

**Highway 401 Improvements from 1 km East of Highway 16 to 3.3 West of
Maitland Road**
Class Environmental Assessment and Preliminary Design Study (GWP 4024-20-00)
Ontario Ministry of Transportation

PUBLIC INFORMATION CENTRE #1 (VIRTUAL)

PRESENTATION VIDEO TRANSCRIPT

DECEMBER 8TH, 2021

Slide 1 – Cover Page Slide

Hello and thank you for joining us for this online Public Information Centre (PIC). This video presentation will provide you with an overview of the Preliminary Design and Class Environmental Assessment (Class EA) Study initiated by the Ontario Ministry of Transportation (MTO) to provide improvements to Highway 401 from 1 km East of Highway 16 to 3.3 km West of Maitland Road.

This is the first of two Public Information Centres planned for this undertaking. In view of COVID-19 and the associated physical distancing requirements PIC #1 is being hosted online.

Please note that members of the Project Team are available to discuss any questions that you may have regarding this project. If you have any questions or concerns, please contact us by email at ProjectTeam@highway401prescottmaitland.ca or by clicking the 'Contact Us' button on the study website.

If you require any assistance regarding the accessibility of these materials, please let us know by emailing the address above. We would be happy to assist you.

Slide 2 – Welcome!

Thank you for taking the time to view this presentation. Your input is important to us. This video presentation will briefly take you through some of the key features and details of the Study. Further to this video, we have additional PIC resources available for download on the Study website that you can review in more detail. These include...

- PIC #1 Video Presentation
- PIC #1 Video Transcript
- A downloadable PDF copy of the PIC #1 Presentation slides
- A downloadable PDF of a Roll Plan illustrating the Study Area existing conditions as well as the alternatives under consideration at the Maitland Road, Edward Street and Highway 16 interchanges

We invite you to please review the presentation material and submit any comments using the Comment Sheet provided on the project website.

Slide 3 – Project Background and Study Area

The Ontario Ministry of Transportation (MTO) has retained AECOM to undertake a Planning, Preliminary Design, and Class Environmental Assessment (Class EA) Study for Highway 401 extending from 1 km east of Highway 16 to 3.3 km west of Maitland Road, as illustrated in the image, for a total length of approximately 20.75 km.

The project is located within the Township of Augusta, Town of Prescott, and the Township of

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Edwardsburg Cardinal.

The purpose of this Study is to address current and future transportation needs by developing a plan for the...

- Rehabilitation or replacement of 14 bridges and culverts;
- Developing a long-term plan for the Maitland Road, Edward Street and Highway 16 interchanges; and
- Establishing the future footprint for an interim six lanes and ultimate eight lanes of Highway 401.

Slide 4 – Purpose of Public Information Centre (PIC) # 1

The purpose of this Public Information Centre (PIC) is to present and receive feedback on....

- Study area and scope
- MTO Class EA Process
- Key objectives of the study, study process, and timing of study activities
- Existing conditions in the study area
- Challenges and Opportunities, including existing & future traffic projections, structural requirements and the need for highway improvements
- Alternatives being considered to address the identified problems, including alternative interchange configurations at Maitland Road and Edward Street, Highway 401 cross-section requirements, and bridge and culvert rehabilitation and replacement strategies
- Preliminary criteria to be used to evaluate the alternatives, and
- Next steps

Slide 5 – MTO Class EA Process

This Preliminary Design and Class Environmental Assessment (Class EA) study is following the approved planning process for a Group 'B' Project in accordance with the *MTO Class EA for Provincial Transportation Facilities (2000)*.

The MTO Class EA is an approved planning process under the Ontario Environmental Assessment Act for provincial transportation projects. This study is following a Group 'B' process which includes major improvements to existing provincial transportation facilities such as interchange or highway improvements involving major footprint modifications. To access a copy of the MTO Class EA document, please visit the MTO website at....

http://www.mto.gov.on.ca/documents/english/engineering/Class_EA_2000.pdf

Investigations pertaining to the natural, socio-economic, and cultural heritage environments will be undertaken to summarize existing conditions and to identify any areas of environmental concern or constraint. This information will be used to evaluate the alternatives, assess the potential for impact and in the development of appropriate mitigation.

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A Transportation Environmental Study Report (TESR) will be prepared to document the study process and will be placed on the public record for a 30-day review period.

Consultation is a key component of the MTO Class EA process and will be ongoing throughout this study. In addition to two Public Information Centres, consultation will be completed with Indigenous Communities, agencies, the public, key stakeholders, and also include meetings with a Municipal Technical Advisory Committee (MTAC) at key milestones during the process.

Slide 6 – Study Area and Existing Conditions

The existing study area is illustrated in the graphic as shown, including environmental features, existing bridges and culverts and notable geometric conditions and concerns. A high-resolution copy of the Study Area and Existing Conditions Map below can be downloaded from the project website or by clicking the link below.

As noted, a number of technical and environmental investigations are being completed as part of this undertaking to document existing conditions and identify any areas of environmental concern or constraint. These include a traffic analysis, aquatic and terrestrial investigations as well as a review of archaeological and built heritage resources, surface water, groundwater, land use, noise, air quality and others. The image as shown identifies some of the key features present within the area of study based on preliminary information. These include a number of watercourses with potential fish and fish habitat, the South Augusta Provincially Significant Wetland at the west end of the study area, numerous unevaluated wetlands and significant woodlands.

There is a range of land uses adjacent to the Hwy 401 corridor within the area of study that include Rural, Residential/Settlement, Industrial, Institutional, Highway Commercial, Industrial Park Policy Areas, Future Industrial Park Expansion Area, Mineral Aggregate Resource Policy Area, Parks and Open Space, Provincially Significant Wetland and a Natural Heritage Resource Policy Area.

Slide 7 – Existing Traffic Conditions (Highway 401)

A Traffic Operational Analysis has been undertaken to review existing traffic operations and projected future traffic growth and operations with and without a future widening of Highway 401 and improvements to the Study Area interchanges. The future conditions analysis was completed based on a 2051 future horizon year.

Traffic operations have been measured based on Level-of-Service (LOS) which is a measure of the free flow of traffic on a highway. The Level of Service is categorized in decanting levels of operation, traffic flows and congestion with an A Level of Service having traffic flows at or above the posted speed limit through to a F Level of Service, where increasing congestion and ‘at capacity’ operations, are indicative of long delays and, in some cases, severe traffic congestion.

Several segments of Highway 401 are currently congested or operating near capacity, and operations are expected to deteriorate based on the existing 4-lane section of Highway 401 as volumes continue to grow. Notably, Level of Service E or F operations are anticipated by 2051

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from the west study limits to Edward Street in the future Do-Nothing scenario.

Slide 8 – Existing Traffic Conditions (Interchanges)

The traffic analysis also reviewed both existing and future 2051 operations at the Maitland Road, Edward Street and Highway 16 interchanges. Based on this analysis all interchanges are currently operating at an acceptable level of service

By 2051 several intersections, notably those at the Edward Street interchange, are expected to be operating above capacity with Level of Service F operations based on the existing interchange configuration (Do-Nothing Scenario).

Slide 9 – Existing Bridge & Culvert Conditions

The existing conditions for the 10 bridges and 4 structural culverts within the Study Area have been reviewed and assessed. The findings of this assessment are summarized in the table as shown and on the slide that follows. As noted, seven bridges and two culverts were constructed in the 1950s and 1960s and have had their most recent rehabilitations between 2009 and 2015. These were observed to be in good to fair condition and have approximately 10-20 years of remaining service life.

Slide 10 – Existing Bridge & Culvert Conditions

The remaining three Bridges and two Structural culverts, which are located at the Highway 401 and 416 interchange, were constructed in 1998 & 1999 and were observed to be in good to fair condition with the potential of requiring rehabilitation in the short to mid-term.

Slide 11 – Challenges & Opportunities

This slide provides a summary of the Challenges and Opportunities identified within the Study Area. The overall purpose of the study is to identify and recommend a plan that addresses current and future transportation needs for the Highway 401 corridor within the study area.

Key challenges within the area of study include the following:

- Many of the bridges and culverts in the study area are nearing the end of their service life and will require replacement or rehabilitation in the foreseeable future.
- Given current population and employment forecasts and traffic growth projections, traffic volumes and associated safety and operational concerns along Highway 401 will continue to grow, necessitating the widening of the highway to six lanes in the interim, with an ultimate widening of the highway to eight lanes.
- It is increasingly difficult to undertake routine maintenance of highway infrastructure without significant impacts to traffic.
- The existing interchanges within the study area require improvements to accommodate the bridge replacements and future highway widening, and to address current and future operational and geometric conditions at the interchanges.
- There is a need to identify the footprint of a widened Highway 401, particularly at the

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interchanges, to ensure that the bridge and interchange designs permit the network to continue operating efficiently into the future and to address commercial and residential development pressures along the corridor.

Completing the noted improvements provides various opportunities that include...

- An opportunity to develop appropriate rehabilitation or replacement strategies to maintain the safe operation of the highway corridor for current and future traffic volumes.
- By establishing the footprint for the future interim and ultimate widening of Highway 401, infrastructure improvements including bridge replacements and interchange modifications can be implemented efficiently and in a cost-effective manner, minimizing future throw-away while improving traffic operations.
- Identifying future interchange configurations will also help to manage adjacent development and highway corridor access.

Slide 12 – Evaluation Process and Selection of the Recommended Plan

The evaluation process that leads to selection of the Recommended Plan involves a number of steps as identified in the flow chart...

- The first step is to develop **Alternatives to the Undertaking** which are broad level options that represent functionally different ways to address the identified transportation needs. The “Do Nothing” alternative is typically included for consideration as it provides a base to which other alternatives can be compared.
- These alternatives are assessed based on their ability to address the identified Challenges and Opportunities and meet the study objectives.
- Following an evaluation of the Alternatives to the Undertaking and selection of the best alternative to carry forward the next step is to identify alternative methods of implementing the undertaking and developing a Long List of Alternatives.
- The **Long List of Alternatives** are then screened in terms of technical feasibility and high-level environmental factors to establish the advantages and disadvantages of each alternative and to identify a **Short List of Alternatives** to be carried forward for further evaluation using more detailed criteria considered relevant to this undertaking.
- The criteria to be used to evaluate the Short List of Alternatives considers potential effects on the technical, natural, socio-economic, and cultural environments.
- The preliminary criteria is presented for public review and comment at PIC#1. The evaluation criteria is then refined based on comments received and used to evaluate the Short List of Alternatives.
- The evaluation of the Short List of Alternatives and selection of the Preliminary Recommended Plan will be presented for public review and comment at PIC #2 to be scheduled at a later date.
- Following PIC#2 and the receipt of input the Final Recommended Plan will be selected.
- The Recommended Plan and associated mitigation will be documented in a Transportation Environmental Study Report which will be made available for a 30-day review period.

Slide 13 – Alternatives to the Undertaking

The Alternatives to the Undertaking developed for the current project and the associated

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evaluation are summarized in the table as shown...

- **Do Nothing:** This option maintains the “status quo”. Under this condition, no Highway 401 improvements are considered other than the rehabilitation of the existing bridges and culverts and / or the replacement of existing structures with no accommodation of an interim 6 and ultimate 8 lanes. The highway and interchanges will generally remain in their present condition.
- **Transportation Demand Management (TDM):** TDM strategies reduce the overall demand on the highway network by shifting demands to time periods outside of the critical congestion periods and shift demands to alternative modes of transportation.
- **Improvements to Adjacent Road Systems:** This alternative includes the widening of adjacent regional and municipal roads and regional road networks to increase overall transportation network capacity.
- **Improvements to Provincial Transportation Facility:** This alternative proposes a widening of Highway 401 along with operational and safety improvements to optimize the movement capacity of people and goods on Highway 401 through the corridor. This alternative includes the rehabilitation/replacement of the existing bridges, culverts and ramps to accommodate an interim six and ultimate eight lane Highway 401 footprint including the reconfiguration and improvements of existing interchanges.

The Alternatives to the Undertaking were evaluated based on their ability to address the identified challenges and opportunities affecting the Highway 401 corridor within the area of study. Based on this evaluation, *Improvements to Provincial Transportation Facility* was found to be the only option that will fully address the identified transportation challenges/opportunities.

Slide 14 – Preliminary Bridge/Culvert Requirements

The existing bridges and structural culverts in the study area were reviewed to determine both their short-term rehabilitation needs, and future replacement requirements including their ability to accommodate a future widening of Highway 401. It is expected that a number of bridges will require rehabilitation within the next 5 to 10 years to extend their service lives. In addition, a number of bridges cannot accommodate a future Highway 401 widening to 6 lanes. These bridges will be replaced at the time of widening to 6 lanes, if they have not already been replaced as a result of reaching the end of their service life. The bridges that can accommodate a Highway 401 widening to 6 lanes but not the ultimate 8 lanes will be replaced at the end of their service life. All bridge replacements will be constructed to accommodate an ultimate 8 lane highway configuration.

Slide 15 – Preliminary Bridge/Culvert Requirements

Slide 16 – Long List Alternatives Summary

A set of alternatives (the Long List Alternatives) has been developed to implement the improvements along Highway 401, the interchanges, and other bridges requiring replacement. The Long List Alternatives have been developed for the following highway components:

- Widening of the Highway 401 corridor;
- Blue Church Road, Merwin Lane and CPR Overhead bridge replacement alternatives;

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- Maitland Road interchange alternatives;
- Edward Street interchange alternatives; and,
- Highway 16 interchange alternatives.

The Long List of Alternatives are further detailed on the following slides.

Slide 17 – Widening of Highway 401 Corridor

Proposed interchange improvements and future bridge and culvert replacements will be designed to accommodate both an interim 6-lane and ultimate 8-lane widening of Highway 401.

A set of cross-section alternatives has been developed for how to implement the interim 6-lane and ultimate 8-lane Highway 401 cross-section. Separate alternatives have been developed for segments of the corridor with an Existing Urban Cross-Section, and for those with an Existing Rural Cross-Section.

The cross-section alternatives are further detailed on the slides that follow. These alternatives will be assessed in terms of ease of implementation, constructability and life-cycle cost. Based on review of the existing corridor including adjacent land use, maintaining the existing Highway 401 centreline is considered preferable from both a cost and impact perspective, and as such, alternatives to widen the highway fully to the north or south sides have not been considered.

Slide 18 – Widening Highway 401 (Urban Section)

Three cross-section alternatives were developed for sections of the corridor with an Existing Urban Cross-Section, which stretches from the west Study Limits to 1 km east of Maitland Road, and 500 m west of Edward Street to east Study Limits.

With Alternative 1, the interim widening to 6-lanes includes construction of a third lane in both directions outside of the existing lanes, and maintaining the existing 8 to 10 m median with concrete barrier wall. Future widening to an ultimate 8-lane cross-section would include reducing the median to the ultimate 7.5 m width and adding a fourth lane in both directions to the outside.

With Alternative 2, the existing lanes are shifted to the outside in the interim condition, and a third lane is constructed in both directions outside of the existing lanes to the ultimate location. Future widening to an ultimate 8-lane cross-section would be completed by constructing additional lanes into the median.

With Alternative 3, the median is narrowed to the ultimate 7.5 m width in the interim and a third lane in both directions constructed outside of the existing lanes. Future widening to an ultimate 8-lane cross-section would include constructing an additional lane in both directions to the outside.

Slide 19 – Long List Alternatives – Widening Highway 401 (Rural Section)

Two cross-section alternatives were developed for sections of the corridor with an Existing Rural Cross-Section, which stretches from 1 km east of Maitland Road to 500 m west of Edward

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Street.

With Alternative 1, the interim widening to 6-lanes includes construction of a third lane in both directions to the ultimate location, and a 15.0 m rural median maintained. Future widening to an ultimate 8-lane cross-section would be completed by constructing additional lanes into the median.

With Alternative 2, the interim widening to 6-lanes would include constructing a third lane in both directions into the existing median, as well as construction of median concrete barrier wall. Future widening to an ultimate 8-lane cross-section would include constructing an additional lane in both directions to the outside.

Slide 20 – Blue Church Road, Merwin Lane and CPR Overhead

A number of alternatives are under consideration to implement the future replacement of the Blue Church Road, Merwin Lane and CPR Overhead bridges over Highway 401. These long-list alternatives will all be carried forward to the next stage of the evaluation for a more detailed review.

At Blue Church Road, Alternative 1 includes replacing the existing bridge east of the existing location, with a minor road realignment to the east. Alternative 2 includes a temporary closure of Blue Church Road for up to 2 construction seasons, and replacing the bridge at the existing location.

At Merwin Lane, Alternative 1 includes replacing the existing bridge east of the existing location, with a minor road realignment to the east. Alternative 2 includes replacing the existing bridge west of the existing location, with a minor road realignment to the west. Alternative 3 includes a temporary closure of Merwin Lane for up to 2 construction seasons, and replacing the bridge at the existing location.

For the CPR Overhead bridge, Alternative 1 includes replacing the bridge with a new bridge at the existing location which can accommodate potential future rail passage beneath Highway 401. Alternative 2 includes removal of the existing bridge and replacement with a smaller culvert which can accommodate a trail passage only.

Slide 21 – Long List Alternatives – Maitland Road Interchange

The image as shown illustrates the alternatives under consideration to complete improvements to the Maitland Road interchange, as well as the initial screening evaluation of these long-list alternatives and the summary of advantages and disadvantages for each alternative. A high-resolution copy of the alternatives can be downloaded from the project website or by clicking the link below.

In order to limit the number of permutations of alternatives, a separate set of alternatives was developed for the north and south sides of the interchange, along with one combined alternative that includes the entire interchange.

Four alternatives were developed for the north side of the interchange, with three of these

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alternatives recommended to be carried forward to the more detailed assessment and evaluation of options. For the south side, six alternatives were developed with three of these alternatives recommended to be carried forward. The combined north/south alternative, which includes a realignment of Maitland Road to the east, is also recommended to be carried forward for further evaluation.

Slide 22 – Long List Alternatives – Edward Street Interchange

The image as shown illustrates the alternatives under consideration to complete improvements to the Edward Street interchange, as well as the initial screening evaluation of these long-list alternatives and the summary of advantages and disadvantages for each alternative. A high-resolution copy of the alternatives can be downloaded from the project website or by clicking the link below.

The north side alternatives included 12 different options, including variations with roundabouts at the ramp terminal intersections and various realignments or closures of the Development Drive intersection directly north of the interchange. Five of the 12 options are recommended to be carried forward for further evaluation. Four alternatives were developed for the south side of the interchange, with 3 of the 4 alternatives recommended to be carried forward. A combined north/south alternative was also developed, but is not recommended to be carried forward further.

Slide 23 – Long List Alternatives – Highway 16 Interchange

The alternatives developed for the Highway 16 interchange generally maintain the same existing interchange configuration, and were prepared to accommodate future replacement of the Highway 16 bridges over Highway 401 and the existing rail line to the south. A high-resolution copy of the alternatives can be downloaded from the project website or by clicking the link below.

The image as shown illustrates the alternatives under consideration to complete improvements to the Highway 16 interchange, as well as the initial screening evaluation of these long-list alternatives and the summary of advantages and disadvantages for each alternative.

Four alternatives were developed for the interchange, including two alternatives each which realign Highway 16 slightly east and slightly west of the existing roadway. Three of the four alternatives are recommended to be carried forward for further evaluation.

Slide 24 – Preliminary Short List Alternatives

Based on the results of the evaluation of the Long List of Alternatives as presented during this PIC, a Short List of interchange alternatives was identified as shown to be carried forward for further evaluation. These interchange alternatives are in addition to the Highway 401 widening alternatives and the bridge replacement alternatives which will also be carried forward for further evaluation. The evaluation will be undertaken following this PIC utilizing a more detailed criteria considered relevant to this undertaking.

Slide 25 – Short List Evaluation Criteria

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As illustrated, the preliminary evaluation criteria identified by the Project Team to evaluate the Short List of Alternatives includes various components of the natural, socio-economic, and cultural environment along with constructability/cost and technical considerations relating to transportation.

The preliminary evaluation criteria consist of the following:

- The Natural Environment includes terrestrial and aquatic species and their habitat, including Species at Risk, as well as surface & ground water, designated natural areas, wetlands, vegetation communities and contamination.
- The Socio-Economic Environment includes community impacts, existing & planned land uses, noise & air quality, property impacts, impacts to emergency services, recreational trails/active transportation, and climate change.
- The Cultural Environment includes archaeological and Built Heritage resources including cultural heritage landscapes.
- Transportation and Constructability includes traffic operations, geometrics, safety, constructability and impacts to utilities and servicing infrastructure, and:
- Costs are associated with construction, property acquisition, operational and maintenance.

Following this PIC an Evaluation Matrix will be developed to assess each of the alternatives in terms of the potential to impact each of the above noted criteria.

This process will assist in making selection of a Recommended Plan that will address the issues and deficiencies, but also keep impacts to a minimum.

Please provide your suggestions regarding any other criteria that should be considered in the evaluation process!

Slide 26 – Next Steps and How to Stay Informed

Following this PIC, the Project Team will:

- Respond to comments received;
- Complete the evaluation of the Short List of Alternatives;
- Present the evaluation of the Short List of Alternatives and the Preliminary Recommended Plan at PIC #2.

The following information is available on the Study Website for this PIC:

- PIC #1 Video Presentation
- PIC #1 Video Transcript
- Roll Plan illustrating the Study Area & Long List Design Alternatives

Slide 27 – Next Steps & How to Stay Informed

Thank you for attending PIC #1!

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Please fill out the PIC Comment Form which can be found on this Study Website.

Please provide any comments by **January 21st, 2022**.

For more information:

Continue to visit our Study Website at: www.highway401prescottmaitland.ca

Or

Email the Project Team at: ProjectTeam@highway401prescottmaitland.ca

Freedom of Information and Protection of Privacy Act

Comments and information regarding this study are being collected to assist the MTO and AECOM in meeting the requirements of the *Ontario Environmental Assessment Act*, and 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.

On behalf of the Project Team thank you for your interest and for participating in Public Information Centre #1. We encourage you to contact members of the Project Team if you have any questions or concerns regarding the above information.