



27 April 2017

**Office of Utilities Regulation
P.O. Box 593
36 Trafalgar Road
Kingston 10**

Sent to: infrastructuresharing@our.org.jm

Attention: "Infrastructure Sharing Consultation"

Dear Sirs,

We are grateful to the Office of Utilities Regulation (OUR) for the opportunity to present our comments on the current state of public policies for mobile services in Jamaica.

5G Americas is a telecommunications industry association that advocates for the promotion and development of a favorable ecosystem for mobile broadband technologies in the Americas. To achieve this, we are committed to working with government agencies, regulatory bodies, international standard entities and other global wireless technology organizations throughout the Americas to promote and share knowledge for the successful implementation of mobile broadband technologies, including the allocation of spectrum for mobile services and the development of coherent, fair and effective regulatory policies.

Our association supports regulatory initiatives that promote the deployment and development of advanced mobile services in Jamaica and the rest of the Americas. In this regard, we applaud the efforts of OUR for its initiatives to increase the amount of spectrum allocated for the provision of mobile services through new award processes at different frequencies.

Next, our comments on the consultation referred to in this letter.



Item 1.2 Purpose of this Notice of Proposed Rule-Making (NPRM)

The document proposes two types of arrangements for infrastructure sharing:

- A) Situations in which a group of operators agree on shared ownership and/or use of the network infrastructure;
- B) Situations in which an operator uses infrastructure of non-telco entities (power lines, ducts).

5G Americas recommends¹ an approach that favors arrangements that are negotiated freely between telecommunications providers to complement their networks within a framework of open market negotiations and technical feasibility. This approach allows more flexibility in the type of network sharing arrangements that can respond to different incentives in a field subject to technological change.

Answers to Chapter 3 Questionnaire

1. Do you agree with the definition of passive and active infrastructure outlined above? If not, please provide alternative definitions.

To complement the definition between electronic and non-electronic elements, 5G Americas suggest adding that sharing passive or active infrastructure depends on technical feasibility and other factors, such as network congestion, that cannot be controlled directly by the telecommunications providers.

2. Are there any other infrastructure (passive and active) that you consider essential for sharing?

The itemization of specific elements of civil engineering or equipment would be restrictive to agreements that can be made in the future between operators. The development of new equipment and the evolution in both core and radio access network technologies present should open new opportunities to deploy new infrastructure elements and reach new agreements in the marketplace that are technically feasible and reciprocate benefits. Also, ex ante sharing mandates on specific items may reduce incentives for new investments in regulated elements.

¹ The following comments are based in the document "Digital Adoption in Latin America. The Role of Infrastructure Deployment and Other Policies in the Region". [5G Americas, January 2016]. Available in http://www.5gamericas.org/files/6914/5255/6942/4G_Americas_White_Paper_-_Adopcion_digital_en_Latinoamerica_-_enero_2016.pdf



3. Given the various forms of passive infrastructure sharing described above, which ones do you think are most suitable for Jamaica? Please provide reasons for your choice.

5G Americas suggest an approach that leaves the identification of forms of passive sharing ultimately to the telecommunication providers so these agents can negotiate effective arrangements to support infrastructure deployments and reciprocal efficiencies. With the development of new active equipment, the demand for passive elements may change. Heavy elements such as poles may become less important to operators that seek, for example, to densify their network with elements such as small cells.

Passive and active infrastructure can benefit from standardized and expedited authorization systems at different levels of government (federal or local) that reduce barriers in the form of step in the authorization processes and waiting times.

4. Are there any other forms of passive sharing that are possible between operators? If yes, please provide details.

See answer number 3 of this section.

5. In your opinion, should sharing of the core network be allowed? Give reasons for your answer.

See answers 1-3 of this section.

6. Given the various modes of active infrastructure sharing described above, which ones do you think are most suitable for Jamaica? Please provide reasons for your choice.

The mobile broadband adoption and the increase in mobile traffic (as a proportion of Internet traffic) requires operators to adapt their networks with new solutions both in the core network and the RAN. The adoption of solutions such as SDN, NFV or C-RAN is a central part in the evolution towards 5G. As such, the active elements should not be heavily regulated with sharing mandates that can reduce investments from operators in Jamaica.

7. Are there any other forms of active sharing that are possible between operators? If yes, please provide details.

See answer number 6 of this section.



8. What in your view accounts for the failure to attract the entry of MVNOs into the Jamaican market? Is the mandating of active infrastructure sharing a pre-requisite for the emergence of MVNOs? Do you consider MVNOs as a viable option in the Jamaican market?

As any other type of arrangements, MVNO-operator negotiations should occur in a free market environment that provides reciprocal benefits for the interested parties where it is technically feasible.

9. Please provide examples of how active and passive infrastructure is being shared in Jamaica.

5G Americas respectfully declines to provide an answer for this item.



Answers to Chapter 4 Questionnaire

1. Do you agree that infrastructure sharing will encourage faster deployment of broadband networks throughout Jamaica? If not, please provide the reason(s) for your answer.

Sharing mandates on infrastructure may possibly provide perverse incentives such as spectrum underutilization and the possible reduction of investments in connectivity infrastructure that benefits more users and makes an efficient use of spectrum for mobile services, a scarce resource. Mandates are unnecessary and possibly impractical.

The deployment of faster and better networks is also related to investments in more capacity, better equipment, and new technologies. Mobile users are the ultimate beneficiaries of an environment that seeks to integrate modern solutions to provide a better experience.

The performance of the networks and the development of new services such as VoLTE, ViLTE or VoWiFi require the deployment of robust network infrastructure for coverage and appropriate backhaul resources. In other words, the faster deployment of broadband network elements is an organic incentive of wireless providers to offer a better experience to the mobile users.

An additional action that can encourage faster deployments is the standardization of authorization processes that reduce waiting times and adapt to new infrastructure elements such as small cells. For example, new antenna systems and small cells may require different support from passive elements due to differences in size and purpose. The first would benefit from faster installation permits and the second would be better assisted by a framework that waives urbanization requirements aimed for heavier and outdoor-specific elements.

Creating an environment of incentives for faster deployments is a complex issue. 5G Americas advocates for a continuous interaction between the government and service providers to address several factors specific to Jamaica. As such, infrastructure sharing is not the only relevant factor in the deployment of broadband networks as there are technological, legal, and social challenges that must be addressed to reduce the digital divide. Public-private interactions are essential for the adoption of best practices and clear procedures that foster positive environments for connectivity deployments.

2. In your opinion, how do you think infrastructure sharing will encourage service based competition?

Infrastructure sharing is not a solitary condition in the encouraging of service based competition. Competition is a complex issue with many different variables.



- 3. Do you feel infrastructure sharing will give rise any competition concerns among the operators? If yes, please identify the concerns and suggest how they should be addressed so as to ensure that there will not be any adverse impact on consumers' benefits regarding choice of service providers, availability of services, service variety, QoS and pricing.**

See answers 1-2 in this section.

- 4. Should the sharing of active infrastructure beyond Level 4 in Figure 4-4 above be allowed? Provide reasons for your response**

See answer 1 of this section and answer 6 of the Chapter 3 section.



Answers to Chapter 5 Questionnaire

- 1. What measures could be introduced to incentivize network operators to voluntarily provide access to their infrastructure?**

Measures should not infringe on the free market to decide about access to infrastructure. Also, the simplification of authorization processes and the reduction of waiting times can reduce uncertainty on new investments on infrastructure, presenting an incentive for providers to invest in the long run and negotiate specific agreements to tackle short term requirements.

- 2. Are there particular telecommunications infrastructure in Jamaica for which you think sharing should be mandated? Please provide reasons for your answer.**

See answers 1-2 in this section.

- 3. Do you believe that requiring all operators to provide information to enable OUR to compile a detailed inventory of the nature, location and capacity of Jamaica's telecommunications infrastructure is necessary, or should the information only be required from operators on which sharing obligations have been imposed?**

Providing and updating information involves operative costs for operators and can be a challenge since the needs of the network (congested spots, for example) are dynamic



Answers to Chapter 6 Questionnaire

- 1. What are the main bottlenecks (practical, behavioural, administrative, technical or legal) that operators wishing to deploy high-speed communication networks have been confronted with when attempting to access existing telecommunications infrastructure in Jamaica?**

In the Americas, the faculties of local administrations on urbanization and civil engineering permits can create multiple sets of rules for operators that seek to deploy new infrastructure. Complying with different rules and authorization periods provides not only an administrative bottleneck, but a potential cause of less investments in infrastructure. Since the networks are capital intensive, the delays in permits or authorization to deploy new equipment provide inefficiencies that affect the operation of the network providers.

In this aspect, it is advisable to create standardized rules and expedited streamlined processes that introduce practices such as positive administrative silence and create predictable timeframes for the industry.



Answers to Chapter 7 Questionnaire

1. Do you agree with the basic infrastructure sharing principles outlined in Section 7.2?

5G Americas offers in this section a comment per item of section 7.2:

“The proposed Rules will be applicable to all Licensees who own or control telecommunications infrastructure and/or wish to get access to and make use of such infrastructure. Specific parts of the Rules, however, will apply only to certain Licensees and the infrastructure owned by them.”

The principle introduces discriminatory treatment to licensees that can possibly provide negative incentives for the deployment of new infrastructure or participation in new spectrum auctions. 5G Americas recommends maintaining non-discriminatory guidelines and foster free and open negotiations in the marketplace.

“Infrastructure sharing services shall be provided in a manner that: a. maximizes the use of telecommunications networks and infrastructure; b. minimizes the potential for negative environmental impacts; and c. enables or does not impede the development of competition in the provision of telecommunications networks and services in a timely and efficient manner.”

The minimization of environmental impacts can be accompanied by standardized rules and practices in different level of government to prevent the use of this criterion in the elaboration of new barriers based in individual or subjective interpretations of the concept.

“A Licensee on whom an obligation to share has been imposed shall not obstruct or in any way impede another Licensee in the making of any infrastructure sharing arrangement.”

5G Americas advocates for free and open negotiations between providers and avoid *ex ante* provisions for infrastructure sharing. Sharing obligations should be subject to criteria of technical feasibility and promote an efficient use of resources such as spectrum that can become underutilized under strict obligations of active infrastructure sharing.

“An Infrastructure Provider on whom an obligation to share has been imposed, shall not refuse to provide infrastructure sharing services, except where it is due to circumstances related to technical feasibility, such as: impairment of the security or reliability of the infrastructure or the infrastructure provider’s (or third party’s) network; a lack of currently available space; or future needs for space. Any such claim shall be subject to independent verification by the OUR on a case-by-case basis”



Technical feasibility is determinant for infrastructure sharing agreements, but these mechanisms can provide more efficiencies if they are also reciprocal. *Ex ante* obligations negate reciprocity and impose a regulatory burden on operators with more infrastructure and potentially more connections.

Active sharing infrastructure (in elements such as the RAN) can be a factor in reducing the performance in a network by mandating it to serve more connections. Also, there are external factors not controlled directly by the operators, such as atypical concentration of users (massive sudden events, for example) that can be aggravated by mandatory infrastructure sharing. It is advisable that sharing agreements are only voluntary in nature defined by an open and free market.

“Each Licensee has an obligation to treat requests, to negotiate infrastructure sharing agreements and to provide infrastructure sharing services in good faith.”

Licensees should be encouraged to explore mutually beneficial and feasible agreements in a free market environment; the obligation to provide sharing services should be a consequence of the resulting agreements, not a rigid prerequisite.

“Licensees shall, in the first instance, attempt to reach an agreement on infrastructure sharing by negotiation. Any disputes relating to infrastructure sharing shall follow the dispute escalation procedure outlined in the infrastructure sharing agreement and may ultimately be referred to the OUR.”

5G Americas encourages the OUR to maintain mutual and free negotiations between providers and to provide clear guidelines for dispute resolution.

“Any Licensee that owns or controls any passive network infrastructure will be required to, within a timeframe to be specified, provide the OUR with a complete inventory of its passive infrastructure in order to facilitate the establishment and maintenance of a national database for passive infrastructure. Licensees will be required to provide updates on newly commissioned infrastructure.”

5G Americas respectfully declines to provide an answer for this item.



2. Do you agree with the proposed factors to be taken into account by OUR in considering when to impose an infrastructure sharing obligation on a Licensee? Should you disagree, kindly provide a detailed explanation for your views and suggest additional or alternative factors.

5G Americas offers in this section a comment per item of section 7.3:

“Matters relating to the public health or to the environment or town planning or other development considerations”

5G Americas suggests a separate treatment for the aspects of deployment/construction and those related to emissions and public health. There are comprehensive studies by the World Health Organization (WHO) and other agencies in these aspects and it is recommended to treat them separately since the precautionary principle is already safeguarded.

“Economic Inefficiencies”

5G Americas advocates for free, open, and mutually beneficial negotiations between operators since they can address very specific inefficiencies.

“Physical or Technical Impracticability”

5G Americas advises to keep technical feasibility as a key principle, since practicality can be desirable in a given situation regarding networks but technically not feasible.

3. Do you agree with the considerations outlined by the OUR for assessing physical and technical impracticability? If you disagree, please suggest alternative principles which OUR should consider.

5G Americas recommends an approach that favors arrangements that are negotiated freely between telecommunications providers to complement their networks within a framework of open market negotiations and technical feasibility. This approach allows more flexibility in the type of network sharing arrangements that can respond to different incentives in a field subject to technological change.



4. Do you agree with OUR's proposed costing principles for the setting infrastructure sharing charges? If you disagree, please suggest alternative principles which OUR should consider.

5G Americas respectfully declines to provide an answer for this item.

5. Do you agree with OUR's proposal on the costing methodology for determining charges for infrastructure sharing? If you disagree, please suggest an alternative method of cost allocation along with evidence to support the same.

5G Americas respectfully declines to provide an answer for this item.

5G Americas thanks OUR for the attention it has given to bring its vision on issues related to the development of telecommunications.

Without further ado, I greet you sincerely.

A handwritten signature in black ink, appearing to read "J. Otero Muñoz", with a long horizontal flourish extending to the left.

José F. Otero Muñoz
Latin America & the Caribbean Director
5G Americas