Highway 401 Bridge Improvements at Collins Creek and Interchange/Bridge Improvements at Kingston Road 38 and Sydenham Road

Class Environmental Assessment and Preliminary Design Study (GWP 4029-20-00)

Ontario Ministry of Transportation

PUBLIC INFORMATION CENTRE #1 (VIRTUAL)

PRESENTATION VIDEO TRANSCRIPT

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Slide 1 – Cover Page Slide

Hello and thank you for joining us for this online Public Information Centre. This video presentation will provide you with an overview of the Preliminary Design and Class Environmental Assessment Study, Group 'B', initiated by the Ontario Ministry of Transportation to complete Highway 401 bridge improvements at Collins Creek and interchange/bridge improvements at Kingston Road 38 and Sydenham Road.

This is the first of two Public Information Centres planned for this project.

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 or require any assistance regarding the accessibility of these materials, please contact us by email at ProjectTeam@hwy401kingstonbridgesea.ca or by clicking the 'Contact Us' button on the study website. We would be happy to assist you.

Pour obtenir des renseignements en français, composer le 1-705-919-6786 (Patrick Hébert), Courriel: patrick.hebert1@aecom.com

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. The following Public Information Centre resources are available for download on the Study website that you can review in more detail. These include…

- Public Information Centre #1 Video Presentation
- Public Information Centre #1 Presentation Slides [PDF]
- Public Information Centre #1 Presentation Transcript [PDF]
- Sydenham Road Bridge Replacement / Alignment Alternatives [PDF]
- Sydenham Road Interchange Alternatives [PDF]
- Preliminary Traffic Management Alternatives [PDF]

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 Overview

The Ontario Ministry of Transportation - or MTO - has retained AECOM to undertake a Planning, Preliminary Design, and Class Environmental Assessment Study – also known as a Class EA - for the replacement of two bridges that are approaching the end of their service life on Highway 401 including the Eastbound (EB) Collins Creek Bridge, and the Sydenham Road Bridge within the City of Kingston. The study will focus on determining the structural needs of the aging bridges within the study area, as well as accommodating the future footprint of Highway 401, preliminary construction staging, and traffic management needs.

This study includes:

- Determining the need for interchange improvements at Sydenham Road and Highway 401 for future operations; and
- Determining a preliminary traffic management plan for the Kingston Road 38 bridge replacement and a new eastbound on-ramp that was identified in a previous MTO Class EA (i.e. Highway 401/Kingston Road 38 Interchange Operational Improvements (GWP 4049-11-00)) completed in 2016.
- Developing a preliminary design that allows for the technically preferred bridge replacement and interchange improvement works to be implemented efficiently, minimizing construction costs, traffic disruption, and future waste.

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

The purpose of this Public Information Centre is to present and receive feedback on….

- The Study area and scope;
- The MTO Class EA Process;
- The Key objectives of the study, study process, and timing of study activities;
- The Existing conditions in the study area;
- Challenges and Opportunities to be addressed and the need for highway improvements;
- The Alternatives being considered to address the identified challenges, including alternative interchange configurations at Sydenham Road, and bridge replacement strategies;
- The preliminary criteria to be used to evaluate the alternatives, and
- The Next steps in the study process.

Slide 5 – MTO Class EA Process

This 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. The Group 'B' process includes major improvements to existing provincial transportation facilities such as interchange or highway improvements involving major footprint modifications.

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 selection of the Recommended Plan and the development of appropriate mitigation measures.

A Transportation Environmental Study Report 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, and key stakeholders. Meetings will also be scheduled with a Municipal Advisory Committee at key milestones during the process.

Slide 6 – Key Study Components

The key study components include:

- A review of the existing conditions and deficiencies within the project limits;
- An investigation of reasonable alternatives to address the current and future transportation needs at the bridge locations;
- Completion of environmental investigations, documentation, and consultation;
- Preparation of a Group 'B' Transportation Environmental Study Report and Preliminary Design Report;
- A Traffic Analysis & development of Preliminary Construction Staging;
- Completion of other technical specialty studies including Structural, Electrical (illumination and traffic signals), Pavement, Foundations, Drainage & Hydrology Engineering; and
- Identification of utility impacts and preliminary utility relocation requirements.

Slide 7 – Study Area and Existing Conditions

As illustrated, there are a number of sensitive environmental features within the study area that will be considered in the evaluation of the alternatives and ultimately, in selection of the Recommended Plan.

Technical and environmental investigations are being completed as part of this undertaking to document the existing conditions and identify any areas of environmental concern or constraint. These investigations 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 and others. The image as shown identifies some of the key features present within the study area based on preliminary information. These include several watercourses, Provincially Significant Wetlands, potential heritage properties, and numerous unevaluated wetlands.

Slide 8 – Eastbound Collins Creek Overpass Overview

The existing bridge carrying eastbound Highway 401 over Collins Creek is located just west of the Kingston Road 38 and Gardiners Road interchange. It was constructed in 1959 and is now approaching the end of its service life. The adjacent westbound bridge was replaced in 2021 in conjunction with improvements to the Kingston Road 38 interchange as part of Contract 2018-4011. The scope of work for the current study is to develop a preliminary plan for the replacement of the eastbound bridge including traffic management needs for construction. Potential key issues and constraints with this bridge replacement include the Collins Creek Provincially Significant Wetland, aquatic habitat, navigability, traffic staging, and proximity to the Kingston Road 38 interchange.

Slide 9 – Kingston Road 38 Underpass and Interchange Overview

The Kingston Road 38 underpass bridge and interchange was previously reviewed in a separate Preliminary Design and Class Environmental Assessment, GWP 4049-11-00. That study identified interim improvements to the interchange ramps and roadway which have since been constructed as part of Contract 2018-4011. That study also identified an ultimate recommended plan consisting of replacement of the bridge structure on a new westerly alignment, a new north-to-east-loop-on-ramp, and associated tie in works. The scope of work for this assignment is to review the previously approved ultimate improvement plan and develop a preliminary plan for traffic management needs for the construction contract. Potential key issues and constraints with this bridge replacement include traffic staging, and the importance of this interchange for Long Combination Vehicles.

Slide 10 – Sydenham Road Underpass & Interchange Overview

The Sydenham Road underpass bridge was constructed in 1957 and is approaching the end of its service life. The scope of work for this assignment is to develop a preliminary plan for bridge replacement, interchange improvements, and identify preliminary traffic management needs for construction. There are several potential key issues and constraints at this location including traffic staging, presence of utilities, private residential and commercial/industrial entrances, nearby crossing roads, Cloverdale Park, the K&P Trail and parking lot, and potential heritage structures.

Slide 11 – Traffic Assessment Overview

A traffic operational analysis was conducted at the Kingston Road 38 interchange to review the existing traffic conditions and projected future growth in traffic conditions with and without the approved Preliminary Design and Class Environmental Assessment Study recommended ultimate interchange configuration. The future conditions analysis was completed based on a 2055 future horizon year. Based on this analysis the improvement to the ultimate configuration will result in acceptable operations in the future horizon year.

A traffic operational analysis was also conducted to review both existing and future operations at the Sydenham Road interchange. The analysis indicates that widening of Sydenham Road to four lanes through the interchange area is necessary to provide acceptable operations in the future horizon year. In addition, the analysis indicates that maintaining the McIvor Road connection at the north ramp terminal intersection with a traffic signal will result in congested operations in the future horizon year. The analysis shows that acceptable operations can be achieved by either closing McIvor Road at Sydenham Road or utilizing a roundabout intersection rather than a traffic signal.

Slide 12 – Challenges and Opportunities

After review of the existing conditions within the Study Area the following primary challenges have been identified:

- The two bridges, Eastbound Collins Creek and Sydenham Road, within the study area are nearing the end of their service life and will require replacement in the near future.
- Based on the future traffic projections, by 2030, the existing Sydenham Road interchange intersection operations are anticipated to deteriorate with multiple critical traffic movements, and by 2040, it is anticipated the interchange intersection will not be able to accommodate the projected growth.

The key opportunities for this bridge replacement study include the following:

- Completing the necessary bridge replacements that will protect the safety of the public and provides an opportunity to accommodate the future footprint of Highway 401.
- By identifying a future Sydenham Road interchange configuration, the bridge replacement can be implemented efficiently and in a cost-effective manner, minimizing future waste while improving traffic operations.
- Identifying the future interchange configuration at Sydenham Road will provide a plan to manage adjacent developments and highway corridor access in a safe and coordinated manner.

Slide 13 – Evaluation Process and Selection of the Recommended Plan

The evaluation process will lead to the selection of a Recommended Plan. This process 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. These alternatives, including a "Do Nothing" option, are assessed based on their ability to address the identified Challenges and Opportunities and meet the study objectives which leads to 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 leading to a **Short List of Alternatives** to be carried forward for further evaluation using more detailed criteria considered relevant to this undertaking.
- Evaluation of the Short List of Alternatives considers potential effects on the technical, natural, socio-economic, and cultural environments.
- The preliminary criteria for evaluation are presented for public review and comment at Public Information Centre #1. The evaluation criteria are 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 Public Information Centre #2.
- After reviewing and considering the feedback received, a 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 14 – Alternatives to the Undertaking

The Alternatives to the Undertaking developed for the current project and the associated evaluation are summarized in the table as follows:

- The **Do-Nothing option** maintains the "status quo". Under this condition, no Highway 401 improvements are considered other than the rehabilitation of the existing bridges. The configuration of the interchanges would be maintained. This does not allow for accommodation of the future Highway 401 footprint.
- **Transportation Demand Management 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.
- The **Improvements to Adjacent Road Systems** alternative includes the expansion of adjacent municipal road networks to increase overall transportation network capacity.
- Finally, **Improvements to the Provincial Transportation Facility** alternative proposes the replacement of the bridges and identifying improvements to the Sydenham Road interchange to accommodate operational needs and the future Highway 401 footprint.

The Alternatives to the Undertaking were evaluated based on their ability to address the identified challenges and opportunities within the study area, which were structural replacement needs and anticipated growth needs. Based on this evaluation, the Improvements to the Provincial Transportation

Facility alternative was found to be the only option that will fully address the identified transportation challenges and opportunities.

Slide 15 – Summary of Long List Alternatives – Sydenham Road Bridge Replacement/Alignment

As illustrated, a set of Long List Alternatives has been developed to implement the improvements at the Sydenham Road bridge and interchange.

- To accommodate the widening from two to four lanes and to allow for a future wider Highway 401 within the bridge's 75-year service life, Sydenham Road will be wider and at a higher elevation through the interchange area. This will impact entrances and properties in the vicinity of the interchange. Five potential alignment alternatives have been investigated to consider and mitigate these impacts. Alternative 1 includes the temporary closure of Sydenham Road for up to two construction seasons with local traffic detours as the bridge is replaced at the existing location.
- Alternative 2 includes replacing the existing bridge west of the existing location which can mitigate long-term closure of Sydenham Road and displacement of the industrial and commercial properties on the east side of the road.
- Alternative 3 includes replacement of the existing bridge east of the existing location but requires displacement of the industrial and commercial properties on the east side of the road.
- Alternatives 4 and 5 include a staged replacement approach using a similar alignment to the existing roadway which will require a long construction duration and high cost, and displacement of the industrial and commercial properties on the east side of the road.

Only Alternative 2 was selected to be carried forward to the Short List of Alternatives as it mitigates long-term road closure during new bridge construction, reduces impacts to the industrial and commercial properties, and provides an opportunity to maintain or provide a more desirable, safer, access to the properties. The Sydenham Road interchange improvement alternatives presented in the next slides are based on Alternative 2 west realignment.

Slide 16 – Summary of Long List Alternatives – Sydenham Road Interchange Improvements – North Side

This slide presents the Long List Alternatives developed to complete improvements to the Sydenham Road Interchange. In order to limit the number of combinations of alternatives, a separate set of alternatives was developed for the north and south sides of the interchange.
Ten north side alternatives were developed with three of these alternatives recommended to be carried forward. The key criteria for screening the north side alternatives were traffic operations, access to McIvor Road, and property, environmental, and utility impacts.

Slide 17 – Summary of Long List Alternatives to be Carried Forward to Short List Evaluation - Sydenham Road Interchange Improvements – North Side

As illustrated on the previous slide, three alternatives to provide improvements to the north side of the Sydenham Road Interchange will be carried forward for further assessment. These include Alternatives N2, N3A, and N3B:

- Alternative N2 is a Parclo A2 interchange configuration with a roundabout intersection that maintains access to McIvor Road and provides acceptable traffic operations in the future horizon year.
- Alternative N3A is a Parclo A4 interchange configuration with a traffic signal intersection that closes access to McIvor Road and provides acceptable traffic operations in the future horizon year.
- Alternative N3B is a Parclo A4 interchange configuration with a traffic signal intersection that maintains access to McIvor Road but provides congested traffic operations in the future horizon year.

Slide 18 – Summary of Long List Alternatives – Sydenham Road Interchange Improvements – South Side

Similar to the north side, nine south side alternatives were developed with three of the alternatives recommended to be carried forward. The key criteria for screening the south side alternatives included property, environmental, and utility impacts, as well as desirable industrial and commercial entrances, and traffic operations.

Slide 19 – Summary of Long List Alternatives to be Carried Forward to Short List Evaluation – Sydenham Road Interchange Improvements – South Side

As indicated on the previous slide, three alternatives to provide improvements to the south side of the Sydenham Road interchange will be carried forward to a more detailed assessment and evaluation. These include Alternatives S3, S7, and S8, which all provide acceptable traffic operations in the future horizon year:

- **Alternative S3** is a Parclo A2 interchange configuration with a traffic signal intersection that maintains the existing intersection location with multiple industrial and commercial entrances at the intersection. Mitigation is required to address access concerns associated with multiple entrances at the intersection.
- **Alternative S7** is a Parclo A2 interchange configuration with a roundabout intersection that accommodates an access road to the industrial and commercial entrances providing a more desirable access condition. This alternative requires a further west realignment of Sydenham Road.
- **Alternative S8** is a Parclo A2 interchange configuration with a traffic signal intersection that accommodates an access road to the industrial and commercial entrances providing a more desirable access condition. This alternative requires the greatest west realignment of Sydenham Road. This alternative also facilitates a future interchange upgrade to a Parclo A4 interchange configuration beyond the future horizon year, if required.

Slide 20 - Short List Evaluation Criteria

As illustrated, the Project Team has identified preliminary evaluation criteria to evaluate the Short List of Alternatives. Consideration was given to the potential for the alternatives to impact the natural, socio-economic, and cultural environment along with constructability, cost and technical considerations.

- The Natural Environment criteria includes impacts to 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 criteria includes community impacts, exisiting & planned land uses, noise & air quality, property impacts, impacts to emergency services, recreational trails and active transportation, and climate change.
- The Cultural Environment criteria includes archaeological and Built Heritage resources and cultural heritage landscapes.
- Transportation and Constructability criteria include traffic operations, geometrics, safety, constructability and impacts to utilities and servicing infrastructure.:
- Finally, cost-related criteria are associated with construction, property acquistion, and operational and maintenance costs.

Following this Public Information Centre 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 help to identify a Recommended Plan that addresses the issues and deficiencies at the various locations, but also keep impacts to a minimum.

Please provide your suggestions for other criteria that should be considered in the evaluation process using the comment form found on this website.

Slide 21 – Preliminary Traffic Management – Eastbound Collins Creek Bridge

Preliminary traffic management for the replacement of the Eastbound Collins Creek overpass bridge has been reviewed and the closure of Highway 401 eastbound for several months up to two seasons is not preferred. Closure of Highway 401 eastbound would require long-term detours onto local municipal roads resulting in significant traffic impacts. Similarly, a complex staged replacement with temporary median highway crossovers is not preferred as it would result in the closure of the Kingston Road 38 West-to-North-South-Off-Ramp and significant temporary works and throwaway costs.

Finally, a staged replacement that maintains eastbound traffic on Highway 401 by shifting traffic onto existing and new parts of the bridge is preferred as it would result in minimal traffic detours, lane closures, traffic disruptions, and impacts to the municipal network. This method was used for the staged replacement of the Westbound Collins Creek overpass bridge.

Slide 22 – Preliminary Traffic Management – Kingston Road 38 Bridge and Interchange

The previous Preliminary Design and Class Environmental Assessment was reviewed and no change to the ultimate interchange plan to relocate the road to the west is recommended. This allows for the demolition of the old bridge after the new bridge is operational and tied into the improved interchange, minimizing road closures.

The preliminary traffic management plan for the replacement of the Kingston Road 38 bridge has also been reviewed and the demolition of the old bridge in a single stage is preferred. A single stage

demolition requires a one-night planned full closure with traffic detours onto municipal roads. The closure is scheduled and coordinated between the Ministry of Transportation, City of Kingston, local, regional, and provincial police, fire, and emergency medical services, and other stakeholders. This method of replacement is typically seen on Highway 400 series bridge replacements to minimize long-term traffic disruption and complex communications and coordination efforts. For other bridge replacement and interchange improvements, planned lane closures and detours may also be used to facilitate construction works such as girder erection.

The potential detour routes consist of the eastbound and westbound Emergency Detour Routes established in partnership with multiple stakeholders, and an alternative to use existing interchange ramps in the eastbound direction to keep traffic within the Ministry's right-of-way, if feasible.

Slide 23 – Preliminary Traffic Management – Sydenham Road Bridge and Interchange

Similar to Kingston Road 38, a preliminary traffic management review was reviewed for Sydenham Road interchange. As a west realignment of Sydenham Road is proposed, the old bridge may be demolished after the new bridge is operational and tied into the existing road, minimizing road closures. A single stage demolition that requires a one-night planned full closure with traffic detours onto municipal roads is preferred. For other bridge replacement and interchange improvements, planned lane closures and detours may also be used to facilitate construction works such as girder erection.

The potential detour routes consist of the eastbound and westbound Emergency Detour Routes established in partnership with multiple stakeholders, an alternative to use existing interchange ramps in the westbound direction to keep traffic within the Ministry's right-of-way, if feasible.

Slide 24 - Next Steps and How to Stay Informed

Following this Public Information Centre, the Project Team will:

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

The following information is available on the Study Website for this Public Information Centre:

- Public Information Centre #1 Video Presentation
- Public Information Centre #1 Presentation Slides [PDF]
- Public Information Centre #1 Presentation Transcript [PDF]
- Sydenham Road Bridge Replacement / Alignment Alternatives [PDF]
- Sydenham Road Interchange Alternatives [PDF]
- Preliminary Traffic Management Alternatives [PDF]

Slide 25 – Thank you!

Thank you for attending Public Information Centre #1!

Please fill out the Public Information Centre Comment Form found on this Study Website and provide your comments by **June 7, 2024.**

For more information:

Continue to visit our Study Website at: hwy401kingstonbridgesea.ca

Or

Email the Project Team at: ProjectTeam@Hwy401KingstonBridgesEA.ca

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, we 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 information presented.