Talbotville Bypass and Highway 4 Widening

Preliminary Design, Detail Design and Class Environmental Assessment Study



Highway 3 Twinning, Public Information Centre 1

GWP 3041-22-00 & 3042-22-00



Welcome to **Public Information Centre 1**

- Project background and the process being followed
- Transportation needs and opportunities in the study area
- Proposed cross-sections for the Talbotville Bypass and the Highway 3 twinning
- Alternative intersection configurations at Highway 4
- Alternative interchange configurations at Ron McNeil Line / Wonderland Road and Wellington Road
- Proposed improvements at First Avenue interchange
- Proposed evaluation process and evaluation criteria

The purpose of this Public Information Centre is to present and gather your feedback on:

Information related to this PIC is available on the project website www.highway3elgin.ca





The Ontario Ministry of Transportation (MTO) has retained Stantec Consulting Ltd. to undertake a Preliminary Design, Detail Design, and Class Environmental Assessment (Class EA) Study for improvements to Highway 3 from Highway 4 to Centennial Avenue in the City of St. Thomas. The study has been divided into two group work projects (GWPs).

- Talbotville Bypass & Highway 4 Widening, Township of Southwold (GWP 3042-22-00)
- **Highway 3 Twinning**, City of St. Thomas, Municipality of Central Elgin, Township of Southwold (GWP 3041-22-00)

This study is being carried out under the requirements of the Class Environmental Assessment for Provincial Transportation Facilities (2000), which is approved under the Ontario Environmental Assessment Act for provincial transportation projects of a defined scope and magnitude.

The MTO Class EA process is an approved process for highway planning, design, and construction projects.

About The Project



Study Area

Highway 4 Widening & Talbotville Bypass

The Highway 4 Widening and Highway 3 Talbotville Bypass project includes the following improvements:

- Widening of existing Highway 4 from two to fourlanes (from the new Talbotville Bypass to Clinton Line)
- A new Highway 3 alignment bypassing Talbotville (also known as the Talbotville Bypass), connecting Highway 3 near Ron McNeil Line to Highway 4
- Roundabout at Highway 4 and Talbotville Bypass
- Interchange at Ron McNeil Line / Wonderland Road
- Associated drainage and infrastructure improvements to facilitate the construction of the bypass, including construction of new culverts, and bridges

This project is being undertaken as a Group 'A' project, which is required for the construction of a new transportation facility and bypass.





THE CLASS ENVIRONMENTAL ASSESSMENT PROCESS FOR GROUP 'A' PROJECTS

Public Consultation

Ongoing Transportation Needs Assessment

Data Collection

Review available background information and conduct field investigations, as required, to identify existing conditions in the Study Area

Generate

Develop planning alternatives to address needs, improve the highway safety and operations, and consider potential impacts to the existing natural, social, and cultural environment to help identify a Preferred Plan

Select

Identify the Preferred Plan and mitigation measures to address potential impacts

Notification of Study Commencement and launch of project website

Public Information Centre 1

Study Design Report (30-day public review)

Gather input from agencies, municipalities, stakeholders, Indigenous communities, and property owners

We are here

Class Environmental Assessment Process Group 'A' Project – Highway 4 Widening & Talbotville Bypass



Consultation will continue throughout the Class EA process.

- external agencies
- Reviewing input received

Study Design Report

A Study Design Report (SDR) is a requirement for Group 'A' projects following the Class EA process.

The purpose of this SDR is to summarize the study process that will be followed, document the planning decisions that have been made with respect to the assessment and selection of the Preferred Alternative to the Undertaking.

This report will provide the basis for moving the study forward with confidence once stakeholder comments regarding the above have been addressed. The Project Team will follow the plans and decisions outlined in this document unless modifications are made as a result of the consultation during the review of the SDR, or new and directly applicable information is obtained during the study.

Study Design Report Group 'A' Project – Highway 4 Widening & Talbotville Bypass

The submission of the Study Design Report marks the end of the project initiation stage. This stage of the study has included:

• Providing notice of the study commencement to the public, local municipalities, stakeholders, property owners, and

• Initiating a review of background information available for the study area • Identifying and documenting deficiencies, operational problems, and safety issues • Reviewing and selecting the most suitable Alternative to the Undertaking

> The SDR is currently available for a 30-day public comment period on the project website (www.highway3elgin.ca) from August 17 to September 15, 2023.



The **Highway 3 Twinning** project includes the following improvements:

- Twinning of Highway 3 through St. Thomas to the Township of Southwold (Centennial Avenue to Ron McNeil Line)
- Interchange at Wellington Road
- Improvements to First Avenue interchange
- Connection to proposed Centennial Avenue roundabout (study being completed by others)
- Twinning of Kettle Creek Bridge
- Associated drainage improvements (culverts and sewers), rehabilitation of existing bridges and assessment for noise barriers and retaining walls, as required

This project is being undertaken as a Group 'B' project, which is required for major improvements to existing provincial transportation facilities, such as improvements to interchanges where there may be major footprint modifications, and highway improvements where significant modification to the "footprint" beyond the roadbed of an existing highway is proposed.

Highway 3 Twinning



Public Consultation

Ongoing Transportation Needs Assessment

Data Collection

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Public Information Centre 1

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We are here

Consultation will continue throughout the Class EA process.

Class Environmental Assessment Process Group 'B' Project – Highway 3 Twinning







The Talbotville Bypass has undergone extensive planning, and the proposed alignment follows the corridor designated in the 1970s.



Bridges and culverts within the study area will need to be constructed, rehabilitated or replaced to accommodate the bypass and highway improvements. The following bridges and culverts are being assessed:

- New culverts as required •
- Underhill Drain culvert
- Kettle Creek Bridge
- CNR subway

Legend

----- Railway

Hydro Line

Project Structure

Study Area

Highway 3

Constructed Drain

- Balaclava Street underpass
- First Avenue underpass
- Burwell Road underpass \bullet
- OSR/CPR subway \bullet

Project Overview



The study includes the following highway improvements:

- Highway 4 widening
- New Talbotville Bypass
- Highway 3 twinning
- Noise barriers and retaining
- walls, as required
- Illumination
- Roadside safety



Intersection / Interchange Improvements

Improvements to the following intersections / interchanges are required to accommodate the bypass and/or highway improvements:

- Highway 4
- Ron McNeil Line / Wonderland Road
- Wellington Road
- First Avenue

Drainage Improvements

Drainage improvements and stormwater management will be required throughout the study area to accommodate the bypass and highway improvements.

Existing Conditions - Environmental

- Cultural Heritage Resources Assessment
- **Terrestrial Ecosystems Assessment** ullet
- Land Use / Socio-economic Assessment



Legend

	Fish Survey Point (ARA)
	Railway
	Hydro Line
	Watercourse (Intermittent)
	Watercourse (Permanent)
	Constructed Drain
	Thermal Regime, Cold
	Thermal Regime, Warm
_	Thermal Regime, Cold
_	Thermal Regime, Warm
	Aquatic Species at Risk Distribution
	Wetland, Provincially Significant
	Project Location
XXXX	Significant Woodland
	Conservation Authority Administrative Boundary
	Municipal Boundary, Uppe
	Municipal Boundary, Lowe
V	Vooded Area

Environmental investigations are being completed as part of this Class EA study, including but not limited to those listed below. These investigations will provide a detailed inventory of existing study area conditions.

- Fish and Fish Habitat Assessment
 - Contamination Overview Study
- Noise Assessment ullet

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 Surface Water and Ground Water • Tree Inventory Sediment and Erosion Risk Assessment

Existing Conditions - Highways



Highway 4 looking south towards Talbotville.



Highway 3 east of CNR Subway looking west.

Highway 4

- Currently an undivided four-lane road with median turning lanes from Highway 401 southerly to approximately Clinton Line.
- The highway becomes a two-lane road south of Clinton Line to the Village of Talbotville.
- There is a signalized intersection at Highway 4 and Highway 3 in the Village of Talbotville.
- The shoulders along the road are partially paved.
- Active transportation permitted but not part of the Province-wide Cycling Network.
- 80 km/h posted speed limit.

Highway 3

- Two-lane undivided, Controlled-Access-Highway (CAH) that passes through the City of St. Thomas. Originally constructed to accommodate a four-lane divided highway with a 15.0 m wide median.
- There are bridges (underpasses) at Balaclava Street, Burwell Road, and at two railway lines.
- There is an interchange at First Avenue and intersections at Wellington Road and Ron McNeil Line. The intersection at Wellington Road is signalized, and Ron McNeil Line includes a two-way stop for vehicles on Ron McNeil Line and Ford Road.
- Active transportation is not permitted east of Ron McNeil Line / Ford Road. \bullet
- 80 km/h posted speed limit.

Existing Conditions - Intersections & Interchanges

Ron McNeil Line Intersection

- This is a two-way stop controlled intersection that accommodates twolanes of traffic on Highway 3.
- Wonderland Road connects with Ron McNeil Line northeast of the Highway 3 intersection.
- Ron McNeil Line has a posted speed of 80 km/h and Ford Road has a posted speed of 60 km/h.

Wellington Road Intersection

- This is a signalized intersection that accommodates two-lanes of traffic on Highway 3.
- Wellington Road has a posted speed of 80 km/h and transitions to 50 km/h south of the intersection with Highway 3.

First Avenue Interchange

- This is a diamond design on the south side and a Parclo A design on the north side of the interchange.
- First Avenue is a four-lane undivided road with sidewalk only on the west side of the underpass structure and a posted speed of 60 km/h.

Transportation Needs Assessment

The purpose of the study is to identify a Preferred Plan that addresses current and future transportation needs in the study area as part of MTO's ongoing review of safety and operational needs for the provincial highway network. This study will include reviewing existing conditions, developing and evaluating alternatives, identifying a preferred plan, and developing environmental protection/mitigation measures. A Preferred Plan will be confirmed and designated (i.e., protected) as part of the study.

Problems

- Traffic on Highway 3 and Highway 4 through • Talbotville will continue to increase as recent and future industrial, commercial and residential growth occurs, which will impact safety in the community.
- Highway 3 is a two-lane undivided highway ulletwith at-grade intersections, which is not suitable for the anticipated increase in traffic generated by the recent and future industrial, commercial and residential growth.

- lacksquareconnectivity in the area.
- Provide a four-lane divided Highway 3 between \bullet and operations.
- Replace existing at-grade intersections with \bullet

Opportunities

Highway 3 improvements and Talbotville Bypass are being planned as a provincial project to support future industrial, commercial and residential growth in the County of Elgin and St. Thomas areas. It will aim to address projected travel demand and aid in network

Centennial Avenue and Highway 4 to enhance safety

interchanges to promote free-flow movement along Highway 3 through the majority of the study area.

Alternatives to the Undertaking

The Class EA requires that 'reasonable alternatives' be considered to address identified challenges and opportunities. This involves two levels of analysis. The Alternatives to the Undertaking considers a broad range of alternatives that could address the project needs. Once the best alternative is selected, the Alternative Methods of Carrying out the Undertaking can be studied. A summary of the Alternatives to the Undertaking screened for this study are provided below:

Do Nothing

Area transportation system would be limited to maintenance of current transportation infrastructure and the implementation of approved provincial and municipal initiatives for the study area. **Do not carry forward.**

Optimize the Existing Area Transportation System

Optimize the existing area transportation system by Travel Demand Management (TDM) and Transportation Systems Management (TSM). TDM will improve the operation of transportation by managing travel demand during peak hours. TSM will improve the transportation system through strategies and technology policy initiatives.

Expanded / New Non-Road Infrastructure

Initiatives including new or improved local transit service for public transportation, increased freight rail services for goods movement, provide inter-regional transit and passenger rail and/or provincial transitways through new/increased services.

Widen / Enhance Existing Road Network

Widen/enhance municipal arterial roads to improve capacity and operations and provide congestion relief on existing facilities through additional lanes to increase the performance of the transportation network.

Improve Highway 3 & Highway 4

Includes the twinning and extension of Highway 3 (bypass) and widening of Highway 4 to provide improved capacity and operations.

Does not address the needs and opportunities for the study area. **Do not carry forward.**

Does not address the needs and opportunities for the study area. **Do not carry forward.**

Addresses the needs and opportunities for the study area. Carry forward.

Step 1 – Identify Evaluation Factors & Criteria

Evaluation criteria are established through:

- public input ullet
- similar projects
- provincial guidelines
- existing conditions

Please see the next board for the draft criteria.

Step 2 - Screen Alternatives

Several alternatives will be identified and screened based on their ability to satisfy the engineering or environmental goals of the evaluation process. Feasible alternatives will be carried forward for more detailed evaluation against the evaluation criteria.

Step 3 - Evaluate Alternatives

The evaluation process will consider a range of engineering and environmental (natural, socio-economic and cultural) factors in the study area. Alternatives will be evaluated using a comparative analysis based on the evaluation criteria and consideration of the advantages and disadvantages of each alternative. The evaluation process will provide an objective approach to the analysis and evaluation of each alternative.

Step 4 - Rank Alternatives

Each alternative will be ranked to provide an overall recommendation (Most Preferred, Moderately Preferred, Least Preferred). This is the basis for identifying the Preferred Plan.

Step 5 – Preferred Plan

The Preferred Plan will be selected and presented to the public, stakeholders and external agencies at the second PIC.

Evaluation Process

Preliminary Evaluation Criteria

The following factors and criteria will be used to evaluate the alternatives carried forward:

Socio-Economic Environment

Cultural Environment

n, Species at Risk	
lity	
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Highway 3 Cross-Section Alternatives

Preliminary assessment of Highway 3 and Talbotville Bypass cross-section alternatives:

The 15.0 m median will be implemented where the road footprint has constraints (i.e., property impacts). The 22.5 m median will be implemented along Highway 3 where feasible.

- May impact existing storm sewer within the ROW

• If the existing lanes remain in current location, then the twinning would not be

• Consistent with historical intent for twinning of this highway to centre the

• Would require modifications to existing bridge abutments/slope paving

Preliminary Assessment of Highway 4 Intersection Alternatives:

Highway 4 Intersection Alternatives

Alternative 1: Roundabout Inline with Highway 4 Advantages

- Smaller green space footprint compared to Alternatives 2 & 3 Disadvantages
- More property required along west side of Highway 4
- Greater impacts to existing traffic with extensive construction staging required on Highway 4
- Potential utility conflicts along the west side of Highway 4

Alternative 2: Roundabout Offset of Highway 4 Advantages

- Off-line construction of the roundabout reduces impacts to traffic on Highway 4
- Opportunity to provide a E-N bypass lane

Disadvantages

- Property required in north-east quadrant
- Larger green space footprint compared to Alternative 1

Ron McNeil Line / Wonderland Road Interchange Alternatives

Preliminary assessment of Ron McNeil Line / Wonderland Road interchange alternatives:

Alternative 1: Parclo A2

Advantages

- Loop ramp radii (R-90) meet minimum standard for 100 km/h Design Speed
- Higher traffic capacity compared to Diamond interchange
- Direct connection to Wonderland Road

Disadvantages

- Ramp terminal intersection with Ford Road too close to railway crossing
- Larger footprint than Diamond interchange
- Higher cost compared to Diamond interchange

Alternative 2: Parclo A2 Advantages

- Loop ramp radii (R-90) for ramp N/S-W meets minimum standard for 100 km/h Design Speed \bullet
- Ramp terminal intersection with Ford Road provides good separation from railway crossing
- Higher traffic capacity compared to Diamond interchange
- Direct connection to Wonderland Road

Disadvantages

- Larger footprint than Diamond interchange
- Loop ramp N/S-E radius (R-55) does not meet minimum standard for 100 km/h Design Speed
- Higher cost compared to Diamond interchange

Alternative 3: Parclo A3 (Ford Road closed with cul-de-sac) Advantages

- Loop ramp radii (R-90) for ramp N/S-W meets minimum standard for 100 km/h Design Speed
- Direct ramp S-E eliminate left-turn conflicts and potentially reduces collision severity
- Ramp terminal intersection has good separation from railway crossing
- Higher traffic capacity compared to Diamond interchange
- Direct connection to Wonderland Road

Disadvantages

- Larger footprint than Diamond interchange
- Loop ramp N-E radius (R-55) does not meet minimum standard for 100 km/h Design Speed \bullet
- Direct ramp S-E radius (R-130) does not meet minimum standard for 100 km/h Design Speed \bullet
- Ford Road closed with cul-de-sac

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Ron McNeil Line / Wonderland Road Interchange Alternatives (cont'd)

Preliminary assessment of Ron McNeil Line / Wonderland Road interchange alternatives cont'd:

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Alternative 4: Parclo AB (Ford Road closed with cul-de-sac) Advantages

- Higher traffic capacity compared to Diamond interchange
- Direct connection to Wonderland Road

Disadvantages

- Larger footprint than Diamond interchange
- Loop ramp exit on freeways are less desirable than direct ramps
- Ramp terminal intersection close to railway crossing
- Ford Road closed with cul-de-sac
- Higher cost compared to Diamond interchange

Alternative 5: Diamond (Ford Road closed with cul-de-sac) Advantages

- Smaller footprint than Parclo interchanges
- Suitable where the through movements on crossing roads are high
- Lower cost compared to Parclo interchanges

Disadvantages

- Lower traffic capacity than a Parclo configuration
- Potential for left-turn conflicts and potential for higher collision severity
- No direct connection to Wonderland Road

Alternative 6: Parclo A/Diamond (Ford Road closed with cul-de-sac)

Advantages

- Higher traffic capacity for westbound ramps compared to the full Diamond interchange
- Ramp terminal intersection provides good separation from railway crossing
- Direct connection to Wonderland Road
- Loop ramp radii (R-90) meets minimum standard for 100 km/h Design Speed

Disadvantages

- Larger footprint than Diamond interchange
- Ford Road closed with cul-de-sac
- Higher cost compared to full Diamond interchange
- Lower traffic capacity for eastbound on-ramp compared to Parclo-A

ew roadwav of MTO right of way Potential Property Impacts

Wellington Road Interchange Alternatives

Preliminary Assessment of Wellington Road Interchange Alternatives:

Alternative 1: Parclo A4 (On Existing Alignment) Advantages

- Maintains tangent horizontal alignment of Wellington Road
- Higher traffic capacity compared to Diamond interchange Disadvantages
- Requires temporary detour and intersection during bridge interchange
- Larger footprint than Diamond interchange
- Higher cost compared to Diamond interchange

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<u>Alternative 2: Parclo A4 (Alignment Shifted to West)</u> Advantages

- Higher traffic capacity compared to Diamond interchange
- Existing intersection to be maintained with minor detour during bridge construction Disadvantages
- Shifted horizontal alignment on Wellington Road introduces less than desirable back-to-back curves
- Larger footprint than Diamond interchange
- Higher cost compared to Diamond interchange

Alternative 3: Parclo A4 (Larger Inner Loop on South Side)

Advantages

- Maintains tangent horizontal alignment of Wellington Road
- Higher traffic capacity compared to Diamond interchange

Disadvantages

- Larger footprint than Diamond interchange and Parclo-A interchange (Alternatives 1 and 2)
- Requires temporary detour and intersection during bridge construction
- Higher cost compared to Diamond interchange
- Proximity of south ramp terminal to McBain Line

LEGEND

New roadwav mit of MTO right of way Potential Property Impacts

Wellington Road Interchange Alternatives (cont'd)

Preliminary Assessment of Wellington Road Interchange Alternatives cont'd:

Alternative 4: Parclo AB

Advantages

- Maintains tangent horizontal alignment of Wellington Road
- Higher traffic capacity compared to Diamond interchange Disadvantages
- Larger footprint than Diamond interchange
- Loop ramp exit on freeways are less desirable than direct ramps
- Higher cost compared to Diamond interchange
- N/S-W ramp speed change lane would overlap with E-N/S off-ramp at Ron McNeil Road Interchange
- Requires temporary detour and intersection during bridge construction

Alternative 5: Diamond

Advantages

- Maintains tangent horizontal alignment of Wellington Road
- Smaller footprint than Parclo A
- Lower cost than Parclo A

Disadvantages

- Lower traffic capacity than Parclo A
- Requires temporary detour and intersection during bridge construction
- Potential for left-turn conflicts and potential for higher collision severity

MTO right of way Potential Property Impac

First Avenue Interchange Alternatives

Preliminary Assessment of First Avenue Interchange Alternatives:

Alternative 1: Minor Improvements Advantages

- Can utilize existing loop ramp platform
- Requires less property than Alternative 2

Disadvantages

Substandard ramp alignments

Alternative 2: Parclo A2 North, Existing Ramps South

Advantages

- R-55 loop ramp radius meets minimum standard for 80 km/h Design Speed
- New ramp alignments are consistent with new WB lanes

Disadvantages

- More relocation required for ramp terminal intersection than Alternative 1
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- Requires more property acquisition than Alternative 1

New roadway imit of MTO right of way Potential Property Impacts

Construction of Ramp E-N/S may impact existing storm sewer

The following alternatives are being carried forward for evaluation:

Highway Cross-Section

- Alternative 2: 15.0 m Median
- Alternative 3: 22.5 m Median

Highway 4 Intersection

- Alternative 2: Roundabout Offset of Highway 4
- Alternative 3: Roundabout Highway 3 Bypass to Highway 4 Mainline

Ron McNeil / Wonderland Road Interchange

- Alternative 2: Parclo A2
- Alternative 3: Parclo A3
- Alternative 6: Parclo A

Wellington Road Interchange

- Alternative 1: Parclo A4 (On Existing Alignment)
- Alternative 2: Parclo A4 (Alignment Shifted to West)
- Alternative 3: Parclo A4 (Larger Inner Loop on South Side)
- Alternative 4: Parclo AB
- Alternative 5: Diamond

First Avenue Interchange

Alternative 2: Parclo A2 North, Existing Ramps South

Property impacts associated with the improvements are anticipated. Property needs will be further identified as the study progresses and will be subject to change as the design is further refined. A property brochure is available upon request and on the project website.

Alternatives to Carry Forward

As property needs are identified, property owners will be notified.

Next Steps in the Process

The steps below will be completed following this PIC:

- comment period

Transportation Environmental Study Report

The Environmental Assessment and Preliminary Design process for the Talbotville Bypass, widening of Highway 4 and twinning of Highway 3 will be summarized in separate TESR for each project (one for the bypass, one for the twinning).

The purpose of the TESR is to describe the project, document input received from the public, external ministries, relevant stakeholders, agencies and municipalities, provide an overview of the alternatives considered during the study, document the evaluation of the alternatives, the Preferred Plan, and impacts and mitigation measures. The TESR's will be made available for a 30-day public review.

Following the Preliminary Design and TESR review period, the Detail Design process for the Preferred Plan will commence.

Complete 30-day public comment period for the SDR Review, consider and respond to the comments received Complete the evaluation of the alternatives carried forward Identify potential impacts and mitigation measures Prepare for and host PIC 2 to present and gather feedback on the evaluation of alternatives and Preferred Plan (tentatively scheduled for fall 2023) Prepare Transportation Environmental Study Report (TESR) for 30-day public

Contact by telephone:

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All media inquiries shall be directed to MTO's Communications Branch at (416) 327-1158 or mto.media@ontario.ca.

We would appreciate receiving your comments by September 15, 2023. Thank you for your interest in this study!

Freedom of Information and Protection of Privacy Act

Comments and information regarding this study are being collected to satisfy the requirements of the Ontario Environmental Assessment Act, and in accordance with the Freedom of Information and Privacy Act. With the exception of personal information, all comments will become part of the public record.

Ways to Provide Your Feedback

Visit the Study website: http://www.highway3elgin.ca/

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Ministry of Transportation, Project Delivery West