

A New Foundational Priority for the EOLC: Digital Infrastructure

**Presentation at the Ontario East
Municipal Conference 2019**

Thursday, September 12, 2019



Eastern Ontario's
**Leadership
Council** Economic
Development

Eastern Ontario Leadership Council

Agenda

- **Welcome**
- **Digital Infrastructure as a Foundational Priority**
- **The National Perspective on Broadband Access**
- **Market Failure as the Basis for Public Investment**
- **The EORN Cell Gap Project**
- **Fixed Broadband CRTC standard of 50/10 for the Region**
- **Wrap-up and thank you**

Key Takeaways from the EOLC Strategy Refresh Research and Consultation

- Digital connectivity (high-speed internet and cellular/mobile broadband) is even more important now than in 2014 and should be added to the Strategy as foundational infrastructure. Success in implementing initiatives for any of the strategic priorities depends on this infrastructure being in place.
- For the region to be competitive in attracting, growing and retaining businesses, continued improvements to broadband and cellular services are essential.
- Businesses also suggest the top three issues that, if addressed, could improve business performance in the region:
 - Broadband (including cell service) and high-speed internet (57% of online survey respondents)

New Foundational Priority: Digital Infrastructure

Foundational Priority: Digital Infrastructure

- Expected Outcome: Eastern Ontario's Cell Gap project is being implemented, and opportunities to further improved broadband are also being pursued.
- Expected Outcome: Eastern Ontario is recognized as being a highly 'connected' region, able to leverage technology to stimulate economic development across the region.

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Strategy Implementation Working Groups

Workforce
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Deployment

Technology
Integration and
Innovation

Integrated, Intelligent
Transportation
Systems

Digital Infrastructure

(High-speed internet, mobile broadband and cellular services)

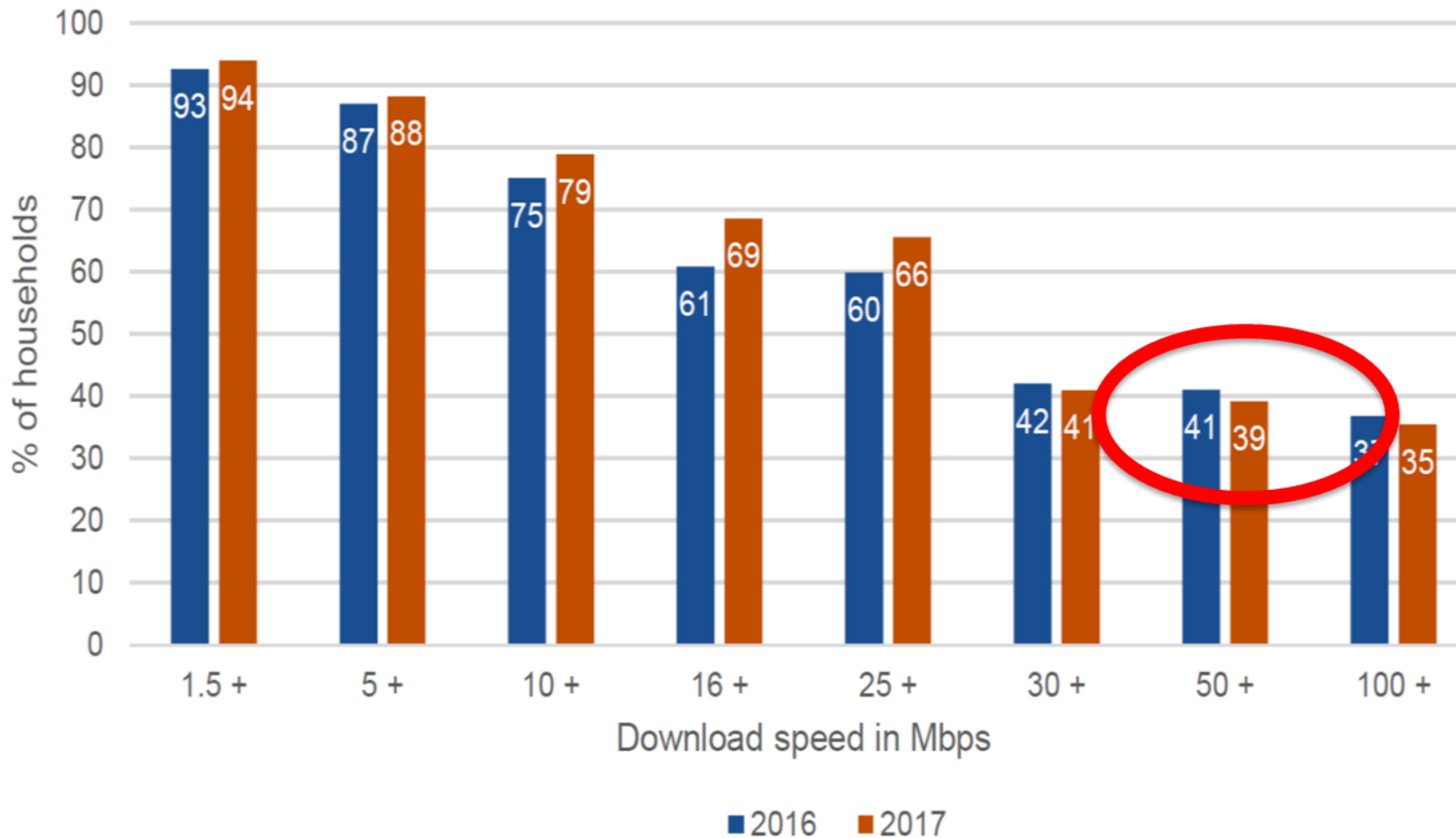
The National Standard: CRTC 50/10

Modern telecommunications services are fundamental to Canada's future economic prosperity, global competitiveness, social development, and democratic discourse. In particular, fixed and mobile wireless broadband Internet access services are catalysts for innovation and underpin a vibrant, creative, interactive world that connects Canadians across vast distances and with the rest of the world.

- Canadian residential and business fixed broadband Internet access service subscribers should be able to access speeds of at least 50 megabits per second (Mbps) download and 10 Mbps upload, and to subscribe to a service offering with an unlimited data allowance; and
- The latest generally deployed mobile wireless technology should be available not only in Canadian homes and businesses, but on as many major transportation roads as possible in Canada.

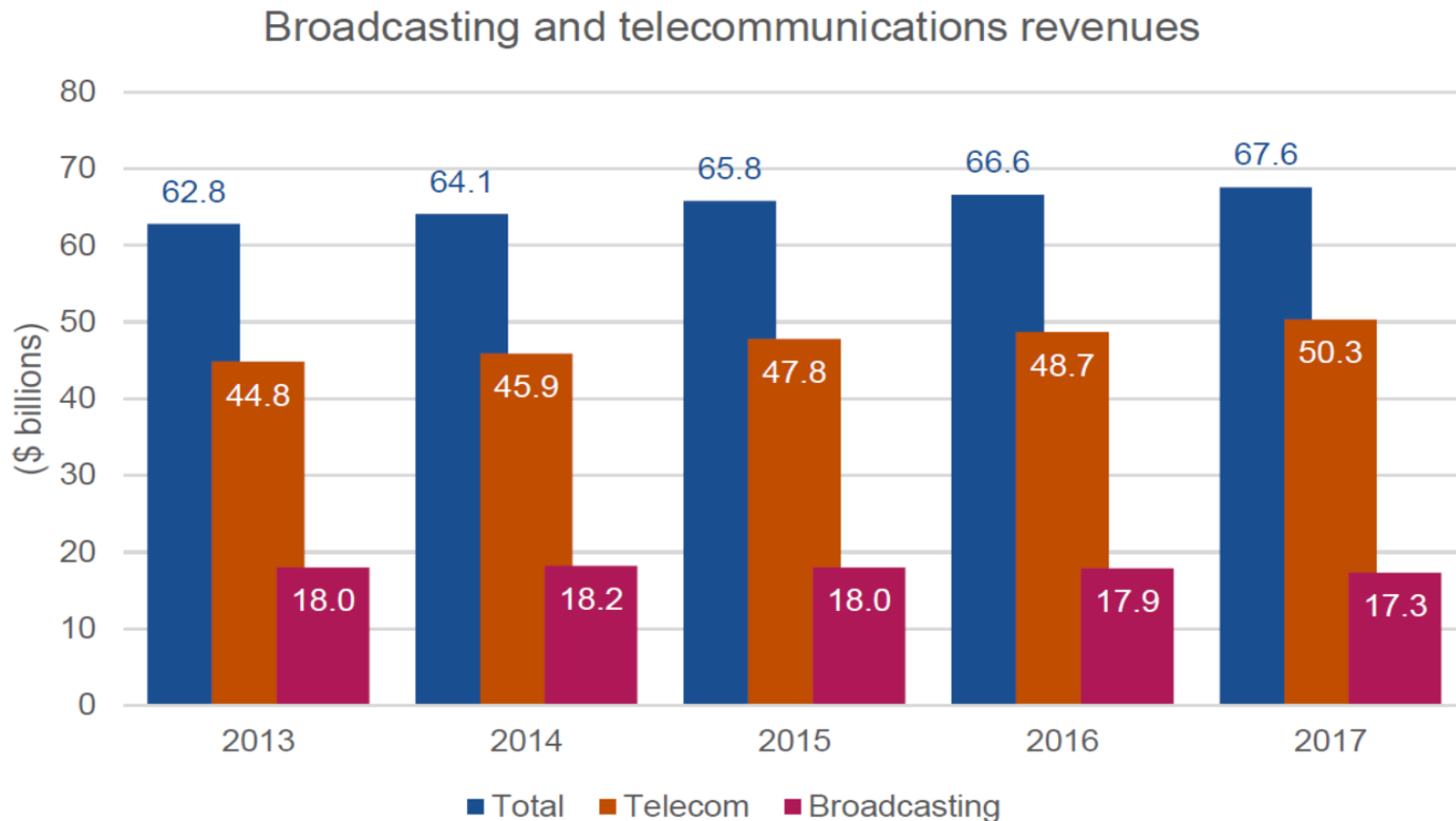
CRTC Communications Monitoring Report 2018

Rural broadband service availability by speed
(% of households)



CRTC Communications Monitoring Report 2018

Figure 3.1 Broadcasting and telecommunications revenues

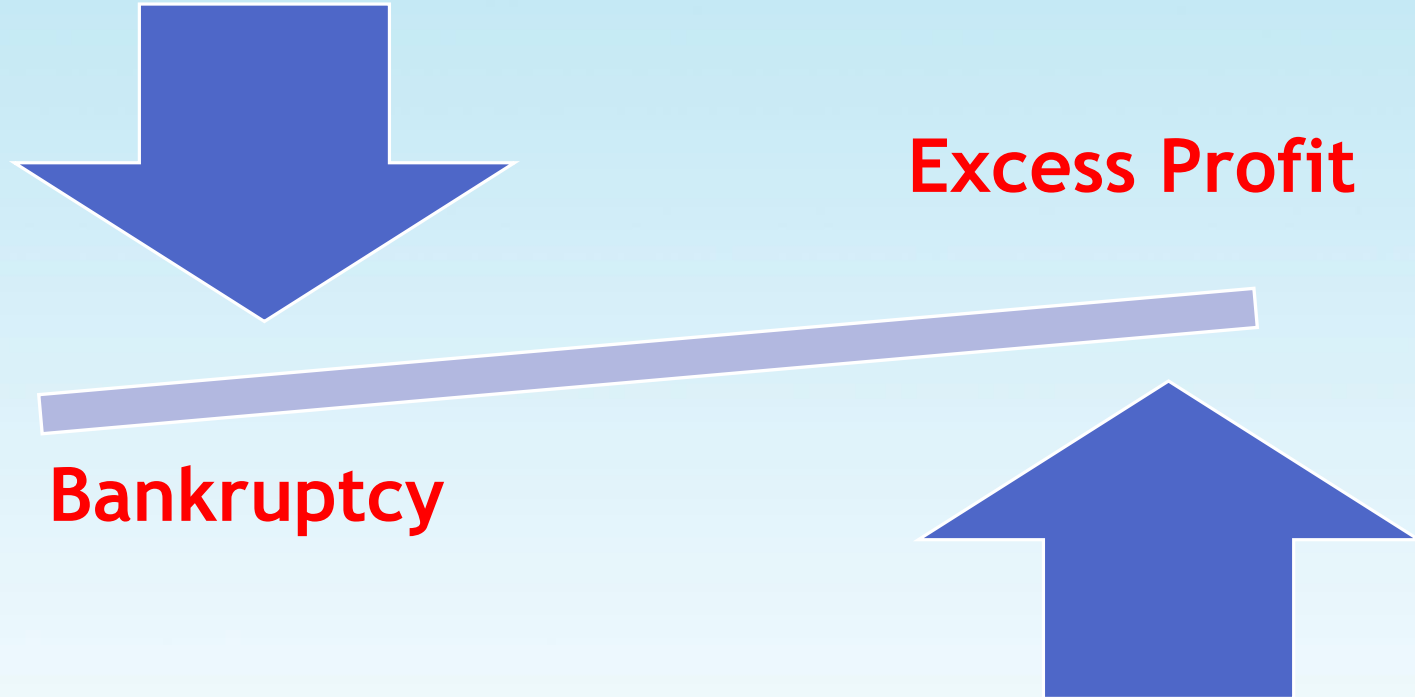


CRTC Communications Monitoring Report 2018

Infographic 4.5

Metric	Category	2013	2017
Capital expenditures (\$ billions)	Wireline	\$6.9 B	\$9.7 B
	Mobile	\$2.0 B	\$2.3 B
Capital intensity (%)	Mobile providers	9.8%	9.1%
	Incumbents TSPs	33.0%	42.8%
	Cable-based carriers and other facilities-based services	26.8%	47.2%
EBITDA margin (%)	Wireline	32.9%	37.0%
	Mobile	43.3%	\$39.5 M
Investment in spectrum (\$ millions)	Mobile	\$277.4 M	\$442.4 M

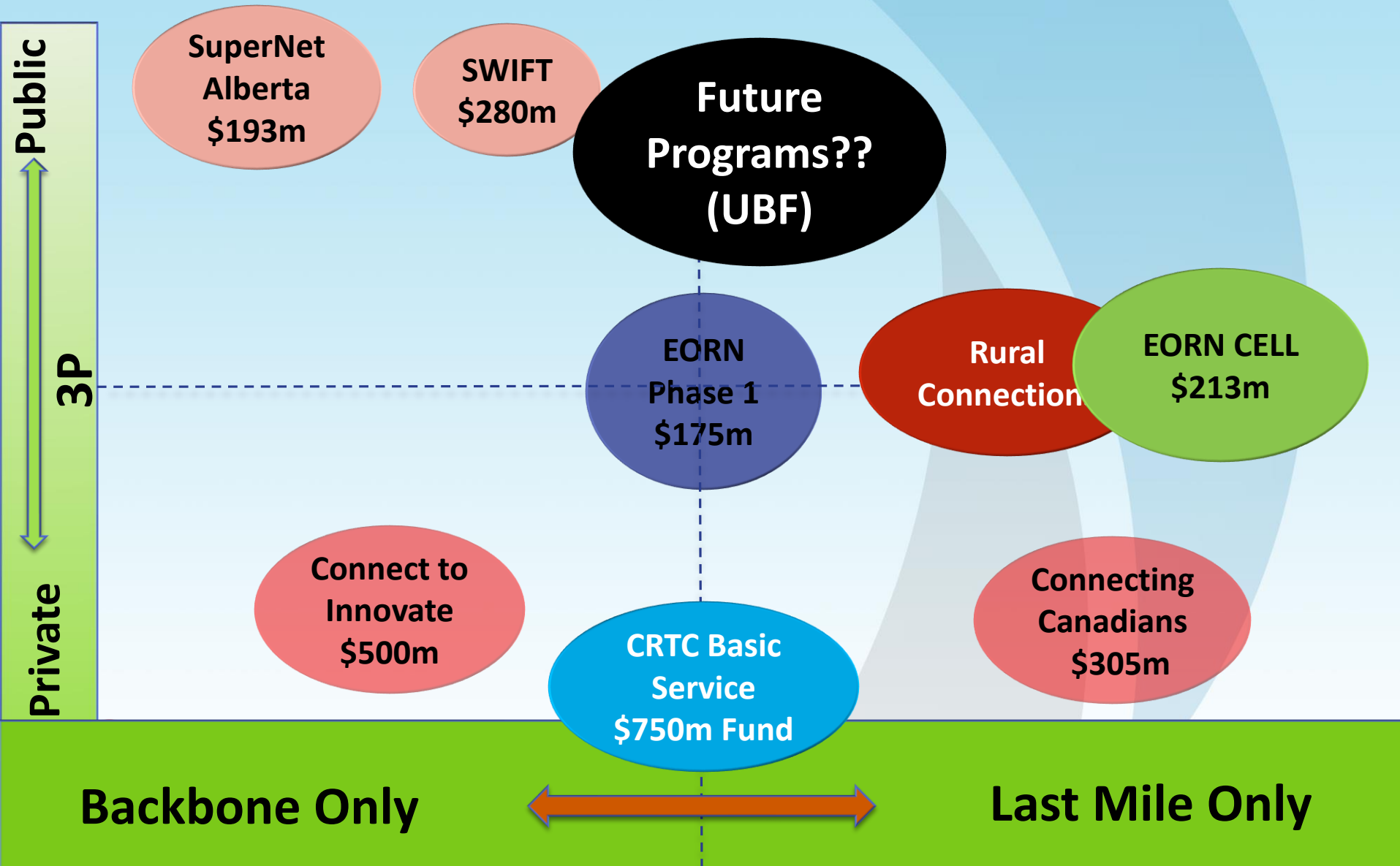
Public Policy Dilemma



When should Governments use public financing to stimulate private sector investment?



Funding Programs & Major Projects



NEW Federal Funding Programs

- Connect To Innovate (CTI):
 - \$500 million up to 2019.
 - Top up funding coming +\$85million
- CRTC Broadband Fund: \$750 million - 7 years
- Universal Broadband Fund: \$1 Billion - 13 yrs.
- Telesat LEO Program:
 - \$100million 2018 + \$600 million future
- Canadian Infrastructure Bank: \$1 Billion
- CRA: Accelerated Investment Incentive

Provincial Programs

Ontario:

- Strategy being developed - \$350 Million over four years
- Committed \$65 million (originally \$93 million) to SWIFT
- Committed \$71 million for EORN Cell Gap
- Will invest in Northern Ontario

Nova Scotia:

- \$300 million
- Trust and Develop NS set up based on EORN model

Quebec: \$300 million+

Prince Edward Island: Out to tender

B.C. \$50 million

The EORN CELL GAP Project

What Can We Do For \$213 Million

- 1.** Achieve 99% coverage of the Eastern Ontario Region with a Cell Call service level where people live, work and travel.
- 2.** Achieve 95% coverage of the Eastern Ontario Region with SD (Standard Definition) service level where people live, work and travel.
- 3.** Achieve 85% coverage of the Eastern Ontario Region with HD (High Definition) service level where people live work and travel.
- 4.** Invest \$34 million in increased capacity/5G network enhancements in high density, high network utilization areas.



Definitions/Assumptions *(Part 1)*

Regional Coverage: The coverage percentage is based on the analysis for the entire region and not on a county by county basis.

Conceptual Design: The coverage and capacity metrics are for a conceptual design pending outcome of the competitive RFP process.

Public Private Partnership: Private Carriers will need to contribute proportionally along with local, provincial and federal funding in order to fully achieve these targets.

Major Roads: Includes all of the freeway, expressway, highway and arterial roads as defined by the Province of Ontario .

Coverage targets: The targets have been established based on the anticipated funding for the project.

99% for Cell Call service level

95% for SD service level

85% for HD service level:

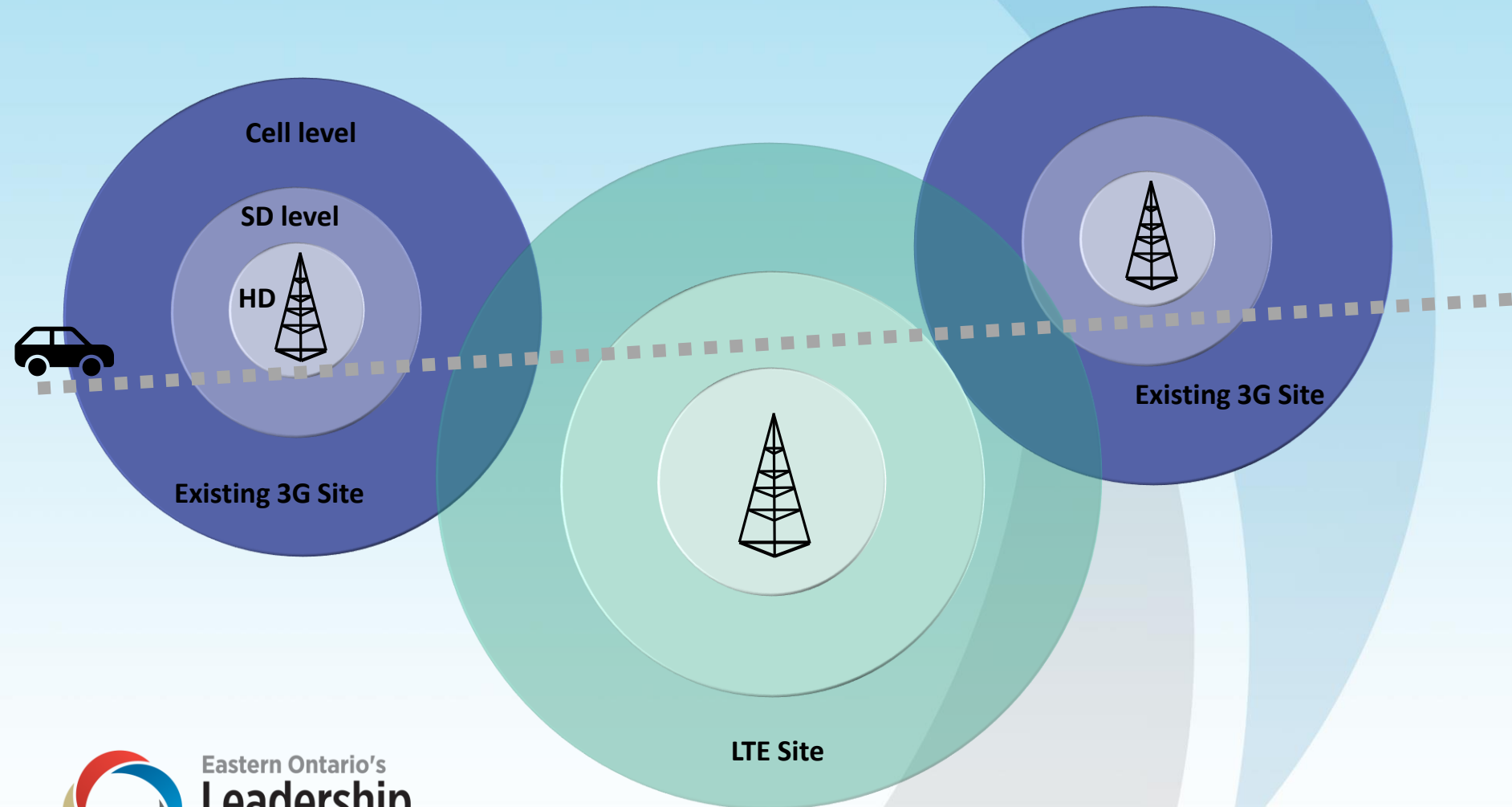
Definitions/Assumptions *(Part 2)*

Demand- where people live, work and travel: This is determined by current premise data from MPAC (May 2018) and traffic counts for selected major roads as provided by MTO .

Capacity: Even though there may be coverage in an area, there may not be sufficient resources to handle the traffic load generated by the numbers of people served by the cell network in a local area. Capacity design addresses this issue.

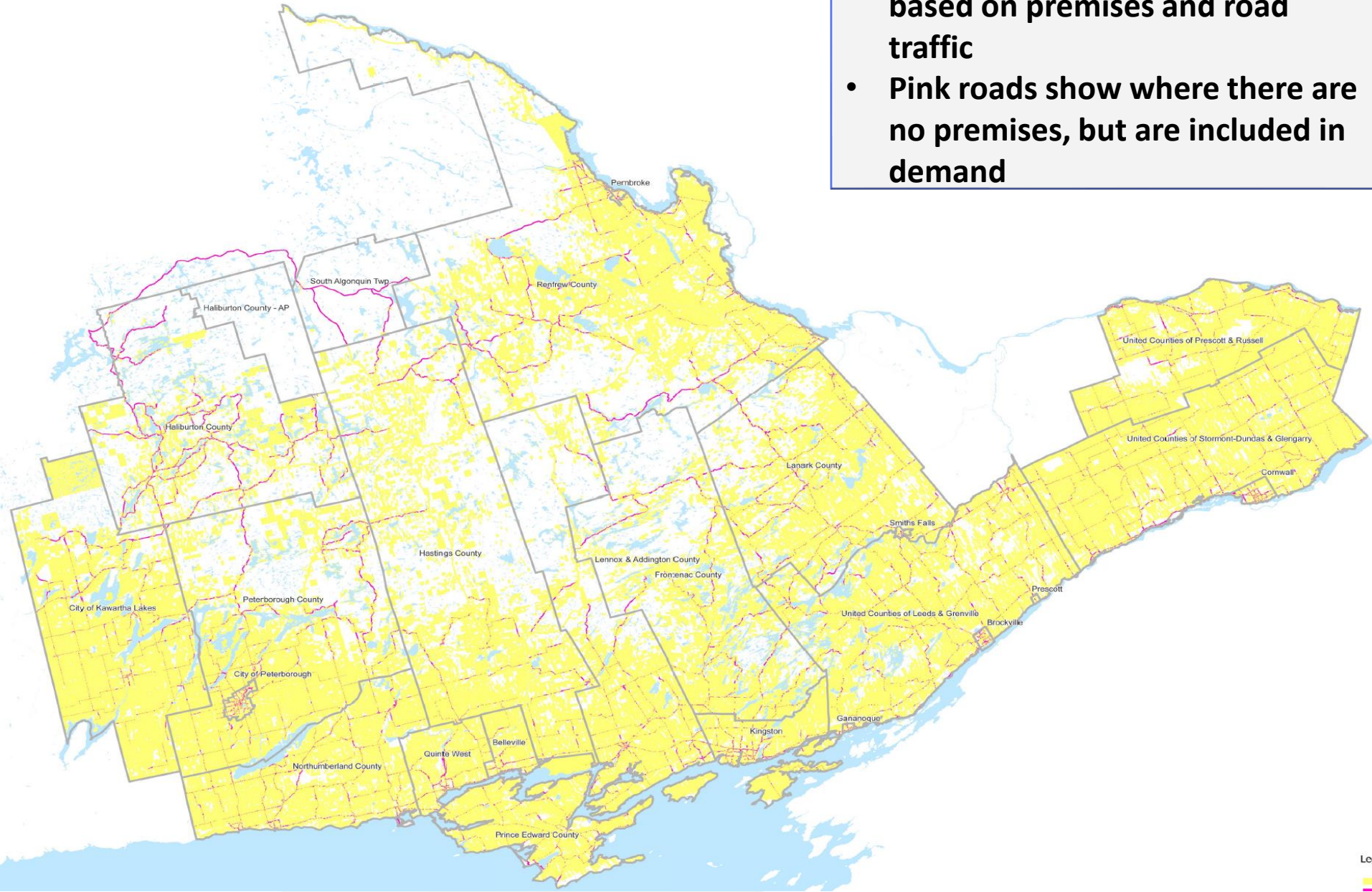
Service Levels can be impacted by adverse weather, high rates of local data usage and unusually high number of users in a local area.

Adding Sites



Demand - Premises

- Yellow areas represent demand based on premises and road traffic
- Pink roads show where there are no premises, but are included in demand

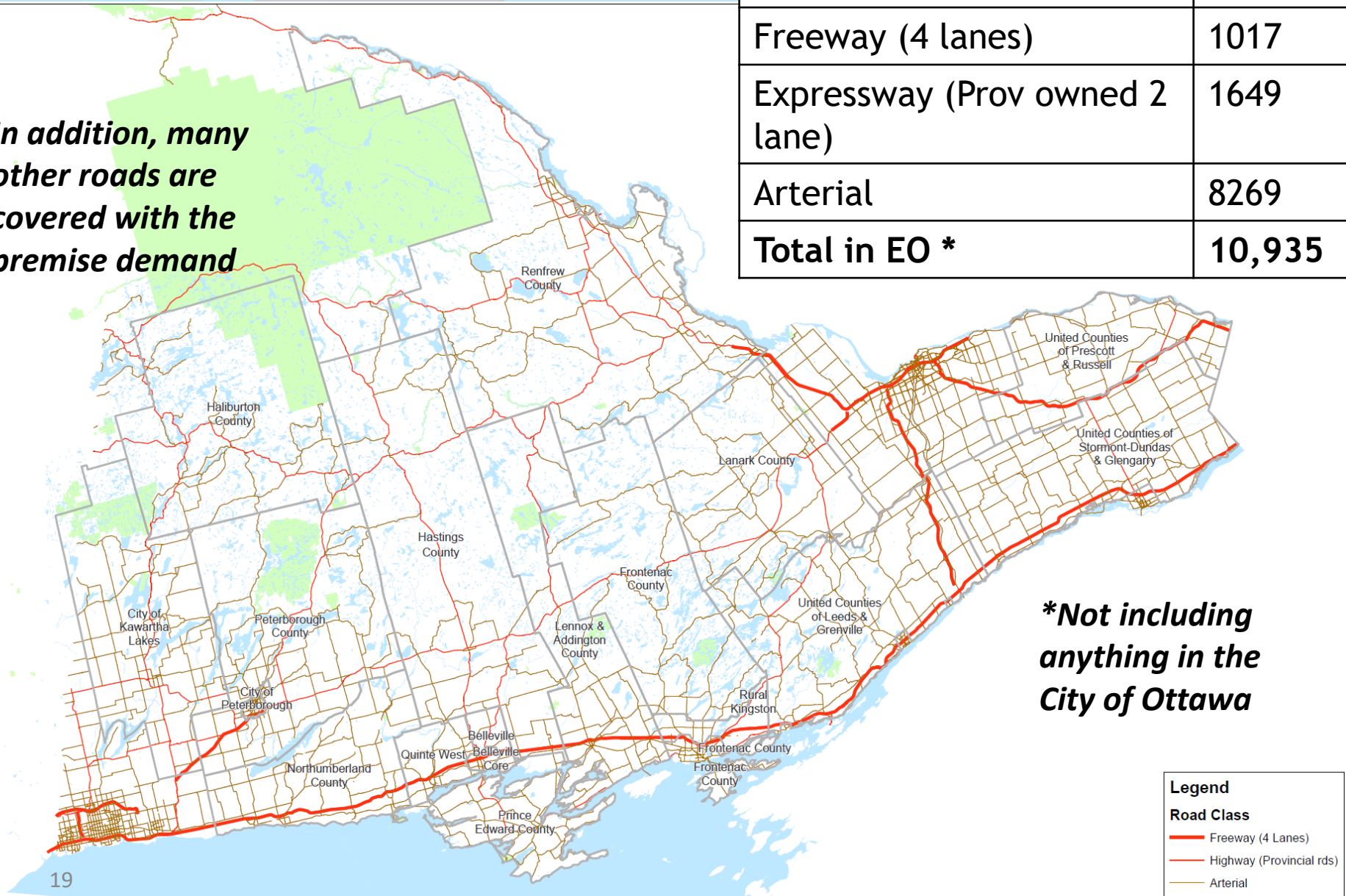


Demand - Major Roads

Road Category	Km
Freeway (4 lanes)	1017
Expressway (Prov owned 2 lane)	1649
Arterial	8269
Total in EO *	10,935

In addition, many other roads are covered with the premise demand

**Not including anything in the City of Ottawa*



Fixed Broadband CRTC 50/10 for the region

- Preliminary estimates suggest that it could cost between \$500 million - \$750 million with 70%+ subsidy for 50/10
- Preliminary estimates for 1Gb to the home for the region suggest that it could cost between \$1.2 Billion and \$1.6 Billion
- Key variable in range of cost estimates is access to hydro poles and pole replacement costs

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Questions and Comments?

- For further information, contact:
David Fell, CEO EORN
dfell@eorn.ca

Thank you!



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