



CITY MANAGER'S OFFICE

January 11, 2019

The Broadcasting and Telecommunications Legislative Review Panel
C/O Innovation, Science and Economic Development Canada
235 Queen Street, 1st Floor
Ottawa, Ontario K1A 0H5
via email: ic.btlr-elmrt.ic@canada.ca

Attention: Janet Yale, Panel Chair

The City of Calgary (The City) appreciates the opportunity to provide input into the review of the Telecommunication Act and Radiocommunications Act. On behalf of The City, I am happy to enclose our response to the questions raised in the Panel's Terms of Reference.

The City recommends that proposed changes to the legislation consider a comprehensive and coordinated strategy that aligns with federal, provincial and municipal mandates. Creating an investment friendly regulatory environment with consideration for the need of municipalities to control their assets is imperative in providing long term benefits to citizens.

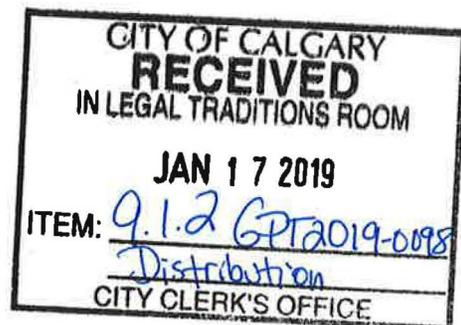
Moving forward legislation that facilitates productive partnerships between telecoms, government and citizens will ensure improved access, affordability and maximized economic opportunities.

The City of Calgary remains committed to continued dialogue and we look forward to providing additional input to support this consultation process. In addition, should the Panel consider further discussions regionally, as key stakeholders, The City would be pleased to host the Panel in Calgary and facilitate those discussions.

We look forward to the preliminary findings of the review.

Yours sincerely,

Jeff Fielding
City Manager
The City of Calgary | Mail Code #8003
T 403-268-2109 F 403-537-3027
10th Floor, Calgary Municipal Building
P.O. Box 2100, Station M, Calgary, AB T2P 2M5
Jeff.Fielding@calgary.ca



REVIEW OF THE CANADIAN COMMUNICATIONS LEGISLATIVE FRAMEWORK

SUBMISSION OF THE CITY OF CALGARY

January 11, 2019

EXECUTIVE SUMMARY

The City of Calgary (“The City”) acknowledges the objective of enacting legislation and regulations that promote affordable, high-quality broadband access for all Canadians. The City is responding to the questions relating to the *Telecommunications Act*¹ and the *Radiocommunications Act*² and will forgo questions related to the *Broadcasting Act*³. The City is advocating that the current, separate legislative framework should remain in place. For small cell attachments, jurisdiction should remain under the *Radiocommunications Act* and Innovation, Science and Economic Development Canada (“ISED”), and for other telecommunications-based infrastructure such as non-radio-based antennas, jurisdiction should remain under the *Telecommunications Act* and the Canadian Radio-television and Telecommunications Commission (“CRTC”). Amalgamating these two jurisdictions under a single authority, such as the CRTC, would bring uncertainty, create delays through litigation, increase the likelihood of regulatory capture and increase costs to municipalities, should the regulation provide for increased access to municipal assets.

However, although The City is advocating for jurisdiction to remain with the two separate agencies, there is a need for clarification in the existing legislation, especially with respect to municipal powers. The City is advocating that sections 43 and 44 of the *Telecommunications Act*, which safeguard existing rights-of-way (“ROW”) corridors, should be redrafted to provide more clarity. The word “consent” should be changed to “authority” or “approval” as it is within a municipality’s authority to establish permitting processes and provide approval where the processes have been completed.⁴ The City strongly emphasizes

¹ SC 1993, c 38.

² RSC 1985, c R-2.

³ S.C. 1991, c. 11.

⁴ In pursuit of legitimate municipal purposes, municipal governments must be able to manage municipal property and assets. Recognizing that ROW have value, municipal governments must receive full compensation for the occupancy and use of municipal ROW by telecoms. Currently, municipal taxpayers across Canada pay for more than \$107 million per year in unrecovered costs imposed by telecoms that access municipal ROW. See “Highway Robbery: How Federal Telecom Rules Cost Taxpayers and Damage Public Roads”, Federation of Canadian Municipalities, June 2008, online: <https://fcm.ca/Documents/reports/Highway_robbery_how_federal_telecom_rules_cost_taxpayers_and_damage_public_roads_EN.pdf>.

the need for local control and flexibility to manage its own assets. To address the breadth of issues that arise between municipalities and telecoms, digital infrastructure should be incorporated into municipal planning through a cooperative approach. For example, municipalities are concerned with issues of urban design, community aesthetics, safety, affordability and fair return on municipal investments. However, these concerns are often overridden by federal decisions which favor market interests. Creating an investment friendly regulatory environment while balancing public interests and consideration for the need of municipalities to control their assets is necessary. Furthermore, citizens have felt the consequences of a lack of competitiveness through high prices and a lack of choice. It will be important that any new legislation that considers municipal passive infrastructure is balanced with fair compensation and mechanisms for compliance.

Legislation should provide greater clarity on municipal powers. The concern, expressed by the telecommunications industry, that municipalities will exercise these powers to prevent or forgo wireless deployment is unfounded. Smart Cities⁵ are dependent on pervasive wireless infrastructure to be economically viable and are motivated to remain competitive while at the same time protecting their capabilities, capacity for the future and serving their citizens. A clear, comprehensive and coherent digital strategy that aligns with federal, provincial and municipal mandates would lay a strong foundation in supporting the deployment of resources to enable 5G infrastructure, resources and service. Clearing a path to facilitate productive partnerships between telecoms, government and citizens to provide access, affordability and maximize economic opportunities would be welcomed. Accordingly, The City is prepared to serve as a test case in rolling out a modernized digital strategy which would inform an innovative, practical and collaborative approach that could be applied in many jurisdictions.

The City strongly recommends adopting a set of principles in the development of a strategy and a legislative framework. These principles are shared by all levels of government to advance the betterment of Canadians. As owners of the public mandate, municipalities have a shared responsibility to ensure that

⁵ Canada's Smart Cities Challenge asks communities to improve the lives of their residents using innovation, data and connected technology. A "Smart City" is a municipality that uses information and communication technologies to increase operational efficiency, share information with the public and improve both the quality of government services and citizen welfare.

principles of accessibility, inclusivity, affordability, good governance and fairness are factors in guiding a comprehensive strategy. A legislative framework that incorporates these principles would boost investment, competition, innovation and provide long term benefits to citizens.

Through this submission The City is advocating that the Panel consider the following:

- The Panel should aim to balance the needs of the telecoms to build, maintain, and operate their equipment, with the needs of municipalities and their citizens, to safely and effectively use service corridors (ROW), and other public places.
- A legislative framework should be developed by undertaking a collaborative approach ensuring all players in the digital economy are consulted. Issues such as universal accessibility, affordability, choice, competition and governance of municipal assets should all be considered when drafting new legislation.
- Consider a modernized digital strategy which contemplates open access policies for public, private and incumbent infrastructure, urban design and a funding structure to support 5G planning and deployment.
- Re-examination of facilities-based competition in the modern context and the advantages of service-based or open access models to effectively promote competition, innovation, and affordability.
- Support The City of Calgary in its objective to be 5G ready by 2020 by advancing a 5G pilot to develop a model that can incorporate lessons learned, barriers, capacity issues and elements of industry and governmental cooperation.
- Consider an in-depth investigation of the realities of 5G deployment and the assumptions made about passive municipal infrastructure and its limits, capacities and implementation challenges to ensure the right provisions for governance are in place.
- Strengthen the legislation pertaining to consumer protection, rights, and accessibility. As online activities increase, greater vigilance is needed to protect the privacy of personal information.
- Legislation should support and consider government networks and the importance of government assets with respect to safety and security.
- Consider legislative tools that promote shared infrastructure which can reduce risks and increase efficiencies when densifying networks.

- Consider legislative tools that will support spectrum allocation for both public and private wireless networks to enable Smart City applications.
- Consider enshrining the principle of net neutrality in the *Telecommunications Act*. From a municipal perspective, eliminating net neutrality and giving telecoms the right to discriminate in favor of internet content providers that pay for access to their networks (while slowing content delivery of non-payers) will result in deleterious impacts to municipal governments' routine and emergency service providers.
- Strengthen legislation around the current allocation of responsibilities among government agencies while preserving an environment that mitigates regulatory capture.
- Clarify the authority of municipalities to manage the ROW corridor currently under Section 43 and 44 of the *Telecommunications Act*.

1. Universal Access and Deployment

1.1 Are the right legislative tools in place to further the objective of affordable high-quality access for all Canadians, including those in rural, remote and Indigenous communities?

No, the right legislative tools are not in place to further the objective of affordable high-quality access for all Canadians.

Universal access to high-quality and affordable telecommunications services has never been more important. This importance is currently reflected in legislative provisions and the CRTC's basic service regulatory framework, which was recently updated to include modern broadband and mobile services. Any new legislation that is introduced must be balanced and meet the needs of all actors who participate in our digital society. One of the main themes in the evolution of our digital society is that many actors play a vital role in our digital ecosystem. Government, industry, non-profits and citizens participate, contribute and integrate their lives with digital services: citizens have become content providers contributing through social media platforms, municipalities are deploying next generation private networks for essential services like transportation, water services, first responders, and information technology, and private companies are building and operating their own networks to protect their data, intellectual property and control innovation. Massive amounts of duplicate infrastructure are being deployed to satisfy these demands leaving fewer resources available for vulnerable communities. Universal access is dependent on several factors that have been discussed and debated for years, such as affordable access, competition, inclusion, choice, accessible infrastructure, and investment. All these elements are interrelated and share dependencies that cannot be addressed in isolation. In large urban centers, the digital ecosystem is supported by investment and the density of users. However, even in large urban centers, there are rural-like pockets where connectivity is scarce. For example, a recent article by the New York City Chief Information Officer states clearly that underserved areas do not benefit from inexpensive access to infrastructure:

The industry and the FCC have argued that allowing wireless companies to put up equipment anywhere they please will encourage broadband deployment to underserved areas. Looking at recent history, there is no reason to believe that they actually will.

Driven by their profit motive, big wireless companies are going to go where the money is — to the rich commercial districts and dense residential areas in urban cores, upgrading the network already in place there and charging the highest rates they can get. They will not be racing to serve

traditionally underserved areas at affordable rates — be they rural or urban — where the prospect of profit doesn't look as good. This could result in the kind of "digital redlining" AT&T stands accused of doing in cities like Cleveland and Detroit.

We see this play out in NYC, where poles are priced as low as \$12 per month in underserved areas yet there are very few providers looking to install in those communities. Our colleagues in rural areas tell us they haven't been able to attract companies even when offering poles at NO cost.⁶

A comprehensive national digital strategy would also enable the issue of access as it pertains to rural access, affordability and connectivity. As stated by the Office of the Auditor General of Canada in its Report on Connectivity in Rural and Remote Areas:

Many detailed examinations of the state of broadband access in Canada have recommended that the federal government lead the creation of a national broadband strategy. However, the government has not agreed to take that step. Innovation, Science and Economic Development Canada (the Department) knew the extent of broadband access across the country and had programs and other initiatives focusing on Internet access in rural and remote areas. However, we found that it did not have a strategy in place to improve access for almost 3.7 million Canadians.

...

This finding matters because a clear strategy would let Canadians in rural and remote areas know when and at which level they could expect to have access to broadband Internet services. It would also help the federal government estimate the cost to improve broadband access and identify ways to reduce that cost. In addition, a strategy would let the government decide how seriously it regards the problem of the lack of access to broadband Internet services in rural and remote areas.

Recommendation 1.1.

Innovation, Science and Economic Development Canada should adopt the recommendations by the Auditor General of Canada:

- defines the minimum level of reliable and high-quality Internet service to be made available to Canadians;
- sets clear timelines for achieving this level of service;

⁶ Samir Saini, New York City Chief Information Officer and Commissioner, Department of Information Technology & Telecommunications, "The FCC Wants Our Public Property. We're Saying No", Sept. 25, 2018, online <<https://medium.com/@communications.doitt.nyc.gov/the-fcc-wants-our-public-property-were-saying-no-a029cc544c28>>.

- estimates proper resourcing, including financial and technical resources, as well as analysis of technologies and preferred options for improving broadband deployment cost-effectively; and
- monitors whether the improved access leads to the adoption of those Internet services.⁷

In addition to the above The City recommends developing a comprehensive national digital strategy. In addition to being inclusive of all stakeholders, a national digital strategy should not be restricted to a market segment or to geographic boundaries, i.e. rural vs urban.⁸ Universal access is a complex problem whose elements have either been addressed in isolation or using disparate strategies. A coherent and modernized strategy including universal services and access, concurrent with obligations to serve, is likely to succeed. A modernized national digital strategy will also provide the foundation to determine the legislative tools required to construct a healthy digital ecosystem, without which the result would be an inefficient use of resources. Numerous policies from all levels of government can align through a comprehensive digital strategy by considering:

- Capital road construction for conduit in designated corridors;
- Open access policies for public, private and incumbent infrastructure;
- ROW management and compliance;
- Urban Design – designing for a Smart City;
- Funding mechanisms to address gaps and deficiencies during roll out; and
- New policies for public, private and incumbent infrastructure.

1.2 Given the importance of passive infrastructure for network deployment and the expected growth of 5G wireless, are the right provisions in place for governance of these assets?

Federal, provincial and municipal strategies that align with industry requirements can offer opportunities for new governance models for passive infrastructure. In the absence of a cohesive strategy, a new governance model on passive infrastructure could cause confusion, reduce investment, create adversarial

⁷ Office of the Auditor General of Canada, 2018 Fall Reports of the Auditor General Canada to the Parliament of Canada, Independent Auditor's Report, Report 1 – Connectivity in Rural and Remote Areas, November 1, 2018, online <http://www.oag-bvg.gc.ca/internet/English/parl_oag_201811_01_e_43199.html#p37>, at paras 1.20-1.37.

⁸ As an example, there may be a need for two large municipalities to interconnect for the purposes of disaster recovery triggering the installation of fibre between the two cities. This public investment could be leveraged to supply capacity to accommodate rural broadband operators between the two large municipalities. At the same time, if strategies are in place then it may be possible that the highway between the two cities have open access conduit placed as part of provincial road construction.

relationships and even slow 5G deployment. To achieve the proper legislative provisions, a close examination of some of the key requirements, misconceptions, risks and opportunities is required:

- (a) Wireless Infrastructure is important to any modern city and is considered vital in providing an essential service;
- (b) There needs to be a greater understanding of the requirements and barriers to 5G deployment;
- (c) Shared infrastructure can reduce risks and increase efficiencies when densifying networks; and
- (d) Importance of municipal planning.

(a) Wireless Infrastructure is important to any modern City

5G deployment has tremendous economic benefits as the technology is being touted to enable and/or enhance autonomous and connected vehicles, industrial Internet of Things,⁹ higher mobile broadband and machine-to-machine communications and will require major capital investments and network densification. 5G represents a major shift in wireless infrastructure deployment. The densification of wireless networks will consume far greater resources than previous generations of wireless technology. New fibre optic cables need to be deployed for backhaul transmission, new pole designs are required to carry the load of the antennas, new power cables are needed to energize the poles, and new sites need to be anticipated and prepared. Wireless infrastructure deployment needs to be efficient, scalable and sustainable to meet the objectives of all the stakeholders involved and cities will need to fully understand the impacts and opportunities to incorporate new design principles within policies and planning.

(b) Understanding requirements and barriers for 5G deployment

The City is planning on becoming 5G ready by 2020 as part of its Smart City objectives. What does it mean to be 5G ready? It means having all the processes, rates, standards and agreements in place to enable the rapid deployment of wireless infrastructure in a scalable and sustainable manner that considers both industry and municipal interests. But getting there is no easy task – it will require a critical evaluation of the requirements, processes, barriers, opportunities and risks with all stakeholders involved.

⁹ The Internet of things is the network of physical devices, vehicles, home appliances, and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these things to connect, collect and exchange data.

The City is undergoing a process re-design to accommodate 5G. The existing processes were designed to accommodate a handful of permitting and access requests per year. The City is receiving information from the telecoms that the volume of permits and applications will dramatically increase in the coming years; however, the current City process is not resourced or structured to achieve widespread and rapid deployment of 5G. Therefore, there is a need to strive towards the following objectives:

- Standard, unified, simplified, time bound, and equitable processes;
- Minimize impact on current City operations;
- Proactive to changes (policies, legislation, strategies, and technology); and
- Improved efficiency and effectiveness.
- Resourcing

The City will also examine other municipalities that have successfully engaged with telecoms. For example, San Jose, California, was successful in negotiating terms of access with three different providers.¹⁰ Examining other municipalities will allow The City to gather valuable information. A pilot project can also provide valuable information, add insights and drive solutions into developing scalable and sustainable models. As such, The City is working towards hosting a pilot project with three large wireless service providers. The intent is to define a zone or area that numerous providers can collaborate for a 5G deployment on municipal assets. The site selection criteria will depend on both municipal asset availability in combination with a telecom's desired market. The intent will be for the 5G installation to remain permanent to preserve any initial investment by stakeholders. In addition, other aspects such as permitting processes, capacity requirements, new standards, and policies can be tested at the same time. In summary, most municipalities across Canada have not anticipated or even begun to understand the new demands and requirements that 5G will impose. But most cities are willing to learn, adapt and plan to these new demands which amplifies the importance of municipal expertise in the governance and legislative processes.

There are also several barriers to deployment of 5G that must be collaboratively overcome. First, streetlight poles seem to be an obvious location for small cell deployment. The assumption is the small

¹⁰ <https://sanjose.legistar.com/View.ashx?M=F&ID=6311253&GUID=D51FE61E-1568-4691-B07E-BB90F0ADD367>, June 8, 2018. Verizon will make an initial \$850,000 up-front permit fee payment with an annual refresh per yearly small cell deployment joint planning.

cell antenna are the size of a pizza box, the pole is the proper height, there is power to the pole and the pole is a steel structure and seemingly able to carry the weight of the antenna. Unfortunately, most of these assumptions are false. Streetlight poles are not a favorable location and will require large investments unless a well-planned and coordinated effort is made.

Most of the streetlight poles in The City are not designed to carry additional loads. Streetlight poles are engineered to perform the function of providing light under environmental conditions like periods of high wind. Even a small antenna can compromise performance within an air stream. This would mean that most streetlight poles would need to be replaced with ones that are engineered to perform with attachments. In addition, power is a limiting issue. Numerous streetlight poles do not have constant power because the power cable that feeds the



Figure 1: Power Meter

streetlight pole has a relay and photocell that shuts off power during the day. Modifications are possible but can be costly and take time. Furthermore, most street light poles across Canada are unmetered. According to the *Electricity and Gas Inspections Act*,¹¹ unmetered sites that are billed on a Legal Unit of Measure are non-compliant to the current policy. That means that wireless antennas cannot be powered with the same power cable as a streetlight unless a meter is attached. To stay compliant with the *Electricity and Gas Inspections Act*, new power cables must be deployed to supply the small cell antenna. Not only is this cost prohibitive, to run new power cable to every pole, but it's not sustainable with respect to ROW management. When you consider every provider would have to run new power to each light pole, ROW exhaust would be inevitable. The second issue with Measurements Canada policy resides in the restrictions on meters. Currently the policy states that meters must be "readable" which means they must be large and close to the ground (see Figure 1). Unfortunately, this degrades the aesthetics of the community and is not cost-effective. A solution would be the use of smart meters which would offer an opportunity to effectively measure consumption from the antennas and be deployed discretely.

11 RSC 1985, c E-4.

Second, finite space in the ROW is a barrier to the deployment of 5G. 5G is realized through the deployment of several technologies that involve above and below ground infrastructure. 5G and small cells are often represented by a picture of a small antenna on a pole; however, this is a misleading representation. The reality is that the antenna only represents the provider's edge of the network. The 5G network involves backhaul (radio, coax, or fibre optic) deployed in public ROWs, electronics (network hardware and cabinets deployed in public ROWs – see Figure 2), towers, and power cables. 5G is dependent on all the wireless infrastructure behind it.



Figure 2: Antenna and Cabinet

Space in the ROW is allocated to utility providers by providing an alignment – a suitable path for infrastructure, like conduit or pipes, can be installed without compromising other utilities. Utilities like power, gas, and water generally only require one alignment. To avoid one provider interrupting another provider's services during maintenance or installation, minimum separations are required. This means there are only limited alignments available to telecoms in the ROW after power, gas and water utilities. Other users of the ROW are not related to utilities but are vital to the city scape, as an example, street trees rely on space in the ROW which can compete with 5G deployment. The tree canopy cover can obstruct wireless transmissions and wireless transmissions may interfere with the growth of trees. Proper management of the ROW will be essential for the successful occupation by multiple parties.

The following projected alignments are being anticipated as network densification evolves and 5G begins deployment:

Alignment 1: Original Alignment

The original alignment was likely coax or twisted pair cable used to deliver landline phone, cable television, and internet services. These cables are still active and providing service.

Alignment 2: Fibre to the Node ("FTTN")

FTTN is an additional fibre cable brought closer to the home to enhance bandwidth from the previous copper/coax service. Telecoms are averse to using their original alignment to install

additional cables due to the cost associated with taking extra steps to ensure they do not interrupt their original cable. Telecoms may request a new alignment for a new FTTH and/or Fibre to the Home (“FTTH”). In some cases, there may be a FTTH cable installed which may not have enough capacity for FTTH or to supply 5G, so a third alignment may be necessary.

Alignment 3: FTTH and 5G

A telecom requires a large count cable to feed its FTTH and 5G initiative. The previous cable (alignment 2) likely did not have the capacity to accommodate 5G.

Alignment 4: 5G last meter to the pole

A telecom needs to run a new fibre optic cable or coax cable to the street light pole – this is a different cable from the large cable in alignment 3. This last meter cable may be 1 – 6 strands and could cover several blocks.

Alignment 5: New power cables to the pole

If Measurements Canada does not modernize its policies, or if power requirements exceed street light demands, then new power cables will have to be deployed per pole along with a power meter. This could force a new alignment for new power cables for each pole.

Anticipating ROW Exhaust due to Network Densification

If Power policies are not modernized it could force the installation of new power cables and meters for each provider.

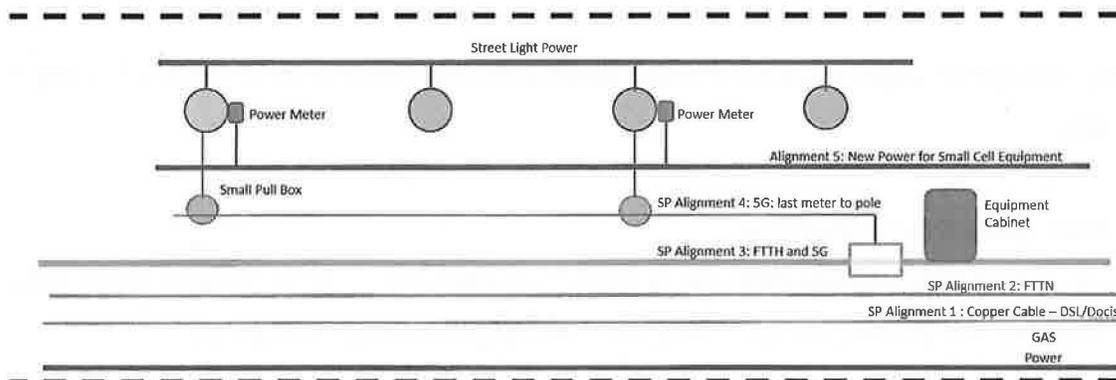


Figure 3: Projected Alignment Impact

It is possible that each provider may need 3, 4 or even 5 alignments - multiplied by at least three providers and now municipalities have up to 9 - 15 new alignments projected to consume the ROW (see Figure 3). All this duplicate infrastructure is not sustainable – ROW exhaust is inevitable.

(c) Shared infrastructure can reduce risks and increase efficiencies when densifying networks

It is unlikely that any municipality has constructed extra capacity to accommodate the wireless market especially in an environment of facilities-based competition. This means challenging the facilities-based competition model or augmenting it with models that can satisfy universal access where profit margins are not satisfied. This leads us into a discussion on facilities-based competition versus open access. Facilities-based competition (also called infrastructure-based competition) is often used in the telecommunications industry to describe competition between providers of the same or similar services, but where the service is delivered by different or proprietary means or networks. If telecoms are lobbying for greater access to municipal infrastructure in Canada, then it represents a symptom that facilities-based competition is failing under the strain of technology adoption and evolution. Facilities-based competition incentivizes duplicate infrastructure which is inefficient and cost prohibitive. Unfettered access to municipal infrastructure can impact municipal services, operational costs, asset management, ROW management, and the resiliency of the municipality. On the other hand, an open access model proposes the establishment of one physical infrastructure operator that will provide physical access services to all competing providers of the upper market layers. An open and equal access model not only lowers the financial barriers to entry for operators, but also increases the profitability in the upper layers of the market and more efficiently serves the local communities. Benefits of shared infrastructure was represented in Telecom Regulatory Policy (TRP) 2015-326: Review of wireline services and associated policies, whereby efficiencies in the utilization of incumbent last mile infrastructure by competitors (disaggregation) advanced the CRTC objectives as follows;

“...to provide Canadians with more choice for high-speed connectivity, thereby enabling them to fully leverage the benefits of the broadband home or business. Increased choice is expected to drive competition, resulting in further investment in high-quality telecommunications networks, innovative service offerings, and reasonable prices for consumers.”¹²

¹² <https://crtc.gc.ca/eng/archive/2015/2015-326.htm>

Municipalities engage in long term planning in the development of their cities. Infrastructure is built in the most efficient and effective way possible. Municipalities do not engage in facilities-based competitive practices. Mandated sharing and joint planning, along with means of objectively compelling telecoms to abide by these principles, are key to accelerating deployment, lowering costs, and reducing wasteful expenditures for all stakeholders and consumers. Municipalities adhere to fiscally responsible practices and building in the capacity to meet future requirements as anticipated.

According to the GSMA, who represents the interests of mobile operators worldwide, uniting more than 750 operators with over 350 companies in the broader mobile ecosystem:

A key change to the structure of the industry will come from network sharing. Many operators have already embraced the model on a commercial basis, and policymakers should do too to achieve positive outcomes based on competition. Network sharing will intensify in the 5G era, particularly given the level of investment required for network densification.

...

...For 5G to be a success, policies and regulations that strengthen the investment case are essential. This may involve supporting innovative spectrum and infrastructure sharing models (subject to commercial agreements), dynamic renting of infrastructure and backhaul, or enabling capacity sharing marketplaces. A neutral host approach could be required for small cells, learning the lessons from femtocells. Alternatively, the industry could embrace a bring-your-own small cell model to lower the cost of network densification.¹³

(d) Importance of municipal planning

The relationship between stakeholders and municipalities will be important when considering municipal planning. Reaching a common understanding of the constraints, barriers and misconceptions will help move the conversation forward.¹⁴ Some of the barriers and constraints have been discussed above, but here are a few misconceptions that are important to municipalities when considering governance of passive infrastructure.

¹³ GSMA, "The 5G era: Age of boundless connectivity and intelligent automation", 2017, online <<https://www.gsmaintelligence.com/research/?file=0efdd9e7b6eb1c4ad9aa5d4c0c971e62&download>> at page 30.

¹⁴ Countries like China and South Korea are embracing sharing as a key strategy to successful and scalable deployment of 5G. See RCR Wireless News, "Is shared infrastructure key to deploying 5G?" May 1, 2018, online <<https://www.rcrwireless.com/20180501/5g/shared-infrastructure-key-to-5g-tag17-tag99>>.

The first misconception is that 5G and small cells consist only of small antennas. 5G is realized through the deployment of several technologies that involve above and below ground infrastructure. 5G and small cells are often represented by a picture of a small antenna on a pole (see Figure 4), but this is a misleading representation. The reality is that the small antenna only represents the edge of the network. The network involves backhaul (radio, coax, or fibre optic) deployed in public ROWs, electronics (network hardware and cabinets) deployed in public ROWs, towers, and power cables.



Figure 4: Small Cell

The second misconception is that standards and aesthetics are an unnecessary barrier. Municipalities adhere to engineering standards, construction standards and safety standards in the deployment of infrastructure. Even small units attached to poles can compromise the structural integrity of a pole. The deployment of 5G and small cell antennas can be accomplished efficiently and effectively with properly designed standards and processes that fit within the municipal guidelines (see Figure 5). Legislation that validates the authority of municipalities to establish guidelines and processes will help alleviate concerns and fast track agreements for access.



Figure 5: Importance of Pole Standards

The third misconception is that compliance and enforcement are unnecessary barriers. Non-compliance is common and can lead to exceptional costs to citizens. As an example, the mono-pole in Figure 6 has not been moved during a major transportation project. Construction crews must try and work around the pole. Work-around costs and project delays contribute to cost over-runs which puts unnecessary strain on municipal budgets. Large-scale municipal projects are often delayed because of telecoms not relocating their equipment in a timely manner. These delays result in significant costs to all parties and,

even if these can be recovered from a telecom, they constitute waste. A mechanism should be available to quickly compel a telecom to act in such instances. In addition, rules around the obligations of third parties, to whom a telecom has granted access without municipal knowledge, should be clarified. Legislation that anticipates non-compliance and offers enforcement through monetary penalties will help alleviate concerns and fast-track agreements for access.

These examples of barriers and challenges speak to the importance of conducting a detailed examination of the perceived barriers to ensure that the right resources are being applied to solve the right problems.



Figure 6: Mono-Pole

Recommendation 1.2

An in-depth investigation of the realities of 5G deployment and the assumptions made about passive municipal infrastructure must be undertaken before any legislative changes are considered. This investigation, which must include municipalities and telecoms, would consider the limits, capacities, and implementation challenges of using this infrastructure to ensure the right provisions for governance are in place.

2. Competition, Innovation, and Affordability

2.1 Are legislative changes warranted to better promote competition, innovation and affordability?

Yes, legislative changes are warranted to better promote competition, innovation and affordability. As digital services converge, both public and private networks begin to rely on the same underlying infrastructure, systems and frameworks. Legislative changes are required to facilitate the evolution of next generation government services.

Recommendation 2.1

Legislation should support and encourage a collaborative relationship between municipalities and telecoms and mitigate risks and barriers to promote competition, innovation and affordability.

The City supports the principles of fair and equitable access to municipal infrastructure. Moving from a facilities-based competition model to a service-based or open access model, as previously discussed, effectively promotes competition, innovation, and affordability.

3. Net Neutrality

3.1 Are current legislative provisions well-positioned to protect net neutrality principles in the future?

No, current legislative provisions are not well-positioned to protect net neutrality principles. The City agrees with the recommendations in the Zimmer Report,¹⁵ and strongly endorses the recommendation that “the government of Canada consider enshrining the principle of net neutrality in the *Telecommunications Act* ... “. From a municipal perspective, eliminating net neutrality and giving telecoms the right to discriminate in favor of internet content providers that pay for access to their networks (while slowing content delivery of non-payers) will result in deleterious impacts to municipal governments’ routine and emergency service providers.

Municipalities interact with citizens over the public Internet. Net neutrality provides assurances that all residents in the municipality obtain content without restriction, whether that content is Council sessions, real-time customer service inquiries and requests, or public alerts and other information required to address local service issues and/or emergencies. In addition, in the absence of net neutrality provisions, internet traffic management protocols may inadvertently result in blocking, restricting, or censoring content and messaging from a municipality to residents in order to protect the integrity of its networks during high-congestion periods.

¹⁵ The Protection of Net Neutrality in Canada: Report of the Standing Committee on Access to Information, Privacy and Ethics, Bob Zimmer, Chair, May 2018, 42nd Parliament, 1st Session, pp. 1-2; pp. 10-14 (the “Zimmer Report”).

In the absence of net neutrality, municipalities will need to seek guarantees of unrestricted access from all internet service providers operating within their jurisdiction, and continuously monitor terms of service to ensure that municipal data is flowing freely to residents. In a worst-case scenario, municipalities may be required to pay internet service providers for unrestricted access to their networks. In either scenario, municipalities will incur unnecessary and unreasonable costs associated with monitoring and managing Internet access.

Net neutrality provisions exist to protect end-users. From a municipal perspective, net neutrality guarantees that necessary government content will not be suppressed by high-priced fast lanes.

Recommendation 3.1

The principle of net neutrality should be enshrined in the *Telecommunications Act*. From a municipal perspective, eliminating net neutrality and giving telecoms the right to discriminate in favor of internet content providers that pay for access to their networks (while slowing content delivery of non-payers) will result in deleterious impacts to municipal governments' routine and emergency service providers.

4. Consumer Protection, Rights and Accessibility

4.1 Are further improvements pertaining to consumer protection, rights, and accessibility required in legislation?

Further improvements pertaining to consumer protection, rights and accessibility are required in the legislation.

The three orders of government have an essential role in consumer awareness and protection and are responsible for enforcing legislation related to consumer product safety and anti-competitive practices, such as price fixing and misleading advertising. Consumer product safety includes exposure to threats to personal information. As online activities increase, greater vigilance is needed to protect the privacy of personal information. As well, citizens become exposed to threats of excessive prices for services that impair affordability. The reason for the exposure is an oligopoly environment that creates a risk of collusion leading to monopolistic practices, such as: (a) exclusive supplier agreements; (b) tying the sale of two products; (c) predatory pricing; and (d) refusal to deal.

Considerations for credit, debt and financial hardship as they relate to consumer protection require additional coverage in the legislation. Section 30 of the *Telecommunications Act*, for example, states that “rates charged by a carrier constitute a debt due to the carrier and may be recovered in a court of competent jurisdiction.” The *Telecommunications Act* could be strengthened to include parameters for a credit assessment that will inform the provision of services and a higher level of transparency for appeal rights for consumers experiencing financial hardship. Consumers could also benefit from requirements that the assessments be available in written form and available to them should they choose to investigate suspicions of maladministration.

Legislation should consider the role of an advocate appointed by consumers that could be used to communicate with telecoms and that can also make changes on behalf of the consumer in their absence. The ability of the advocate to gain access to information on behalf of vulnerable consumers should not be cumbersome.

With respect to consumer rights, implications for disadvantaged groups requires additional coverage in the legislation. Telecoms should be required to take steps to offer suitable alternative products to avoid excluding specific groups. The rationale for this is because telecommunication products are an essential service especially when the use of municipal infrastructure is a necessary part of the infrastructure backbone. They become, arguably, a fundamental right. For minimum consumer rights to services to be valid, they require accountability on the part of service providers and enforceability on the part of governmental authorities.

Consumer access to essential services requires additional coverage in the legislation. The *Telecommunications Act* considers the needs of persons with disabilities (section 24). However, the special needs of customers are likely broader. Individuals with limited language skills could have challenges with securing access to services, getting plans that are inconsistent with their requirements, or having plans taken out in their names without receiving a benefit for it.

Recommendation 4.1

It is The City’s recommendation that further improvements pertaining to consumer protection, rights and accessibility to be a crucial part of any legislation on these matters.

5. Safety, Security and Privacy

5.1 Keeping in mind the broader legislative framework, to what extent should the concepts of safety and security be included in the *Telecommunications Act/Radiocommunications Act*?

Safety and security are broad issues that extend well beyond the *Telecommunications Act* and *Radiocommunications Act*. Economic security, national security, public safety, and the security of critical infrastructure are distinct and yet closely linked. Cyber threats are becoming increasingly sophisticated and as the reliance on connectivity increases, greater due diligence with respect to data and network protection must be supported through legislation. Government networks are often isolated for security reasons and to protect citizen data. The ability to determine all aspects of safety and security is dependent on municipal governance of its own assets.

Recommendation 5.1

The legislative framework should anticipate all safety concerns and ensure the municipalities governance of their assets are protected.

6. Effective Spectrum Regulation

6.1 Are the right legislative tools in place to balance the need for flexibility to rapidly introduce new wireless technologies with the need to ensure devices can be used safely, securely, and free of interference?

Currently, the right legislative tools are not in place. With the trend of Smart Cities gaining momentum, municipalities and other governmental organizations are going to be motivated to deploy and expand their networks. Telecom networks will play a large role in meeting the needs of municipalities, but private networks will also play an important role. Spectrum is the foundation for effective wireless networks and with the realization that our digital society must accommodate both public and private networks then spectrum management must also accommodate both public and private networks. For example, first responders and emergency services require additional dedicated 700 MHz spectrum on the public safety broadband network ("PSBN"). During emergency incidents, where demand for bandwidth may be

concentrated in a small geographic area, emergency services should have priority access and pre-emption on networks, when there is not enough capacity on the PSBN.

Recommendation 6.1

There should also be dedicated spectrum for municipalities to deliver their priority objectives for citizens without interference.

7. Governance and Effective Administration

7.1 Is the current allocation of responsibilities among the CRTC and other government departments appropriate in the modern context and able to support competition in the telecommunications market?

The current allocation of responsibilities among the CRTC and other government departments is appropriate; however, the language in the legislation requires greater clarity if the Review Panel is considering the consolidation of the legislation and oversight into one agency. It is our view there are major risks associated with converging the legislation and jurisdiction into one agency. Convergence increases the risks associated with regulatory capture which could have negative impacts to Canadians for years to come.

Regulatory capture can be defined as follows;

Regulatory capture is the result or process by which regulation, in law or application, is consistently or repeatedly directed away from the public interest and toward the interests of the regulated industry, by the intent and action of the industry itself.¹⁶

Recent events such as the global financial crisis and Deep Water Horizon Oil Spill and the preventative actions regulators could or should have taken, have increased the public's awareness of regulatory capture.

There are essentially three components of regulatory capture that must be considered whenever regulatory oversight may be amalgamated into one institution.

¹⁶ Carpenter, D. and Moss, D.A. (Eds.). (2014). Preventing Regulatory Capture: Special Interest Influence and How to Limit It. New York: Cambridge University Press., page 13

1. Revolving door phenomenon - It is common for commissioners and staff to come from the industry they are regulating. This can increase the risk that those making policies may be inclined to be sympathetic to the business needs of firms
2. Financial compensation of industry – The prospect of higher paying future jobs in industry is a key mechanism used to capture regulators in many sectors.
3. Information asymmetry – The combination of technically complex regulations, public ignorance of these regulations, and well-informed and highly motivated corporations are common features of all regulated industries. It is in the firms’ interest to make outside verification of information very difficult.

It should be noted that regulatory capture and corruption do not automatically co-exist. The public interest mandate common to all regulatory bodies must continue to be the foremost concern when decisions are being made. Scholars have consistently noted the frequency of capture amongst regulatory institutions.

When economists talk about regulatory capture, we do not imply that regulators are corrupt or lack integrity. In fact, if regulatory capture were due solely to illegal behavior, it would be simpler to fight. Regulatory capture is so pervasive precisely because it is driven by standard economic incentives, which push even the most well-intentioned regulators to cater to the interests of the regulated.¹⁷

Recommendation 7.1

The City recommends the following important considerations for legislative changes are:

- What changes to the reporting structure are necessary to lessen the risk of regulatory capture?
- What changes to the funding models need to be made to support the changes?
- How can authority be distributed across jurisdictions to mitigate regulatory capture while still contributing to the objectives of the strategy?
- How can agencies be effectively accountable in balancing public private interests and protect the mandate of public services to all citizens?

¹⁷ Carpenter, D. and Moss, D.A. (Eds.). (2014). Preventing Regulatory Capture: Special Interest Influence and How to Limit It. New York: Cambridge University Press., page 124

7.2 Does the legislation strike the right balance between enabling government to set overall policy direction while maintaining regulatory independence in an efficient and effective way?

Although The City is advocating for jurisdiction to remain with the two separate agencies, there is definitely a need for clarification in the existing legislation. The City is advocating that sections 43 and 44 of the *Telecommunications Act*, which safeguard existing ROW corridors, should be redrafted to provide more clarity. The word “consent” should be changed to “authority” or “approval” as it is within a municipality’s authority to establish permitting processes and provide approval where the processes have been completed.

Municipalities need to be able to manage the ROW for all users for the benefit of all users. In 1993, the current version of the *Telecommunications Act* came into force. The goal of the revamped Act was to introduce free-market competition in the Canadian telecommunications industry. Consumers and businesses would be able to choose from a variety of new services, new providers and new technologies to meet their telecommunications needs.

For municipalities, the change had immediate and profound repercussions. Regional monopolies, the norm for nearly a century, would soon disappear. Instead of dealing with a single long-term provider, municipalities needed additional resources to respond to multiple industry players, each demanding quick approval to deploy their networks and begin making money. Installation of new infrastructure occurred at great speeds, often without municipal permits or plan approvals, increasing congestion in the ROW and, at times, creating unexpected hazards in spaces that were already highly solicited. The dramatic increase in demand for ROW space resulted in increased costs (inspections, repairs, shortened roadway lifespan, workaround costs, etc.) as well as physical and logistical dilemmas for local governments. Trying to safeguard the interests of the municipalities and their taxpayers, while responding to new industry demands and public desire for these new services, became a delicate balancing act.

The *Telecommunications Act* recognizes the necessary municipal role in managing infrastructure that, for the most part, is located within ROW. In recognizing the municipal role, the *Telecommunications Act* prohibits telecom providers from deploying or maintaining their networks without municipal “consent”

(a requirement which should also exist with respect to transmission antennas under the *Radiocommunications Act*):¹⁸

Definition

43. (1) In this section and section 44, “distribution undertaking” has the same meaning as in subsection 2(1) of the *Broadcasting Act*.

Entry on public property

(2) Subject to subsections (3) and (4) and section 44, a Canadian carrier or distribution undertaking may enter on and break up any highway or other public place for the purpose of constructing, maintaining or operating its transmission lines and may remain there for as long as is necessary for that purpose, but shall not unduly interfere with the public use and enjoyment of the highway or other public place.

Consent of municipality

(3) No Canadian carrier or distribution undertaking 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.

Application by carrier

(4) Where a Canadian carrier or distribution undertaking cannot, on terms acceptable to it, obtain the consent of the municipality or other public authority to construct a transmission line, the carrier or distribution undertaking may apply to the Commission for permission to construct it and the Commission may, having due regard to the use

¹⁸ Some support structures exacerbate difficulties of accessing infrastructure. The fact that hydro poles, for instance, are not governed by the CRTC, leads to “vastly divergent rates being charged for identical services only because hydro support structure rates are set by provincial regulators and the rates of Bell Canada and TELUS are set by the CRTC.” Because broadband is not considered in infrastructure programs, such as road-building, costly telecommunications infrastructure will, in some cases, be added after the fact. Susan Hart, Director General, Connecting Canadians Branch, from ISED stated that: “the best and most cost-effective way to deploy broadband is when you’re planning that as part of other infrastructure. If there are other roads being built, you actually include the fibre build with it at the same time.”

and enjoyment of the highway or other public place by others, grant the permission subject to any conditions that the Commission determines.

Applications by municipalities and other authorities

44. On application by a municipality or other public authority, the Commission may

(a) order a Canadian carrier or distribution undertaking, subject to any conditions that the Commission determines, to bury or alter the route of any transmission line situated or proposed to be situated within the jurisdiction of the municipality or public authority; or

(b) prohibit the construction, maintenance or operation by a Canadian carrier or distribution undertaking of any such transmission line except as directed by the Commission.

In practical terms, a number of CRTC and Court decisions have interpreted these provisions. As an initial observation, it is worth noting that three types of municipal property have been treated differently by the CRTC and the Courts:

- a) Titled municipal lands (community centres, city hall, etc.) – There are very few specific decisions dealing with properties of this type but, typically, they are dealt with on an individual basis, taking into account the unique characteristics of each location.¹⁹
- b) Other public places – The Courts have given a fairly broad interpretation to this concept (e.g. the LRT tunnels in Edmonton were deemed to be “other public places” because the public circulated in them) but the CRTC and the Courts have systematically refused to apply general ROW conditions of access to these spaces or to include them in a general Model Access Agreement (“MAA”), again because of their unique nature.

¹⁹ Municipalities should be able to manage their other assets like any other owner, including receiving licensing and occupancy fees. Artificially bringing down the cost of municipal assets to zero, and thereby penalizing local taxpayers, eliminates any incentive for telecoms to find the most efficient means to deploy communications equipment within a community.

- c) ROW – Access to ROW is usually granted through blanket approvals, most often through a negotiated MAA.²⁰ These specific conditions of access have been at the heart of most of the litigation since the deregulation of the telecom industry.

With respect to ROW, telecom providers have the right to enter upon and remain on municipal land to build, maintain and operate their networks. As a result, municipalities cannot prevent the deployment of telecommunications infrastructure on their property. However, the activities surrounding the construction and maintenance of a network on municipal property, including the right to occupy municipal land, cannot cause “undue interference” with the use and enjoyment of the space by others. This provision can be used, for example, to justify site-specific mitigation measures or changes during plan approvals to prevent conflicts with other ROW users. Construction, maintenance and operation of telecom infrastructure cannot take place without prior municipal consent.

The Commission has expressly carved out powers for municipalities to exercise when dealing with the installation of telecom infrastructure within a municipality’s ROW. In 2011, the CRTC developed a Model MAA in consultation with municipalities and the telecommunications industry. The model MAA serves as a template standard form of agreement which municipalities and telecoms may enter into that addresses the issues which arise in negotiating municipal access agreements between telecoms and municipalities. What the model MAA does is subject the work of telecoms to municipal regulatory oversight. The model MAA also stipulates that in the case of any irreconcilable disagreement between a municipality and a telecom, the parties may initiate legal proceedings and/or submit the dispute to the Commission. The model MAA acknowledges that municipalities may properly regulate the following:

- The preamble of the MAA expressly recognizes that pursuant to section 43 of the *Telecommunications Act*, municipal consent is required before a telecom may construct equipment within a municipality’s ROW;

²⁰ With respect to fees, municipalities are currently committed to charging reasonable fees on a non-discriminatory basis, and many have therefore long ago adopted the common law’s “causal costs” approach to such calculations. There should be no “special deal” for the telecoms as opposed to other utilities, and at the further cost of taxpayers.

- Section 2.1 of the MAA stipulates that all applicable municipal bylaws, rules, policies, standards and guidelines (defined in the MAA as “Municipal Guidelines”) apply to telecom work;
- Section 3.1 acknowledges that a telecom is subject to the “authorization requirements” (permitting process) of a municipality, which includes providing a completed permitting application, in a form specified by the municipality and including the applicable fee. Section 3.1(a) refers to Schedule “B” of the MAA for the type of work for which “authorization requirements” are needed, but in the alternative, state that reference to what authorization is required may also be found in a municipality’s bylaw.
- Schedule “B” expressly stipulates that permits are required by a telecom for any buried equipment, while only notification is required for above-surface, temporary connections.
- Section 3.2 excludes permitting requirements for some routine work, including temporary service drops. Section 3.3 allows for a telecom’s permit to expire and any fee paid to not be refunded where the telecom has not made an application for a permit extension has been applied for or unreasonably withheld by the municipality.
- Section 3.4 requires a telecom to provide a municipality with plans of the proposed work, “showing the location and existing equipment and other facilities...” and “all other relevant plans, drawings and other information as may be normally required by the Municipal Engineer from time to time for the purposes of issuing Permits”.
- Section 3.5 allows a municipality to refuse to issue a permit for work where the work conflicts with “any bona fide municipal purpose, including reasons of public safety and health, conflicts with existing infrastructure, proposed road construction, or the proper functioning of public services”.
- Pursuant to section 4, all work conducted by telecoms must “be conducted and completed to the satisfaction of the Municipality in accordance with: applicable laws (including all laws and codes relating to occupational safety); the Municipal Guidelines, and applicable permits”.

- Section 4.2 allows a municipality to stop telecom work “for any bona fide municipal purpose or cause relating to public health and safety or any circumstances beyond its control”. The telecom cannot resume work until the municipality advises that it can do so.
- Section 4.3 obligates a telecom to “use its reasonable efforts to minimize the necessity for road cuts, construction and the placement of new equipment within a right of way by coordinating its work and sharing the use of support structures” with other utility providers. In that regard, section 4.4 requires a telecom to formally participate with, and fund, a municipality’s coordination committee.
- Section 4.4 requires a telecom to provide a municipality (where required) with “as built” drawings prepared “in accordance with such standards as may be required by the Municipal Engineer, sufficient to accurately establish the plan, profile and dimensions” of the equipment being installed.
- Section 7 obligates a telecom to relocate its equipment where it interferes with a “bona fide municipal purpose” and further, requires the telecom to obtain from a municipality the necessary permits for that relocation.
- Section 9.5 states that a telecom must remove abandoned above-ground equipment at its cost where required by a municipality to do so, must make safe any abandoned infrastructure which is located below-ground, and where below-ground abandoned infrastructure interferes with “any municipally approved project”, the telecom is responsible for removing it and repair the damage caused by its removal.

The Commission has, with its endorsement of the model MAA, expressly contemplated that municipalities have a regulatory role to play over telecom work. The MAA acknowledges that a municipality must give its permission or consent to telecoms to work in a municipal ROW, that the municipality has the jurisdiction to impose a permitting process on telecom work, and that a municipality has the jurisdiction over the manner of the telecom work. Further, the Commission has expressly carved out powers for municipalities to exercise when dealing with the installation of telecom infrastructure within a municipality’s ROW. As is clear in the terms of the model MAA, municipal oversight was always envisaged as playing an important role in regulating the activities of telecoms within a municipality’s ROW.

Recommendation 7.2

The City supports the clarification of the authority of municipalities to manage the ROW corridor currently under Section 43 and 44 of the *Telecommunications Act*. Any legislative change to these sections should be done in consideration of the settled case law and provisions that have been set out by the CRTC.

CONCLUSIONS

In summary, The City of Calgary reiterates it is advocating that the Panel, as part of their deliberations, consider the following recommendations:

Recommendation 1.1.

Innovation, Science and Economic Development Canada should adopt the recommendations by the Auditor General of Canada:

- defines the minimum level of reliable and high-quality Internet service to be made available to Canadians;
- sets clear timelines for achieving this level of service;
- estimates proper resourcing, including financial and technical resources, as well as analysis of technologies and preferred options for improving broadband deployment cost-effectively; and
- monitors whether the improved access leads to the adoption of those Internet services.²¹

In addition to the above The City recommends developing a comprehensive national digital strategy. In addition to being inclusive of all stakeholders, a national digital strategy should not be restricted to a market segment or to geographic boundaries, i.e. rural vs urban.²² Universal access is a complex problem whose elements have either been addressed in isolation or using disparate strategies. A coherent and modernized strategy including universal services and access, concurrent with obligations to serve, is likely to succeed. A modernized national digital strategy

21 Office of the Auditor General of Canada, 2018 Fall Reports of the Auditor General Canada to the Parliament of Canada, Independent Auditor's Report, Report 1 – Connectivity in Rural and Remote Areas, November 1, 2018, online <http://www.oag-bvg.gc.ca/internet/English/parl_oag_201811_01_e_43199.html#p37>, at paras 1.20-1.37.

22 As an example, there may be a need for two large municipalities to interconnect for the purposes of disaster recovery triggering the installation of fibre between the two cities. This public investment could be leveraged to supply capacity to accommodate rural broadband operators between the two large municipalities. At the same time, if strategies are in place then it may be possible that the highway between the two cities have open access conduit placed as part of provincial road construction.

will also provide the foundation to determine the legislative tools required to construct a healthy digital ecosystem, without which the result would be an inefficient use of resources. Numerous policies from all levels of government can align through a comprehensive digital strategy by considering:

- Capital road construction for conduit in designated corridors;
- Open access policies for public, private and incumbent infrastructure;
- ROW management and compliance;
- Urban Design – designing for a Smart City;
- Funding mechanisms to address gaps and deficiencies during roll out; and
- New policies for public, private and incumbent infrastructure.

Recommendation 1.2

An in-depth investigation of the realities of 5G deployment and the assumptions made about passive municipal infrastructure must be undertaken before any legislative changes are considered. This investigation, which must include municipalities and telecoms, would consider the limits, capacities, and implementation challenges of using this infrastructure to ensure the right provisions for governance are in place.

Recommendation 3.1

The principle of net neutrality should be enshrined in the *Telecommunications Act*. From a municipal perspective, eliminating net neutrality and giving telecoms the right to discriminate in favor of internet content providers that pay for access to their networks (while slowing content delivery of non-payers) will result in deleterious impacts to municipal governments' routine and emergency service providers.

Recommendation 4.1

It is The City's recommendation that further improvements pertaining to consumer protection, rights and accessibility to be a crucial part of any legislation on these matters.

Recommendation 5.1

The legislative framework should anticipate all safety concerns and ensure the municipalities governance of their assets are protected.

Recommendation 6.1

There should also be dedicated spectrum for municipalities to deliver their priority objectives for citizens without interference.

Recommendation 7.1

The City recommends the following important considerations for legislative changes are:

- What changes to the reporting structure are necessary to lessen the risk of regulatory capture?
- What changes to the funding models need to be made to support the changes?
- How can authority be distributed across jurisdictions to mitigate regulatory capture while still contributing to the objectives of the strategy?
- How can agencies be effectively accountable in balancing public private interests and protect the mandate of public services to all citizens?

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The City supports the clarification of the authority of municipalities to manage the ROW corridor currently under Section 43 and 44 of the *Telecommunications Act*. Any legislative change to these sections should be done in consideration of the settled case law and provisions that have been set out by the CRTC.

Hess, Kelly

From: Broadcasting and Telecommunications Legislative Review / Examen de la législation en matière de radiodiffusion et de télécommunications (IC) <ic.btlr-elmrt.ic@canada.ca>
Sent: Friday, January 11, 2019 12:46 PM
To: Hess, Kelly
Subject: [EXT] RE: City of Calgary Submission for Broadcasting and Telecommunications Legislative Review

Thank you for taking the time to provide a written submission to the Broadcasting and Telecommunications Legislative Review.

We appreciate the information and perspectives shared. Your submission will be carefully reviewed to help inform our final recommendations to the Minister of Innovation, Science and Economic Development and the Minister of Canadian Heritage by January 31, 2020. Feedback gathered throughout our consultation phase will be incorporated into a *What we Heard Report*.

Please stay tuned for the *What we Heard Report*, which will be posted in Spring 2019 on the following website:
<https://www.ic.gc.ca/eic/site/110.nsf/eng/home>.

Sincerely,

Broadcasting and Telecommunications Legislative Review Panel

Merci de nous avoir fait parvenir une soumission écrite à l'Examen de la législation en matière de radiodiffusion et de télécommunications.

Nous vous sommes reconnaissants de nous avoir fait parvenir votre point de vue. Votre soumission sera étudiée attentivement et considérée lors de la rédaction des recommandations finales qui seront communiquées au ministre de l'Innovation, des Sciences et du Développement économique et au ministre du Patrimoine canadien avant le 31 janvier 2020. Les commentaires recueillis au cours de cette phase seront aussi intégrés dans le rapport *Ce que nous avons entendu*.

Veillez rester à l'affût du rapport *Ce que nous avons entendu*, qui sera affiché au printemps 2019 sur le site Web suivant: <https://www.ic.gc.ca/eic/site/110.nsf/fra/home>.

Cordialement,

Le groupe d'examen de la législation en matière de radiodiffusion et de télécommunications

From: Hess, Kelly [mailto:Kelly.Hess@calgary.ca]
Sent: January-11-19 2:44 PM
To: Broadcasting and Telecommunications Legislative Review / Examen de la législation en matière de radiodiffusion et de télécommunications (IC)
Subject: City of Calgary Submission for Broadcasting and Telecommunications Legislative Review
Importance: High

On behalf of The City of Calgary we are pleased to attach our submission for the above noted review.

We would be pleased to respond to any questions the Panel may have, and would welcome any opportunity to discuss our submissions further with the Panel.

Please contact Sasha Russell if you require anything further.

Sasha Russell, B.A., J.D., LL.M.
Barrister & Solicitor
Law and Legislative Services Department
Law, Legal Services
The City of Calgary | Mail code: #8053
T 403.268.8250 | F 403.268.4634 | calgary.ca
L 12th Floor Municipal Building, 800 Macleod Tr. S.E.
M P.O. Box 2100, Station M, Calgary, AB Canada T2P 2M5

Kelly Hess

Leader, Rights of Way (ROW) Management Services
Innovation, Data & External Access (IDEA)
Corporate Analytics & Innovation
The City of Calgary | Mail code: 8026
T 403.268.5071 | E kelly.hess@calgary.ca
L 6th Floor, 800 Macleod Trail SE
M P.O. Box 2100, Station M, Calgary, AB Canada T2P 2M5

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