



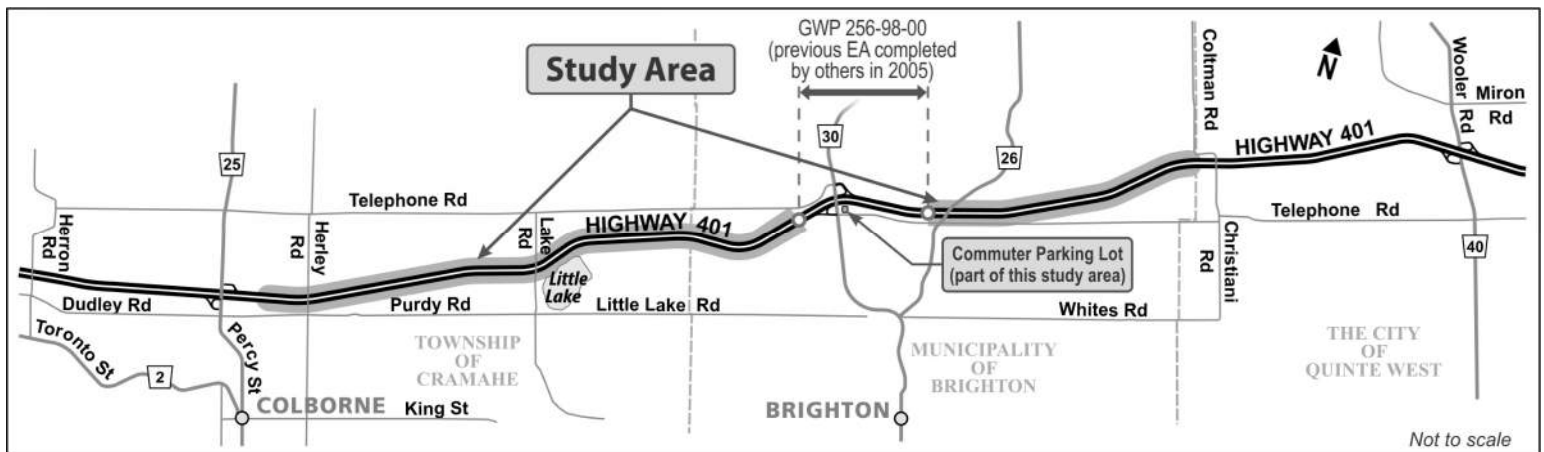
Welcome to Public Information Centre #2

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

GWP 4054-17-00

www.highway401colbornebrighton.ca

May 31, 2023

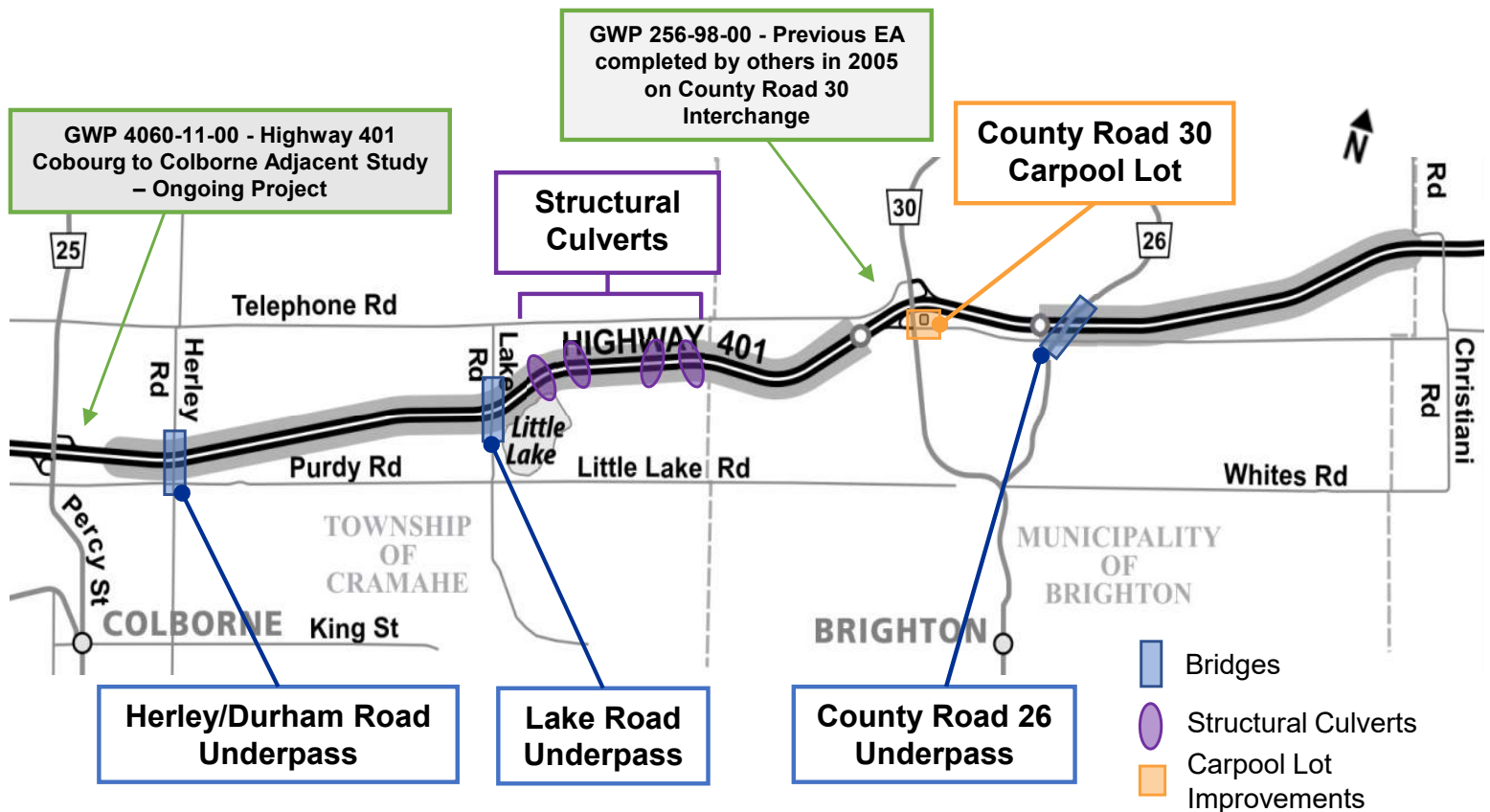


Study Overview

MTO has retained WSP to undertake a Planning, Preliminary Design and Class Environmental Assessment (Class EA) Study on Highway 401 improvements, including:

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

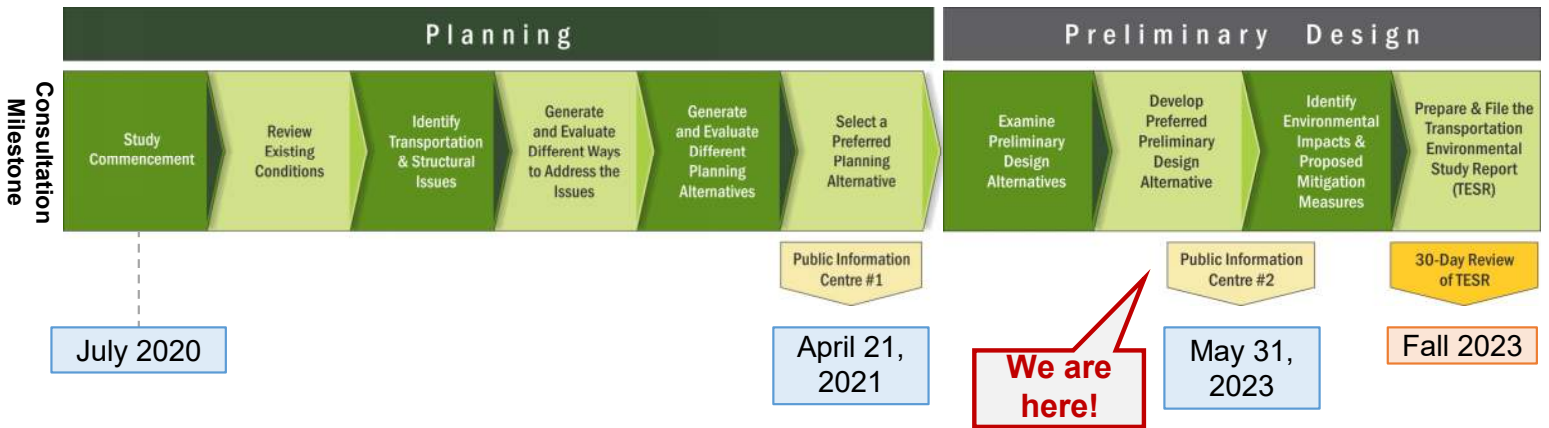
Study limits are from 0.8 km east of Percy Street to 0.4 km west of Christiani Road (excluding the County Road 30 interchange).



A Preferred Plan will be confirmed and designated (protected) at the completion of the study.

Class Environmental Assessment Process

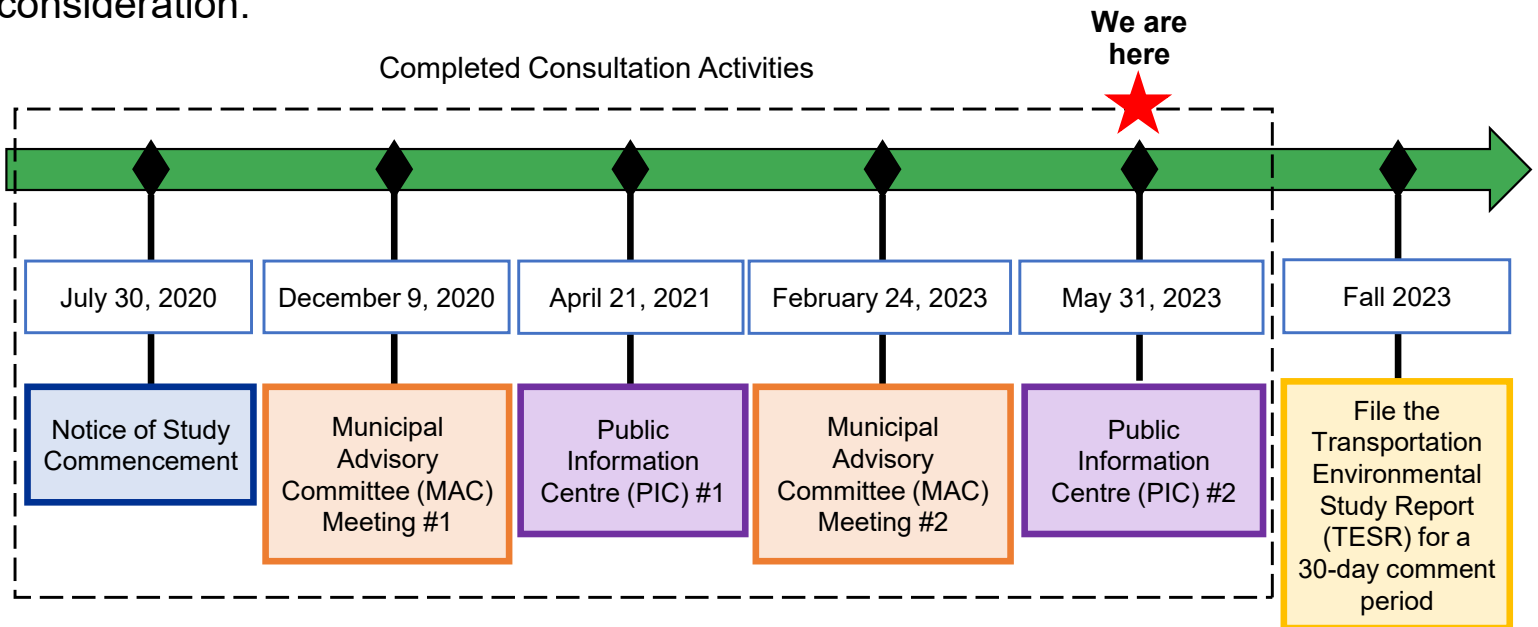
This Preliminary Design and Class EA Study is following the approved environmental planning process for Group 'B' projects under the MTO **Class Environmental Assessment (Class EA) for Provincial Transportation Facilities** (2000).



Consultation

Consultation and engagement with external agencies, Indigenous communities, and the public are essential components of the Class EA process. The public is encouraged to provide input at any point during this project.

Consultation activities provide a forum to identify potentially significant issues early in the decision-making process and ensures that they are given appropriate consideration.



Overview of Public Information Centre #1



Public Information Centre (PIC) #1 was held virtually in April 2021 and presented the following:

- An overview of the study purpose, study area, and study process;
- The Project Team's consultation and engagement efforts, including project timeline and consultation/engagement milestones;
- The opportunities and considerations for improvements along the study corridor;
- The existing conditions in the study area;
- The screening of the long list of alternatives and the evaluation criteria that would be used to assess the short list of alternatives; and
- The next steps for the project and how to provide comments.



The Project Team received a total of nineteen (19) comments from the public, interested stakeholders, agencies and Indigenous communities.

Common themes expressed by the general public include:

- Concerns regarding impacts to local sideroad (Telephone Road) due to the widening of the Highway 401.
- Concerns related to property impacts.
- Concerns related to noise impacts generated by the increased traffic flow due to the widening of the Highway 401 and possible mitigation measures.
- Concern regarding small wildlife mortality caused by the concrete dividers between the EB and WB lanes.

Environmental Studies

Field work was completed in 2020 & 2021 for a number of studies and will continue into Summer/Fall 2023. The Environmental Studies prepared or being prepared for this project include:

Completed

- Fisheries & Terrestrial Existing Conditions
- Stage 1 Archaeology Assessment
- Groundwater Assessment Report
- Contamination Overview Study
- Cultural Heritage Resource Assessment Report
- Cultural Heritage Evaluation Reports
- Designated Substance Survey

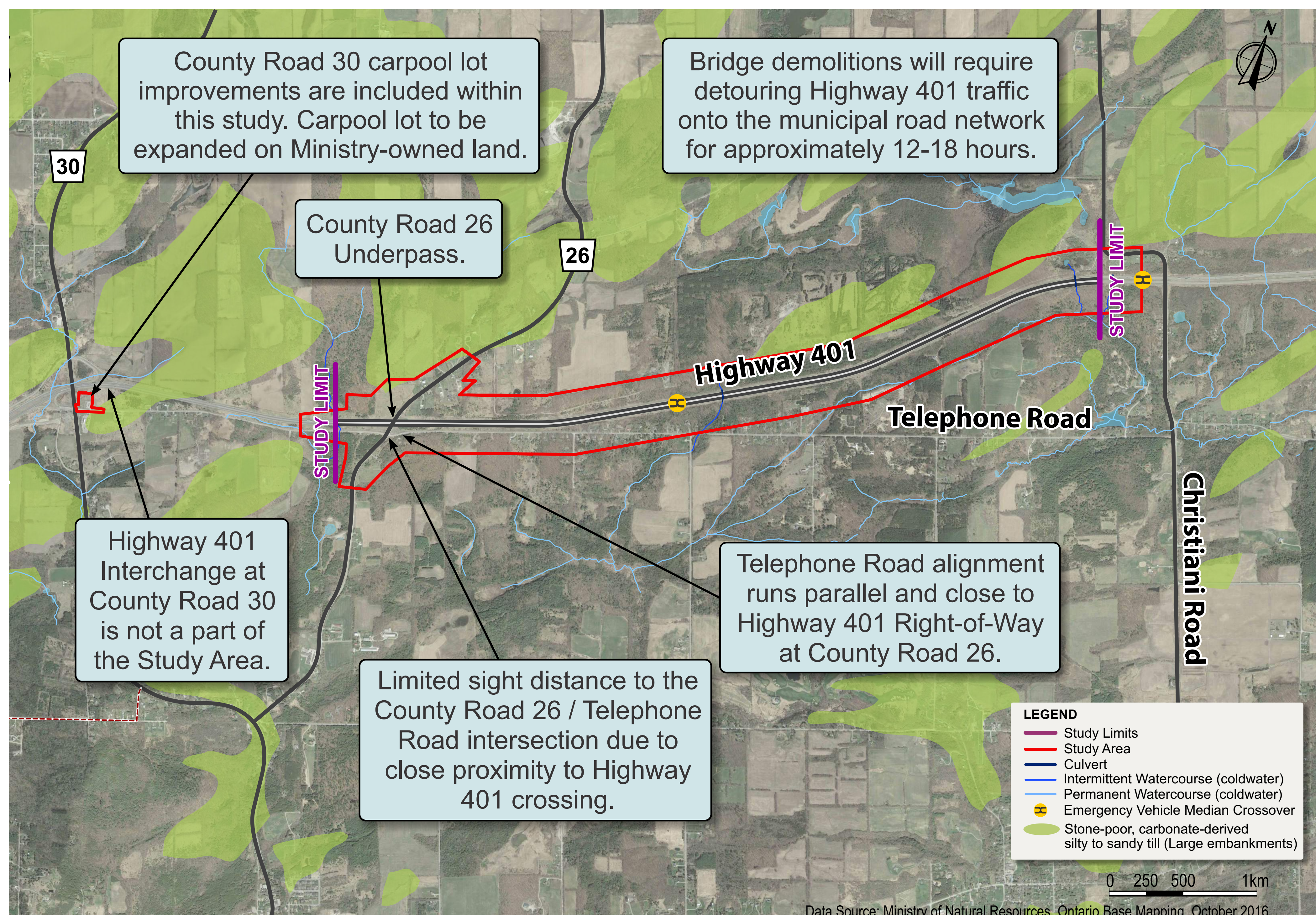
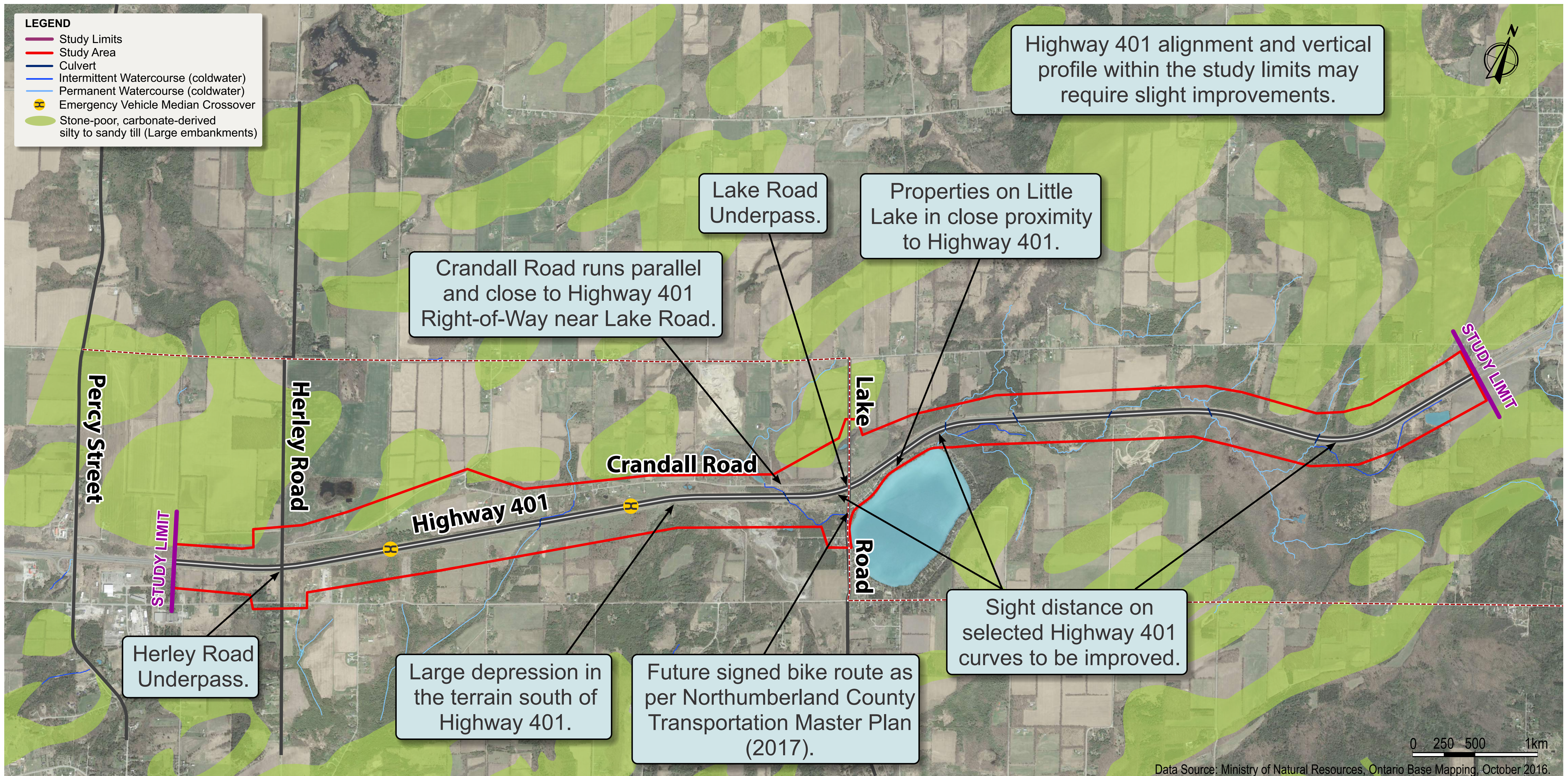
In Draft

- Fisheries Impact Assessment
- Terrestrial Impact Assessment
- Stormwater Management Plan
- Landscape Composition Report
- Air Quality and Greenhouse Gas Assessment Report
- Noise Assessment Report

To be completed in 2023

- Stage 2 Archaeology Assessment
- Excess Materials Management Plan (to be completed once excess materials information is available)
- Heritage Impact Assessment Reports

Key Issues and Opportunities



Summary of Challenges and Opportunities

CHALLENGES

End of Service Life



The bridges and structural culverts in the study area are nearing the end of their service lives, and will require rehabilitation and/or replacement in the coming years.

Traffic Staging Accommodation



The existing Highway 401 platform cannot accommodate the traffic staging to rehabilitate / replace the bridges and structural culverts.

OPPORTUNITIES

Safe Operation of the Highway 401 Corridor



The study will assess existing bridges and structural culverts in the study area.

Develop appropriate rehabilitation or replacement strategies to maintain the safe operation of the Highway 401 corridor for the current and future planning horizons.

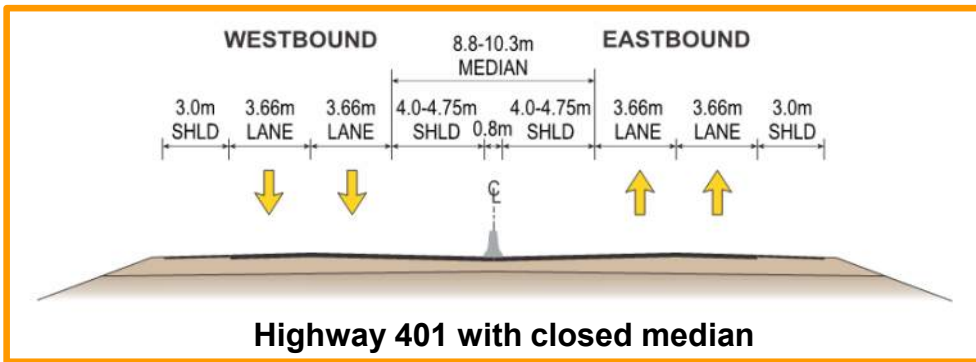
Future Ready



For structural planning purposes the study will establish the future Highway 401 footprint for an interim six and ultimate eight lanes, to ensure that the bridges and structural culverts can be designed appropriately.

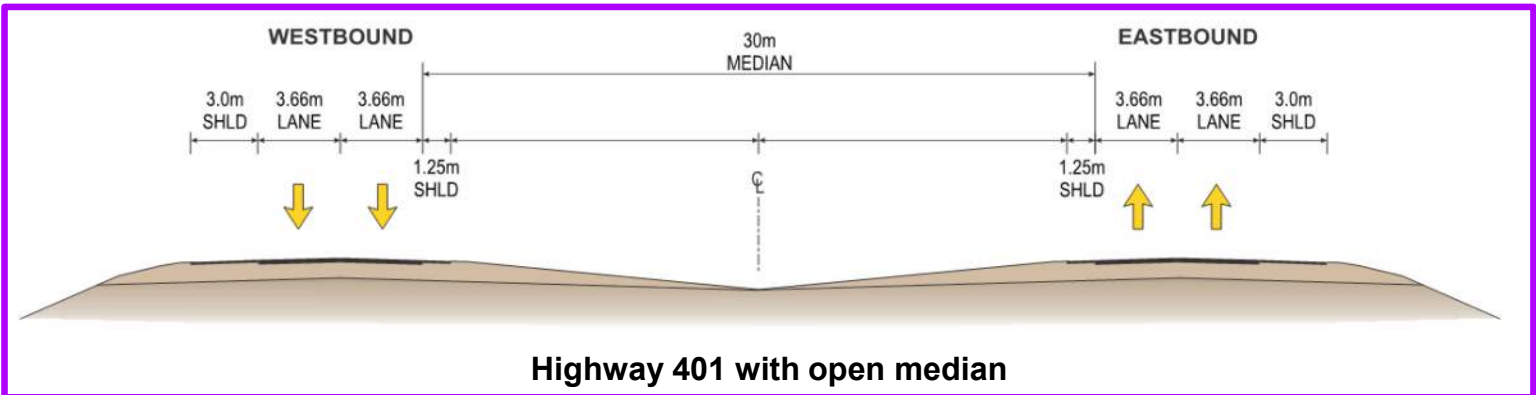
The timing of construction of this project is currently unknown.

Highway 401 Existing Cross Section



Closed median

- Widening can only occur on the outside

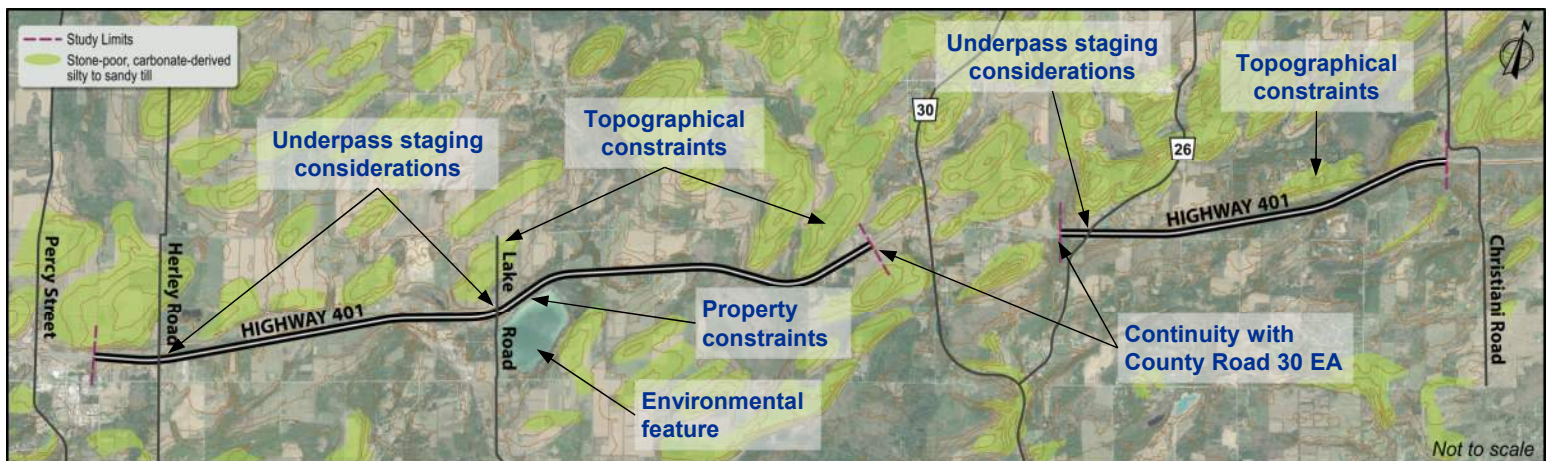


Open median

- If the median width is 22.5 m or less after widening to the inside, median barrier is required and emergency median turnarounds cannot be accommodated.
- A wide, open median is preferred to median barrier since the barrier itself is a hazard.
- At locations where a median width of 22.5 m or more cannot be accommodated a median barrier prevents errant vehicles from crossing the median into oncoming traffic.

Development and Evaluation of Alternatives

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



The Project Team developed a number of alternatives for:



- The crossing road bridge replacement for each crossing road location (Herley Road, Lake Road and County Road 26)
- The structural culverts in the study area
- The future widening of Highway 401

Following the development of alternatives, the Project Team evaluated each alternative on the short-list of alternatives by looking at key advantages and disadvantages to determine the preferred plan.

Evaluation Process



Identified the Evaluation Criteria established through public input, similar projects, provincial guidelines, and existing conditions. Refer to the following slide.



Assigned a Weight Factor to Each Criterion that best reflects its relative importance.



Evaluated the short-list of alternatives by calculating the sum of the weighted scores providing a total score for each alternative. This is the basis for ranking the alternatives and identifying the Preferred Plan.



The **highest scoring alternative** was selected as the Preferred Plan.

The selection of the Preferred Plan included:

- Reviewing the results of the analysis and evaluation based on specialist work and input received during the study;
- Determining which criteria have the most influence on the outcome;
- Considering the sensitivity of the weightings;
- Confirming the ranking of the alternatives; and
- Considering public/stakeholder response to the evaluation process.

Evaluation Criteria



Natural Environment

Direct and indirect impacts to:

- Wetlands
- Fish and fish habitat
- Species at Risk (SAR) and SAR habitat
- Terrestrial ecosystems
- Groundwater / Surface Water
- Environmentally sensitive areas, including Brighton Bluff ANSI and Mayhew Creek and Spring Valley significant natural areas



Transportation / Technical Considerations

- Ability to accommodate future traffic performance forecasts on the Highway 401.
- Improvements to substandard geometrics and intersection design based on design standards for provincial highways.
- Cost, including utility relocations, property acquisition etc.
- Constructability, including construction techniques and geotechnical and foundation conditions
- Traffic staging, including traffic flow and operations (such as local access and out-of-way travel during construction)
- Impacts to utilities



Socio-Economic Environment

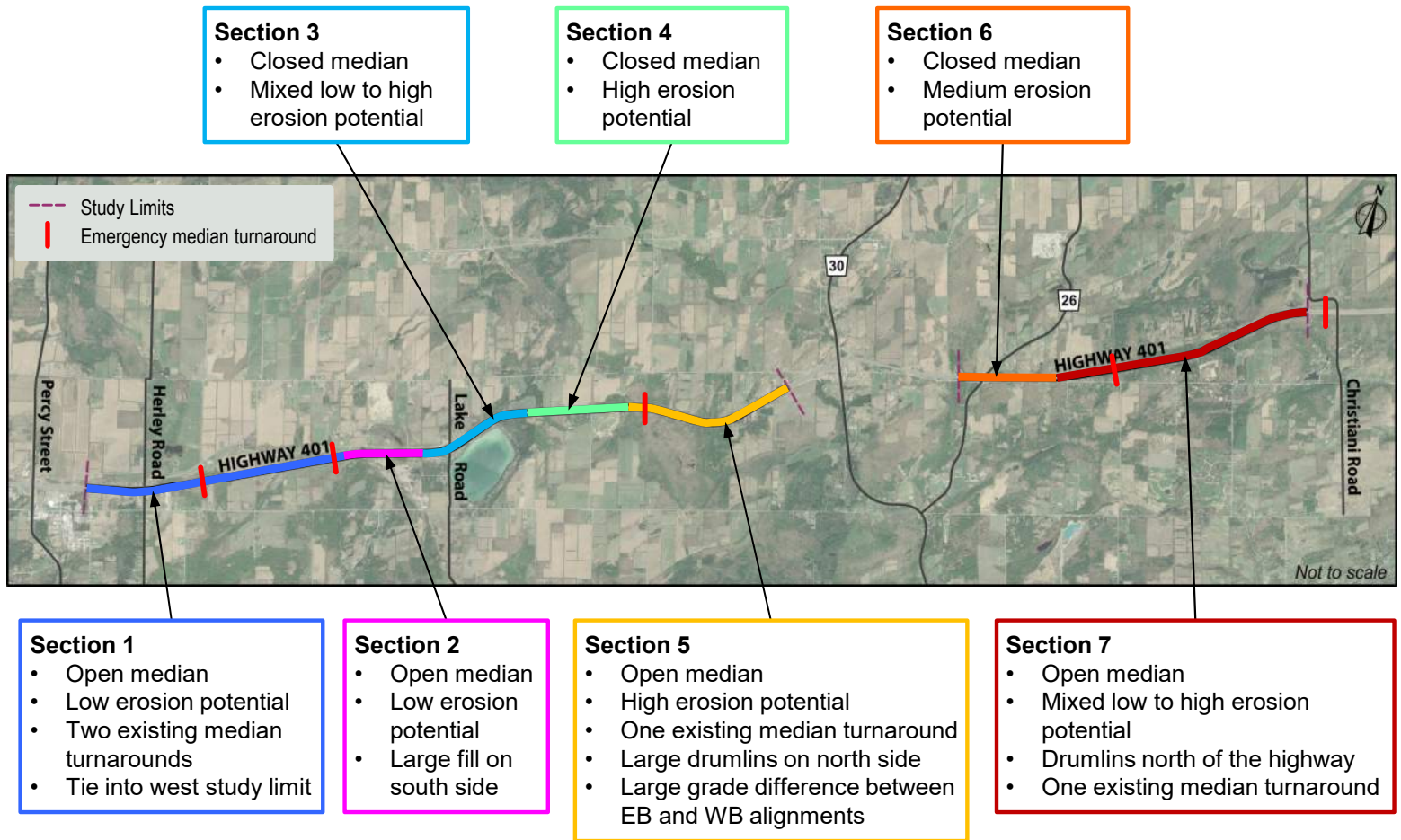
- Impacts to private properties
- Impacts to air quality
- Access for local residents, school buses and emergency vehicles
- Noise impacts at Noise Sensitive Receptors (NSRs)
- Impacts to existing and planned land uses
- Impacts to Recreational Trails / Active Transportation Networks
- Impacts to potentially contaminated lands
- Climate Change



Cultural Heritage Environment

- Direct and indirect impacts to existing built heritage features and cultural heritage landscapes
- Impacts on archaeological resources and on areas of archaeological potential

Highway 401 Future Widening Alternatives



For evaluation purposes Highway 401 study area was divided into seven sections based on key features and site conditions within each highway section

Alternatives Carried Forward to the Short-list of Alternatives Highway 401 Future Widening Alternatives



Section 1 From west study limit to 1.6 km west of Lake Road	
Alternative 1	Alternative 2
Widen inside only	Widen inside in the Interim and widen outside in the Ultimate
Do not carry forward	Carry forward as the preferred alternative

Section 2 From 1.6 km west of Lake Road to 0.4 km west of Lake Road		
Alternative 1	Alternative 2	Alternative 3
Widen inside only	Widen inside in the Interim and widen outside in the Ultimate	Widen to the north
Carry forward	Carry forward	Carry forward

Section 3 From 0.4 km west of Lake Road to 1.3 km east of Lake Road		
Alternative 1	Alternative 2A	Alternative 2B
Widen outside only and widen median shoulders	Widen outside only and realign using two 1200 m radius curves	Widen outside only and realign using two 1700 m radius curves
Carry forward	Carry forward	Carry forward

Section 4 From 1.3 km east of Lake Road to 2.8 km east of Lake Road
Alternative 1
Widen outside only
Carry forward as the preferred alternative

Alternatives Carried Forward to the Short-list of Alternatives Highway 401 Future Widening Alternatives



Section 5 From 2.8 km east of Lake Road to County Road 30 west study limit			
Alternative 1	Alternative 2	Alternative 3	Alternative 4
Widen inside only	Widen inside in the Interim, and widen WB inside and EB outside in the Ultimate	Widen to the south	Widen inside in the Interim and widen outside in the Ultimate
Do not carry forward	Do not carry forward	Carry forward	Carry forward

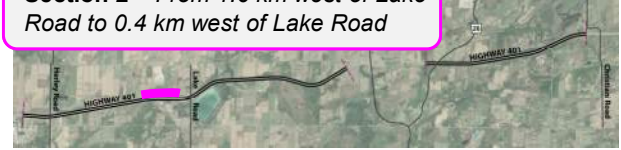
Section 6 From County Road 30 east study limit to 1.1 km east of County Road 26
Alternative 1
Widen outside only
Carry forward as the preferred alternative

Section 7 From 1.1 km east of County Road 26 to east study limit				
Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Widen inside only	Widen inside in the Interim and widen outside in the Ultimate	Widen to the south	West: Widen inside in the Interim and widen outside in the Ultimate East: Widen to the inside	West: Widen inside in the Interim and widen outside in the Ultimate East: Widen to the south
Do not carry forward	Carry forward	Do not carry forward	Carry forward	Carry forward

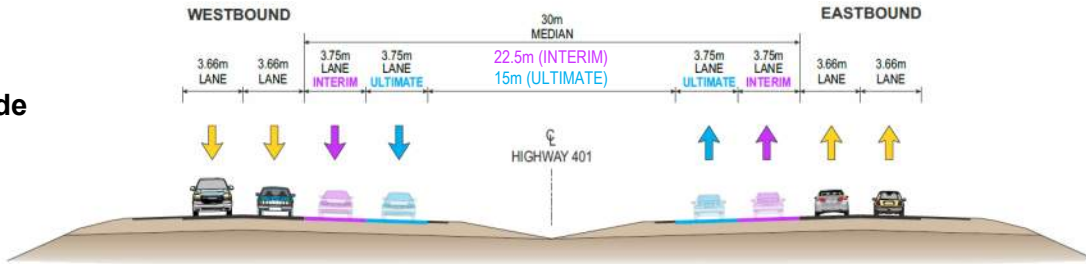
Evaluation of the Short-list of Alternatives

Highway 401 Future Widening - Section 2

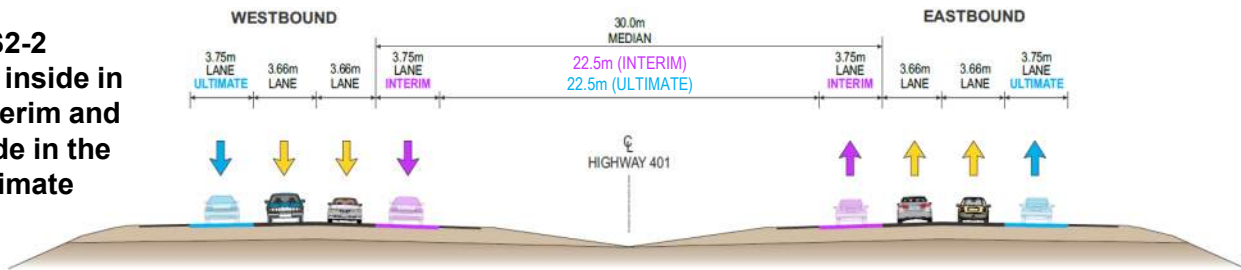
Section 2 – From 1.6 km west of Lake Road to 0.4 km west of Lake Road



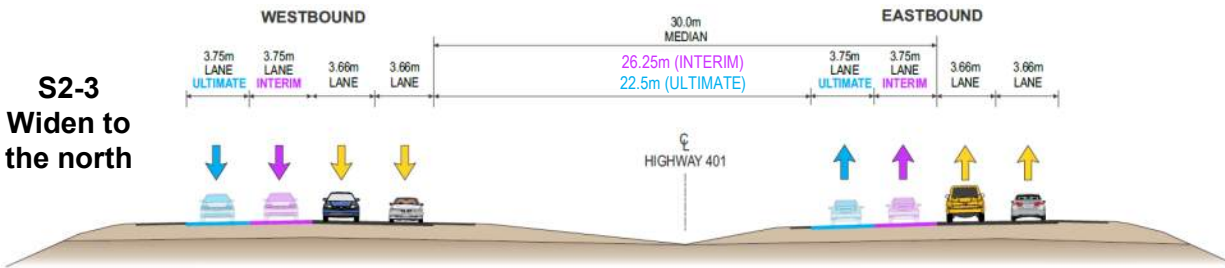
S2-1
Widen inside only



S2-2
Widen inside in the Interim and outside in the Ultimate



S2-3
Widen to the north

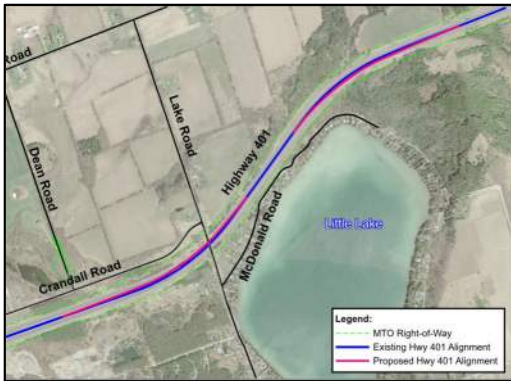


Criterion	Alternatives			Key Benefit / Disadvantage
	S2-1 Widen inside only	S2-2 Widen inside and outside	S2-3 Widen to the north	
Natural Environment	●	●	●	There is no preference between the alternatives. There are small differences in the woodland and wetland removals, but the differences are minor.
Cultural Environment	●	●	●	There is no significant difference in the archaeological potential of the alternatives. All alternatives require further archaeological investigation.
Socio-Economic Environment	●	●	●	S2-1 minimizes property impacts, although there are mitigation options to reduce property impacts of other alternatives. Air quality impacts are similar for all alternatives, but S2-1 has the lowest potential to increase emissions.
Technical / Transportation	●	●	●	S3-3 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.
Recommendation	X	X	✓	

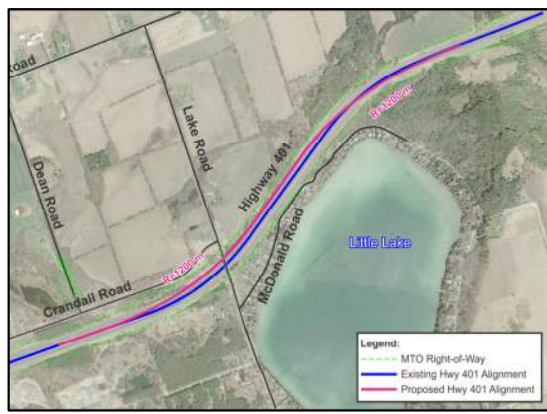
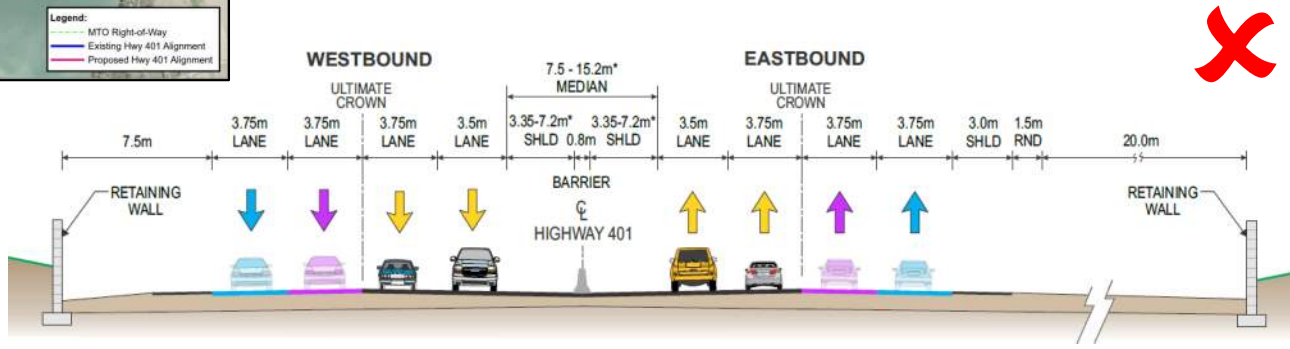
Evaluation of the Short-list of Alternatives

Highway 401 Future Widening - Section 3

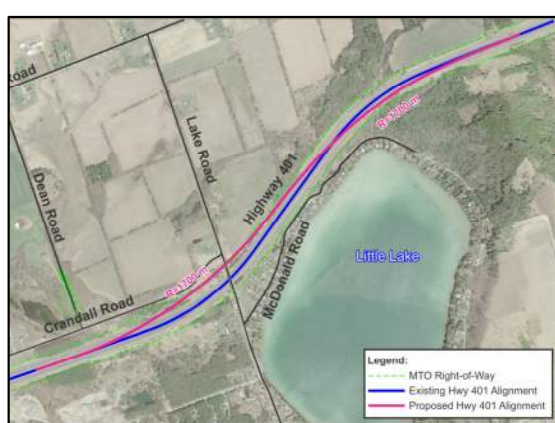
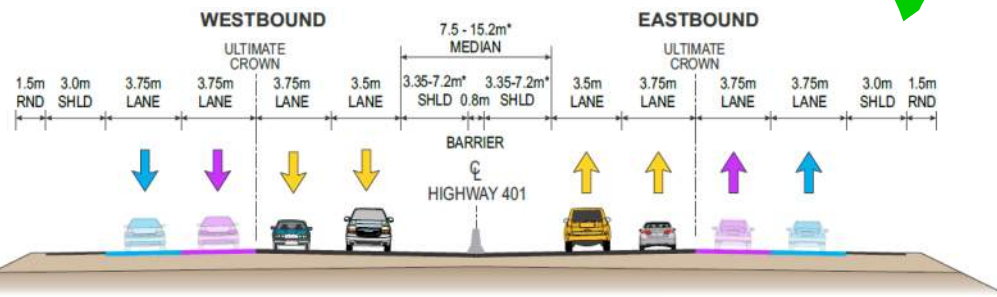
Section 3 – From 0.4 km west of Lake Road to 1.3 km east of Lake Road



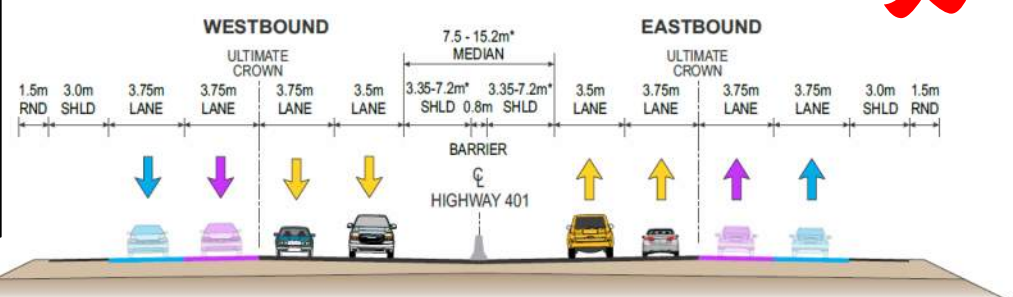
S3-1 – Widen outside only and widen median shoulders (maintain existing alignment)



S3-2 – Widen outside only and realign using two 1200 m radius curves



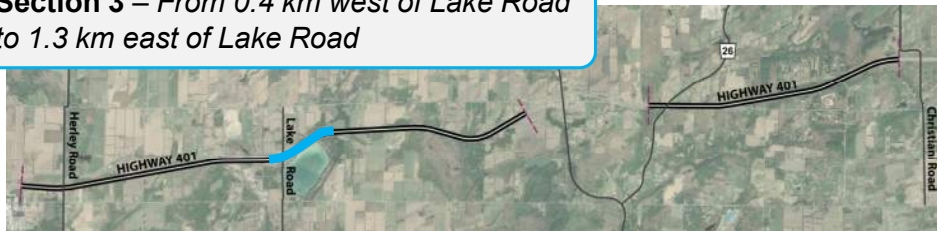
S3-3 – Widen outside only and realign using two 1700 m radius curves



Evaluation of the Short-list of Alternatives

Highway 401 Future Widening - Section 3

Section 3 – From 0.4 km west of Lake Road to 1.3 km east of Lake Road



Criterion	Alternatives			Key Benefit / Disadvantage
	S3-1 Maintain existing alignment	S3-2 Realign with R=1200 curves	S3-3 Realign with R=1700 curves	
Natural Environment				S3-1 reduces the impacts to SAR habitat and minimizes large cuts, although retaining walls are required.
Cultural Environment				S3-1 has impacts to 2 Cultural Heritage Landscapes. There is no significant difference in archaeological potential of the alternatives and all alternatives will require further investigations.
Socio-Economic Environment				S3-2 has the least property impacts and realigns the highway further from sensitive noise receptors, although it does impact more agricultural land than S3-1.
Technical / Transportation				S3-1 is preferred since it improves the existing highway geometry, has better constructability than S3-2, and has fewer maintenance requirements than S3-1.
Recommendation				

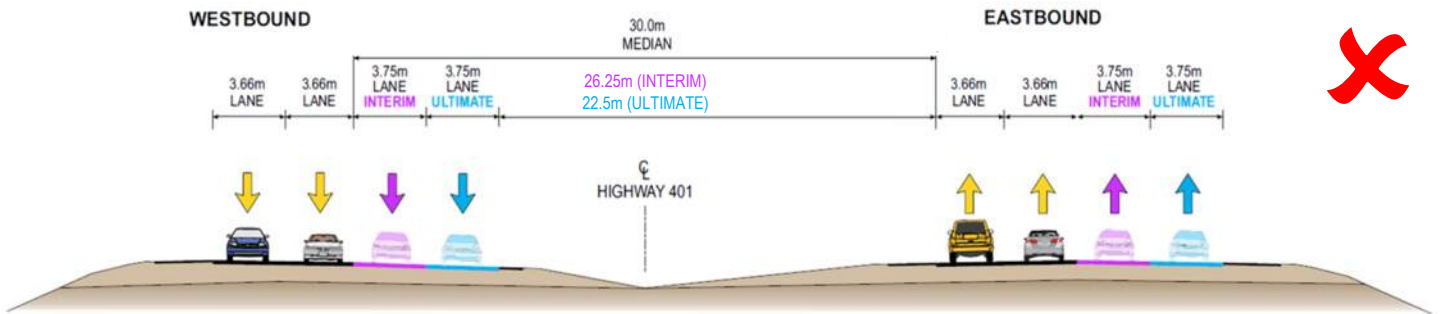
Evaluation of the Short-list of Alternatives

Highway 401 Future Widening - Section 5

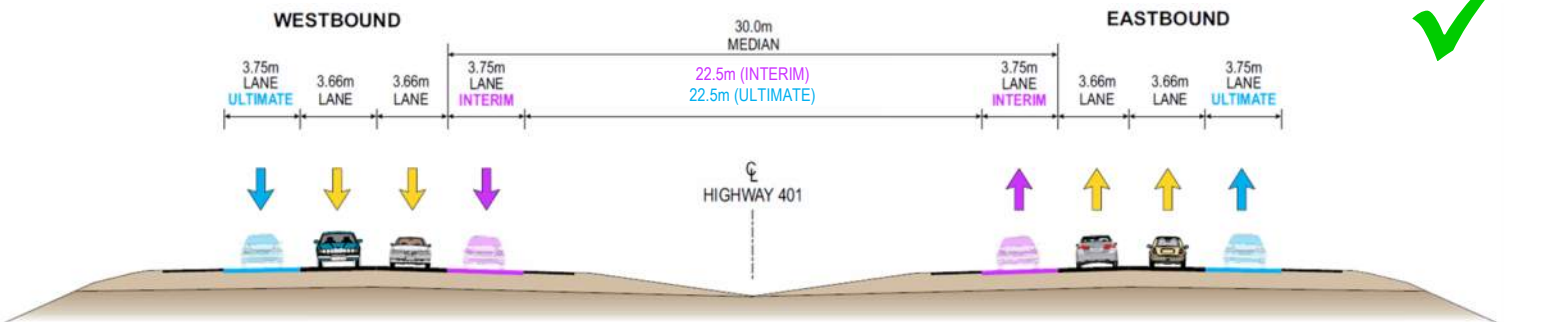
Section 5 – From 2.8 km east of Lake Road to County Road 30 west study limit



S5-3 Widen to the south



S5-4 Widen inside in the Interim and outside in the Ultimate

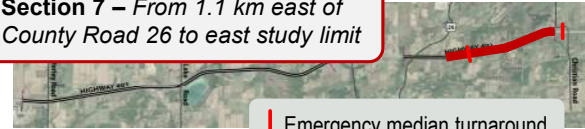


Criterion	Alternatives		Key Benefit / Disadvantage
	S5-3 Widen to the south	S5-4 Widen inside (interim) & outside (ultimate)	
Natural Environment	●	●	No preference in alternatives; there may be small differences in the lengthening of the structural culvert that may affect wildlife passage (turtles) opportunity and it is a slightly greater impact in Alternative S5-4 than S5-3.
Cultural Environment	●	●	No preference as both alternatives impact cultural heritage landscape due to property taking/grading. There is no significant difference in the archaeological potential of the alternatives.
Socio-Economic Environment	●	●	No preference in a preferred alternative since the property impacts are similar and no noise sensitive receptors in this section. Slight preference in S5-3 for Air Quality since it has the lowest potential to increase emissions.
Technical / Transportation	●	●	S5-4 is preferred since it is easier to tie in this alternative to the County Road 30 design at the project study limit.
Recommendation	X	✓	

Evaluation of the Short-list of Alternatives

Highway 401 Future Widening - Section 7

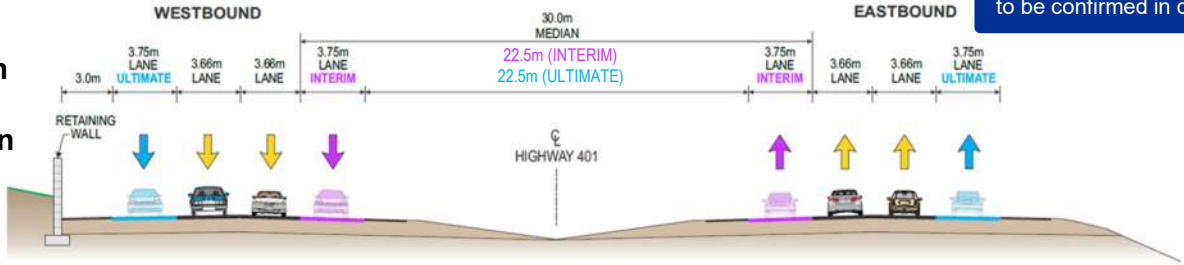
Section 7 – From 1.1 km east of County Road 26 to east study limit



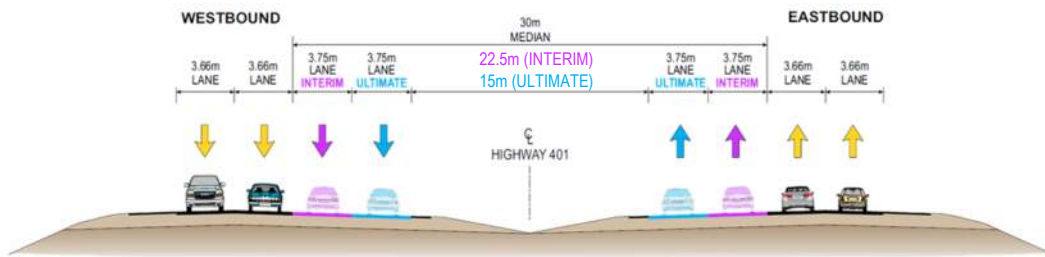
For S7-2, S7-4 & S7-5, the west end will be widened inside in the Interim and widened outside in the Ultimate.

offset and length of retaining wall to be confirmed in detail design

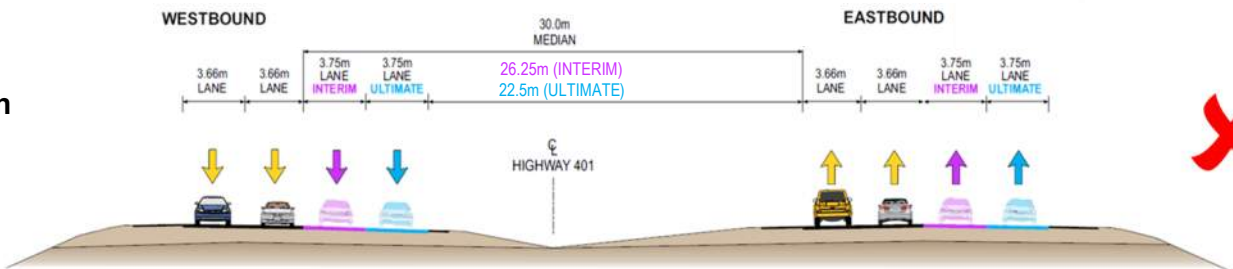
S7-2
 East end - Widen inside in the Interim and widen outside in the Ultimate



S7-4
 East end – Widen inside only

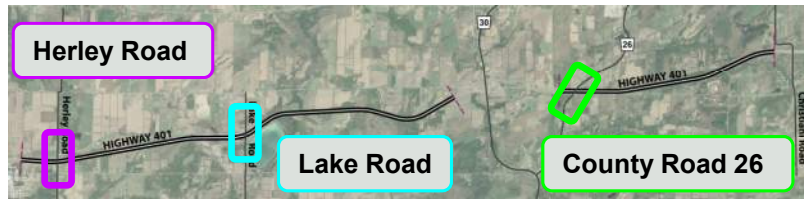


S7-5
 East end – Widen to the south



Criterion	Alternatives			Key Benefit / Disadvantage
	S7-2 East End: Widen inside (Interim) & outside (Ultimate)	S7-4 East End: Widen inside only	S7-5 East End: Widen to the south	
Natural Environment	●	●	●	No preference amongst the three alternatives. Alternative S7-2 has slightly greater potential impacts to three low-sensitivity watercourses.
Cultural Environment	●	●	●	No preference as all alternatives impact cultural heritage landscape due to property taking/grading. All alternatives have the same archaeological potential.
Socio-Economic Environment	●	●	●	Alternative S7-4 is slightly preferred from an Air Quality perspective. The property impacts are similar for all alternatives.
Technical / Transportation	●	●	●	Alternative S7-2 is preferred since it maintains an open median, is easiest to tie into the widening strategy to the west and at the east limit.
Recommendation	✓	✗	✗	

Alternatives to be Carried Forward to the Short-list of Alternatives Bridge Replacement Alternatives



Herley Road			
Alternative 1	Alternative 2	Alternative 3	Alternative 4
Replace to the west	Replace to the east	Replace on existing alignment	Permanent remove crossing
Carry forward	Carry forward	Carry forward	Do not carry forward

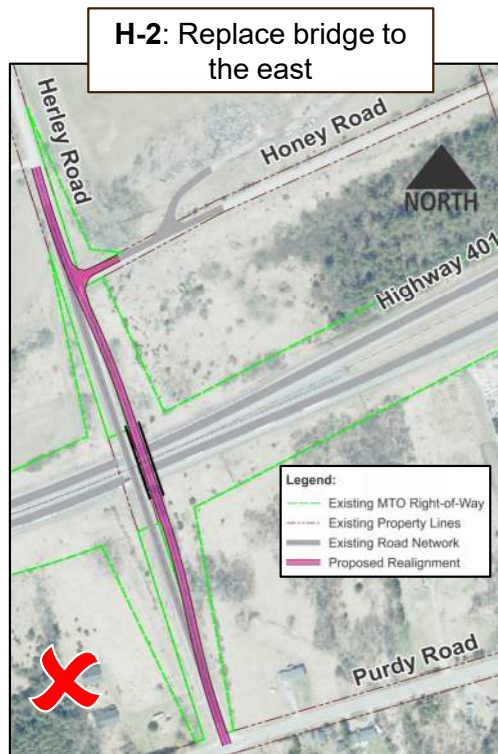
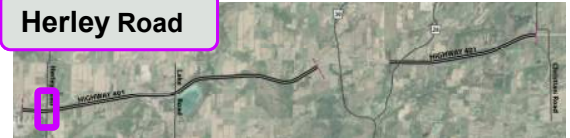
Lake Road		
Alternative 1	Alternative 2	Alternative 3
Replace to the west	Replace to the east	Replace on existing alignment
Do not carry forward	Do not carry forward	Carry forward

County Road 26						
Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7
Replace to the far west	Replace to the west (intermediate)	Replace to the west (curved bridge)	Replace to the west (straight bridge)	Replace to the east	Replace on existing alignment (temporary road closure)	Replace on existing alignment (temporary single-lane traffic control)
Do not carry forward	Carry forward	Do not carry forward	Do not carry forward	Do not carry forward	Carry forward	Carry forward

Evaluation of the Short-list of Alternatives

Herley / Durham Road Bridge Replacement Alternatives

Herley Road



Criterion	Alternatives			Key Benefit / Disadvantage
	H-1 Replace bridge to the west	H-2 Replace bridge to the east	H-3 Replace bridge on existing alignment (temporary road closure)	
Natural Environment	●	●	●	No preference amongst the alternatives. H-3 does have a slightly lesser area of impact to potential breeding habitat for Eastern Meadowlark/ Bobolink.
Cultural Environment	●	●	●	No preference as all alternatives have the same archaeological potential. H-3 is slightly preferred since there are no impacts to any cultural resources or landscapes.
Socio-Economic Environment	●	●	●	H-3 is preferred since it has the greatest potential to mitigate property impacts. Alternative H-3 also has the lowest potential to increase emissions.
Technical / Transportation	●	●	●	Alternatives H-1 and H-3 are equally preferred. H-1 allows Herley Road to remain open during construction while H-3 has ideal geometry and lowest cost.
Recommendation	✗	✗	✓	

Evaluation of the Short-list of Alternatives

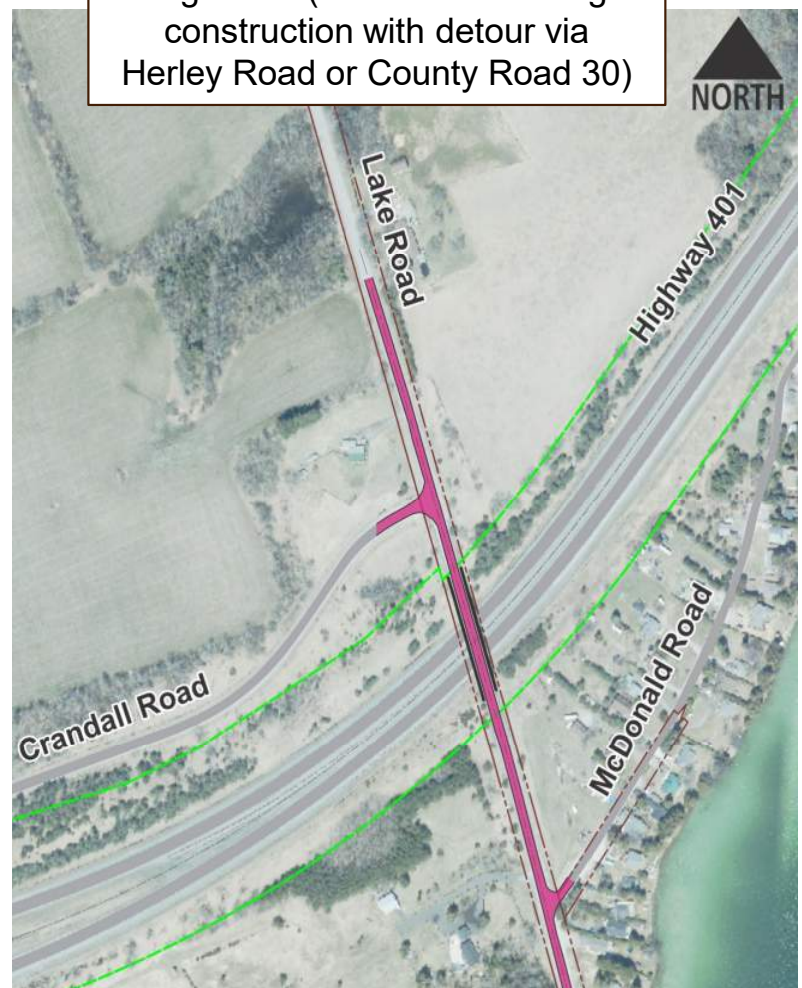
Lake Road Bridge Replacement

Lake Road



- Proposed signed bike route (Northumberland Transportation Master Plan 2017).
- Realignment of Crandall Road may be required.
- L-3 is preferred due to fewer property and environmental impacts and is more compatible with future Highway 401 widening.
- Limited traffic inconvenience in this area with full closure due to low traffic volumes.

L-3: Replace bridge on existing alignment (road closed during construction with detour via Herley Road or County Road 30)



Evaluation of the Short-list of Alternatives

County Road 26 Bridge Replacement Alternatives

County Road 26



C-2: Replace bridge to the west (intermediate)

C-6: Replace bridge on existing alignment (road closed during construction with detour via County Road 30 and County Road 41)

C-7: Replace bridge on existing alignment (temporary single-lane traffic control)

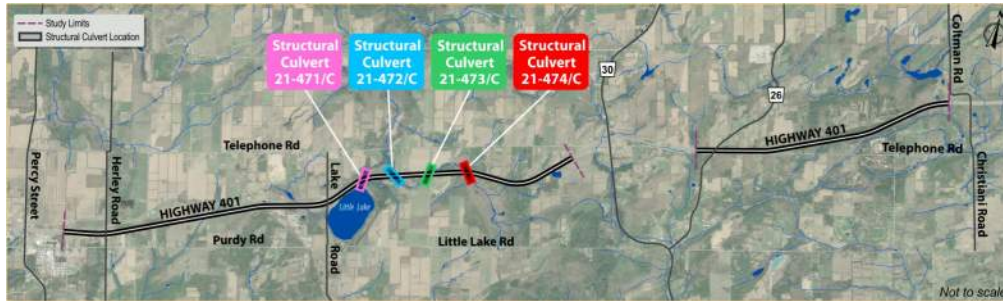


Criterion	Alternatives			Key Benefit / Disadvantage
	C-2 Replace bridge to the west (intermediate)	C-6 Replace bridge on existing alignment (temporary closure)	C-7 Replace bridge on existing alignment (temporary single-lane traffic closure)	
Natural Environment	● (Yellow)	● (Green)	● (Green)	Alternatives C-6 and C-7 are equally preferred since Alternative C-2 has greater impacts to potential breeding habitat for SAR and a greater amount of vegetation removal.
Cultural Environment	● (Yellow)	● (Yellow)	● (Yellow)	No preference; all alternatives require property taking/grading for a potential cultural heritage landscape and a CHER was completed for 638 County Road 26 and an HIA is required.
Socio-Economic Environment	● (Red)	● (Yellow)	● (Yellow)	C-6 and C-7 are equally preferred since they both have less severe and small impacted area to private properties.
Technical / Transportation	● (Yellow)	● (Yellow)	● (Red)	C-2 and C-6 are equally preferred. C-2 uses a new alignment and has the simplest construction staging. C-6 has better constructability and lowest cost.
Recommendation	✗ (Red)	✓ (Green)	✗ (Red)	




Preferred Plan

Separate File

Culvert Replacements



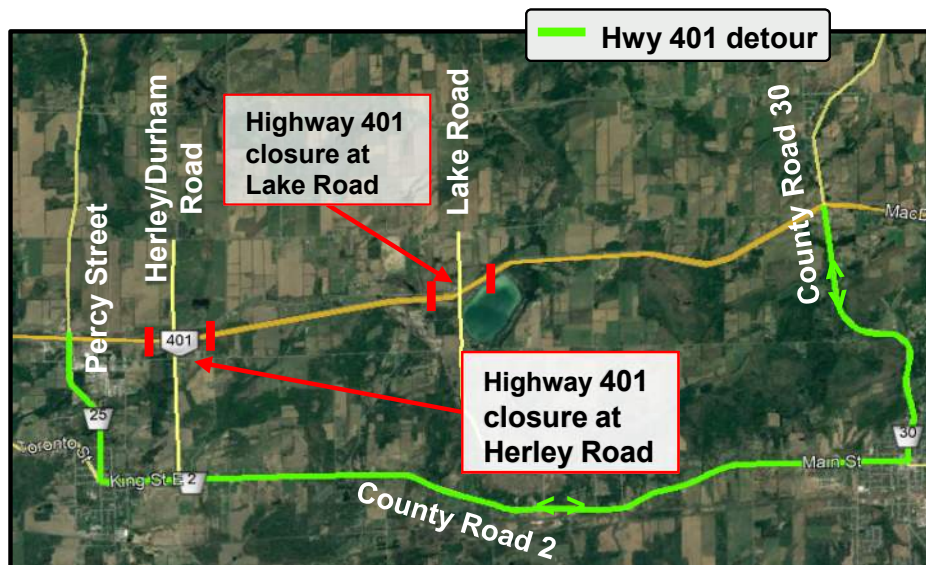
- There are four structural culverts crossing Highway 401 between Lake Road and County Road 30.
- All culverts require replacement since they are approaching the end of their service life. New culverts will be compatible with future Highway 401 widening.
- Culvert sizes and staging details will be confirmed as the study progresses; however, it is anticipated that all Highway 401 lanes will be maintained during the majority of construction.

Alternative 1 – Replace with culvert (open cut)	Alternative 2 – Replace with culvert (trenchless method)	Alternative 3 – Replace with bridge
<p>Advantages</p> <ul style="list-style-type: none"> • Can maintain existing channel alignment; • Ideal for low fill locations. 	<p>Advantages</p> <ul style="list-style-type: none"> • Can reduce construction staging impact on traffic; • Ideal for high fill locations; • Can easily maintain existing channel flows during construction. 	<p>Advantages</p> <ul style="list-style-type: none"> • Ideal for high fill locations; • Can maintain existing channel alignment; • Potentially less environmental impacts; • Can easily maintain existing channel flows during construction.
<p>Disadvantages</p> <ul style="list-style-type: none"> • Potential for long construction duration; • Staging challenges due to high traffic volumes; • Existing channel flows harder to maintain during construction. 	<p>Disadvantages</p> <ul style="list-style-type: none"> • Higher cost for larger culvert sizes; • Not ideal in poor ground conditions; • Requires channel realignment; • Potentially greater environmental impacts due to staging areas; • Not ideal for low fill locations (won't work for 2 of the 4 culverts). 	<p>Disadvantages</p> <ul style="list-style-type: none"> • Higher cost; • Longer construction duration.
<p>Recommendation Carried forward as preferred alternative </p>	<p>Recommendation Do not carry forward </p>	<p>Recommendation Do not carry forward </p>

Detours for Bridge Demolition and Construction Herley/Durham Road, Lake Road, and County Road 26 Underpasses

Detour Highway 401 traffic onto Emergency Detour Route (EDR) for bridge demolition and girder placement of new bridges.

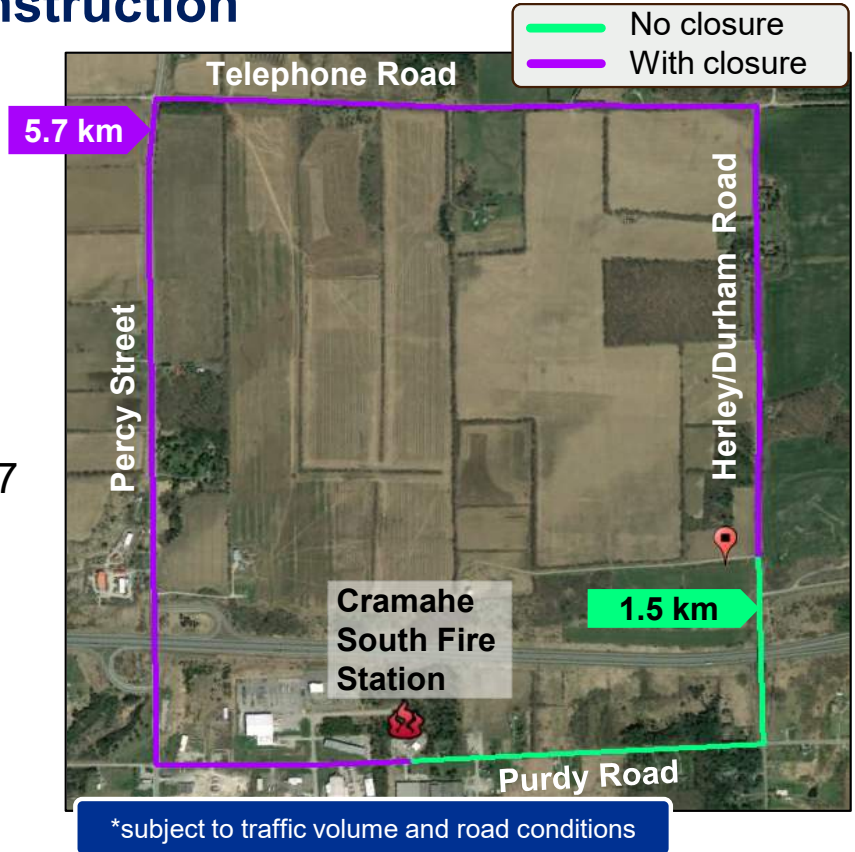
- Due to the bridge type, each structure must be demolished all at once.
- Not feasible to detour within the highway right-of-way, so traffic must be detoured onto EDR.
- Estimated 12-18 hour off-peak closure of Highway 401 for each demolition.
- Police-assisted traffic control.
- Herley/Durham Road and Lake Road bridge demolitions will not occur at the same time.
- Timing of the bridge replacements and the number/duration of overnight closures will be confirmed during the Detail Design stage (timing is currently unknown).



Detour Routes for Fire Response During New Bridge Construction

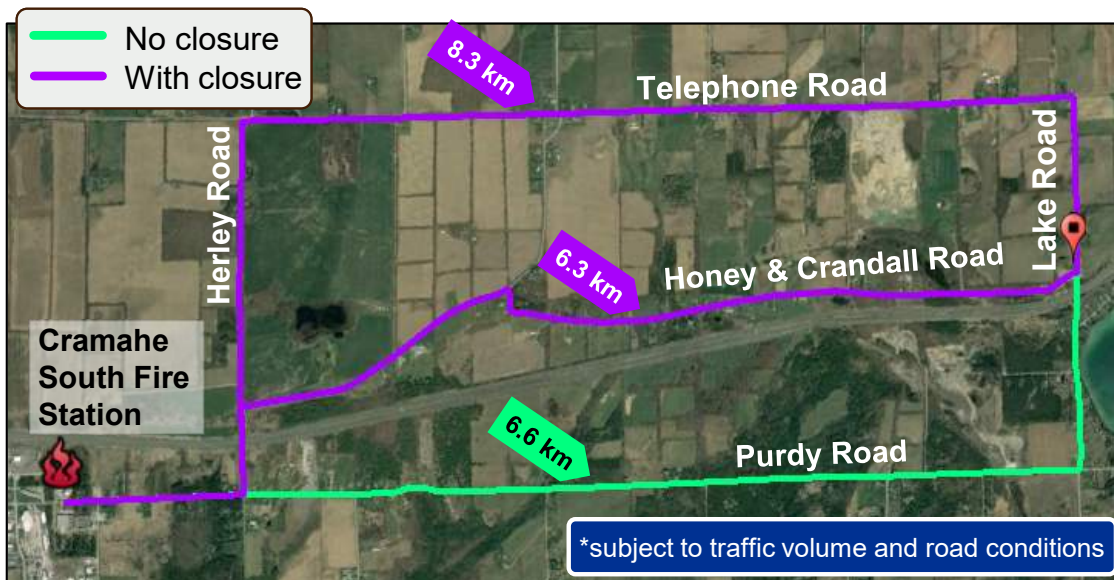
Herley/Durham Road Underpass

- 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.



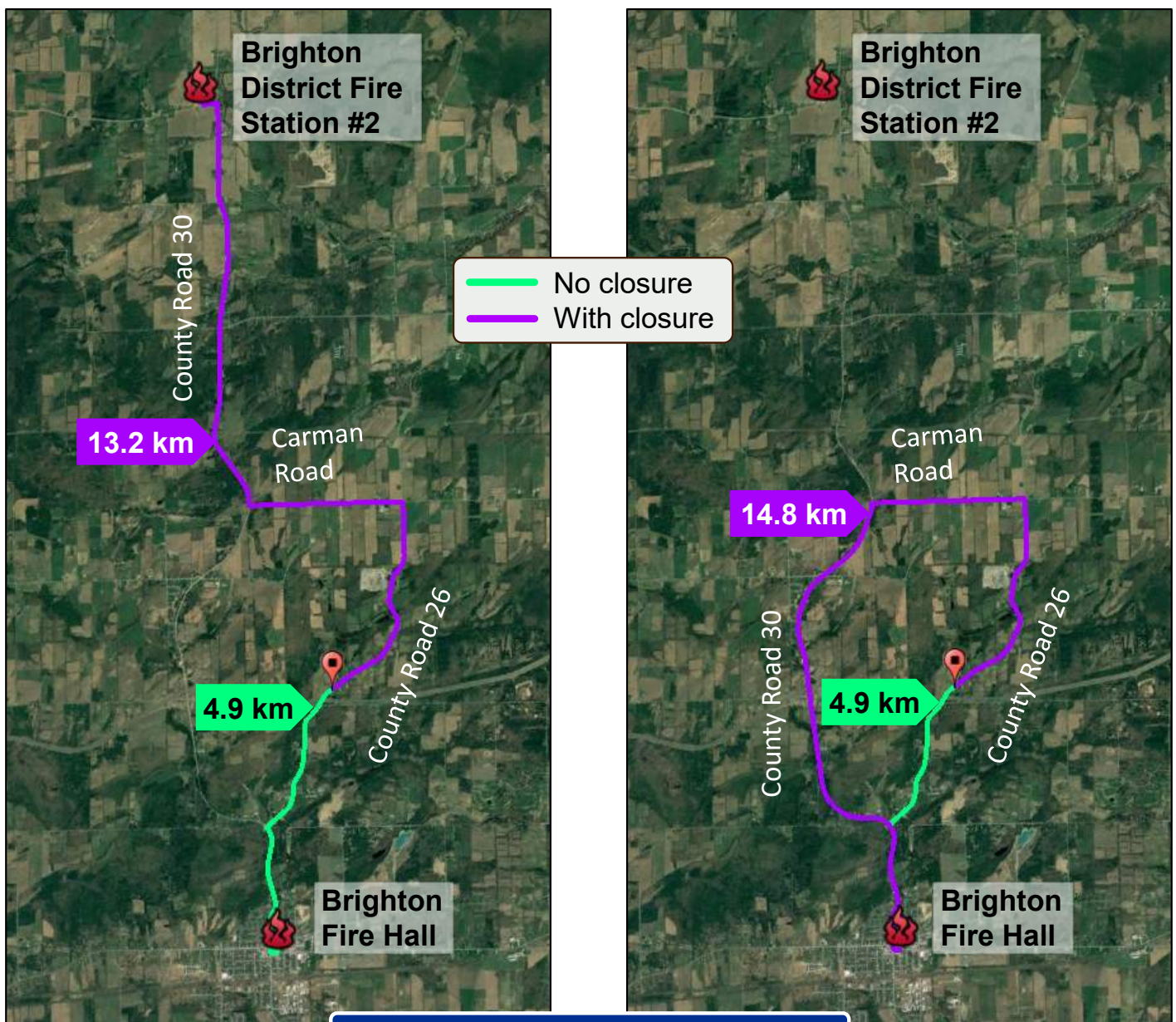
Lake Road Underpass

- 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



Detour Routes for Fire Response During New Bridge Construction County Road 26 Underpass

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





*subject to traffic volume and road conditions

Active Transportation

- Weekday and weekend pedestrian and cyclists counts were conducted in the summer and fall of 2020
- Pedestrian and cyclists counts were generally low (less than 8 in a 10 hour period) in all periods on all crossing roads
- The existing structures (Herley, Lake & County Road 26) have shoulders that range from 0.75 m to 1.4 m
- The three new overpass structures will include two 3.5 m lanes with 1.7 m shoulders



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

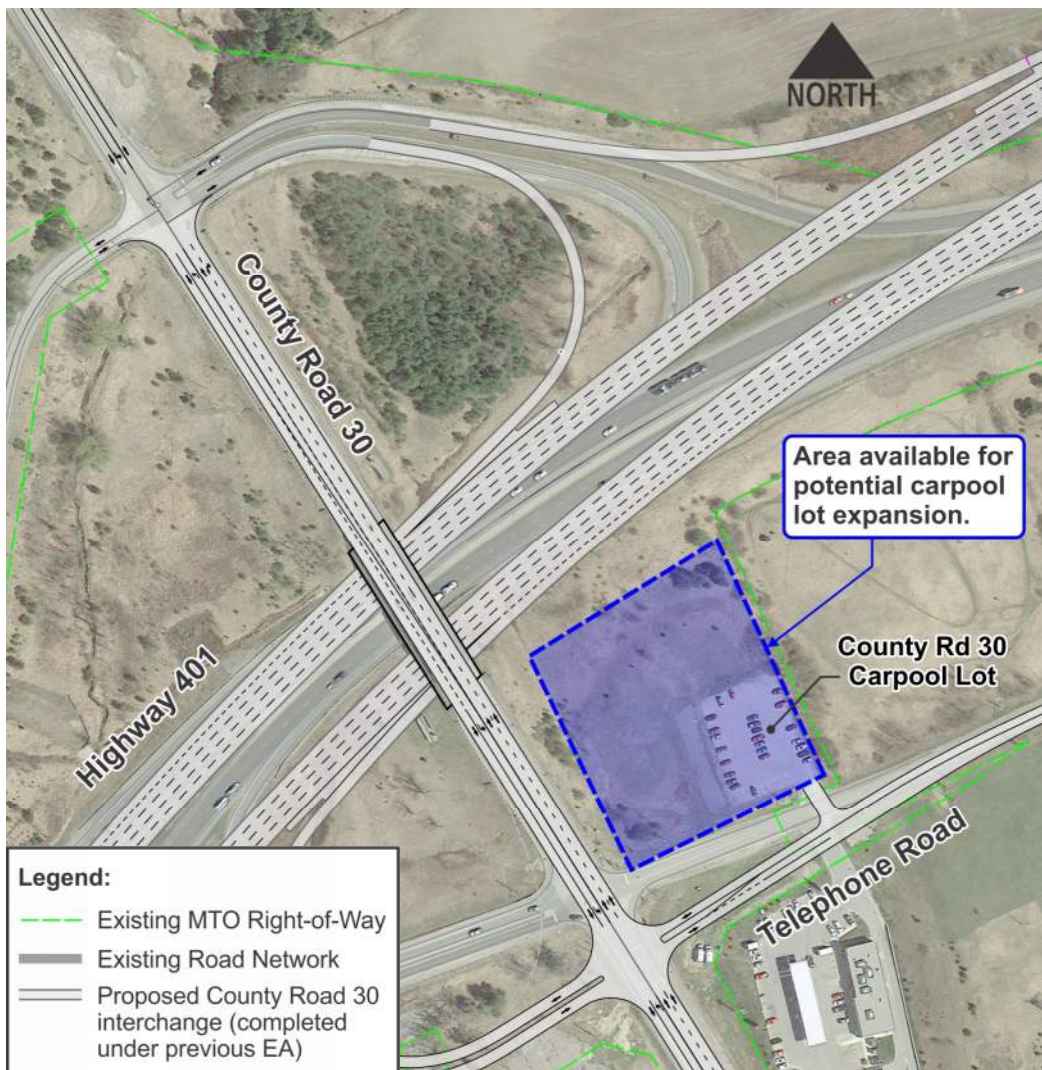


 Fall Weekday – 1 EB / 0 WB
 Fall Weekend – 1 NB / 2 WB

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



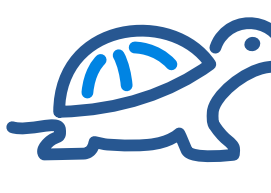
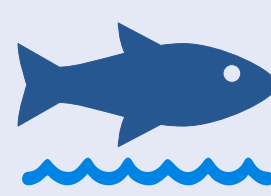







Carpool Lot Improvements

- The existing carpool lot located at County Road 30 requires capacity expansion.
- This expansion will take place within existing MTO property.
- The lot may be expanded based on a phased approach over time.
- Further details (including the recommended size/shape) will be developed as the study progresses based on environmental and technical considerations.



Potential Impacts and Proposed Mitigation Measures

A summary of the environmental factors anticipated to be impacted by this project and the proposed mitigation measures are briefly described below. A detailed description of potential impacts associated with this project and associated mitigation measures will be provided within the Transportation Environmental Study Report (TESR).

Environmental Factor	Proposed Mitigation Measures / Commitments to Future Work
Vegetation 	Some vegetation will need to be removed as part of the Preferred Plan. Retaining walls are proposed in the preferred plan to mitigate the extent of grading thereby reducing impacts to vegetation. General construction mitigation for vegetation will be implemented, including minimizing the extent of vegetation removal and damage, re-stabilizing and re-vegetating exposed soil surfaces as soon as possible, and using native seed mixes where possible.
Wildlife 	Nesting migratory birds are protected under the Migratory Bird Convention Act (MBCA) and standard mitigation measures will be implemented.
Species at Risk (SAR) 	The requirements of the Endangered Species Act will be met to address impacts to two SAR species/habitat identified (Eastern Meadowlark and Butternut). Species that have the potential to be present will be further assessed in detail design.
Fisheries 	Watercourse realignments and changes to the in-water footprint at existing culverts will be designed to minimize impacts to the extent possible. Culverts will be designed to span the bankfull channel and accommodate a low flow channel where possible. In-water construction work will be minimized and scheduled during the permitted timing window(s). Erosion and sediment control measures will be developed during Detail Design.
Archaeology 	A Stage 1 Archaeological Assessment was completed. A Stage 2 Archaeological Assessment will be carried out in required areas. No construction activities will take place until the Ministry of Citizenship and Multiculturalism (MCM) has confirmed in writing that all archaeological licensing and technical review requirements have been satisfied.
Cultural Heritage 	Properties having cultural heritage value have been identified. MTO will undertake a Heritage Impact Assessment (HIA) for one provincial heritage property anticipated to be impacted by the project.
Noise 	A Noise Assessment is currently underway in accordance with the MTO Noise Guide. Noise mitigation measures will be implemented on construction equipment/activities, such as limiting unnecessary noise and idling of construction equipment and equipment manufacturer recommended noise mitigation measures (e.g. muffler systems) are to be installed on construction equipment and equipment properly maintained. A complaint management process is recommended when construction is occurring during nighttime hours in the vicinity of noise receptors.
Air Quality 	An Air Quality Assessment has been completed and concluded project operations are not expected to adversely impact local air quality. To mitigate potential impacts during construction activities a Construction Air Quality Management Plan (CAQMP) should be developed to address construction equipment vehicle exhaust, potential traffic disruptions and congestion, fugitive dust, and odour.
Landscape 	A preliminary landscape plan has been completed which documents anticipated impacts (current proposed grading limits) and proposed restoration through edge management, replanting and seeding.
Property 	Impacts to private and municipal properties should be minimized through Detail Design. Negotiations with impacted property owners will be carried out after Environmental Clearance has been obtained.
Traffic Operations 	Construction activities are expected to impact traffic operations. Minimize traffic impacts through staged construction and by maintaining full access to traffic on Highway 401 as much as possible. Detour and Staging Plans will be finalized during Detail Design. Detour routes will be confirmed in consultation with local municipalities, emergency service providers, and other stakeholders.

Next Steps

After this Public Information Centre, the following will be carried out:



Review the comments received following PIC #2 and respond to comments;



Incorporate any refinements into the preferred plan based on public and agency input;



Complete remaining impact assessments; and



Prepare and file the Transportation Environmental Study Report (TESR) for a 30-day comment period (anticipated Fall 2023).



Contact Information

Please feel free to submit comments through the project website or by sending your comments to one of the Project Team members listed below. Comments would be appreciated by **June 20, 2023.**

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Information collected during this study will be used to assist the Ministry of Transportation in meeting the requirements of the Ontario *Environmental Assessment Act*. This material will be maintained on file for use during the study and may be included in the study documentation.

Information collected will be used in accordance with the *Freedom of Information and Protection of Privacy Act*. With the exception of personal information, all comments will become part of the public record.

Thank you for your time and participation!
Information presented today is available online at the study website:
www.highway401colbornebrighton.ca