

Highway 410 Improvements from South of **Queen Street to North of Bovaird Drive Class Environmental Assessment & Preliminary Design Study**

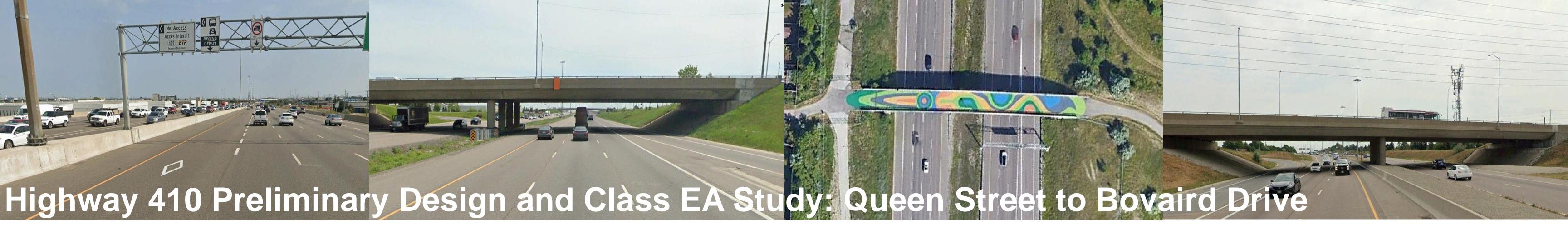
Public Information Centre May 29, 2024

If you require any assistance regarding the accessibility of these materials, please let us know by emailing ProjectTeam@hwy410queentobovaird.ca. We would be happy to assist you. Pour de l'aide en français, veuillez communiquer avec Amy Ingriselli (amy.ingriselli@aecom.com)



City of Brampton, Region of Peel





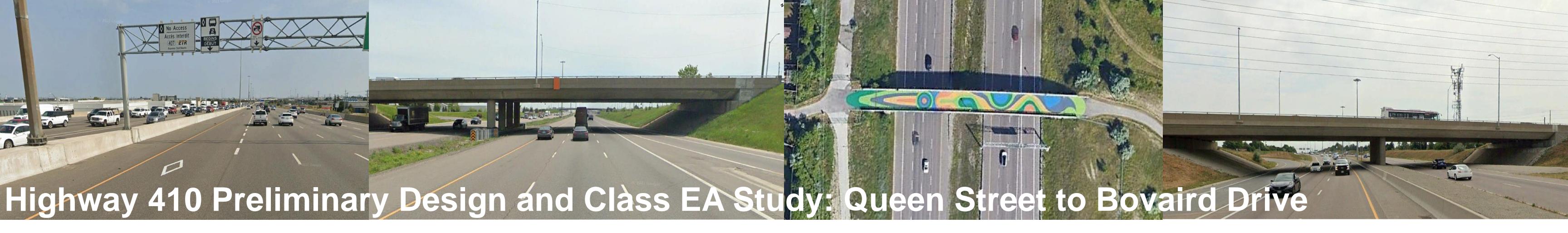
Land Acknowledgement

The Ministry of Transportation (MTO) would like to acknowledge that MTO's Central Region as well as the Highway 410 Improvements project is geographically located in an area that is rich in Indigenous history, and that there are many groups, that have resided in, and travelled through the region since time immemorial. MTO encourages attendees of this PIC to learn whose traditional territory in which their home and work are located.

For this project, we acknowledge the presence of the Haudenosaunee people of Six Nations, Huron-Wendat Nation, as well as the Anishinaabe people of Mississaugas of the Credit First Nation within the project area.







Purpose of the Public Information Centre

The purpose of this Public Information Centre is to present and receive feedback on the following:

- Study overview
- Environmental Assessment process and consultation
- Overview of the assessment and evaluation of alternatives
- Summary of the preliminary Technically Preferred Alternative
- Construction staging and detours
- Environmental protection and mitigation measures
- Schedule of the study and timing of the proposed works
- How to provide feedback

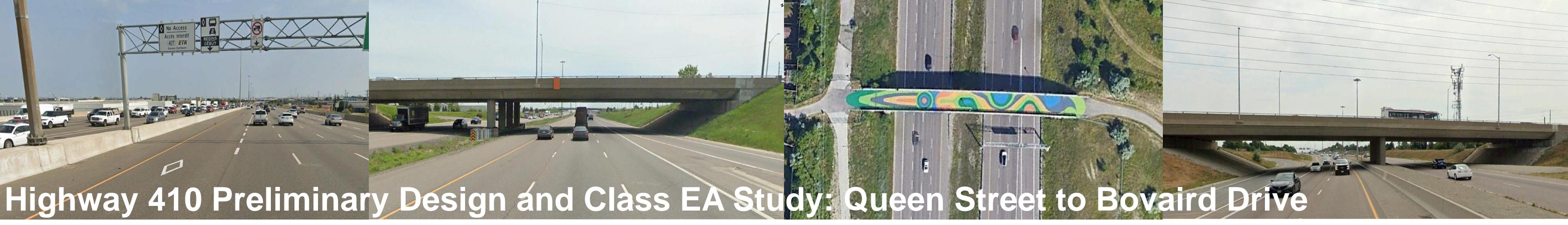
The following information available at this PIC will be available on the Study website:

- PDF (downloadable) copy of the PIC Presentation slides
- PDF (downloadable) copy of draft Roll Plans illustrating the alternatives and preliminary Technically Preferred Alternative
- An online PIC Comment form

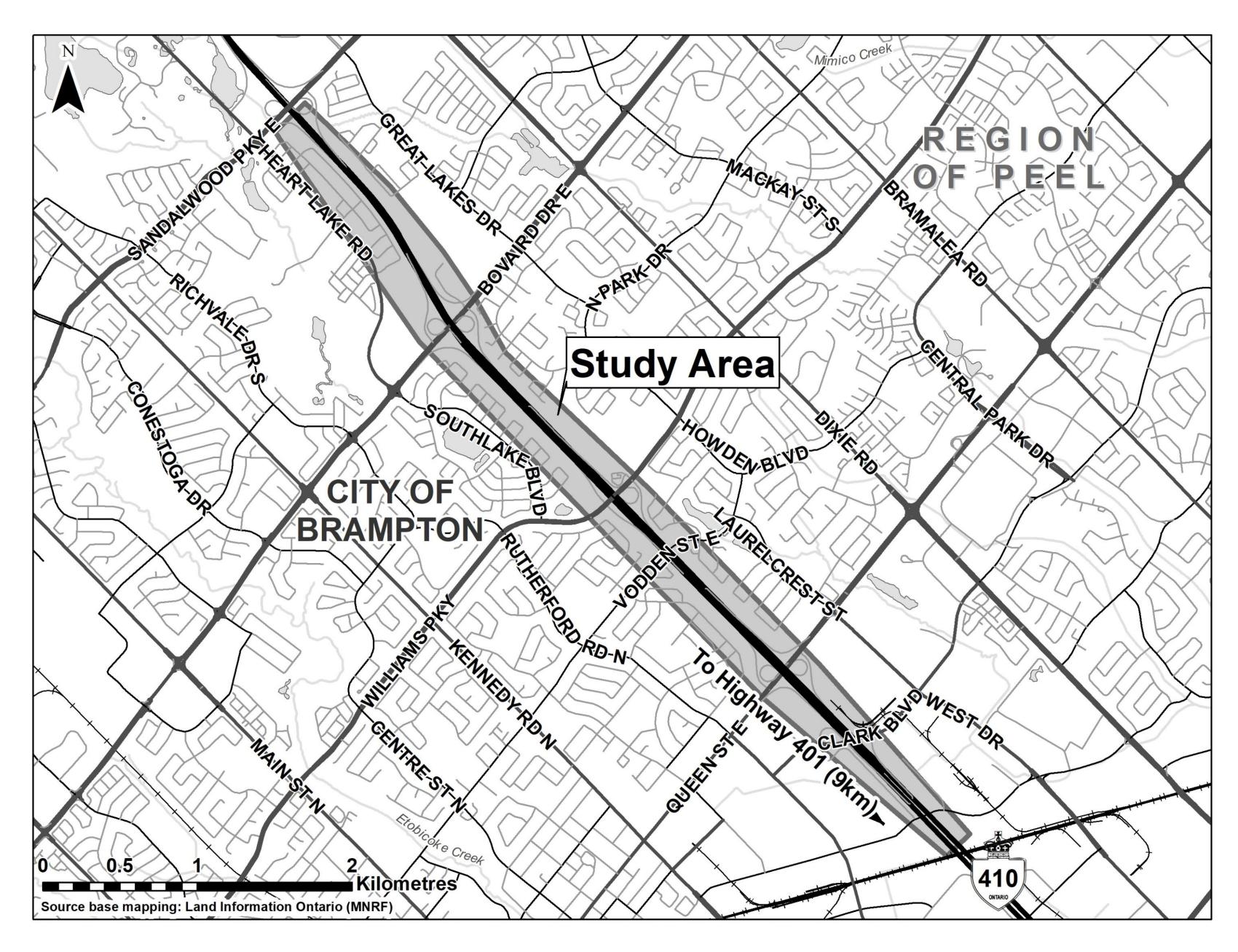


We encourage you to fill out the PIC Comment Form either in person or through the study website at www.hwy410queentobovaird.ca/consultation Your input is important to us!





Project Overview





Study Area:

Street northerly to north of Bovaird Drive.

Study Scope:

The primary focus of this study is to review and confirm the operational needs and improvements for the corridor. The recommendations of this study will also ensure that future rehabilitation that takes place along the corridor can accommodate the future traffic needs of Highway 410.

Reasonable design alternatives for highway widening and High Occupancy Vehicle (HOV) lanes have been developed and evaluated leading to the selection of a preliminary Technically Preferred Alternative (TPA).

Recommended improvements include the widening of Highway 410 to provide additional mainline capacity, implementation of dedicated HOV lanes, assessment of bridges, culverts, retaining walls, MTO noise walls, etc., along with considerations of upgrades to illumination and traffic signals.

The Highway 410 study limits extend from south of Queen





Environmental Assessment (EA) Process and Consultation

- Assessment for Provincial Transportation Facilities (2000) (Class EA).
- undertaken throughout the study.
- measures, and a summary of consultation undertaken throughout the project.
 - documented in the TESR.
- projectteam@hwy410queentobovaird.ca.



This Study is following the approved planning process for a Group 'B' project under the MTO Class Environmental

Consultation with Indigenous communities, public, stakeholders, municipalities and government agencies is being

• A Transportation Environmental Study Report (TESR) will be prepared and made available for a 30-day public and agency comment period at the completion of the study which will provide a description of the evaluation of alternatives and selection of the Technically Preferred Alternative, a summary of potential environmental effects and mitigation

This project includes a review and update of the Highway 410 Extension (Bovaird Drive to Highway 10) Environmental Study Report (October 1999) for the unconstructed portion of the project north of Bovaird Drive. The review and update will be

Notification, advising of the times and locations of the availability of the TESR for review will be published in local newspapers, mailed to those on the Project Contact List and posted on the Study website.

• To be added to the Project Contact List, please complete a comment sheet or email the Project Team at





Study Process Graphic – Class Environmental Assessment

Generate and Assess Preliminary Design Alternatives

Evaluate and Select the Preliminary Preferred Design Alternative

Notice of Study Commencement



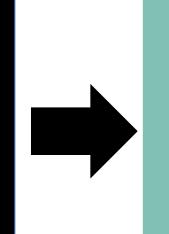
Develop Preferred Preliminary Design Alternative

Public Information Centre May 2024

We are here

Notice of Completion and Transportation Environmental Study Report (TESR) Submission

Environmental Clearance



Future Stages of Design and Construction

TESR 30-day Public Comment Period





Environmental Protection and Mitigation Measures

The following environmental studies have been or are being completed to identify potential environmental and community impacts as well as mitigation measures associated with the proposed highway improvements:

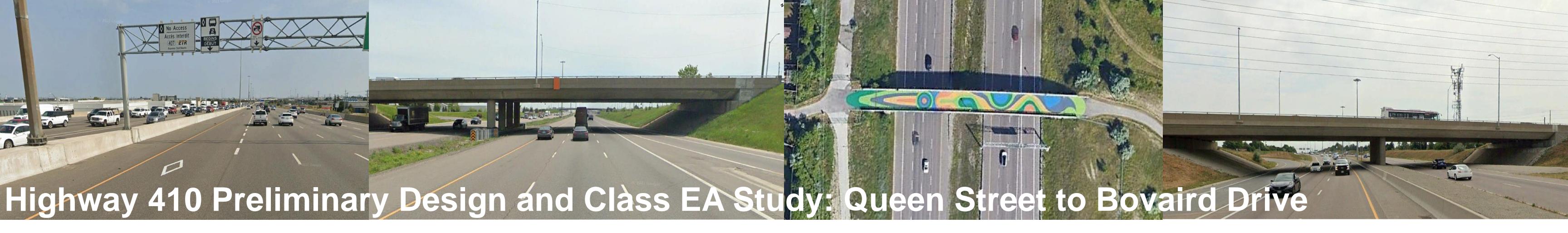
- Fish and Fish Habitat Existing Conditions and Impact Assessment Report
- Terrestrial Ecosystems Existing Conditions & Impact **Erosion and Sediment Control Overview Risk** Assessment Report Assessment
- Noise Impact Assessment Report
- Land Use Report
- **Contamination Overview Study**
- Cultural Heritage Resource Assessment Report

The findings from these studies will be documented in the Transportation Environmental Study Report



- Stage 1 Archaeological Assessment Report
- Air Quality Impact Assessment Report
- Preliminary Landscape Plan
- Groundwater Impact Assessment Report





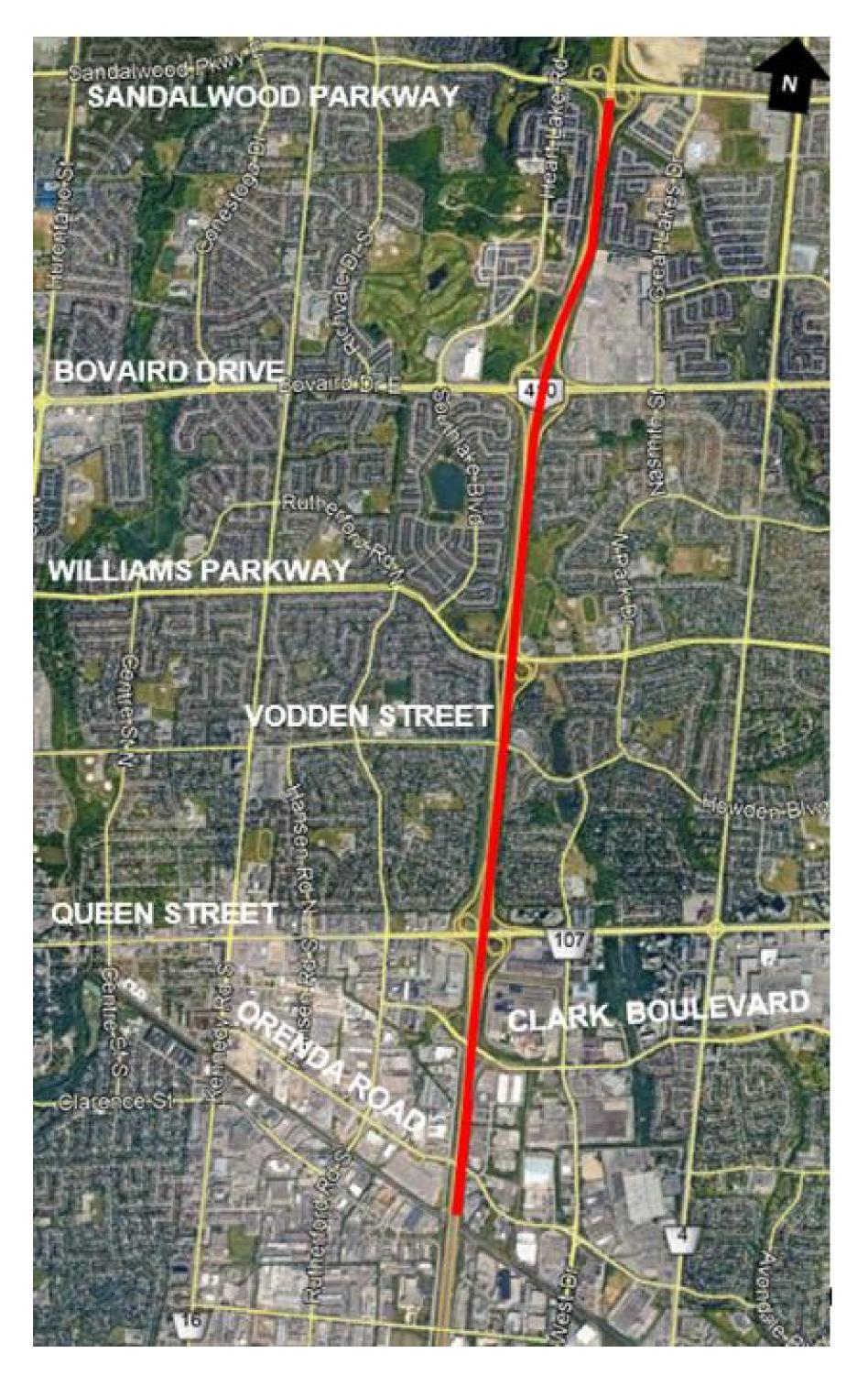
Overview of Proposed Improvements

- Widening of Highway 410 to extend the existing median HOV lanes from in each direction to address mainline capacity deficiencies.
- Improvements to interchange ramp geometry.
- Addition of tall wall median barrier.
- New storm sewers and roadside drainage.
- Adjustments to interchange illumination and high-mast lighting.
- Pavement rehabilitation of existing Highway 410 lanes.
- Rehabilitation of structures within the study area, including:
 - Orenda Road Overpasses
 - Clark Boulevard Underpass
 - Queen Street East Underpass
 - Vodden Street East Underpass
 - Williams Parkway Underpasses
 - Franceschini Drive Underpass

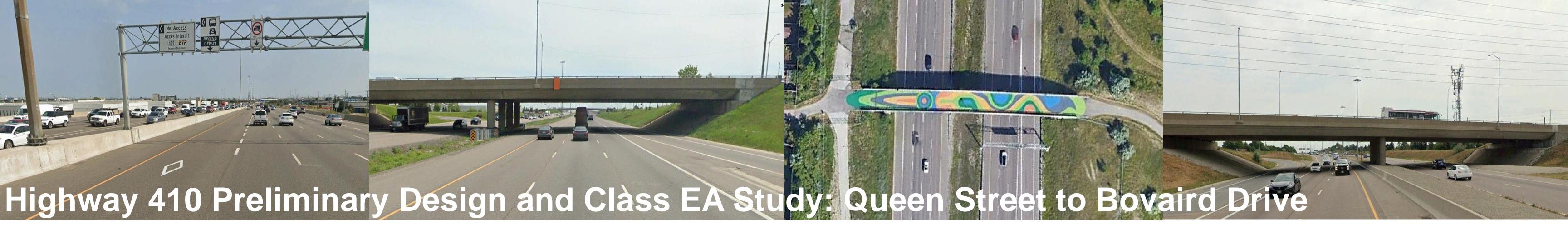


south of Clark Boulevard northerly to Bovaird Drive and add auxiliary lanes

- **Bovaird Drive Underpasses**
- **Bovaird Drive Access Underpass**
- Culvert South of Clark Boulevard
- Culvert North of Bovaird Drive







Overview of Alternative Evaluations

- The criteria outlined in the table to the right were used to evaluate alternatives.
- A Reasoned Argument (trade-off) method of evaluation was used to identify the advantages and disadvantages in order to select the preferred alternative.
- Alternatives were evaluated based on their ability to address future capacity and operational issues; improve safety conditions; address future rehabilitation needs and minimize impacts to the natural, social, economic, and cultural environment.
- The Transportation/Constructability category was given the highest weighting compared to the other Evaluation Components, as potential impacts to the natural, socio-economic and cultural environments are minimal and similar between alternatives. The higher weighting aligns with identifying the alternative that best meets the study needs and achieves the strongest solution for the project.



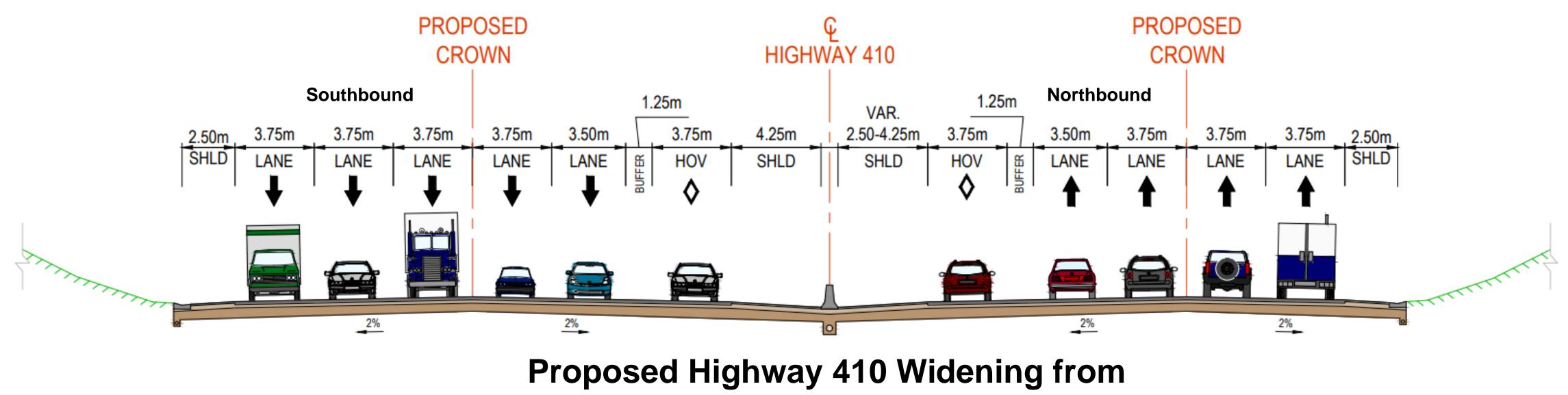
Evaluation Component	Criteria	
Transportation/ Constructability	 Traffic Operations Safety & Geometrics High Occupancy Vehicle Lane Ingress/Egress Locations 	 Constructability Existing utility and servicing infrastructure
Natural Environment	 Fish and Fish Habitat Species at Risk Terrestrial Ecosystems Surface Water / Drainage 	 Groundwater Designated Natural Areas & Wetlands
Socio-Economic Environment	 Community Effects Commercial / Industrial Operations Contamination Agricultural Operations Municipal / Provincial Land Use Planning / Policies / Goals / Objectives 	 Noise & Air Quality Climate Change Landscape Composition Recreational Trails / Active Transportation Networks
Cultural Environment	 Archaeological Built Heritage Resources and C 	Cultural Heritage Landscapes
Cost	 Construction Costs 	





Preliminary Design Alternatives

- northbound and southbound directions, within the project limits.
- termination location varies between alternatives.
- locations along Highway 410 to address capacity requirements.
- See roll plans for outlines of each alternative.



South of Queen Street to South of Williams Parkway

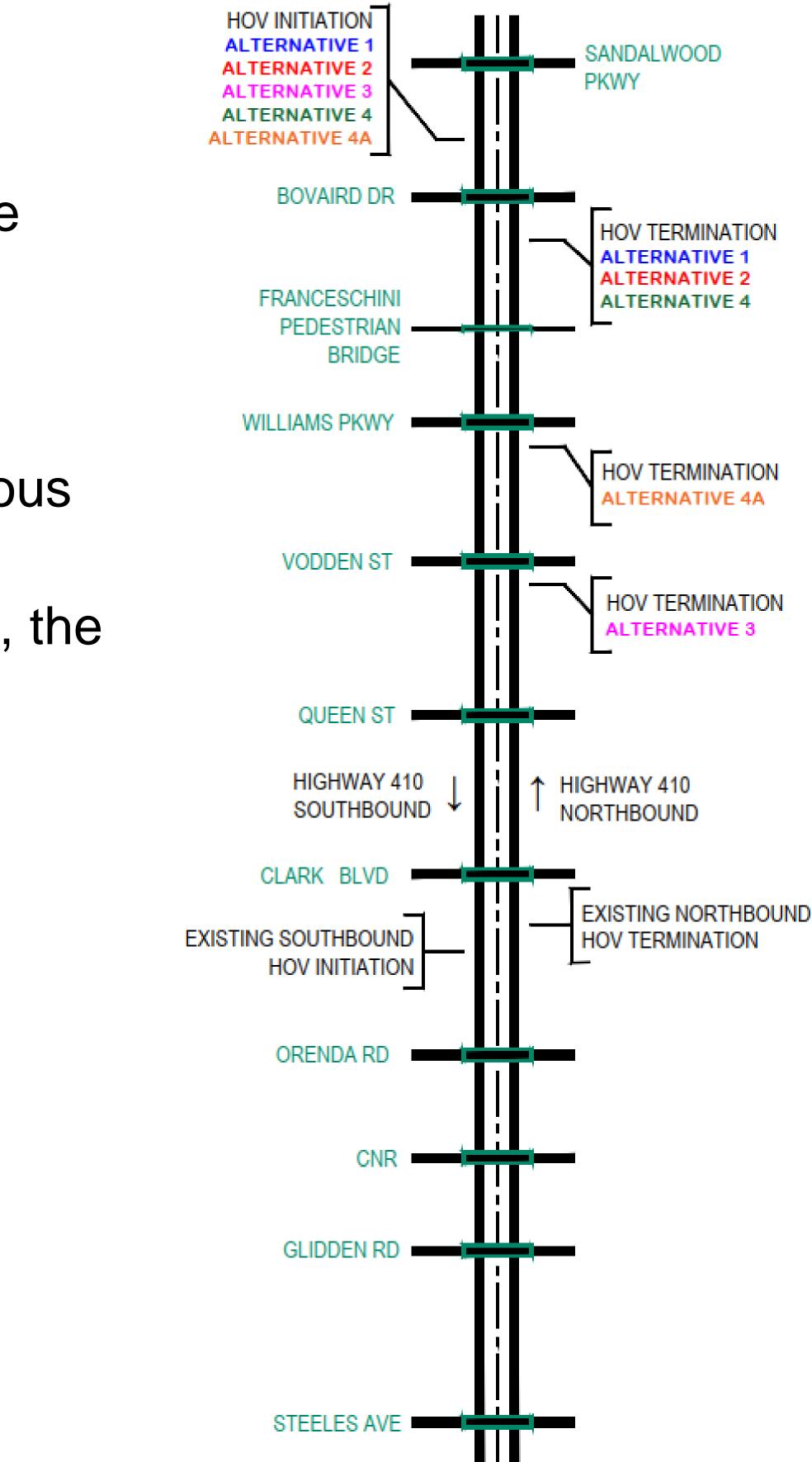


• Five preliminary design alternatives were developed to extend HOV lanes in the

• All alternatives have the same HOV initiation point; however, the northbound

• To optimize traffic operations, each alternative provides additional lanes at various

With the numerous operational and capacity improvements for each alternative, the following slide highlights these key and complex variations in each alternative.





Preliminary Design Alternatives – Key Improvements

Additional Lanes

Northbound

South of Orenda Road to Clark Boulevard

Clark Boulevard to Queen Street

Queen Street to Williams Parkway

Williams Parkway to Bovaird Drive

Bovaird Drive to Sandalwood Parkway

Southbound

Sandalwood Parkway to Bovaird Drive, and Williams Parkway to Queen Street

Sandalwood Parkway to Queen Street

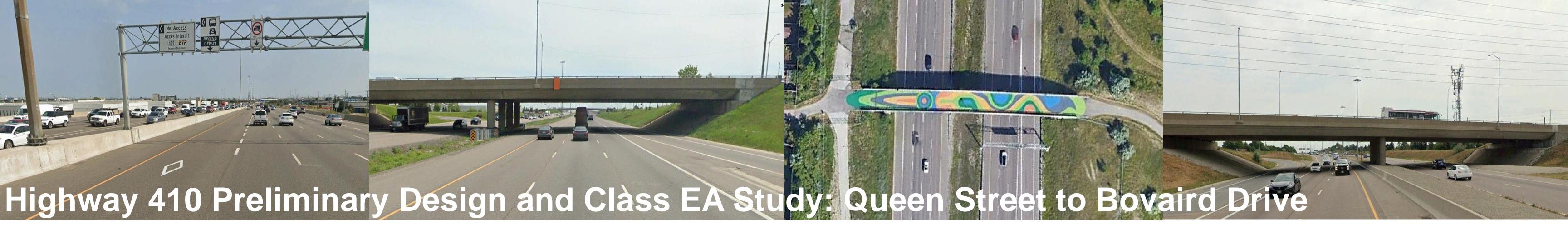


In addition to HOV lane extensions, the five alternatives also include additional lanes, as shown in the table below.

Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 4A

See roll plans for outlines of each alternative.





Evaluation Summary

Based on the evaluation of alternatives, Alternative 4 is the preliminary technically preferred alternative with the following key advantages:

- Considerable to significant improvements to traffic operations Considerable improvements to traffic bottlenecks and
- merging/weaving issues
- Meets the objective of this study to maximize the extent of the HOV lane (i.e., to south of Bovaird Drive)
- Does not preclude future extension of the HOV lane north of **Bovaird Drive.**

Alternative 1 scored highest in the Natural Environment, Socio-Economic Environment and Cost Categories, however, it does not improve the traffic operations (including traffic bottlenecks) and merging/weaving issues), as it does not provide additional capacity in areas with these operational issues.

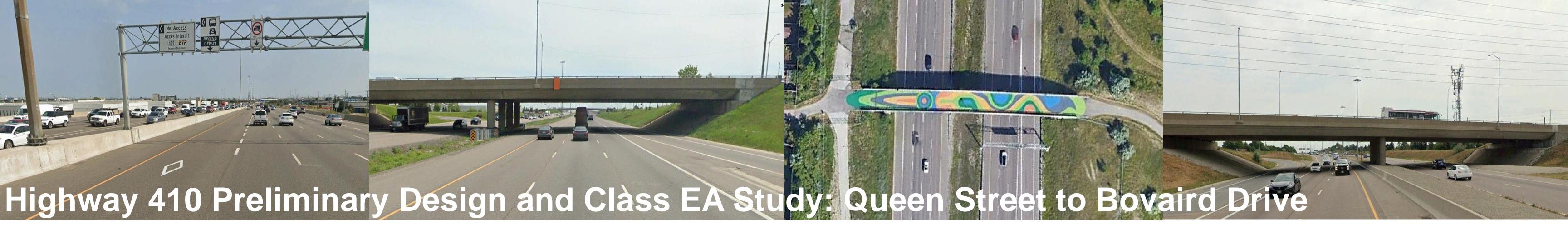


CATEGORY	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 4A
Transportation/ Constructability					
Natural Environment				•	
Socio-Economic Environment					
Cultural Environment					
Cost					
RECOMMENDATION	×	×	×	\checkmark	×
Legend Highest Category Weighting					

ATEGORY	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 4A	
ansportation/ onstructability						
ral Environment				•		
cio-Economic Invironment						
ral Environment						
Cost						
OMMENDATION	×	×	×	\checkmark	×	
Legend	Legend Highest Category Weighting Most Preferred Alternative Least Preferred Alternative					

Detailed evaluation tables are available at this PIC for viewing.





Construction Staging and Detours

- full closures.
- stakeholders at that time.
- It is expected that:

 - night-time lane reductions may be required);
 - road / ramps and newly constructed road / ramps.



To facilitate the work, short-term closures of Highway 410 and some interchange ramps will be required. • For all closures, advanced notification and signage will be provided, including a corresponding detour plan for

Consultation with municipalities regarding detour routes will be undertaken during future design stages. Staging strategies will be confirmed during future design stages, and notification will be provided to

The widening work will be completed in stages, with traffic shifts to create required work zones; Existing lanes will be maintained along Highway 410 in both directions during peak traffic periods (off-peak

• Night-time / weekend closures of existing ramps are anticipated to complete tie-ins between the existing





Traffic Noise Assessment

- MTO has a Noise Barrier Retrofit Policy for existing provincial freeways:
 - before February 8, 1977 and where the sound levels are above 60 dBA.
 - Further details on requirements are in MTO's Noise Barrier Retrofit Policy.
 - ${ \bullet }$
- Noise (MTO Guide).

 - The horizon year of 2041 was used as the basis of assessment.

Change in Noise Level Above Future Ambient / Pr **Noise Levels with Proposed Improvements**

< 5 dB Change AND <65 dBA Overall

 \geq 5 dB Change OR \geq 65 dBA Overall



Noise sensitive areas must have outdoor, ground level, leisure areas that were approved for development under the Planning Act

Three pre-1977 residential noise sensitive areas are included under the Noise Barrier Retrofit Policy. These are located at the south end of the study area between Queen Street and Williams Parkway (shown as NSA01, NSA02 and NSA03 on the next slide).

As part of this Study, a Traffic Noise Assessment was prepared in accordance with the Ministry of Transportation Environmental Guide for

Under the MTO Guide, the "noise impact" is defined as the difference between the "No Project" and the "With Project" noise levels during the subject year of assessment (Horizon Year), which is typically 10 years post-construction.

rojected S	Mitigation Effo
	 None
	 Investigate noise control measures on right of Introduce noise control measures within right technically, economically, and administratively Noise control measures, where introduced, shattenuation, over first row receivers.

ort Required

of way of way and mitigate to ambient if y feasible.

hould achieve a minimum of 5 dBA

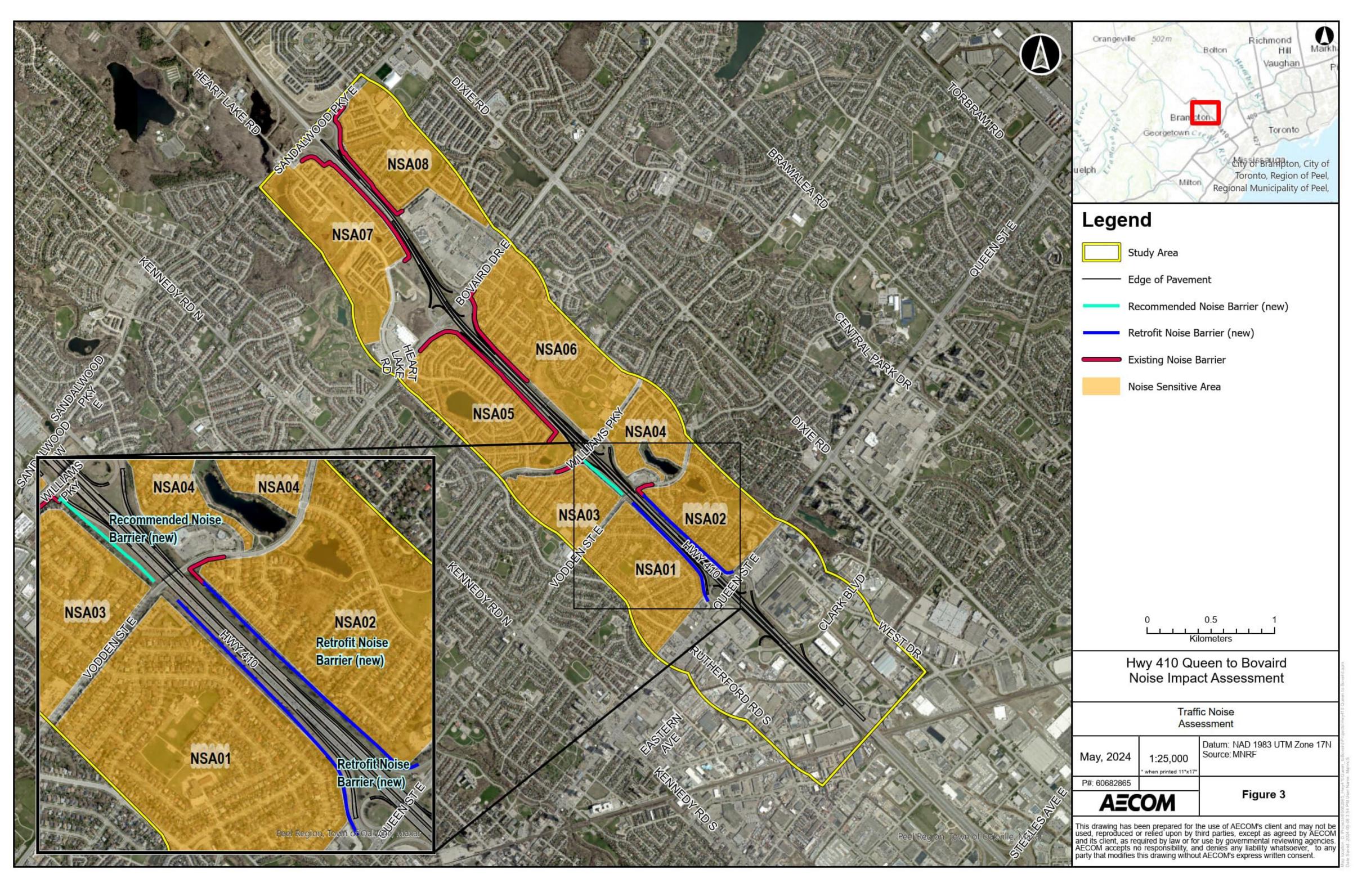




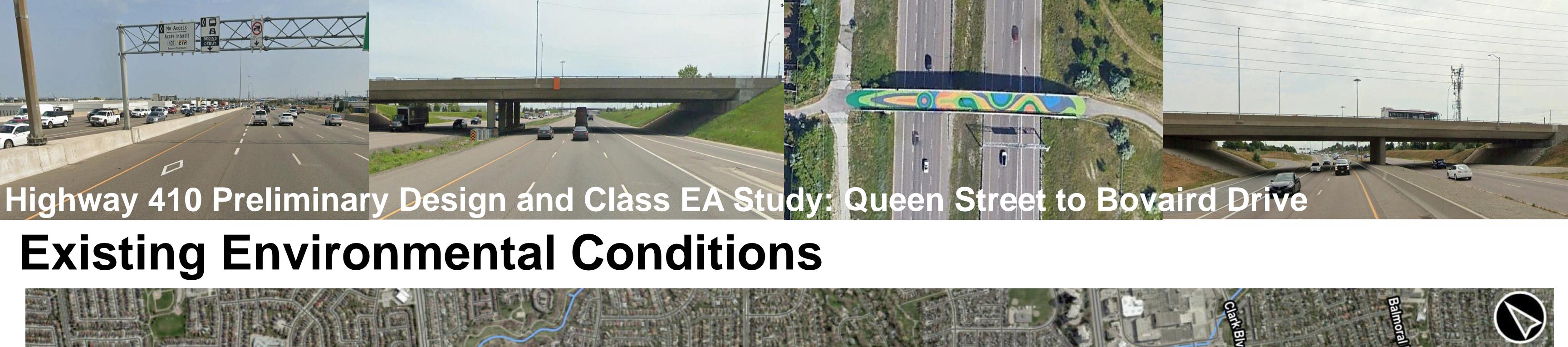
Traffic Noise Assessment (continued)

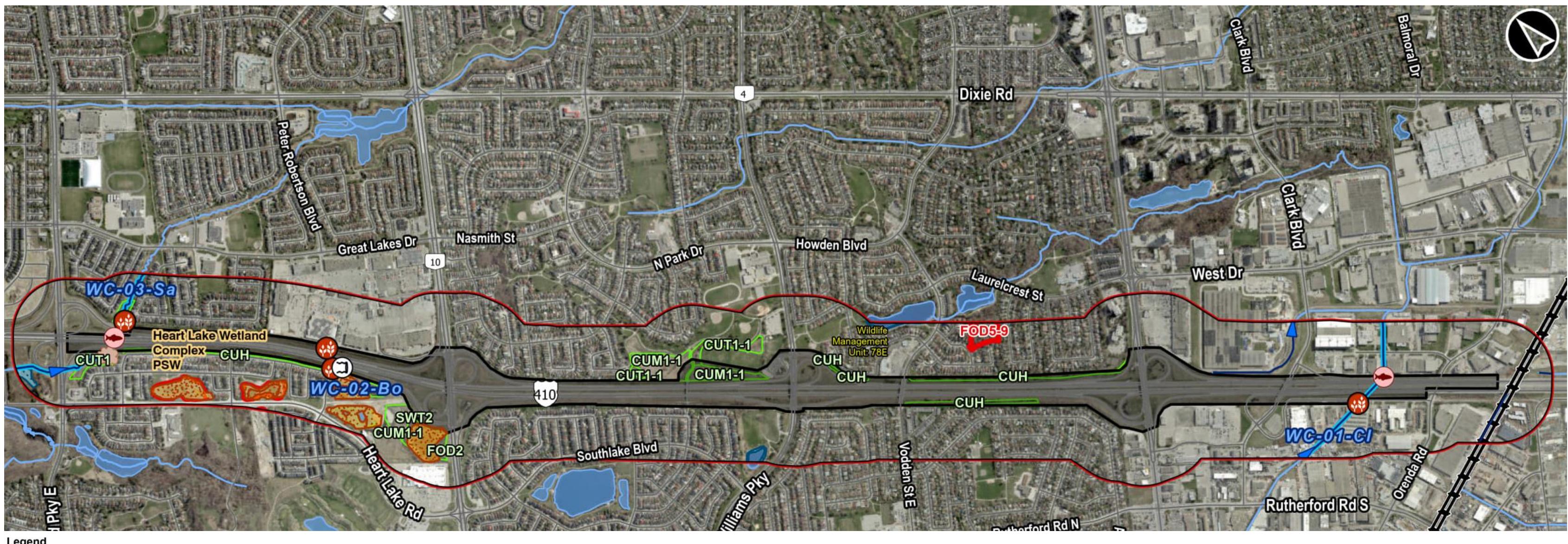
- MTO currently has no noise barriers along Highway 410 in the study area. Existing non-MTO noise barriers are identified in the figure to the right.
- Noise sensitive areas (NSA01, NSA02, NSA03) are included in the pre-1977 MTO Noise Barrier Retrofit List at the south end of the Study Area.
- Construction of the Retrofit Noise Barriers for NSA01 and NSA02 will be considered in the future based on provincial planning priorities.
- The Noise Assessment concluded that one of the noise sensitive areas (NSA03) on the west side of Highway 410 between Vodden Street and Williams Parkway warrants noise mitigation as a result of the proposed improvements (shown as Recommended Noise Barrier (new)).











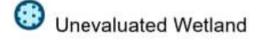
Legend

Approximate Project Area O Study Area (250 m) Beaver Dam Assessed Drainage Culvert Invasive Phragmites **Thermal Regime** 🔶 Warm



- V Permanent
- Dirrection of Flow

Environmentally Significant Areas Provincially Significant Wetland (PSW)





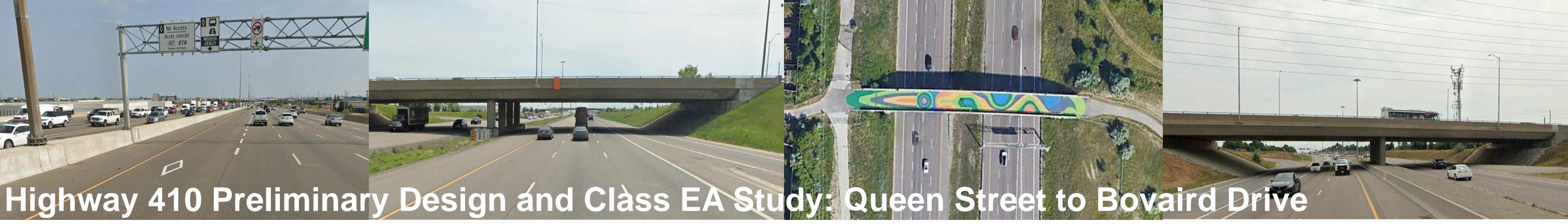




Ecological Land Classification (ELC) Code	Description	
FOD2	Dry – Fresh Oak – M	
CUH	Cultural Hedgerow	
CUM1-1	Dry – Moist Old Field	
CUT1	Mineral Cultural Thic	
CUT1-1	Sumac Cultural Thick	

Maple Deciduous Forest
d
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cket





Environmental Protection and Mitigation Measures

The following potential impacts, key mitigation measures and commitments to future work are preliminary and a final impact assessment will be completed during detail design.

Potential Impacts	Summary of Potential Impacts, Key Mitigati
Natural Environ	ment
Fish and Fish Habitat	 Potential Impacts In addition to general construction activities (veleach watercourse: WC-01-Cl (direct, warmwater fish habitat; C side of Highway 410). Rehabilitation may a repairs. WC-02-Bo (indirect, warmwater fish habitat works on the culvert or within the channel a WC-03-Sa (direct, warmwater fish habitat): watercourse; however, in-water works are r Key Mitigation Measures / Commitments to Fule In-water works shall be carried out during the 15) of any year. Implement erosion and sediment control may a materials used or generated during construct A Spills Management Plan shall be prepared communicated to work crews and be propered stabilize the banks of a waterbody that hav Near-water work shall be monitored to ensure following construction.



ion Measures / Commitments to Future Work

vegetation clearing / grubbing, excavation, grading, riparian planting, etc.) the following impacts have potential to occur at

Culvert South of Clark Boulevard): Construction of retaining walls to support the embankment at the east outlet (northbound) also be required and may include patch and crack repairs. The culvert will be temporarily isolated and dewatered during

at; Culvert North of Bovaird Drive): Grading is proposed to the immediate left and right of the culvert inlet and outlet. No are proposed.

: Proposed works will be limited to grading surrounding the culvert inlet and outlet. These works may be within 30 m of the not anticipated.

uture Work

the appropriate in-water work timing window of July 16 – March 14 (i.e. no in-water work is permitted from March 15 – July

neasures, and containment measures to prevent the release of sediment or other contaminants to all waterbodies. uction shall be stored and managed in a way that prevents the release of these materials to a waterbody. red and shall include materials, instructions, education, and emergency numbers. The plan shall be kept onsite at all times, erly implemented in the event of accidental spills.

ve been disturbed during construction and restore to pre-construction conditions or better. sure mitigation measures are properly implemented, functioning, maintained and repaired as needed, and removed





Environmental Protection and Mitigation Measures

Potential Impacts	Summary of Potential Impacts, Key Mitig
Natural Environ	ment (continued)
Terrestrial Ecosystems	 Potential Impacts Loss or degradation of vegetation cover, wi Disturbance to wildlife including Species at Key Mitigation Measures / Commitments to Fe Keep vegetation removal, grading and soil Restore disturbed areas to existing conditi Erosion and sediment control fencing shout Vegetation removal to occur outside of the Risk and/or destruction to their nests. If vegetation removal must occur with active nests of breeding migratory bin Endangered Species Act. Structures likely to be affected by construction to the examined
Erosion and Sediment Control	 Potential Impacts Potential erosion to newly exposed slopes Key Mitigation Measures / Commitments to Figure 4 Standard mitigation measures will be developed
Landscaping	Preliminary Landscape Plan is being prepare



ation Measures / Commitments to Future Work

ildlife habitat, significant wildlife habitat and Species at Risk habitat. t Risk or Species of Conservation Concern.

- Future Work
- I compaction to a minimum.
- tions following construction.
- uld be installed along the construction footprint within 30 m of the Heart Lake Provincially Significant Wetland Complex. e overall bird nesting period of April 1 to August 31 to avoid disturbance to breeding migratory birds including Species at

hin this time period, active nest searches must be conducted prior to removal by a qualified biologist to ensure that no irds or bird Species at Risk are destroyed, in order to prevent contravention of the Migratory Birds Convention Act and/or the

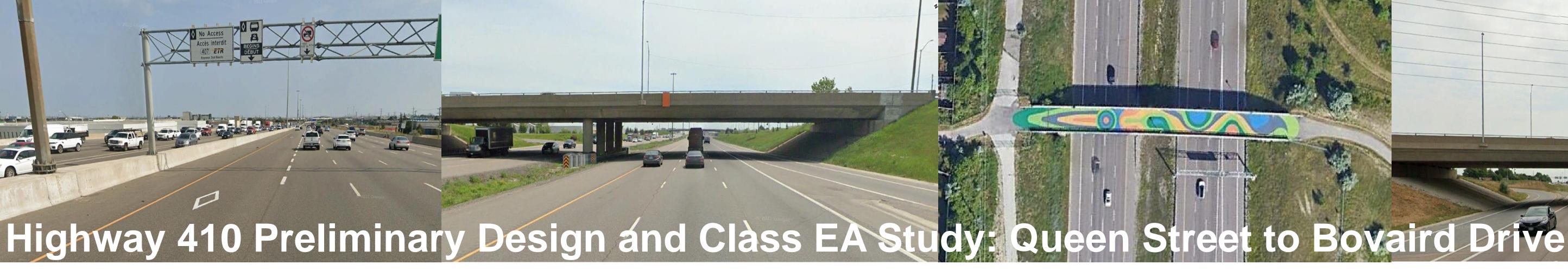
ction may provide suitable nesting habitat in the future for birds protected by the Migratory Birds Convention Act. It is ed to confirm the presence or absence of migratory or Species at Risk bird nests the year prior to construction.

s and ground surfaces.

- Future Work
- eloped during detail design (e.g. sediment/silt fence, seed and mulch, sod, erosion control blankets, as required).

ed for disturbed / impacted areas along the Highway 410 corridor and will be documented in the TESR.





Highway 410 Preliminary Design and Class EA Study: Queen Stree Environmental Protection and Mitigation Measures

Potential Impacts	Summary of Potential Impacts, Key Mitigation			
Natural Enviro	nment (continued)			
Groundwater	 Potential Impacts Potential for groundwater dewatering during context of Mitigation Measures / Commitments to Future Determine the need for groundwater dewateria Register for an Environmental Activity and Take Water (PTTW) must be obtained from specific investigations including drilling/instassessment in support of the EASR register 			
Excess Soils	 Potential Impacts Excess soils may be excavated during construction Key Mitigation Measures / Commitments to Future Manage excess soils in accordance with Ontain 			
Socio-Econom	nic Environment			
Noise	 Potential Impacts Increase in noise levels due to the proposed hit Key Mitigation Measures / Commitments to Future The Noise Assessment concluded that one of the noise mitigation as a result of the proposed imp Implement best practices for noise control measure Set up a noise complaint process in accordate Equipment shall comply with sound emission Where feasible, equipment with broadband Equipment shall be maintained in an operational operation. 			



n Measures / Commitments to Future Work

construction.

Ire Work

ring and potential permit or registration requirements during detail design: d Sector Registry (EASR) if the amount of water taking exceeds 50 m³/day and is below 400 m³/day. A Category 3 Permit to om the Ministry of Environment, Conservation and Parks if the amount of water taken exceeds 400 m³/day. Further sitestallation of groundwater monitoring wells, groundwater and/or soil sampling will be required as part of the hydrogeological stration and/or Category 3 PTTW applications.

uction activities.

ure Work

ario Regulation 406/19 – On-site and Excess Soil Management.

highway improvements and temporary noise during construction.

the noise sensitive areas (NSA03) on the west side of Highway 410 between Vodden Street and Williams Parkway warrants provements.

asures during construction such as:

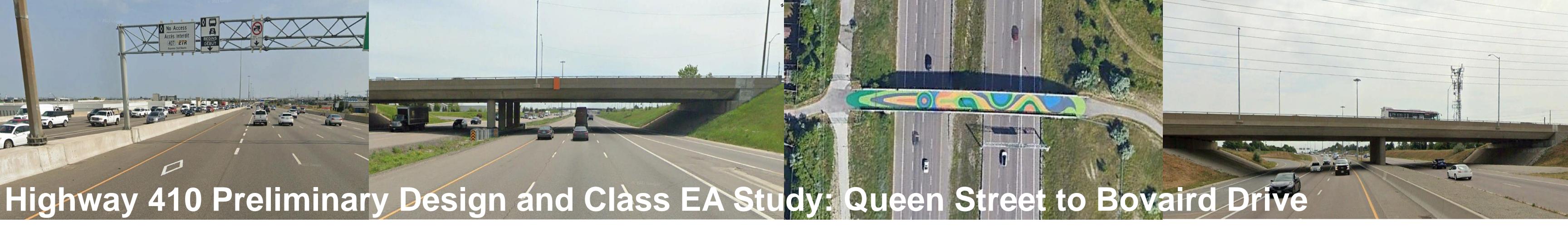
dance with MTO's Environmental Guide for Noise and investigate and address noise complaints in accordance with the guide. on standards for construction noise equipment.

alarms instead of tonal alarms shall be utilized.

ting condition that prevents unnecessary noise.

e minimum necessary to perform the specified work.





Environmental Protection and Mitigation Measures

Potential Impacts	Summary of Potential Impacts, Key Mitiga		
Socio-Economic	Environment (Continued)		
Air Quality	 Potential Impacts Potential for effects of construction operation Key Mitigation Measures / Commitments to a Follow best management practices such a 		
Cultural Environr	nent		
Cultural Heritage	There are no direct or indirect impacts to pot		
Archaeology	 Potential Impacts Potential to impact undisturbed areas that Key Mitigation Measures / Commitments to I Undertake Stage 2 Archaeological Assess 		
Technical Consid	erations		
Traffic During Construction	 Potential Impacts Potential impacts to traffic during construct Key Mitigation Measures / Commitments to A For all closures, advanced notification and undertaken during future stages of design Staging strategies will be confirmed during 		
High Mast Lighting	 Potential Impacts Potential for light trespass as a result of h Key Mitigation Measures / Commitments to h High mast lighting will be upgraded with h Shielded luminaires will be installed to measures will be installed to measures will be installed. 		



ation Measures / Commitments to Future Work

ations at adjacent sensitive receivers. Future Work as dust suppression and periodic watering, as required

otential Built Heritage Resources or Cultural Heritage Landscapes as none were identified in the study area.

at are identified as having archaeological potential. Future Work sments in areas identified as having archaeological potential.

iction.

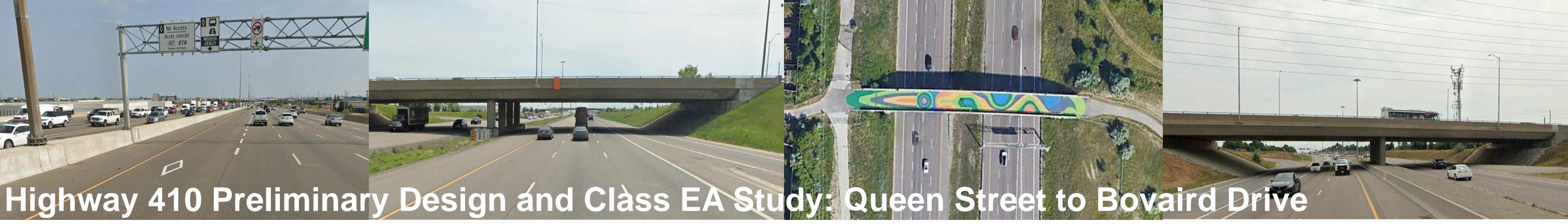
Future Work

nd signage will be provided, including a corresponding detour plan for full closures. Consultation with municipalities will be gn regarding detour routes.

ing future design stages and notification will be provided to stakeholders at that time.

high mast lighting. Future Work LEDs. neet MTO light trespass criteria and minimize visible luminaire brightness.





Schedule / Timing of Proposed Works

Task

Notice of Study Commencement

Site Visits / Field Investigations

Development of Alternatives

Evaluate Alternatives, Identify and Develop Prefe Alternative

Public Information Centre (May 29, 2024)

Finalize the Technically Preferred Alternative and Preliminary Design, Prepare Transportation Envi Study Report and Preliminary Design Report

Transportation Environmental Study Report Period (30-days)

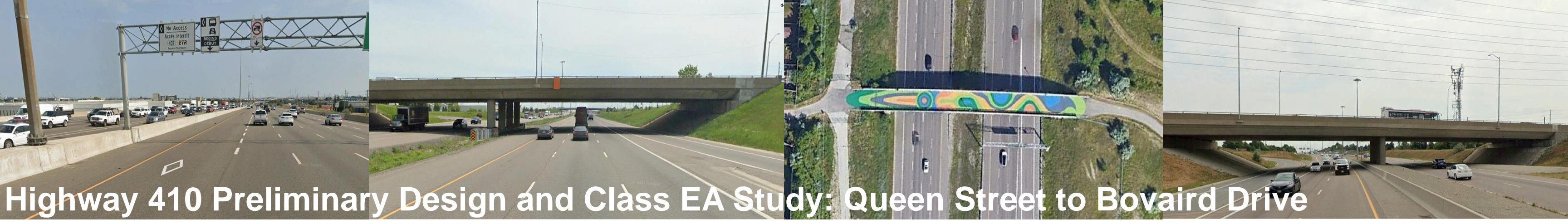
Address comments from the Transportation Envi Study Report Review



Note: Schedule is subject to change

	2022	2023		2024	
	July - December	January - June	July - December	January - June	July - December
ferred					
nd vironmental					
Comment					
vironmental					





How to Provide Feedback

We encourage you to contact members of the Project Team below if you have any questions, comments or concerns regarding the information provided. Thank you for your participation!

Parshad Patel, M.Eng.

Project Manager, Ministry of Transportation Project Delivery Section – Peel/Halton 159 Sir William Hearst Avenue, 4th Floor Toronto, ON M3M 0B7

Toll free number: 1-844-698-9876 **E-mail:** ProjectTeam@hwy410queentobovaird.ca

Comment Forms can be found via the Project Website: https://hwy410queentobovaird.ca/consultation Please provide any comments by July 2, 2024.

Freedom of Information and Protection of Privacy Act and Accessibility

- information, all comments will become part of the public record.
- ProjectTeam@hwy410queentobovaird.ca. We would be happy to assist you.



Tim Sorochinsky, P.Eng.

Project Manager, AECOM 105 Commerce Valley Drive West, 7th Floor Markham, ON L3T 7W3

Toll free number:1-844-698-9876 **E-mail:** ProjectTeam@hwy410queentobovaird.ca

Comments and information regarding this study are being collected to assist MTO and AECOM in meeting the requirements of the Ontario Environmental Assessment Act. This material will be maintained on file for use during this study and may be included in study documentation. Information collected will be used in accordance with the *Freedom of Information and Protection of Privacy Act*. With the exception of personal

If you require any assistance regarding the accessibility of these materials, please let us know by emailing

