

Telecom Notice of Consultation CRTC 2017-112

Development of the Commission's broadband funding regime

Requests for Information: Responses of the First Mile Connectivity Consortium

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General comments, summary and introduction

1. The First Mile Connectivity Consortium (FMCC) is an incorporated independent not-for-profit national association of Indigenous broadband service providers. Our members are First Nations Internet service providers – what we call “community/regional intermediary organizations.” Our work focuses on innovative solutions to digital infrastructure and services with and in rural and remote regions and communities across Canada.
2. The FMCC is seeking means to ensure access to reliable, affordable and scalable broadband in rural, remote, northern and Indigenous communities, in ways that involve residents of these communities in the provision of digital services. This approach requires “first mile” solutions in the design, development and operations of telecommunication infrastructure and services – and the policy and regulatory frameworks that supports their deployment. Our focus is on those regulations and policies that establish an enabling environment that invests in connections and organizations based in affected communities and regions.
3. Our position is contrasted against “last mile” initiatives that focus on upgrades to urban-based infrastructures in the belief that they will eventually serve the remote and rural regions; an approach that has not worked for rural, remote, Northern and Indigenous communities, despite years and billions of public dollars invested in corporate telecom “last mile” solutions. Importantly, our FMCC member organizations provide and support the delivery of broadband-enabled public services such as online education and telehealth, as well as entertainment services for household consumers. This whole community approach frames infrastructure, bandwidth, and associated capacities as locally-managed resources that can be aggregated into sustainable, appropriate, community-managed deployment and adoption methods.
4. In this filing we provide responses to the Commission’s Requests for Information regarding the development of the broadband fund regime, as outlined in the letter dated October 16, 2017. In developing this material, we refer to our prior interventions, which proposed guiding principles based on concepts of reconciliation, community engagement, and community development, and discussed topics related to:
 - Governance, operating, and accountability frameworks;
 - Eligibility criteria; and
 - Assessment criteria.
5. We stress that the Commission must determine how exactly “meaningful consultation” is to be defined in this context. For one definition of “meaningful consultation” used by the Government of Canada, please see our responses to Question 6 in this submission. We also refer to efforts by Native Americans to address this issue, such as those undertaken by the Navajo Nation Telecommunications Regulatory Commission.¹
6. The following FMCC Responses reflect our position on the issues discussed.

¹ See: <http://nntrc.org/>

Responses to Appendix 1:

Question 1: Many parties have referenced Innovation, Science and Economic Development Canada (ISED) and the Connect to Innovate (CTI) program in their interventions and replies. Some parties suggested that the Commission name ISED as the third-party administrator responsible for the project management function. Others have commented that the Commission or the third-party should use ISED staff and/or data when reviewing applications. Some recommended that the Commission model its fund off of ISED's, using the same or similar criteria, but without ISED's direct involvement. In order to better comprehend the suggestions and arguments that parties have proposed, the Commission is seeking comments on the following questions:

a) Do you agree that ISED should be involved?

b) If ISED were to be involved, what should their role and responsibilities be?

c) Do you foresee any issues (policy, legal, financial, administrative or otherwise) with ISED's participation in the Commission's broadband funding regime?

7. Yes, we do believe that ISED should be involved in providing support for the Commission's new broadband Fund. However, this involvement should be limited to advisory functions. ISED should not be involved in project management or making decisions about applications. The Commission's new Fund should remain separate from the Connect to Innovate program (CTI).
8. If ISED is involved, its role should be restricted to providing specific expertise to support the review and monitoring of applications by a third-party entity, and to support applicants, as discussed below. ISED staff can help coordinate funding applications across government departments (including federal, provincial and territorial governments) and provide advice to decision-makers. ISED's regional staff can provide important support to applicants located in rural, remote, Northern and Indigenous regions. Regional staff have expertise and understanding of the unique needs of organizations based in these regions, and so can play an important part in supporting their efforts.
9. We disagree with the suggestion that ISED be tasked to oversee the competitive bidding process for the new broadband fund, and/or project selection and oversight. We have several concerns with ISED playing a major role in the administration of the fund and/or adopting ISED's CTI model to implement the fund. Compared to the CRTC, ISED allows for fewer public consultative opportunities. There are few structured consultations, and determinations are not subject to the same method of open and public discourse.² We noted in our reply comments the significant number of lobbying interactions undertaken between major TSPs and ISED, as documented in the media.
10. While we recognize that such meetings are part of doing business, lobbying should play no role in the allocation of the CRTC's broadband fund. FMCC members have experience

² Shepherd, T., Taylor, G., and Middleton, C. (2014). "A Tale of Two Regulators: Telecom Policy Participation in Canada." *Journal of Information Policy* 4:1–22. Available at: <http://dx.doi.org/10.5325/jinfopoli.4.2014.0001>

working with ISED to develop regional telecom infrastructure construction projects, only to see the public funds turned directly over to an incumbent telecom provider.

11. We also note that ISED's recent CTI program proved to be a challenging and technical proposal development process for under-resourced community-based organizations, who had a very short timeline to complete their applications. Our FMCC members highlighted the following challenges with the existing CTI program:
12. **CIT application process was challenging for low-resourced applicants:** FMCC member organizations, which are community-based providers with limited human and technical resources operating in rural, remote, Northern and Indigenous regions, found the CTI application difficult to complete, particularly given the short timeframes.
13. **ISED did not provide adequate program support staff to assist applicants:** FMCC member organizations experienced several barriers in accessing program information. Most communication was through email, with no opportunities to meet program staff in person. FMCC members noted that an information session about the program would have been useful. They also pointed to the need for regionally-based program officers, with experience and understanding of the unique conditions of regional providers.
14. **ISED CTI timelines are much too short:** The deadlines set by ISED for the CTI program are extremely difficult for low-resourced applicants to meet – particularly for non-profit organizations that manage and operate infrastructure and services with limited staff on a daily basis. The CTI program deadlines were as follows:
 - Dec. 15, 2016 – Mar. 13, 2017: CTI program announced, first deadline
 - Jan. 16, 2017 – April 20, 2017: second round application window
15. **ISED's one-year limit to spend funds is much too short:** FMCC member organizations noted the challenges of CTI's one-year funding limit. In northern regions with short construction seasons, this can be a challenge – particularly if equipment is unavailable or breaks down. Other challenges including time spent waiting for development permits, negotiating with companies to secure wholesale bandwidth, co-location, and electricity contracts, conducting engineering studies and strategic planning, waiting for upgrades to required resources such as pole infrastructure, and so on. A longer cycle in which organizations can spend funds, such as over three (3) years, would be more effective.
16. **Connectivity information was problematic:** FMCC member organizations noted that the geographic hexagons used to determine areas eligible for CTI funds did not reflect the experience of residents of communities in their regions. Data was outdated, incorrect and inconsistent. A new approach to collecting, analyzing and vetting data is required. The Navajo Nation Telecommunications Regulatory Commission provides one data collection model (described in our response to Question 5) to assist with that work.
17. **CTI relied on metrics to determine retail pricing levels that are not realistic for non-profit providers in remote communities:** Applicants to CTI could not charge retail rates higher than 10% of those offered by the nearest urban centre in a region. This requirement creates a barrier for smaller, community-based ISPs that cannot internally cross-subsidize retail rates. This kind of retail/household model makes the business case for offering

services in remote and fly-in communities unsustainable for non-profits. For example, the Western James Bay Telecom Network had to use Moosonee as the designated ‘nearest urban centre’ when determining retail rates for its CTI application. However, the cost of delivering retail services in fly-in communities such as Attawapiskat are much higher than 10% above delivering retail services in Moosonee.

18. Instead, we stress the need for the CTI and Commission Fund to recognize the potential to aggregate users in small-population, remote/northern/Indigenous communities. Such a whole community model envisions an approach that incorporates anchor tenants (such as schools and health centres), businesses and households in an aggregated bandwidth resource pool that is purchased in bulk and redistributed by local and regional community-based organizations.
19. There are several problems with existing aspects of CTI’s selection criteria, as described in the following paragraphs. The CRTC should there not adopt ISED’s CTI criteria for the selection of projects.
20. **CTI supports projects that provide legacy infrastructure.** This ‘band-aid’ solution restricts innovation, allows for inefficient overbuilds, and will not address BSO requirements in the immediate term – not to mention rapidly-approaching near-future needs. Rather than require sustainable upgrades, the CTI program supported incumbents to build upon their legacy infrastructure.
21. Associated with this point, using “current average subscriber usage” of an antiquated and poor delivery network service as a means to justify upgrading and expanding the same inadequate legacy infrastructure, and using public resources to do so, is wrong. There is ample evidence that usage will grow dramatically once sufficient reliable and affordable bandwidth is available. The Fund therefore needs to ensure that this type of design and engineering is not funded again.
22. **CTI has allowed for overbuilds of existing infrastructure.** An example of this policy was the \$50M CTI grant awarded to Northwestel in Nunavut, despite the existing satellite ground infrastructure and dynamic regional bandwidth management system operated in that territory by SSi Micro.³ This example is ironic, given that in CRTC 2011-302, Northwestel itself noted that the federal government’s targeted infrastructure programs created the potential for duplicate networks in satellite-dependent communities. At that time, Northwestel operated in Nunavut’s three largest communities, while SSi Micro operated in all 25 communities. In its submission to the CRTC, Northwestel stated:

“[S]ometimes even a duopoly may be too expensive to maintain, and competition in satellite-based communities has further eroded its ability to marshal internal cross-subsidies” (as quoted in Fiser, 2013, p.57).⁴
23. We are also concerned with CTI’s treatment of ‘open access’ – and in particular, the lack of a precise definition of the term. The checkbox of ‘open access’ that exists in ISED’s

³ See: <http://www.cbc.ca/news/canada/north/connect-to-innovate-northwestel-internet-nunavut-1.4289747>

⁴ See: http://digitalarctic.com/files/images/sessions/making%20it%20possible/adam%20fiser/14-061_connectivity_cfn_rpt.pdf

Connect to Innovate application form is not an adequate indicator of what conditions are required. While ‘open access’ is a requirement for CTI-funded projects, details of what that means in practice are not provided. CTI simply notes that:

“All projects funded under the program must be open to third parties for dedicated capacity purchases on a wholesale or retail basis. Applications that exclude open access will be deemed ineligible.” (ISED – CTI Program Guide, p.4).

24. The conditions for open access must be much more specific, including price, reliability, and other requirements. We discuss this issue in more detail in our response to Question 13.
25. Rather than adopt criteria used by CTI, the Commission’s Fund must require projects to address the standard of service outlined in Telecom Regulatory Policy 2016-496. Along with that requirement, that approach supports the objective of the *Telecommunications Act* to “encourage innovation in the provision of telecommunications services” (Section 7g). To accommodate the 50/10 bandwidth requirement and efficiently spend monies contributed by consumers and taxpayers, projects must address current and future needs.
26. For all these reasons, we believe that ISED should not play any official role in the management of the fund, including selection of providers to receive funding. However, as noted above, ISED staff should act in an advisory capacity, to coordinate among different government funding programs, and provide technical or other advice to the fund administrator. Importantly, this work should involve regional ISED staff who have expertise and experience in rural, remote, Northern and Indigenous regions.
27. Any funds provided for broadband by ISED could be made available to match funding from the CRTC Broadband Fund. However, we point out that linking the programs in such a manner could create problems in transparency, which should be reviewed and addressed.

28. Other issues related to ISED:

29. FMCC member organizations have noted positive experiences in their work with ISED program staff (and staff from other federal departments and agencies, such as INAC). Importantly, these staff are based in northern, rural and remote regions, and so have a clear understanding of the challenges and requirements of organizations operating there. For example, K-NET has greatly benefitted over the years from the regional experience and knowledge of program staff from FedNor, the Northern Ontario Economic Development Agency.⁵
30. While we recommend that the CRTC consult with staff of ISED and other federal, provincial and territorial governmental staff with expertise in northern and Indigenous regions, we believe that the CRTC itself should build internal capacity in this area. It is important that the Commission also has internal staff with expertise in rural, remote, Indigenous and Northern issues. We note that the Federal Communications Commission (FCC) established an Office of Native Affairs and Policy (ONAP) for this purpose, which could be used as a model for the CRTC.

⁵ See: <http://fednor.gc.ca/eic/site/fednor-fednor.nsf/eng/home>

31. We think that fixed broadband should be prioritized for funding over mobile broadband. We recognize that ISED manages spectrum, which is required for mobile/cellular services including mobile broadband. Mobile deployment requires access to licensed spectrum, which is not available to the non-profit and community-based providers operating in remote, Northern and Indigenous regions unless they partner with existing mobile operators. If mobile/cellular services are to be considered, the Commission must work with ISED to ensure that public benefit is provided to enable those parties to access required spectrum, such as through a set aside.
32. We recognize that ISED is responsible for licensing of satellite operators and spectrum. We believe that satellite solutions for broadband should only be funded where other technological solutions are unavailable. In the event that satellite is utilized, we note that ISED does have the regulatory ability to secure public benefit from the provision of commercial satellite services. In Canada, these public benefits have included a 2% public benefit on satellite revenues, or the provision of satellite services to underserved regions.
33. For example, Industry Canada has required Telesat to provide public benefit obligations as a condition of their orbital licenses by providing service coverage to all regions in Canada, including the far North (Industry Canada, 2005).⁶ Telesat's two Anik F-series satellites occupied two of Canada's four orbital positions, and Indigenous partner organizations that belonged to the Northern Indigenous Community Satellite Network (NICSN) leveraged the public benefit obligations associated with their licenses to support their cooperative satellite network.⁷

⁶ Industry Canada. (2005). *Policy Framework for the Provision of Fixed Satellite Services (Published December 1998; Revised September 2005)*. Ottawa: Industry Canada. Available at: [https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/rp008e.pdf/\\$FILE/rp008e.pdf](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/rp008e.pdf/$FILE/rp008e.pdf)

⁷ For more information on the regulatory conditions required by Industry Canada with regards to orbital satellite licenses, please see Section 4.3 (pp.128-134) here: http://summit.sfu.ca/system/files/iritems1/13532/etd7913_RM McMahon.pdf

Question 2: In Telecom Regulatory Policy 2016-496, the Commission determined that a third party or third parties will operate the fund at arm's length in a manner that is transparent and efficient. What process should be used to reimburse the third party or parties for expenses incurred from performing their roles and responsibilities, and would this process need to be modified depending on which type of entity the Commission chooses to perform the role?

34. The Commission has already established several processes to support the engagement of public interest groups in regulatory hearings. These include the Broadcasting Participation Fund and Telecom Regulatory Policy CRTC 2010-963 (Revision of CRTC costs award practices and procedures). However, we point out that the cost claims process and associated rates for telecommunications has proven onerous for many public and consumer interest groups, and was established almost 10 years ago.
35. The Board members (as discussed in the response to Appendix 7 below) should be reimbursed for travel expenses and should also receive an honorarium or fee for each day of service, calculated on an hourly or daily basis. Administrative staff should be funded at rates comparable to those set for CRTC staff.

Question 3: In order to create a final administrative board to administer the Broadband fund, the Commission could appoint an interim board similar as it did in Telecom Regulatory Policy 2014-187, when the Commission established a video relay service administrator. This interim board would be responsible for completing the steps necessary to create the non-profit corporate entity, and establishing and running the election process for permanent board members with the Commission's directions. Who do you think should constitute this interim board?

36. Due to limitations of time and resources, we are unable to review the process established in TRP 2014-187 at this time.

Question 4: There are divergent viewpoints on whether applications should be selected for funding using a comparative selection process, such as that conducted by ISED for its Connect to Innovate program, or a reverse auction process as proposed by the National Pensioners Federation and Public Interest Advocacy Centre and Bell Canada (NPF-PIAC/Bell). Compare the two processes in view of the principles set out in Appendix B of the 25 August 2017 National Pensioners Federation and Public Interest Advocacy Centre (NPF-PIAC) Reply Comments. The response should also elaborate on the benefits and challenges of each process, in particular with respect to:

- a) Level of administrative overhead;**
- b) Fairness and transparency;**
- c) Self-policing of project costs to ensure cost-effectiveness of subsidy;**
- d) Ease of the funding application process.**

37. The FMCC strongly advocates for a comparative selection process in the administration of the Fund. If the Commission wants to encourage participation in the Fund by small, community, and Indigenous providers, it should not rely on reverse auctions.

38. We oppose a reverse auction process for several reasons. While this approach appears to offer efficiency and objectivity by rewarding the lowest bids for subsidies, it is not appropriate for selecting small and community providers, or for the selection of projects serving remote and Northern regions for the following reasons.

39. **Auctions inherently advantage large commercial operators with strong financial abilities to secure projects over not-for-profit organizations.** Large ILECs and other TSPs are likely to have economies of scale from serving adjacent regions and/or volume procurements. They also have available expertise (in-house staff or consultants) to prepare detailed estimates and proposals. They may also be able to underwrite portions of the costs with surplus funds or facilities from other operations. Small and community providers do not have these advantages. Further, Indigenous organizations in Canada also face structural barriers to securing additional financing that are not an issue for large commercial operators.

40. **The evidence supporting reverse auctions as a success for deployment in these regions is weak.** Although the FCC's use of reverse auctions is cited as a successful example (e.g. by Bell and NPF-PIAC), reverse auctions for services in Alaska and other Tribal regions have not achieved inclusion of any Indigenous providers. In fact, no Indigenous providers or Indigenous/incumbent partnerships have won bids, or even submitted bids, despite their eligibility for the funding.

41. Further, none of the Phase 1 Tribal Mobility Fund auction funds specifically allocated by the FCC "to provide one-time support to deploy mobile voice and broadband services to unserved Tribal lands, which have significant telecommunications deployment and connectivity challenges" went to Indigenous providers. Also, for the vast majority of Tribal service blocks in Alaska, there was only one bidder.

42. Some Indigenous and community organizations that could have competed in this and other FCC reverse auctions cited lack of understanding of the process, and difficulty in preparing

bids and in participating in the auction process. They also had problems in meeting eligibility requirements.

43. Also, if there is only one bid, there is no means of assuring that a less expensive proposal could have been submitted. A single TSP can ‘game the system’ by proposing projects that would use all the funds available.
44. We think there would be similar problems with reverse auctions as a means to select winning applicants for the broadband fund in Canada. If the Commission’s goal is to stimulate innovation and competition in these regions, including by creating an enabling environment to support the non-profit and Indigenous service providers already operating there, available evidence indicates that a reverse auction model does not support it.
45. **FMCC strongly recommends a comparative selection process based on an objective project assessment.** This selection process must include criteria such as priority, sustainability, feasibility, risk avoidance, etc., as discussed elsewhere in this intervention, and in our previous submissions.
46. In suggesting this approach, we point to the successful model developed and utilized by the Navajo Nation Telecommunications Regulatory Authority (NNTRA). The NNTRA uses a comparative selection process to issue Certificates of Convenience and Necessity (CCNs) to entities offering telecommunications services in Navajo territories.⁸ Unlike the Reverse Auction model cited by NPF-PIAC/Bell, the proposal-based CCN model provides clear and substantive benefits to the residents of Indigenous communities in the U.S. These community benefits contribute to our responses to Question 6 and Question 9 raised by the Commission in these RFIs, and so we discuss them in more detail there.
47. Benefits of the proposal-based CCN model include a higher level of control over the strategic planning, deployment, operations, and sustainability of broadband on Tribal lands.
48. The Commission raised questions regarding the ‘Level of administrative overhead’ of such a model. While comparing applications for the same region requires time and effort, the number of competitive applications may be small. It should also be noted that it takes significant expertise, time and effort to design, implement and monitor a reverse auction. We address that issue further in our response to Question 6.
49. We discuss issues related to fairness and transparency in our responses to Question 1 above and Appendix 7 below.
50. We discuss issues related to the self-policing of project costs to ensure the cost-effectiveness of subsidy in our responses to Question 5. In our response there, we note the creative approach taken by NNTRA in making data collection as requirement of the application process used to issue CCN licenses and associated privileges.

⁸ See:

http://nntrc.org/uploads/FileLinks/f25715e8b19a450c85cdea027b8b9679/2014_12_10_NNTRC_11_001_Second_Report_and_Order_CCN_1_1_1_1.pdf

51. We discussed our position on the ease of the funding application process for community-based providers in our response to Question 1. While we noted there the difficulties that some applicants face with the existing ISED-administered CTI program, a Reverse Auction model would not address these challenges.
52. Instead, the Commission should improve the application process so that it better fits the unique and specific requirements of community-based organizations operating in rural, remote, Northern and Indigenous regions. The CRTC Fund should adopt a multi-phase application process, whereby low-resourced applicants can apply for proposal development funds that are used to prepare a strategic development plan that is used to secure project funds.
53. We also stress the need to recognize the expertise of regional program staff, particularly those based in rural/remote/Northern/Indigenous regions, who understand project applications that originate from those areas of Canada. Finally, we stress the need for the Fund administrator to include representatives from affected regions and communities.

Question 5: Many parties to this proceeding have proposed different processes to award funds from the broadband funding regime. In an effort to better conceptualize the various processes proposed, describe the decision making process (e.g. the flow and detailed description of the necessary steps and/or tasks) that you are advocating. Ensure that your description refers to each administrative body (e.g. the Commission, a third-party administrator, an entity governed by a board of directors, etc.) that you believe should take part in the broadband fund administrative and decision making process and fully explains what function each administrative body will be performing.

54. With regards to the application assessment process, we generally endorse the three-stage assessment process outlined by ISED in its *CTI Application Guide*, which outlined 1) eligibility screening; 2) essential criteria; and 3) comparative criteria (pp. 13-16).⁹
55. However, we place higher priority on the requirements for community and public interest benefits of funded projects. We also stress the need for substantive community engagement in this process. We believe that these additional criteria should be included in the first stage of eligibility screening: it is essential for funded projects to demonstrate how they engage with, and provide public/community benefit to, users located in the affected regions and communities.
56. We provide more detail on ‘public/community benefit’ in our response to Question 6. Briefly, in considering this question we refer the Commission to the Navajo Nation Telecommunication Regulatory Commission’s (NNTRC) *Application for Certificate of Convenience and Necessity*.¹⁰ That document clearly outlines the process and rules associated with the provision of telecommunications infrastructure and services in Navajo territories. That process began in 2010 and was recently ratified. In that context, the NNTRC assigns a Certificate of Convenience and Necessity (CCN) to eligible service providers, who receive more privileges with respect to the public/community benefits they provide to members of the Navajo Nation. The CCN:

“...provides the NNTRC with the foundation by which to regulate carriers on the Navajo Nation...The CCN process determines which category of service delivery should be expected by a particular provider, and the obligations the provider has not only to the consumer but also to the Nation. Until the CCN has been completed, and the data collected, the Nation can only depend on the provider’s voluntary provision of information, consumer narratives or the NNTRC’s staff reports as to the availability of service on the Navajo Nation” (para 9, emphasis added).

FMCC believes applicants for broadband funds to serve Indigenous communities and remote/Northern/Indigenous regions should be required to meet similar criteria.

57. We also propose that the Commission add another phase that precedes the three-stage assessment process. A **Proposal and Strategic Development Stage** that involves assistance from and consultation with various government agencies and data sources should be

⁹ See: https://www.canada.ca/content/dam/ised-isde/documents/pdf/programs/computer-internet-access/connect-to-innovate/CTI_Application_Guide.pdf

¹⁰ See:

http://nntrc.org/uploads/FileLinks/f25715e8b19a450c85cdea027b8b9679/2014_12_10_NNTRC_11_001_Second_Report_and_Order_CCN_1_1_1_1.pdf

available to support the development of project proposals by small-scale, low-resourced organizations that are based in affected rural, remote, Northern and Indigenous regions. As noted throughout in our submission, our goal is to establish an enabling environment to support the development and sustainability of community-based organizations. We outline elsewhere (e.g. in our responses to Questions 1 and 2) the challenges that these organizations face in applying for funds, and therefore stress the need for a more equitable application process.

Phase 1	Phase 2		
<i>Proposal and Strategic Development</i> (For low-resourced organizations based in affected regions)	<i>Eligibility Screening</i> (Includes evidence of community engagement and public/community benefit)	<i>Essential Criteria</i>	<i>Comparative Criteria</i>

58. **Overall project selection, oversight and accountability of the fund:** The assessment process described above must be managed by a third-party administrator, governed by a Board of Directors appointed by the CRTC and including representation from affected communities and regions. This entity should be responsible for project selection, oversight, and accountability of the Fund. It must include representatives of rural, remote, Northern and Indigenous regions. It must also include representatives from a range of types of service providers, including non-profits, cooperatives and Indigenous providers.
59. The third-party administrator should have the ability to draw on independent, expert advice drawn from outside of the telecommunications industry. Advisors can include regional program staff from government departments (such as ISED and INAC, and from provincial and territorial governments), as well as academic, public and private sector researchers. We stress that advisors must also include community representatives and independent academic researchers with no direct financial ties to service providers. We elaborate further on issues associated with the third-party administrator in our response to Appendix 7.
60. **Evaluation of proposals:** Evaluation of proposals should be coordinated by a committee chosen by this Board, known as the **Proposal Review Committee**. This Proposal Review Committee should consist of members of the Board, as well as *ex officio* advisors who can provide advice and recommendations to that Committee. Proposal Review Committee members with direct financial ties to entities applying to the Fund would recuse themselves from decision making associated with their project applications. Guidelines on conflict of interest would be made publicly available and modeled on those in force in other bodies that disburse federal funds.
61. The Proposal Review Committee should engage advisors with expertise in the geographic regions, communities, technologies, business models, and/or institutional structures present in affected areas. These advisors can participate in the review of proposals during Eligibility Screening and Comparative Criteria phases of the process. They can also address specific questions posed by the Committee as required.
62. Among other tasks, advisors can provide feedback on the public/community benefit impacts of proposals, and levels of community engagement. Their involvement helps address the Commission’s concerns regarding community and Indigenous involvement in the review and approval of proposals (as noted in Question 6 and Question 9).

63. Both the *ex officio* advisors and the voting adjudicators of the Proposal Review Committee should be chosen from a publicly-posted roster of qualified professionals and rotated for each round of funding decisions. This approach is modelled on the one used by the Social Sciences and Humanities Research Council (SSHRC) to assess proposals for publicly-funded research projects.¹¹
64. For an example of a creative (and administratively efficient) approach to collecting data from applicants to the Fund, we point the Commission to the Navajo Nation Telecommunications Regulatory Commission's (NNTRC) approach. The NNTRC combined data collection with licensing application requirements through the issuing of Certificates of Convenience and Necessity (CCNs) to service providers operating in Navajo territories.
65. With regards to its use of the CCN application process to support data collection for monitoring and assessing telecommunications projects in its remote territories, the NNTRC "takes this action to establish administrative data gathering tools to better report the progression of telecommunication services on the Navajo Nation" (paras 47-8).
66. The specific types of data collected through this process are outlined in the NNTRC CCN Application, which is available for download here: <http://nntrc.org/nntrc-11-001-commission-docs.aspx> . This document requires applicants for a CCN to provide information about issues such as:
- location of existing telecommunications infrastructure on the Navajo Nation;
 - type of services provided;
 - number and type of employment of Navajo Nation members by service providers;
 - description of proposed services (including service area and under/unserved areas on a regional and community basis);
 - maintenance of separate books and records for Navajo operations;
 - customer service plan, including accommodation of Navajo culture and language;
 - sample contract for services offered to customers on the Navajo Nation;
 - sample copy of Applicant's bill as it would be sent to a customer on the Navajo Nation; and
 - explanation of 'public interest' benefits of the proposed project, such as:
 - ensuring universal availability and accessibility of high quality affordable telecommunications services to all residents and businesses in the Applicant's service area on the Navajo Nation;
 - details on open access to networks built by the service provider; and
 - shared use of existing facilities and cooperative development of new facilities.
67. By including these data collection requirements in its application process, the NNTRC provides an interesting and administratively efficient model for the Commission to consider. As well as helping addresses data collection challenges in remote regions, this process supports efforts to more effectively and efficiently engage communities, funders and service

¹¹ For information on SSHRC's review process, see: http://www.sshrc-crsh.gc.ca/funding-financement/merit_review-evaluation_du_merite/index-eng.aspx

providers in mutually-beneficial strategic planning for the deployment and ongoing sustainability of telecommunications infrastructure and services in under-served regions.

68. **Assessing and monitoring funded applications:** When assessing and monitoring applications, the administrator should identify infrastructure (and other funding) needs in the regions. It should then monitor and review the implementation of projects according to agreed-upon targets and deadlines on an ongoing and transparent basis.
69. This two- step assessment process acknowledges the limitations in attempting to estimate specific figures for funding projects using a ‘one-size-fits-all’ approach. Frequent cost overruns in many large-scale infrastructure projects illustrate that many variables affect the costs of construction in rural, remote, Northern and Indigenous regions. Unforeseen challenges include delivery, labour, materials, and other costs.¹² Dollar values and costs for various items (transport, labour, equipment, materials, etc.) fluctuate yearly. For these reasons, projects should be assessed on a case-by-case basis with reference to end results, including community/public benefits.
70. The administrator should assess funded projects through a review of required regular, publicly available progress reports. These reports should include information about implementation deadlines and any budget overruns, with expenditures subject to audit. They should also clearly note progress towards required public/community benefits. Examples of such benefits are listed in the FMCC’s first Intervention in these proceedings, and in our response to Question 6.
71. The administrator should be empowered to request the CRTC to fine or otherwise sanction those organizations that do not meet required targets or do not otherwise fulfill their obligations, as determined by the administrator (and engaged advisors).
72. Regular and standardized progress reports should be made by successful applicants to the CRTC, which in turn should make information publicly available and easily accessible on its website.

¹² See for example the Mackenzie Valley Fibre Link: <http://www.cbc.ca/news/canada/north/mackenzie-valley-fibre-optic-line-to-now-cost-82m-1.2827002>

Question 6: Some parties advocated for applicants to get input from local community representatives. Do you agree that the broadband fund regime should actively solicit involvement with local communities? If yes, answer the following questions:

a) What is the best process for increasing awareness and involvement of local communities in the broadband fund regime? How should such a process be implemented? Comment on which of the following examples would best engage local communities in the regime and what benefits would be realized as a result of using that process:

- ‘Consultation’ prior to an application being filed to serve a local community (e.g. an eligibility requirement of engagement or support);
- Local community ownership or participation to serve a community;
- Support to assist local communities to file applications for funding;
- ‘Consultation’ during the application (e.g. provide notice that an application has been filed and/or an opportunity to comment on an application filed related to a community);
- Explicitly allowing funds to be used for accommodations (e.g. revenue sharing, training, local benefits, etc.); and
- Local community decision-making (e.g. representation, using the Natural Sciences and Engineering Research Council of Canada (NSERC) model, where NSERC’s governing body is a council composed of a President and up to 18 other members, and grants and scholarships are awarded through a competitive peer review process that involves smaller, specialized, selection committees with local community representation on the individual committees created to review each application).

b) How can a local community best be involved in the broadband fund regime in an efficient manner that does not unduly delay the application process and/or the application review process?

73. Yes, the broadband fund regime – including both administrators and applicants – must actively solicit involvement with local communities. As noted in our response to Question 5, for applicants, evidence of community engagement as of public/community benefits must be requirements for all projects that receive support from the fund. As well, the administrator must involve representatives from communities in its decision-making process, as well as engage expert advisors with knowledge and experience of affected communities and regions.

74. Therefore, our position is that the Fund should endeavor to include all of the following ways to consult and engage with affected communities:

- ‘Consultation’ prior to an application being filed to serve a local community (e.g. an eligibility requirement of engagement or support);
- Local community ownership or participation to serve a community;
- Support to assist local communities to file applications for funding;
- ‘Consultation’ during the application (e.g. provide notice that an application has been filed and/or an opportunity to comment on an application filed related to a community);

- Explicitly allow funds to be used for accommodations (e.g. revenue sharing, training, local benefits, etc.); and
 - Local community decision-making
75. The Commission has asked: “What is the best process for increasing awareness and involvement of local communities in the broadband fund regime? How should such a process be implemented?” In our response, we refer to the Navajo Nation Telecommunication Regulatory Commission’s (NNTRC) *Application for Certificate of Convenience and Necessity* with regards to the process and rules associated with the provision of telecommunications infrastructure and services in Navajo territories.¹³ This provides an example of a clear and workable solution to these issues, and can serve as a model for the Commission in its deliberations.
76. We strongly resist any suggestion that community involvement in the strategic planning, deployment, and ongoing management, operations and maintenance of telecommunications infrastructure and services is not administratively or economically efficient. In fact, evidence clearly demonstrates that the existing corporate approach used to deploy and maintain telecommunications infrastructure and services in remote and Northern regions is in fact inefficient, expensive, and ineffective.
77. Despite decades of work and billions of dollars in public funding to deploy infrastructure and services to these regions by corporate telecommunications service providers, the problem remains the same: persistent digital divides, expensive and inadequate services, and insufficient data regarding access, availability, adoption and affordability. The problem is not with residents of these regions, who have been actively engaged in building and operating their own innovative infrastructure and services despite challenging conditions; but rather with the profit-motivated, urban-based corporations that continue to try to deploy a broken ‘last-mile’ solution, using public funds to mitigate the risks in the approaches they use.
78. Instead of continuing to support this unsustainable and expensive cycle, we need a new approach grounded in a policy and regulatory framework that supports substantive reconciliation by providing opportunities for communities and regions to secure self-determination in the ownership and control of telecommunications infrastructures and services. To this end, FMCC supports the principles of OCAP (Ownership, Control, Access and Possession) whereby communities are enabled to build, own and manage the telecom infrastructure they desire and require to deliver the services addressing their needs and priorities.
79. The FMCC strongly supports substantive community involvement in the management and operations of the Fund, as represented in the points noted by the Commission. Applicants to the Fund must demonstrate they have adequately engaged with communities in both initial planning and application stages, and also fulfilled public/community benefits.

¹³ See: http://nntrc.org/uploads/FileLinks/f25715e8b19a450c85cdea027b8b9679/2014_12_10_NNTRC_11_001_Second_Report_and_Order_CCN_1_1_1_1.pdf

80. With regards to engagement with Indigenous groups, we note the requirement for formal consultation. We stress the need for a clear and binding definition of the term “consultation” in this context. The Government of Canada uses the following definition, as outlined in “Guiding Principle No. 4” in *Aboriginal Consultation and Accommodation - Updated Guidelines for Federal Officials to Fulfill the Duty to Consult* (March 2011):

“Consultation and accommodation will be carried out in a manner that seeks to balance Aboriginal interests with other societal interests, relationships and positive outcomes for all partners. A meaningful consultation process is one which is:

- carried out in a timely, efficient and responsive manner;
- transparent and predictable;
- accessible, reasonable, flexible and fair;
- founded in the principles of good faith, respect and reciprocal responsibility;
- respectful of the uniqueness of First Nation, Métis and Inuit communities; and,
- includes accommodation (e.g. changing of timelines, project parameters), where appropriate.”⁴

81. The following two important points should also be included in any discussion of “meaningful consultation” in this context. “Meaningful consultation” must:

- **Be inclusive of the whole community**, for example hosting a public community meeting. These community-level events should provide opportunities for residents to meet, learn, share, and understand local needs, priorities and desires with regards to the strategic development of telecommunications infrastructure.
- **Lead to new economic and social opportunities and innovation**, such as operation and management of the infrastructure and network services. Economic development and the digital economy refer not only to the ways that people use existing telecommunications infrastructure, services and applications, but also the jobs that emerge when people are involve in the development, management, operations and maintenance of those resources.

82. As noted in our response to Question 5, the NNTRC provides an example of a framework that could be adapted for use in this context.

83. Evidence of the failure of urban-based, corporate attempts to connect remote and Northern communities provides important context to our response to question b): “How can a local community best be involved in the broadband fund regime in an efficient manner that does not unduly delay the application process and/or the application review process?”

84. First, we point the Commission to the NNTRC’s response to similar critiques of ‘efficiency’ in their requirement that service providers engage with affected communities. With regards to the supposed burden of providing data about the impacts of telecommunications projects in affected communities, the NNTRC stated:

“The majority of information requested has already been prepared by carriers for other purposes, so we believe that collecting and producing those materials should not be time-consuming for carriers” (paras 34).

85. As well, the NNTRC notes that this requirement for data is not a burden to be fulfilled by service providers, but rather an opportunity for service providers to contribute to more strategic development of telecommunications.
86. Some parties may suggest that requirements for community consultation and demonstrated public/community benefits may lengthen project timelines, thereby impacting ‘efficiency’. In response, we pose the question: efficiency for whom? The Commission should keep in mind the key constituents impacted by the infrastructure and services that will be established through the Fund:
- **From the perspective of communities**, an ‘efficient’ fund development process is one that enables long-term economic and community development benefits, along with adequate, affordable access to broadband infrastructure and services. Evidence demonstrates existing approaches have not provided either of these outcomes.
 - **From the perspective of telecommunications companies**, who have legal fiduciary responsibilities and are accountable to shareholders typically located outside of these affected regions, an ‘efficient’ process is one that expedites project implementation and secures public funds to offset risks associated with return on investment, in order to generate revenue for the purposes of generating profits for those shareholders in the short-term.
 - **From the perspective of consumers and taxpayers** who are contributing funds to the deployment of these infrastructures and services, an ‘efficient’ process is one that addresses the problem in a sustainable and cost-effective manner over the long term.
87. **Our position is that this Fund’s primary constituents are the residents, consumers and taxpayers who live and work in the affected regions.** Therefore, we believe that considerations of ‘efficiency’ should reflect and prioritize their interest and needs first. The secondary constituents are the consumers and taxpayers who contribute funds to the deployment of these infrastructures and services. The third constituents are the shareholders who have invested in telecommunications companies to benefit from their profits.
88. We also note that involving community members in strategic planning activities can support more effective and accountable stewardship of funds used to deploy infrastructure. A lack of community-level engagement in past projects, including several projects funded by ISED’s CTI program, has resulted in the duplication of efforts and of projects, resulting in inefficiencies. For example, we heard about examples from Quebec whereby communities in a region designated to be served by an ISED project were not made aware of the project, which they learned about only through a public press release. Another entity had already been approved for funding to develop and deploy a regional network in that area. As a result, two projects secured public funds to serve the same region at the same time – a clear example of inefficiency – wasted funds and organizational resources.
89. Therefore, communities that are engaged by applicants and the administrator can provide valuable information about existing projects that applicants may not know about, and/or assist applicants with their strategic planning efforts. Consultation is not a barrier to efficiency – in fact it increases efficiency and stewardship of public funds by reducing duplication and supporting strategic planning. It provides additional checks and balances to

ensure that funding is coordinated across different entities, including government departments.

90. More consultation and collaboration between Fund applicants and communities also encourages more mutually-beneficial partnerships. For example, a TSP and an Indigenous group might establish an arrangement whereby the TSP leases Indigenous-owned infrastructure to deliver connectivity services. Such partnerships can support long-term economic and community development in these regions – not only in the urban centres where most TSP staff are located.
91. To address this and other challenges, proposals to access the new Fund must include demonstrated commitment and understanding from the communities that will be impacted by this development. This formal recognition must demonstrate community involvement, support and plans for the proposed project.
92. To ensure that applicants are fulfilling consultative requirements to the local government of affected communities, they should follow a transparent set of guidelines and information requirements. This list should be made publicly available and published on the Fund website. It should be subject to periodic review and revision, to ensure continuous improvement and process streamlining, which supports administrative efficiency. We encourage the Commission to review the criteria established by the NNTRC (outlined in our response to Question 5). As a starting point, along with those materials, presentations to community leadership could consist of the following criteria:
 - Applicants clearly explain the proposal, outlining public/community benefits, and gain an understanding of community concerns and priorities.
 - Consultations should include discussion of services to be provided, technologies to be used, and local considerations such as hiring and training of local residents and interconnections with existing or planned local facilities.
 - The applicant should provide a copy of its application to the leadership of all communities it proposes to serve, as well as a report of the consultation. This consultation report should include a summary of who was consulted, how the consultation was carried out, and relevant findings.
 - This report of the consultation should be included in the application to the fund. It should be distributed for review to the Proposal Review Committee and associated advisors (as described in our response to Question 5).
 - Depending on the nature of the community, the project application should be endorsed through either a formal BCR or vote of council (or authorized committee of council), as reflected in a letter from the local leadership entity.
 - The fund administrator should also provide a copy of its decision concerning the application to the communities that the applicant proposes to serve.
93. We recognize that this level of engagement with communities may increase project costs, particularly for consultations located in remote and Northern regions. Therefore, eligible costs for the Fund should include costs related to appropriate consultation with communities to be served.
94. As discussed throughout this submission, applicants should also be required to demonstrate public/community benefits associated with their projects. These benefits

include the hiring, and training where necessary, of local workers. These positions must not just be for temporary construction jobs in building the network but also for operating and maintaining local and regional facilities. Therefore, costs of training local workers should also be included as an eligible cost in proposals.

Question 7: In paragraphs 44-46 and questions 38-41 of Appendix 2 of Telecom Notice of Consultation CRTC 2017-112, the Commission raised the possibility of identifying “priority underserved” geographic areas for funding. In reply, some parties proposed prioritizing, among other things:

- **Rural, remote, and/or northern areas;**
- **Satellite-dependent communities;**
- **Allocating separate funding envelopes for terrestrial unserved and underserved communities, as well as by region (province or territory they are located in);**
- **Categorizing applications into three categories (major, regional, and local);**
- **Areas that are the most difficult-to-serve;**
- **Areas categorized by their closeness to transport; and**
- **Areas where private capital will not be deployed over the next five years to create networks sufficient to meet the universal service objective established by the Commission in Telecom Regulatory Policy 2016-496.**

a) Indicate whether and why a call for applications for broadband funding should be open to all projects at once or if the Commission should issue different calls for specific prioritized area. Specify which process would be most efficient for (i) prospective applicants, and (ii) the broadband fund administrator.

b) Should the Commission prioritize different areas in different calls for applications? If so, why and how?

c) Are there certain methods of prioritization that could provide an advantage or disadvantage certain types of prospective applicants? How?

95. The fund as currently established (\$750 million over five years) is clearly not sufficient to extend broadband services to all unserved and underserved locations in rural and remote areas. As noted in our Intervention to this proceeding, we propose that remote and Indigenous communities be prioritized for support from the fund.

96. **Funding applications should be reviewed and dispersed annually to support sustainable benefits and strategic development:** Funding should be disbursed in a flexible manner through annual calls for applications that will be reviewed by the administrator. There are several reasons for this approach:

- It takes time to obtain required funding from a government entity;
- It takes time to find partners and establish public-private partnerships, if applicants want to use that model;
- It takes time for the applicant to appropriately consult with the communities to be served (as we propose in our response to Question 6);
- Some potential applicants may not find out about the availability of funds and criteria in time to apply in the first round.
- The fund administrator can apply lessons learned from its initial rounds of funding to modify procedures or criteria for future rounds, to support administrative efficiency and continuous improvement.

- The expertise and relationships built between government, private sector, community and advisory staff through the multi-stakeholder fund application, review and monitoring process proposed will inform the effective and strategic development of telecommunications infrastructures and services in ways that support sustained public/community benefits for affected communities and regions.

97. **Therefore, we propose an additional phase in the application process.** As noted in our response to Question 1, we propose that the CRTC establish two phases of application development and project implementation to enable community-driven project proposals. While we recognize that large TSPs play an important part in developing and delivering infrastructure and services, we also stress that other organizations, including regional community intermediary organizations and local community networks, contribute to broadband solutions.
98. The CRTC should adopt a multi-phase application process, whereby low-resourced applicants can apply for proposal development funds that are used to prepare a strategic development plan that is used to secure project funds. In our response to Question 5, we outlined a new Proposal and Strategic Development Stage. This stage should be made available to support the development of project proposals by small-scale, low-resourced organizations that are based in affected rural, remote, Northern and Indigenous regions. This flexible, phased application process aims to recognize this variability among applicants, and enables organizations with limited staff and resources to prepare viable and sustainable project proposals.
99. **Avoid setting arbitrary designations for ‘priority’ regions:** We propose that there be a separate category for remote and Indigenous regions. However, this category should be included in each annual call for proposals so that organizations that were not able to participate in the first call could submit proposal in later calls.
100. We are concerned that an arbitrary designation of a fixed percentage of the fund for certain geographic areas, such as remote and rural regions or satellite-dependent communities, could result in insufficient funds to serve all communities that should be prioritized. Therefore, we do not endorse arbitrary designations of fixed percentages or funding amounts for northern and Indigenous communities – unless they receive all of the available funds.
101. **Consider ‘efficiency’ as it relates to key constituents: residents of affected regions.** With regards to the ‘efficiency’ of this approach, we refer to our response to Question 6. We stress that other stakeholders beyond prospective applicants and the broadband fund administrator are key constituents in this process. In particular, the residents who live and work in affected regions are the primary stakeholders in broadband development initiatives, and therefore considerations of ‘efficiency’ should be addressed according to their needs and interests.
102. In developing its calls for applications, it is important for the Commission to consider the administrative burden on all stakeholders – including stakeholders from small, under-resourced, community-based organizations. Local and regional innovation should not be constrained by a lack of human resource capacity; rather it should be enabled to support community and economic development and competition for telecommunications services.

103. **Eligibility criteria must not focus on metrics and plans to serve the greatest number of households in a given geographic area:** With regards to the prioritization of projects, we agree with several parties that highlight the problems inherent with this approach. While appearing ‘efficient’, focusing on households served in a geographic area in fact limits service accessibility and sustainable infrastructure and services in more remote, smaller population, geographically dispersed communities.
104. Population density metrics may work in urban centres, but they are misleading when applied in rural, remote, Northern and Indigenous contexts. Residences and businesses in communities may be tightly clustered together, or dispersed over a large geographic area. The topology and topography of communities also varies greatly depending on the regions they are located in. Further, the presence or absence of existing infrastructure affects how households, businesses and organizations may be served.
105. **Apply ‘whole community’ criteria for eligibility criteria in rural/remote/northern Indigenous regions:** In such cases, service coverage should instead be assessed with reference to ‘whole community’ criteria. Such an approach views telecommunications infrastructure and services as a common pool resource that is aggregated by all users: dwellings, organizations and businesses. By aggregating all users in these communities, including health and education services as well as households and businesses, service providers can develop an appropriate and strategic broadband system that also allows more opportunities for local employment and revenue-generating enterprises.
106. Rather than focusing on residential services alone, this kind of community-aggregated business case can better support the deployment and sustainability of infrastructure and services. In short, as opposed to a ‘one-size-fits-all’ model, ‘whole community’ eligibility criteria prioritizes those projects that reflect on-the-ground realities in affected regions. Therefore, we agree with other parties that note priority for the fund should be given to areas that:
- Have lower speeds currently available;
 - Include anchor institutions; and
 - Are in remote areas.
107. **Decisions regarding prioritization and eligibility must be made using robust connectivity data:** We note that any unit specifications adopted are not meaningful unless they contain sufficient, up-to-date data. We note the lack of data currently available on facilities, connectivity, and actual bandwidth and QoS in many remote, Northern and Indigenous regions of the country. Further, we question how often the hexagon data used by ISED are updated and verified.
108. To address this problem, we propose that the Commission work directly with organizations and individuals located within affected areas to verify available data and to help collect missing data. This is another benefit of the community-level consultation requirements that we note in our response to Question 6, since those consultations allow applicants to gain a better understanding of local and regional connectivity data.

109. We support the efforts of the Commission and other parties (such as CIRA and M-Lab) in developing methods to collect more robust connectivity data. We also point to the innovative approach developed by NNTRC, which combines data collection with the review and issuing of licensing applications. We suggest that a similar model, which combines data collection with the review of funding applications, might harmonize with the Commission's efforts to collect more robust connectivity data sets from remote and Northern regions. We discuss the NNTRC model in more detail in our response to Question 5.
110. **Fixed Broadband (Fibre) technology should be prioritized:** In general, we recommend prioritizing fixed broadband projects over mobile/cellular projects and new builds over upgrades. We discuss our rationale for this approach – including the need to avoid overbuilds – in our responses to Questions 1 and 10.
111. Fixed broadband projects are also more likely to provide more bandwidth to users. As discussed above, this common pool bandwidth can be purchased on a wholesale basis and shared throughout various users in a community via local Wi-Fi or other locally managed networks. Transport projects can provide open access wholesale bandwidth that can provide backhaul for both fixed and mobile broadband services. That is, cellular towers typically connect to a fixed fibre link at some point.
112. **Prioritization should focus on new builds and projects less likely to be funded by other means:** The fund should prioritize projects that would be unlikely to attract funding from other sources. New builds should therefore be prioritized over upgrades, which are less costly.
113. However, the Fund should not fund technology that is not yet available – for example, constellations of satellites that have not been manufactured yet. Applications must be based on technologies that are already proven to work at time of application, not on technologies that are being promised in the future.

Question 8: Some parties, such as the Cree Nation Government and the Eeyou Communications Network, were of the view that mobile services would be important for underserved and unserved transportation roads. What metrics/assessment criteria should applicants provide, such that projects proposing mobile services can be assessed against each other? For example, should applicants provide:

- a) The distance travelled on the transportation road without coverage;**
- b) The distance from the unserved/underserved portion of the transportation road to the nearest served community; and/or**
- c) The amount of automobile traffic on the unserved/underserved portion of the transportation road in a given period of time.**

114. We recognize that mobile services are important for underserved and unserved communities, as well as along the transportation roads used to access these communities. However, as noted in our response to Question 7, in general we recommend prioritizing fixed broadband projects over mobile/cellular projects and new builds over upgrades. Mobile/cellular projects represent different markets and involve different infrastructure considerations (such as the requirement and use of spectrum licenses). Mobile/cellular broadband, which requires a spectrum license, limits the ability of some organizations to provide service, therefore blocking innovation and competition. As well, mobile/cellular projects also limit the public services that are available to users – if mobile/cellular infrastructure is developed as the sole connectivity solution in a region, access to public services such as health and education is limited.

115. There are many examples of non-incumbent operators being unable to provide mobile services due to the lack of access to spectrum held by incumbents. For example, the First Nations (Alberta) Technical Services Advisory Group (TSAG) successfully applied to INAC for over \$1 million to provide cellular services to three communities in Northern Alberta. However, the incumbent mobile provider in that region stated that it required \$4 million plus high ongoing operations and maintenance costs in order to support the proposal advanced by TSAG. As a result, the project did not move forward.

116. A related consideration with regards to spectrum is the length of time a spectrum license holder has owned the rights to an underserved area without acting upon them by deploying service. In such cases where a license hold has ‘sat’ on spectrum, one solution may be to transfer the spectrum license and associated rights to another organization based in the region that wishes to act on it themselves. In such cases, that organization could be eligible for associated infrastructure funds through the Commission’s Fund.

117. With regards to mobile-oriented projects, at minimum, any project proposing mobile services serving communities in these regions needs to provide details on separate costing required to establish mobile services along the terrestrial transportation routes connecting these communities. Across Northern Ontario, mobile telecom providers often established mobile services in communities without much consideration for coverage on the roads connecting them. The resulting coverage gaps on transportation routes were slowly addressed over a number of years, with the support of millions of dollars of public funding. This same scenario can be avoided if the new Broadband Fund requires providers to include in their

applications a strategy that ensures coverage of access roads connecting the communities they are proposing to serve, as well as the service provided in the communities themselves.

118. Community leaders and residents from remote communities in Northwestern Ontario have often requested mobile coverage on winter roads from KNET and their K-MOBILE team. Every request for this service is related to the need for security in case of vehicle failure, an accident, road conditions and maintenance issues, and other matters related to the construction and the operation of these seasonal roads.
119. The issue highlighted by residents and local leaders is health and safety. There should be mobile services available along any road recognized by Transportation Canada that is used by persons who reside in Canada. This designation includes winter ice roads, which are also roads recognized by their respective provincial transportation ministries. The argument sometimes used is that these ice roads are on Indigenous lands and so the province has no obligation or jurisdiction over them. However, provincial governments have taken a shared governance position with all other aspects of life in Indigenous communities – for example, with education, health, policing, etc. There is no reason why funding should not be forthcoming to upgrade the safety of the road system to these same standards. These standards include mobile/cellular coverage.
120. All-season and winter roads across remote and rural regions to reach rural and remote communities are an expensive investment. Seasonal construction and maintenance across the remote north involves crossing frozen lakes and rivers, and utilizing established over-land routes. Over the years, more of the roads are being moved off the waterways with the construction of permanent bridges and terrestrial roadways. The challenges identified by the KNET team to providing mobile coverage along these roads include:
- Costs involved in developing and maintaining reliable power supply for the radio equipment required to distribute the signal and the IP connection to the network. While advances in wind and solar energy systems might address this challenge, proposals must demonstrate how they would ensure 24/7 operation;
 - Very challenging terrain with many obstacles (hills, rocks, trees) requiring high towers and high construction costs; and
 - Very low revenue / usage which would require substantial public investment for construction as well as ongoing operation of such mobile/cellular systems.
121. Applicants to the Broadband Fund should demonstrate a clear understanding of the needs of remote and rural communities by including the following data:
- Distance travelled on the transportation road without coverage;
 - Distance from the unserved/underserved portion of the transportation road to the nearest served community;
 - Amount of automobile traffic on the unserved/underserved portion of the transportation road in a given period of time;
 - Type of road service available to access the communities to be served (i.e. Seasonal/winter roads, all-season road, paved, gravel, etc); and
 - Type of energy source available and/or required to support operation of tower sites.

Question 9: Several parties to this proceeding were of the view that the broadband funding regime should prioritize funding to Indigenous communities. Alternately, parties have suggested that the Commission could prioritize or positively weight applicants that include Indigenous representation or are composed of a certain proportion of Indigenous peoples (for example, an application by an Indigenous community or by a company that is owned in some part by Indigenous peoples).

a) How should an Indigenous community be defined for the purpose of the broadband fund?

b) How could Indigenous communities be better engaged in the broadband fund regime?

122. We note that we address issues related to this question in our responses to Questions 4-6.

123. With regards to the Commission's request regarding the definition of an 'Indigenous community', we suggest this question could be best addressed through engagement with experts in this area, such as leaders of Indigenous organizations as well as researchers focused on issues of Indigenous politics, and/or government staff who work directly with such organizations (for example, from Indigenous and Northern Affairs Canada and Territorial governments). We also note that the FMCC is focused on First Nations specifically. The definition of a 'First Nation' can refer to the mandate provided by Chiefs in Assembly; that is, the local Indigenous elected political organizations (Chief and Council) who govern First Nations communities.

124. With regards to the Commission's question regarding better engagement of Indigenous communities in the broadband fund regime: we stress that appropriate engagement and free, prior and informed consent with Indigenous communities must be provided. We discuss the issue of consultation in detail in our response to Question 6.

125. We note that such engagement should include recognition of the need for appropriate consultation with Indigenous communities by various entities:

- **CRTC Indigenous Engagement Office.** This approach might be modelled after the Office of Native Affairs and Policy developed by the FCC.
- **CRTC Broadband Fund Administrator,** such as through Indigenous representation on the Board of Directors, and through expert advisors who can work with the Board.
- **Broadband Fund Applicants,** such as through requirements for community engagement and demonstration of public/community benefits of projects, as described in our answer to Question 6, which also proposed criteria that should be included in engagement activities.

126. We recognize that at present there is no Indigenous Engagement Office at the CRTC. However, we believe that the Broadband Fund development process might support efforts to establish such an Office over time. More immediately, the Commission should work to ensure appropriate consultation with Indigenous groups through the Broadband Fund Administrator (and associated parties such as advisors) as well as through the requirements placed on applicants to that Fund. The expertise and processes developed through the development and administration of these elements of the Broadband Fund

might identify and develop the capacity and expertise that will help establish a more permanent Indigenous Engagement Office at the Commission.

127. The Navajo Nation Telecommunications Regulatory Commission (NNTRC) provides useful information as to how Indigenous communities may be appropriately engaged by telecommunications regulators and providers that operate on Indigenous lands. Importantly, they address the need to move beyond engagement provisions established by the federal telecommunications regulator, to include direct engagement with Indigenous authorities.

128. Specifically, the NNTRC points out that in the U.S., while FCC Tribal Engagement Provisions developed by the Federal Communications Commission (FCC) are vitally important, they are insufficient to satisfy the requirements of Navajo Law. For example, the NNTRC notes that “the FCC’s Tribal Engagement Provisions...while providing a platform for dialog between carriers and Tribes, generate insufficient information about the carriers’ activities on the Navajo Nation” (paras 31-2).

129. Due to the shortcomings outlined above, the NNTRC developed the *Application for Certificate of Convenience and Necessity*, which outlines regards to the process and rules associated with the provision of telecommunications infrastructure and services in Navajo territories.¹⁴

130. The NNTRC has developed a process that rewards those carriers that demonstrate they have provided public/community benefits to residents of communities affected by telecommunications projects. This CCN licensing process is not punitive in nature, but rather supports and acknowledges service providers and projects through the provision of rewards. As noted by NNTRC:

“Developing additional tiers of carriers through this CCN process would serve as the foundation for determining if the provider should be granted special consideration for administrative processes, fees, or leases. For instance, providers demonstrating that they are working in the public interest of the Navajo People could be granted waivers to processes or fees. Conversely, carriers who seek to serve only the more populated portions of the Navajo Nation, leaving many of our people bereft of service should not be granted any special consideration” (para 51).

131. We note that in these proceedings, the Eeyou Communication Network (ECN) outlined a proposal describing groupings of potential applicants to the CRTC’s Broadband Fund:

“Once all of the above conditions are met, eligible applicants should be selected in priority order according to the following:

¹⁴ See:

http://nntrc.org/uploads/FileLinks/f25715e8b19a450c85cdea027b8b9679/2014_12_10_NNTRC_11_001_Second_Report_and_Order_CCN_1_1_1_1.pdf

Group 1: any of the following - community-owned and user-operated services; non-profit corporations with predominantly local and regional Board members; locally-based cooperatives; groups in partnership with local anchor institutions;

Group 2: any applicant who has the approval of local councils and anchor Institutions and/or any applicant who can gather a petition of the majority of residents and of the majority of anchor institutions;

Group 3: any commercial telecommunications operator who will offer open access to its network and who will provide at-cost rates to anchor institutions” (p. 3).

132. In light of the approach developed by the NNTRC, we suggest that a similar model, which builds on that approach as well as the proposals put forward by ECN and others, warrants consideration by the Commission. We stress that such an approach requires recognition of varying levels of Indigenous/community involvement (as described above) as well as the need for applicants to recognize community engagement and the provision of public/community benefit impacts or outcomes of projects.

133. In the event that the Commission considers the above model proposed by ECN, we propose the following changes to the Groups (revised language in *italics*):

Group 1: *Any of the following - community-owned and user-operated services; non-profit corporations with predominantly local and regional Board members; locally-based cooperatives;*

Group 2: *Any applicant who has the approval of local council and anchor institutions. In the context of First Nations communities, this approval should be reflected through a Band Council Resolution issued by Chief and Council.*

Group 3: *Any applicant who can gather a petition of the majority of residents and of the majority of anchor institutions.*

Group 4: *Any commercial telecommunications operator who will offer open access to its network and who will provide at-cost rates to anchor institutions. Note: the definition of ‘open access’ must be clearly defined.*

134. Another mechanism for support the participation of Indigenous organizations was raised by MKO during the BSO hearings. MKO stated that a necessary component of any broadband development funding mechanism “is supporting opportunities for development and growth of First Nations and Aboriginal businesses. This can be done through the implementation of a Procurement Strategy for Aboriginal Businesses [PSAB] or a PSAB-like policy.”¹⁵ The Commission should consider including this mechanism in procurement criteria for the Fund as a means to further engage Indigenous communities.

¹⁵ Procurement Strategy for Aboriginal Business. See <http://www.aadncaandc.gc.ca/eng/1100100032802/1100100032803>

Question 10: Some parties suggested that the broadband fund regime should discourage the use of funds for overbuilding networks. For example, on page 5 of Attachment A of Rogers Communications Canada Inc.’s (RCCI) 28 June 2017 intervention, RCCI proposed that there should be a mechanism for competitors to challenge the funding of a project on the grounds that it already has a service that meets the Basic Service standard, or will have one within the next two years (emphasis added). Alternately, some parties suggested that the process could require service providers to identify areas where future builds are to occur, such that the appropriate information is available to identify applications that would result in overbuilds.

a) If the Commission decides to discourage the use of broadband funds for overbuilding networks, how should the broadband fund process ensure that no funds are allocated to overbuilding?

b) What factors should the Commission consider, and why?

c) How can the Commission ensure that service providers could not use such a process to “block” applicants or prospective applicants from securing funding for competitive reasons?

135. We agree with suggestions that the Commission discourage the use of these funds for overbuilding networks. Our member organizations describe examples of project overbuilds in remote, Northern and Indigenous communities. We discuss this issue in our response to Question 1.

136. We raise concerns that ISED’s Connect to Innovate program provided funding for some legacy infrastructure projects. This ‘band-aid’ solution restricts innovation, allows for inefficient overbuilds, and will not address BSO requirements in the immediate term – not to mention rapidly-approaching near-future needs. Rather than require sustainable upgrades, the CTI program supported incumbents to build upon their legacy infrastructure.

137. Associated with this point, using “current average subscriber usage” of an antiquated and poor delivery network service as a means to justify upgrading and expanding the same inadequate legacy infrastructure, and using public resources to do so, is wrong. The Fund needs to ensure that this type of design and engineering is not funded again.

138. We note specific cases of CTI funds being used to overbuild existing infrastructure in Northern and Indigenous regions. An example of this policy was the \$50M CTI grant awarded to Northwestel in Nunavut, despite the existing satellite ground infrastructure and dynamic regional bandwidth management system operated in that territory by SSi Micro.¹⁶ This example is ironic, given that in CRTC 2011-302, Northwestel itself noted that the federal government’s targeted infrastructure programs created the potential for duplicate networks in satellite-dependent communities. At that time, Northwestel operated in Nunavut’s three largest communities, while SSi Micro operated in all 25 communities. In its submission to the CRTC, Northwestel stated:

¹⁶ See: <http://www.cbc.ca/news/canada/north/connect-to-innovate-northwestel-internet-nunavut-1.4289747>

“[S]ometimes even a duopoly may be too expensive to maintain, and competition in satellite-based communities has further eroded its ability to marshal internal cross-subsidies” (as quoted in Fiser, 2013, p.57).¹⁷

139. We provide suggestions for how the Commission might monitor and address this issue in our response to Question 6, which concerned community engagement. Rather than being viewed as a burden to ‘administrative efficiency’, we pointed out that communities play an important role in providing information that can identify potential overbuilds. We also described the approach used by the NNTRC that combined data collection with the review and issuing of licenses to service providers operating in Indigenous territories as one model to consider. This is one argument for implementing community-level consultation requirements for Fund applicants: if service providers directly engage with communities as a condition of their applications, they will exchange information regarding other project that may be in planning stages.
140. In our response to Question 5, we also noted the complementary role that expert advisors to the Proposal Review Committee, (including individuals from federal, provincial and territorial governments, regional and community representatives, and independent researchers), can play with regards to this issue. The advice of professionals provides opportunities to exchange information that can limit the potential of costly and ineffective overbuilds in remote and Northern regions.
141. We do see potential for service providers to use this practice to ‘block’ competition, which would result in negative outcomes for both competitors and residents. Below we outline several approaches the Commission might consider to address this challenge.
142. **Adopt a proposal-based Fund application process rather than a reverse auction.** A proposal-based model includes many more checks and balances against this kind of behaviour by assessing applications on a case-by-case basis according to agreed-upon criteria. In contrast, a provider can utilize a reverse auction using economies of scale, which may result in unfavourable outcomes referred to here. We discuss the limitations of reverse auctions in our response to Question 4.
143. **Require consultation and engagement with affected communities.** Communities, who benefit from competition and access to services, are motivated to hold providers to account.
144. **Utilize the expertise of advisors from government departments (federal, provincial and territorial), as well as of independent researchers, to assess and review applications.** As noted above, these advisors can work with the Proposal Review Committee and provide an additional check against potential overbuilds.
145. **Require true ‘open access’ to wholesale bandwidth at reasonable rates and conditions.** The Commission could require Fund recipients of a certain size (that is, those which have more than a certain number of endpoint connections) to make their infrastructure open access. Importantly, the specific characteristics of ‘open access’ must

¹⁷ See: http://digitalarctic.com/files/images/sessions/making%20it%20possible/adam%20fiser/14-061_connectivity_cfn_rpt.pdf

be fairly and clearly defined. Community-based providers have faced challenges in their efforts to access affordable wholesale bandwidth, such as in the case of the Mackenzie Valley Fibre Link.¹⁸

¹⁸ See the intervention of FMCC and others in the proceedings leading to *Telecom Decision CRTC 2017-299*, the Commission's denial of Northwestel's "Request for forbearance from the regulation of operation and maintenance services provided to support the Government of Northwest Territories' Mackenzie Valley Fibre Link network". This decision is available at: <http://www.crtc.gc.ca/eng/archive/2017/2017-299.pdf>

Question 11: In paragraph 133 and 134 of Bell Canada’s 28 June 2017 intervention, Bell Canada suggested that the Commission could broadly earmark terrestrial funds by province and territory, by: 1) the percentage of telecom subscribers from each province and territory, 2) the percentage of underserved and unserved premises represented by each province and territory, or 3) by provincial/territorial population. Bell Canada further provided a table illustrating what its prioritization plan may look like.

Similarly, Columbia Basin Trust proposed that funds could be allocated into three categories: major, regional, and local.

In paragraph 52 of TCC’s 25 September 2017 reply comments, TCC argued that Bell Canada’s proposal to earmark terrestrial funds by province and territory would limit efficiency and creativity due to a subjective preselection of what precisely is being auctioned.

a) Should the broadband fund regime allocate funds into different envelopes, representing different geographical or provincial/territorial regions? Why or why not?

b) Is Bell Canada’s proposal to proportionally earmark terrestrial funds by province and by territory appropriate? Is the proportional distribution of telecom subscribers representative of the proportional distribution of unserved and underserved communities? Why or why not?

i. If not, provide examples of provinces and/or territories which would likely be disadvantaged as a result of such a proportional distribution of funding.

c) Would such a distribution of funding limit successful applications due to limited funds available in a specific province or territory? For example, would some projects be unattainable due to a limited amount of funding in a specific province or territory?

d) Are there projects that could be located in more than one province or territory? If so, how could the broadband fund account for such applications if the funds are earmarked as proposed by Bell Canada?

146. See our response to Question 7 for our comments on the prioritization of funds. We raised concerns because the arbitrary designation of a fixed percentage of the fund for the remote and rural regions could result in insufficient funds to serve communities that should be prioritized. Therefore, we do not endorse arbitrary designations of fixed percentages or funding amounts for northern and Indigenous communities – unless they receive all of the available funds.

147. We disagree with Bell Canada and the Government of Ontario, who state that prioritization should be determined by the size of the population or number of subscribers in each province and territory. The CRTC’s decision stated that broadband was to be available to ALL Canadians. While we recognize that there are unserved communities in the northern regions of the most populous provinces that must gain access to broadband, their support should not exclude funding for remote communities in other regions.

148. It is obvious that communities in the northern territories would be disadvantaged by a funding formula that determines proportional distribution of funding based on the total number of telecommunications subscribers in each jurisdiction. Although the FMCC has members located in the northern regions of the most populous provinces, we do not believe that total population or total subscribers is a relevant or appropriate metric for distribution of broadband funds for rural and remote regions.
149. We also disagree with the premise of Bell Canada's intervention, given its use of the problematic metric of 'households' because it is not an appropriate measure for the specific conditions of rural/remote/Northern/Indigenous regions, as explained in our response to Question 7.

Question 12: In its 28 June 2017 intervention, Bell recommended that, at this time, the minimum service standard for funding for satellite-dependent communities be set at 25 Mbps/3 Mbps with a monthly data plan of 100 GB.

a) Do you agree with Bell's recommendation to set a minimum service standard for funding for satellite-dependent communities?

b) If so, do you agree with the minimum service standard proposed by Bell and if not, what minimum service standard should be established and why?

150. The FMCC has no comment at this time.

Question 13: In paragraph 41 of its 28 June 2017 intervention, SWIFT submitted that “wholesale access obligations that enable third party entities (e.g. other service providers, large organizations such as schools, hospitals) to interconnect with publicly subsidized networks should be viewed as a requirement for eligibility for the funding regime. This is a particularly important requirement to have in higher-cost communities as it will encourage cooperation and risk sharing among operators and with public sector users. Anticipated wholesale pricing approach and the degree by which it is expected to improve affordability of services in a targeted community should be a critical consideration in assessing proposals.”

a) Comment, with supporting rationale, on whether a service provider that builds access infrastructure with support from the broadband fund should be subject to wholesale obligations. If so, describe the type of wholesale obligations and regulatory measures (existing or new) that would be needed (e.g. mandated wholesale service at market rates, mandated wholesale service with regulated rates) and why.

b) Comment, with supporting rationale, on whether a service provider that builds transport infrastructure with support from the broadband fund should be subject to wholesale obligations. If so, describe the type of wholesale obligations and regulatory measures (existing or new) that would be needed (e.g. mandated wholesale service at market rates, mandated wholesale service with regulated rates) and why.

151. We agree with parties that support requirements for open access to transport networks, including Shaw, SSi Micro, Open Media, and NPF-PIAC. We disagree with the views of several major TSPs, including Bell Canada, TELUS, and the BC Broadband Association that mandating wholesale access acts as a disincentive for project funding applications and drives up the cost of retail service.

152. These parties claim that there is little demand for wholesale access in rural, remote, Northern and Indigenous communities. For example, TELUS states that: “There is also no evidence that any demand for wholesale access exists in unserved or underserved communities to date or that there will be in the foreseeable future” (quoted in FMCC Reply Comments to 2017-112).

153. Given that TELUS was an active participant in the BSO hearings (CRTC 2015-134), the company must be aware of the strong demand for wholesale access expressed by a large number of organizations that already utilize wholesale transport access from TSPs – including some that are customers of TELUS – to provide retail services in those regions. Those providers include the FMCC member organizations, as well as a number of other entities and potential providers.

154. While we agree with the principle and requirement of ‘open access’, we are concerned about the lack of a precise definition of the term. ‘Open access’ can be interpreted and implemented in many different ways. For example, an infrastructure can be made ‘open access’ by allowing for technical interconnection, but there are many other practical and economic barriers that infrastructure owners/operators can implement to block competitors from utilizing that service in practice.

155. The lack of a precise definition of ‘open access’ is reflected in the requirement for ISED’s Connect to Innovate-funded projects. Details of what that means in practice are not provided; instead, CTI simply notes that:

“All projects funded under the program must be open to third parties for dedicated capacity purchases on a wholesale or retail basis. Applications that exclude open access will be deemed ineligible” (ISED – CTI Program Guide, p.4).

Instead, precise requirements for open access including pricing, reliability, technical interconnection and other issues should be specified.

156. The Commission should carefully define ‘open access’ as it applies to any requirements associated with the CRTC Broadband Fund. Applicants should be required to provide evidence that they will offer a degree of ‘open access’ that will stimulate and enable services-based competition at reasonable, transparent and non-discriminatory rates and provide conditions within reasonable time frames.

157. A good explanation of challenges related to the outcomes of imprecise definitions of ‘open access’ is provided in a 2016 report issued by Taylor Warwick Consulting for the Calgary Regional Partnership in Alberta.¹⁹ The report describes the case of the Alberta SuperNet – a province-wide ‘open access’ network managed by Bell Canada and Axia that has failed to support the development of local networks in Alberta communities. As noted in the report:

“As originally envisioned, the Alberta SuperNet could/should be this enabler [for community-level service], but it is not – it has impeded economic development. Specifically:

- Many of the smaller centres within the [Calgary Regional Partnership] CRP do not enjoy competitive Internet Service Provider (ISP) services – something the Alberta SuperNet was intended to facilitate.
- Of the 22 communities visited, none were happy with SuperNet and frustrations abound to the extent that some agencies are now financing duplicate SuperNet infrastructure to obtain services that better meet their requirements...
- Issues include policy, pricing, customer service, contract disputes, poor performance (reliability, packet loss, latency, jitter), and inadequate (and lack of) service level performance guarantees, among other things.
- In addition, there were concerns voiced relative to the perceptions around Axia having direct access to the Alberta SuperNet and potentially using it to unfairly compete with other ISPs. Notwithstanding the ‘non-compete’ intention in the Alberta SuperNet agreement, there were concerns expressed that Axia-based companies have

¹⁹ See: <http://calgaryregion.ca/dam/Website/reports/General/Agendas-and-minutes/2016-Board-of-Directors-agenda-and-meeting-minutes/September-2016/Taylor-Warwick-Consulting-Municipal---Regional-Opportunities---Options/Taylor%20Warwick%20Consulting-Municipal%20%26amp%3B%20Regional%20Opportunities%20%26amp%3B%20Options.pdf>

entered the retail access service space directly with no transparency between wholesale and retail divisions” (p.16).

158. To remedy these problems, the Taylor Warwick report goes on to provide several suggestions that may be useful for the Commission to consider in its deliberations regarding ‘open access’. These proposed solutions include:

- “Enable aggregation by permitting local connections between communities and/or lower the rate or set a rate structure based on community size (enabling cross-subsidization between larger and smaller centres).
- Separate physical transport and routing infrastructure (VPLS) layer from the services management (MPLS) layer. This enables policies, rates and subsidization issues to be managed separately from the physical infrastructure.
- Include the following requirements in contract management:
 - Ensure clear, transparent, structural separation between retail and wholesale service provisioning and operation.
 - Enhance oversight, inventory records, operational procedures, and capital procurement to ensure entanglement between the wholesale provider and the operating entities does not occur.
 - Provide enforceable service level agreements (SLAs) to ensure adequate performance.
- Where possible, operating subsidies available to hospitals, schools, municipal offices, etc should be made transferable so that institutions have the flexibility to manage service levels and costs by selecting the network provider that best meets their needs” (pp.16-17).

159. We note several other barriers that third-party providers face when accessing ‘open access’ infrastructure, including:

- High electrical costs charged by network operators
- High costs for co-location charged by network operators
- High costs for access to network (interconnection fees)
- Slow service times for fixing network (as noted in the Alberta example)

160. While it would be preferable to require open access at market rates, because the market is limited in remote regions, regulatory oversight will be required. Wholesale rates must be set significantly below retail pricing. Otherwise, providers who wish to offer retail services will be unable to compete with the incumbent. Examples of this problem were cited in the Northwestel proceeding (Telecom Regulatory Proceeding 2012-669), and have been raised by community-based service providers attempting to interconnect with, and purchase wholesale services from, the Mackenzie Valley Fibre Link.²⁰

²⁰ See the intervention of FMCC and others in the proceedings leading to *Telecom Decision CRTC 2017-299*, the Commission’s denial of Northwestel’s “Request for forbearance from the regulation of operation and maintenance

Question 14: In paragraph 10 of its 28 June 2017 intervention Teksavvy submitted that “...recognizing that it is more difficult to provide wholesale access below scale, service providers serving less than 20,000 endpoints should be permitted to deploy funded projects without providing wholesale access—except that, in such cases, the retail rates of resulting services offered to end-users would instead be regulated directly by the Commission. Smaller service providers preferring to avoid retail regulation would implement wholesale access.”

a) Should such a threshold based on endpoints, or end-users, be established? If so, what is an appropriate threshold?

b) Comment on Teksavvy’s proposal that the Commission should regulate retail rates.

161. We agree in principle with Teksavvy’s point about the need to ensure support for smaller providers, including local organizations operating in communities served by FMCC member organizations. However, we note that 20,000 endpoints is a relatively high number: in fact, that number might include much of Nunavut or other remote regions served by a single provider.

162. Therefore, we think that the number of endpoints should be set at a much smaller number. The Commission could work with advisors and communities to establish a more appropriate number of endpoints.

163. The Commission should require that rates be filed, and should specify that they not exceed rates in comparable communities.

Appendix 7: Some parties proposed forming sub-committees or advisory groups made up of representatives possessing expertise (geographic, technical and otherwise) relevant to the specific applications being evaluated in order to ensure that the best projects are selected and that topical and local considerations be taken into consideration, while others recommended that this expertise be housed within the board(s) of directors. In light of this:

a) Is it necessary for regional representatives to be involved in the selection process?

b) If so, where should this expertise be housed (sub-committee, advisory group or within the board(s) of directors etc.); what process should be used to determine who should represent the interests of different regions, provinces and territories; what role would these representatives play; and at what stage in the process should they be involved?

164. Our response to Question 5 presented a number of considerations and issues that relate to this question. We refer the Commission to that response, which addresses three related groups associated with the Fund administrator. We also discussed the need to directly engage impacted communities, and provided material on that issue in our response to Question 6.

165. Institutionally, the Commission can draw on regional expertise housed in several groups associated with the CRTC Fund:

- **Board of Directors** governing the CRTC Fund, which includes regional representatives.
- **Proposal Review Committee** established by the Board, which is charged with decision-making regarding the applications process.
- **Advisors** to the Proposal Review Committee, who are engaged for their expertise in issues related to broadband development in/with rural/remote/Northern/Indigenous communities.
- **Communities**, which will be engaged with by applicants as a condition of funding

166. As noted in our response to Question 9, we also suggest that the capacity established by these parties might inform the development of a permanent **CRTC Indigenous Engagement Office**. That Office might be modelled after the Office of Native Affairs and Policy established by the FCC.

167. We strongly advocate for regional representation in the governance aspects of the fund, including the selection of membership on any Board, sub-committee, advisory group or other organizational structure. This position is supported through: peer-reviewed research on the need for flexible and customized policy to support broadband deployment and adoption (rather than a 'one-size-fits-all' model); widespread concerns raised by rural, remote, Northern and Indigenous groups with respect to current governance arrangements regarding the provision of Commission-managed funds to high-cost service areas; and clear evidence of long-term successes of providers based in those regions based on their expertise.

168. First, we point the Commission to academic, public and private-sector research that clearly indicates that broadband development in rural, remote, Northern and Indigenous regions is most effective when shaped to the specific interests and needs of those areas. FMCC has listed several studies on its website (www.firstmile.ca) and referred to others in its testimony in this proceeding and in CRTC 2015-134.

169. Second, we note the concerns raised by a number of parties in CRTC 2015-134 with regards to the governance structure of the Canadian Telecommunications Contribution Consortium (CTCC), which administers the National Contribution Fund (NCF). In particular, we noted the lack of representation from Northern communities and community-based organizations on the CTCC Board of Directors. Nine of the 11 board members are from Ontario, with one each from Saskatchewan and Nova Scotia. None are from the North. Further, most are current or former employees of major telecommunications services providers. In addition, the criteria and selection process for board members are not transparent.

170. We noted that the shortcomings of this existing arrangement include the following:

- **Existing mechanisms have not been effective for the North**, as evidence by inadequate, expensive, aging, unreliable infrastructure and services.
- **The existing funding mechanisms are open only to incumbents**, which limits opportunities for smaller and community-based providers.
- **The current CTCC board consists entirely of members who are based in southern Canada, most from the telecommunications industry.** The board does not include any representatives from Northern regions or community-based service providers. This governance structure limits the expertise and regional knowledge available to decision-makers involved in the governance of the fund.
- **It is difficult to monitor the accountability of the board**, including criteria, evaluation of proposals and decisions made regarding the distributions of this fund. The criteria and selection process for board members are not transparent. Information about existing criteria used to access and approve proposals for CTCC funds is also difficult to find.

171. For all these reasons, any governance structure established to manage the Fund must require a diversity of representatives from both the public and private telecommunications industry, including small providers and community and regional representatives. The Board must include membership from underserved regions, including Northern and Indigenous communities. Knowledge of and experience in the regions and communities, especially with Indigenous communities, should be important criteria for Board membership.

172. In particular, the Board must include representation from Indigenous service providers. For years, these organizations have developed and delivered broadband infrastructure services in rural, remote, Northern and Indigenous regions; as residents, their staff know these regions best. Furthermore, these organizations have advocated for the need to include Indigenous peoples in decision-making about broadband development taking place in their territories and communities. Inclusion in the Board governing this Fund is one important step in institutionalizing this activity at the CRTC.

173. As noted in our prior submissions to these proceedings, we understand that Board members may belong to organizations who may wish to be recipients of project funds. In such cases, these Board members would recuse themselves from all decisions regarding applications made by their organizations, including those made by the Proposal Review Committee. In such cases, Board representation from affected regions in the Committee can be demonstrated through proxy (voting) members endorsed by letters of support and/or other evidence of a regional mandate. We also encourage the Commission to engage advisors with direct knowledge of these issues, and communities who are impacted by broadband

development plans, as discussed in our responses to Questions 5 and 6. A conflict of interest policy would, of course, apply.

174. Both the *ex officio* advisors and the voting adjudicators of the Proposal Review Committee should be chosen from a publicly-posted roster of qualified professionals and rotated for each round of funding decisions. This approach is modelled on the one used by the Social Sciences and Humanities Research Council (SSHRC) to assess proposals for publicly-funded research projects.²¹
175. With regards to the engagement of regional advisors, we refer the Commission to past government activities in establishing such groups. This may help identify individuals and organizations with existing expertise and experience in rural, remote, Northern and Indigenous broadband development. For example, the Northern Communications and Information Systems Working Group consisted of government staff, private sector service providers, and researchers.²² Another initiative that also includes the northern regions of the provinces is the Conference Board of Canada's report *Mapping the Long-Term Options for Canada's North: Telecommunications and Broadband Connectivity*.²³ A list of organizations and individuals involved in that report is available in the 'Acknowledgements' section on p.4.
176. In our prior comments to these proceedings, we outlined several principles to guide the process used by the CRTC to select representatives to the Board of Directors for the Fund. We believe the process used to select the Board should:
- be open, transparent and public;
 - ensure balanced representation of cultural populations and geographic regions across the North (in particular, including people from Indigenous and remote regions);
 - be based on nomination, including self-nomination;
 - include endorsements from at least three appropriate regional or community digital technology groups with a demonstrated engagement with digital infrastructure and/or services;
 - include enough positions to ensure that directors are representative of the diverse communities and entities involved; and
 - include representatives from private, public and civil society organizations with ties to rural, remote and northern regions and/or communities.
177. The Commission has established internal precedent in the formation of governance structures involving representatives from a diversity of communities and organizations. One example is the CRTC-associated Community Radio Fund of Canada (CRFC).²⁴ Another is the CRTC-associated Broadcasting Participation Fund (BPF).²⁵ At least two thirds of the

²¹ For information on SSHRC's review process, see: http://www.sshrc-crsh.gc.ca/funding-financement/merit_review-evaluation_du_merite/index-eng.aspx

²² A list of members of the Project Steering Committee of the Northern Communications and Information Systems Working Group is available here: <http://www.aciareport.ca/acknowledgements.html>

²³ See 'Acknowledgements' list on p.4 of this report: http://digitalarctic.com/files/images/sessions/making%20it%20possible/adam%20fiser/14-061_connectivity_cfn_rpt.pdf

²⁴ See: <http://www.crfc-fcrc.ca/en/about-the-fund>

²⁵ See: <http://www.bpf-fpr.ca/en/home.html>

BPF's directors represent public interest and consumer groups with non-commercial mandates.

178. Regional representatives should play a substantive, decision-making role in the administration of the fund as members of the Board. In our Reply Comments to these proceedings,²⁶ we raised concerns that the creation of an advisory group alone – that is, without corresponding representation on Board and associated Proposal Review Committee – would provide rural/remote/Northern/Indigenous representatives with little or no official power, leaving decision-making to the formal administrative board.
179. These representatives should be involved in all aspects of the creation and management of the fund. Due to their unique expertise living and/or working in rural/remote/Northern/Indigenous communities, these representatives are well-positioned to provide input into the design and ongoing operations of the fund. They can help identify needs and challenges faced by organizations and communities located in these regions, and shape the fund to address these issues.
180. Our response to Question 5 provides more details about this process. We suggest that representatives to the Fund be given a three-year mandate with the opportunity for extension of their terms for the duration of the five-year funding cycle. Those who did not wish to or were not able to continue after three years would be replaced by representatives from the same constituencies using the procedures described above.

Summary and conclusion

181. The FMCC respectfully submits these responses to the questions posed by the Commission, and hopes that they are helpful in the CRTC's deliberations on the development of the broadband funding regime.

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²⁶ Telecom Notice of Consultation 2017-112: Reply Comments of the First Mile Connectivity Consortium, August 25, 2017.