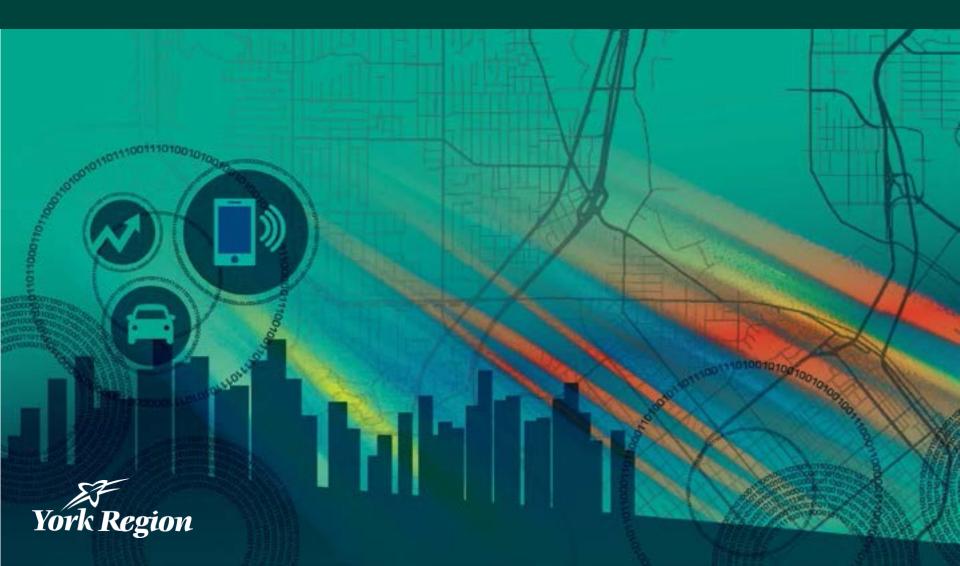
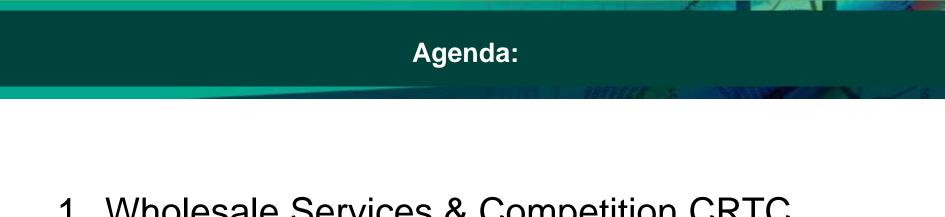


Presentation to Broadband Strategic Advisory Task Force IBI Group June 1, 2016

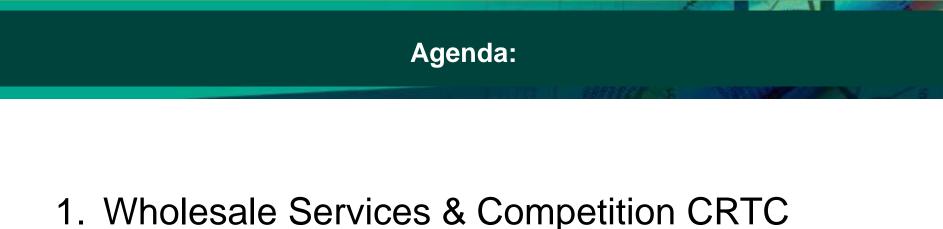
Recent CRTC Rulings - Issues & Potential Outcomes





- Wholesale Services & Competition CRTC 2015-326 (Regulatory Policy)
- 2. Basic Telecommunications Services CRTC 2015-134 (Notice of Consultation)





 Wholesale Services & Competition CRTC 2015-326 (Regulatory Policy)

2. Basic Telecommunications Services CRTC 2015-134 (Notice of Consultation)



Wholesale Services Decision Overview

Regulatory Policy CRTC 2015-326 Objectives:

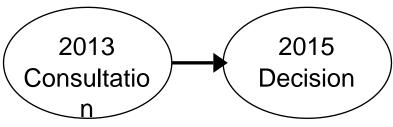
- 1. Providing Canadians with more choice for high-speed connectivity thereby;
- 2. Leveraging the benefits of the broadband home or business
- 3. Drive competition resulting in further investment in high quality networks, innovative service offerings and reasonable prices for consumers

Source: CRTC website: http://www.crtc.gc.ca/eng/archive/2015/2015-326.htm



Wholesale Services Decision Overview

• Decision from 2013 consultation

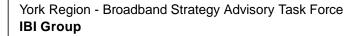


- Disaggregated wholesale service
- Available over fibre-access facilities
- Unbundled loops (copper) no longer mandated
- High speed wholesale services for

<image>

competitors

York Region



The telecommunications industry is in a transitional phase...

Objectives:

- **Public good** there is a need to mandate the service for reasons of social or consumer welfare, public safety, or public convenience.
- Interconnection the service would promote the efficient deployment of networks and facilitate network interconnection arrangements.
- Innovation and investment impact the associated level of adoption of advanced or emerging services by users of telecommunications services.

Source: CRTC website: http://www.crtc.gc.ca/eng/archive/2015/2015-326.htm



Moving forward, it is clear that broadband adoption – especially in wireless and fibre – remains **crucial for overall economic development**.

The Internet is now established as a key infrastructure that supports every sector of the economy and is a fundamental driver of innovation, productivity gains and economic growth.

Open access broadband policies therefore need to be considered by governments where there is insufficient competition, so that the entire economy can continue to fully leverage its potential.

Source: Stimulating competition through open access networks; 5 March 2013, Agustin Diaz-Pines of the OECD's <u>Science, Technology and</u> <u>Industry</u> Directorate





Wholesale Services Impact to the ILECs

Incumbent Local Exchange Carriers (ILEC):

Change fibre investment strategy?

- •Less margin (than aggregated wholesale services)
- More competition at retail level
- •Opens up middle and last mile fibre network
- •"Incumbent carriers have considerable advantages over competitors"









May 11, 2016 Appeal of Decision:

In its appeal, Bell had argued that the regulation would discourage investments in broadband infrastructure.

However, the minister responsible for telecoms, Navdeep Bains, disagreed, stating in yesterday's ruling that 'middle-class and low-income families need access to affordable high speed internet and the CRTC decision helps fulfil that goal by enabling stronger competition.'

Bell spokesperson Jacqueline Michelis said in an e-mailed response: 'We'll abide by the rules and move forward.'

Source http://news.gc.ca/web/article-en.do?nid=1063779



- •Access to ILEC fibre
- Will it be easy?
- Investment in value-added service;
- •Concerns on the type of access provided (Layer 2 vs. Layer 3)



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Shaw)





Wholesale Services Impact on Consumers & Businesses

- Retail Competition?
 - Where fibre exists
 - Lower prices
 - Increased variety of service offerings





IВ

- Impact on Rights of Way (RoW)
- Community Aesthetics
- City Assets (roads and structures)
- Lessen disruptive construction
- Provide more choice for citizens







Toronto and Ottawa's mayors both submitted personal brief letters expressing support for Bell's position. Toronto city council later passed a motion supporting the CRTC ruling.

Calgary submitted a 28 page document supporting the CRTC ruling and explaining why increased competition was good for the city and consumers.

Moreover, Calgary focused on the need for cities to build their own network infrastructure to complement the services offered by the telecom giants.

It noted the public interest benefits that arise from building municipal networks, which offer the chance for more competition and ensure that cities are not held hostage by large companies threatening to delay or withdraw network investments. – Michael Geist

Source: <u>http://www.michaelgeist.ca/2016/01/the-battle-over-the-future-of-broadband-in-canada-mayors-tory-watson-v-nenshi/</u>

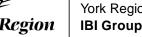


Reply to Matters raised by City of Calgary

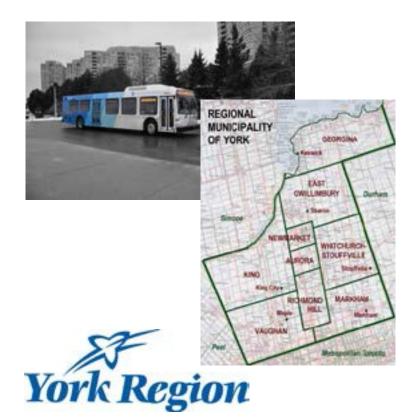
Rogers considers the bulk of Calgary's submission to raise matters that are outside the scope of the current proceeding.

Source: Rogers Reply Implementation of TRP 2015-326 February 16, 2016





- Impact of Rights of Way (RoW)
- Community Aesthetics
- City Assets (roads and structures)
- Lessen disruptive construction
- Provide more choice for citizens





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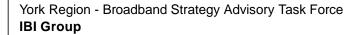
- Disaggregated service architecture
- Pricing
- Implementation ~2-3 years



1. Wholesale Services & Competition CRTC 2015-326 (Regulatory Policy)

2. Basic Telecommunications Services CRTC 2015-134 (Notice of Consultation)





Notice of Consultation

June 2015 Phase 1: Policy review & industry information gathering

April 2016 Phase 2: Public Hearings



"The Commission will examine which telecommunications services Canadians require to participate meaningfully in the digital economy and the Commission's role in ensuring the availability of affordable basic telecommunications services to all Canadians. The Commission intends to conduct this review in two phases."

•What is basic?

•2011 Review Result: "Continue to rely on market forces"

•CRTC 2015 Target: 5 Mbps down / 1 up

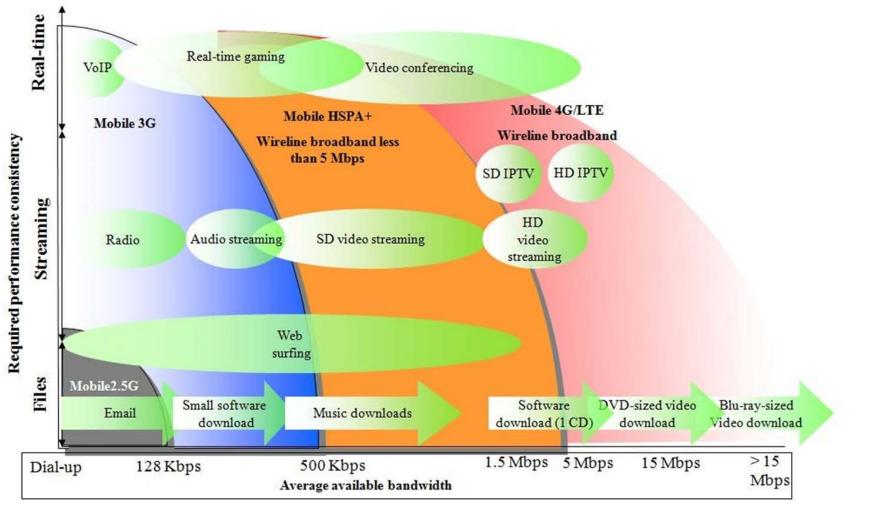
•FCC 2015 Target 25 Mbps down / 3 up

•Should broadband be a part of the basic service objective?

- Target?
- Wireline / wireless?



Basic Telecommunications Services Issues to be Considered



Source: CRTC Technology Resource Centre CRTC Exhibit 1 – Review of basic telecommunications services, Telecom Notice of Consultation CRTC 2015-134

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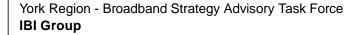
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- Obligations to Serve
- 0.55% Revenue to NCF
- 2015 NAS (phone line) subsidy: \$77M (large ILEC) \$12M (small ILEC) <u>\$10M (NorthwestTel)</u> \$99M
- Northwest Tel Satellite Issues
- Mobility Impact / Subsidy
- Impact to Policy Change: \$1.2B \$1.7B







- Position that investment in Internet is already leading their peers (Capital Intensity)
- Canada already leading many categories in Internet penetration within G20





- Minimal Impact
- •Access to funded Infrastructure on a wholesale basis?
- Impact on wireless industry?





Basic Telecommunications Services Impact to Consumers & Business

- Rate increases
- Rural accessibility



Source: https://www.ic.gc.ca/app/sitt/bbmap/hm.html

IBI

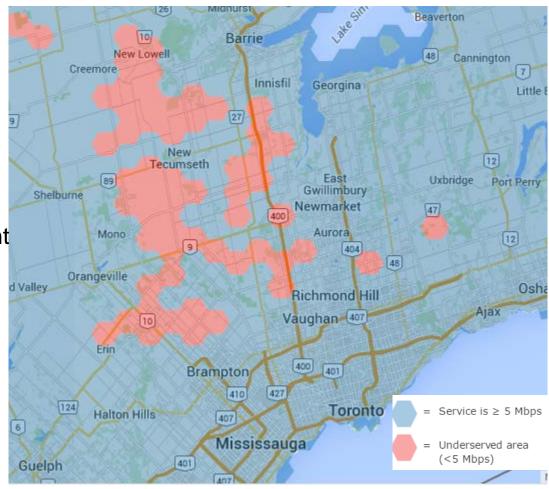
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Basic Telecommunications Services Impact to Municipal Government

Influence ILEC investment
Cost share with ILEC
Public Investments in broadband?

 Economic Development Strategy?



Source: https://www.ic.gc.ca/app/sitt/bbmap/hm.html



IВ

Basic Telecommunications Services Impact to Municipal Government

- Connecting Canadians v2?
- SWIFT / EORN Models
- Alignment with Federation of Canadian Municipalities
- Rural Development Engineering Guidelines/ Standards
- 2016 Federal Budget:

(\$millions)	16-17	17-18	18-19	19-20	20-21	Total
Investments in Rural Broadband	6	81	253	108	52	500

- Additional \$255 million over two years starting in 2016–17 through the First Nations Infrastructure Fund
 - roads and bridges, energy systems,
 - **broadband connectivity,** physical infrastructure to mitigate the effects of natural disasters and fire protection.

Public Hearings Completed
Final Submissions May 2016
Regulatory Policy Update: Timing, TBD



Summary

Wholesale Services & Competition

- •Impact on Rights of Way (RoW)
- Community Aesthetics
- •City Assets (roads and structures)
- Lessen disruptive construction
- Provide more choice for citizens

Basic Telecommunications Services

- •Partnerships for underserved areas
- •First Nations





Presentation to Broadband Strategic Advisory Task Force IBI Group June 1, 2016

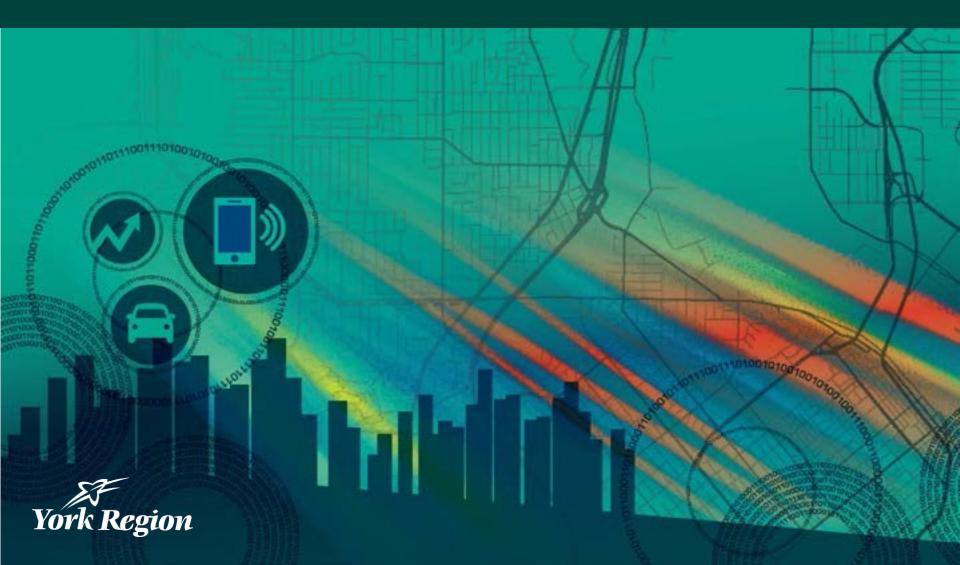
Questions?





Presentation to Broadband Strategic Advisory Task Force IBI Group June 1, 2016

Backup Slides



Wholesale Services Decision Overview

...investment and innovation considerations are also important now and in the future. The telecommunications industry is in a transitional phase between the traditional circuit switched legacy networks, and more advanced technologies, such as packet-based transport over fibre and wireless facilities. Therefore, the addition of investment and innovation as a policy consideration could encourage the transition away from investment in legacy networks and incent companies to invest in advanced network technologies to benefit Canadians.

...the Commission will apply the following policy considerations to inform, support, or reverse a decision to mandate the provision of a wholesale service:

- **Public good** there is a need to mandate the service for reasons of social or consumer welfare, public safety, or public convenience.
- Interconnection the service would promote the efficient deployment of networks and facilitate network interconnection arrangements.
- Innovation and investment mandating or not mandating the facility or wholesale service could affect the level of innovation/investment in advanced or emerging networks or services for incumbents, competitors, or both, or impact the associated level of adoption of advanced or emerging services by users of telecommunications services.

Source: CRTC website: http://www.crtc.gc.ca/eng/archive/2015/2015-326.htm

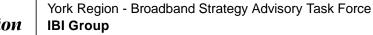


Reply to Matters raised by City of Calgary

Rogers considers the bulk of Calgary's submission to raise matters that are outside the scope of the current proceeding. For example, consideration of CQoS parameters (paragraph 16), a consultation process with municipalities or other government bodies prior to substantial NG-FTTP installations or overbuilds by incumbent carriers (paragraph 21), considerations for model installation of FTTP in a Green Field community including structural separation and single sheath-multiple fibre FTTP deployments are far beyond the scope of this proceeding that is to address at this stage the configuration of disaggregated wholesale HSA services, including over FTTP access facilities, how would both aggregated and disaggregated wholesale HSA services be supported at the same time, and what are the appropriate timelines for implementation.

Source: Rogers Reply Implementation of TRP 2015-326 February 16, 2016

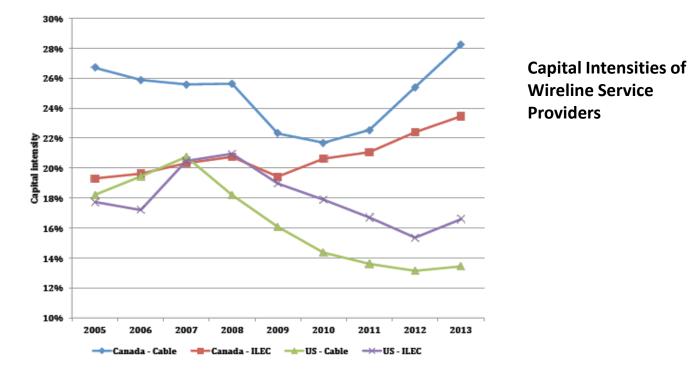




Basic Telecommunications Services Impact to the ILECs

Bell wants few changes to existing CRTC regime as they point out in their 2015 intervention of 2015-134 that

....shows that Canada is already a leader internationally with respect to broadband investment. Canadian ILECs and cablecos exceed their U.S. peers with respect to capital intensity, and Bell Canada and Telus in particular exceed ILEC peers in the U.S., UK, and France.



Source Telecom Notice of Consultation CRTC 2015-134, *Review of Basic Telecommunications Services* Intervention of Bell Canada and its Affiliates

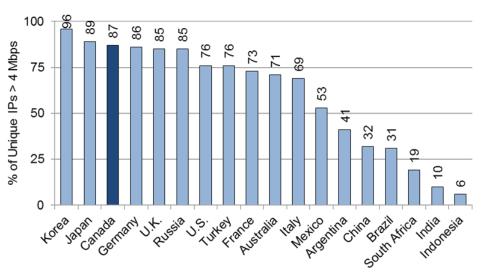
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Bell argues that because of existing private sector investment in Canada

Canada is third in the G20 – behind only Korea and Japan – in percentage of unique Internet connections that exceed 4 Mbps (in other words, that effectively meet the broadband speed target of 5 Mbps), as shown in Figure 3, below. Clearly, market forces are successfully making modern communications services available and compelling to Canadians.

As a result of this investment and competition, by 2013, 95% of Canadians already had access to broadband of 5 Mbps or more and 81% to broadband of 25 Mbps or more. Moreover, approximately 92% of Canadians with access to 5 Mbps broadband in 2013 had access from two or more platforms and approximately 81% had access from three or more platforms. While this is the latest data available from the Commission, no doubt these figures have increased over the last two years and will continue to increase during the year spanned by this proceeding, as ILECs and others continue to build out fibre infrastructure, cablecos complete DOCSIS upgrades, long-term evolution (LTE) wireless networks expand, and satellite and fixed wireless networks increase speeds and coverage.



Source Telecom Notice of Consultation CRTC 2015-134, Review of Basic Telecommunications Services Intervention of Bell Canada and its Affiliates

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