

# Speed & Road Safety Concerns

## Oxford Road 18 and Oxford Road 59, Norwich and Oxford Road 19, Otterville

**Presentation to Norwich Council**  
**February 23, 2021**

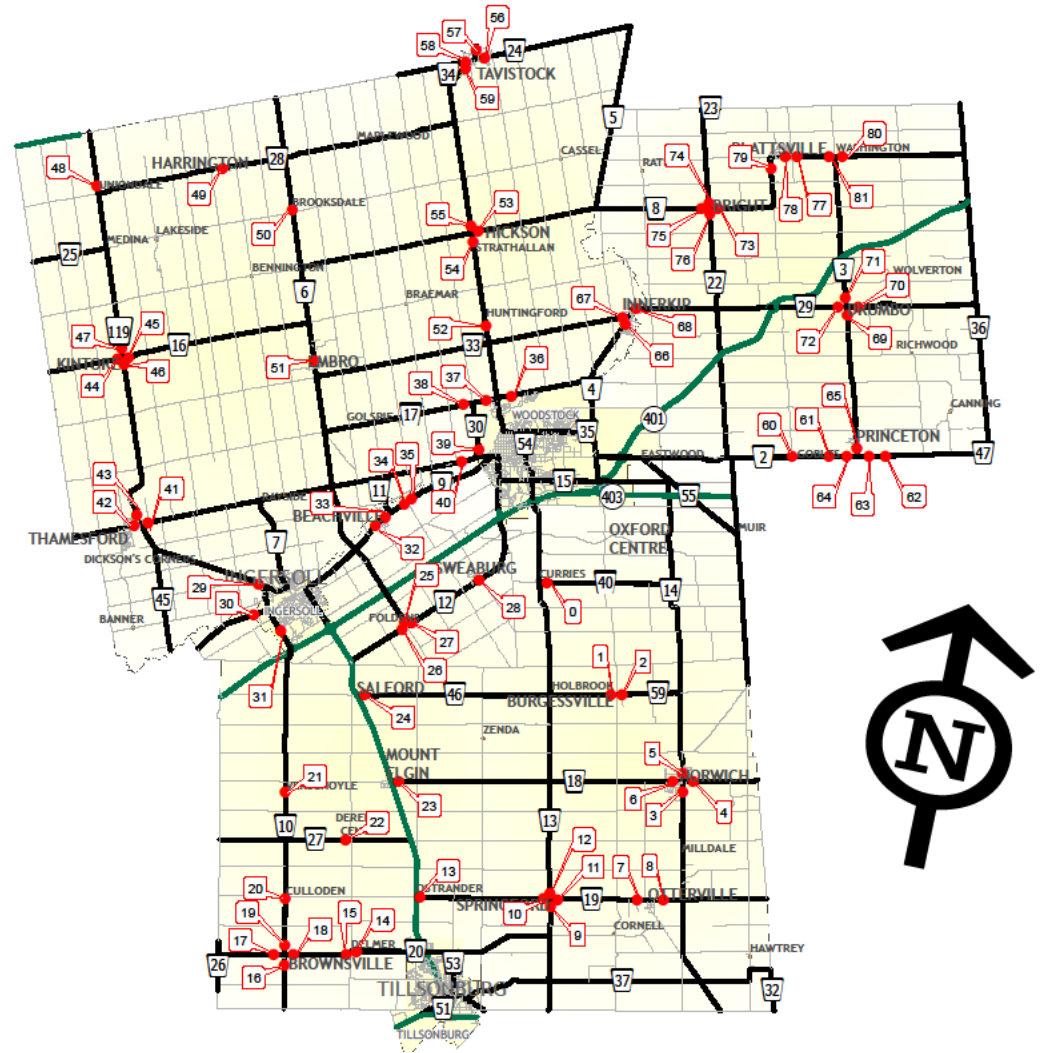
Frank Gross, Oxford County  
Manager of Transportation and Waste Management Services

# County-wide Traffic Calming Approach

- **Regular/ongoing speed monitoring in communities and settlement areas**
- **Information sharing and collaboration with Police, municipal partners and community**
- **Adoption of posted speeds which are consistent with driving environment**
- **Need and prioritization of traffic calming measures**
- **Consideration of traffic calming measures as part of road design for planned road rehabilitation and land development**
- **Speed monitoring to evaluate effectiveness of traffic calming measures**

# Traffic Data Benchmarking

- 24 hr speed counts at over 80 locations in 2019
- reduced speed zones through rural communities, hamlets and built up areas



# OR 18 & OR 59 Speed and Road Safety Review Work Plan

- Review speed data on OR 18 (Main St) and OR 59 (Stover St), Norwich
- Review existing driving environment
- Review historical collision records
- Determine appropriate posted speed limit
- Data evaluation and recommendations
- Share results and proposed recommendations with Municipal Representatives and Police
- Evaluate speed management and traffic calming measures, if needed, for implementation

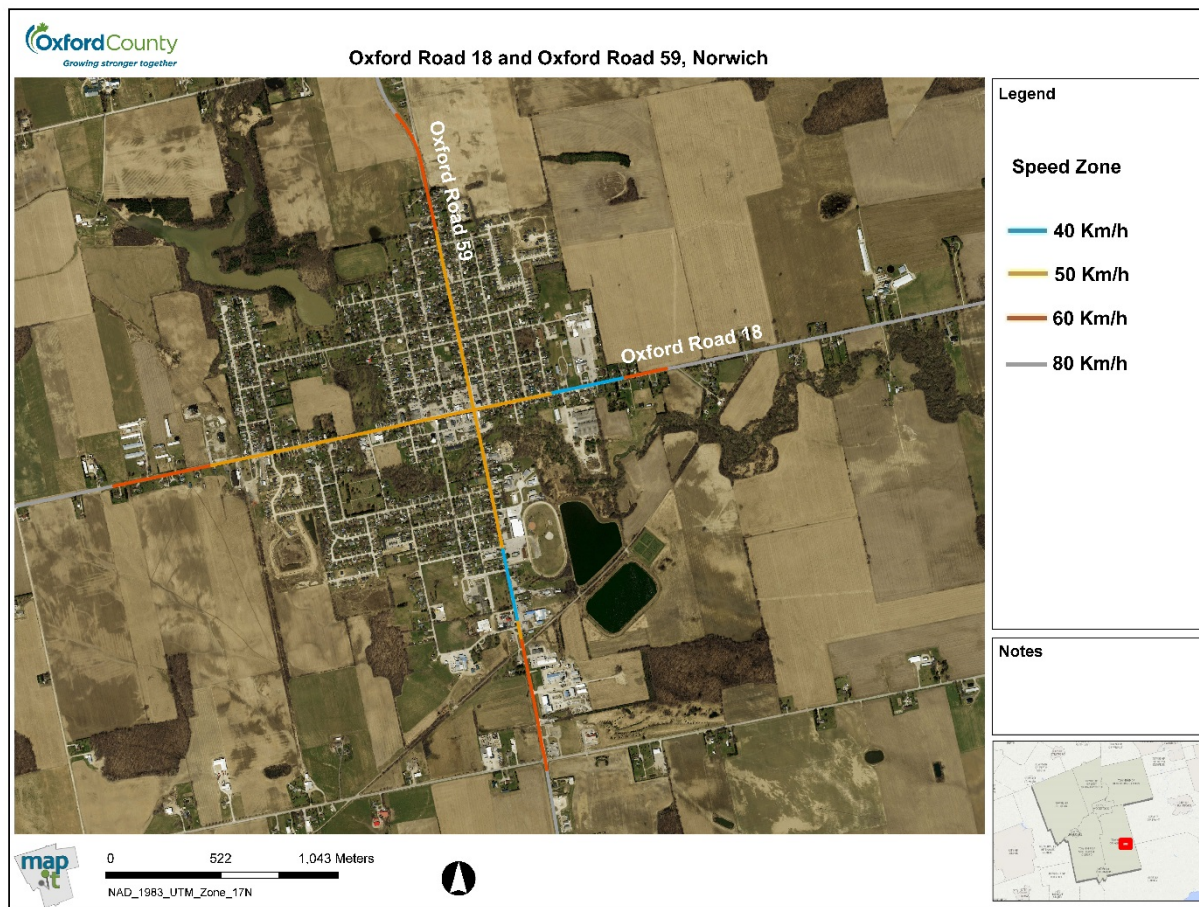
# OR 18 Existing Conditions

- **Urban x-sec with paved shoulders, curb, sidewalk**
- **Rural x-sec with gravel shoulders beyond built-up limits**
- **Signalized intersection with OR 59**
- **Limits of urban x-sec generally aligns with built-up area**
- **40 km/hr school zone at Rehoboth Christian School**

# OR 59 Existing Conditions

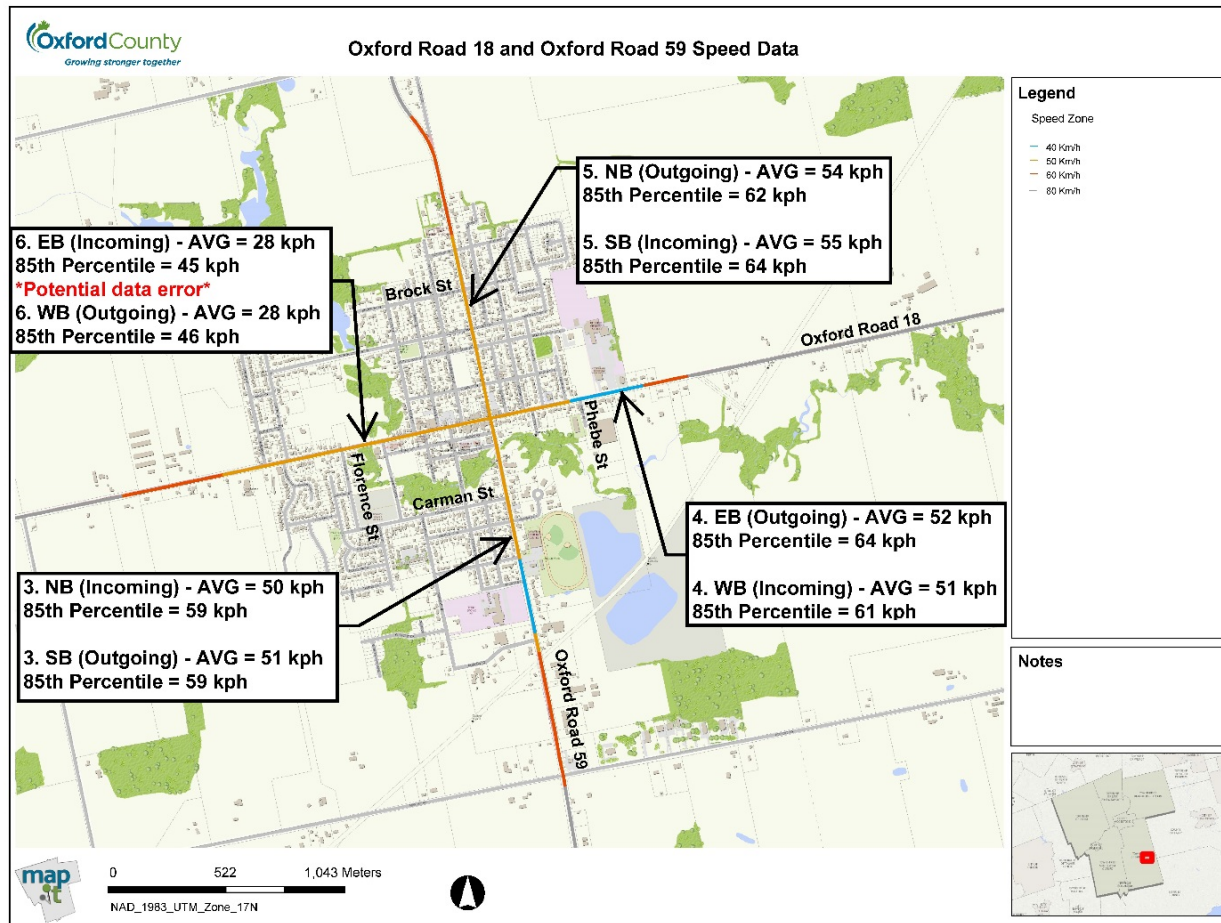
- **Urban x-sec with curb, sidewalk**
- **Rural x-sec with gravel shoulders beyond built-up limits**
- **On-street bike lanes (Jerdon Street to Airport Road)**
- **Signalized intersection at OR 18**
- **Limits of urban x-sec generally aligns with built-up area**
- **40 km/hr school zone at Emily Stowe Public School**

# OR 18 & OR 59 Speed Zones





# Speed Data – OR 18 & OR 59





# Collision History OR 18 Study Limits

Year	2013	2014	2015	2016	2017	2018	2019
Property Damage Only	0	3	7	6	1	2	3
Non-Fatal Injury	0	0	0	3	0	2	0
Fatal Injury	0	0	0	0	0	0	0
Total	0	3	7	9	1	4	3
Total Collisions 2013 – 2019: 27 *Includes OR 59 intersection collisions							

- Historical collision data from 2013 to 2019:
  - ▶ 27 total collisions
  - ▶ 5 collisions resulted in non-fatal injuries
  - ▶ 22 collisions resulted in property damage
  - ▶ Avg 3.9 collisions/year
  - ▶ Collision rate = 0.80 collisions/1mil vehicle kms
    - MTO 2010 Avg = 1.7 collisions/1mil vehicle kms
  - ▶ Annual collisions (right angle impacts, turning movements) are below Ontario Traffic Manual warrant for an All Way Stop (Avg. 4 collisions/year over 3 years) at any road intersecting OR 18

# Collision History OR 59 Study Limits

Year	2013	2014	2015	2016	2017	2018	2019
Property Damage Only	0	3	8	14	6	9	5
Non-Fatal Injury	0	0	1	1	0	1	1
Fatal Injury	0	0	0	0	0	0	0
Total	0	3	9	15	6	10	6
Total Collisions 2013 - 2019: 49							

- Historical collision data from 2013 to 2019:
  - ▶ 49 total collisions
  - ▶ 45 collisions resulted in property damage
  - ▶ Avg 7.0 collisions/year
  - ▶ Collision rate = 0.77 collisions/1mil vehicle kms
    - MTO 2010 Avg = 1.7 collisions/1mil vehicle kms
  - ▶ Annual collisions (right angle impacts, turning movements) are below Ontario Traffic Manual warrant for an All Way Stop (Avg. 4 collisions/year over 3 years) at any road intersecting OR 18

# Posted Speed Limits – OR 18

<b>SEGMENT (east to west)</b>	<b>POSTED SPEED (KM/HR)</b>	<b>TAC RECOMMENDED POSTED SPEED* (KM/HR)</b>	<b>DIFFERENCE (KM/HR)</b>	<b>OXFORD COUNTY RECOMMENDED POSTED SPEED (KM/HR)</b>
<b>Hammer Line to 650m east of OR 59 – Rural</b>	<b>60/80</b>	<b>80</b>	<b>+20/0</b>	<b>80</b>
<b>650m east of OR 59 to OR 59 – Urban</b>	<b>50**</b>	<b>60</b>	<b>+10</b>	<b>50</b>
<b>OR 59 to 1.2km west of OR 59 – Urban</b>	<b>50</b>	<b>60</b>	<b>+10</b>	<b>50</b>
<b>1.2 km west of OR 59 to Pick Line – Rural</b>	<b>60/80</b>	<b>80</b>	<b>+20/0</b>	<b>80</b>

\* TAC Canadian Guideline for Establishing Posted Speed Limits (2009)

\*\* Portions are covered by a flashing 40 km/hr speed limit that is active during school arrival & dismissal periods.

# Posted Speed Limits – OR 59

<b>SEGMENT (north to south)</b>	<b>POSTED SPEED (KM/HR)</b>	<b>TAC RECOMMENDED POSTED SPEED* (KM/HR)</b>	<b>DIFFERENCE (KM/HR)</b>	<b>OXFORD COUNTY RECOMMENDED POSTED SPEED (KM/HR)</b>
<b>Quaker St to 1.1 km north of OR 18 – Rural</b>	<b>60/80</b>	<b>80</b>	<b>+20/0</b>	<b>80</b>
<b>1.1 km north of OR 18 to OR 18 – Urban</b>	<b>50/60</b>	<b>60</b>	<b>+10/0</b>	<b>50</b>
<b>OR 18 to Robson St – Urban</b>	<b>50*</b>	<b>60</b>	<b>+10</b>	<b>50</b>
<b>Robson St to Airport Rd - Urban</b>	<b>60</b>	<b>70</b>	<b>+10</b>	<b>60</b>
<b>Airport Rd to Maple Dell Rd - Rural</b>	<b>80</b>	<b>80</b>	<b>0</b>	<b>80</b>

\* TAC Canadian Guideline for Establishing Posted Speed Limits (2009)

\*\* Portions are covered by a flashing 40 km/hr speed limit that is active during school arrival & dismissal periods.

# Appropriate Posted Speeds

- **Reduces speed variation/differential**
- **Promotes uniform traffic flow**
- **Reduces risk of collisions**
- **Improves enforcement effectiveness**
- **Enhances road safety**

# Speed Variation/Differential

- **Collision rate is more directly affected by speed variation then absolute speed**
- **Risk of collision is lower with uniform traffic flow**
- **Posted speeds lower then design/operating speeds result in:**
  - ▶ Tailgating
  - ▶ Impatient Drivers
  - ▶ Passing
  - ▶ Greater collision risk

# Establishing Posted Speeds (TAC)

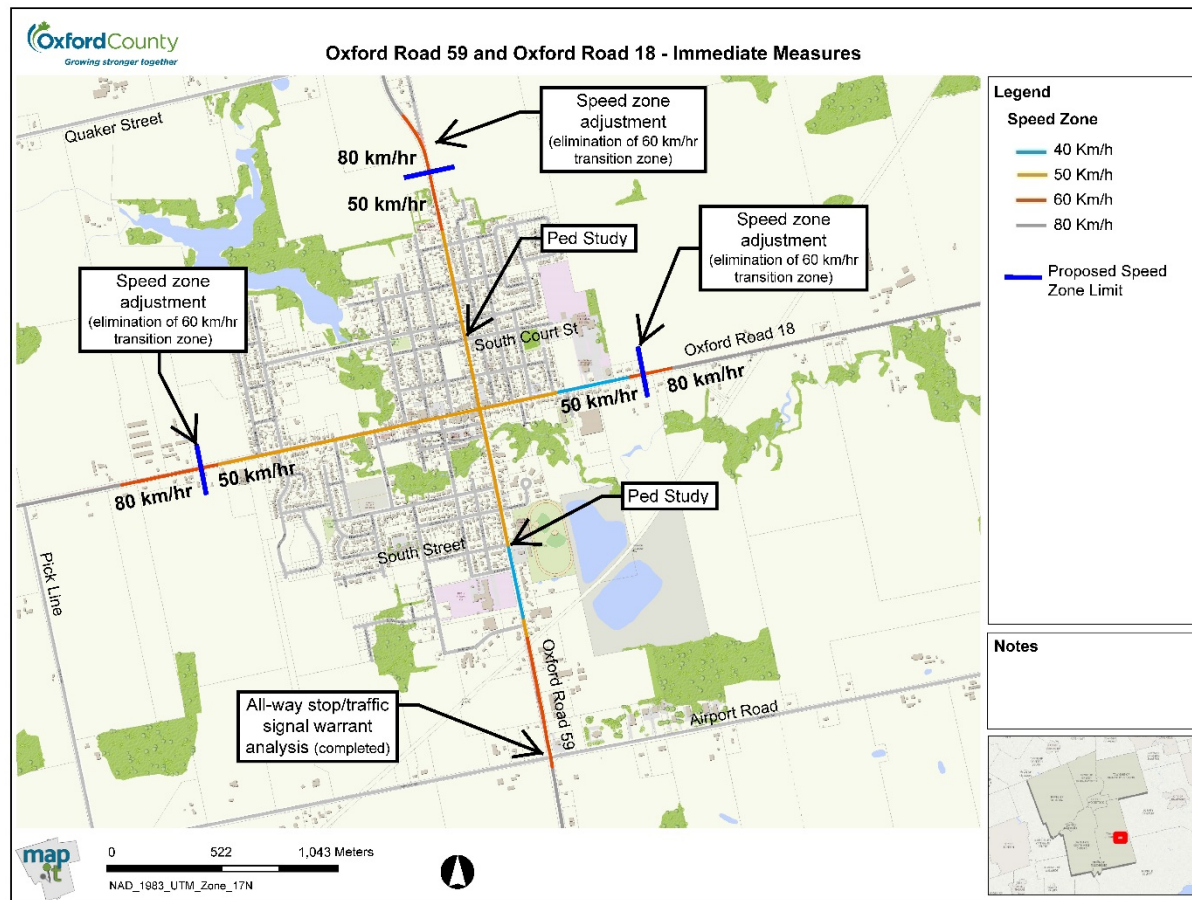
- **TAC Canadian Guideline – 2007**
- **Risk based analysis**
- **Physical and Road-User characteristics**
- **Systematic, consistent approach**
- **Site specific characteristics, engineering judgement**
- **Excludes school zones/playground areas**
- **Local, Provincial policies**



# Speed and Road Safety Review Findings

- Operating speeds generally not excessive on OR 18 and OR 59 in 50 km/hr zone
- 60km/hr transition zones (east, west, north) do not align with built driving environment
- Historical collision data did not show apparent speed related trends
- Annual collisions do not meet warrants for All-way Stop at any roads intersecting OR 18 and OR 59
- Traffic volumes meet warrants for future signalization at OR 59 and Airport Road

# Recommendations – Immediate OR 18 and OR 59



# Future Considerations OR 18 & OR 59

- **Ongoing Police enforcement and speed data sharing**
- **Automated speed enforcement/CSZ designation**
- **Road urbanization (OR 18 East)**
- **Curb extensions (bump outs), separated bike lanes**
- **Community Watch Program (Township)**
- **Physical features at village limits**
  - ▶ Community sign
  - ▶ Landscaping, trees, shrubbery
- **Signalization/Roundabout at OR 59/Airport Rd**  
2022 design

# Next Steps

- **Report to County Council March 24, 2021**
- **Implementation of immediate measures**
  - Speed zone adjustments
  - Pedestrian studies
- **Post Monitoring**

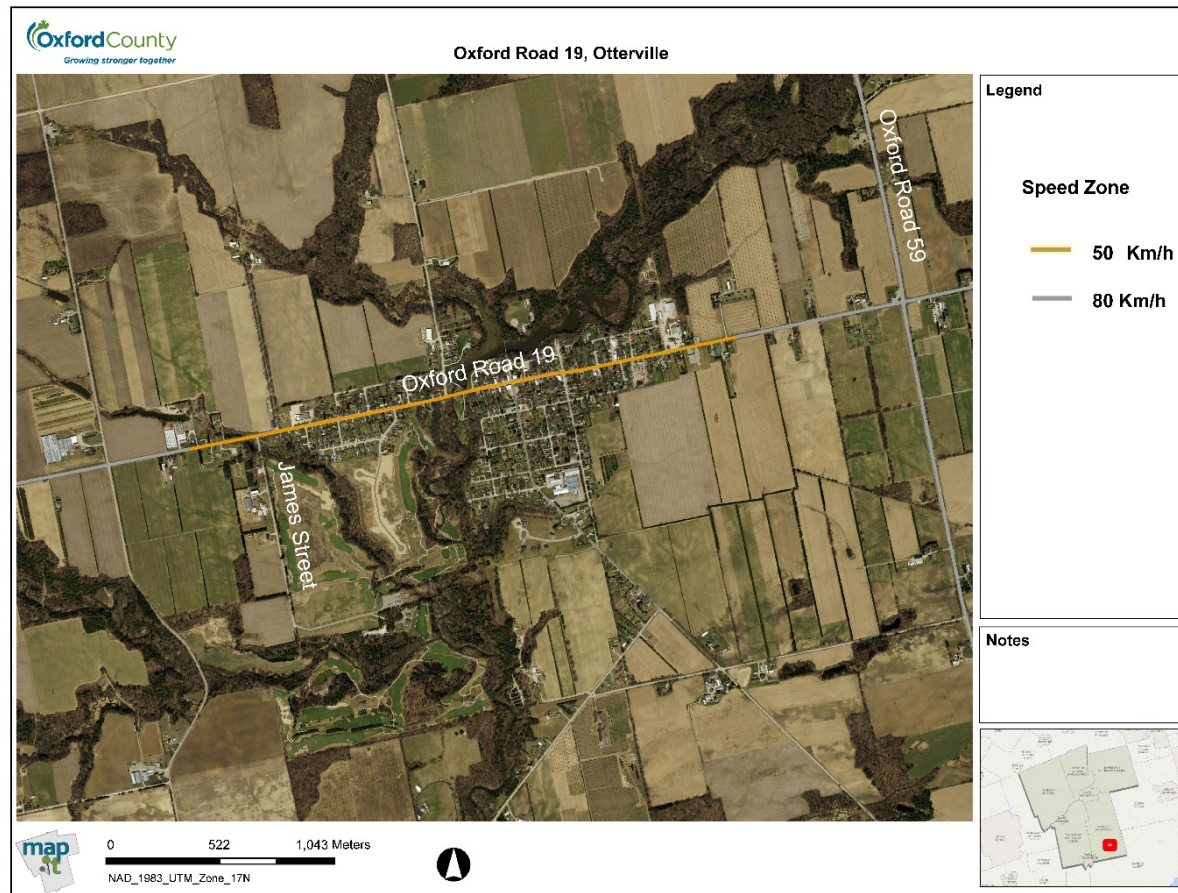
# OR 19 (Otterville) - Speed and Road Safety Review Work Plan

- Review speed data and traffic (% trucks) on OR 19 (Main St)
- Review existing driving environment
- Review historical collision records
- Determine appropriate posted speed limit
- All-way Stop/PXO warrant analysis at Dover St
- Data evaluation and recommendations
- Share results and proposed recommendations with Municipal Representatives and Police
- Evaluate speed management and traffic calming measures, if needed, for implementation

# OR 19 Existing Conditions

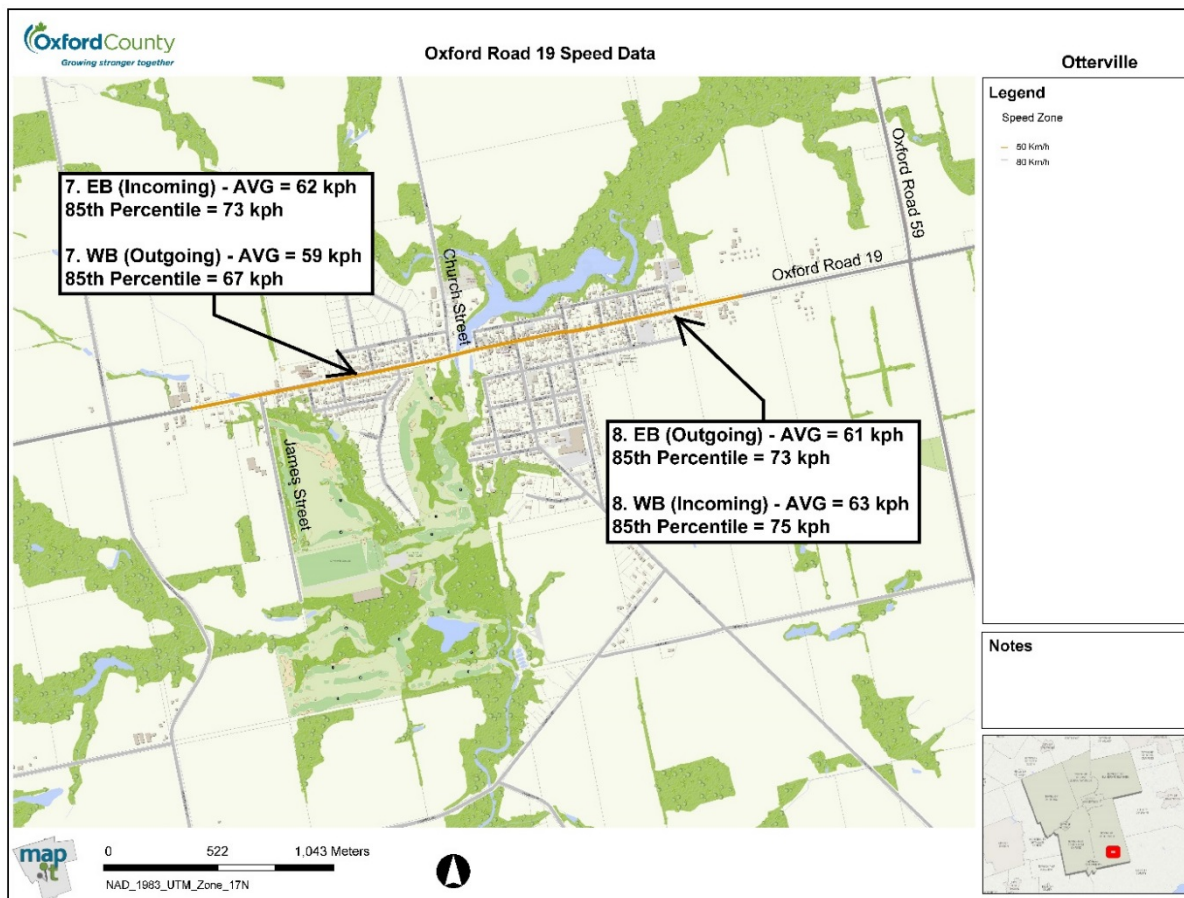
- **Urban X-sec within Otterville, curb, sidewalk, paved shoulder**
- **Rural x-sec with gravel shoulders beyond built-up limits**
- **Urban x-sec generally aligns with limit of built-up area**

# OR 19 Speed Zones





# OR 19 Speed Data



# OR 19 Traffic Data

Year	ADT <sup>1</sup>	Trucks Volume <sup>2</sup>
2012	2470	200
2014/15	3470	280
2016/17	2627	210
2018/19	3657	290
<p>1. Average Daily Traffic 2. Truck volume estimated based on 8% trucks from Nov 2019 speed data</p>		

# Collision History OR 19 Study Limits

Year	2013	2014	2015	2016	2017	2018	2019
Property Damage Only	0	0	1	0	0	1	0
Non-Fatal Injury	0	0	0	0	1	0	0
Fatal Injury	0	0	0	0	0	0	0
Total	0	0	1	0	1	1	0
Total Collisions 2013 - 2019: 3							
*Pedestrian fatality at Dover Street intersection in 2014*							

Historical collision data from 2013 to 2019:

- 3 total collisions
- 1 collisions resulted in non-fatal injuries
- 2 collisions resulted in property damage
- Avg 0.43 collisions/year
- Collision rate = 0.17 collisions/1mil vehicle kms  
MTO 2010 Avg = 1.7 collisions/1mil vehicle kms
- Annual collisions (right angle impacts, turning movements) are below Ontario Traffic Manual warrant for an All Way Stop (Avg. 4 collisions/year over 3 years) at any road intersecting OR 19

# Posted Speed Limits – OR 19

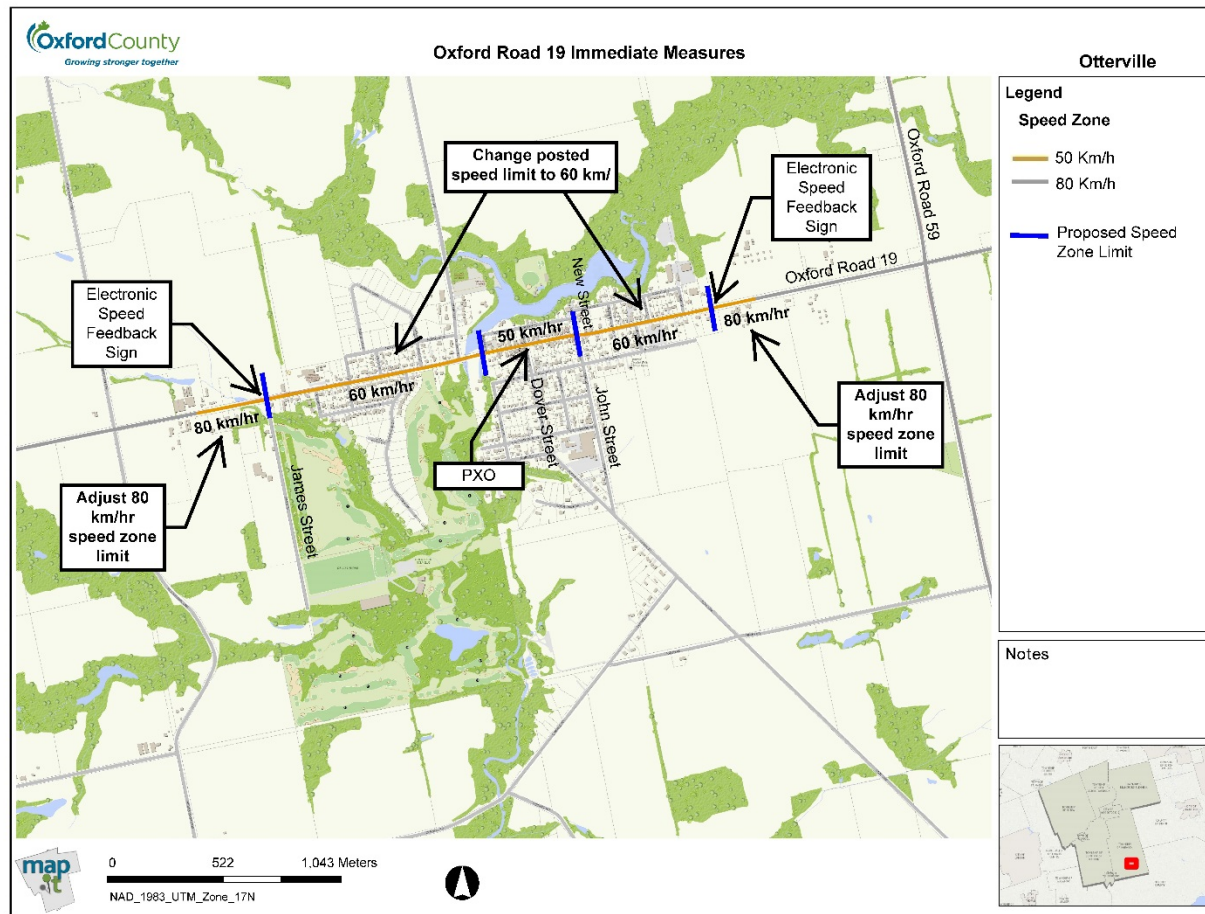
SEGMENT (west to east)	POSTED SPEED (KM/HR)	TAC RECOMMEND ED POSTED SPEED* (KM/HR)	DIFFERENCE (KM/HR)	OXFORD COUNTY RECOMMENDE D POSTED SPEED (KM/HR)
Middletown Line to James Street – Rural	50/80	80	+30/0	80
James Street to Fire Station #1 – Urban	50	70	+20	50/60
Fire Station #1 to OR 59 - Rural	50/80	80	+30/0	80

\* TAC Canadian Guideline for Establishing Posted Speed Limits (2009)

# Speed and Road Safety Review Findings

- **Operating speeds generally excessive at approaches**
- **Limits of 50km/hr zone does not align with built driving environment**
- **Posted speed limits are below the recommended TAC guidelines**
- **Historical collision data did not show apparent speed related trends**
- **PXO warranted at Dover St.**
- **Annual collisions do not meet warrants for All-way Stop at any roads intersecting OR 18 and OR 59**

# Recommendations – Immediate OR 19



# Future Considerations

## OR 19

- **Ongoing Police enforcement and speed data sharing**
- **Automated speed enforcement/CSZ designation**
- **Curb extensions (bump outs), separated bike lanes**
- **Community Watch Program (Township)**
- **Physical features at village limits**
  - Community sign
  - Landscaping, trees, shrubbery



# Next Steps

- **Report to County Council March 24, 2021**
- **Implementation of immediate measures**
  - ▶ Adjustments to limits of speed zones
  - ▶ Electronic speed feedback signs
  - ▶ PXO installation at Dover St
- **Post Monitoring**

# Speed & Road Safety Concerns

**THANK YOU**