

Highway 400 to Highway 404 Link (Bradford Bypass)

PRELIMINARY DESIGN INTERCHANGE CONSIDERATIONS

10TH SIDEROAD AND 2ND CONCESSION ROAD

VIRTUAL CONSULTATION

Introduction

- ▶ The purpose of this materials is to present the following Preliminary Design update information for public review and comment:
 - ▶ Interchange considerations at 10th Sideroad
 - ▶ Interchange considerations at 2nd Concession Road
- ▶ This material will also provide updates to the following:
 - ▶ Key Objectives
 - ▶ Project Milestones and Next Steps

Key Objectives

- ▶ The main objectives of the Preliminary Design study are to review the recommended plans of the 2002 approved Environmental Assessment (EA) and develop refinements and alternatives including:
 - ▶ Develop Preliminary Design refinements for Bradford Bypass mainline alignment, grade separated crossings and interchanges.
 - ▶ Develop refinements and alternatives for freeway-to-freeway interchanges that include design concepts to mitigate weaving distance concerns with adjacent interchanges.
 - ▶ Evaluate the refinements and alternatives to recommend preferred refinements/alternatives for the above elements.
 - ▶ Develop a preliminary construction staging sequencing strategy for the corridor.
 - ▶ Develop preliminary designs for all highway engineering components.
 - ▶ Conduct project-specific assessments of environmental impacts and continue consultation for the project.

How to Participate

- **Material Review Period: April 21, 2022 to May 5, 2022**
- **How to Participate:** Please review the information presented and provide feedback to the Project Team by **May 5, 2022**.
 - We encourage you to fill out the **Comment Form** available on the Project Website at: <https://www.bradfordbypass.ca/consultation/>.
 - Comments and information regarding this study are being collected to assist the Ministry of Transportation in meeting the requirements of the Ontario Regulation 697/21. With the exception of personal information, all comments and feedback received will become part of the public record in publicly available documents, however not all comments will receive a formal response.
 - The Project Team will review feedback received and incorporate this information into the interchange evaluation.
- **Accessibility:** If you require assistance regarding the accessibility of these materials, please let us know by contacting Project Team by phone or email. We would be happy to assist you.

▶ Your participation and feedback are important to us!



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Project History

- The Bradford Bypass is a 16.2 km controlled access freeway connecting Highway 400 and Highway 404 in the County of Simcoe and Regional Municipality of York.
- MTO previously completed a Route Planning Study and Environmental Assessment for the Bradford Bypass. The Environmental Assessment and Recommended Plan for the Technically Preferred Route was approved in 2002.
- Preparatory work for the Bradford Bypass was completed in 2019-2020.
- The Preliminary Design and project-specific assessment of environmental impacts for the Technically Preferred Route was initiated in 2020 and is currently underway.
- Ontario Regulation 697/21 came into effect October 7, 2021.
- The Early Works, as set out in the regulation, focuses on a grade separated bridge crossing for the future Bradford Bypass at County Road 4 (Yonge Street). The Statement of Completion was filed on March 21, 2022.
 - The Final Early Works Report is available on the Project Website at: <https://www.bradfordbypass.ca/early-works/>.

Interchange Considerations

▶ What we heard:

- ▶ Requests were made by staff and council from municipalities in 2021, for the MTO to include additional interchanges at 10th Sideroad and 2nd Concession Road as part of the Bradford Bypass Preliminary Design.

▶ What we are doing:

- ▶ Preliminary Design is considering additional interchanges at 10th Sideroad and 2nd Concession Road.
- ▶ Considerations for interchange locations and construction timing will be based on funding, interim and ultimate conditions of the highway, geometrics, traffic modelling, structural, and environmental considerations.
 - ▶ The study will consider all interchange locations; however, as the key considerations are evaluated, recommendations for interchanges that can be protected for the future, or interim configurations may be considered.

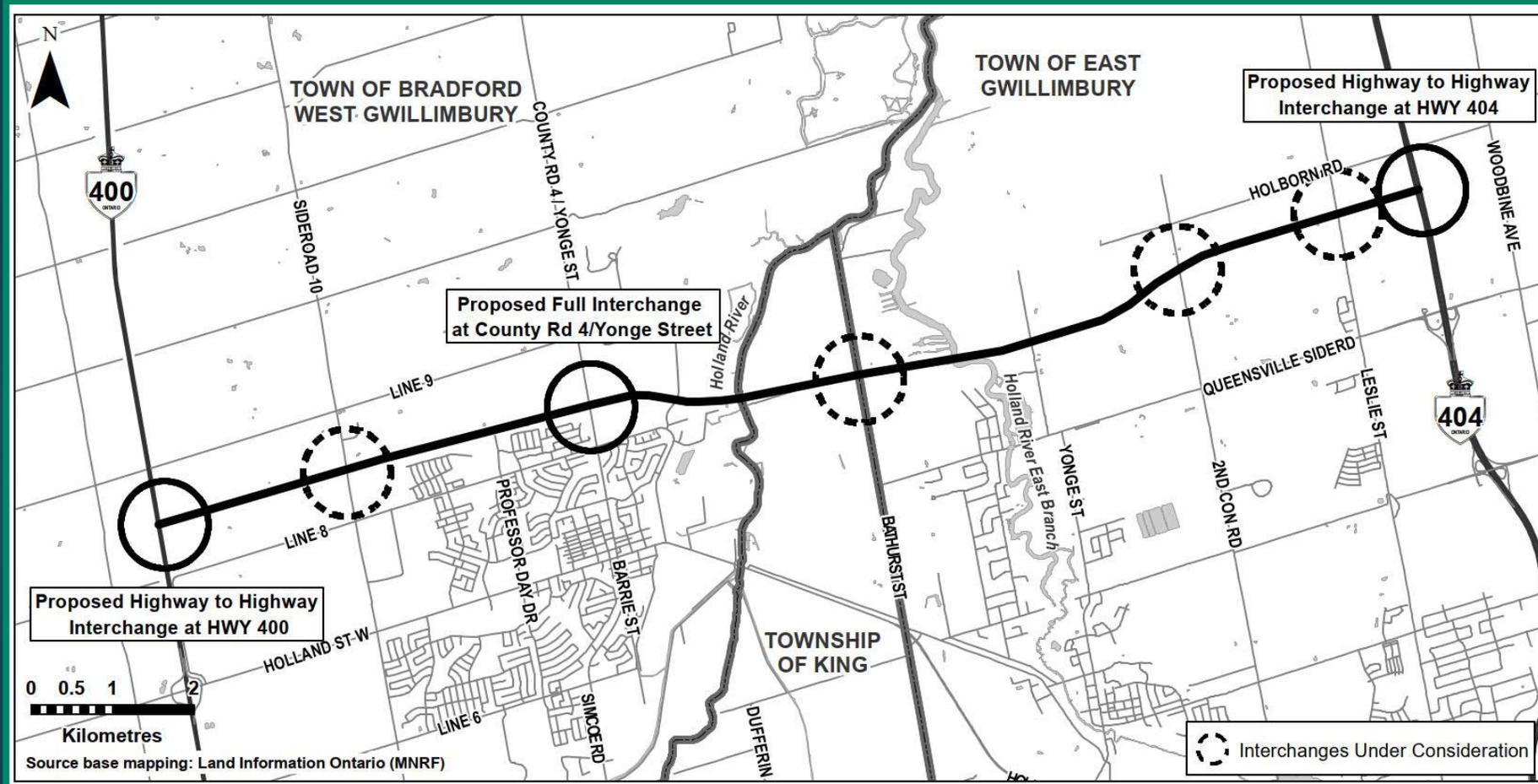
MTO is evaluating the feasibility of interchanges at 10th Sideroad and 2nd Concession Road as part of Preliminary Design. **This is the focus of the materials presented.**

Comments and information presented are specific to the 10th Sideroad and 2nd Concession Road interchange design alternatives.

Other Preliminary Design alternatives were presented at Public Information Centre (PIC) #1 (2021)

<https://www.bradfordbypass.ca/pic1/>

Technically Preferred Route and Interchanges under Consideration



The Project is located within the following municipalities:

- Simcoe County
 - Town of Bradford West Gwillimbury
- Regional Municipality of York
 - Township of King
 - Town of East Gwillimbury

Interchanges are being considered at:

- 10th Sideroad
- Bathurst Street
- 2nd Concession Road
- Leslie Street

Study Process

- This study is following the streamlined assessment process as set out in Ontario Regulation 697/21 (October 7, 2021).
- The Project Team is carrying forward previous environmental commitments made during the 2002 Route Planning and Environmental Assessment study as set out in the regulation, and the Simcoe County Road 4 Widening Environmental Assessment study as applicable.
- Alternatives within the Study Area will be generated and evaluated based on technical and environmental factors, and in consultation with Indigenous communities, public stakeholders, municipalities, and government agencies.
 - PIC #1 (2021) presented the design alternatives and evaluation criteria to the public for review and comment.
 - These materials present the interchange alternatives at 10th Sideroad and 2nd Concession Road and interchange location alternatives.
 - PIC #2 (2022) will present the preferred Preliminary Design based on the outcome of the evaluations.
- As part of the project-specific assessment of environmental impacts under the regulation, MTO will prepare and file a draft Environmental Conditions Report (ECR) and a draft Environmental Impact Assessment Report (EIAR).
 - The ECR is a new document and consultation item compared to the Class Environmental Assessment process. Both documents will be made available for public review, and final reports will be posted to the Project Website in accordance with the regulation.

Study Process

- ▶ The MTO is undertaking 15 environment impact studies to:
 - ▶ Adhere to Ontario Regulation 697/21
 - ▶ Carry forward the environmental commitments of the 2002 Approved EA and conditions of approval
 - ▶ Meet current environmental legislative requirements applicable to the project
- ▶ The results of these studies will also be documented in:
 - ▶ Environmental Conditions Report
 - ▶ Environmental Impact Assessment Report
- ▶ Stand alone environmental technical reports will be made available for review upon request by Indigenous communities once they are completed later in the study.
 - ▶ Reports will summarize existing conditions, fieldwork conducted, assess potential impacts and proposed mitigation measures.

Environmental Studies:

- ▶ Agricultural Impact Assessment
- ▶ Air Quality Impact Assessment
- ▶ Cultural Heritage Assessment
- ▶ Erosion and Sediment Control Risk Assessment
- ▶ Groundwater Impact Assessment
- ▶ Noise and Vibration Impact Assessment
- ▶ Preliminary Landscape Composition Plan
- ▶ Snowdrift Assessment
- ▶ Archaeological Assessment
- ▶ Drainage and Hydrology
- ▶ Fish and Fish Habitat Existing Conditions and Impact Assessment
- ▶ Fluvial Geomorphology
- ▶ Land Use and Property Impact Assessment
- ▶ Terrestrial Ecosystems Existing Conditions and Impact Assessment
- ▶ Waste and Excess Materials Management Plan

Evaluation Criteria and Process

- ▶ Alternatives for interchanges at 10th Sideroad and 2nd Concession Road have been developed and consider:
 - ▶ Do Nothing
 - ▶ Interchange and Design Alternatives
- ▶ A Reasoned Argument (trade-off) method of evaluation will be used to identify the advantages to select the preferred refinements and alternatives.
- ▶ The criteria presented on the next pages will be used to evaluate the refinements and alternatives.
 - ▶ Transportation Engineering
 - ▶ Natural Environment
 - ▶ Socio-Economic
 - ▶ Cultural Heritage

Evaluation Criteria and Process

Transportation & Engineering

- ▶ Traffic Operations and Safety
- ▶ Highway Geometrics
- ▶ Structural Engineering
- ▶ Foundation and Geotechnical
- ▶ Active Transportation
- ▶ Utilities and Stormwater Management
- ▶ Constructability and Staging
- ▶ Navigability
- ▶ Cost
- ▶ Property Impacts

Natural Environment

- ▶ Fish and Fish Habitat
- ▶ Terrestrial Ecosystems
- ▶ Wildlife Crossings
- ▶ Species at Risk
- ▶ Environmentally Significant Features
- ▶ Groundwater
- ▶ Surface Water (Drainage & Hydrology)
- ▶ Drinking Water
- ▶ Fluvial Geomorphology
- ▶ Greenways and Open Space Linkages
- ▶ Climate Change

Evaluation Criteria and Process

Socio-Economic Environment

- ▶ Aesthetics and Landscaping
- ▶ Noise, Vibration and Air Quality
- ▶ Contamination and Property Waste
- ▶ Residential Property
- ▶ Agricultural Lands
- ▶ Land Use (Policy Areas, Designated Areas)
- ▶ Approved Plans and Policies
- ▶ Snowdrift
- ▶ Human Health

Cultural Environment

- ▶ Indigenous Communities and Input
- ▶ Archaeological Resources
- ▶ Built Heritage and Cultural Landscapes

Environmental Protection and Mitigation Measures

- ▶ Assessment of environmental impact studies will support the iterative and collaborative process to develop mitigation measures.
- ▶ Protection and mitigation measures will be implemented where practical and in consideration of the evaluation criteria.
- ▶ The intent is to balance the technical and environmental constraints for the proposed design refinements and alternatives.
- ▶ Material in PIC #1 represented the proposed protection and mitigation measures to be reviewed and evaluated through the consultation and engagement with regulatory agencies during the study for each environmental consideration.
 - ▶ <https://www.bradfordbypass.ca/2021/04/18/7-environmental-protection-mitigation-measures/>
- ▶ These measures are generally developed from, and reflect existing conditions and current environmental impact studies, MTO standards and best management practices, recommendations from the 2002 Approved EA mitigations measures and commitments, and measures to meet the current environmental legislative requirements.

Interchange Alternatives

10TH SIDEROAD

10th Sideroad Base Case

(2002 Approved Environmental Assessment Table 4-1): Interchange Location and Rationale)

- ▶ Interchange not warranted
- ▶ Low volume rural collector road



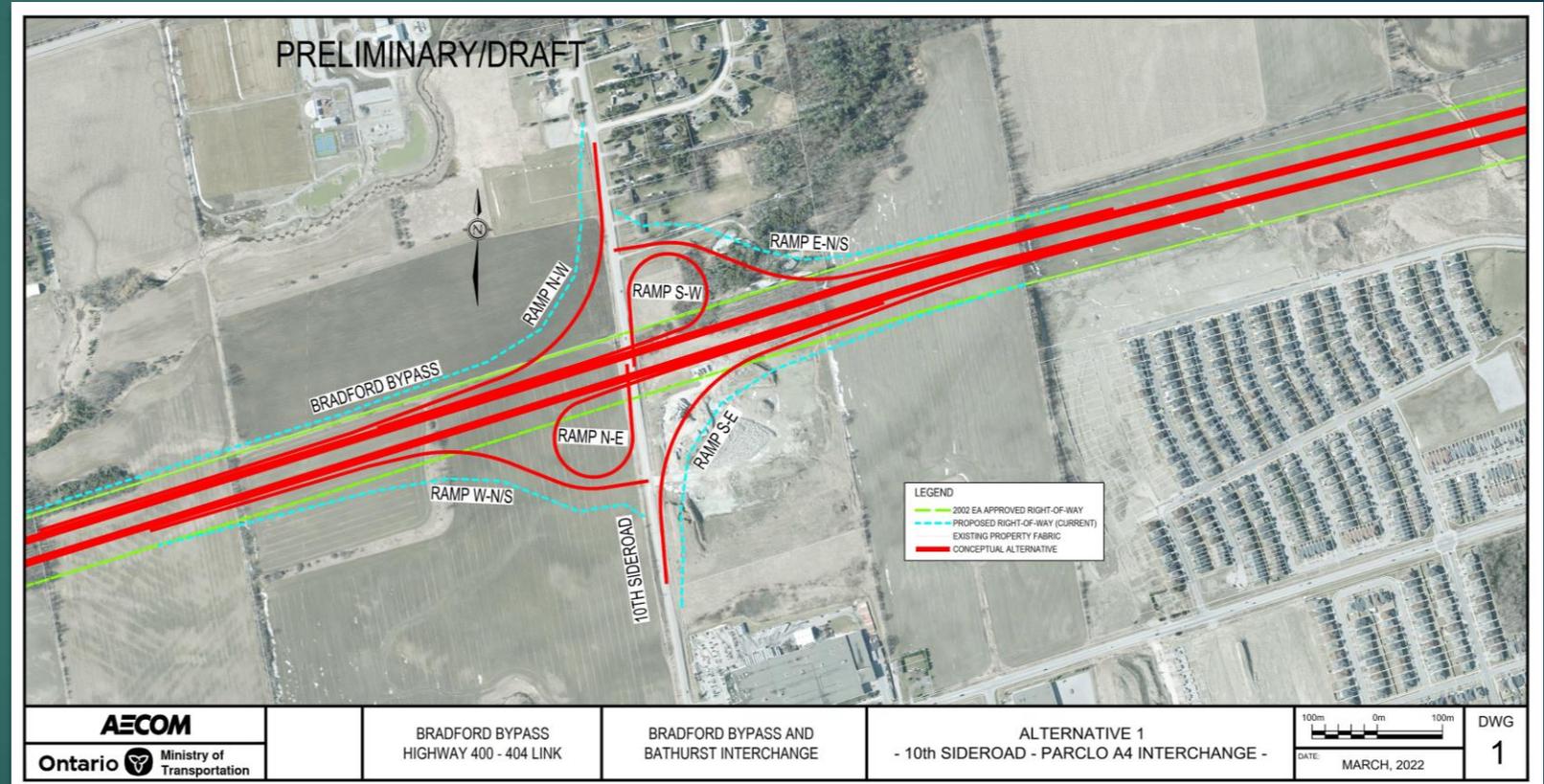
10th Sideroad Preliminary Design Interchange Options

- ▶ Three design options have been generated and presented on the next three pages:
 - ▶ Parclo A4
 - ▶ Parclo AB
 - ▶ Partial Parclo A / Diamond
- ▶ Two interchange alternatives provide full access to and from 10th Sideroad in all directions (eastbound and westbound directions).
- ▶ One interchange alternative provides partial access to and from 10th Sideroad. The alternative would include access from 10th Sideroad to Bradford Bypass (eastbound direction) and access to 10th Sideroad from Bradford Bypass (westbound direction).

10th Sideroad Interchange – Alternative 1

ALTERNATIVE 1 - Parclo A4 (Full Interchange)

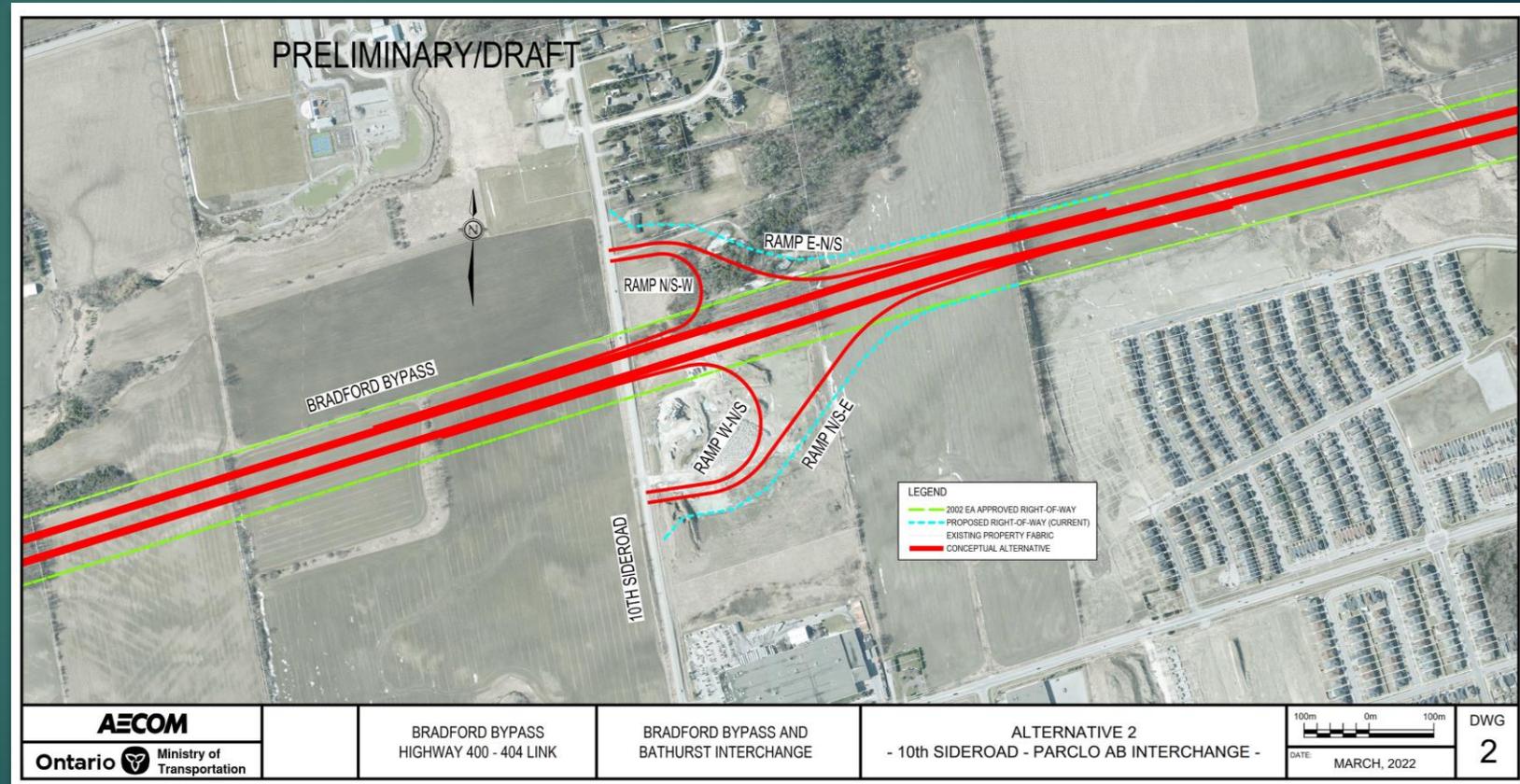
- Access from 10th Sideroad to Bradford Bypass in both directions, and access to 10th Sideroad from Bradford Bypass in both directions.
- Consists of two direct on-ramps, two loop ramps and two direct off-ramps.
- Traffic signals/stop control at ramp terminals.
- Bradford Bypass over 10th Sideroad.
- The interchange requires a larger property footprint but is still within the Bradford Bypass Study Area.
- Property impacts in all quadrants of the interchange.



10th Sideroad Interchange – Alternative 2

▶ ALTERNATIVE 2 – Parclo AB (Full Interchange)

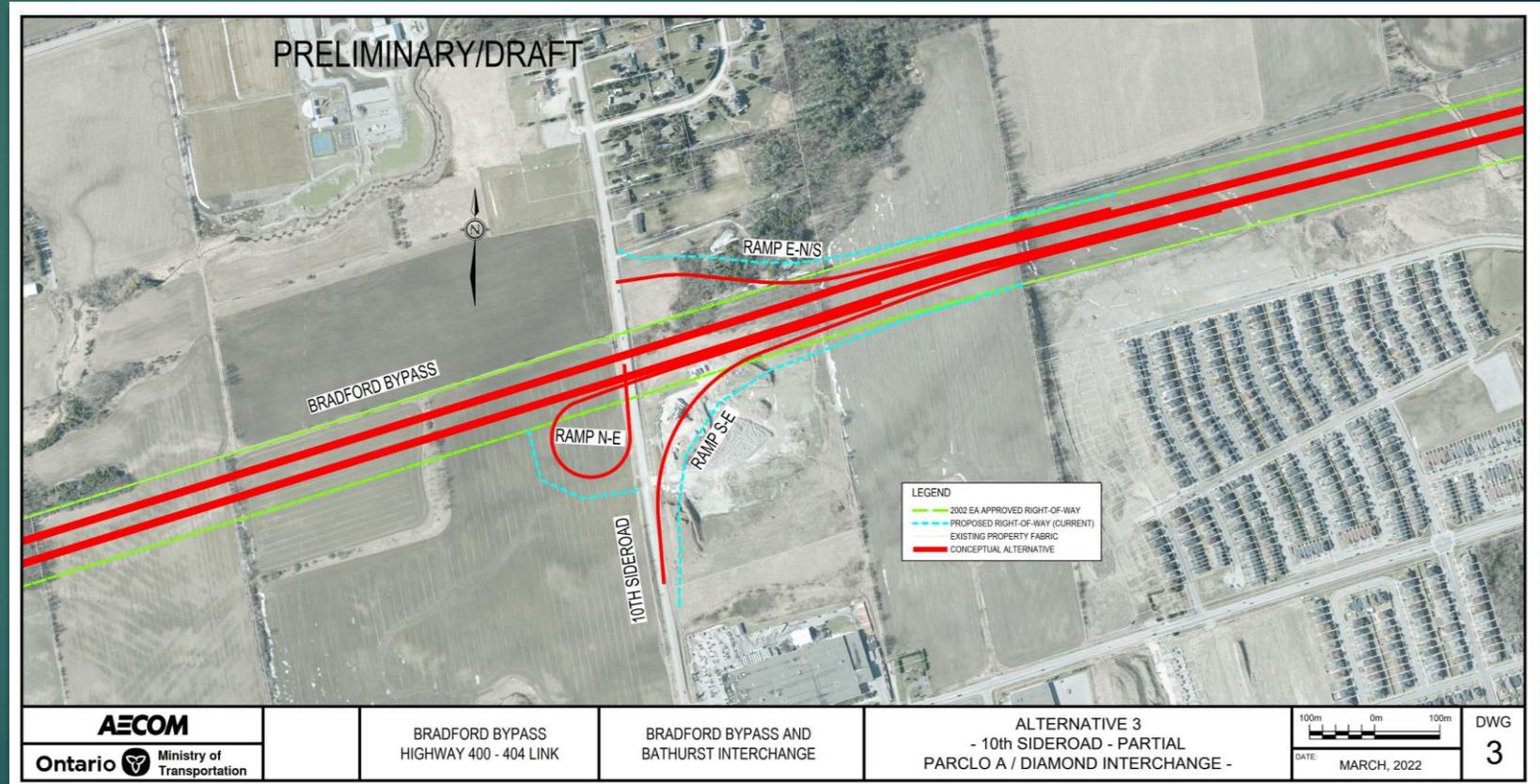
- Access from 10th Sideroad to Bradford Bypass in both directions, and access to 10th Sideroad from Bradford Bypass in both directions.
- Consists of two loop ramps, one direct on-ramp and one direct off-ramp.
- Traffic signals/stop control at ramp terminals.
- Bradford Bypass over 10th Sideroad.
- The interchange requires additional property but is still within the Bradford Bypass Study Area.
- Property impacts in the northeast and southeast quadrants.
- No change to property impacts on the west side of 10th Sideroad.



10th Sideroad Interchange – Alternative 3

▶ ALTERNATIVE 3 – Partial Parclo A / Diamond (Partial Interchange)

- Access from 10th Sideroad to Bradford Bypass is only available in the eastbound direction. Access from the Bradford Bypass to 10th Sideroad is only in the westbound direction.
- Consists of one loop ramp, one direct on-ramp and one direct off-ramp.
- Traffic signals/stop control at ramp terminal.
- Bradford Bypass over 10th Sideroad.
- The interchange requires additional property but is still within the Bradford Bypass Study Area.
- Property impacts in the northeast, southwest, and southeast quadrants.



Key Considerations

Environmental

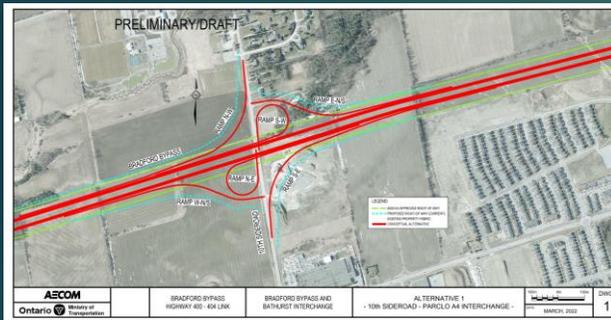
- ▶ Indigenous Communities and Treaty Rights.
- ▶ Archaeological Resources.
- ▶ Built Heritage and Cultural Landscapes.
- ▶ Fish and Fish Habitat (warmwater species habitat).
- ▶ Groundwater (Highly Vulnerable Aquifer, Ministry of Environment, Conservation and Parks (MECP) water wells).
- ▶ Land Use (Greenbelt, Agricultural, Settlement, Special Policy Area).
- ▶ Terrestrial Ecosystems (Species at Risk, unevaluated wetlands, woodlots).
- ▶ Property Impacts.
- ▶ Noise, Vibration and Air Quality.

Transportation & Engineering

- ▶ Engineering
 - ▶ Interchange configurations.
 - ▶ Traffic operations based on demand and level of service.
 - ▶ Complexities in traffic staging, constructability and utility relocation.
 - ▶ Structural / grading considerations.
 - ▶ Additional lands required but still within the Bradford Bypass Study Area.
 - ▶ Highway / Ramp Geometrics and Safety.
 - ▶ Access (i.e. full / partial).

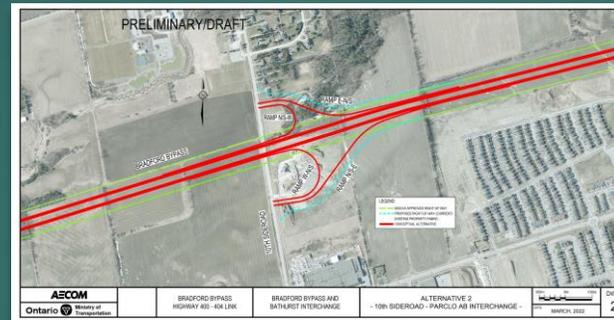
Summary: Interchange Design Preference

10th Sideroad



Alternative 1 – Parclo A4

- Access from 10th Sideroad to Bradford Bypass in both directions
- Access to 10th Sideroad from Bradford Bypass in both directions
- Two direct on-ramps, two loop ramps and two direct off-ramps
- Traffic signals/stop at ramp terminals



Alternative 2 – Parclo AB

- Access from 10th Sideroad to Bradford Bypass in both directions
- Access to 10th Sideroad from Bradford Bypass in both directions
- Two loop ramps, one direct on-ramp and one direct off-ramp
- Traffic signals/stop control at ramp terminals



Alternative 3 – Partial Parclo A / Diamond

- Access from 10th Sideroad to Bradford Bypass in the eastbound direction
- Access to 10th Sideroad from Bradford Bypass in the westbound direction
- One loop ramp, one direct on-ramp and one direct off-ramp
- Traffic signals/stop control at ramp terminals

Interchange Alternatives

2ND CONCESSION ROAD

2nd Concession Road Base Case

(2002 Approved Environmental Assessment
Table 4-1: Interchange Location and Rationale)

- ▶ Interchange not warranted
- ▶ Low volume rural collector Road



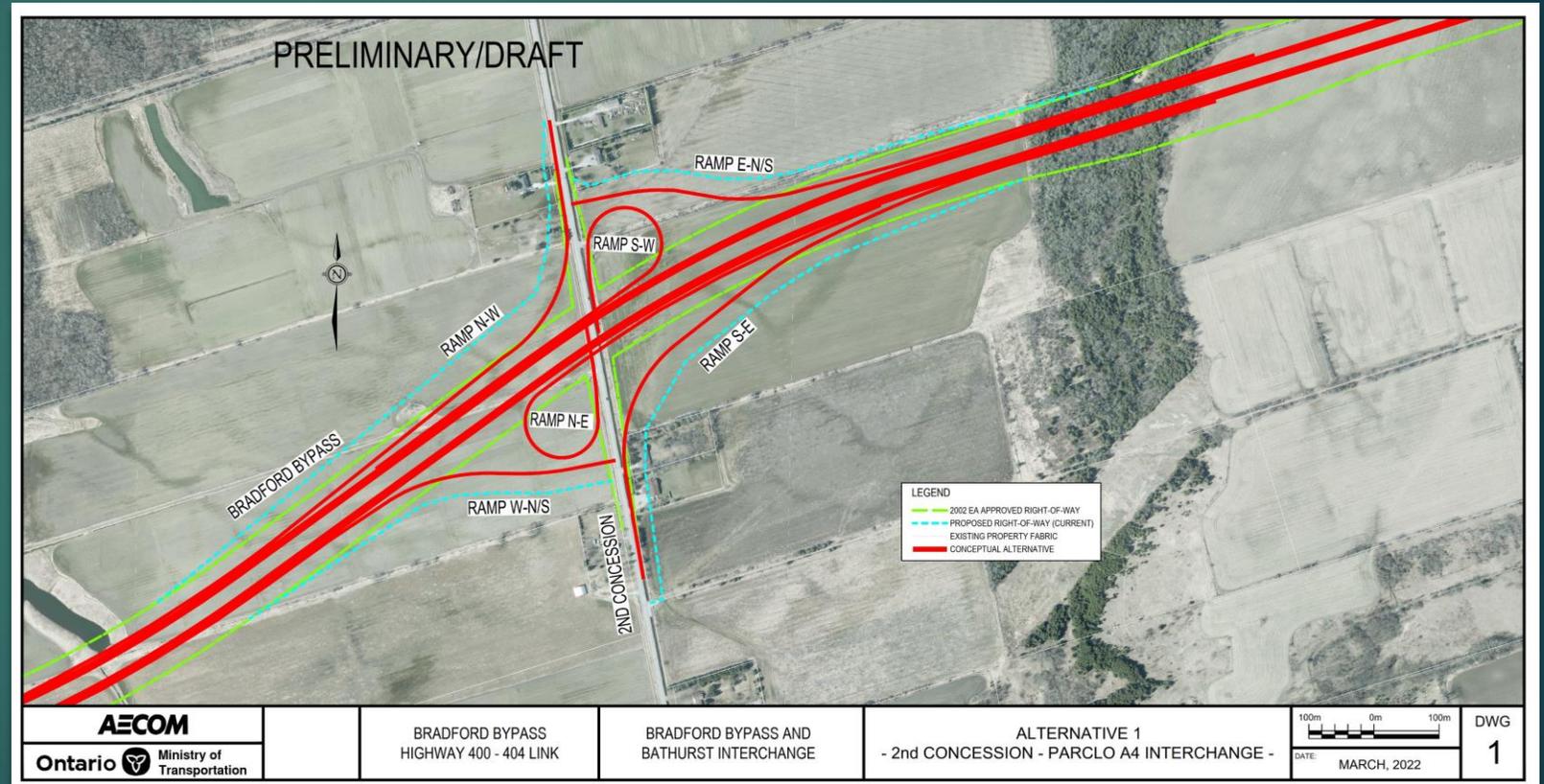
2nd Concession Road Preliminary Design Interchange Options

- ▶ Three design options have been generated and presented on the next three pages:
 - ▶ Parclo A4
 - ▶ Parclo A2
 - ▶ Diamond Interchange
- ▶ Each interchange alternative provides full access to and from 2nd Concession Road in all directions (eastbound and westbound directions).

2nd Concession Road Interchange – Alternative 1

ALTERNATIVE 1 - Parclo A4 (Full Interchange)

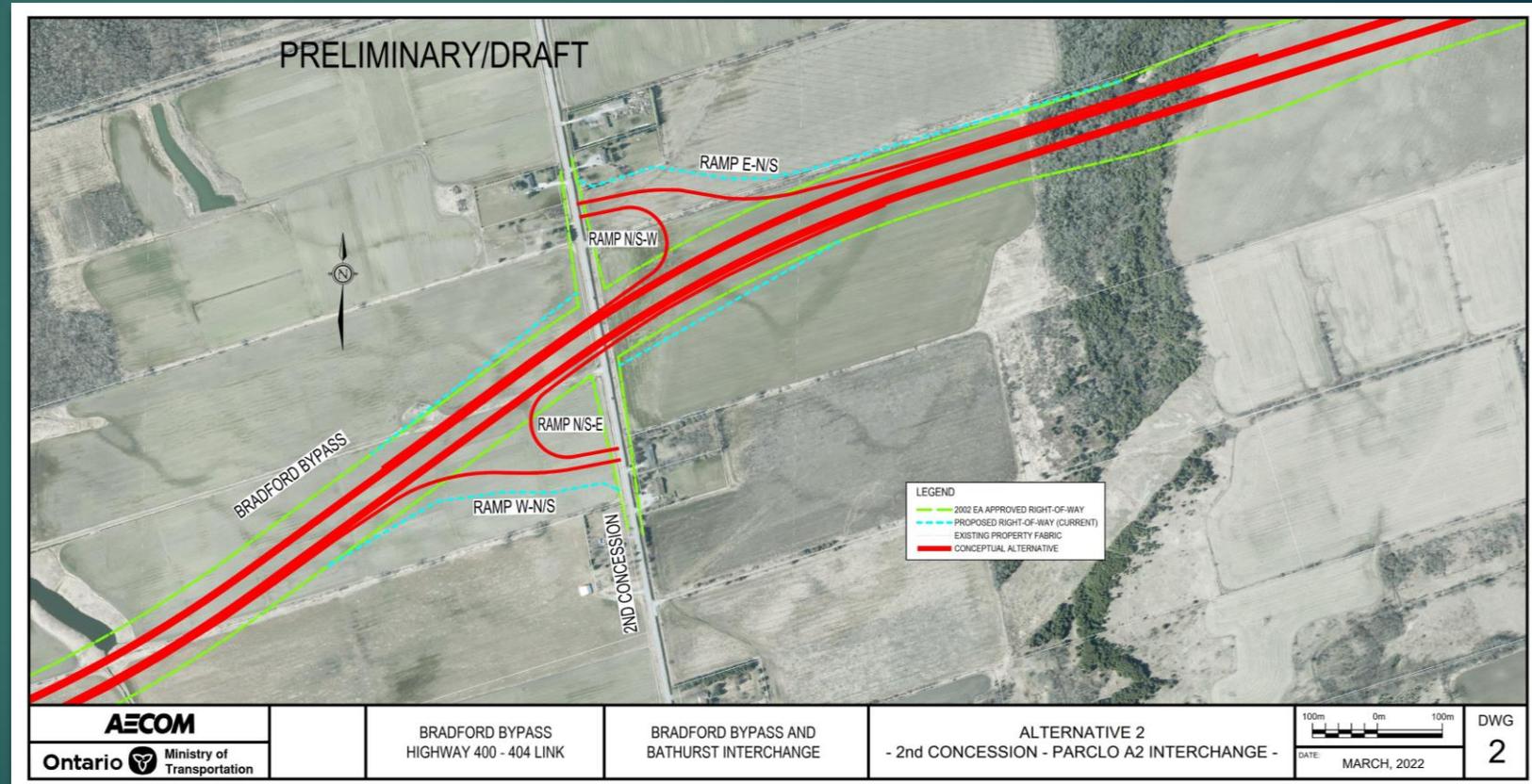
- Access from 2nd Concession Road to Bradford Bypass in both directions, and access to 2nd Concession Road from Bradford Bypass in both directions.
- Consists of two direct on-ramps, two loop ramps and two direct off-ramps.
- Traffic signals / stop control at the ramp terminals.
- Bradford Bypass over 2nd Concession Road.
- The interchange requires a larger property footprint but is still within the Bradford Bypass Study Area.
- Property impacts in all quadrants of the interchange.



2nd Concession Interchange Road – Alternative 2

▶ ALTERNATIVE 2 – Parclo A2 (Full Interchange)

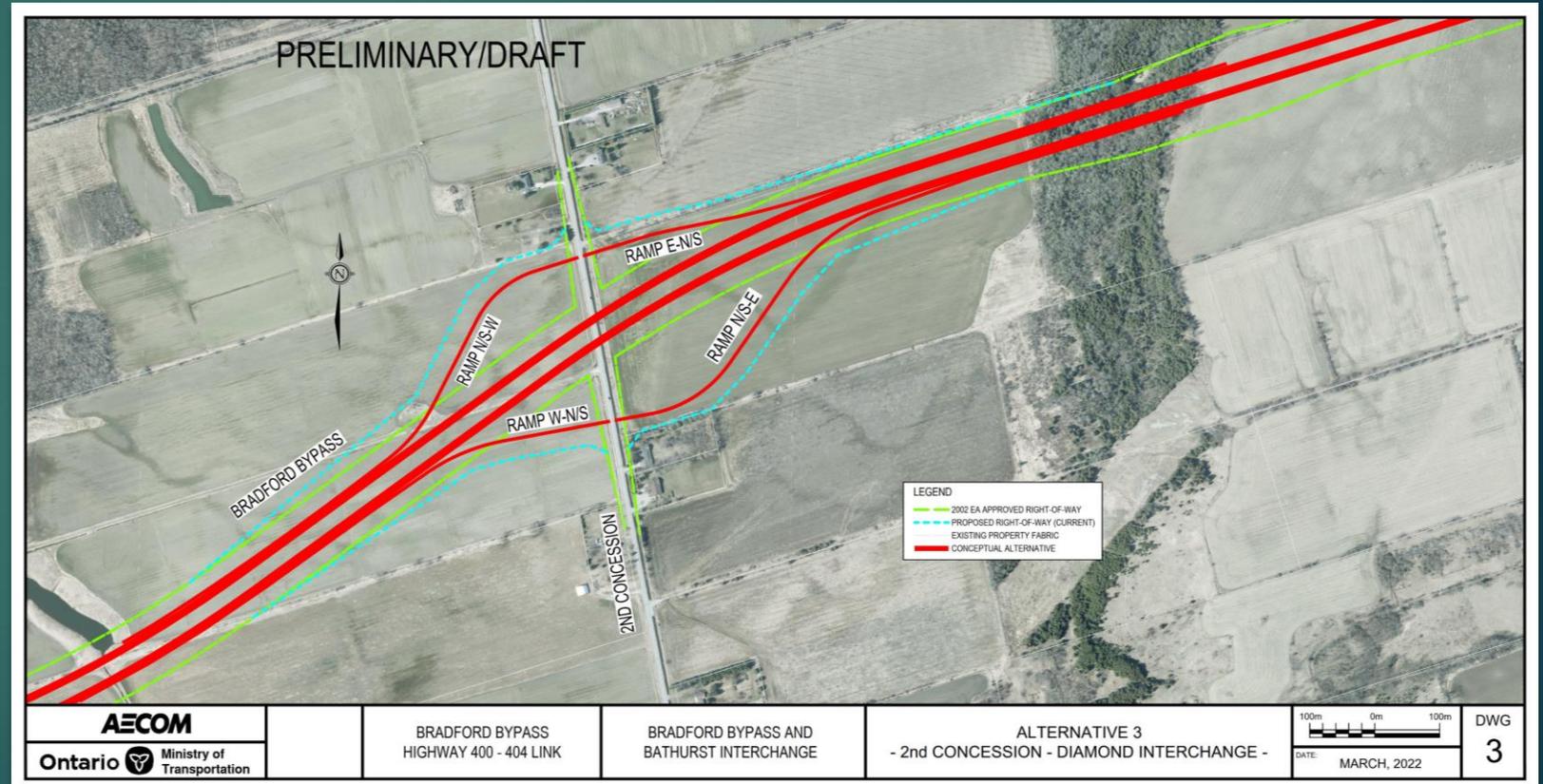
- Access from 2nd Concession Road to Bradford Bypass in both directions, and access to 2nd Concession Road from Bradford Bypass in both directions.
- Consists of two loop ramps and two direct off-ramps.
- Traffic signals / stop control at ramp terminals.
- Bradford Bypass over 2nd Concession Road.
- The interchange requires additional property but is still within the Bradford Bypass Study Area.
- Property impacts in the Southwest and Northeast quadrants, and minor impacts in the Northwest and Southeast quadrants.



2nd Concession Road Interchange – Alternative 3

▶ ALTERNATIVE 3 – Diamond Interchange (Full Interchange)

- Access from 2nd Concession Road to Bradford Bypass in both directions, and access to 2nd Concession Road from Bradford Bypass in both directions.
- Consists of two direct on-ramps and two off-ramps.
- Traffic signals / stop control at ramp terminals.
- Bradford Bypass over 2nd Concession Road.
- The interchange requires additional property but is still within the Bradford Bypass Study Area.
- Property impacts in all quadrants of the interchange.



Key Considerations

Environmental

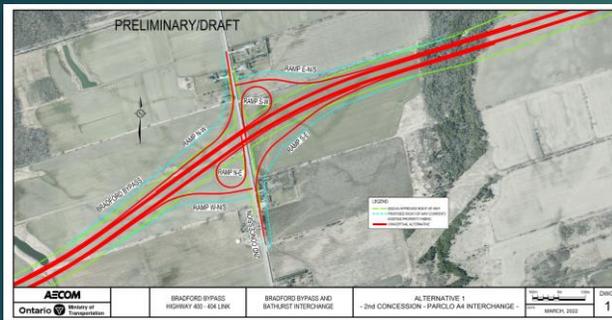
- ▶ Indigenous Communities and Treaty Rights.
- ▶ Built Heritage (one listed Cultural Heritage Landscape).
- ▶ Archaeological Resources.
- ▶ Fish and Fish Habitat (warmwater habitat).
- ▶ Groundwater (MECP Waterwells).
- ▶ Land Use (Greenbelt, Wooded area, Protected Countryside, Whitebelt, Holland Marsh Specialty Area, Urban Settlement Area).
- ▶ Terrestrial Ecosystems (Bat Species at Risk, Holland Marsh Wetland Complex, woodlots, deer wintering areas).
- ▶ Property Impacts.
- ▶ Noise, Vibration and Air Quality.

Transportation & Engineering

- ▶ Engineering
 - ▶ Interchange configurations.
 - ▶ Traffic operations based on demand and level of service.
 - ▶ Complexities in traffic staging, constructability and utility relocation.
 - ▶ Structural / grading considerations.
 - ▶ Additional lands required but still within the Bradford Bypass Study Area.
 - ▶ Highway / Ramp Geometrics and Safety.
 - ▶ Access (i.e. full / partial).

Summary: Interchange Design Preference

2nd Concession Road



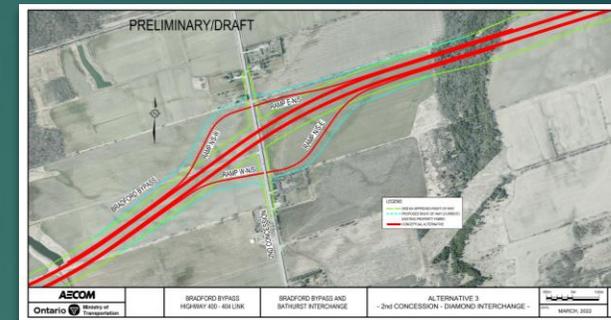
Alternative 1 – Parclo A4

- Access from 2nd Concession Road to Bradford Bypass in both directions
- Access to 2nd Concession Road from Bradford Bypass in both directions
- Two direct on-ramps, two loop ramps and two direct off-ramps
- Traffic signals/stop at ramp terminals



Alternative 2 – Parclo A2

- Access from 2nd Concession Road to Bradford Bypass in both directions
- Access to 2nd Concession Road from Bradford Bypass in both directions
- Two loop ramps and two direct off-ramps
- Traffic signals/stop at ramp terminals



Alternative 3 – Diamond Interchange

- Access from 2nd Concession Road to Bradford Bypass in both directions
- Access to 2nd Concession Road from Bradford Bypass in both directions
- Two direct on-ramps and two off-ramps
- Traffic signals/stop at ramp terminals

Feedback and Comments

- ▶ The Project Team welcomes your feedback and comments on the interchange design refinements and alternatives presented:
 - Feedback on the interchange design alternatives that to be constructed at:
 - 10th Sideroad
 - 2nd Concession Road
- ▶ Use the summary of alternatives presented as a guide for providing your feedback to the Project Team.

Please provide feedback on this public consultation material through the Comment form (www.bradfordbypass.ca/consultation) by **May 5, 2022**.

Project Milestones and Next Steps

- ▶ Consider feedback on the interchange design and interchange location alternatives.
- ▶ Evaluate the interchange design alternatives and select a preferred design for 10th Sideroad and 2nd Concession Road
- ▶ Continue outreach and consultation with Indigenous communities.
- ▶ Milestone: File the Draft Environmental Conditions Report for public consultation.
- ▶ Selection of preferred alternative for the Bradford Bypass including the interchanges.
- ▶ Milestone: Present the outcome of the evaluation of alternatives and introduce the preferred Preliminary Design at PIC #2 (Fall 2022).
- ▶ Complete the project-specific assessment of environmental impacts study and refinement of the preferred Preliminary Design.
- ▶ Milestone: File the Draft Environmental Impact Assessment Report for public consultation.
- ▶ Milestone: Complete the Preliminary Design in Early 2023.

Thank you for your participation!



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Stay informed

Request to be added to the Project Contact List to receive future project updates

Freedom of Information & Protection of Privacy Act

Comments and information regarding this study are being collected to assist MTO and AECOM in meeting the requirements of Ontario Regulation 697/21. This material will be maintained on file for the use of 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 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 this Public Information Session. We encourage you to contact members of the Project Team if you have any questions or concerns regarding the above information.