



THE CITY OF  
**CALGARY**

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**Submitted by GCKey**

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Telecommunications Commission  
Ottawa, Ontario  
K1A 0N2

Subject: **Telecom Notice of Consultation CRTC 2013-551: *Review of wholesale services and associated policies* (the "Proceeding") -  
Final Submissions**

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The City of Calgary attaches its Final Submissions for the Proceeding. A copy of these Final Submissions has been provided to all Interested Parties via Internet mail.

Yours truly,

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

## ***Review of wholesale services and associated policies***



**Final Submissions of  
The City of Calgary**

**December 19, 2014**

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**EXECUTIVE SUMMARY**

- ES1. The City of Calgary's ("Calgary") participation in Notice of Consultation 2013-551 has two purposes.
- ES2. First, one of the dominant considerations before the Canadian Radio-television Commission ("Commission) during the Proceeding was the transition of the telecommunications industry to fibre and/or FTTP networks. Considerations focused on whether access to such networks should be mandated under the wholesale services framework. The transition to fibre networks and FTTP networks, in a facilities-based competitive environment, has the potential to result in multiple fibre network construction builds by multiple telecommunication service providers ("TSPs").
- ES3. In its Presentation to the Commission, Calgary expressed significant concerns about the capacity of its rights-of-ways ("ROWs") for multiple installations of new fibre networks. Associated with the capacity of ROWs are the capacity of support structures to accept new installations of fibre networks, particularly the most accessible and cost-effective support structures, which in Calgary are power poles. Limited capacity in both ROWs and support structures ensures that incumbent local exchange carriers and cable carriers will be the only entities that will be able to install a fibre network in any substantial manner in Calgary, since, by virtue of their position as incumbents, they have existing rights to alignments in ROWs that they can utilize for construction of their fibre networks. Calgary contends that alignments in ROWs are, or are very similar to, an "essential service" in the wholesale services framework, with the exception that access to alignments cannot be mandated when availability is limited or non-existent.
- ES4. Therefore, alternative solutions to multiple fibre builds must be found if the telecommunications industry is to remain competitive in the future and meet the objectives under the Telecommunications Act. The objectives of municipalities align with the objectives of the Commission: both entities support a telecommunications system that serves to safeguard, enrich and strengthen the social and economic fabric of Canada and which is responsive to the economic and social requirements of users of telecommunication services.
- ES5. Second, Calgary has its own fibre network that it has constructed over time. Calgary is currently focused on capital investments in the development of new infrastructure for a burgeoning population. Although Calgary's fibre network is in its infancy, its fibre network plays a critical role in the construction of new infrastructure by facilitating the provision of municipal services increasingly being demanded by technologically proficient residents who demand technological solutions for services accessed on a daily basis. By installing excess capacity of fibre in the process of building out its fibre network to provide municipal services, Calgary can complement the services provided by TSPs and indirectly enhance competition in the telecommunication marketplace. Municipal fibre networks (i) can provide access to dark fibre to services-based TSPs (ii) will deploy fibre to communities that TSPs may not choose to deploy to (given that municipalities

provide services to every citizen regardless of location), and (iii) eliminate bottlenecks for installation of facilities where capacity is limited.

- ES6. However, the telecommunication services provided by a TSP and a municipality have distinct differences. TSPs provide telecommunications services for profit; municipalities provide municipal services in the best interest of their residents, but use telecommunication services to assist in that objective. Regulation of municipal fibre facilities should take into account that municipalities can license excess capacity of fibre or support structures only when the municipality is certain that such licensing will not compromise the delivery of municipal services. Calgary advocates for a “government” class of non-dominant carrier that would address such concerns. Such classification of municipal networks may encourage municipalities to invest in, operate and maintain fibre networks that support and complement the networks of commercial carriers. This investment would promote the objectives under the *Telecommunications Act* and comply with the mandate of the Policy Directives to take into account principles of technological and competitive neutrality.
- ES7. Finally, Calgary agrees with the Commission’s suggestion of a pilot project for designing and constructing an FTTP network. A pilot project can explore an optimal architecture for FTTP networks that promotes the objectives under the *Telecommunications Act*, explore costs and challenges related to different types of installations, as well as explore different forms of investment that serve to defray risk for any single entity. Municipalities are a necessary part of such a pilot project, given that they own and control an essential service for installation of facilities. Calgary is willing to engage in further discussion with the Commission and any other interested parties regarding the development of a pilot project in Calgary.

**A. INTRODUCTION**

1. The following terms are used throughout this document:
  - a. “**Act**” means the *Telcommunications Act*, S.C. 1993, c. 38.
  - b. “**alignment**” refers to a defined segment of space located in a ROW that is designated to a TSP or other utility, which is used to install facilities or other utility infrastructure;
  - c. “**Calgary**” means the corporation of The City of Calgary;
  - d. “**carrier**” means a Canadian carrier, as defined in the *Act*;
  - e. “**ENMAX**” means ENMAX Power Corporation;
  - f. “**facilities**” refers to telecommunications facilities as defined in the *Act*;
  - g. “**FTTP**” means fibre-to-the-premises;
  - h. “**Incumbents**” refers to the incumbent local exchange carrier and any incumbent cable carrier operating in a geographical area;
  - i. “**Oral Hearing**” refers to the oral hearing with respect to Notice of Consultation 2013-551 held from November 24 through to December 04, 2014 and includes the Presentation and Reply;
  - j. “**Policy Directions**” means the *Order Issuing a Direction to the CRTC on Implementing the Canadian Telecommunication Policy Objectives*, SOR 2006-355;
  - k. “**Policy Objectives**” means the objectives set out in section 7 of the *Act*;
  - l. “**Presentation**” refers to Phase I of the Oral Hearing;
  - m. “**Proceeding**” refers to the entire proceeding of Notice of Consultation 2013-551;
  - n. “**Reply**” refers to Phase II of the Oral Hearing;
  - o. “**ROWs**” means municipal rights-of-way;
  - p. “**TSP**” means telecommunications service provider.
  
2. Calgary has a current population of 1.2 million residents and is experiencing and forecasting unprecedented growth of approximately 40,000 residents a year. The city’s management is focused on municipal capital investment for the development of required new infrastructure to provide an increasing multiplicity of municipal services. Like many large municipalities, Calgary already owns and manages \$13.6 Billion in infrastructure and will be increasing its infrastructure to meet its goals for providing municipal services. A portion of that infrastructure will include facilities for telecommunication services that enable and facilitate the provision of municipal services.

3. Calgary focused its Presentation on those issues of municipal concern affecting or affected by the wholesale services market. Specifically, Calgary advanced awareness of ROW capacity, support structure access, and the involvement of municipal non-dominant carriers in the wholesale services market. In these final submissions, we expand on and explain some of the issues and concepts raised in Calgary's Presentation and Reply during the Oral Hearing.

## **B. MUNICIPALITIES & WHOLESALE SERVICES**

4. During the course of the Proceeding, some carriers indicated that the issues raised by Calgary were not relevant to a discussion on wholesale services.<sup>1</sup> However, if one reviews the definition of "essential service" as re-defined by the Commission in its earlier decision on wholesale services, CRTC 2008-17, it appears that alignments in ROWs have the characteristics of an essential service.
5. The Commission determined that to be essential, a facility, function or service had to satisfy all of the following conditions:<sup>2</sup>
  - i. The facility is required by competitors to provide telecommunications services in a downstream market;
  - ii. The facility is controlled by a firm that possesses upstream market power such that withdrawing access to the facility will likely result in a substantial lessening or prevention of competition in the downstream market; and
  - iii. It is not practical or feasible for competitors to duplicate the functionality of the facility.
6. Assuming that an alignment in a ROW is a "telecommunications facility",<sup>3</sup> an alignment is required by carriers for installation of other telecommunication facilities in order for carriers to provide telecommunication services in both the upstream and downstream markets. Further, when a carrier has rights to an alignment, and access to another alignment in the ROW is not available to a competitor, failure by that competitor to obtain an alignment will result in substantial lessening of competition in the downstream market since that competitor cannot provide downstream services without installing and using telecommunication facilities. Finally, if there is no other alignment available in the ROW, there is no possibility of duplication, with the result that the alignment becomes an

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<sup>1</sup> Second Intervention of MTS Allstream (June 27 2014) at paras. 56-57; Transcripts, Volume 6, December 01, 2014, para. 7327 (TELUS, Presentation Phase, alleges that Calgary's concerns relate to terms and conditions of access to ROWs).

<sup>2</sup> Telecom Decision 2008-17, para. 37.

<sup>3</sup> Under the *Telecommunications Act*, a "telecommunications facility" is "any facility, apparatus or other thing that is used or capable of being used ... for any operation directly connected with telecommunications ...". An alignment in a municipal ROW constitutes an "other thing" that is "capable of being used ... for any operation directly connected with telecommunications" since it is capable of being used (and is used) for the installation of telecommunications facilities and transmission facilities, which are directly connected to, and make possible, telecommunications services.

essential service. Access to an alignment cannot be mandated when availability does not exist.

7. Therefore, even though their primary business is not telecommunications, municipalities own and manage an “essential service”, or something very similar to an essential service, in the telecommunications market when ROWs are at, or nearing capacity, and the availability of new alignments is limited or non-existent. In Calgary’s opinion, this makes municipalities very relevant to any discussion concerning the wholesale services market. The physical reality of installation of telecommunications infrastructure has to be considered when discussing wholesale services, since the provision of services (wholesale or retail) depends on the installation of the infrastructure that is used to provide those services. Competition in the telecommunications market is completely dependent on access to facilities at competitive prices.
8. Calgary’s concerns about ROW capacity are not merely theoretical. Appendix A to Calgary’s October 24 Reply Comments contains examples of crowded ROWs which exist in central Calgary. The ROWs are at capacity and no alignments are available for accommodating new installations of facilities. This situation is not unique. Appendix B to the Reply Comments contains a map which identifies areas in Calgary where the availability of ROW alignments are severely limited. Any new facilities-based or wireline TSP will have significant difficulty serving these areas. Even if alternate alignments in these areas are available, which cannot be guaranteed, they would be located in sub-optimal routes that would incur substantial additional construction costs over and above the cost of a standard alignment. In all likelihood, these areas will never be serviced by any wireline facilities-based providers other than the existing Incumbents. Any competition must come from services-based providers.
9. Municipalities’ objectives are to optimize the use of ROWs for all entities that install their infrastructure in ROWs, whether such infrastructure belongs to telecommunications, electrical, natural gas, water or wastewater services providers. Pursuant to their statutory authority, municipalities such as Calgary spend significant time and resources planning, designing and constructing ROWs in furtherance of their statutory purposes, which include providing services necessary for residents, such as transit, water, storm water removal, wastewater removal, traffic infrastructure and communication services for police, fire and other emergency personnel.
10. In order to fulfill its mandate and provide necessary municipal services, Calgary relies on telecommunication services. In the process of designing ROWs and installing infrastructure for municipal services, Calgary builds fibre networks to assist in efficient delivery of critical and essential municipal services. The most significant costs of installing a fibre network are the upfront labour and construction costs; therefore Calgary builds its fibre networks, when possible, in the process of completing capital construction projects.<sup>4</sup>

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<sup>4</sup> The OECD states that civil work accounts for 50-80% of the cost of installing new fibre facilities: OECD, Working Party on Communication Infrastructure and Services Policy, *Public Rights Of Way For Fibre*



11. During the construction process, Calgary has found that it is cost-effective to install more fibre than is necessary for its own use and license the excess fibre to telecommunication service providers or other entities on a non-discriminatory basis. Fibre available for licensing contributes to the economy of the City by enabling businesses that otherwise cannot install or access fibre to attach to a fibre network for their own telecommunication services. Further, Calgary's perspective is that any entity who licenses dark fibre is one less entity that will need to tear up streets and laneways to install its own fibre. This reduces wear and tear on streets, congestion in ROWs and disruption to communities.
12. An ancillary consequence of Calgary's fibre network build is that Calgary is a non-dominant carrier. In the initial phase of this Proceeding, TELUS specifically issued a Procedural Request with the Commission to include all non-dominant carriers, viewing non-dominant carriers as an important addition to the Proceeding. The Commission approved TELUS' request. Moreover, Calgary's ability to license fibre and its endeavours to build a fibre network can serve to complement the wholesale services provided by the Incumbent carriers. The benefits of these endeavours are discussed in detail in Part D of these Final Submissions.
13. Competition in the wholesale services market depends on the existence of multiple providers that own, or can access, telecommunication facilities to provide their services. With the transition of the industry to fibre networks, the potential for installation of fibre becomes important to the competitiveness of the industry because, to remain viable, every TSP must have either the ability to install or the ability to access fibre facilities.

## **C. RIGHTS-OF-WAY ("ROWs") & SUPPORT STRUCTURES**

### **1. Underground ROWs**

14. Under the authority of Sections 16 and 18 of Alberta's *Municipal Government Act*, Calgary has ownership, direction, control and management of ROWs.<sup>5</sup> Under the authority of the *Telecommunications Act* and with the consent of the municipality, a carrier may install its telecommunication facilities in ROWs as long as the carrier does not interfere with the public use and enjoyment of the ROW.<sup>6</sup> The combined effect of

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*Deployment To The Home*, DSTI/ICCP/CISP(2007)5/FINAL at 9, online:  
<<http://www.oecd.org/internet/ieconomy/40390753.pdf>>.

<sup>5</sup> *Municipal Government Act*, RSA 2000 c 26:

16(1) The title to all roads in a municipality, other than a city, is vested in the Crown in right of Alberta.

(2) The title to all roads in a city is vested in the city unless another Act or agreement provides otherwise....

18(1) Subject to this or any other Act, a municipality has the direction, control and management of all roads within the municipality. ...

<sup>6</sup> *Telecommunications Act*, SC:

43(2) ... a Canadian carrier ... may enter on and break up any highway or other public place for the purpose of constructing, maintaining or operating its transmission lines and may remain

these two separate pieces of legislation means that carriers may install their facilities in ROWs after receiving the approval of a municipality which is granted in the form of an alignment. Carriers and municipalities enter into consent and access agreements concerning the terms and conditions under which alignments are granted. Calgary's participation in this Proceeding relates to the availability of alignments in ROWs for installation of telecommunication facilities, **not** the terms and conditions under which alignments are granted—an important distinction.

15. Access to municipal ROWs is an integral part of the development strategy of many carriers. Google's "Google Fiber City Checklist,"<sup>7</sup> prepared as a guide for cities hoping to attract investment in local fibre networks, is explicit that access to municipal ROWs is essential before they will consider developing a network in a new city. The Commission has previously recognized that municipal ROWs in urban areas are becoming crowded.<sup>8</sup> The demand for ROW alignments continues to grow on all fronts as electric and natural gas utility providers rebuild old utility infrastructure, municipalities rebuild water and stormwater infrastructure, new telecommunication service providers enter the market and install facilities, and Incumbents overbuild existing facilities to take advantage of new technologies such as fibre. As alignments in municipal ROWs disappear, new entrants to the telecommunications market are forced to install facilities in sub-optimal alignments at significant additional cost. This further adds to the advantage for Incumbents, who typically have existing rights to alignments in ROWs, and operates as a disincentive for new facilities-based telecommunication service providers to enter the market.
  
16. These issues could be alleviated if TSPs were willing to share alignments and/or facilities. However, the response of the Incumbents to the requests for information submitted by Calgary, as well as the strong support for facilities-based competition in the interventions of the Incumbents suggest that TSPs will not share facilities voluntarily. For the most part, Incumbents responded that they have no plans to install extra capacity or license extra capacity to competitors.<sup>9</sup>

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there for as long as is necessary for that purpose, but shall not unduly interfere with the public use and enjoyment of the highway or other public place.

- (3) No Canadian carrier ... shall construct a transmission line on, over, under or along a highway or other public place without the consent of the municipality or other public authority having jurisdiction over the highway or other public place. ...

<sup>7</sup> Google, "Google Fibre City Checklist" (February 2014) at 5, online:

<https://fiber.storage.googleapis.com/legal/googlefiberchecklist2-24-14.pdf>.

<sup>8</sup> *Ledcor/Vancouver - Construction, operation and maintenance of transmission lines in Vancouver* (25 January 2001), 2001-23 at para 58, online: CRTC <<http://www.crtc.gc.ca/eng/archive/2001/dt2001-23.htm>>.

<sup>9</sup> 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).

17. Other parties to the Proceeding suggested that concerns regarding the overcrowding of ROWs should not be addressed<sup>10</sup> as the issue was comprehensively considered by the Commission in the Ledcor/Vancouver decision (“Ledcor”).<sup>11</sup> Although the Commission acknowledged that ROW overcrowding was a concern in *Ledcor*, it did not comprehensively address the issue. To the extent that the Commission did address the issue, the Commission “encourage[d] the sharing of facilities and support structures to the greatest extent possible” in “core areas of major urban centres” or where ROWs were congested.<sup>12</sup>
18. With the transition to and installation of fibre networks, Incumbents have the advantage of being able to use their existing rights to an alignment to overbuild their facilities within the alignment, or remove their old facilities and install fibre network facilities in the same alignment. New entrants to the market do not have this advantage. Alternatively, if an Incumbent requests approval for a second alignment to install fibre facilities, that alignment may be the last remaining alignment in the ROW, which forecloses the possibility that any other TSP will be able to install its facilities in the ROW.
19. During their oral presentation, TELUS indicated that ROW capacity issues would be resolved when the Incumbent carriers remove their legacy copper infrastructure.<sup>13</sup> However, TELUS also indicated it will rely on its legacy infrastructure to provide wholesale and retail services for a significant period of time and that it will continue to license it out to smaller competitors.<sup>14</sup> SaskTel suggested they would continue to rely on their legacy infrastructure for 10 to 20 years.<sup>15</sup> By the time legacy copper infrastructure is removed, the Incumbents may be solidly entrenched as the only fibre network providers.
20. As a result of the time lag between the installation of fibre networks by the Incumbents and Incumbents’ purported removal of legacy copper networks freeing up ROW alignments, new entrants to the telecommunications market will find it very difficult to build a fibre network and establish a customer base 10 to 20 years in the future. Distributel, in its oral presentation, discussed that even when a new entrant is able to service a building it is difficult to attract customers away from the Incumbents.<sup>16</sup> The difficulty of attracting customers away from an entrenched Incumbent, coupled with rising costs of construction based on many factors, including the fact that the new entrant will likely have construction hurdles to overcome if they are installing facilities in an alignment abandoned by an Incumbent, will make the risk of establishing a new fibre network too high. The retail prices established by the new entrant are unlikely to be flexible, given the higher costs of constructing its network. The Incumbent, with greater

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<sup>10</sup> Second Intervention of MTS Allstream (June 27 2014) at paras. 56-57; Transcripts, Volume 6, December 01, 2014, para 7327 (TELUS, Presentation Phase).

<sup>11</sup> Telecom Decision CRTC 2001-23.

<sup>12</sup> Telecom Decision CRTC 2001-23, para. 58.

<sup>13</sup> Transcripts, Volume 6, 1 December 2014, para. 7328 (TELUS, Presentation Phase).

<sup>14</sup> Transcripts, Volume 6, 1 December 2014, paras. 7165, 7517-7518 (TELUS, Presentation Phase).

<sup>15</sup> Transcripts, Volume 8, 3 December 2014, para. 10496 (SaskTel, Reply Phase).

<sup>16</sup> Transcripts, Volume 4, 27 November 2014, paras. 5168-5186 (Distributel, Presentation Phase)

price flexibility achieved through lower development costs, will have a distinct competitive advantage.

21. Joint planning committees may alleviate concerns related to multiple separate installations and associated disruptions to the community, but they do not address issues of ROW capacity. Further, despite the Commission's strong support for joint planning committees,<sup>17</sup> Calgary's experience over the last decade has been that the attendance and cooperation of TSPs at meetings of these committees is sporadic at best, which has made joint planning committees ineffective for municipal planning.<sup>18</sup>
22. In the race to provide fibre optic technology and its benefits to consumers, and at a time when deployment of the technology is in its infancy, rights to an alignment within ROWs and rights to the most cost effective alignment routes for installation of fibre networks will provide Incumbents significant advantages over any new entrants.<sup>19</sup> These are advantages that new entrants cannot likely overcome in a strictly facilities-based competitive environment, now or in the future.<sup>20</sup>

## **2. Above Ground ROW Space**

23. While the majority of telecommunication facilities are now installed underground (with the exception of aerial installations on poles), access to those underground facilities is provided through above-ground cabinets. These cabinets, which are of a significant size, are installed on laneways, roadways and private property.<sup>21</sup> They are a visual blight in communities and a nuisance in that they may also affect the use private property owners may make of their property. After their installation (with little or no input by homeowners), homeowners have to personally pay for the relocation of a cabinet if it impedes the development of their property. This can result in significant costs for a homeowner.<sup>22</sup>

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<sup>17</sup> *Ledcor/Vancouver - Construction, operation and maintenance of transmission lines in Vancouver* (25 January 2001), 2001-23 at para 54, online: CRTC <<http://www.crtc.gc.ca/eng/archive/2001/dt2001-23.htm>>.

<sup>18</sup> Appendix C of the Reply Comments contains the attendance records of the 2014 meetings of Calgary's Capital Works Coordinating Committee. As of October 24, nine meetings had taken place in 2014. Of the two dominant TSPs in Calgary, TELUS had attended five of these meetings, while Shaw had attended none.

<sup>19</sup> Transcripts, Volume 6, 1 December 2014, para. 8110 (Public Interest Advocacy Centre, Presentation Phase).

<sup>20</sup> Transcripts, Volume 6, 1 December 2014, paras. 8134-8137 (Public Interest Advocacy Centre, Presentation Phase).

<sup>21</sup> Sizes of cabinets installed in Calgary are approximately 119cm/47in high; 113cm/44in wide; and 49cm/19in deep.

<sup>22</sup> The cost to move a FTTP cabinet depends on many factors but could foreseeably range from \$10,000 to \$100,000 depending on how the infrastructure was designed and implemented. For example, if pre-connectorized fibre drops were used, insufficient slack in the cable will not allow for movement of the cabinet, which would mean that all fibre drops served by that cabinet may have to be rebuilt (which could be 288 fibre drops or even as many as 576 fibre drops that need to be replaced).

24. The cabinets are vital for the provision of telecommunications services and it is not suggested that they can be eliminated, but that the instances of their installation be minimized. The Commission has categorized support structures 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.<sup>23</sup> Fibre optic cabinets should fall into the same category. They take up more space in ROWs than poles do, provide a significant barrier to development for private property owners, and are aesthetically challenging to deal with for both homeowners, business owners and municipalities.
25. Since Incumbents are the first deployers of fibre cable, they are also the first installers of fibre cabinets. If additional TSPs want above-ground ROW space for the installation of cabinets for their fibre networks, citizens are likely to express increasing dissatisfaction, which will compound the difficulties already faced by competing TSPs when installing their fibre networks. Calgary already receives complaints from its residents about existing cabinets. TELUS communicated that that they too received complaints.<sup>24</sup> Such complaints will only become louder and more numerous as more cabinets spring up in roadways and laneways with continued deployment of fibre networks.
26. This is a challenging issue for both TSPs and municipalities to address, with few options for resolution that do not result in higher costs for the TSPs. The only alternative for reducing the numbers of cabinets is the installation of cabinets with multiple compartments for additional TSPs, as discussed in paragraph 67, below.

### **3. Support Structures**

27. The interventions of other parties to the Proceeding repeatedly emphasized the importance of access to support structures when building new facilities.<sup>25</sup> In particular, Bell Canada emphasized that “... support structures ... are one of the most significant aspects of constructing an FTTP network”.<sup>26</sup> Calgary has identified three categories of support structures that TSPs may benefit from accessing:
- (a) support structures owned by telecommunication companies, e.g. telephone poles;
  - (b) support structures owned by private industry, e.g. ENMAX power poles; and
  - (c) structures built for non-telecommunication purposes that may be used for telecommunication purposes at the discretion of the owner (which is often a

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<sup>23</sup> Telecom Decision 2008-17, 3 March 2008, para. 93.

<sup>24</sup> Transcripts, Volume 6, 1 December 2014, para. 7336 (TELUS, Presentation Phase).

<sup>25</sup> 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 para 7; First Intervention of Rogers Communications Partnership (January 31 2014) at para 73; First Intervention of Bell Canada (January 31 2014) at para 98; First Intervention of TELUS Communications Company (January 31 2014) at para 56; First Intervention of Public Interest Advocacy Centre (January 31 2014) at para 34.

<sup>26</sup> Bell Canada Intervention, 31 January 2014, page 48 of 105, para. 98.

municipality), such as water, stormwater, wastewater, streetlighting, or other infrastructure to which fibre could be attached.

**(a) Support Structures Owned by Telecommunication Companies**

28. The first category consists of poles and other support structures, such as conduit, which are owned by telecommunication companies. They are considered a “public good” service under the current wholesale services framework and the Commission has jurisdiction to mandate access to these support structures. The telephone poles owned by the Incumbents fall into this category.

**(b) Support Structures Owned by Private Industry**

29. The second category consists of poles and other potential support structures which are owned by private industry. These support structures include power poles owned by a private utility company, such as ENMAX. These support structures are operated under the jurisdiction of provincial utility regulators and are not subject to the jurisdiction of the Commission or included in the Commission’s wholesale services framework.<sup>27</sup>
30. During its Presentation during of the Oral Hearing of the Proceeding, Calgary raised the issue that one of the most cost-effective and efficient methods of deploying fibre in Calgary (and perhaps other large cities) is to use electric power poles, given their widespread installation across the community. In Calgary, the poles are owned by ENMAX and access to the poles is achieved through commercial negotiations with ENMAX. Neither Calgary nor the Commission plays a role in this process. The designated “communication zone” on the power poles can support only a finite amount of facilities. Calgary has had to remove its facilities from ENMAX power poles because it was originally located in the “power zone” of the poles and at the time of removal of Calgary’s facilities, all attachment points in the communication zone of the poles were (and continue to be) occupied by TELUS (single access point) and Shaw (two access points).
31. The primary issue that Calgary sought to raise was that competitor TSPs cannot utilize this cost-effective method of deployment for their fibre networks (which provides Incumbents significant advantage in a facilities-based competitive environment), and that such circumstances are unlikely to be unique to Calgary. No matter where poles are located, safety concerns dictate that only a finite amount of infrastructure can be attached to them. The Incumbents were in business first and had their infrastructure on the poles first. As a result, they have longstanding agreements with utility providers such as ENMAX, which prevents any other TSP from accessing ENMAX power poles. As noted by Mr. Stevens of Canadian Network Operators Consortium Inc in the Reply: “It’s really just a matter of real estate”.<sup>28</sup>

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<sup>27</sup> See for instance *Barrie Public Utilities v. Canadian Cable Television Association*, 2003 SCC 28, [2003] 1 S.C.R. 476 (“*Barrie Utilities*”) wherein the Supreme Court of Canada considered this issue at length.

<sup>28</sup> Transcripts, Volume 9, 4 December 2014, para. 11120 (CNOC, Reply Phase).



32. Various suggestions were made during the Oral Hearing to address the issue raised by Calgary regarding access to ENMAX power poles. One was to review tariffs for pole access and another was to point out that a regime was already in place to govern access to support structures.<sup>29</sup> These two suggestions appear to confuse the two above mentioned categories of support structures, as these suggestions have no application to support structures owned by private industry. There was also a suggestion that a TSP's statutory right of access to municipal ROWs could assist with accessing ENMAX power poles.<sup>30</sup> However, as the Supreme Court of Canada made clear in the *Barrie Utilities* case, TSPs have no statutory right of access to electric utility poles. References to municipal consent and access agreement negotiations are similarly misplaced.<sup>31</sup> Municipal consent and access agreements ("MCAAs") are agreements between municipalities and TSPs and are concerned with the terms and conditions of accessing municipal ROWs and support structures. Since Calgary has no ability to provide access to ENMAX's power poles, there would be no reason for this topic to be discussed during MCAA negotiations.
33. Additional suggestions concerned methods to increase the capacity of these poles, such as brackets,<sup>32</sup> overlashing,<sup>33</sup> or simply that the poles could be further "loaded up".<sup>34</sup> Subsequent to the Oral Hearing, Calgary learned that ENMAX had already provided a response to these suggestions in applications to the Commission brought by both Suite Systems Inc. ("SSI")<sup>35</sup> and Bell Intrigna ("Bell").<sup>36</sup> Each company had sought to place fibre in the communication zone of ENMAX's poles and each was refused access on the grounds that the poles were full: the communication zone was fully occupied by Shaw, TELUS and ENMAX (later to become ENMAX Envision and finally Shaw Envision). Each then applied to the CRTC seeking some form of relief that would grant them access to the power poles. TELUS and Shaw were also involved in these applications.
34. In the course of the Bell application, ENMAX filed a letter which explained in detail why their power poles cannot accommodate any additional telecommunications facilities<sup>37</sup>. In summary, ENMAX stated:
- (a) A three attachment maximum is an unwritten national standard adhered to by all of Canada's major power utilities.
  - (b) A three attachment maximum is a reasonable requirement to prevent entanglement due to sagging wires, prevent interference between telecommunications facilities, limit the weakening of the power poles due to

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<sup>29</sup> Transcripts, Volume 6, 1 December 2014, para. 7327 (TELUS, Presentation Phase).

<sup>30</sup> Transcripts, Volume 6, 1 December 2014, para. 7327 (TELUS, Presentation Phase).

<sup>31</sup> See, for instance, Shaw's comments: Transcripts, Volume 8, 3 December 2014, para.10415 (Shaw, Reply Phase).

<sup>32</sup> Transcripts, Volume 6, 1 December 2014, para. 7329 (TELUS, Presentation Phase).

<sup>33</sup> Transcripts, Volume 6, 1 December 2014, para. 7329 (TELUS, Presentation Phase).

<sup>34</sup> Transcripts, Volume 8, 3 December 2014, para. 10503 (SaskTel, Reply Phase).

<sup>35</sup> CRTC File No. 8690-S50-01/01.

<sup>36</sup> CRTC File No. 8690-B29-01/01.

<sup>37</sup> *Ibid*, ENMAX Submission, 4 June 2001, paras. 27-45.

the drilling of holes, limit the weight of the facilities on the poles and to preserve the safety of linemen working on the poles.

- (c) Two reports commissioned by ENMAX indicated that pole stress was already a concern with the current load on the poles. The addition of an “unprecedented” fourth attachment point was simply too risky.
  - (d) Telecommunication facilities may only be installed on one side of electric utility poles. The installation of telecommunication facilities on both sides of the poles would make it too difficult and too dangerous for linesmen to work on the power cables above the communication zone.
35. In the course of the SSI application, SSI requested that it be permitted to lash its infrastructure to existing infrastructure. As noted by TELUS in their response to this request: “[i]t is by no means certain that ENMAX will accept third party overlashing when giving its ‘final word’ on access to its support structures, based on technical and safety issues.”<sup>38</sup>
36. SSI’s application was found to be moot when it abandoned its project, and Bell’s application was disposed of when the parties decided to resolve the matter through negotiation. Calgary has no information on the results of the negotiations; however, it is clear that no additional parties have gained access to ENMAX’s power poles.<sup>39</sup> This indicates that Calgary’s concerns are anything but hypothetical. In fact, a lack of available space on ENMAX’s power poles may already have been a factor in reducing competition in the Calgary telecommunications market for over a decade.
37. Finally, there was also a suggestion that access to ENMAX power poles was not an issue because the Incumbent had never encountered issues with respect to access,<sup>40</sup> which only emphasizes Calgary’s point: *this is an issue precisely because Incumbents do not encounter issues concerning access to ENMAX power poles.* Incumbents, because they are Incumbents, enjoy a level of access to ENMAX power poles that new entrants to the market do not.

**(c) Structures Built for Non-telecommunication Purposes**

38. A third category of support structures exists with respect to other infrastructure located in ROWs and public utility easements. These support structures do not have a telecommunications purpose, but could hypothetically be used for attaching facilities. Examples of these kinds of support structures are infrastructure used for water, wastewater removal, stormwater removal, traffic operations, streetlighting, etc. Such infrastructure is constructed and operated by municipalities to provide municipal services and their function cannot be compromised by other ancillary uses. It is Calgary’s

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<sup>38</sup> *Supra* note 35, TELUS Submission, 1 August 2001, para 22.

<sup>39</sup> The *Barrie Utilities* case was decided by the Supreme Court of Canada in 2003 during the course of these negotiations. It may be that the decision in the *Barrie Utilities* case ended the negotiations.

<sup>40</sup> In response to a query by Commissioner Menzies regarding the availability of access to support structures: Transcripts, Volume 8, 3 December 2014, para. 10415 (Shaw, Reply Phase).



position that municipalities, because they are responsible for municipal planning, should have sole discretion in approving applications by commercial TSPs to access such structures for installation of their facilities. Local councils, as duly elected representatives, are best able to balance competing priorities and make decisions relating to the use of municipal infrastructure that takes into account their mandate to provide safe and viable communities.

## **D. MUNICIPAL NETWORKS**

### **1. Municipal Priorities – Distinct from Carrier Priorities**

39. Municipalities support the goal of developing and maintaining a robust telecommunication services market. They recognize the value of telecommunication services to their residents and their local economies, and their obligation to act in the public interest makes them allies in the Commission's efforts to promote the Policy Objectives. However, municipalities also bear the burden of considering the many other important objectives that come into play in the pursuit of healthy, inclusive and vibrant communities

40. Unlike privately owned TSPs, which are profit-driven and can reasonably be expected to act in a manner that will increase revenues and profits, municipalities operate under mandates to consider the public interest in all of their activities. Alberta's *Municipal Government Act*, the authority under which Calgary functions, states in Section 3:

#### **Municipal Purposes**

3. The purposes of a municipality are

- (a) to provide good government,
- (b) to provide services, facilities or other things that, in the opinion of council, are necessary or desirable for all or a part of the municipality, and
- (c) to develop and maintain safe and viable communities.

41. The Supreme Court of Canada has confirmed that municipalities may not exercise their power "otherwise than in the public interest and in good faith"<sup>41</sup> and municipalities may only pass bylaws "in good faith and in the public interest."<sup>42</sup>

42. The above purposes align the goals of municipalities with the Policy Objectives of developing a telecommunications system that serve to safeguard, enrich and strengthen the social and economic fabric of Canada and are responsive to the economic and social requirements of users of telecommunications services.<sup>43</sup> Municipalities understand the importance of telecommunications facilities and services in achieving these purposes, as municipal services are dependent on telecommunications facilities and services. Many municipalities own or license facilities from commercial carriers for such purposes.

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<sup>41</sup> *Kuchma v. Tache (Rural Municipality)*, [1945] S.C.J. No. 9 at 5, [1945] S.C.R. 234.

<sup>42</sup> *Ibid*, at 5.

<sup>43</sup> Derived from the *Telecommunications Act*, SC 1993, c 38, ss. 7(a),(h).

43. Municipalities also recognize that safe and viable communities require more than high speed internet access. While municipalities strive to accommodate the requests of carriers to install facilities in ROWs and support structures, they also provide a multitude of other services, many of which require municipal telecommunication infrastructure. These services include, but are not limited to, water, natural gas and other hydrocarbons, wastewater removal, stormwater removal, electricity, street lighting, thermal pipes, traffic operation infrastructure, police services, fire services, and public safety and communication services. In addition, Calgary provides supervisory control and data acquisition network services, information technology services, corporate security services, property management services and parking authority services to the corporation. The aforementioned services are all provided with Calgary's own fibre facilities. Calgary also provides fibre facilities to community partners such as the University of Calgary, Mount Royal University, the Calgary Internet Exchange and Cybera Inc. and to large commercial carriers.
44. Thus, Calgary provides wholesale services in the form of licensing dark fibre to TSPs, which fulfills both the Policy Objectives and municipal objectives. However, due to municipalities' obligations to fulfill and balance multiple objectives, including those objectives that align with the Policy Objectives, municipalities require flexibility to balance the requirements of all objectives when providing wholesale services or a form of regulation that fairly facilitates their provision of wholesale services, given their multiple obligations to their entire citizenry in its full array of circumstances and needs.

## **2. The Benefits of Municipal Networks**

45. Municipalities are unique in that they are not profit-driven commercial enterprises, but are mandated to provide infrastructure to all citizens, regardless of location. Whereas carriers may not provide telecommunication services (and wholesale services that support retail services) to locations where they deem it is not profitable, municipalities' objectives are not focused on profit, but on delivery of municipal services.
46. Municipalities are skilled in managing infrastructure in all its forms and retain the expertise of engineers and other skilled workers on an ongoing basis who install and maintain such infrastructure. A municipal network also has an established mechanism for oversight in the form of city council, and since city council is responsive to its citizens, community input is a necessary part of building a municipal fibre network. A municipal fibre network can spur economic development and provide cost-effective telecommunication services in the form of dark fibre to public institutions, which may improve educational and healthcare outcomes for the community. The many benefits of municipal networks for both communities and commercial carriers also include the following:
- (a) Competition in the downstream market is not impeded by the lack alignments in ROWs or conveniently accessible and cost-effective support structures.

- (b) Fibre deployment is ubiquitous, as municipal governments are mandated to provide services to all citizens, regardless of location or economic benefit. Commercial carriers do not have sufficient incentive to bring fibre to every community if it is not profitable, which leaves some communities disadvantaged. Municipal fibre can complement the fibre networks of commercial carriers.
  - (c) Bottlenecks for the installation of facilities are eliminated. Multiple installations of fibre across some ROWs or structures such as bridges are 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 significant 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, municipalities can facilitate fairness and competition.
  - (d) The capacity of ROWs can be managed more effectively and efficiently for the benefit of all utility providers that locate their infrastructure in them.
47. To be clear, Calgary has no intention of establishing itself as a monopoly provider of telecommunications services, whether dark fibre or managed services—nor would that be possible. The Incumbents have alignments in which they can install fibre facilities and are more than capable of installing excess capacity fibre for licensing to other TSPs. Calgary welcomes a competitive telecommunications market as a benefit to its citizens and will continue to provide an alignment in ROWs wherever possible. However, as alignments in ROWs vanish due to multiple installations of infrastructure, Calgary believes the best way of meeting the Policy Objectives and avoiding a continued duopoly market is to ensure that dark fibre is available for licensing on a non-discriminatory basis to all TSPs. Calgary can contribute to this goal by maximizing the benefit of its own alignment in its ROWs.
48. Given their public interest mandate, municipalities share many goals with the Commission. With their existing need to install fibre networks to provide ongoing and an increasing multiplicity of municipal services, municipalities are well placed to assist the Commission in achieving the Policy Objectives with respect to access to fibre networks.

## E. REGULATION OF MUNICIPAL WHOLESALE SERVICES

### 1. Regulating Wholesale Services Provided by a Municipality Requires Distinct Considerations

49. Calgary is a non-dominant carrier by virtue of the fact that it owns and operates fibre networks to provide municipal services, licenses dark fibre to other entities, and that the Commission currently forbears from regulating these services. The Commission set a course in 2008 to forbear from regulating high speed fibre based access and transport facilities. A prominent issue during the Proceeding is whether that course should be reversed.
50. Fibre networks are viewed as a game-changer in the telecommunication industry. The limitations on the capacity of fibre networks 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 interveners to describe it as “future proof”, with innovation driven by development in networking equipment.<sup>44</sup>
51. As many of the interveners have also pointed out, the transition to fibre networks requires new installations of facilities, which require support structures and alignments in ROWs for their installation. However, as Calgary has observed, both in its Presentation and in paragraphs 14 to 22 above, new alignments in ROWs may not be available or their capacity is limited. Further, capacity of the most cost-effective and conveniently accessible support structures may also be exhausted. All of the foregoing means that new facilities-based providers of fibre networks will be unable to access ROW space and affordable and accessible support structure space to install fibre facilities. In summary, alignments in ROWs are equivalent to an “essential service” in the wholesale services framework (see paragraphs 4 to 7 above), but access can’t be mandated where alignments are no longer available.
52. The conclusion Calgary draws based on the above set of circumstances is that the current duopolies in place in many Canadian markets will remain the status quo, as in many cases only the Incumbents have existing rights to alignments in ROWs that are now nearing, or at, capacity, and only the Incumbents may have capacity on the most affordable and accessible support structures.<sup>45</sup>
53. Therefore, Calgary’s position during the Proceeding has been that the Commission should regulate FTTP networks and classify such services as “conditional mandated

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<sup>44</sup> CNOC, Second Intervention, 27 June 2014, Attachment “A”, page 31, para. 63.

<sup>45</sup> The existing wholesale services framework recognizes that a duopoly of an incumbent local exchange carrier and a cable carrier may not generate sufficient competitive pressure to ensure that the Policy Objectives are being met: Telecom Decision CRTC 2010-632, 30 August 2010, para. 55. In the Dissent Opinion of Commissioner Timothy Denton, Commissioner Denton 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.

non-essential”. The language of the essential services definition references the present tense; therefore, it cannot be applied prospectively with any success. While it is likely that FTTP facilities will meet these criteria, it is difficult to state that they *do* meet these criteria, given their early stage of development. In Telecom Decision 2008-17 the Commission recognized that some wholesale services may not meet the criteria for an essential service but should nevertheless be mandated. Calgary submits that FTTP facilities are such a service, given that without such regulation, the status quo will become even more deeply entrenched.

54. However, the telecommunication services provided by a TSP and the telecommunication services provided by a municipality such as Calgary are distinctly different. The primary business of a TSP is to provide telecommunication services for profit. The primary business and mandate of a municipality is to provide municipal services in the best interests of the public they serve. Municipalities utilize telecommunication services to provide municipal services. Although Calgary maintains that access to fibre facilities of TSPs should be mandated, at the same time, Calgary maintains that the Commission should forbear from regulating Calgary’s (or any other municipality’s) fibre network, or regulate municipal networks in a minimal and specific manner to allay apprehension that municipalities might leverage their dark fibre capability and statutory role as an owner/manager of ROWS to compete in the downstream market.
55. Since the provision of municipal services is the primary business of a municipality, fibre networks constructed to operate municipal services must be protected and cannot be compromised. This is a key distinction between a TSP non-dominant carrier and a municipal non-dominant carrier, and what regulators must take into account when considering regulating non-dominant carriers. Subject to the application of Section 43(5) of the *Act*,<sup>46</sup> municipalities require the flexibility to determine both:
- which municipal infrastructure may be accessed for commercial telecommunication purposes; and
  - the types of uses that may be made of municipal infrastructure for commercial telecommunication purposes.
56. In the event the Commission mandates access to all fibre facilities, the fibre facilities of non-dominant carriers will also be subject to mandated access. Based on municipalities’ needs for flexibility in providing such access, Calgary is suggesting another form of classification for carriers that takes into account municipal needs for appropriate regulation.

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<sup>46</sup> Subsection 43(5) of the *Act* states: “Where a person who provides services to the public cannot, on terms acceptable to that person, gain access to the supporting structure of a transmission line constructed on a highway or other public place, that person may apply to the Commission for a right of access to the supporting structure for the purpose of providing such services and the Commission may grant the permission subject to any conditions that the Commission determines.” The *Barrie Utilities* case focused on the scope of the application of this subsection of the *Act*.

## 2. Why a “Government” Class of Non-Dominant Carrier Makes Sense

57. Calgary has advocated for a “government” class of non-dominant carrier that would be subject to limited regulation consisting of imposed rates for licensing fibre benchmarked to average national or provincial carriers’ rates, as the Commission determines is appropriate, and reporting to the Commission as the Commission may find necessary to fulfill its own obligations with respect to regulating the telecommunications market.
58. Any regulation of municipal fibre facilities should take into account that municipalities may license excess capacity of fibre or support structures only when the municipality is certain that such licensing will not compromise the delivery of municipal services. The structure of municipal networks are such that they may not have cables of fibre that are allocated for the sole purpose of “licensing” and other cables of fibre that are allocated for the sole purpose of supporting “municipal services”. The construction of municipal fibre networks have developed organically over a period of time without consideration given to the possibility of licensing in the wholesale telecommunications services market.
59. Municipalities clearly need the flexibility to determine which fibre or support structures may be licensed to TSPs and what types of uses may be made of municipal support structures by TSPs in order to protect the provision of municipal services and the functionality of its support structures. Only public bodies that install and utilize fibre, and consider licensing that fibre in the upstream market need to consider and account for the above issues.
60. With the above flexibility, municipalities may invest in, and continue to invest in, operate and maintain fibre networks that support and complement the networks of Incumbents and other commercial carriers. Such investment promotes the Policy Objectives and fulfills both the mandate of municipalities and the mandate of the Commission, as well as accords with the Policy Directives. It allows for facilities-based competition to thrive where it is feasible and supports development of a thriving services-based competition, which can only benefit consumers and the Canadian telecommunications marketplace.

## F. PROPOSED PILOT PROJECT – FIBRE TO THE PREMISES

### 1. Municipalities and Carriers Working Together for a Connected Future

61. During the Reply, SaskTel observed that a pilot project “involv[ing] the city dictating what they think is in the best interest of citizens ... [would be] a strange concept ...”.<sup>47</sup> The concept of a pilot project as proposed by the Commission is of necessity a cooperative endeavour. Municipalities have elected councils elected through a fully democratic process whose mandate **is** to consider the best interest of citizens, which is one of the attributes a municipality contributes to a pilot project. A pilot project of the type proposed by the Commission involves a consideration of the best interest of citizens taking into

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<sup>47</sup> Transcript, Volume 8, 3 December 2014, para. 10506 (SaskTel, Reply Phase).



account that citizens want access to fibre networks. Therefore fibre networks need to be constructed in a sustainable manner that supports the Policy Objectives. Municipalities are a key part of such a pilot project, given that they control ROWs and municipal support structures and can advise on citizen input, alignments (or lack thereof) and determine alternative alignments where necessary.

62. During the Reply, Calgary made suggestions for consideration by the Commission for a pilot project, which had been suggested by the Commission during the Oral Hearing. One of Calgary's suggestions was that a municipality be included as a full participant in the pilot, the benefit being that, as owner and manager of ROWs, collaborative solutions for installation of facilities may be arrived at where installation proposes challenges. Another important suggestion was that the Commission should assign a Commissioner as an independent overseer to oversee the development of an agreement for the pilot project. A Commission overseer may be critical to formulating the fundamental terms and conditions for participation in the pilot project and ensuring the interests of all participants are protected throughout the process.
63. A significant aspect of any pilot project is the architecture for constructing an FTTP network. A challenge exists in architecting an FTTP network to meet the Policy Objectives with limited ROW and support structure capacity.
64. Today, most Incumbents are deploying fibre drops that are one cable/one fibre, which allows for a single network operator.

**Figure 1:** Typical Incumbent drop cable installation - One Cable / One Fibre:



65. The one cable/one fibre method of installation has the following disadvantages:
- (a) the installation serves a proprietary or monopoly network operator;
  - (b) the monopoly network operator is the gatekeeper for all bits of data being transported and is in a position to foreclose on its competitors in a variety of ways; and
  - (c) the installation does not allow for differentiated networks or they are contingent on the monopoly network operator's policies and configurations, which may foreclose on innovation.
66. The one cable/multiple fibre method of installation overcomes the above disadvantages.

**Figure 2:** Alternative drop cable installation – One Cable / Multiple Fibre:



67. There are many benefits to the one cable/multiple fibre drop architecture:
- (a) one cable addresses the issue of limited capacity along ROWs and support structures;
  - (b) one cable reduces the amount of disruptive construction activity in the community;
  - (c) one cable reduces the number of FTTP cabinet installations; and
  - (d) multiple fibres enable multiple network operators to provide telecommunication services, which increases competition and choice while maximizing the potential for innovation.
68. Although multiple network operators can exist on a single fibre (Figure 1) through Virtual LAN's, innovation is restricted as these networks are constrained by the initial configurations of the original network operator. With access to dark fibre, a network operator can innovate freely without restriction and can actively differentiate their services. For example, a health service provider's network would not be architected for entertainment purposes, but will likely be differentiated to emphasize personal privacy and reliability. Utility companies may want to implement "smart metering" applications and networks that assist citizens in managing their consumption and impact on the environment.
69. Architecture with the above capabilities also limits the amount of duplicate infrastructure and the impact on ROWs and the community, while allowing telecommunications services to be provided by multiple TSPs. Instead of cabinets being installed on above-ground ROWs for each TSP installing a FTTP network, a single cabinet can be installed with multiple compartments that allows each network operator to isolate their cables within that cabinet.
70. A pilot project could explore the optimal architecture for FTTP networks, the actual costs of installation across aerial versus underground installations as well as in Greenfield versus Brownfield urban areas, and provide a more comprehensive understanding of challenges to achieving Policy Objectives and Policy Directives. It could also explore different forms of investment or an aggregation of investment for FTTP network builds to defray risk for a single entity and provide opportunities to share financial burdens and mitigate risks. A pilot project could also provide opportunity to explore innovative technology solutions. Actual costs would provide the Commission a benchmark for future cost references.



71. Calgary supports the Commission's proposal of a pilot project, whether the pilot project be limited to a virtual exercise or result in an FTTP network build. Calgary is willing to engage in further discussion with the Commission and any other interested parties regarding the development of a pilot project in Calgary that fulfills the mandate of the Policy Objectives and Policy Directions.

## **2. Fulfilling the Mandate of the Policy Direction**

72. Section 1(c)(ii) of the Policy Direction encourages the Commission to take into account in its review of wholesale services:

principles of technological and competitive neutrality, the potential for incumbents to exercise market power in the wholesale and retail markets for the service in the absence of mandated access to wholesale services, and the impediments faced by new and existing carriers seeking to develop competing network facilities ...

73. Calgary has pointed out that Incumbents' existing rights to alignments in ROWs and access to conveniently accessible and cost-effective support structures will allow Incumbents to build FTTP networks first and obtain use of limited above-ground ROW space for FTTP cabinets. Moreover, due to lack of both ROW capacity and support structure access by competitors, it is unlikely that competitors will be able to build a competitive FTTP network. Without mandated access to the FTTP network of the Incumbents, competitor services may not exist in any substantial way once consumer demand has shifted to speeds and capacities that require fibre networks.

74. Two potential solutions exist to the above issues:

- (1) Facilitate municipalities' deployment of fibre, which will allow competitors to access alternative sources of dark fibre for licensing (which means providing municipalities flexibility to manage their municipal services).
- (2) Encourage network builds that allow for more than a single network operator. The one cable/multiple fibre network architecture allows for multiple TSPs to attach to a network, mitigating possibilities of monopoly or duopoly providers of FTTP networks.

75. Municipalities can complement the wholesale services provided by other carriers, providing dark fibre to multiple TSPs. TSPs' access to carrier neutral dark fibre complies with principles relating to technological and competitive neutrality, allows for TSPs to compete in the retail market and alleviates barriers related to obtaining rights to ROW space and support structures for new entrants to the market. If TSPs building networks are also encouraged to build networks that allow for more than a single network operator, and do build such networks, a thriving wholesale market in licensing dark fibre may cultivate a thriving retail market, making mandated access unnecessary. A further benefit may be innovation in the industry driven by the needs of individual network operators to develop and implement business solutions.

**G. CONCLUSION**

76. In response to the questions posed by the Commission in its *Notice of Consultation*, Calgary responds only to those questions, or parts of those questions, that fall within the scope of its participation. In its response, Calgary will reference the above discussion.

**Question 4(a):**

*Are the existing service categories for mandated wholesale services appropriate? Should any currently mandated wholesale services be reclassified? If so, identify which consumer segments would be affected and discuss how these segments would benefit from classification.*

77. **Response:** The existing services categories for mandated wholesale services are appropriate.

**Question 4(b):**

*Explain whether additional wholesale HSA services, including FTTP facilities, should be mandated.*

78. **Response:** FTTP facilities should be mandated based on the fact that there is limited capacity in both ROWs and conveniently accessible support structures for new installations of fibre or FTTP network facilities. This ensures that Incumbents will be the only entities that will be able to install a fibre network in any substantial manner in Calgary, since, by virtue of their position as Incumbents, they have existing rights to alignments in ROWs and to support structures which can be utilized for construction of FTTP networks. Alignments in ROWs are, or are very similar to, an “essential service” in the wholesale services framework. Access to alignments cannot be mandated when their availability is limited or non-existent; however access to the fibre installed in an alignment can be mandated. Failure to mandate access to fibre or FTTP networks will result in reduced competition in the telecommunication industry in the future as the industry transitions to reliance on fibre facilities.

79. See paragraphs 49 through to 53, above, for a discussion of Calgary’s position on this issue.

*Explain how the mandating of any proposed additional service would facilitate the development of a competitive Canadian broadband market while also providing incentives to invest in innovative networks. Provide an overview of the potential economic and social impacts that may result from either mandating or not*

*mandating access to such services for consumers, competitors or incumbent carriers.*

80. **Response:** See paragraphs 14 through to 38, above, for a discussion of Calgary's position on this issue.

**Question 7:**

*Indicate which carriers should be subject to the Commission's wholesale services framework, the extent of the associated wholesale services obligations, and what criteria should apply.*

81. **Response:** In the event the Commission mandates access to FTTP networks, all carriers that own and manage FTTP networks should be subject to the wholesale services framework. However, municipalities that own and manage fibre networks or FTTP networks need distinct considerations if their networks are subject to the wholesale services framework, given that their primary business is not providing telecommunication services; rather, their primary business is providing municipal services. Regulation of a municipality's fibre network cannot compromise the delivery of any municipal services.
82. See paragraphs 39 through to 60, above, for a discussion of Calgary's position on this issue.

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