

**APPENDIX R**

**Meeting Minutes**



# MEETING MINUTES

**Date of meeting:** December 9, 2020      **Project:** Highway 401 Colborne to Brighton  
**Location:** Microsoft Teams (virtual)      **Project No.:** 4016-E-0034-11  
**Author:** WSP

**Purpose:** Municipal Advisory Council Meeting #1 (MAC 1)

<b>Attendees:</b>	<b>E-Mail</b>
Muhammad Waseem, MTO (PM)	Muhammad.Waseem@ontario.ca
Cheryl Tolles, MTO Corridor	Cheryl.Tolles@ontario.ca
Aaron Teper, MTO Corridor	Aaron.Teper@ontario.ca
Erin Pipe, MTO Environmental	Erin.Pipe@ontario.ca
Lloyd Pacheco, MTO Corridor	Lloyd.Pacheco@ontario.ca
Brooke Gillispie, Traffic and ROW Management Supervisor, Northumberland County	gillispieb@northumberlandcountry.ca
Dwayne Campbell, Land Use Planning and Inspection Services Manager, Northumberland County	campbelld@northumberlandcountry.ca
Mark Collins, Northumberland OPP	mark.collins@opp.ca
Keith Barrett, Northumberland Paramedics Shift Superintendent	barrettk@northumberlandcountry.ca
Jeff Ogden, Deputy Fire Chief, Brighton	jogden@brighton.ca
Jim Smith, Fire Chief, Brighton	jsmith@brighton.ca
Rhianna Basinger, Project and Development Coordinator, Quinte West	rhianna.basinger@quintewest.ca
Leah Stephens, Environmental Planner, Lower Trent Conservation Authority	leah.stephens@ltc.on.ca
Brent Gotts, WSP Planning	Brent.Gotts@wsp.com
Christine Vazz, WSP Environmental	Christine.Vazz@wsp.com
Dahlia Malek, WSP Planning	Dahlia.Malek@wsp.com
Kate Barclay, WSP Planning	Katherine.Barclay@wsp.com
Rhonda George-Hiebert, WSP Planning	Rhonda.George-Hiebert@wsp.com
Sandy Nairn, WSP Environmental	Sandy.Nairn@wsp.com
<b>CC: Project Team</b>	

<b>Item</b>	<b>Details</b>	<b>Action By</b>
<b>1.</b>	<b>Introductions and Overview</b>	
1.1.	WSP presented the meeting format and agenda and completed introductions.	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
1.2.	<p>MAC participants are encouraged to reach out to the project team during the study for questions or feedback. In particular, the project team is interested to know of:</p> <ul style="list-style-type: none"> <li>• future road widening or active transportation plans;</li> <li>• potentially impacted features (natural environment, property, utilities, etc.);</li> <li>• planning studies anticipated or underway;</li> <li>• existing policies and design guidelines;</li> <li>• maintenance and operations;</li> <li>• other constraints or opportunities in the study area;</li> <li>• other relevant information in the study area.</li> </ul>	
<b>2.</b>	<b>Study Background</b>	
2.1.	<p>WSP provided an overview of the study area, which extends from 0.8 km east of Percy Street to the Municipality of Brighton/City of Quinte West border (0.4 km west of Christiani Road), excluding the County Road (CR) 30 Interchange study area which falls under a previous EA study. There is an adjacent study from Cobourg to Colbourne that ties into the west study limits of the study area.</p>	
2.2.	<p>The scope of the study was presented. The main purpose of the study is the replacement of aging bridges and culverts which requires establishing the future Highway 401 footprint for an interim six lanes and ultimate eight lanes. Commuter parking lot improvements at CR 30 are also within the study scope. There are three bridges (Herley Road Underpass, Lake Road Underpass, County Road 26 Underpass) and four structural culverts within the study area that will likely require replacement.</p>	
2.3.	<p>WSP provided an overview of the Environmental Assessment study process. This study is a 'Group B' project. The study will include 2 Public Information Centres (PICs) and submission of a Transportation Environmental Study Report (TESR) which will be filed for public review.</p>	
2.4.	<p>WSP provided an overview of the project milestones, MACs and PICs, and TESR.</p>	
<b>3.</b>	<b>Problems and Opportunities</b>	
3.1.	<p>WSP provided an overview of the key problems and opportunities:</p> <ul style="list-style-type: none"> <li>• The structures are approaching the end of their service life;</li> <li>• The Highway 401 platform cannot accommodate staging for replacement of the structures and culverts;</li> <li>• The study will assess the rehabilitation/replacement of the bridges and culverts and the future highway footprint (6-lane and 8-lane).</li> </ul>	
<b>4.</b>	<b>Existing Conditions and Key Issues</b>	
4.1.	<p>WSP provided an overview of existing conditions and key issues in the study area:</p>	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
	<ul style="list-style-type: none"> <li>• The existing median varies from 10 m closed median (barrier) to 30 m open median in the study area;</li> <li>• All structures require replacement. Traffic staging and detours for construction and demolition will be assessed;</li> <li>• Highway 401 improvements will require property beyond existing ROW;</li> <li>• There is challenging topography and soil conditions in the study area leading to slope stability and erosion concerns. Flatter slopes are preferred, but this results in greater property requirements.</li> </ul>	
4.2.	<p>WSP summarized the ongoing studies:</p> <ul style="list-style-type: none"> <li>• Refer to the presentation slides for a complete list of ongoing studies;</li> <li>• Specialists are currently consulting with agencies and completing assessments to establish existing conditions which will be presented at PIC #1;</li> <li>• Impact assessment reports will be completed when the Preferred Alternative is selected, and impacts will be presented at PIC #2;</li> <li>• Noise Assessment, which is often a concern for the public, will be completed on the preferred alternative and will be taken into consideration during the alternative evaluation.</li> </ul> <p>Northumberland County asked how this study and adjacent ongoing studies fit into the larger regional planning set out by the Greater Golden Horseshoe (GGH) master plan. Northumberland County also asked about MTO’s commitment regarding the highway expansion and when the work will be completed.</p> <p>WSP noted that the GGH does not extend to this study area, but the 6-lane and 8-lane future widening stems from the evaluation of future trends, including traffic analysis. MTO replied that the GGH Master Plan focuses on capacity needs whereas this particular study is focusing on the replacement of structures, and the future highway footprint is only being established so that the structures can be designed appropriately. Funding is not currently in place, so MTO does not know when widening will occur.</p>	
<b>5.</b>	<b>Highway 401 Planning Alternatives</b>	
5.1.	<p>WSP provided an overview of the existing highway alignment, which is generally good but has some existing horizontal curves that limit the sight distance; the sight distance may be improved on the curves by widening the shoulders or some minor changes to the alignment. Some improvements may be required to ensure that design standards (including sight distance requirements) are satisfied.</p>	
5.2.	<p>WSP provided an overview of the open and closed median locations in the study area.</p>	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
5.3.	<p>WSP provided an overview of potential options for future widening of Highway 401 to the 6-lane (Interim) and 8-lane (Ultimate) condition, including:</p> <p>One widening option for existing closed median sections:</p> <ol style="list-style-type: none"> <li>1. Widen to the outside of the existing lanes. Extra wide shoulders may be used to improve sight distance past the median barrier wall.</li> </ol> <p>Three widening options for existing open median sections:</p> <ol style="list-style-type: none"> <li>1. Widen to the inside of the existing lanes. This option reduces property impacts and avoids impacts to the adjacent topography. However, in the 8-lane condition, emergency median turnarounds and guiderail is required on the inside shoulder because the resulting median is less than 22.5 m wide. In the 6-lane condition, median turnarounds can still be accommodated and median guiderail is not required.</li> <li>2. Widen to the inside for the 6-lane condition and widen to the outside for the 8-lane condition. This option has impacts to property and topography. However, in both the 6-lane and 8-lane condition, an open median is retained and emergency median turnarounds can be accommodated.</li> <li>3. Widen to the inside on the westbound side and widen to the outside on the eastbound side. This option would only be considered in one location near the east study limit where there is a large grade difference between eastbound and westbound alignments and an embankment (drumlin) on the north side that prohibits widening to the north. This option results in property impacts but mitigates cutting into the embankment and potential erosion issues to the north. In both the 6-lane and 8-lane condition, an open median is retained and median turnarounds can be accommodated.</li> </ol>	
5.4.	<p>WSP provided an overview of the existing emergency median turnaround locations. There are four within the study area, and one just east of the study limits. The interchange spacing is 12.5 km from Percy Street to Country Road 30 and from County Road 30 to County Road 40. WSP asked emergency services for input on any concerns on closures or changes to the emergency median turnaround locations.</p> <p>Northumberland Ontario Provincial Police (OPP), Northumberland Paramedics, and Brighton Fire noted that the more emergency median turnarounds the better. OPP noted that they will stop their vehicles and jump the median barrier if needed whereas Paramedics will not. The median turnarounds between County Road 25 and County Road 30 are used by the Township of Cramahe emergency services. WSP will discuss any potential changes with emergency services.</p>	
<b>6.</b>	<b>Highway 401 Detours</b>	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
6.1.	WSP presented the demolition and detour option for the Herley Road and Lake Road Underpasses. Due to the structure type (post-tensioned cables and integral piers), the structures must be demolished at once as once the cables are cut the structure would not be stable. WSP is reviewing other alternatives, but they are likely to be high risk and infeasible. It is not feasible to detour Highway 401 traffic within the ROW because to detour behind the abutments would require large cuts through existing embankments, risking potential erosion issues as well as impact properties. At Lake Road, there is limited space to detour behind the south abutment due to the properties near Little Lake.	
6.2.	If Herley/Durham Road or Lake Road is closed for the structure demolition, it is proposed to detour Highway 401 traffic along the emergency detour route (EDR), from Percy Street to County Road 2 to County Road 30. The Herley Road and Lake Road underpasses would be demolished separately to avoid simultaneous road closures. The road closure for each demolition is estimated to be 12 to 18 hours (exact duration to be confirmed during Detail Design).	
6.3.	The first alternative to demolish the County Road 26 (CR 26) underpass is to detour Highway 401 traffic along the EDR, from County Road 40 to County Road 41 to County Road 30. The road closure for demolition is estimated to be 12 to 18 hours (exact duration to be confirmed during Detail Design).	
6.4.	The second alternative to demolish the County Road 26 underpass is to detour Highway 401 traffic within the MTO ROW. The CR 26 underpass is a girder bridge with a pier in the median which could potentially be demolished in spans. The end spans would first be demolished so that Highway 401 traffic can be shifted through the end spans while the centre spans are demolished. A 1-day median crossover would be required to demolish each span.	
<b>7.</b>	<b>Crossing Roads</b>	
7.1.	<p>WSP presented the replacement options for each crossing road structure and the associated detour options. WSP asked MAC participants to provide feedback regarding any unacceptable options and information about the structures.</p> <p>Herley Road can be replaced by the following options:</p> <ol style="list-style-type: none"> <li>1. Replace structure to the west side. Keep traffic on the existing structure on the east, then shift traffic to the west when the new structure is complete. Replacing on a new alignment has a greater footprint and will result in property impacts.</li> <li>2. Replace structure on existing alignment. Would require road closure because it's not feasible to demolish half the bridge while keeping one lane open. Traffic detour would be required, but property impacts would be less as there is a smaller footprint because there is no realignment of Herley Road.</li> </ol>	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
	<ol style="list-style-type: none"> <li>3. Replace structure to the east. Similar to Option 1, but with replacement on the other side.</li> <li>4. Remove crossing, this option is not usually considered, but is presented because Percy Street is so close (~1.7 km away). Further feedback from the Township of Cramahe and MTO is required for to confirm whether this option will be carried forward.</li> </ol>	
7.2.	<p>There are no posted speed signs on Herley/Durham Road, and there are no AT provisions noted in the Cramahe Official Plan or the Northumberland County Transportation Master Plan. WSP to follow up with the Township of Cramahe for input on the posted speed on Herley/Durham Road and active transportation plans for Herley/Durham Road.</p>	WSP
7.3.	<p>If replacement option #2 was chosen, Herley/Durham Road would be closed for approximately 2 years (exact closure duration to be decided during Detail Design) to facilitate replacement of the structure on the same alignment and traffic would be detoured. During the closure, traffic would cross Highway 401 at Percy Street instead of at Herley/Durham Road. The additional time for Fire response on the detour route was estimated since Fire typically dispatches from a fixed location. The additional distance travelled is approximately 4.2 km or approximately 4 minutes via the detour route. WSP to follow up with the Township of Cramahe for input on the potential detour routes and emergency response time.</p> <p>WSP asked for feedback from Northumberland County and Brighton Fire. Brighton Fire noted that response time standards have to be maintained. Northumberland Paramedics noted that if the road was closed, Paramedics could station a roaming vehicle near that location to improve response time.</p>	WSP
7.4.	<p>The options for the Lake Road structure replacement are similar to those presented for Herley/Durham Road and are as follows:</p> <ol style="list-style-type: none"> <li>1. Replace Lake Road to the west;</li> <li>2. Replace Lake Road on the same alignment which would require a road closure of approximately 2 years (exact closure duration to be decided during Detail Design);</li> <li>3. Replace Lake road to the east.</li> </ol> <p>There are property constraints due to properties along the south side of Highway 401 at Little Lake.</p>	
7.5.	<p>If Lake Road were closed to replace the structure on the same alignment, two potential detour options were presented. The Cramahe South Fire Station could cross Highway 401 at Herley/Durham Road instead of Lake Road, or the Brighton Fire Hall could respond by crossing Highway 401 at County Road 30. The detour from the Cramahe South Fire Station is up to 1.7 km longer (approximately 2 minutes) than without closure, and the detour from the Brighton Fire</p>	

Any omissions or errors in these notes should be forwarded to the author immediately.



Item	Details	Action By
	<p>Hall is 3.1 km (approximately 3 minutes) longer than without closure. It is assumed that the Herley and Lake Road underpasses would be replaced at different times, so Herley/Durham Road would remain open during the Lake Road closure.</p> <p>Northumberland Paramedics noted that it would not be a big concern to close Lake Road since crews can cross north or south of the highway easily via Herley/Durham Road.</p>	
7.6.	<p>WSP summarized the replacement options for the CR 26 structure:</p> <ol style="list-style-type: none"> <li>1. Replace structure to the west               <ol style="list-style-type: none"> <li>a. Curved structure (more difficult to design and build, but improves road geometry)</li> <li>b. Straight structure</li> </ol> </li> <li>2. Close CR 26 and replace on existing alignment. It is expected that this option is not preferred due to the landfill located on the north side of Highway 401.</li> <li>3. Replace structure to the east.</li> </ol>	
7.7.	<p>WSP presented the potential detour options required if CR 26 was closed to replace the structure on the existing alignment. If the Brighton Fire Hall responds, the detour is approximately 9.9 km (approximately 10 minutes) longer than without closure, and if the Brighton District Fire Station #2 responded, the detour is approximately 8.3 km (approximately 9 minutes) longer than without closure.</p> <p>Brighton Fire confirmed that Brighton Fire Station #2 could respond if CR 26 were closed, but CR 26 is one of the main crossings and it is preferred to keep the road open or keep the road closure to a minimum. Also noted that CR 26 is the main route to the Conservation Area and to the northeast of Highway 401. The Brighton Fire Hall (Station #1) does typically respond faster to these calls and closure of CR 26 would affect these response times.</p> <p>Northumberland County confirmed that they would prefer to keep CR 26 open to maintain access to the landfill (which is the only one in the County). It is also expected that dump trucks would have to detour via CR 30 and continue east-west on CR 41 rather than Carman Road.</p>	
7.8.	<p>WSP asked for confirmation of the CR 26 design speed. Northumberland County confirmed that the design speed is assumed to be 20 km/h over posted speed, meaning a design speed of 100 km/h.</p> <p>MTO asked if the existing road geometry meets the design speed of 100 km/h. WSP confirmed that the existing curves do not meet MTO Design Standards for this design speed.</p>	
7.9.	<p>WSP was asked if there is consideration of property impacts. WSP confirmed that impacted property owners will be notified and consulted</p>	

Any omissions or errors in these notes should be forwarded to the author immediately.



Item	Details	Action By
	<p>as part of the study, and that the detours will be presented to City Councils. Further impacts and details are reviewed and formalized in the next design phase, Detail Design, and in the construction phase, emergency services will be consulted.</p>	
7.10.	<p>WSP has reviewed the Northumberland County Transportation Master Plan, and the Township of Cramahe and the Municipality of Brighton Official Plans for active transportation (AT) plans. Only Lake Road was identified as a proposed AT facility (signed cycle route), which will be considered for the new structure. Pedestrian and cyclist counts were completed in August and September 2020 and were relatively low (maximum of 7 individuals per day on Lake Road). WSP encouraged the municipalities and the County to review their AT plan and provide WSP with any updates, as this is an opportunity to improve AT, subject to cost sharing. WSP to follow up with municipalities for AT plans and needs.</p> <p>Northumberland County suggested that AT provisions should be included in all cases regardless of the pedestrian/cyclist counts for prudent long-term planning. An option should be presented, then a decision can be made, factoring in the cost.</p> <p>The CR 26 design speed would mandate a separate cycling facility on this bridge due to high speed. WSP agreed that this will have to be considered. At the time of this meeting, there are no cycling facilities on the approaches and CR 26 is not designated as an AT route. MTO asked if the County has any intention to provide cycling facilities on the approaches. The County to confirm.</p>	WSP
<b>8.</b>	<b>Open Discussion</b>	
8.1.	<p>Northumberland County noted that at the Percy Street interchange, there are industrial uses and 'The Big Apple' attraction, and there is potential for a Secondary Plan in that area. At the CR 30 interchange, there is a McDonald's and other potential developments but no specific land use changes. A 1% growth is assumed in Colborne and Brighton in settlement areas.</p> <p>MTO confirmed that they did consider developments around Percy Street in the adjacent Cobourg to Colborne study. MTO noted that the loops in the northeast quadrant are compliant with long-combination vehicles (LCV) but could not provide the desired loop ramps in the southwest quadrant due to property restrictions.</p>	
8.2.	<p>MTO asked the municipalities if there are any big trip generators.</p> <p>Northumberland County confirmed that they are not aware of any besides the developments around Percy Street. Most of the development is south of Highway 401 in settlement areas. There is a</p>	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
	subdivision to the south of CR 30, which is unlikely to affect the alignment or interchange.	
8.3.	<p>WSP asked if there was any input or concerns on the detour routes. Northumberland County agrees with the potential detours from a technical perspective but acknowledged that others may have concerns.</p> <p>Northumberland County noted that they are undertaking a feasibility study for relocating the EDR between Cramahe and Brighton. The alternatives being considered are Telephone Road or CR 21. East of CR 30, the EDR will remain the same along CR 41. Northumberland County will confirm for MTO if the feasibility study has started.</p>	



# Highway 401 Planning Study from Colborne to Brighton Preliminary Design and Environmental Assessment Study

GWP 4054-17-00

*Municipal Advisory Committee (MAC) Meeting #1*

*December 9, 2020*

# Meeting Format

- WSP will present slides on screen using Skype
- To join the meeting, use the following link or dial-in by phone:
  - *Link: [Join Skype Meeting](#)*
  - *Phone: 1-833-423-3326, access code 234037*
- If you are unable to connect to the meeting on your computer, please follow along with the emailed presentation
- Please keep your microphone on mute unless you are speaking to the group
- Questions:
  - *We will pause at certain points throughout the presentation to take questions specific to the preceding slides. Please hold your questions until those times.*
  - *There will be time for an open discussion at the end to ask any remaining questions / discuss the project*

# Agenda

1. Introductions
2. Study Background and Process
3. Problems and Opportunities
4. Existing Conditions and Key Issues
5. Highway 401 Planning Alternatives
  - a) *Cross-Sections*
  - b) *Alignments*
6. Highway 401 Detours
7. Crossing Roads
8. Planning Alternatives
9. Open Discussion
10. Next Steps

# Introductions & Attendance



Muhammad Waseem – Project Manager

Melissa Buelow – Area Manager

Erin Pipe – Environmental Planner

Lloyd Pacheco – Traffic



Brent Gotts – Consultant Project Manager

Rhonda George-Hiebert – Senior Project Manager

Sandy Nairn – Environmental Planner

Christine Vazz – Environmental Planner

Dahlia Malek – Transportation Planning

Kate Barclay – Transportation Planning

# Purpose & Objective of today's Municipal Advisory Committee (MAC) Meeting

- Provide input and feedback at key milestones throughout the study reflecting local knowledge and expertise
- Assist in identifying constraints and opportunities within the study area

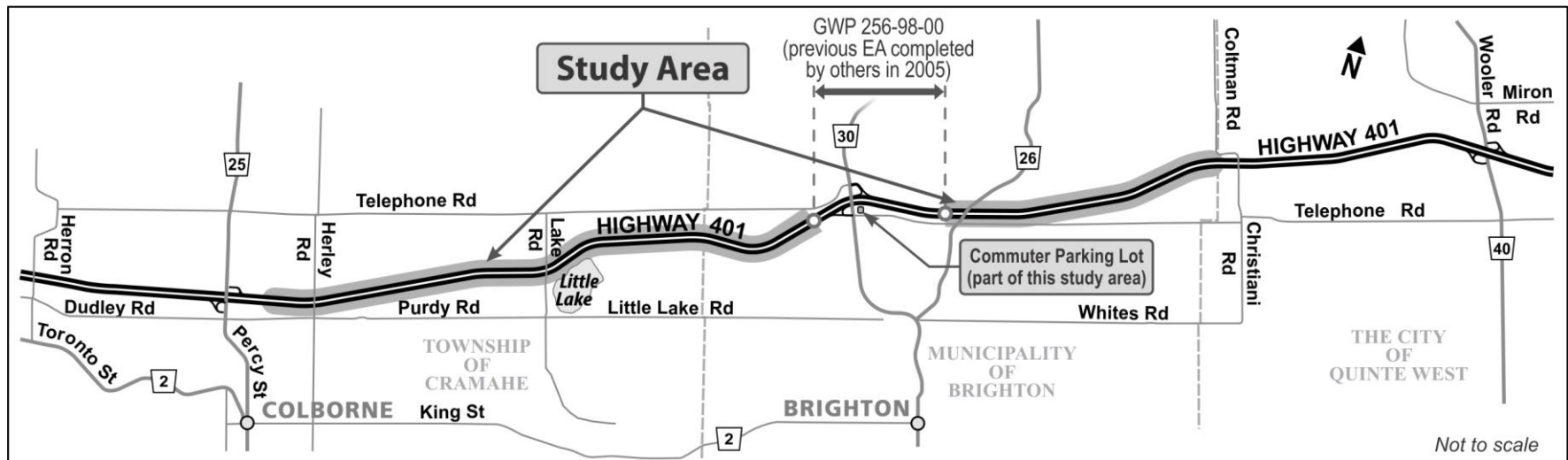
**Note:** The information being shared today has not yet been presented publicly. The first Public Information Centre (PIC 1) is anticipated to occur in Winter/Spring 2021. In the meantime, this information should be treated as confidential.



# Study Background (1)

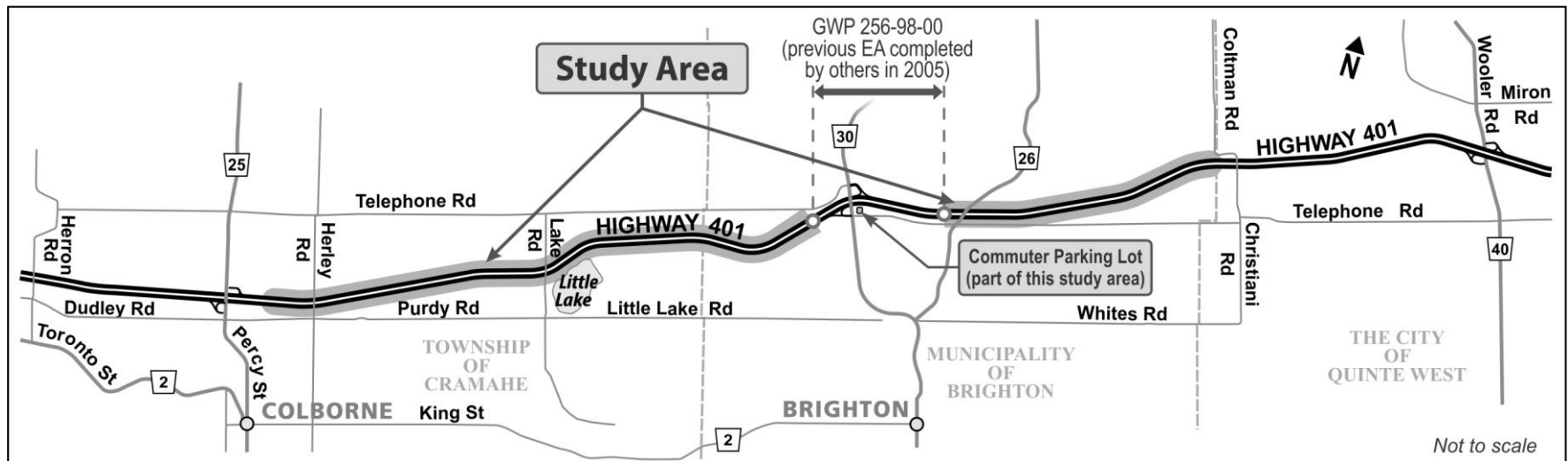
**WSP** has been retained by the Ministry of Transportation (**MTO**) to undertake the Preliminary Design and Class Environmental Assessment (EA) for Highway 401 improvements, including:

- Replacement of structures
- Establishing the future Highway 401 footprint for an interim 6 and ultimate 8 lanes to address long-term transportation needs
- Commuter parking lot improvements at County Road 30

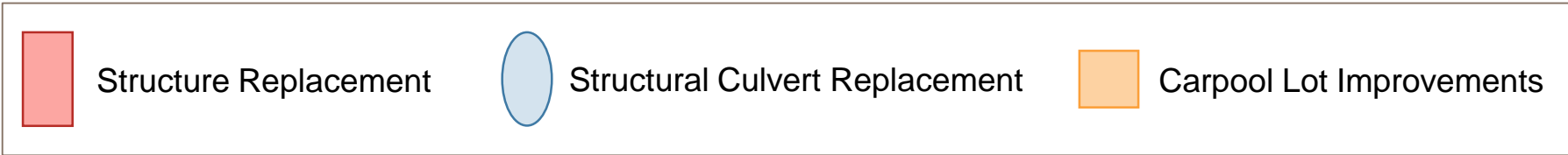
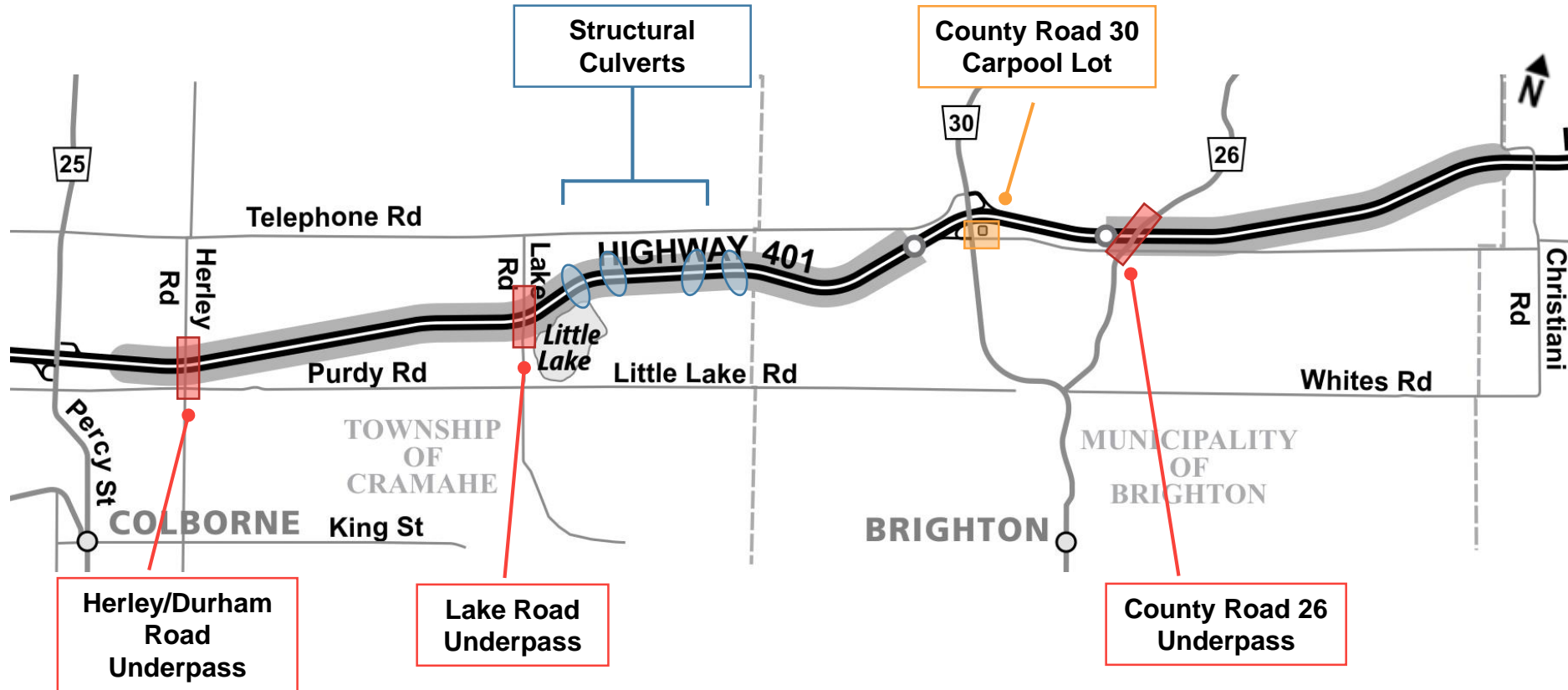


# Study Background (2)

- Study limits are from 0.8 km east of Percy Street to 0.4 km west of Christiani Road (excluding the County Road 30 Interchange)
- Improvements to the commuter parking lot at County Road 30 will be identified as part of this study
- County Road 30 Interchange improvements are not included in the scope of this study because the interchange has been studied in a previous Environmental Assessment (EA). The EA was completed by others in 2005.
- Highway 401 Planning Study from Cobourg to Colborne is currently in progress

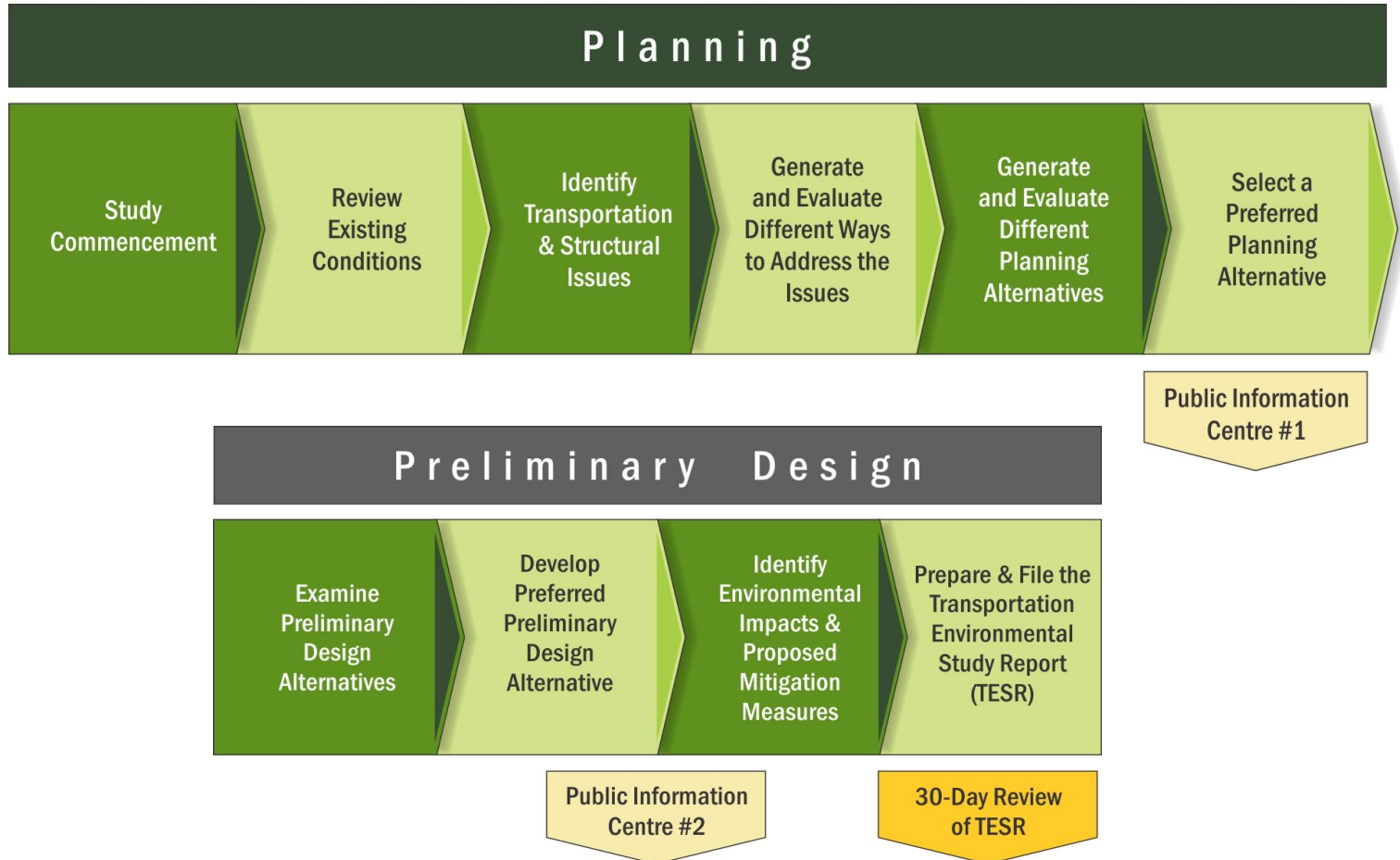


# Study Background (3)



# Study Process

This study is a 'Group B' project under the *Class Environmental Assessment (Class EA) for Provincial Transportation Facilities (2000)*.



# Key Milestones and Consultation

- Notice of Study Commencement – issued July 2020
- **MAC #1 – December 9, 2020**
- PIC #1 – Winter 2021\*
  - *Present existing conditions, need and justification, short-list of alternatives*
- MAC #2 – Spring / Summer 2021\*
- PIC #2 – Fall 2021\*
  - *Present preferred alternative and preliminary design*
- Prepare and File Transportation Environmental Study Report (TESR) – Winter 2022\*
  - *TESR will be made available for a 30-day review period*

\*Project schedule is tentative, milestone dates will be confirmed as the study progresses

# Problems and Opportunities

## Problems:

- The structures in the study area are nearing the end of their service lives, and will require rehabilitation and/or replacement in the coming years
- The existing Highway 401 platform cannot accommodate the traffic staging to rehabilitate / replace the bridges and structural culverts

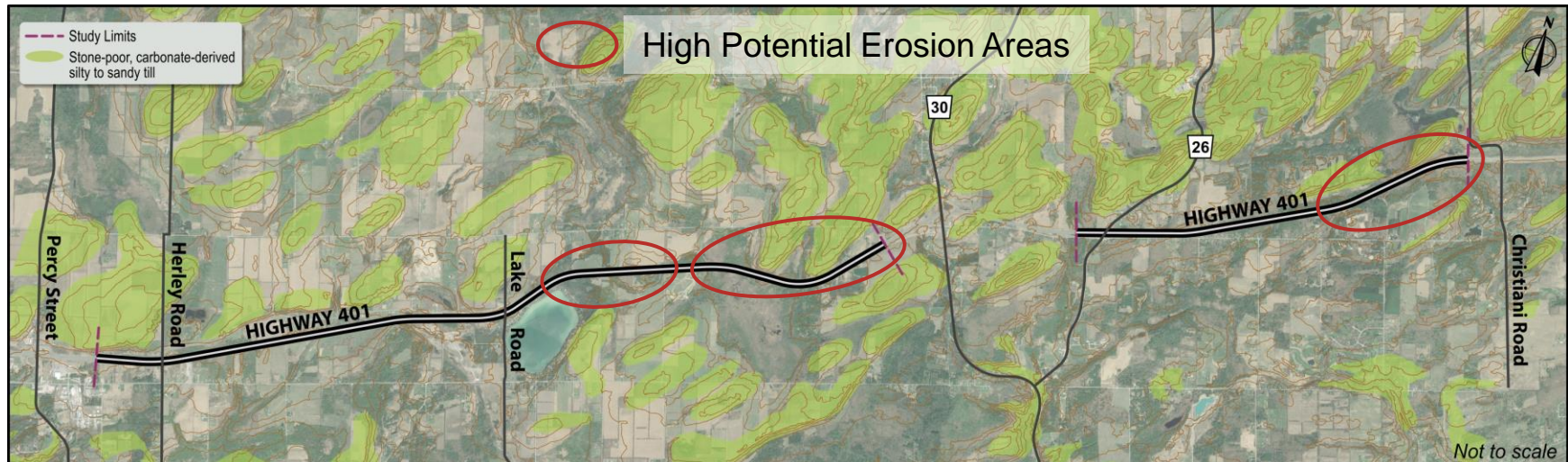
## Opportunities:

- The study will assess the existing bridges and culverts in the study area and develop appropriate rehabilitation or replacement strategies to maintain the safe operation of the Highway 401 corridor for the current and future planning horizons
- For structural planning purposes the study will establish the future Highway 401 footprint for six and eight lanes, to ensure an appropriate design of the replacement bridges



# Existing Conditions and Key Issues

- Highway 401 is a four-lane divided freeway. The median varies between a 10 m closed median and a 30 m open median.
- All structures are approaching the end of their service lives and require replacement
  - *Determining traffic staging and detour strategies for construction and demolition will be an important part of this study*
- Anticipate that the necessary Highway 401 improvements will require property beyond the existing right-of-way in various locations along the corridor
- Challenging topography and soil conditions due to drumlins in the study area
  - *Areas where slope stability and erosion is a concern will be identified early in the study*





# Ongoing Studies to Be Completed

Field work was completed this Fall for a number of studies and will continue into Spring 2021. These studies include:

- Cultural Heritage Resource Assessment
- Stage 1 Archaeology Assessment
- Fisheries Impact Assessment
- Terrestrial Impact Assessment
- Groundwater Assessment Report
- Stormwater Management Plan
- Landscape Composition Report
- Contamination Overview Study
- Air Quality and Greenhouse Gas Assessment Report
- Noise Assessment Report
- Designated Substances Survey
- Excess Materials Management Plan

# Highway 401 Existing Alignment



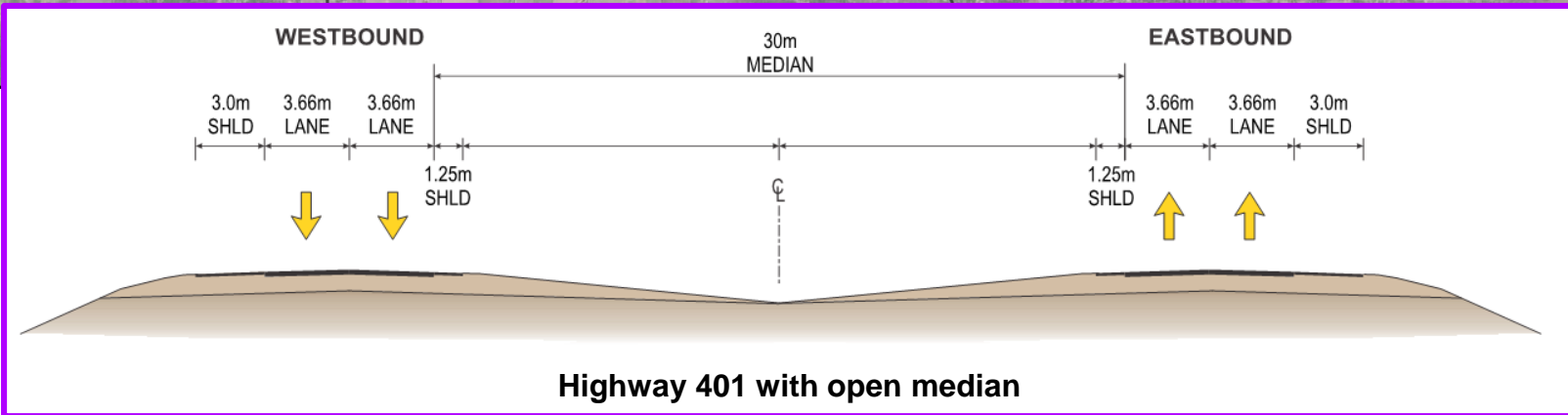
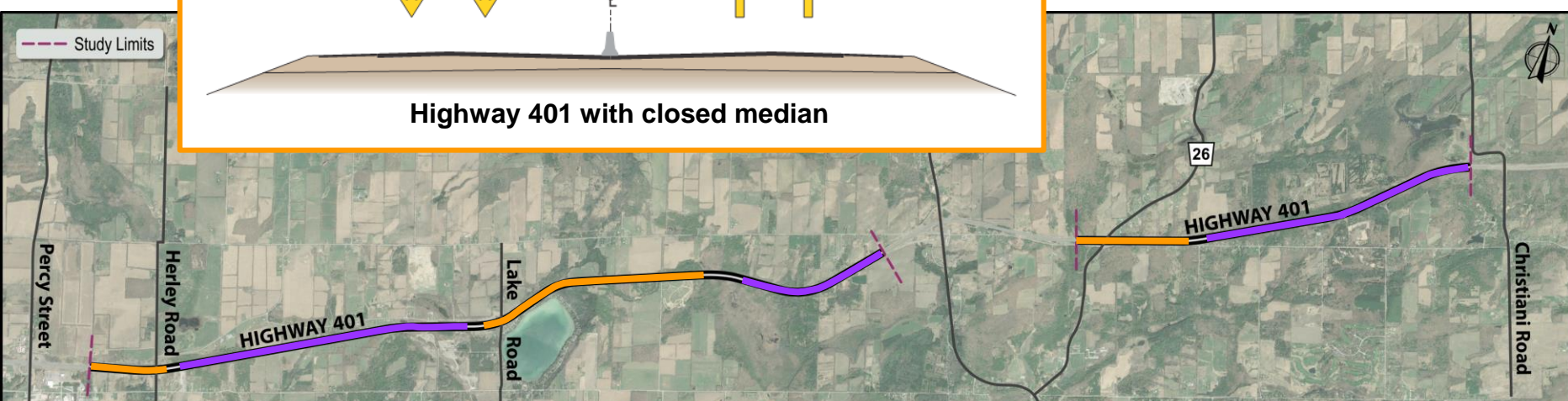
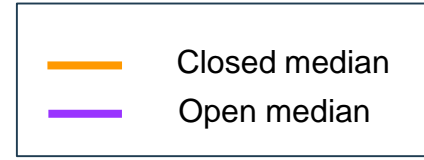
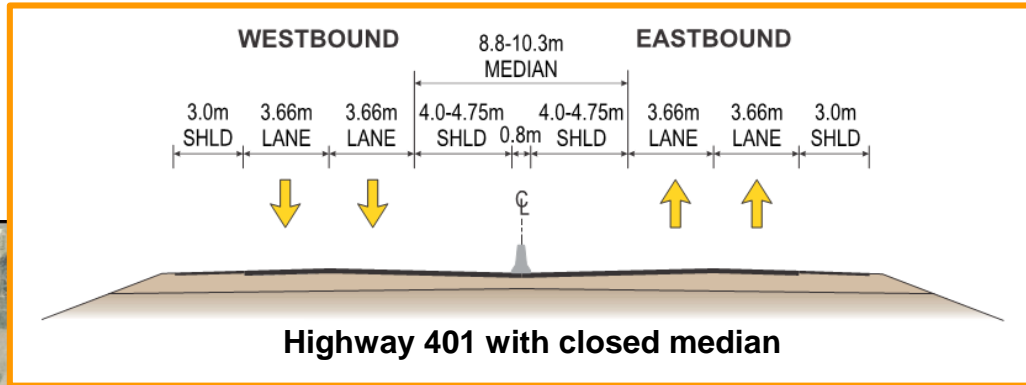
## At Little Lake:

- Existing horizontal curves limit sight distance
- Can be improved by highway realignment and/or widened shoulders
- Constrained by adjacent properties on the south and large embankment (drumlin till) on the north

## Just West of County Road 30:

- Existing horizontal curve limits sight distance
- Can be improved by highway realignment and/or widened shoulders

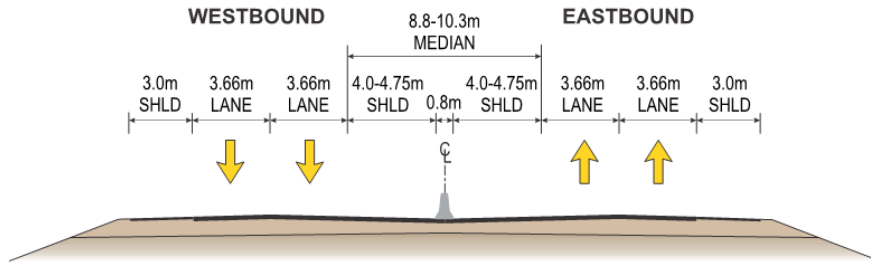
# Highway 401 Existing Cross Section



# Highway 401 Future Widening

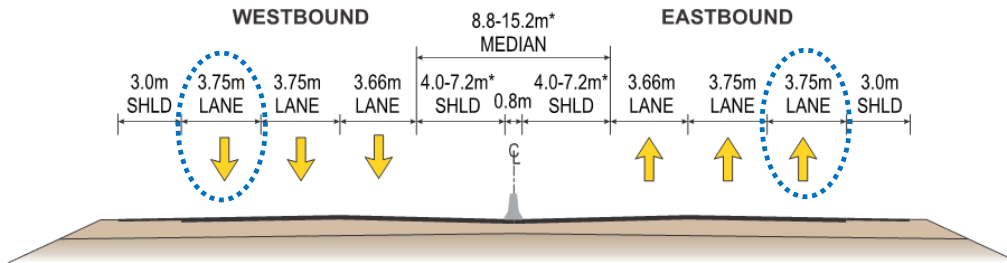
## Closed median cross-section

### Option 1: Widen outside

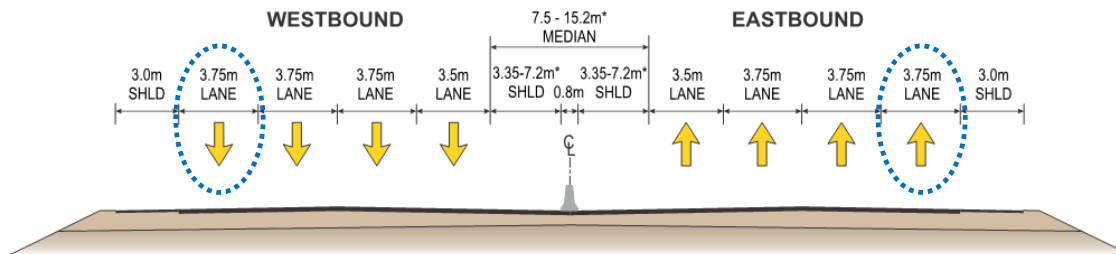


Existing

Added lanes



Interim 6-Lane



Ultimate 8-Lane

\* Shoulder widths may be increased where horizontal curve radii <1700 m, to provide adequate sight distance.

Median dimensions to be confirmed



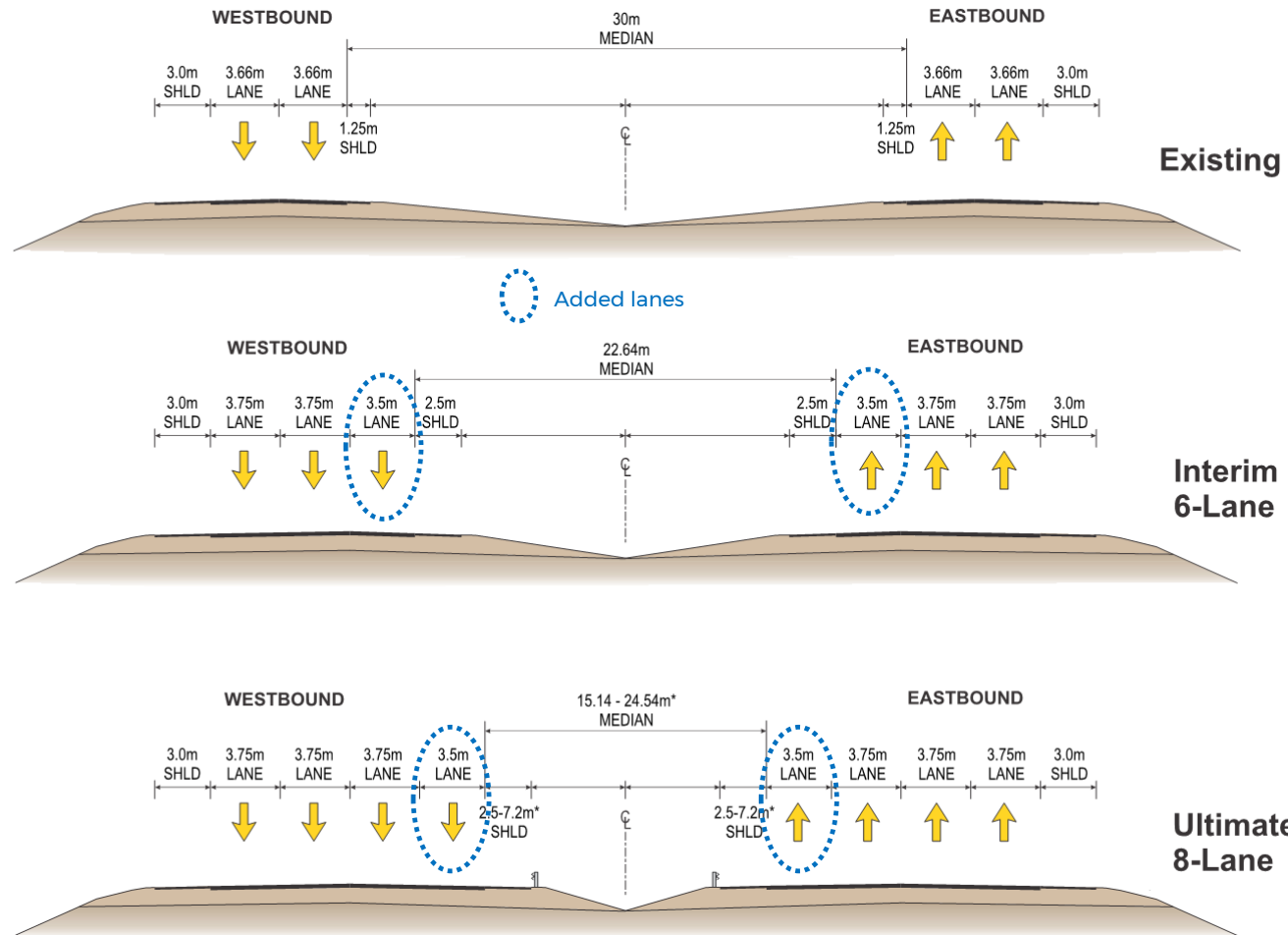
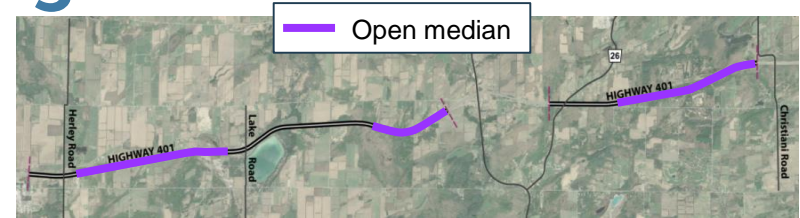
# Highway 401 Future Widening

## Open median cross-section

### Option 1: Widen inside only

- Minimizes property impact
- Minimizes impact to adjacent topography
- Requires median guiderail in Ultimate condition
- 15 m median in Ultimate condition precludes emergency median turnaround

\* Shoulder widths may be increased where horizontal curve radii <1700 m, to provide adequate sight distance.



Existing

Interim  
6-Lane

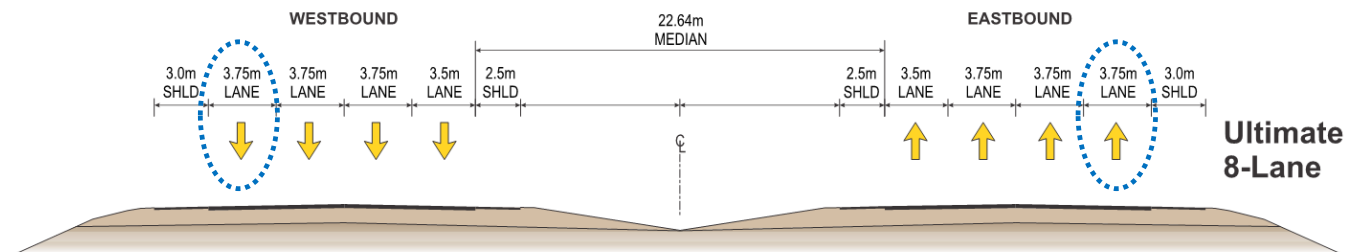
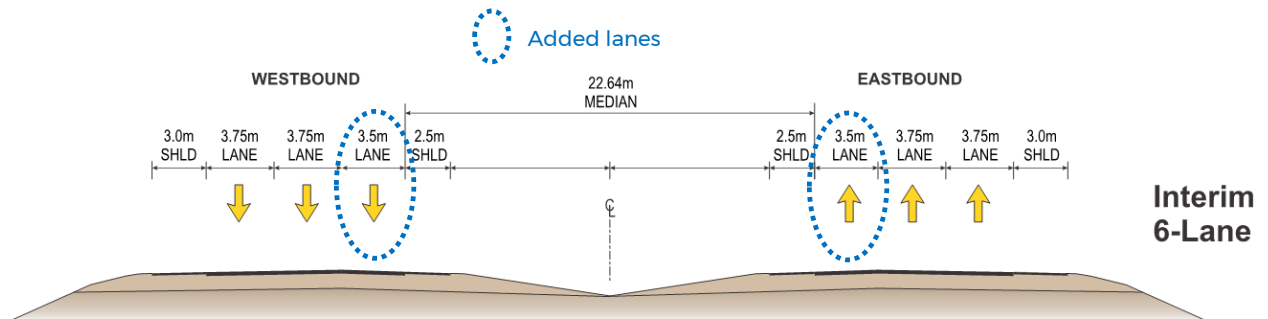
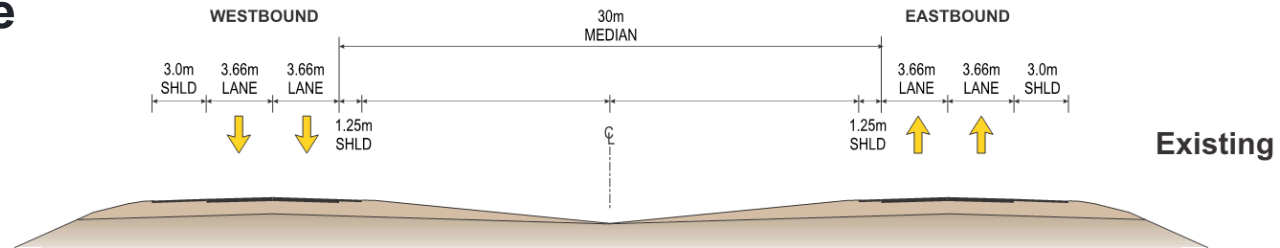
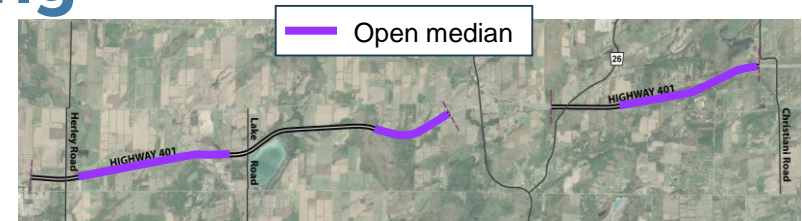
Ultimate  
8-Lane

# Highway 401 Future Widening

## Open median cross-section

### Option 2: Widen inside & outside

- Impacts to adjacent property
- Impacts to adjacent topography
- Retains open median in Ultimate condition
- Emergency median turnarounds can be accommodated

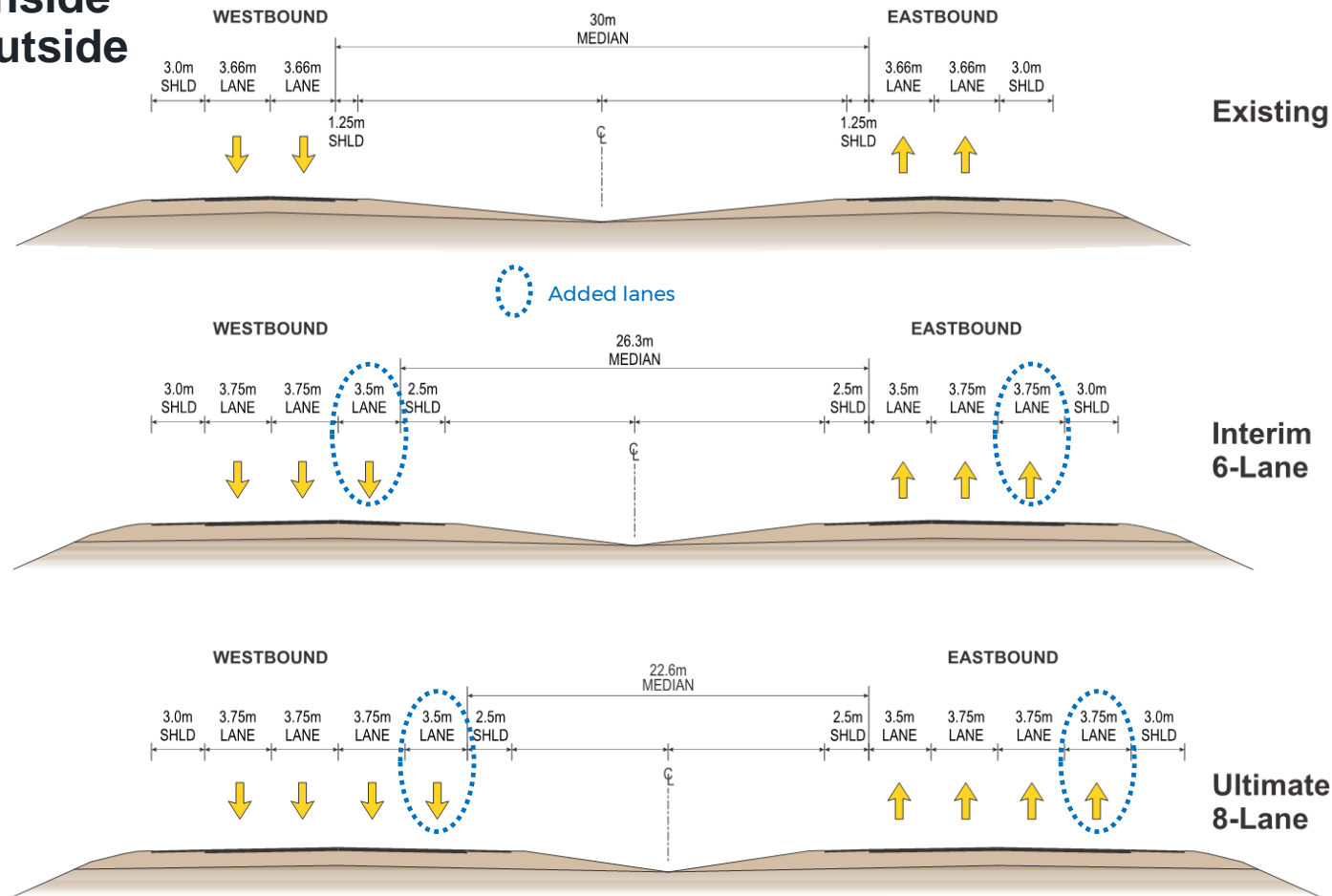
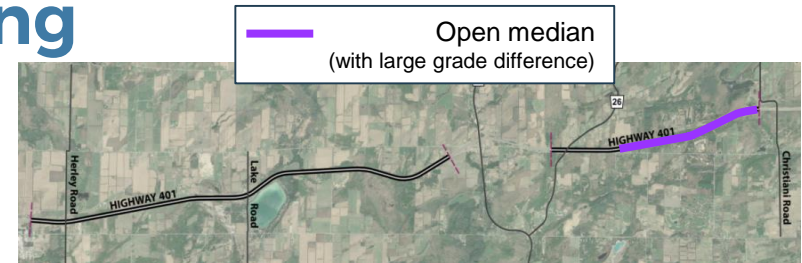


# Highway 401 Future Widening

## Open median cross-section

### Option 3: Widen WB to the inside Widen EB to the outside

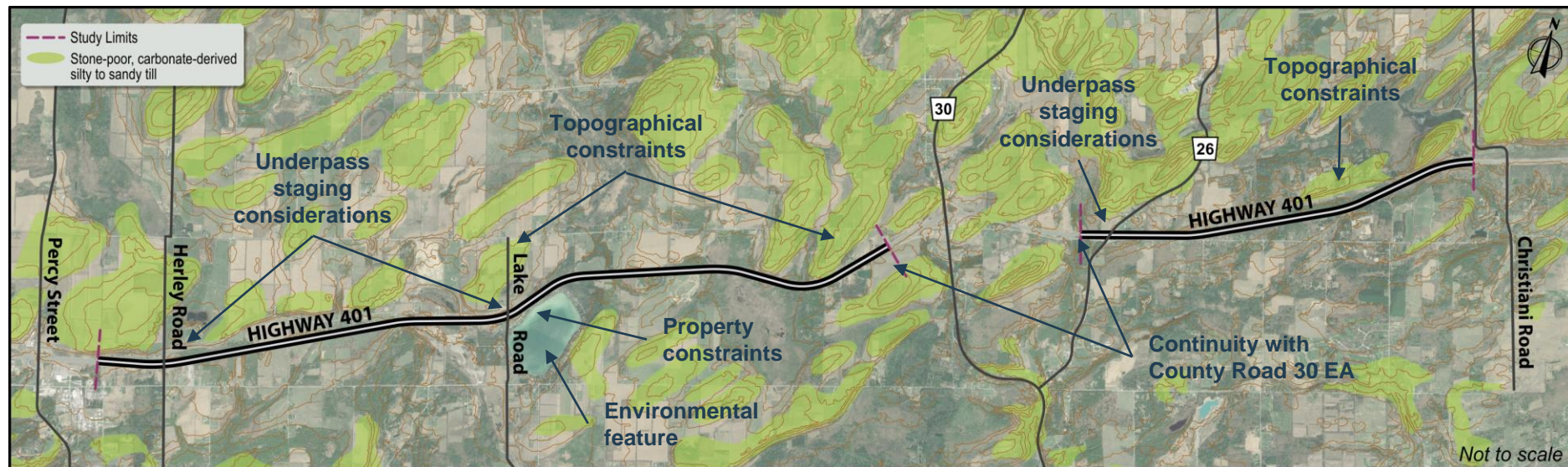
- Widen to the outside due to large grade difference
- Drumlin on north side of highway prohibits widening to the north
- Retains open median in Ultimate condition
- Emergency median turnarounds can be accommodated





# Highway 401 Future Widening

- Widening strategy will not be a 'one-size-fits-all' solution throughout study area
- Will take into account localised constraints (property, topography, environmental features, staging, highway geometry, etc.)
  - *Example: widening asymmetrically to avoid impacts to properties or environmental features*



# Highway 401 Emergency median turnarounds

## Existing locations



Distance between interchanges:

- Percy Street to County Road 30 12.5 km
- County Road 30 to County Road 40 12.5 km



# Highway 401 Detours for Bridge Demolitions

## Herley/Durham Road and Lake Road Underpasses

- Post-tensioned structure with piers integral to structure
- Demolishing structure all at once is currently the only feasible option
  - Other options are under further review, but are high risk and unlikely to be feasible
- Not feasible to detour within ROW
- Timing of demolition to be confirmed



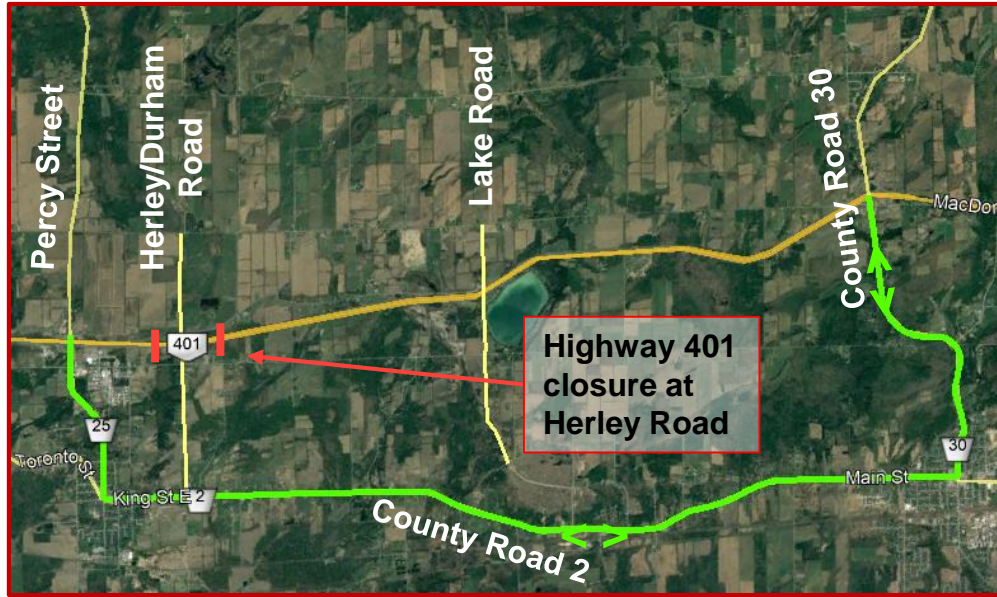
Herley Road Underpass

Lake Road Underpass



# Highway 401 Detours for Bridge Demolitions

## Herley/Durham Road and Lake Road Underpasses



### Detour traffic onto municipal roads

- Highway 401 traffic onto EDR
- Estimated length of closure: 12-18 hour demolition (off-peak)

### Hwy 401 detour\*

- Herley Road and Lake Road demolitions likely occurring at different times.
- The timing of the replacements will be confirmed later in the study.

\*same detour proposed for Cobourg to Colborne (PIC #1)



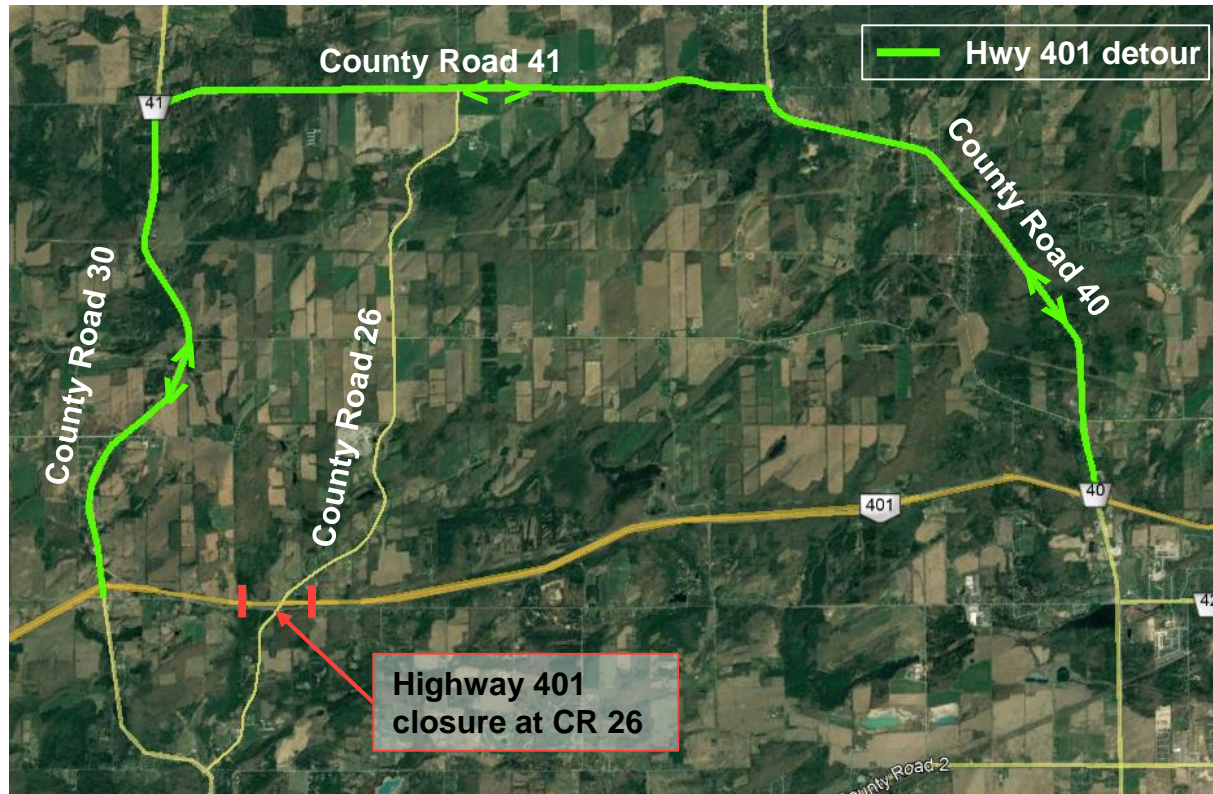


# Highway 401 Detours for Bridge Demolitions

## County Road 26 Underpass

### Option 1: Detour onto municipal roads

- Highway 401 traffic onto EDR
- Estimated length of closure: 12-18 hour demolition (off-peak)

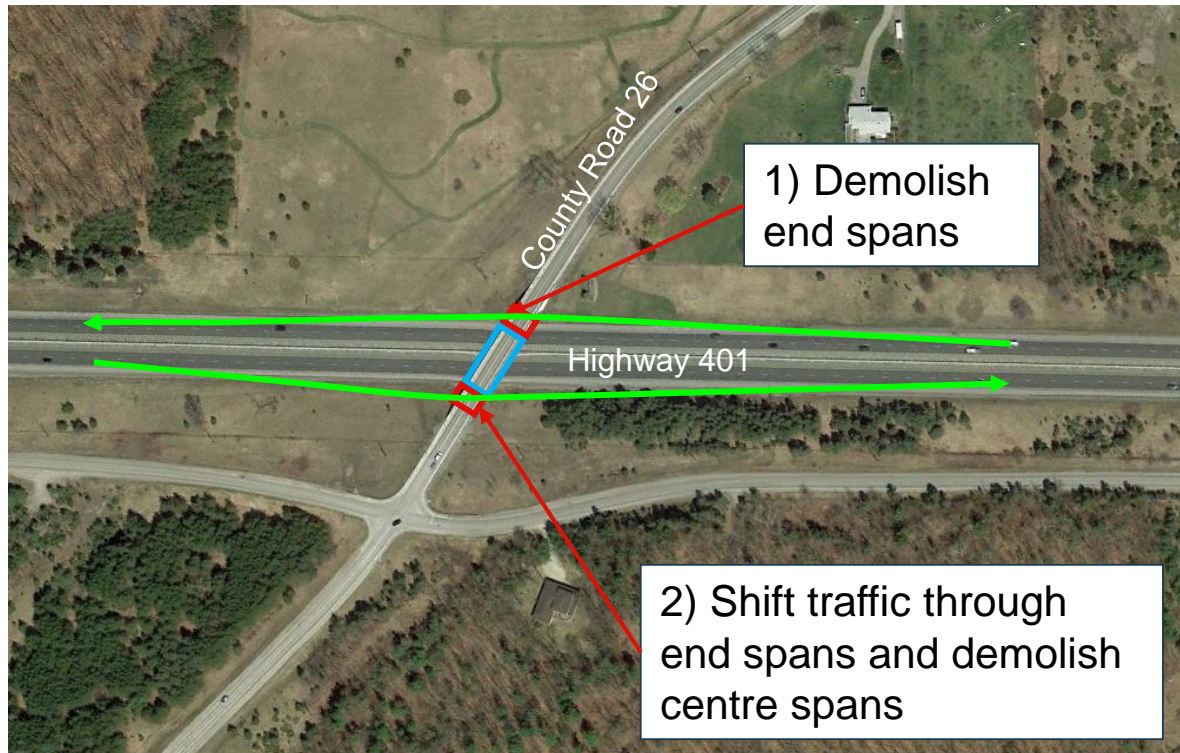


# Highway 401 Detours for Bridge Demolitions

## County Road 26 Underpass

### Option 2: Detour traffic within MTO Right-of-way

- Bridge can be demolished in sections with Highway 401 traffic detoured within right-of-way (ROW)
- Median crossover required for 1 day per span





# Crossing Roads

## Herley/Durham Road

- Rural local undivided road with an assumed posted speed of 50 km/h, assumed design speed 60 km/h for future design
- Underpass structure built in 1959 and requires replacement
- No existing or proposed active transportation routes crossing Highway 401
- Replacement options will be assessed to identify potential impacts
- Single lane closure with demolition of half the structure is not feasible due to bridge type

Option 1: Replace structure to the west



Option 2: Replace structure on existing alignment (road closed)



Option 3: Replace structure to east



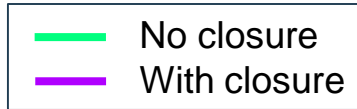
Option 4: Remove crossing





# Detours Routes

## Herley/Durham Road



- Local detour via Percy Street
- Additional 4.2 km from Cramahe South Fire Station with closure
- Local detour from Herley Road south to north is approximately 6.7 km via Percy Street & Telephone Road



# Crossing Roads

## Lake Road

- Rural local undivided road with a posted speed of 40 km/h, assume design speed 60 km/h for future design
- Underpass structure built in 1959 and requires replacement
- No existing active transportation routes, proposed signed cycle route (Northumberland Transportation Master Plan 2017)
- Crandall Road is likely to be impacted by Lake Road realignment
- Single lane closure with demolition of half the structure is not feasible due to bridge type



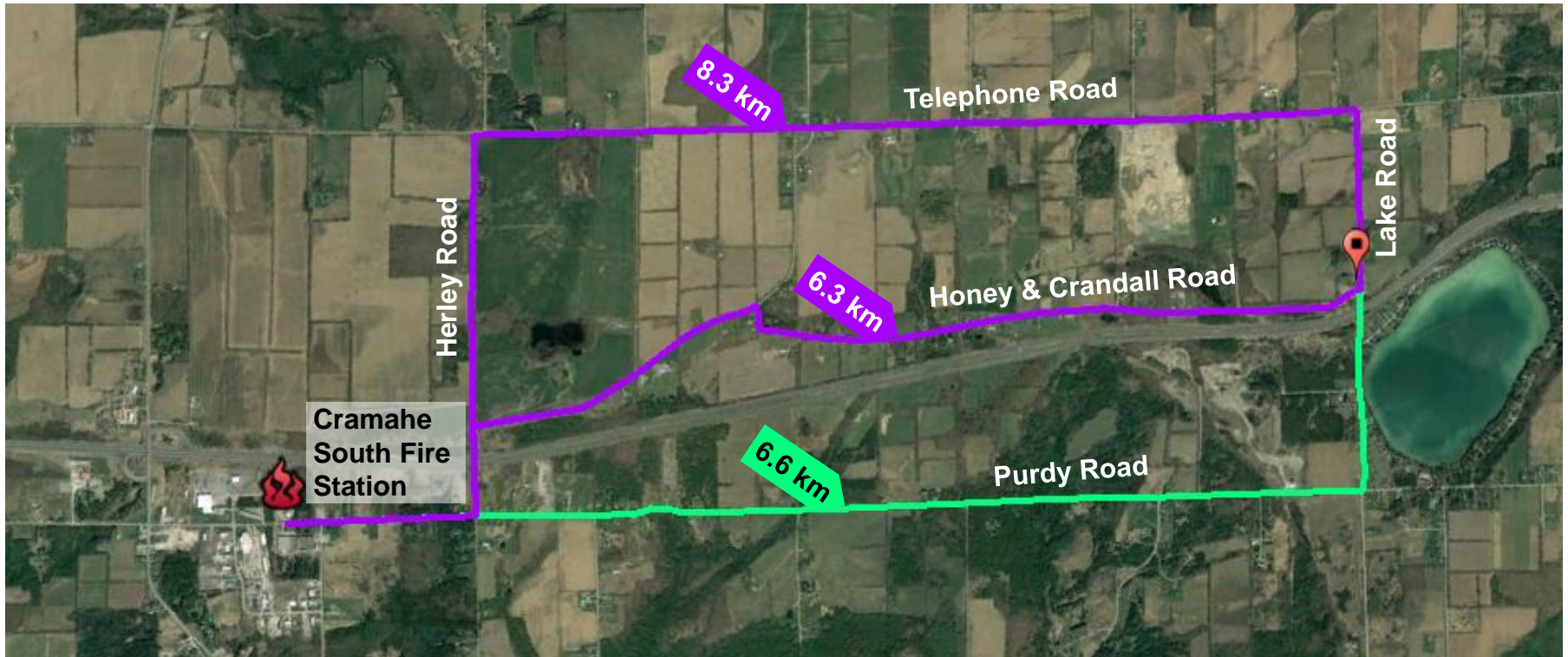


# Detour Routes

## Lake Road

— No closure  
— With closure

- Detour via Herley Road, Honey & Crandall Road: 0.3 km shorter
- Detour via Herley Road and Telephone Road: 1.7 km longer
- Distance from Brighton Fire Hall with closure of Lake Road: 9.7 km
- Local detour from Lake Road south to north (via Purdy, Honey Road): 12.5 km



# Crossing Roads

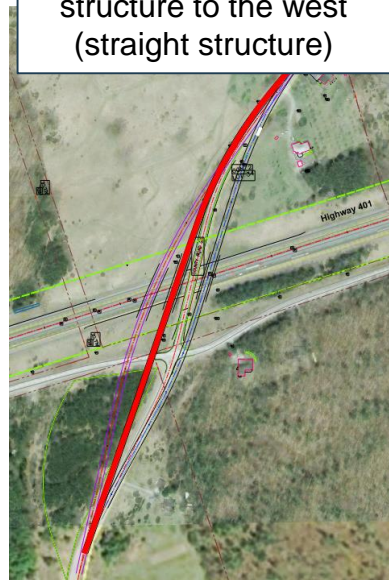
## County Road 26

- Rural arterial undivided road with a posted speed of 80 km/h, assumed design speed of 100 km/h
- Underpass structure built in 1965 and requires replacement
- No existing or proposed active transportation facilities

Option 1A: Replace structure to the west (curved structure)



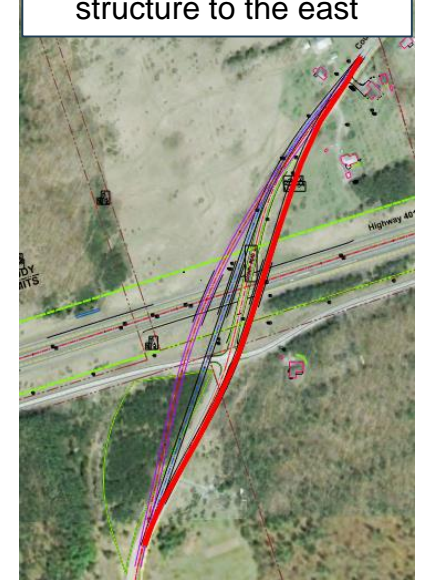
Option 1B: Replace structure to the west (straight structure)



Option 2: Replace on existing alignment (road closed)



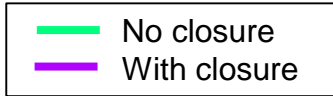
Option 3: Replace structure to the east



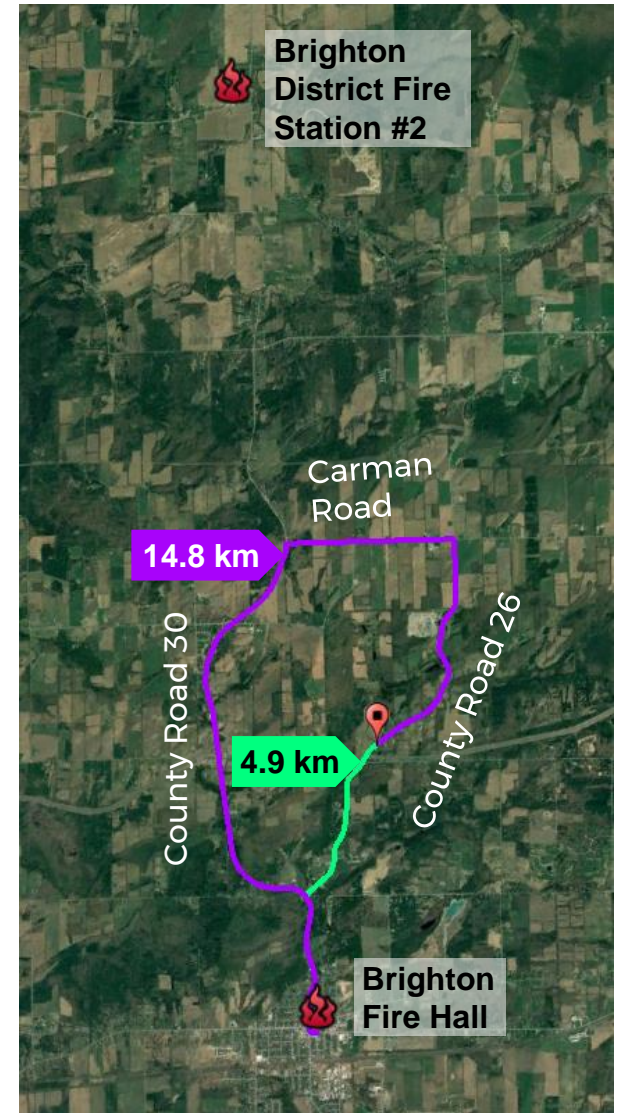
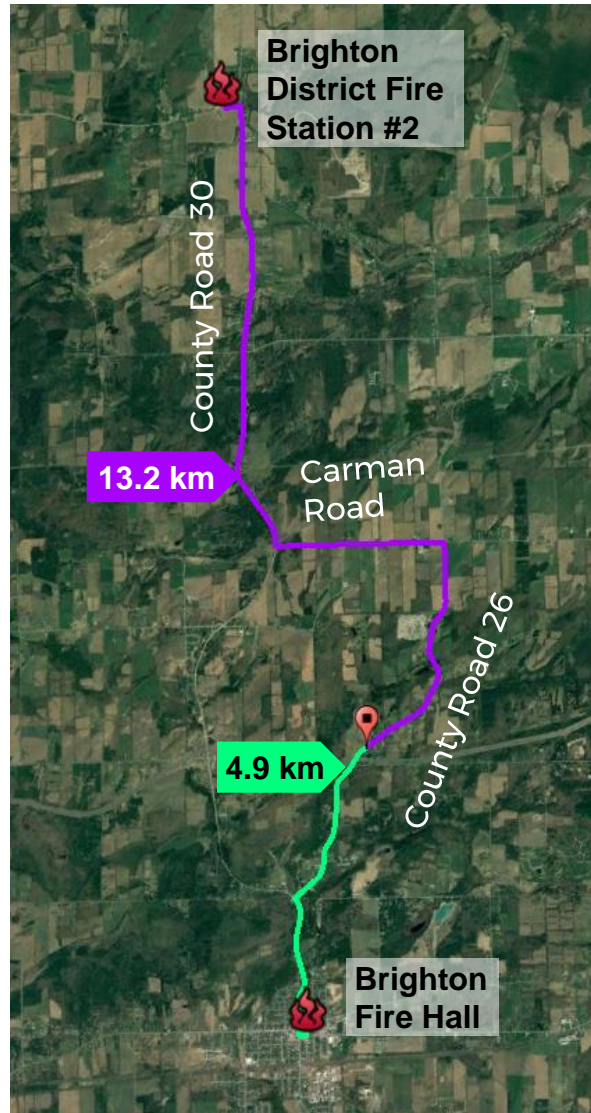


# Detour Routes

## County Road 26



- Distance from Brighton Fire Station #2 is 1.6 km less than detour from Brighton Fire Hall via County Road 30





# Active Transportation

- Opportunity to accommodate active transportation on crossing roads in the corridor
- Weekday and weekend pedestrian and cyclists counts were conducted in the summer and fall of this year
- Pedestrian and cyclists counts were generally low (< 8 in a 10 hour period) in all periods on all roads



**Herley/Durham Road**



	Fall Weekday – 2 NB / 3 SB
	Fall Weekend – 2 NB / 2 SB

**Lake Road**



	Sum Weekend – 2 NB / 5 SB
	Fall Weekend – 2 NB / 2 SB

**County Road 26**



	Fall Weekend – 1 EB / 0 WB
	Fall Weekend – 1 NB / 2 WB

Counts above represent maximum observed during 10 hour period on summer and fall weekday and weekend  
 Sum – summer / NB – northbound / SB – southbound / EB – eastbound / WB – westbound

# Open Discussion

## WE'D LIKE TO KNOW ABOUT:

- Potentially impacted features (natural environment, municipal or private property, utilities, etc.);
- Planning studies anticipated or underway
- Existing policies and design guidelines (roadways, waterways, etc.)
- Maintenance and operations
- Other **constraints** and **opportunities** within the study area



Thank you!

*wsp.com*



**Date of meeting:** January 26, 2021      **Project:** Highway 401 Colborne to Brighton

**Location:** Microsoft Teams (virtual)      **Project No.:** 4016-E-0034-11

**Author:** WSP

**Purpose:** Municipal Advisory Council Meeting #1 (MAC 1) meeting with the Township of Cramahe

Attendees	E-Mail
Muhammad Waseem, MTO (PM)	Muhammad.Waseem@ontario.ca
Erin Pipe, MTO Environmental	Erin.Pipe@ontario.ca
Heather Sadler, Manager of Planning and Development, Township of Cramahe	hsadler@cramahetownship.ca
David MacPherson, Manager of Transportation and Environmental Services, Township of Cramahe	dmacpherson@cramahetownship.ca
Brent Gotts, WSP Planning	Brent.Gotts@wsp.com
Christine Vazz, WSP Environmental	Christine.Vazz@wsp.com
Dahlia Malek, WSP Planning	Dahlia.Malek@wsp.com
Rhonda George-Hiebert, WSP Planning	Rhonda.George-Hiebert@wsp.com
Sandy Nairn, WSP Environmental	Sandy.Nairn@wsp.com
<b>CC: Project Team</b>	

Item	Details	Action By
<b>1.</b>	<b>Study Background</b>	
1.1.	WSP to follow up with Bruce Greatrix, the Township of Cramahe Fire Chief, for input on the material from MAC #1. Heather (from the Township of Cramahe) noted that the Fire Chief did not communicate any major concerns.	WSP
1.2.	The scope of the study was presented and further detailed in the attached slides. The main purpose of the study is the replacement of aging bridges and culverts which requires establishing the future Highway 401 footprint for an interim six lanes and ultimate eight lanes. Commuter parking lot improvements at County Road 30 are also within the study scope. There are three bridges (Herley Road Underpass, Lake Road Underpass, County Road 26 Underpass) and four structural culverts within the study area that will likely require replacement.	
1.3.	WSP provided an overview of the key problems and opportunities: <ul style="list-style-type: none"> <li>The structures are approaching the end of their service life;</li> <li>The Highway 401 platform cannot accommodate staging for replacement of the structures and culverts;</li> </ul>	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
	<ul style="list-style-type: none"> <li>The study will assess the rehabilitation/replacement of the bridges and culverts and the future highway footprint (6-lane and 8-lane).</li> </ul>	
1.4.	WSP presented the consultation schedule.	
1.5.	<p>The Township of Cramahe noted for WSP to follow up with Northumberland County to provide GIS property information to MTO and WSP. MTO noted they are also looking into this property information and will follow up with WSP.</p> <p><i>[Post Meeting Note: MTO was able to provide WSP with the GIS property information required]</i></p>	
<b>2.</b>	<b>Highway 401 Planning Alternatives</b>	
2.1.	<p>WSP presented the alternatives for future widening of Highway 401 to the 6-lane (Interim) and 8-lane (Ultimate) condition, including: One widening option for existing closed median sections:</p> <ol style="list-style-type: none"> <li>Widen to the outside of the existing lanes. Widened shoulders may be used to improve sight distance past the median barrier wall.</li> </ol> <p>Three widening options for existing open median sections:</p> <ol style="list-style-type: none"> <li>Widen to the inside of the existing lanes. This option reduces property impacts and avoids impacts to the adjacent topography. However, in the 8-lane condition, emergency median turnarounds cannot be accommodated as guiderail is required on the inside shoulder because the resulting median is less than 22.5 m wide.</li> <li>Widen to the inside for the 6-lane condition and widen to the outside for the 8-lane condition. This option has impacts to property and topography. However, in both the 6-lane and 8-lane condition, an open median is retained and emergency median turnarounds can be accommodated.</li> <li>Widen to the inside on the westbound side and widen to the outside on the eastbound side (asymmetrical widening to the south). This option would only be considered in specific locations that have constraints on the north side of the highway that would prohibit widening to the north.</li> </ol> <p>Variations to these widening alternatives may be considered and are currently being further evaluated. These alternatives will be presented at PIC #1.</p>	
2.2.	Cramahe noted the proximity of Highway 401 to properties on the north side of Little Lake and suggested that realigning the highway to the north would likely be preferred by the property owners. WSP is taking into account the property constraints in this area and is reviewing alternatives and potential impacts.	
<b>3.</b>	<b>Highway 401 Detours</b>	
3.1.	WSP presented the demolition and detour option for the Herley Road and Lake Road Underpasses. Due to the structure type (post-	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
	<p>tensioned cables and integral piers), each bridge must be demolished all at once. The only feasible option for bridge demolition is a full closure of the Highway 401 with traffic detoured onto the emergency detour route (EDR) during demolition. Herley Road and Lake Road underpasses would most likely be demolished at different times to avoid simultaneous road closures (to be confirmed in subsequent design phases).</p> <p>The estimated closure length would be 12-18 hours during off-peak traffic hours (typically from Saturday night to Sunday), to be confirmed in subsequent design phases.</p>	
3.2.	<p>There was a discussion about managing detour traffic. Ontario Provincial Police (OPP) officers will be employed on the detour routes and at intersections during the closures, with details to be confirmed in subsequent design phases. Cramahe agreed with detouring via the EDR and advised that WSP prepare a clear plan to address probable questions from the public and councillors about management of detoured traffic. WSP agreed and noted that to help mitigate the impacts, the detours will be a planned closure, occurring at off-peak hours during the off-peak season (to avoid summer traffic and winter weather).</p>	
<b>4.</b>	<b>Crossing Roads</b>	
4.1.	<p>WSP presented the options for replacement of the Herley Road underpass:</p> <ol style="list-style-type: none"> <li>1. Replace structure to the west side. Keep traffic on the existing structure on the east, then shift traffic to the west when the new structure is complete. Replacing on a new alignment has a greater footprint and will result in property impacts.</li> <li>2. Replace structure on existing alignment. This would require road closure because it's not feasible to demolish half the bridge while keeping one lane open. Traffic detour would be required for 1.5 to 2 years during replacement of the bridge (closure duration to be confirmed in subsequent design phases), but property impacts would be reduced because there is no realignment of Herley Road. It is easiest to tie back into existing grade/alignment with this option due to the straighter horizontal geometry.</li> <li>3. Replace structure to the east. Similar to Option 1, but with replacement on the other side.</li> <li>4. Remove crossing, this option is not usually considered, but is presented because Percy Street is so close (~1.7 km away).</li> </ol>	
4.2.	<p>There was a discussion about the Herley Road underpass replacement options. Cramahe eliminated Option 4 because the Township of Cramahe water storage (standpipe) is accessed off of Herley Road (to the west) north of Highway 401. Cramahe noted that the standpipe is accessed daily and in emergency situations and</p>	Township of Cramahe

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
	having quick access is important. Township of Cramahe to provide WSP with utility information related to the standpipe. Cramahe advised that Option 2 is not desirable but did not eliminate this option.	
4.3.	<p>WSP presented the options for replacement of the Lake Road underpass. The options are similar to those presented for Herley/Durham Road and are as follows:</p> <ol style="list-style-type: none"> <li>1. Replace structure to the west;</li> <li>2. Replace structure on the same alignment which would require a road closure of approximately 1.5 to 2 years during replacement of the bridge (closure duration to be confirmed in subsequent design phases);</li> <li>3. Replace structure to the east.</li> </ol>	
4.4.	<p>There was a discussion about the Lake Road underpass replacement Option 2 (closure of Lake Road while replacing on the same alignment). WSP noted that the Municipality of Brighton emergency services did not oppose Lake Road closure since Herley Road can be used as a detour and the overall travel time/distance is not increased. Option 2 also minimizes property impacts associated with the structure replacement and is most compatible with the highway widening alternatives. The Township of Cramahe agreed that this is the least impactful option and, while it is not ideal to close Lake Road during construction, it is feasible.</p>	
4.5.	<p>There are no posted speed signs on Herley/Durham Road, and there are no AT provisions noted in the Cramahe Official Plan or the Northumberland County Transportation Master Plan. Lake Road was identified as a proposed AT facility (signed cycle route) in the Northumberland County Transportation Master Plan, which will be considered for the new structure. Pedestrian and cyclist counts were completed in August and September 2020 and were relatively low (maximum of 7 individuals per day on Lake Road). MTO noted that the Ministry does cost-share where the AT route is identified on the provincial plans. Cost-sharing will be confirmed in subsequent design phases. Cramahe agreed that active transportation should be considered on Lake Road.</p>	
4.6.	<p>WSP asked the Township of Cramahe for input on the posted speed and design speed for Herley Road and Lake Road and typical maximum superelevation used on their roads.</p>	Township of Cramahe
<b>5.</b>	<b>Open Discussion</b>	
5.1.	<p>Cramahe advised that there is a source water protection area (SWPA) in the study area which impacts the allowable usage, mainly related to allowable construction activities and mitigation. The restrictions in the SWPA may increase soon because the Township of Cramahe is updating their modelling. Cramahe to provide WSP with more information when available.</p>	Township of Cramahe

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
5.2.	Cramahe identified that there is a site plan application to add to the industrial park west of Herley Road. MTO Corridor (Eastern Region) is currently involved in reviewing this application.	
5.3.	Cramahe noted that there is a development plan on Durham Road (south of Purdy Road) referred to as Durham North; the plan has not been approved yet due to lack of sewer capacity. Cramahe is working on increasing capacity and once the plan is approved (expected within 5-10 years) it is anticipated that there would be increased traffic northbound on Herley/Durham Road. MTO noted that potential large trip generators need to be considered in the traffic modelling. Cramahe to provide any available information on trip generators and the development timeline.	Township of Cramahe





# Highway 401 Planning Study from Colborne to Brighton Preliminary Design and Environmental Assessment Study

GWP 4054-17-00

*Municipal Advisory Committee (MAC) Meeting #1*

*December 9, 2020*

# Meeting Format

- WSP will present slides on screen using Skype
- To join the meeting, use the following link or dial-in by phone:
  - *Link: [Join Skype Meeting](#)*
  - *Phone: 1-833-423-3326, access code 234037*
- If you are unable to connect to the meeting on your computer, please follow along with the emailed presentation
- Please keep your microphone on mute unless you are speaking to the group
- Questions:
  - *We will pause at certain points throughout the presentation to take questions specific to the preceding slides. Please hold your questions until those times.*
  - *There will be time for an open discussion at the end to ask any remaining questions / discuss the project*

# Agenda

1. Introductions
2. Study Background and Process
3. Problems and Opportunities
4. Existing Conditions and Key Issues
5. Highway 401 Planning Alternatives
  - a) *Cross-Sections*
  - b) *Alignments*
6. Highway 401 Detours
7. Crossing Roads
8. Planning Alternatives
9. Open Discussion
10. Next Steps

# Introductions & Attendance



Muhammad Waseem – Project Manager

Melissa Buelow – Area Manager

Erin Pipe – Environmental Planner

Lloyd Pacheco – Traffic



Brent Gotts – Consultant Project Manager

Rhonda George-Hiebert – Senior Project Manager

Sandy Nairn – Environmental Planner

Christine Vazz – Environmental Planner

Dahlia Malek – Transportation Planning

Kate Barclay – Transportation Planning

# Purpose & Objective of today's Municipal Advisory Committee (MAC) Meeting

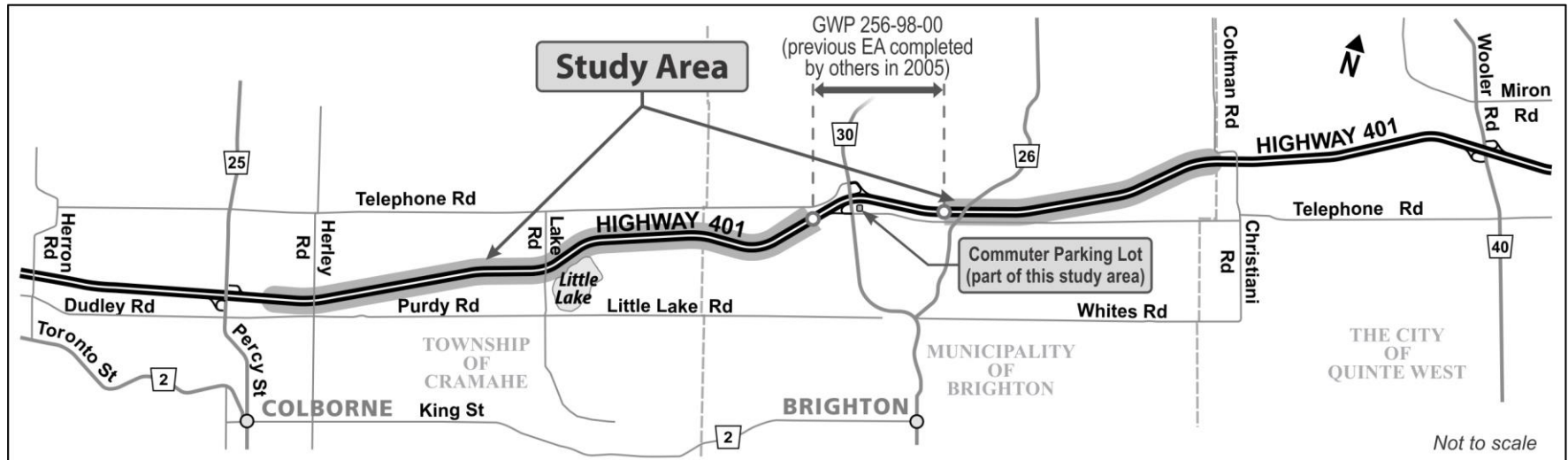
- Provide input and feedback at key milestones throughout the study reflecting local knowledge and expertise
- Assist in identifying constraints and opportunities within the study area

**Note:** The information being shared today has not yet been presented publicly. The first Public Information Centre (PIC 1) is anticipated to occur in Winter/Spring 2021. In the meantime, this information should be treated as confidential.

# Study Background (1)

**WSP** has been retained by the Ministry of Transportation (**MTO**) to undertake the Preliminary Design and Class Environmental Assessment (EA) for Highway 401 improvements, including:

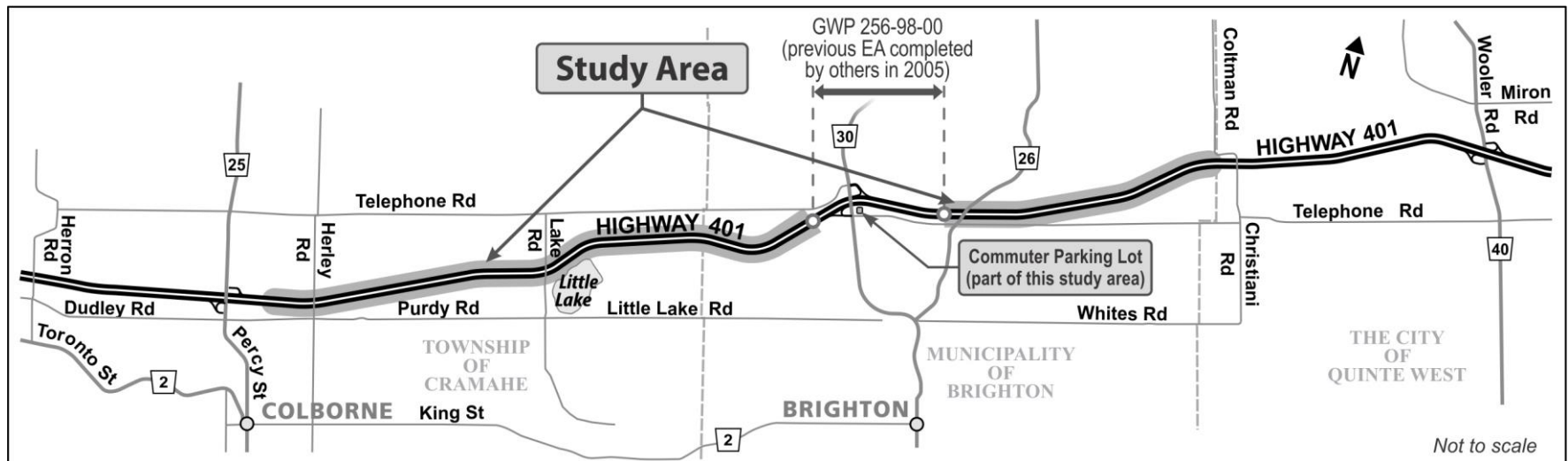
- Replacement of structures
- Establishing the future Highway 401 footprint for an interim 6 and ultimate 8 lanes to address long-term transportation needs
- Commuter parking lot improvements at County Road 30



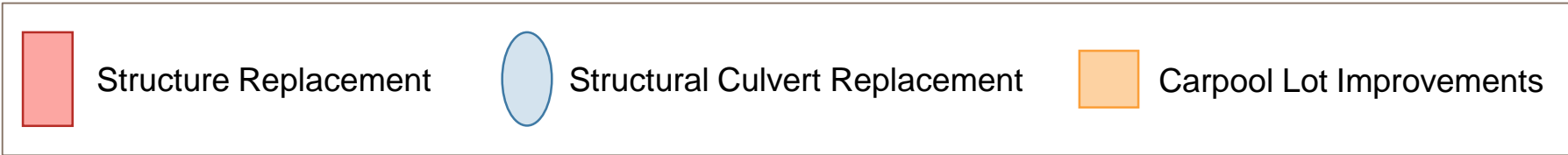
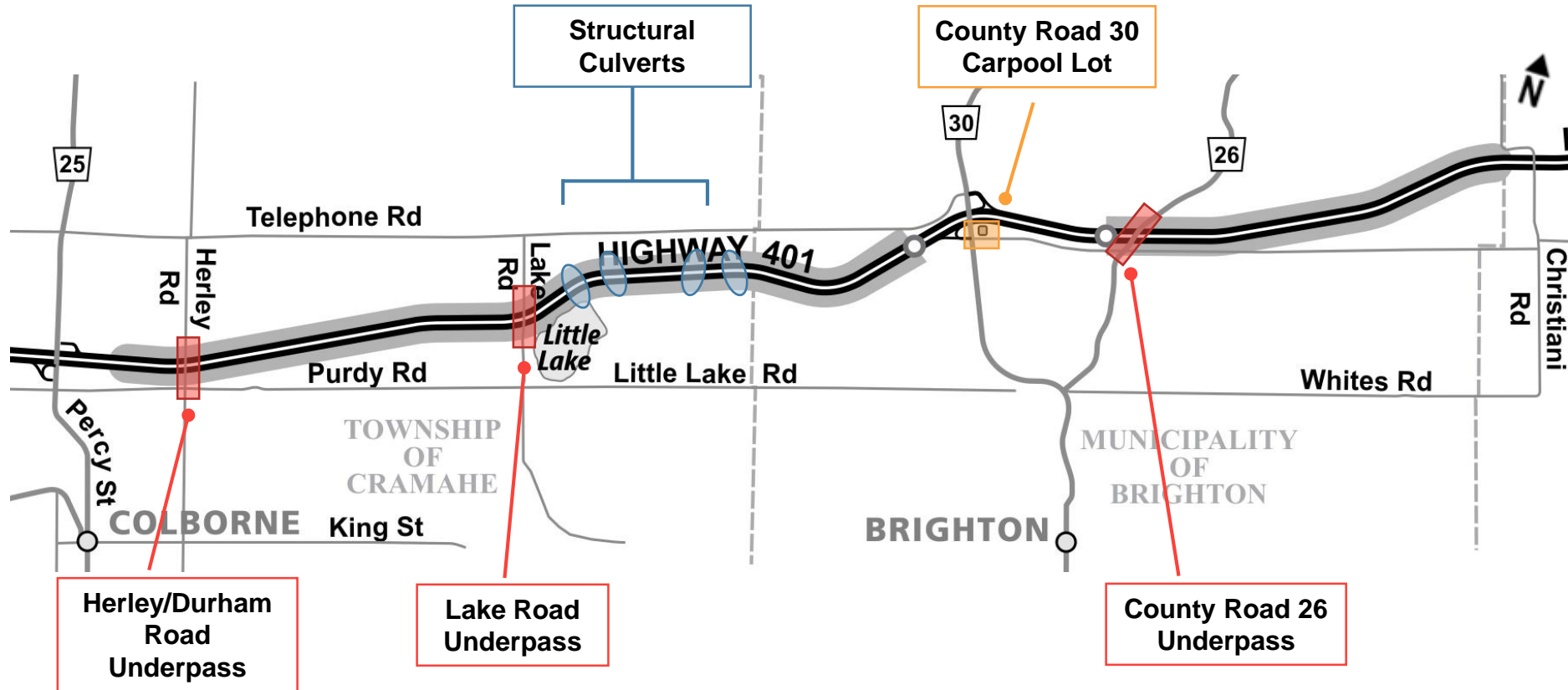


# Study Background (2)

- Study limits are from 0.8 km east of Percy Street to 0.4 km west of Christiani Road (excluding the County Road 30 Interchange)
- Improvements to the commuter parking lot at County Road 30 will be identified as part of this study
- County Road 30 Interchange improvements are not included in the scope of this study because the interchange has been studied in a previous Environmental Assessment (EA). The EA was completed by others in 2005.
- Highway 401 Planning Study from Cobourg to Colborne is currently in progress

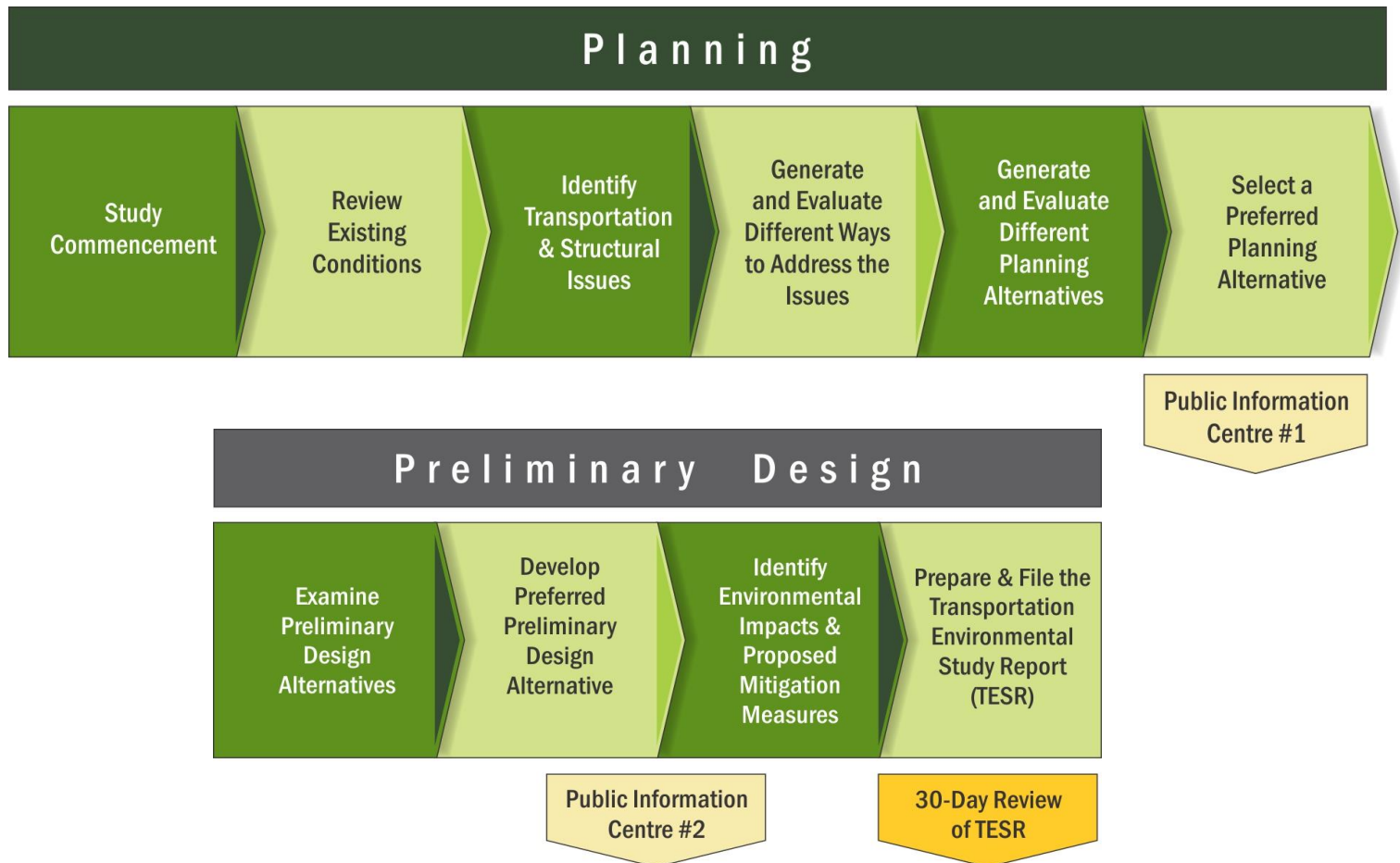


# Study Background (3)



# Study Process

This study is a 'Group B' project under the *Class Environmental Assessment (Class EA) for Provincial Transportation Facilities (2000)*.



# Key Milestones and Consultation

- Notice of Study Commencement – issued July 2020
- **MAC #1 – December 9, 2020**
- PIC #1 – Winter 2021\*
  - *Present existing conditions, need and justification, short-list of alternatives*
- MAC #2 – Spring / Summer 2021\*
- PIC #2 – Fall 2021\*
  - *Present preferred alternative and preliminary design*
- Prepare and File Transportation Environmental Study Report (TESR) – Winter 2022\*
  - *TESR will be made available for a 30-day review period*

\*Project schedule is tentative, milestone dates will be confirmed as the study progresses

# Problems and Opportunities

## Problems:

- The structures in the study area are nearing the end of their service lives, and will require rehabilitation and/or replacement in the coming years
- The existing Highway 401 platform cannot accommodate the traffic staging to rehabilitate / replace the bridges and structural culverts

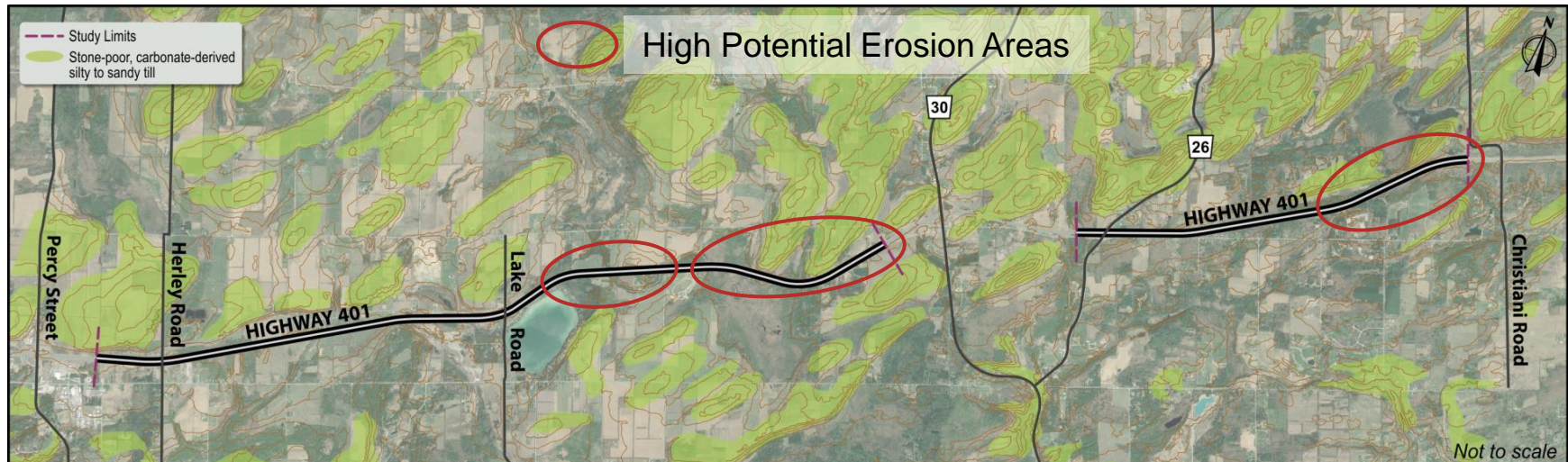
## Opportunities:

- The study will assess the existing bridges and culverts in the study area and develop appropriate rehabilitation or replacement strategies to maintain the safe operation of the Highway 401 corridor for the current and future planning horizons
- For structural planning purposes the study will establish the future Highway 401 footprint for six and eight lanes, to ensure an appropriate design of the replacement bridges



# Existing Conditions and Key Issues

- Highway 401 is a four-lane divided freeway. The median varies between a 10 m closed median and a 30 m open median.
- All structures are approaching the end of their service lives and require replacement
  - *Determining traffic staging and detour strategies for construction and demolition will be an important part of this study*
- Anticipate that the necessary Highway 401 improvements will require property beyond the existing right-of-way in various locations along the corridor
- Challenging topography and soil conditions due to drumlins in the study area
  - *Areas where slope stability and erosion is a concern will be identified early in the study*

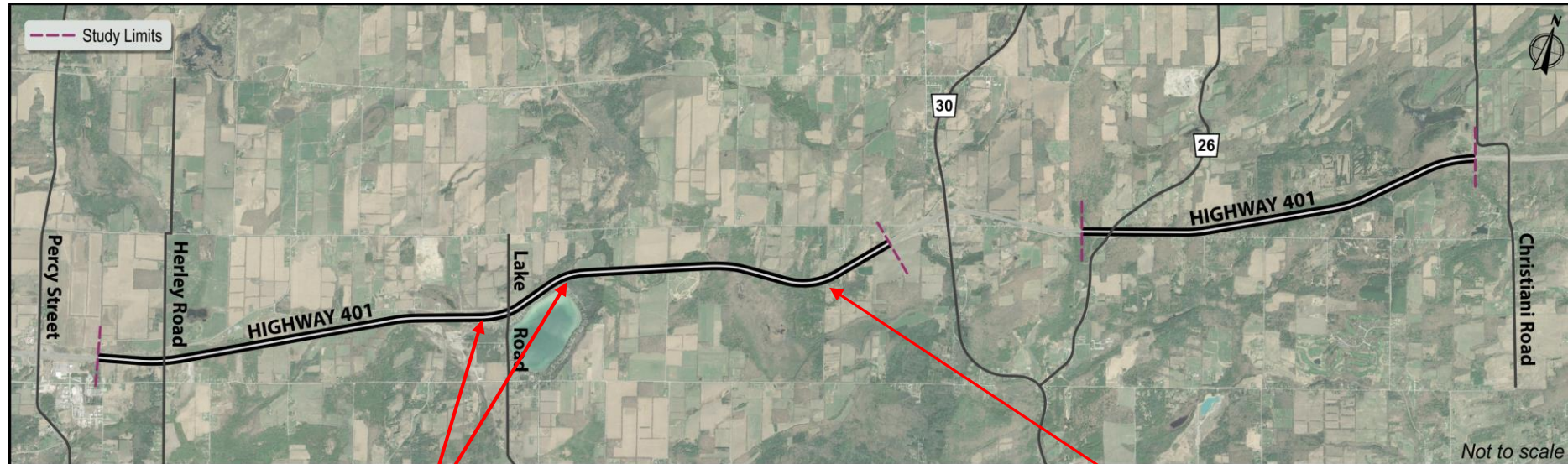


# Ongoing Studies to Be Completed

Field work was completed this Fall for a number of studies and will continue into Spring 2021. These studies include:

- Cultural Heritage Resource Assessment
- Stage 1 Archaeology Assessment
- Fisheries Impact Assessment
- Terrestrial Impact Assessment
- Groundwater Assessment Report
- Stormwater Management Plan
- Landscape Composition Report
- Contamination Overview Study
- Air Quality and Greenhouse Gas Assessment Report
- Noise Assessment Report
- Designated Substances Survey
- Excess Materials Management Plan

# Highway 401 Existing Alignment



## At Little Lake:

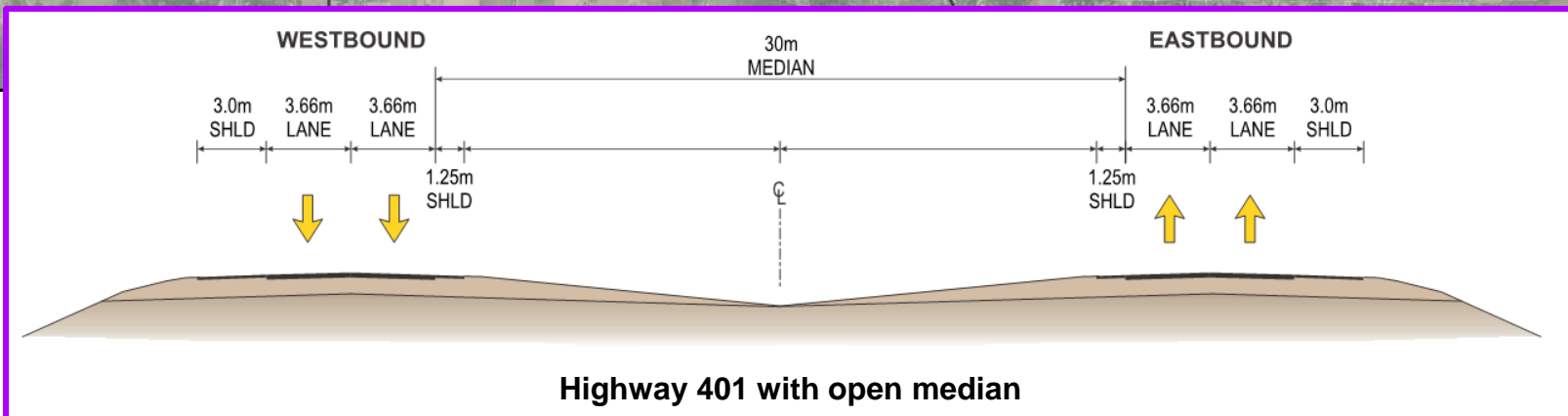
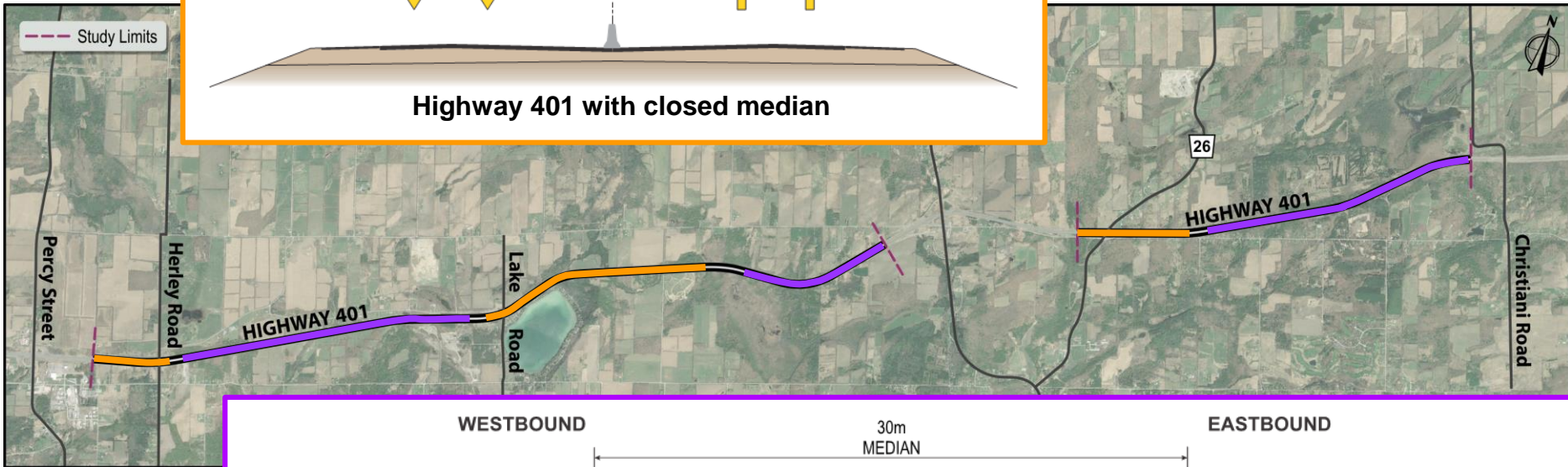
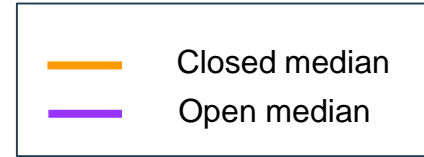
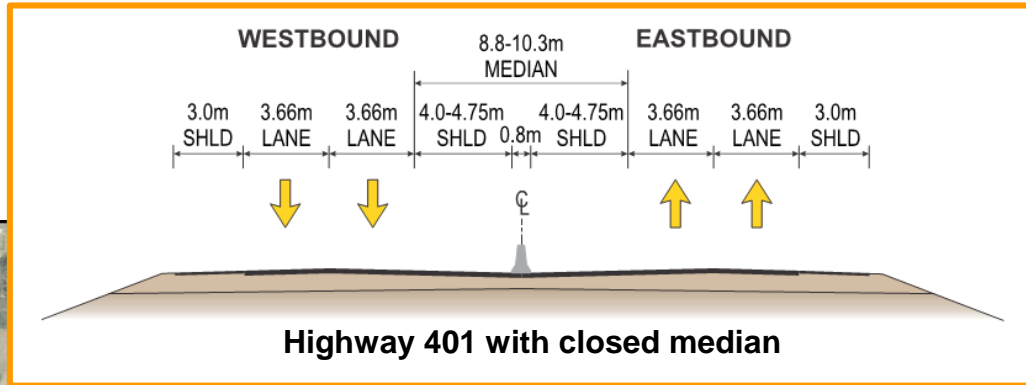
- Existing horizontal curves limit sight distance
- Can be improved by highway realignment and/or widened shoulders
- Constrained by adjacent properties on the south and large embankment (drumlin till) on the north

## Just West of County Road 30:

- Existing horizontal curve limits sight distance
- Can be improved by highway realignment and/or widened shoulders



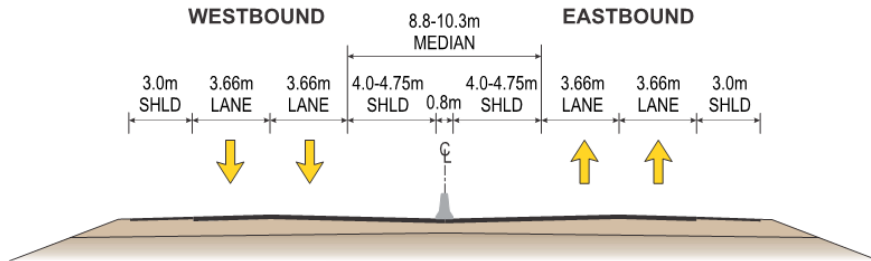
# Highway 401 Existing Cross Section



# Highway 401 Future Widening

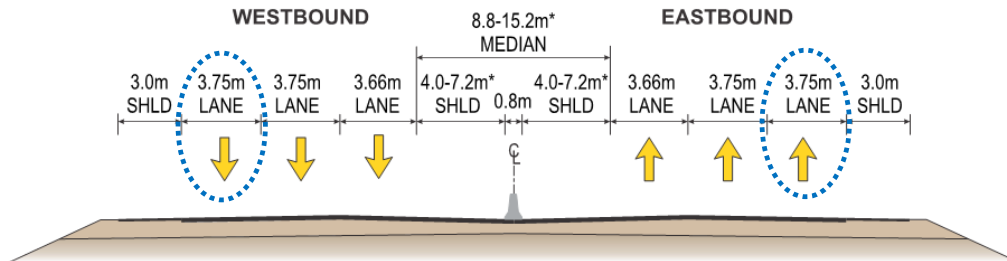
## Closed median cross-section

### Option 1: Widen outside

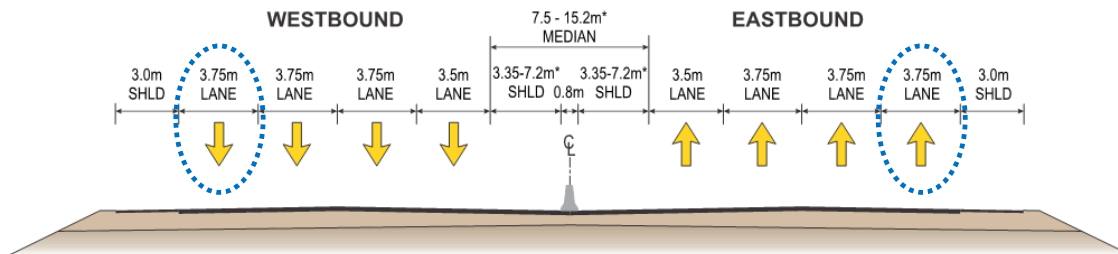


Existing

Added lanes



Interim 6-Lane



Ultimate 8-Lane

\* Shoulder widths may be increased where horizontal curve radii <1700 m, to provide adequate sight distance.

Median dimensions to be confirmed



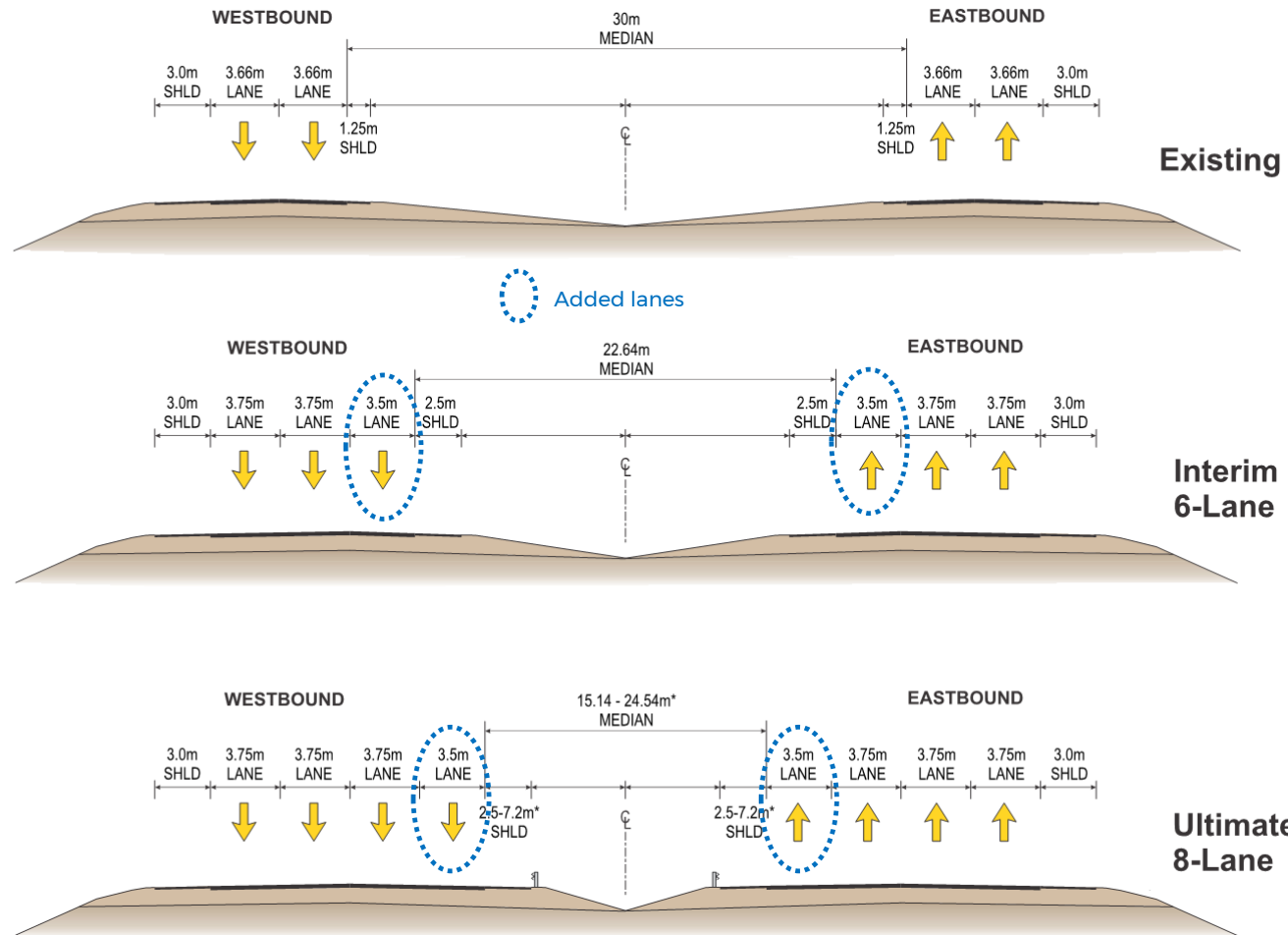
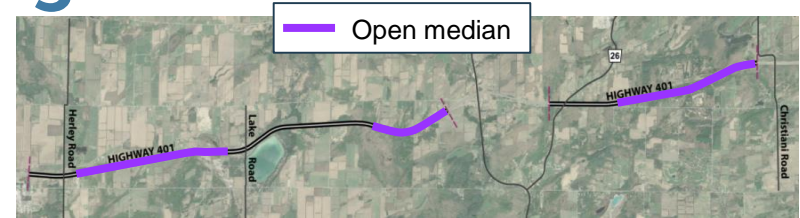
# Highway 401 Future Widening

## Open median cross-section

### Option 1: Widen inside only

- Minimizes property impact
- Minimizes impact to adjacent topography
- Requires median guiderail in Ultimate condition
- 15 m median in Ultimate condition precludes emergency median turnaround

\* Shoulder widths may be increased where horizontal curve radii <1700 m, to provide adequate sight distance.



Existing

Interim  
6-Lane

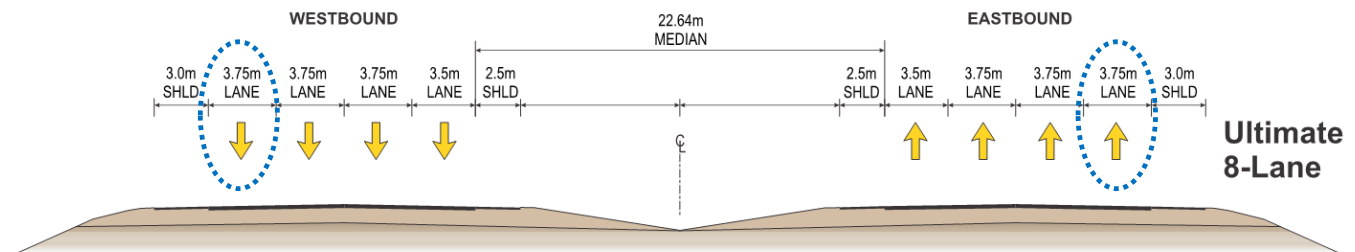
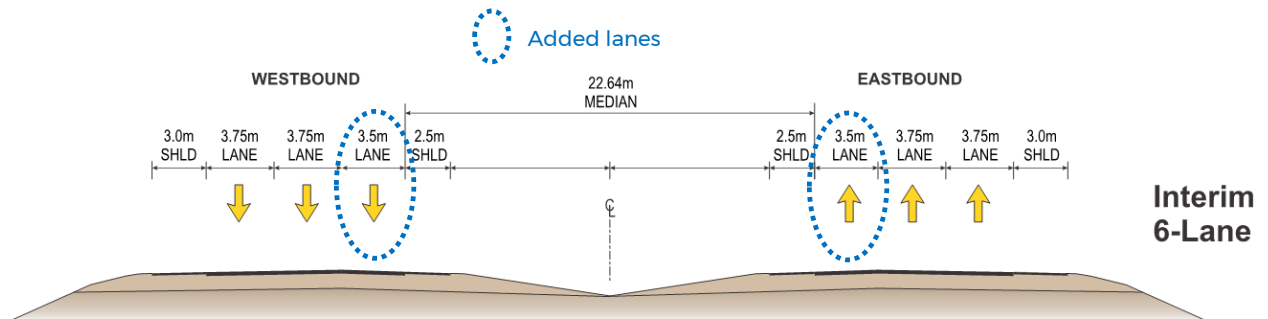
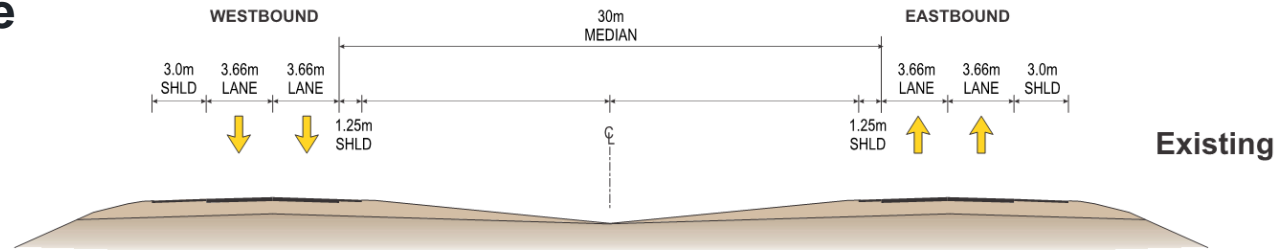
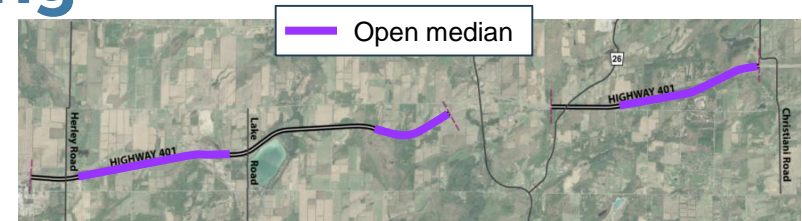
Ultimate  
8-Lane

# Highway 401 Future Widening

## Open median cross-section

### Option 2: Widen inside & outside

- Impacts to adjacent property
- Impacts to adjacent topography
- Retains open median in Ultimate condition
- Emergency median turnarounds can be accommodated

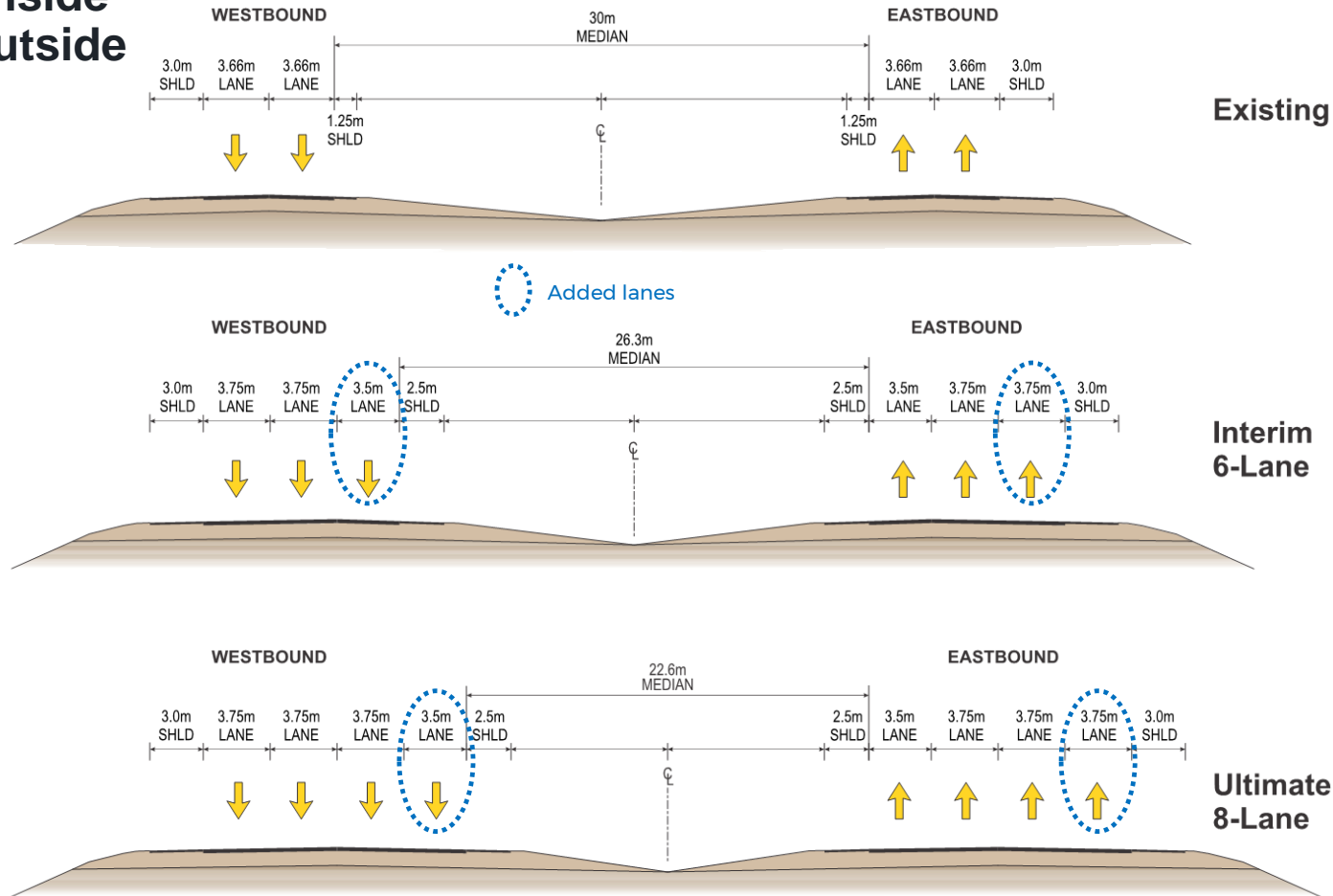
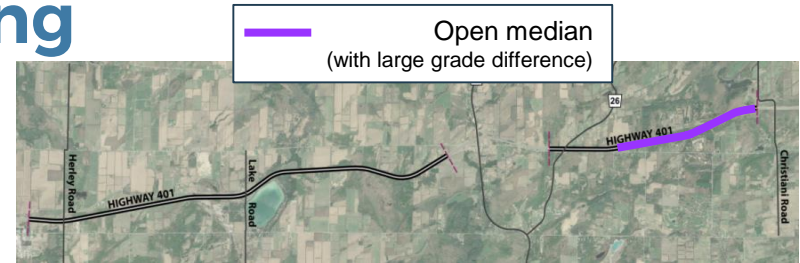


# Highway 401 Future Widening

## Open median cross-section

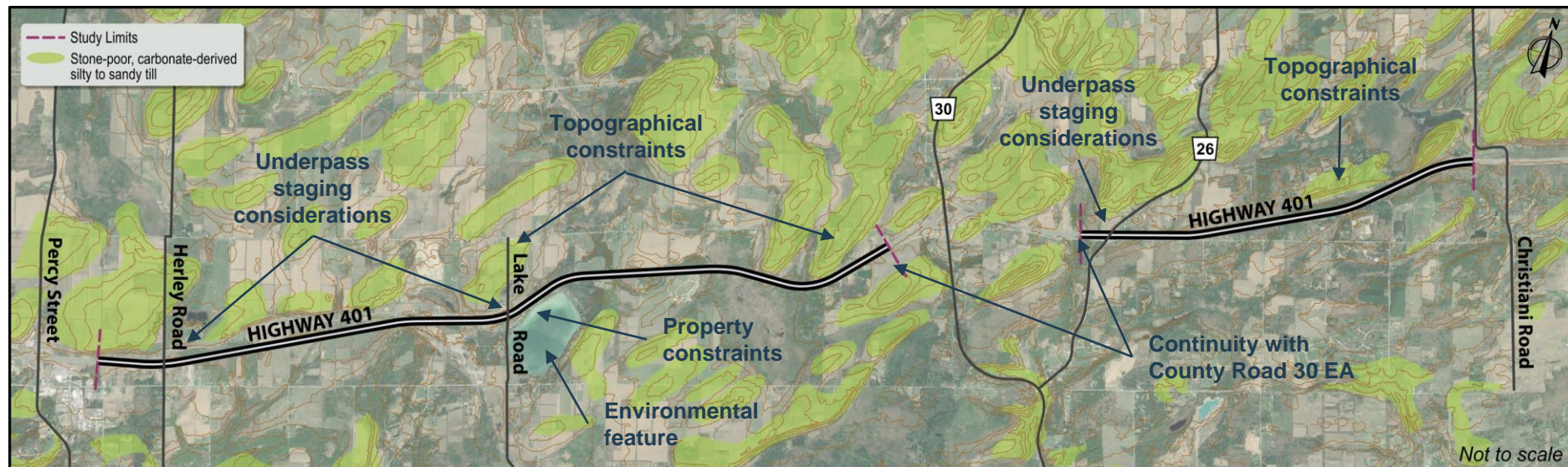
### Option 3: Widen WB to the inside Widen EB to the outside

- Widen to the outside due to large grade difference
- Drumlin on north side of highway prohibits widening to the north
- Retains open median in Ultimate condition
- Emergency median turnarounds can be accommodated



# Highway 401 Future Widening

- Widening strategy will not be a 'one-size-fits-all' solution throughout study area
- Will take into account localised constraints (property, topography, environmental features, staging, highway geometry, etc.)
  - *Example: widening asymmetrically to avoid impacts to properties or environmental features*





# Highway 401 Emergency median turnarounds

## Existing locations



Distance between interchanges:

- Percy Street to County Road 30 12.5 km
- County Road 30 to County Road 40 12.5 km



# Highway 401 Detours for Bridge Demolitions

## Herley/Durham Road and Lake Road Underpasses

- Post-tensioned structure with piers integral to structure
- Demolishing structure all at once is currently the only feasible option
  - Other options are under further review, but are high risk and unlikely to be feasible
- Not feasible to detour within ROW
- Timing of demolition to be confirmed



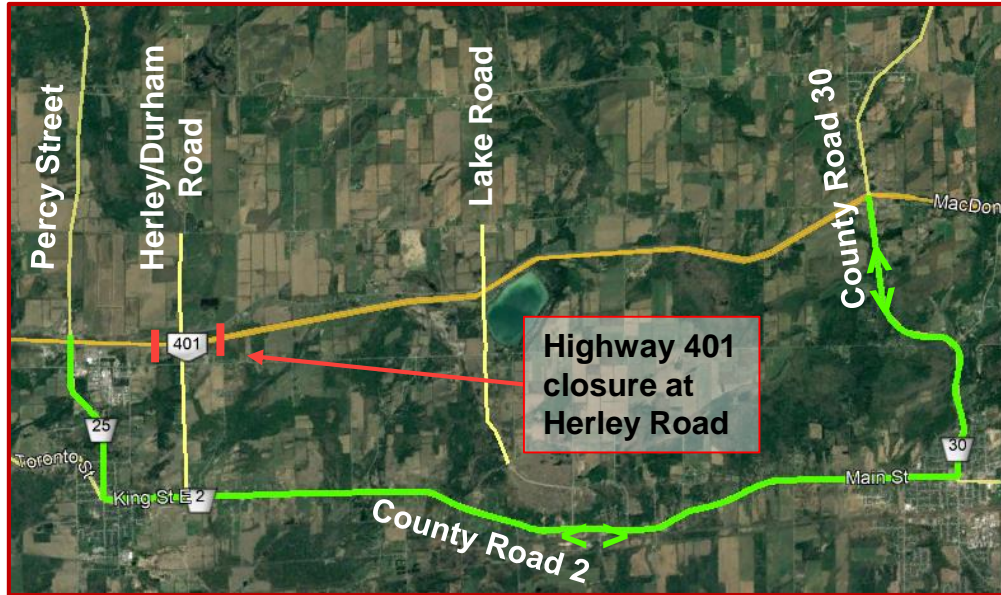
Herley Road Underpass



Lake Road Underpass

# Highway 401 Detours for Bridge Demolitions

## Herley/Durham Road and Lake Road Underpasses



### Detour traffic onto municipal roads

- Highway 401 traffic onto EDR
- Estimated length of closure: 12-18 hour demolition (off-peak)

 Hwy 401 detour\*

- Herley Road and Lake Road demolitions likely occurring at different times.
- The timing of the replacements will be confirmed later in the study.

\*same detour proposed for Cobourg to Colborne (PIC #1)



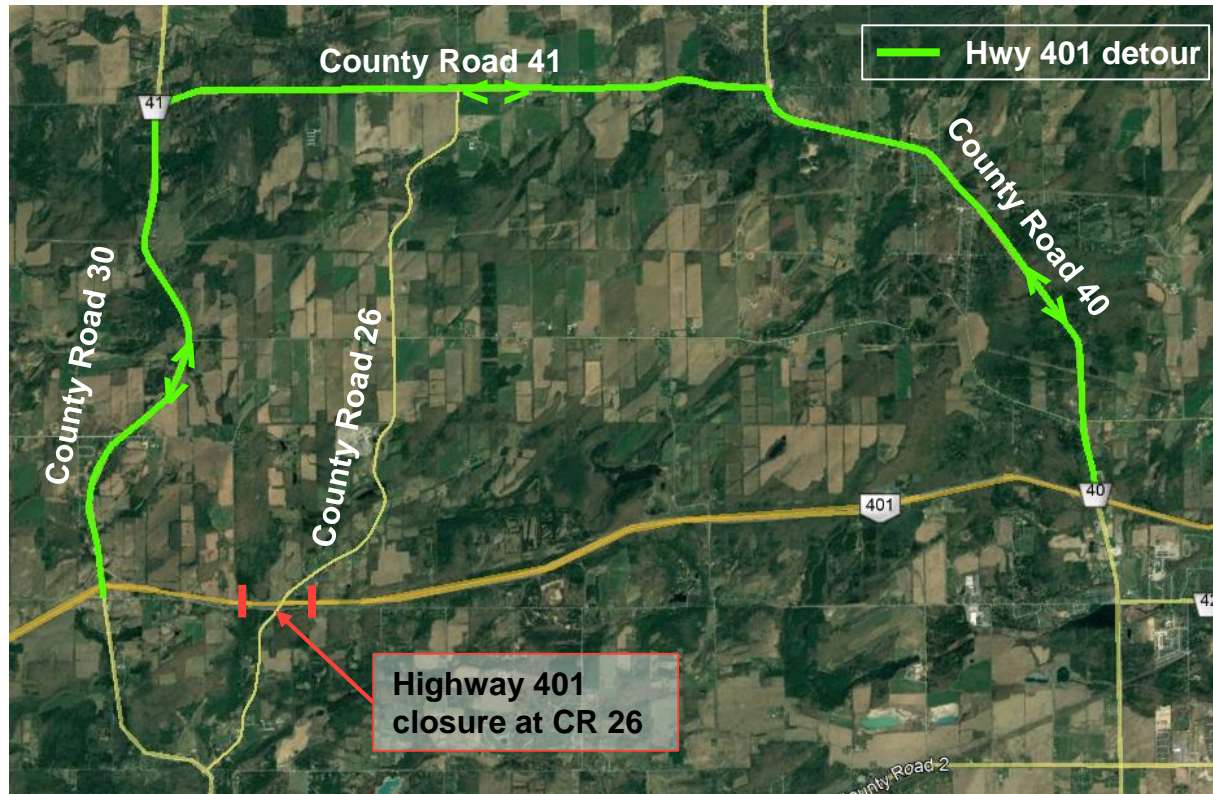


# Highway 401 Detours for Bridge Demolitions

## County Road 26 Underpass

### Option 1: Detour onto municipal roads

- Highway 401 traffic onto EDR
- Estimated length of closure: 12-18 hour demolition (off-peak)

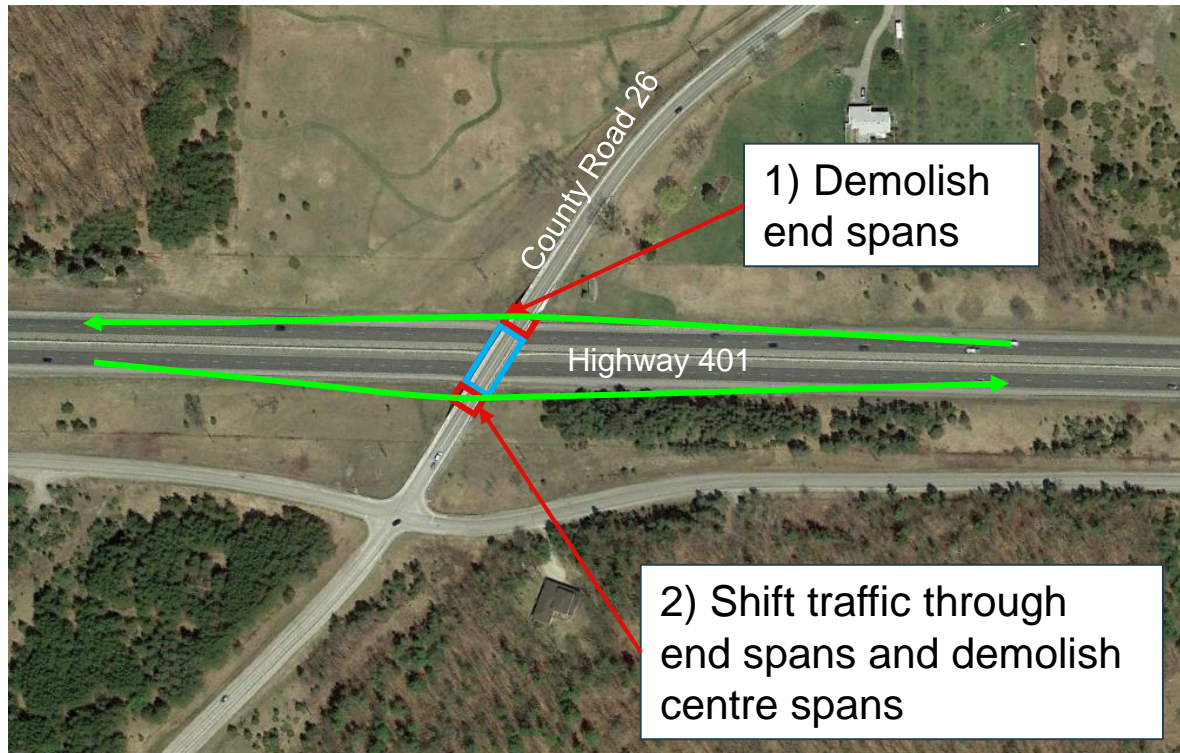


# Highway 401 Detours for Bridge Demolitions

## County Road 26 Underpass

### Option 2: Detour traffic within MTO Right-of-way

- Bridge can be demolished in sections with Highway 401 traffic detoured within right-of-way (ROW)
- Median crossover required for 1 day per span





# Crossing Roads

## Herley/Durham Road

- Rural local undivided road with an assumed posted speed of 50 km/h, assumed design speed 60 km/h for future design
- Underpass structure built in 1959 and requires replacement
- No existing or proposed active transportation routes crossing Highway 401
- Replacement options will be assessed to identify potential impacts
- Single lane closure with demolition of half the structure is not feasible due to bridge type

Option 1: Replace structure to the west



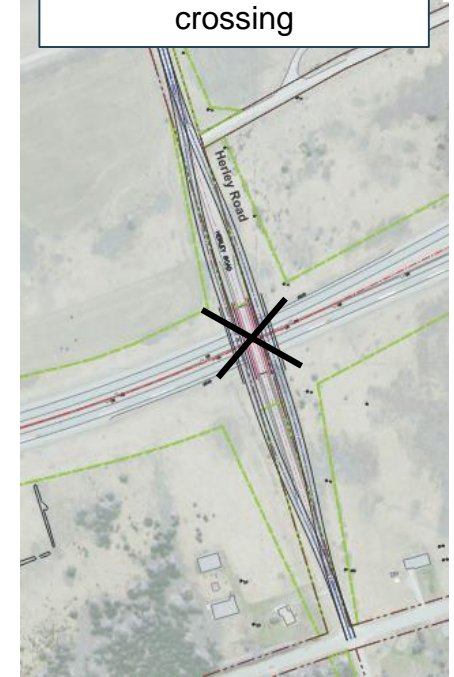
Option 2: Replace structure on existing alignment (road closed)



Option 3: Replace structure to east



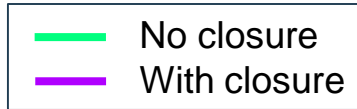
Option 4: Remove crossing





# Detours Routes

## Herley/Durham Road



- Local detour via Percy Street
- Additional 4.2 km from Cramahe South Fire Station with closure
- Local detour from Herley Road south to north is approximately 6.7 km via Percy Street & Telephone Road



# Crossing Roads

## Lake Road

- Rural local undivided road with a posted speed of 40 km/h, assume design speed 60 km/h for future design
- Underpass structure built in 1959 and requires replacement
- No existing active transportation routes, proposed signed cycle route (Northumberland Transportation Master Plan 2017)
- Crandall Road is likely to be impacted by Lake Road realignment
- Single lane closure with demolition of half the structure is not feasible due to bridge type

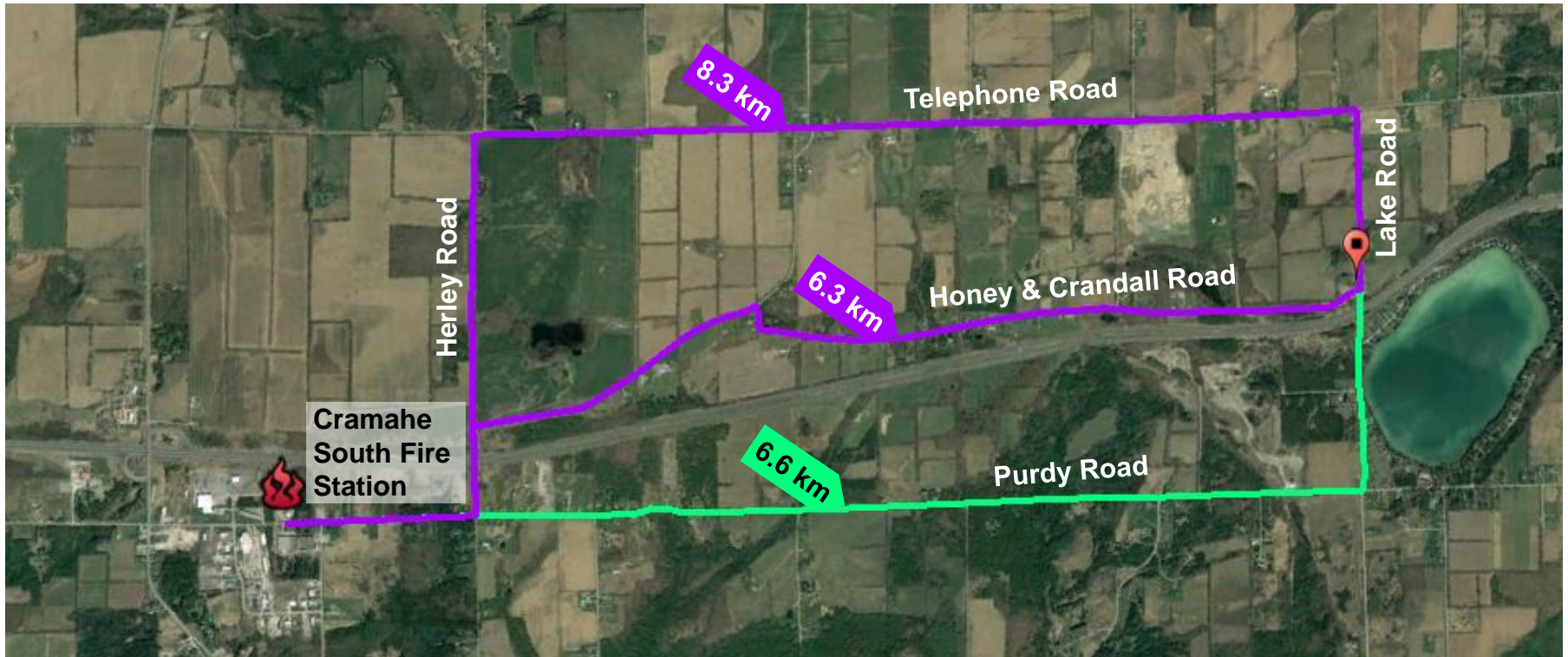
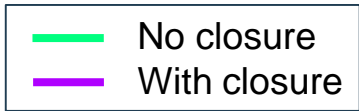




# Detour Routes

## Lake Road

- Detour via Herley Road, Honey & Crandall Road: 0.3 km shorter
- Detour via Herley Road and Telephone Road: 1.7 km longer
- Distance from Brighton Fire Hall with closure of Lake Road: 9.7 km
- Local detour from Lake Road south to north (via Purdy, Honey Road): 12.5 km



# Crossing Roads

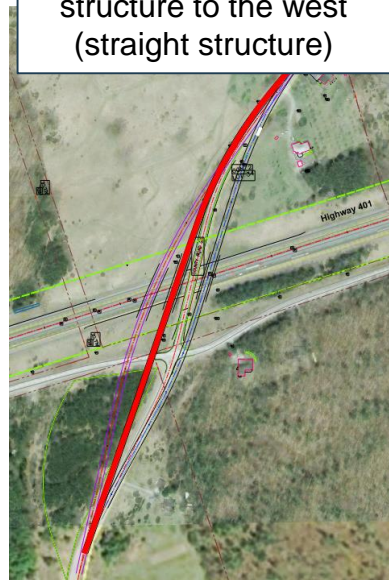
## County Road 26

- Rural arterial undivided road with a posted speed of 80 km/h, assumed design speed of 100 km/h
- Underpass structure built in 1965 and requires replacement
- No existing or proposed active transportation facilities

Option 1A: Replace structure to the west (curved structure)



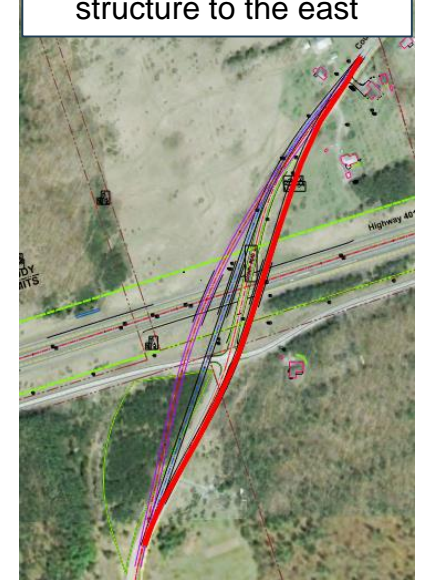
Option 1B: Replace structure to the west (straight structure)



Option 2: Replace on existing alignment (road closed)



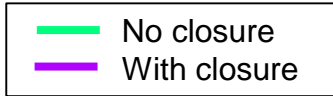
Option 3: Replace structure to the east



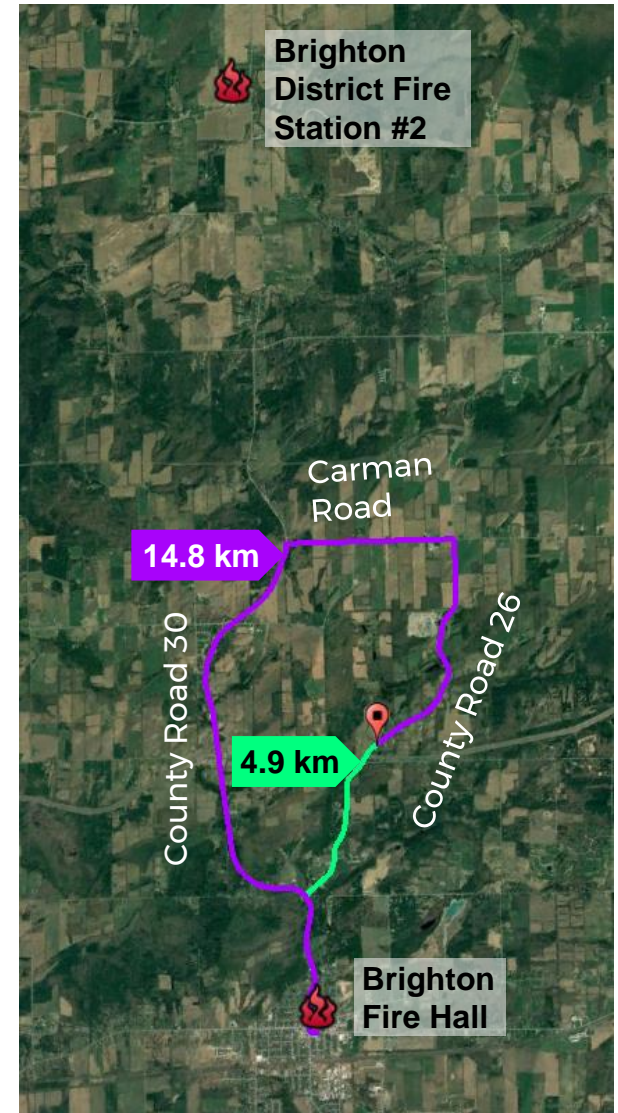
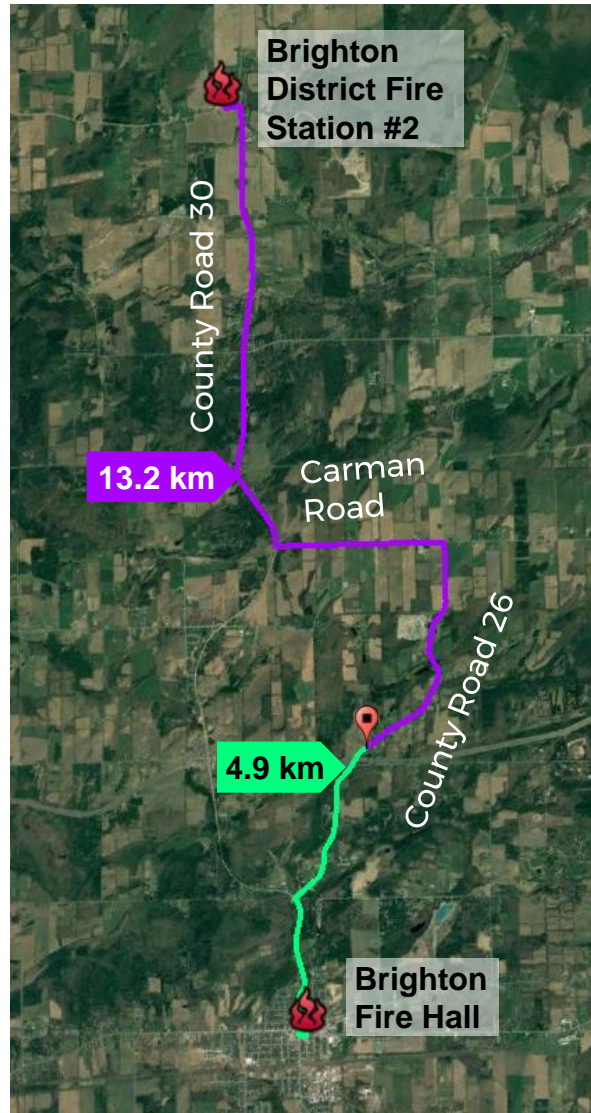


# Detour Routes

## County Road 26



- Distance from Brighton Fire Station #2 is 1.6 km less than detour from Brighton Fire Hall via County Road 30







# Active Transportation

- Opportunity to accommodate active transportation on crossing roads in the corridor
- Weekday and weekend pedestrian and cyclists counts were conducted in the summer and fall of this year
- Pedestrian and cyclists counts were generally low (< 8 in a 10 hour period) in all periods on all roads



**Herley/Durham Road**



	Fall Weekday – 2 NB / 3 SB
	Fall Weekend – 2 NB / 2 SB


**Lake Road**



	Sum Weekend – 2 NB / 5 SB
	Fall Weekend – 2 NB / 2 SB

**County Road 26**



	Fall Weekend – 1 EB / 0 WB
	Fall Weekend – 1 NB / 2 WB

Counts above represent maximum observed during 10 hour period on summer and fall weekday and weekend  
 Sum – summer / NB – northbound / SB – southbound / EB – eastbound / WB – westbound

# Open Discussion

## WE'D LIKE TO KNOW ABOUT:

- Potentially impacted features (natural environment, municipal or private property, utilities, etc.);
- Planning studies anticipated or underway
- Existing policies and design guidelines (roadways, waterways, etc.)
- Maintenance and operations
- Other **constraints** and **opportunities** within the study area

Thank you!

*wsp.com*



# MEETING NOTES

<b>JOB TITLE</b>	Highway 401 Planning Study from Colborne to Brighton – Class Environmental Assessment and Preliminary Design Study		
<b>PROJECT NUMBER</b>	GWP 4054-17-00	<b>DATE</b>	27 February 2023
<b>TIME</b>	1:30-3:30 pm	<b>VENUE</b>	1 Toronto St, Colborne, ON K0K 1S0 and Zoom Meeting
<b>SUBJECT</b>	Municipal Advisory Council Meeting #2 (MAC 2)		
<b>CLIENT</b>	MTO East Region		

<b>ATTENDEES</b>			
<b>Name</b>	<b>Company</b>	<b>Method</b>	<b>Email</b>
Glenn Higgins	MTO Senior Project Manager	In-person	Glenn.Higgins@ontario.ca
Holly Grant	Township of Cramahe	In-person	holly@cramahe.ca
Krista McEathron	Township of Cramahe	In-person	kmceathron@cramahe.ca
Phil Kelly	Township of Cramahe	In-person	pkelly@cramahe.ca
Toby Turk	Township of Cramahe	In-person	tturk@cramahe.ca
Janet Newall	Township of Cramahe	In-person	jnewall@cramahe.ca
Leslie Whiteman	Municipality of Brighton	In-person	lwhiteman@brighton.ca
Cameron Harper	Northumberland County	In-person	HarperC@northumberland.ca
Dwayne Campbell	Northumberland County	In-person	campbelld@northumberland.ca
Ashley Yearwood	Northumberland County	Virtual	yearwooda@northumberland.ca
Jeremy Doolan	OPP	Virtual	Jeremy.Doolan@opp.ca
Catherine Warren	MNRF	Virtual	catherine.warren@ontario.ca
Judy Mccolm	MNRF	Virtual	judy.mccolm@ontario.ca
Gage Comeau	Lower Trent Conservation Authority	In-person	gage.comeau@ltc.on.ca
Scott Robertson	Lower Trent Conservation Authority	In-person	scott.robertson@ltc.on.ca
Rhonda George-Hiebert	WSP Planning	In-person	Rhonda.George-Hiebert@wsp.com
Christine Vazz	WSP Environmental	In-person	Christine.Vazz@wsp.com
Nadia Dabagh	WSP Environmental	In-person	Nadia.Dabagh@wsp.com

<b>Name</b>	<b>Company</b>	<b>Email</b>
Amanda Dickson	MTO Environmental Planner	Amanda.Dickson@ontario.ca
Darren Cizmar	MTO Project Manager	Darren.Cizmar@ontario.ca

## MATTERS ARISING

## ACTION

<b>1.0 INTRODUCTIONS AND OVERVIEW</b>	
---------------------------------------	--

610 Chartwell Road  
 Suite 300  
 Oakville, ON, Canada L6J 4A5

T: +1 905-823-8500  
 F: +1 905-823-8503  
 wsp.com

## MEETING NOTES

1.1	WSP presented the meeting format and agenda and completed a roundtable of introductions of those in-person and virtually in attendance.	
<b>2.0</b>	<b>STUDY BACKGROUND</b>	
2.1	WSP provided an overview of the study area, which extends from 0.8 km east of Percy Street to the Municipality of Brighton/City of Quinte West border (0.4 km west of Christiani Road), excluding the County Road (CR) 30 Interchange study area which falls under a previous EA study. There is an adjacent study from Cobourg to Colborne that ties into the west study limits of the study area which includes the Percy Street Interchange.	
2.2	WSP presented the purpose and objective of the meeting, which was to present the assessment and evaluation of the alternatives and the selection of a preliminary preferred alternative, and seek input from stakeholders on the design.	
2.3	WSP provided a summary of the first MAC Meeting in December 2020 and the virtual Public Information Centre (PIC) held in April 2021.	
2.4	WSP provided an overview of the Environmental Assessment study process. This study is a Group 'B' project. The study will include 2 Public Information Centres (PICs) and submission of a Transportation Environmental Study Report (TESR) which will be filed for public review.	
2.5	WSP provided an overview of the project milestones, MACs and PICs, and TESR.	
2.6	WSP provided an overview of the key problems and opportunities: <ul style="list-style-type: none"> <li>– The structures are approaching the end of their service life;</li> <li>– The Highway 401 platform cannot accommodate staging for replacement of the structures and culverts;</li> <li>– The study will assess the rehabilitation/replacement of the bridges and culverts and the future highway footprint (6-lane and 8-lane).</li> </ul>	
2.7	WSP provided an update on the environmental studies statuses to date.	
<b>3.0</b>	<b>HIGHWAY 401 PLANNING ALTERNATIVES</b>	
3.1	WSP provided an overview of the existing highway alignment, which is generally good but has some existing horizontal curves that limit the sight distance; the sight distance may be improved on the curves by widening the shoulders or some minor changes to the alignment. Some improvements may be required to ensure that design standards (including sight distance requirements) are satisfied.	
3.2	WSP provided an overview of the open and closed median locations in the study area.	
3.3	WSP provided an overview of potential options for future widening of Highway 401 to the 6-lane (Interim) and 8-lane (Ultimate) condition.: <ul style="list-style-type: none"> <li>–</li> </ul>	
3.4	WSP provided an overview of the existing emergency median turnaround locations. There are four within the study area, and one just east of the study limits. The interchange spacing is 12.5 km from Percy Street to Country Road 30 and from County Road 30 to County Road 40. WSP asked emergency services for input on any concerns on closures or changes to the emergency median turnaround locations.	
3.5	WSP presented the assessment and evaluation of the short-list of alternatives that were carried forward for consideration: <ul style="list-style-type: none"> <li>– <b>Section 1: Alternative 2 – widen inside in the Interim and widen outside in the Ultimate was carried forward as the preferred alternative.</b></li> <li>– <b>Section 2:</b> Alternative 1 – widen inside only; Alternative 2 – widen inside in the Interim and widen outside in the Ultimate; and Alternative 3 – widen to the north were carried forward for further consideration. <b>Alternative 3 was ultimately carried forward as the preferred alternative</b> as it maintains an open median, does not require large fills in the valley on the south, minimizes potential utility impacts, and has the lowest estimated construction cost.</li> </ul>	



## MEETING NOTES

	<ul style="list-style-type: none"> <li>– <b>Section 3:</b> Alternative 1 – widen outside only and widen median shoulders; Alternative 2A – widen outside only and realign using two 1200 m radius curves; and Alternative 2B – widen outside only and realign using two 1700 m radius curves were carried forward for further consideration. <b>Alternative 2A was ultimately carried forward as the preferred alternative</b> as it reduces impacts to potential heritage properties and has the least property impacts and realigns the highway further from sensitive noise receptors.</li> <li>– <b>Section 4: Alternative 1 – widen outside only was carried forward as the preferred alternative.</b></li> <li>– <b>Section 5:</b> Alternative 3 – widen to the south and Alternative 4 – widen inside in the Interim and widen outside in the Ultimate were carried forward for further consideration. <b>Alternative 4 was ultimately carried forward as the preferred alternative</b> as it is easier to tie in this alternative to the County Road 30 design at the project study limit.</li> <li>– <b>Section 6: Alternative 1 – widen outside only was carried forward as the preferred alternative.</b></li> <li>– <b>Section 7:</b> Alternative 2 – widen inside in the Interim and widen outside in the Ultimate; Alternative 4 – West: Widen inside in the Interim and widen outside in the Ultimate – East: Widen to the inside; Alternative 5 – West: Widen inside in the Interim and widen outside in the Ultimate – East: Widen to the south were carried forward for further consideration. <b>Alternative 2 was ultimately carried forward as the preferred alternative</b> as it maintains an open median and is the easiest to tie into the widening strategy to the west and at the east limit.</li> </ul>	
3.6	<p>Northumberland County inquired if the Project Team had received any comments from Indigenous Communities regarding archaeological impacts and Indigenous Community engagement.</p> <ul style="list-style-type: none"> <li>– WSP noted that the Project Team has received some feedback from Indigenous Communities regarding participating in Stage 2 Archaeological Assessments. Usually the Project Team asks Indigenous Communities to identify if there are any particular areas of concern and we have not had any Indigenous Communities come forward with this information yet. WSP noted that Indigenous Communities will continue to be engaged in the project as well as the detail design phase.</li> </ul>	
3.7	<p>Northumberland County inquired if the four factor areas (Natural Environment, Cultural Environment, Socio-Economic, and Technical / Transportation) were weighted the same.</p> <ul style="list-style-type: none"> <li>– MTO noted that cost has no weight and that the Project Team completed a quantitative assessment which will be presented at PIC 2 and in the TESR. Each of the four factors have sub-factors. Each sub-factor was given a score of 5, 3, 1 depending on their impact level (high, medium, low).</li> </ul>	
3.8	<p>Northumberland County inquired if there was a preference between open medians and closed medians</p> <ul style="list-style-type: none"> <li>– MTO noted that there is no standard preference from MTO and that there are pros and cons to both.</li> </ul>	
4.0	<p><b>HIGHWAY 401 CROSSING ROADS BRIDGE REPLACEMENTS</b></p>	
4.1	<p>WSP presented the crossing road design standards for Herley Road, Lake Road, and County Road 26.</p>	
4.2	<p>Northumberland County inquired about the design speed for County Road 26.</p> <ul style="list-style-type: none"> <li>– MTO noted that they would like to design it to the highest standard they can but there are more property impacts. This design speed allows for some improvement.</li> <li>– Northumberland County noted that they would like to discuss the design speed for County Road 26 further with MTO.</li> <li>– On May 1<sup>st</sup> MTO and WSP made a presentation to Brighton Town Council where Mayor Brian Ostrander asked if County Road 26 could also be made into a full interchange. Glenn Higgins said we would certainly look into it, however, its close</li> </ul>	<p>Northumberland County and MTO</p>

## MEETING NOTES

	proximity to the existing County Road 30 interchange (2.2km approx.) would be challenging.	
4.3	<p>WSP presented the assessment and evaluation of the short-list of alternatives that were carried forward for consideration:</p> <ul style="list-style-type: none"> <li>– <b>Herley Road:</b> Alternative 1 – Replace to the west; Alternative 2 – Replace to the east; and Alternative 3 – Replace on existing alignment were carried forward for further consideration. <b>Alternative 3 was ultimately carried forward as the preferred alternative</b> as it has the greatest potential to mitigate property impacts and has the lowest potential to increase emissions.</li> <li>– <b>Lake Road: Alternative 3 – Replace on existing alignment was carried forward as the preferred alternative.</b></li> <li>– <b>County Road 26:</b> Alternative 2 – Replace to the west (intermediate); Alternative 6 – Replace on existing alignment (temporary road closure); and Alternative 7 – Replace on existing alignment (temporary single-lane traffic control) were carried forward for further consideration. <b>Alternative 6 was ultimately carried forward as the preferred alternative</b> as it has less of an impact to potential breeding habitat for Species at Risk (SAR) and a lesser amount of vegetation removal compared to Alternative 2; has less severe and smaller impacted area to private properties compared to Alternative 2; and has better constructability and lowest cost.</li> </ul>	
4.4	<p>Township of Cramahe inquired why Little Lake Road realignment to the east was not being considered.</p> <ul style="list-style-type: none"> <li>– This option came up very late in our Preliminary Design and we simply do not have sufficient funds to adequately analyse it at this time. MTO Senior PM suggests this option should be investigated as an early deliverable in the subsequent Detail Design assignment. In the event it proves valuable then it could replace the current technically preferred alternative and an amendment to the TESR may be issues.</li> </ul>	
4.5	<p>Township of Cramahe inquired why Crandell Road was being realigned.</p> <ul style="list-style-type: none"> <li>– The realignment of Crandell Road is to accommodate the preferred alternative for the Highway 401 in this section, which includes widening of Highway 401 and a shift of the Highway 401 alignment which is a result of the improvement of the horizontal curve along this section of the highway.</li> </ul>	
4.6	<p>Township of Cramahe noted that Little Lake drainage is not flowing to the north and inquired if we could fix this in the process.</p> <ul style="list-style-type: none"> <li>– WSP noted that stormwater management and drainage analysis was completed in support of this EA Study and that we will maintain flows.</li> <li>– WSP asked if the Township of Cramahe knows why the drainage is not flowing.</li> <li>– Township of Cramahe noted that there is damming that prevents the flow.</li> <li>– MTO noted that they are agreeable to assisting with reconstructing the drainage during detail design if the Township works with the landowner, MNRF/DFO, Indigenous Communities and acquires the appropriate permits to complete the work.</li> </ul>	
<b>5.0</b>	<b>HIGHWAY 401 CULVERT REPLACEMENTS</b>	
5.1	<p>WSP noted that there are four structural culvert crossing Highway 401 between Lake Road and County Road 30. Alternative 1 – Replace with culvert (open cut) was ultimately carried forward as the preferred alternative as it maintains existing channel alignments and is ideal for low fill locations.</p>	
<b>6.0</b>	<b>HIGHWAY 401 EMERGENCY MEDIAN TURNAROUNDS</b>	
6.1	<p>WSP presented the existing locations of emergency median turnarounds and the distance between interchanges.</p>	
<b>7.0</b>	<b>DETOUR ROUTES FOR BRIDGE DEMOLITION AND CONSTRUCTION</b>	
7.1	<p>WSP presented the proposed detour routes during bridge demolition and construction for the Herley Road, Lake Road, and County Road 26 underpasses.</p>	

## MEETING NOTES

7.2	<p>Northumberland County inquired how long the detours / road closures would be in place.</p> <ul style="list-style-type: none"> <li>– MTO noted that they understand that this is not ideal for all and that detouring all traffic for a year or two is better than displacing people from their homes from a socio-economic perspective.</li> <li>– Township of Cramahe noted that if there are no in-water works, could work start early and complete the work in one year.</li> <li>– MTO noted that they typically try to maximize their working season if crews are able to.</li> <li>– Township of Cramahe noted that they have serious concerns regarding the closure of the Colborne interchange exits as this will cause losses for businesses. &lt;Post Meeting Note: It was clarified that the interchange is not included as part of this study, it is part of the adjacent study to the west. There are no proposed interchange closures as part of this study.&gt;</li> <li>– MTO noted that they have insurance to support businesses and profit losses. MTO noted that there will be opportunities during detail design to explore other construction tactics to minimize impacts to the community.</li> </ul>	
7.3	<p>When replacing the bridges, will the abutments also be replaced?</p> <ul style="list-style-type: none"> <li>– MTO confirmed and noted that all the bridges are being future-proofed for the ultimate widening and as such the entire bridge including the abutments are proposed to be replaced.</li> <li>– Are you going to be looking at the traffic volumes on the bridges for widening of the crossings roads?</li> <li>– MTO noted that the crossing road bridges will be replaced with the same number of lanes as existing with improvements to the shoulder width (from existing) at all three bridges . MTO can work with municipalities during detail design to discuss cost sharing and other infrastructure. MTO noted that it helps if they have an approved Official Plan / Transportation Master Plan expressing these desires.</li> <li>– Mayor Brian Ostrander (Brighton) indicated at a subsequent meeting that his municipality is about to embark on a new Official Plan.</li> </ul>	
7.4	<p>Township of Cramahe asked if the Project Team is considering impacts to cemeteries.</p> <ul style="list-style-type: none"> <li>– MTO noted that the Project Team considered impacts to existing cemeteries but would not allow any new designated cemeteries to exist in the MTO controlled area.</li> <li>– Cramahe confirmed that they would share the information they have regarding this new cemetery with the Project Team.</li> </ul>	Township of Cramahe
7.5	<p>Township of Cramahe asked if proposed detour roads have the capacity to handle the increased traffic volume.</p> <ul style="list-style-type: none"> <li>– MTO noted that there is no backup route for Highway 401. MTO is willing to work with municipalities to make these proposed detour roads work.</li> </ul>	
<b>8.0</b>	<b>ACTIVE TRANSPORTATION</b>	
8.1	<p>WSP presented the opportunities to accommodate active transportation on crossing roads in the corridor and the crossing road structure cross sections.</p>	
<b>9.0</b>	<b>CARPOOL LOT IMPROVEMENTS</b>	
9.1	<p>WSP presented an update on the carpool lot improvements for the existing carpool lot located at County Road 30.</p>	
9.2	<p>One of the participants noted that there are soil erosion issues around County Road 30 and the carpool lot and asked why there are two carpool lots?</p> <ul style="list-style-type: none"> <li>– MTO noted that the carpool lot improvements are to be confirmed and that the Project Team is seeking EA approval generally to allow for flexibility in the design.</li> </ul>	
<b>10.0</b>	<b>OPEN DISCUSSION</b>	

## MEETING NOTES

<p>10.1 WSP asked if the municipalities present would like for the Project Team to present this information before Council or would the representatives in attendance report back to their Council.</p> <ul style="list-style-type: none"><li>– Northumberland County noted that they would like a Council presentation (presentation made on May 1, 2023).</li><li>– Township of Cramahe noted that they would like a Council presentation (presentation made on April 25, 2023).</li><li>– Municipality of Brighton noted that they would confirm with their municipal staff and let the Project Team know (presentation made on May 1, 2023)</li><li>– MTO advised that the Project Team is not seeking Council approval on the preferred alternative.</li></ul>	Municipality of Brighton
<p><b>11.0 NEXT STEPS</b></p>	
<p>11.1 WSP noted that following this MAC Meeting the Project Team would review the opportunities and constraints discussed, refine the preferred alternative (as needed), complete draft impact assessment studies, notify and meet with impacted property owners, and present and receive input on the results of the evaluation process and preferred alternative at council meetings (Spring 2023) and at PIC 2 (Spring 2023).</p>	

These minutes are considered to be accurate recording of all items discussed. Written notice of discrepancies, errors or omission must be given within seven (7) days, otherwise the minutes will be accepted as written.

## NEXT MEETING

An invitation will be issued if an additional meeting is required.