks may frustrate regulatory objectives designed to encourage competition. Optimally, multiple strands of fibre should be deployed during construction, which would allow for multiple network operators to attach their optical equipment and provide their telecommunication services.
- iii. Municipal fibre networks containing excess capacity of dark fibre may temper the effect of physical constraints to deployment and facilitate a competitive downstream environment. Further, policies that facilitate development and management of municipal fibre networks and licensing

of municipal dark fibre to TSPs could stimulate additional investment by municipalities in telecommunication facilities.

28. In applying the definition of an “essential service”, or determining whether to mandate access to a service, the Commission is concerned with whether a carrier can utilize market power over the supply of a facility in the upstream market to substantially lessen or prevent downstream competition. Potential duplicability of the facility is key to this determination.¹⁷ Current ROW capacity cannot be duplicated or increased. As a result, Fibre networks cannot be duplicated because they require ROW capacity for installation—in many cases, there is simply no space for duplication to occur.
29. Consideration of duplicability in the context of the foregoing discussion leads municipalities to conclude that the upstream power exercised by Incumbents in the form of rights to conveniently available support structures and rights to above and below ground ROW space substantially lessens upstream and downstream competition. Such a conclusion should compel a subsequent conclusion that Fibre network facilities should be classified “conditional mandated non-essential” facilities, acknowledging that future changes in infrastructure development may favour a change in classification.
30. The foregoing classification reflects the Commission’s mandate in the Policy Direction to adopt practices that provide incentive for innovation and investment in telecommunication network facilities, taking into account principles of technological and competitive neutrality and the impediments faced by new and existing carriers in developing new network facilities.¹⁸
31. In conclusion, The City of Calgary respectfully requests the Commission consider that the technological capability of potential competitors cannot overcome the advantage of entrenched rights where the availability of such rights cannot be extended to every potential participant. Moreover, Calgary requests a wholesale services framework that recognizes the unique situation of municipal governments

as infrastructure providers whose primary purpose is to strengthen the economic and social fabric of their communities.

Thank you for the opportunity of appearing before you today to communicate The City of Calgary's concerns.

ENDNOTES

¹ The policy objectives are set out in the *Telecommunications Act*, SC 1993, c 38, s. 7. In Telecom Decision CRTC 2010-632, 30 August 2010, paragraph 55, the Commission indicated that an ILEC and cable carrier duopoly is insufficient to meet the policy objectives. Commissioner Timothy Denton, in his Dissent Opinion, reiterates that the Commission has considered, on several occasions, that two large players in each market do not constitute the right mix of factors to encourage innovation in services.

² CRTC Communications Monitoring Report, October 2014, p. 171 <http://www.crtc.gc.ca>.

³ CRTC Communications Monitoring Report, October 2014, p. 28 <http://www.crtc.gc.ca>.

⁴ Telecom Decision 2008-17, 3 March 2008, paragraph 93.

⁵ First Intervention of Fibernetics Corp (31 January 2014) at 13; First Intervention of Bragg Communications (January 31 2014) at 13; First Intervention of Shaw Cablesystems G.P. (January 31 2014) at paragraph 7; First Intervention of Rogers Communications Partnership (January 31 2014) at para 73; First Intervention of Bell Canada (January 31 2014) at paragraph 98; First Intervention of Telus Communications Company (January 31 2014) at paragraph 56; First Intervention of Public Interest Advocacy Centre (January 31 2014) at paragraph 34.

⁶ Bell Canada Intervention, 31 January 2014, page 48 of 105, paragraph. 98.

⁷ Bell Canada Intervention, 31 January 2014, page 48 of 105, paragraph. 98.

⁸ Telecom Decision CRTC 2008-17, 3 March 2008, paragraphs 118-119.

⁹ The limitations on the speeds fibre networks can achieve are not based on the properties of fibre optic cables themselves but instead on the processing power of the networking equipment connected to the network—thus fibre’s ability to scale has led some to describe it as “future proof” (see CNOC’s 27 June 2014 Second Intervention, Attachment “A”, page 31, paragraph 63). This technology allows for “innovation at the edges” as discussed in the “Opinion of Commissioner Timothy Denton, Dissenting in Part”, Telecom Decision 2010-632, 30 August 2010.

¹⁰ OECD, Working Party on Communication Infrastructure and Services Policy, Public Rights of Way for Fibre Deployment To The Home, DSTI/ICCP/CISP(2007)5/FINAL at 9, online: <http://www.oecd.org/internet/economy/40390753.pdf>.

¹¹ Prepared Remarks of FCC Chairman Tom Wheeler: “The Facts and Future of Broadband Competition”, 1776 Headquarters, Washington, D.C., 4 September 2014.

¹² Telecom Decision CRTC 2008-17, 3 March 2008, paragraph 38.

¹³ Response to Request for Information issued by The City of Calgary to Rogers Communication Company (March 27 2014); Response to Request for Information issued by The City of Calgary to Bell Canada (March 28 2014); Response to Request for Information issued by The City of Calgary to Shaw Cablesystems G.P. (March 28 2014); Response to Request for Information issued by The City of Calgary to MTS Allstream (March 28 2014); Response to Request for Information issued by the City of Calgary to Sasktel (March 28 2014).

¹⁴ The diagram does not reflect the fact that more recently, Enmax, Telus and Shaw have been approved to install facilities in a joint trench 1.5 metres off the east property line in the laneway. New street light facilities have been placed in the north and south boulevards along 2nd Avenue NW, along with trees placed in Silva Cells. Due to the multiple live and abandoned gas lines, new trees and new street lighting and the joint utility trench, this roadway and laneway are completely full. Due to minimum separation requirements, there is no room for any new facilities.

¹⁵ *Telecommunications Act*, SC 1993, c 38, sub-sections 7(a), (b), (h).

¹⁶ Multiple installations of fibre across some ROWs or structures, such as bridges, is not convenient or cost-effective. Installation on these structures is critical for a TSP who wishes to serve customers on both sides of a river, for example. A TSP who is prevented from installing their facilities in one of these structures due to it being full of a competitor's facilities will be at a severe disadvantage and may have to lay many kilometres of extra cable to compensate. By owning fibre in these crucial structures and licensing it out to all TSPs on a non-discriminatory basis, governments can facilitate fairness and competition.

¹⁷ Telecom Decision CRTC 2008-17, 3 March 2008, paragraph 38. The Commission determined that it is unlikely that a carrier can use upstream market power to substantially lessen or prevent downstream competition if a facility can be duplicated practically and feasibly by competitors.

¹⁸ *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives*, SOR 2006-355.

