

Comments on the Consultation Spectrum Outlook 2018 to 2022

by the

**Eastern Ontario Wardens' Caucus (EOWC) and the
Eastern Ontario Regional Network (EORN)**

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Introduction

1. Nearly a decade ago, the Eastern Ontario Warden's Caucus (EOWC) recognised that a regional approach was required to address the broadband gaps within the 13 County and Single Tier municipalities representing over 750,000 residents in our region of 50,000 km². Working with our provincial and federal counterparts, the EOWC developed the Eastern Ontario Regional Network (EORN), and with private and public-sector investment of over \$175M resulted in a successful broadband project that provided access to new or improved broadband services for 89% of our households. The project was completed in late 2014 and was delivered on time and under budget. EORN closely collaborated with its 6 private commercial partners, who actually own and operate the network. Most of our rural residents were provided access through wireless services.
2. After our success in delivering a fixed broadband project, the EOWC tasked EORN to investigate solutions to address the mobile broadband gap that residents were identifying as part our regional dialogue. Using independent expertise, engineering coverage and capacity gap analysis was completed, resulting in a conceptual design and costing model. In the same timeframe, EORN became aware of work that was being done on Public Safety Broadband at the national level. EORN concluded that building a common Broadband infrastructure would result in overall savings for all parties. We extended our analysis and developed a conceptual design and costing that included PSBN infrastructure, resulting in nearly \$50M in savings with a \$299M combined project. We have presented our Business Case to both Federal and Provincial Ministries, have received positive feedback, and are working towards confirming funding.
3. EORN and EOWC do not own or operate either fixed or mobile wireless networks, nor is it likely that they will ever own the rights to any spectrum. But we do represent over 60,000 subscribers and provide coverage to approximately 275,000 households who can only access the internet through either fixed wireless or satellite, many of which have no competitive choice. This represents just over 40% of the subscribers on our project builds, and an estimated view of 75% of our rural households¹.
4. Based on our analysis for the cell gap project, we estimate that 18% of the populated area or areas that contains major transportation corridors in region have no mobile coverage. In addition, 34% have coverage from only one major wireless carrier. These gaps are primarily due to market failure. EORN believes that our residents should have choice in their decision for a carrier.
5. As a representative of rural communities, we feel it is important to continue to highlight the challenges faced by rural communities and underserved regions across the country. Private sector incentives to invest and serve our communities are significantly lower than in high density urban centres of the country, limiting the capacity of market forces to meet rapidly growing demand for broadband network resources, whether it be fixed or mobile. This currently leads to a digital divide between urban and rural areas of Canada for the general public.

¹ Households outside of communities greater than 30,000 population

6. EORN agrees with ISED that “Today’s economy is digital. ...The information and communications technologies (ICT) sector is an enabler of the digital economy that is embedded in the transformations underway in industries, such as manufacturing, the automotive sector, agriculture and financial services² “. The digital economy is also driving changes in our rural economy only limited by the lack of connectivity.
7. Mobile services are as important to rural residents as they are to urban. Mobile services are important for business and social uses, as well as for safety concerns when traveling rural roads.
8. The CRTC’s Universal Service Objective of 50/10 to 90% of all households by end of 2021 has almost been reached, if you live in an urban center. According to the CRTC’s Communications Monitoring Report for 2017 - 84% of Canadian households are able to access this objective by the end of 2016. However, only 39% of rural households have access to this kind of service, versus 96% in urban areas. Wireless based services and the associated demand on spectrum will be a significant factor in moving the rural population closer to the universal service objective.
9. Given the gap in meeting the service objectives in rural areas, and the likelihood of solutions coming from fixed wireless, EORN is concerned about the lack of priority being given to fixed wireless spectrum in the Consultation. In our own experience, service providers do not have access to sufficient spectrum to meet the demands of our residents. Any allocation of spectrum cannot result in reduced service to our rural residents.
10. EORN is only responding to the questions in this Consultation process that we believe will affect our residents, and that we have relevant expertise or opinions.
11. We thank ISED for the opportunity to comment on the consultation and would be more than willing to respond to any subsequent questions.

² Spectrum Outlook 2017-paragraph 5

Comments on the questions

Q1 – What future changes, if any, should ISED examine with regard to the existing licensing regime to better plan for innovative new technologies and applications and allow for benefits that new technology can offer, such as improved spectrum efficiency?

12. EORN strongly supports ISED's focus on the three pillars that matter to Canadian families and businesses (Quality, Coverage and Price). It is important to ensure that spectrum is available to allow Canadians access to the latest technologies, and support for the development of innovative solutions. These line up exactly with EORN's Goals for our original project of Quality (up to 10/1 speeds – aspirational for rural in 2010), Coverage (85% at our Quality objective) and Prices (rural prices equivalent to urban). We will have similar updated Goals in our future projects.
13. EORN also supports ISED's view that while it is important to rely on market forces in spectrum management, "there will also be a need to make spectrum available for a range of services that are in the public interest"³. We support the decision to allocate 20Mhz of spectrum to the Public Safety Broadband Network. The availability of this spectrum for rural use is important for the business case of a rural PSBN project.
14. In addition, EORN believes that there needs to be regulatory practices in place that protect the public good, and support the values of competition. We believe that spectrum set asides should exist for emerging players in the wireless markets, for both fixed and mobile. Many of the smaller ISPs in rural areas cannot afford to compete in auction for licensed spectrum and are limited to using license exempt spectrum. In conjunction with this, we also believe that there should be a resale limitation on the set aside, so that organizations cannot resell it for huge profit, or to major carriers who were not eligible for it in the first place.
15. EORN requests that in future licensing regimes, practices are in place to ensure that spectrum is available for rural areas. We currently have situations where there is no available spectrum for our service providers to use or purchase, resulting in overloaded networks as user capacity demands increase. As we understand the problem it is partly driven by organizations who have purchased blocks of spectrum and are not using them, or have purchased large geographical blocks where the rural component is not being used while the urban part is. We believe that there should be a "use it or lose it" part of the overall licensing provisions, and applied retroactively to previously licenced blocks. This may also help prevent the speculative purchase by organizations, with no intent to directly use the spectrum, but resell it for their own profit.
16. The definition of "use it or lose it" and how it will be enforced requires further study. Given a realistic build schedule, we believe that there should be network builds underway to utilise the spectrum within two years of assignment, and 50% should be in use within 2.5 years of assignment. In some ways the best identifier of unused spectrum is an organization in need of the spectrum within the assignment block. If it is deemed unused – the owner should be obligated to sell or sub-

³ Spectrum Outlook 2017 – paragraph 15

lease it to the requester for the original purchase price (potentially with a small surcharge to cover the cost of the transaction), or sell to ISED at the original purchase price for resale to any other provider. We also believe that spectrum should be used in a reasonable service offering (commercially competitive), as opposed to one that is artificially created to hold on to the spectrum.

17. Furthermore, with respect to the area covered by a spectrum block, license sizes need to be reviewed to ensure that rural areas are not covered by a license that includes an urban area. This generally prevents smaller providers from bidding on spectrum where they cannot afford the cost of an urban license.

Mobile Services

Q2 –Do you agree with the above assessment on demand for commercial mobile services in the next few years? Is there additional information on demand, which is not covered above, that should be considered? If so, please explain in detail.

18. In rural areas, the public's use of mobile services with respect to usage and capacity is equivalent to that in urban areas. While the density of use may not be there, the need is just as important. From a public safety perspective, the value of being able to communicate along roadways, fields and natural areas is important wherever residents or travellers live, work or play.
19. In some areas of our rural region, due to market failure, other than satellite, mobile broadband is the only method of internet access for residents. This drives ongoing capacity demand beyond that expected for normal population, and often causes challenges during the tourist season.

License -Exempt

Q5 – Do you agree with the above assessment of demand for licence-exempt spectrum in the next few years? Is there additional information regarding demand, which is not covered above, that should be considered? If so, please explain in detail.

20. EORN agrees with ISED assessment of the overall demand for Wi-Fi and IoT and sees this demand also exist in rural areas. The increased automation and tracking of product in agriculture from monitoring environmental conditions in vineyards, and animal monitoring and autonomous farm vehicles will drive the demand for spectrum in our region. Many of the small businesses in our communities are already moving to automated inventory control. Our rural villages and small towns are offering public wi-fi to encourage economic development in their communities and keep people visiting and staying in the region.

Satellite

Q10 – ISED is seeking comments on the above demand assessment for FSS/BSS for the period 2018-2022. Is there additional information on demand, which is not covered above, that should be considered with regards to the below bands?

- a) C-band
- b) Ku-band
- c) Ka-band

21. EORN has seen strong growth in subscriber numbers and capacity demand for Fixed Satellite Service (FSS) since 2011 and especially in the demand for High Throughput Satellites (HTS). From a subscriber perspective demand exceeds available allocated consumer capacity within 1 year of availability. In our rural region, despite a successful deployment of terrestrial broadband completed in 2015, nearly 14,400 subscribers are using Satellite services because this is the best access offering available to them. Many subscribers are less than 50 km from the 401 highway, and are using satellite either due to terrestrial challenges related to market failure. Consumers are looking for 25Mbps packages, and 200GB of capacity as they move from satellite TV services to streaming video services.

Q12 – What satellite applications (e.g. broadband Internet, video broadcasting, backhaul, etc.) do you consider a priority for the period 2018-2022?

22. EORN expects that over the next 4 years- capacity demand for broadband internet based satellite will continue to grow, although subscriber numbers will not change significantly.

Backhaul

Q13 – Do you agree with the above assessment on demand for backhaul in the next five years? Is there additional information on demand, which is not covered above, that should be considered? If so, please explain in detail.

23. EORN agrees with the assessment in backhaul based on our experience.

Q14 – Backhaul service in Canada is delivered using a variety of solutions, including fibre optics, microwave radio and satellites. What changes, if any, are anticipated to the mix of backhaul solutions employed?

24. We would point out that with increased demand for capacity and associated reliability, and with increased affordability and availability, our local providers are replacing select wireless backhaul with fibre.

New Bands

Q19 – Provide, with rationale, your view of the above assessments on the bands being considered internationally for commercial mobile, fixed, satellite, or licence-exempt.

25. Eastern Ontario has more than 31,000 users on fixed wireless utilising the 3500 MHz band. Generally speaking these users have no other choice of access or provider. This would be a significant economic impact to our region if access was removed. Allowing mixed use of mobile and fixed, would alleviate the risk, and harmonise with International developments.

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