# EORN Update
# County of Frontenac

**January 29, 2020**

EORN
EASTERN ONTARIO
REGIONAL NETWORK

# Agenda

- EORN and Phase 1 Overview
- EORN Cell Project – Phase 2
- EORN 50:10 Analysis

EORN
EASTERN ONTARIO
REGIONAL NETWORK

# Context

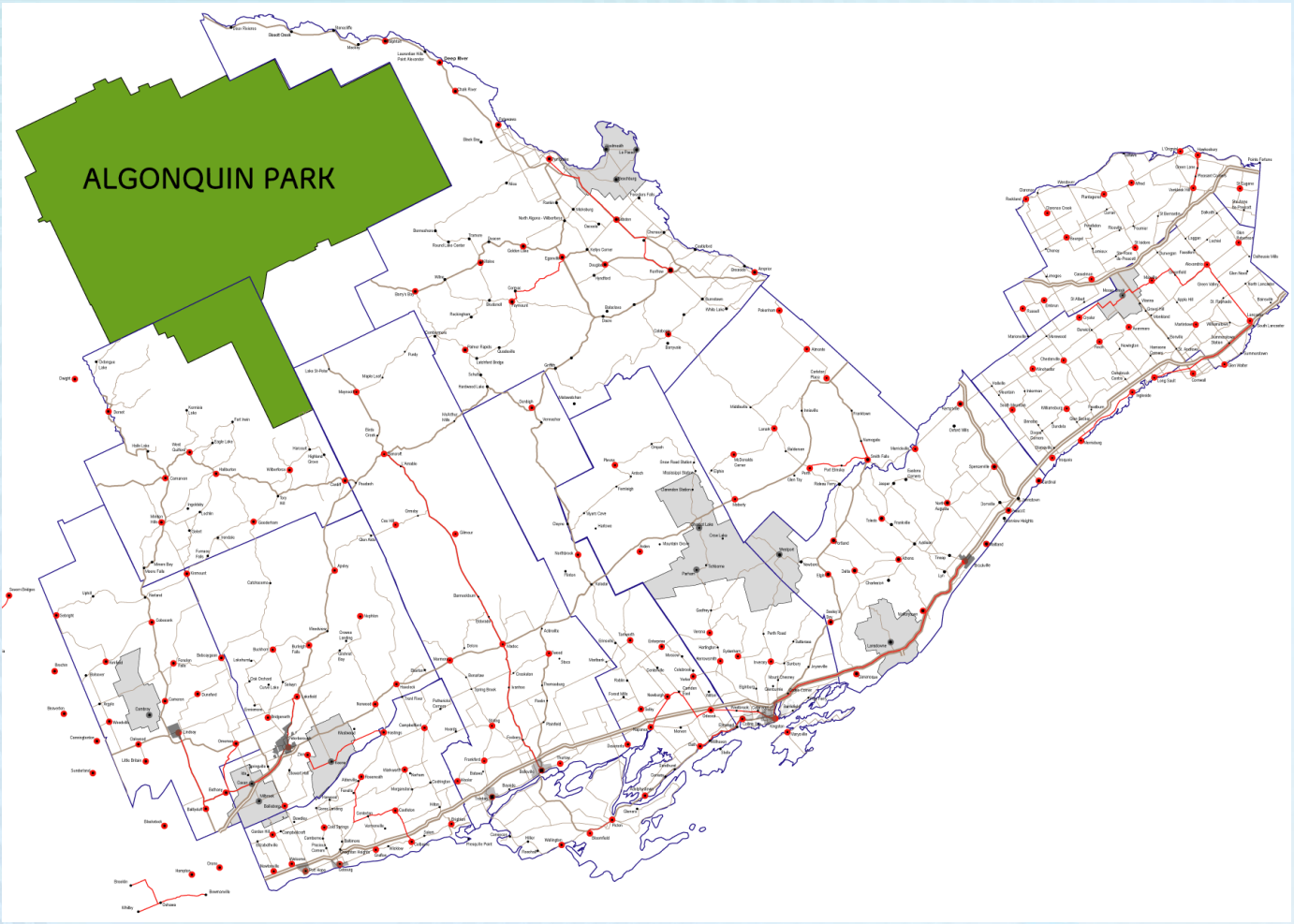
**Mobile Broadband**: EORN Cell project will work to address the voice call and mobile broadband gaps in EO.

*cell phones; tablets; cell calls; mobile apps; browsing; social media, etc.*

**Fixed Broadband**: Home or Business internet connections supporting 1 or more desktop/laptop computers or devices. *Business applications (inventory, payroll, accounting); school research & online learning; government services; provides home wi-fi for mobile devices; Netflix & streaming.*

EORN
EASTERN ONTARIO REGIONAL NETWORK

# EORN Project – Phase 1




- 50,000 sq km coverage area
- 5,500 km+ of new GigE fiber core
- 160 enhanced Optical Ethernet POPs scalable to 100 Gigs per POP
- Last mile FW, ADSL, Satellite
- 423,000 homes/business with access up to 10Mbps
- 63 fibered business parks
- $175 million build ($260 value)
- Connected 4 of 6 First Nations
- Spurring $100m+ new investments

EORN
EASTERN ONTARIO REGIONAL NETWORK

# Broadband Investments Post Build

- Bell has invested over $100M in FTTH in across Eastern Ontario
- Bell has launched or is launching fixed wireless (WTTP) at over 100 locations in EO in 2019/2020
- Xplornet has invested over $2.5M in the last two years in capacity upgrades at over 85 sites across Eastern Ontario
- Smaller ISP's have connected to the EORN backhaul and built FTTH in a number of locations
- EORN facilitated EOWC member total investment connecting fibre to over 70 municipal sites while saving over $175,000 in annual municipal costs

EORN
EASTERN ONTARIO REGIONAL NETWORK

# EORN Cell Project – Phase 2

EORN
EASTERN ONTARIO
REGIONAL NETWORK

# Partners Funding the Project

| | |
|---|---|
| EOWC/EOMC | $10M ✓* |
| Canada | $71M✓ |
| Ontario | $71M ✓ |
| Mobile Carriers | $61M(RFP) |
| Total | $213M |

EORN
EASTERN ONTARIO
REGIONAL NETWORK

# Benefits

**Creating jobs and private sector business growth:**

- Potential jobs: 3,000 full-time job equivalents over 10 years.
- Potential revenues: $420 million in private sector business revenues

**Supporting key priorities of the region's Economic Development Strategy:**

- Creating an integrated and intelligent transportation system.
- Supporting technological integration and innovation.
- Participating in 5G economy

**Smart Cities Infrastructure:**

- Better public services
- Improved social connectivity

## Cell Gap

**Currently in areas where there are homes, businesses or major roadways:**

- 35% of the area does not have access to HD services
- 20% of the area does not have access to SD services
- Up to 10% of the area has no access to cell coverage

EORN
EASTERN ONTARIO REGIONAL NETWORK

# EORN Cell Project Goals

- **Achieve 99% coverage of the Eastern Ontario Region with a Cell Call service level where people live, work and travel**

- **Achieve 95% coverage of the Eastern Ontario Region with SD (Standard Definition) service level where people live, work and travel**

- **Achieve 85% coverage of the Eastern Ontario Region with HD (High Definition) service level where people live work and travel**

- **Invest $34 million in increased capacity/5G network enhancements in high density, high network utilization areas.**

***With the definitions/assumptions as per the next slides***

EORN
EASTERN ONTARIO REGIONAL NETWORK

# Definitions/Assumptions

- **Regional Coverage**: The coverage percentage is based on the analysis for the entire region
- **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
- **Major Roads**: Includes all of the freeway, expressway, highway and arterial roads as defined by the Province of Ontario
- **Coverage targets**:
  - ***99% for Cell Call service level***
  - ***95% for SD service level***
  - ***85% for HD service level***

EORN
EASTERN ONTARIO REGIONAL NETWORK

# Definitions/Assumptions

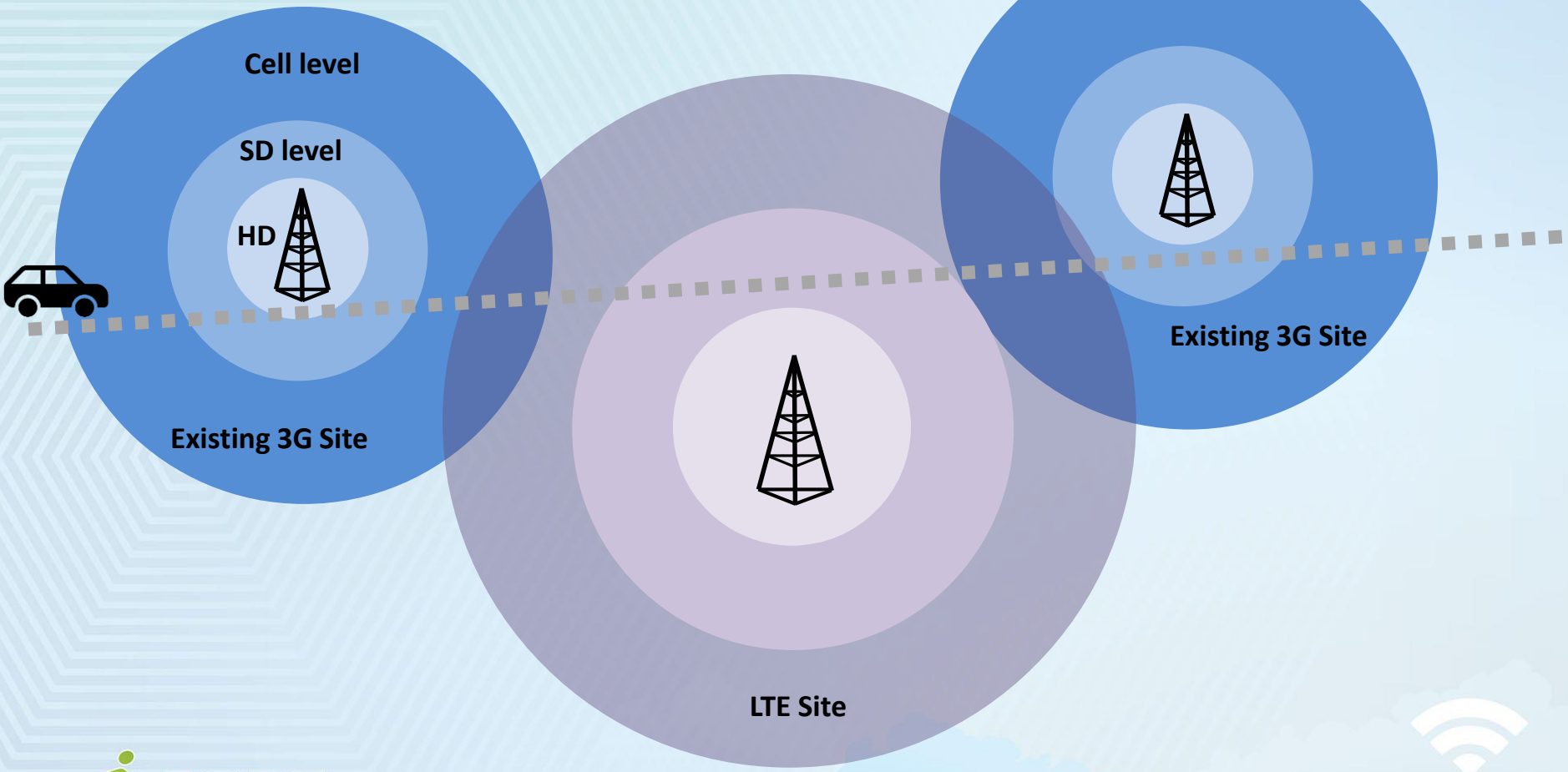
- **Demand-** where people live, work and travel: This is determined by current premise data from MPAC (May 2018) and traffic counts for selected major roads as provided by MTO .

- **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.

EORN
EASTERN ONTARIO
REGIONAL NETWORK

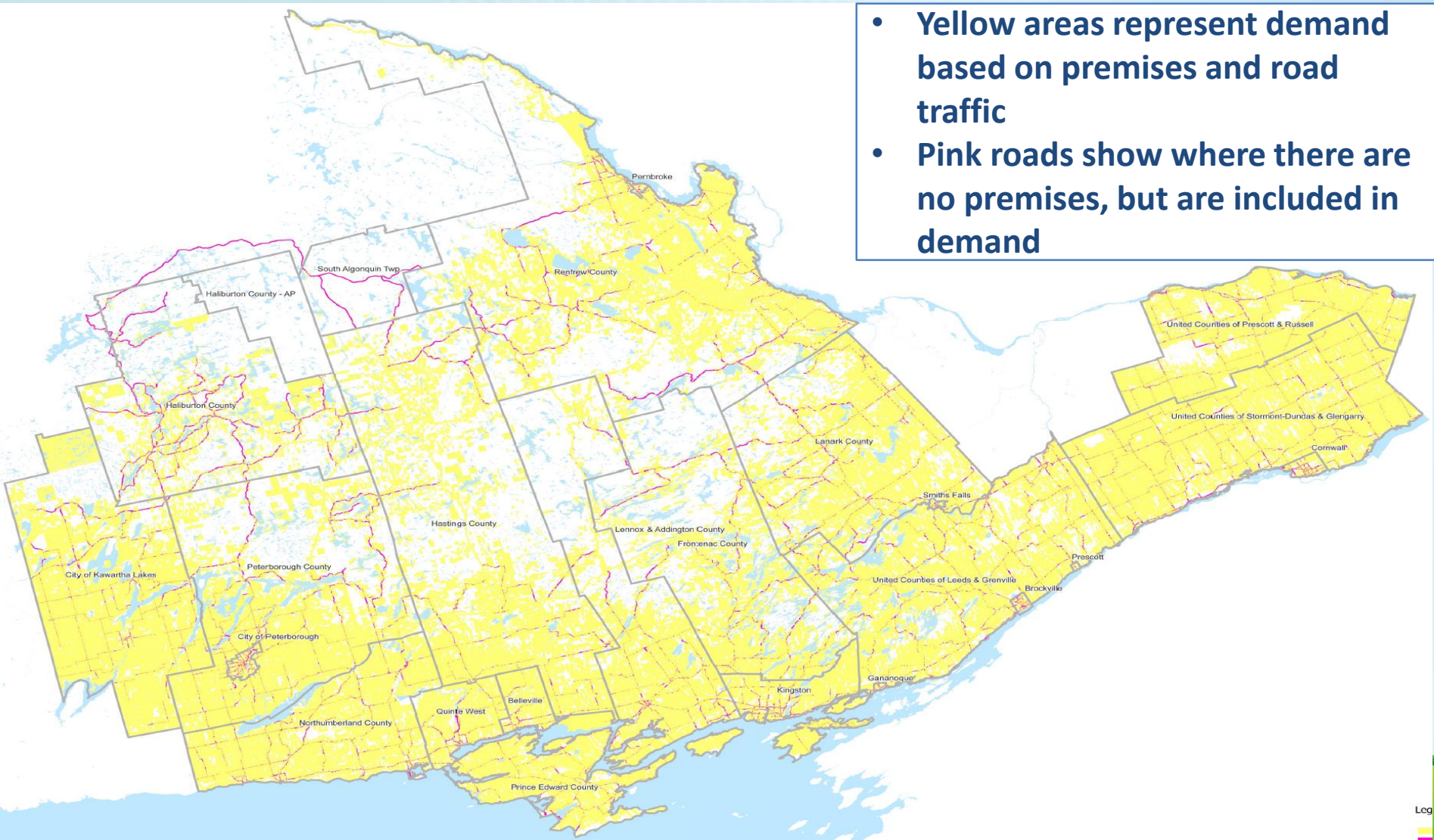
# Adding Sites




EORN
EASTERN ONTARIO REGIONAL NETWORK

# Demand - Premises

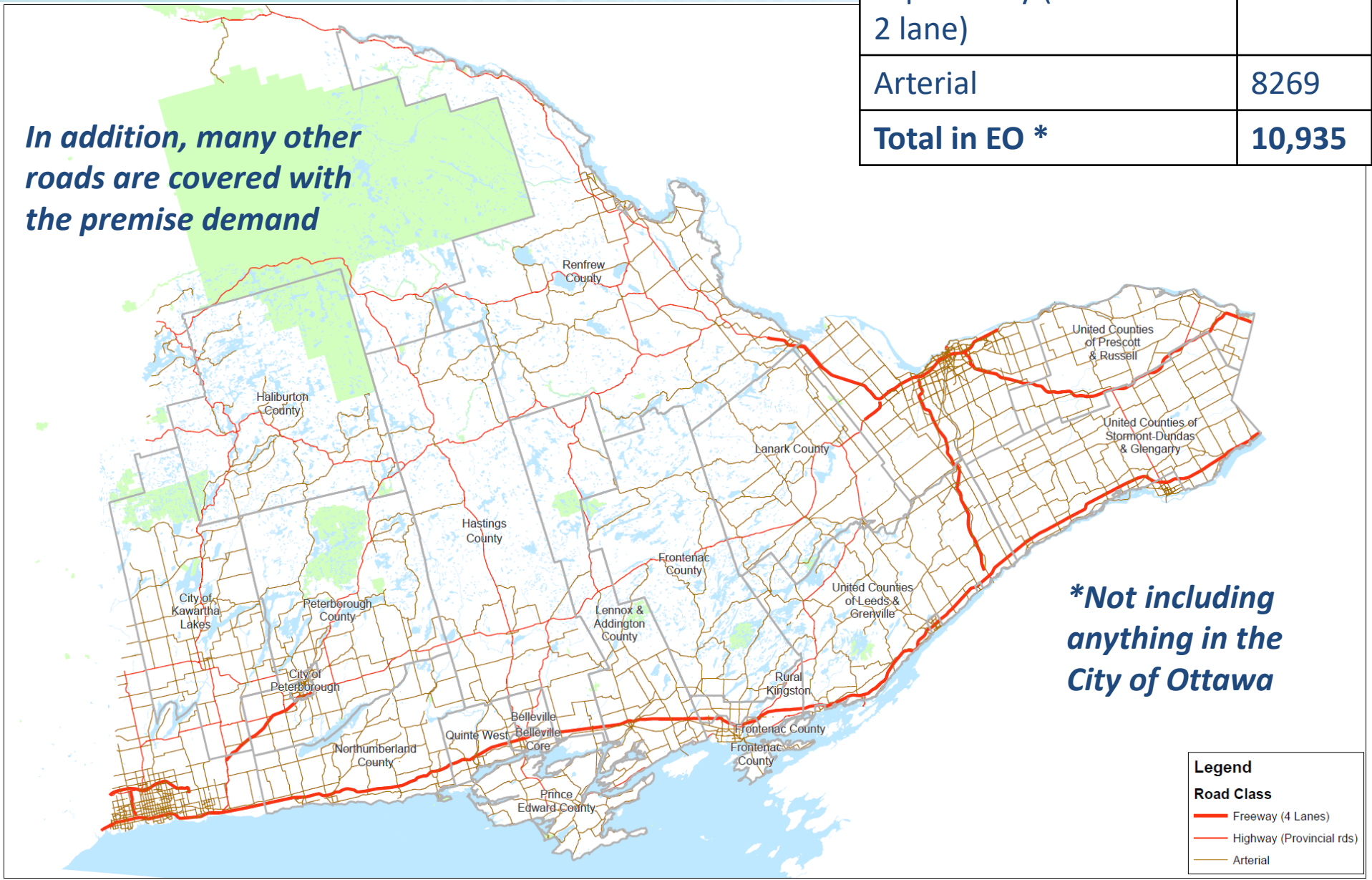
- Yellow areas represent demand based on premises and road traffic
- Pink roads show where there are no premises, but are included in demand



# 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**

# How Can Municipalities Help?

- Municipalities can provide municipal lands which TSP may consider for tower builds
- Local Land Use Authorities (LUA) will be asked to approve proposed tower sites in your municipality – have tower siting plans in place etc.
- Work with the TSPs to expedite permitting etc.

EORN
EASTERN ONTARIO REGIONAL NETWORK

# Timelines EORN Cell Project

- Negotiate Contribution Agreement with Province early 2020
- Issue RFP(s) Q1 2020
- Hire staff early 2020
- Negotiate contracts with private sector mid 2020
- Start construction 2021
- Build out of project over four to five years – 2025 completion
- Ongoing contract monitoring 10 years

EORN
EASTERN ONTARIO REGIONAL NETWORK

# EORN 50:10 Analysis

EORN
EASTERN ONTARIO
REGIONAL NETWORK

# The CRTC National Standard

- **Fixed Broadband 50/10**: “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”;

- **Mobile Broadband**: “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.”

**For 90% of Population by 2021**

EORN
EASTERN ONTARIO REGIONAL NETWORK

Telecom Regulatory Policy CRTC 2016-496

# Broadband Reality

**CRTC 2018** says that:

- 27% of rural and remote households have access to 50/10 Canada wide

  *based on coverage only

**EORN 2019** analysis shows:

- 63% have access to 50/10 across the region
- Only 46% if separated cities not included

  *based on coverage and capacity

***Long way to go in EO to meet the CRTC Objective of 90%***

EORN
EASTERN ONTARIO REGIONAL NETWORK

# EORN's Broadband Analysis

**Part 1** – what would it cost to bring 50/10 service to 95% of the premises across the region using a mixture of 75% wireline and the rest fixed wireless

**Part 2** – What would it cost to bring 1Gb service to 95% of the premises across the region

***This was an engineering model, not detailed designs from ISPs…..***

EORN
EASTERN ONTARIO REGIONAL NETWORK

# Potential Costs to get CRTC 50:10 for Eastern Ontario

- Preliminary estimates suggest that it could cost between $500 million - $750 million with 70%+ subsidy to get access to 50/10 for 95% of the region

- Preliminary estimates for 1Gb to the home for 95% of 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 utility poles and pole replacement costs

EORN
EASTERN ONTARIO REGIONAL NETWORK

# 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

- **Canada Revenue Agency**: Accelerated Investment Incentive

EORN
EASTERN ONTARIO REGIONAL NETWORK

# NEW Provincial Programs

**Ontario:**

- Strategy Released - $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

EORN
EASTERN ONTARIO REGIONAL NETWORK

# QUESTIONS

EORN
EASTERN ONTARIO
REGIONAL NETWORK