Ontario

Highway 15 at Perth Road Intersection Improvements

Preliminary Design and Class Environmental Assessment Study

GWP 4030-22-00

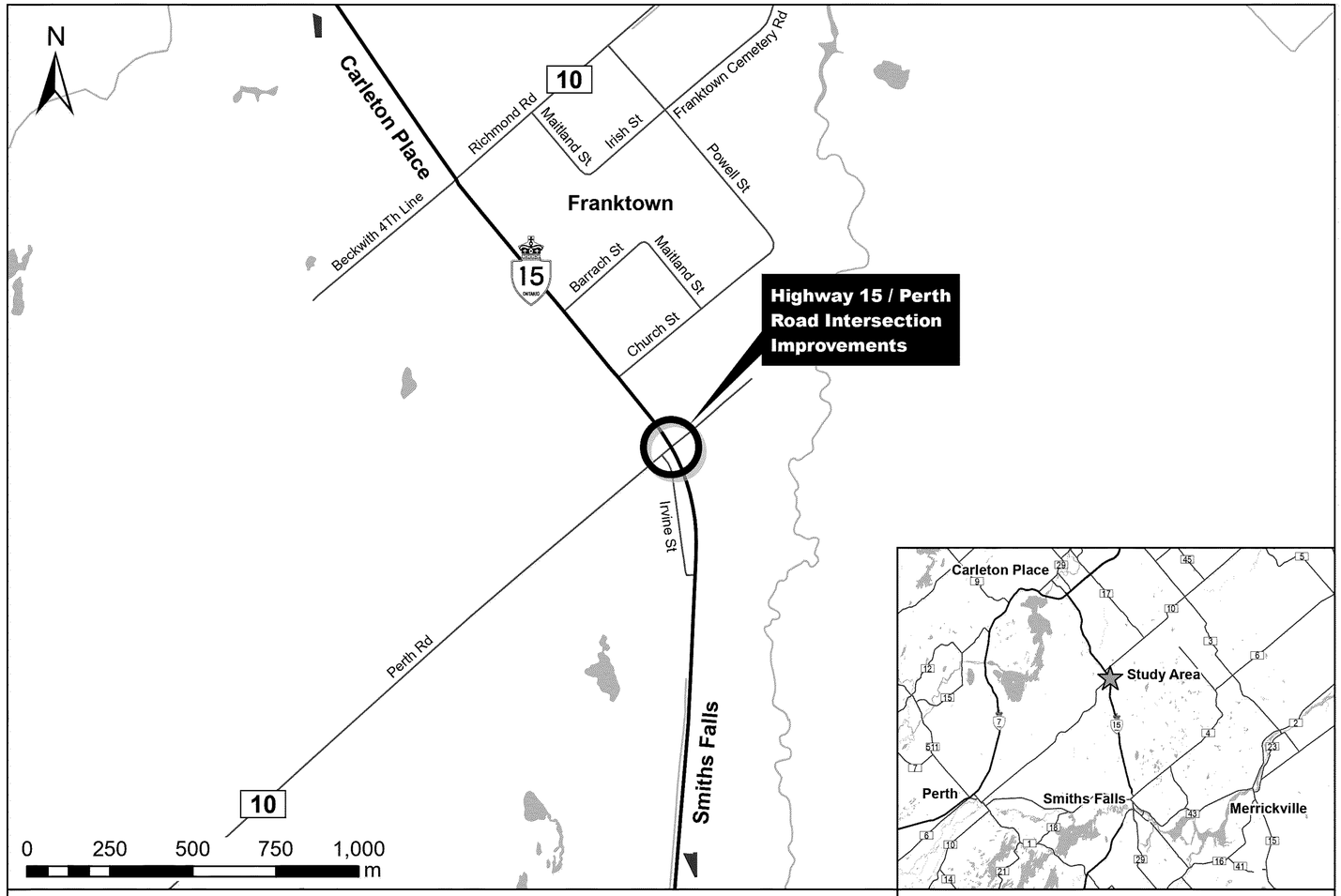
Public Information Centre #1

May 22, 2025

wsp

Study Overview

The Ontario Ministry of Transportation (MTO) has retained WSP Canada Inc. to undertake the Preliminary Design and Class Environmental Assessment (Class EA) Study for Highway 15 / Perth Road Intersection Improvements, located in Franktown, approximately 12 km south of Carleton Place, Ontario.

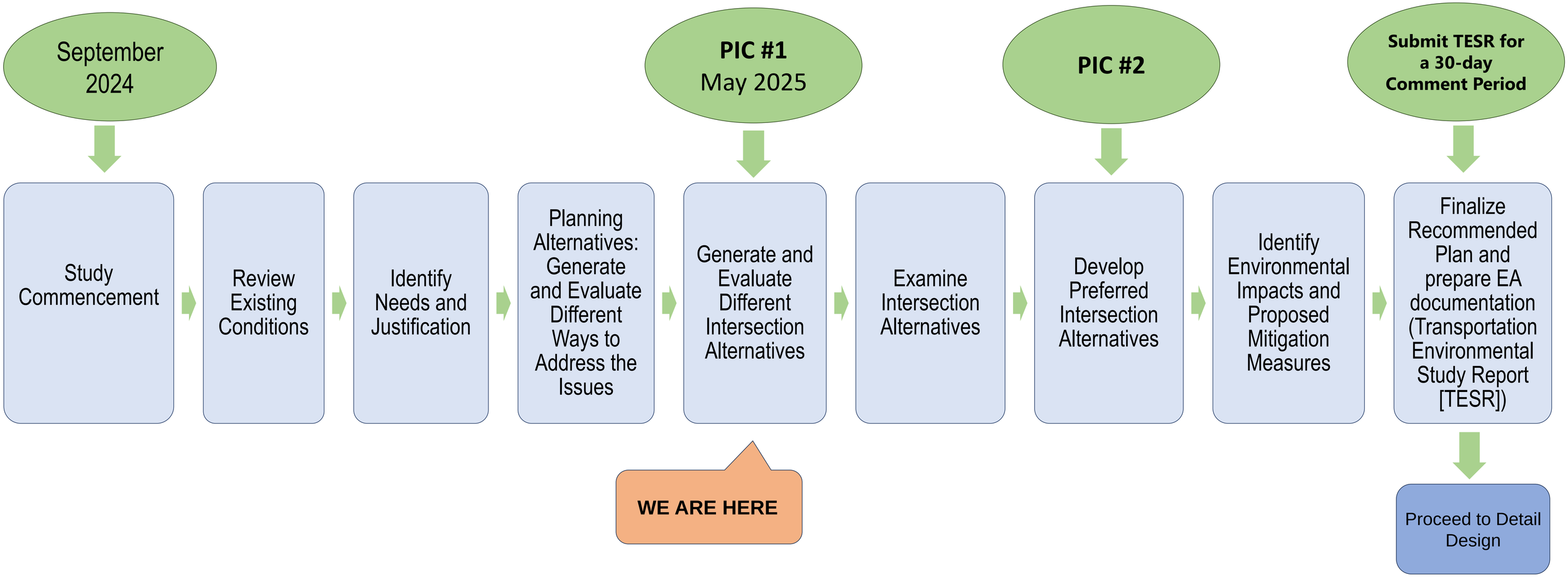


There is an adjacent separate project that MTO has also retained WSP Canada Inc. to undertake the Detail Design and Class Environmental Assessment (Class EA) Study for Highway 15 Rehabilitation from Franktown to Carleton Place in Lanark County, for approximately 10.2 km. This project is being carried out in accordance with the approved environmental planning process for Group 'C' projects under the MTO Class Environmental Assessment (Class EA) for Provincial Transportation Facilities (2000). Timing of construction will be determined based on the completion of the design, the environmental assessment, the availability of funding, and approvals.

Class Environmental Assessment Process

This project is being carried out in accordance with the approved environmental planning process for Group ‘B’ projects under the MTO Class Environmental Assessment (Class EA) for Provincial Transportation Facilities and Municipal Expressways (2024).

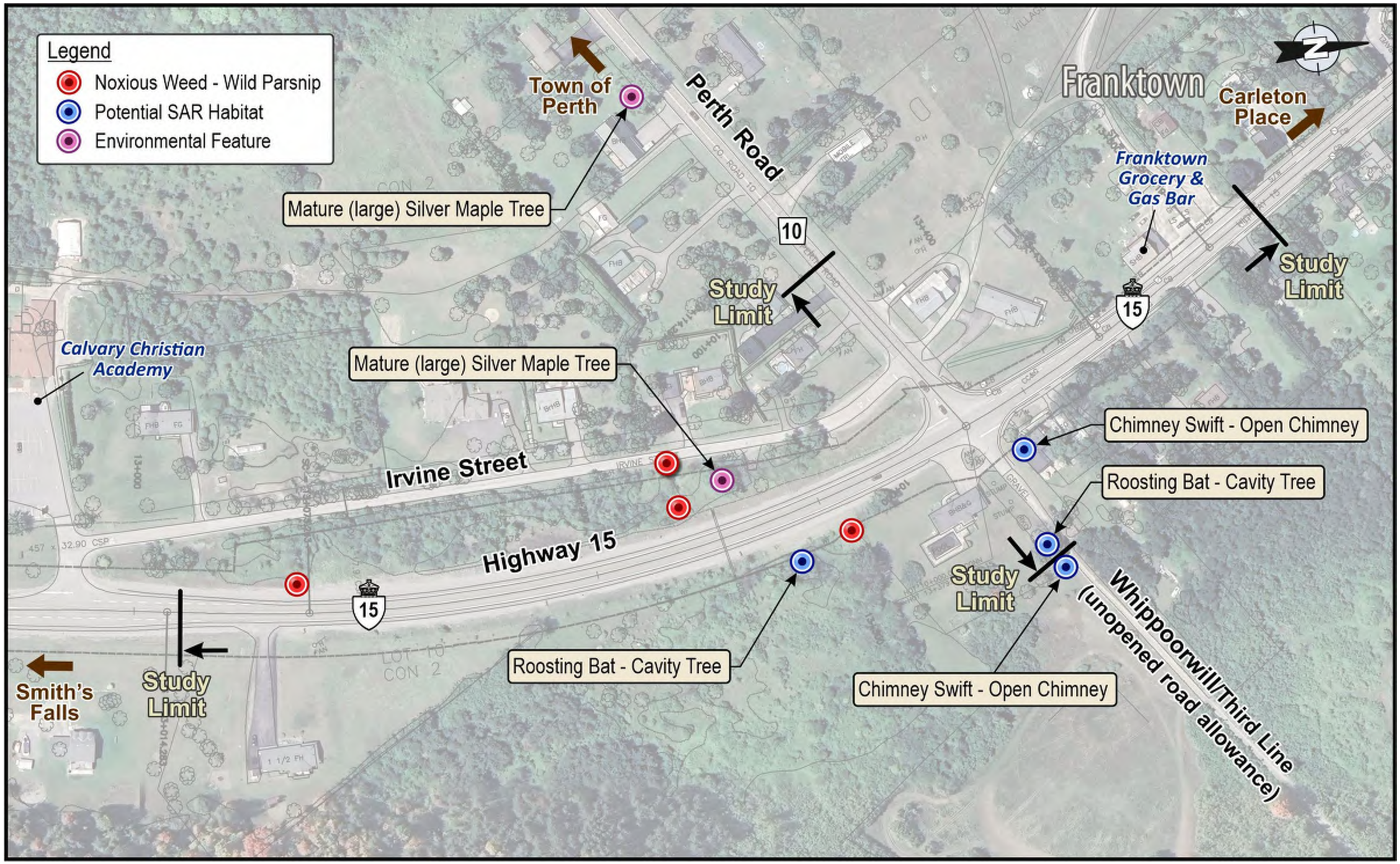
External agency, Indigenous Community engagement and public consultation has, and will continue to, take place throughout the project.



Related Policies

Beckwith Township Official Plan (OP) - September 2017	County of Lanark Transportation Master Plan (TMP) - November 2010
The Beckwith Township OP was approved in November 1989 with OP amendments completed in 2017. Future development of the Township will be primarily focused on the settlement centres of Black's Corners, Franktown, Prospect, Ashton and Gilles Corners. The growth of these communities will provide a population base to support higher levels of services and facilities. One of the initiatives that may be undertaken as part of the OP are the completion of the Franktown plan which includes primarily residential development.	The County of Lanark TMP was completed in November 2010. The TMP aims to address the long-term transportation needs of the county over a 20-year period. It focuses on improving road safety, enhancing connectivity, and promoting sustainable transportation options such as cycling and walking. The plan includes upgrading existing infrastructure, implementing new traffic management strategies, and ensuring accessibility for all residents. The Lanark TMP does not outline any specific improvements to the municipal roads within the study, however the following are of interest and related to this study: • Perth Road from Perth to Franktown has been identified as one of the county roads where farm vehicles are more prevalent. • It was identified that cycling network off-road recreational paths and existing paved shoulders on Perth Road near Franktown should be considered.

Existing Natural Environment Conditions



Overview of Environmental Studies

The Environmental Assessment includes the following studies and preliminary findings:

List of Studies

- Terrestrial Impact Assessment
- Cultural Heritage Resource Assessment
- Archaeology Assessment Stage 1
- Designated Substances Survey
- Air Quality and Greenhouse Gas Assessment Study
- Assessment of Past Uses
- Landscape Composition Memo
- Erosion and Sediment Overview Risk Assessment
- Groundwater Assessment

Cultural Heritage

A Cultural Heritage Assessment is being completed. The field review identified ten Built Heritage Resources and one Cultural Heritage Landscape within and adjacent to the Study Area.

Archaeology

A Stage 1 Archaeology Assessment was complete in Fall 2024. This identified areas in need of further investigation though the Stage 2 Archaeology Assessment.

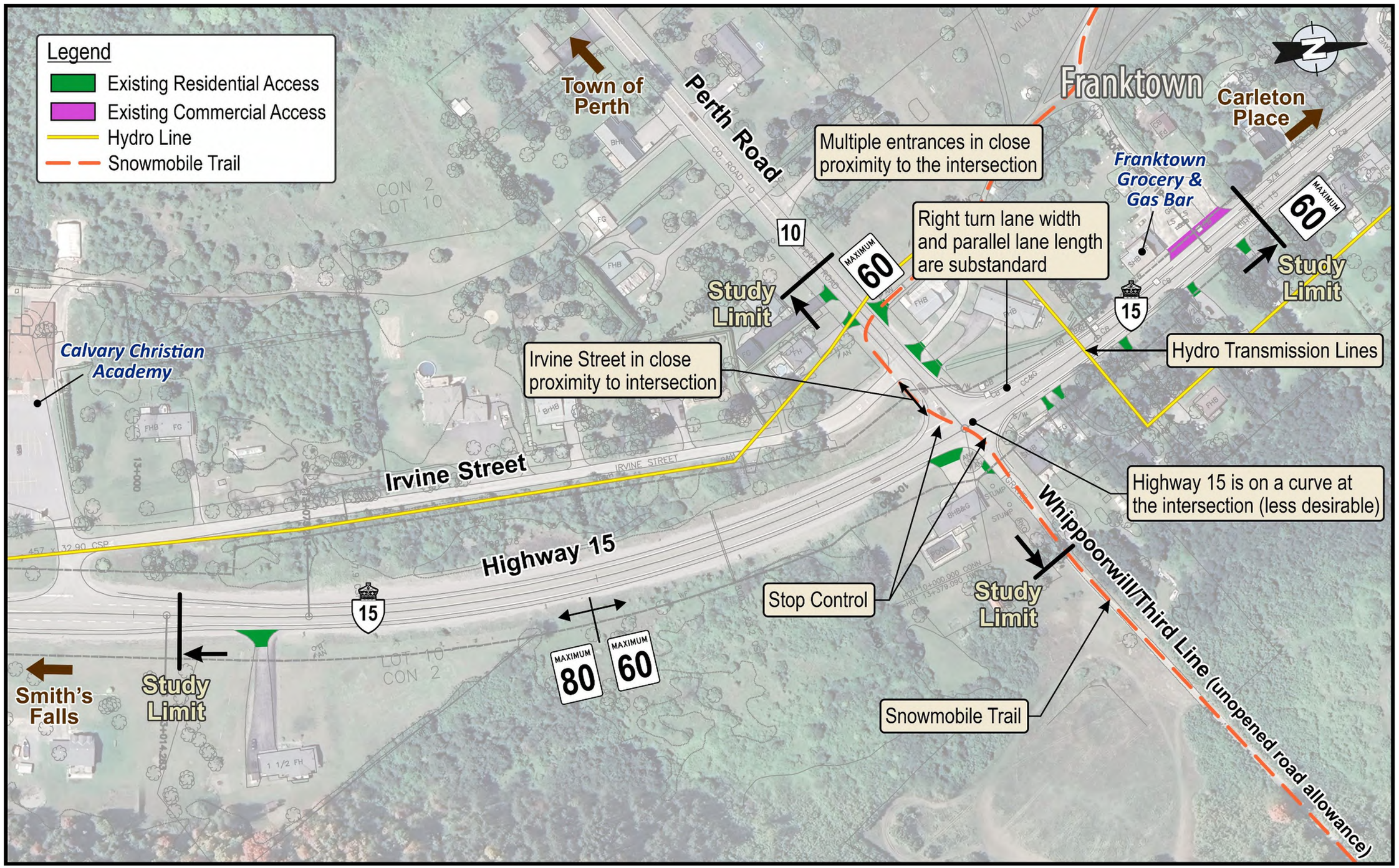
Contamination

An Assessment of Past Uses is being completed. There have been three properties within the Study Area identified with a potential for contamination.

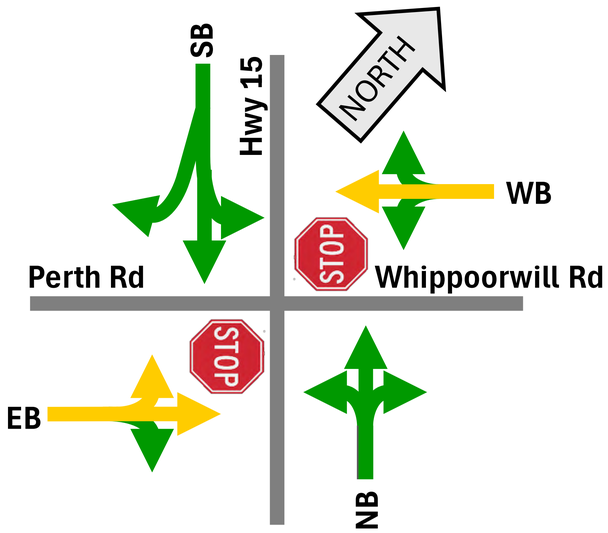
Groundwater

A Groundwater Assessment is being completed. A review of Source Water Protection shows the project area is located within a Wellhead Protection Areas (WHPA)-D, which is a 25-year time of travel with horizontal flow through the aquifer zone.

Existing Transportation Conditions



Intersection Traffic Operations

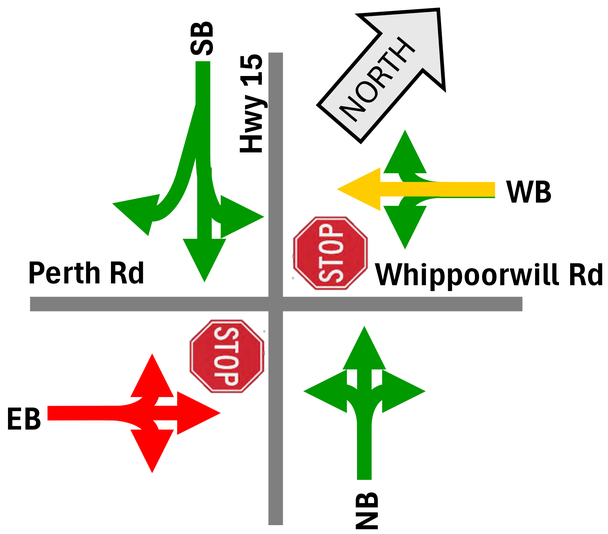


2024 Afternoon Peak Hour Existing Conditions

Performance Indicator	Intersection Movement											
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Traffic Volume	5	419	1	1	474	151	141	1	7	1	1	1
95th Percentile Queue Length (Queue length longer only 5% of the time)	10 m			2 m		8 m	30 m			5 m		
Average Delay	6 s	1 s	1 s	0 s	2 s	2 s	16 s	22 s	8 s	0 s	26 s	8 s
Level of Service	A	A	A	A	A	A	C	C	A	A	D	A

Traffic Signal Control Warrants are satisfied under existing conditions

MTO policy is to consider roundabouts as an alternative to traffic signal controlled intersections



2049 Afternoon Peak Hour Do Nothing

Performance Indicator	Intersection Movement											
	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
Traffic Volume	7	589	1	1	666	212	198	1	10	1	1	1
95th Percentile Queue Length (Queue length longer only 5% of the time)	20 m			5 m		12 m	203 m			5 m		
Average Delay	8 s	2 s	2 s	0 s	3 s	3 s	195 s	176 s	160 s	0 s	35 s	5 s
Level of Service	A	A	A	A	A	A	F	F	F	A	D	A

LEGEND

Excellent Operations

Operating Adequately

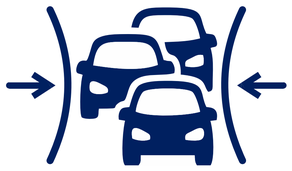
Operating near capacity; unstable conditions

Operating over capacity; breakdown of flow

Summary of Problems and Opportunities

PROBLEMS

Intersection Design



- Traffic volumes at the intersection of Highway 15 and Perth Road (County Rd. 10) in Franktown have met the warrant for signalization.
- Alignment of the north and south approaches of the intersection have been identified as possible concerns due to poor sight distances for vehicles entering from Perth Road.
- The existing configuration does not meet the current Ministry geometric design standards.

Intersection Delays

- There are traffic delays on Perth Road to the northbound of Highway 15.
- Safety and operational concerns with the current design of the intersection.

OPPORTUNITIES

Improve Future Traffic Operations

- Improve road alignments, resulting in safer operation.
- Provide better sightlines to the intersection.
- Reduce near misses and intersection conflicts.
- Opportunity to look at signalization or a roundabout approach road realignments, adding turning lanes or illumination.

Intersection Safety

- Improve road alignments, resulting in safer operation.
- Provide better sightlines to the intersection.
- Reduce near misses and intersection conflicts.

Planning Alternatives

Alternative	Description	Recommendation
Do Nothing	•Maintain existing roadway and access conditions (i.e. no new infrastructure) •Includes routine maintenance (e.g. resurfacing within existing footprint).	•Does not address any identified problems or opportunities at the intersection. **Not Carried Forward**
Transportation Demand Management	•Reduce, shift, or eliminate transportation demand (e.g. flex work hours to shift demand outside of rush hours, carpooling, alternate modes of transportation).	•On its own, does not improve operations and safety of the intersection or meet the needs of future area development. **Not Carried Forward**
Active Transportation Improvements	•Measures to improve pedestrian and cycling facilities such as sidewalks and/or bike lanes.	•On its own, does not improve operations and safety of the intersection or meet the needs of future area development. **Not Carried Forward**
Improve Adjacent Road Systems	•Upgrade adjacent roads and intersections to reduce travel demand at the intersection.	•There is significant distance between the Highway 15 and Perth Road intersection and the nearest alternative intersection. **Not Carried Forward**
Intersection Improvements at the Existing Location	•Improve operations at the existing location by either signalizing the intersection (and associated work on Irvine Street) or construction of a roundabout.	•Operational improvements to the intersection will sufficiently add capacity at the intersection and address the problem. **Carried Forward**
New/Improved Provincial Transportation Facility	•Improve existing provincial highway facilities , service, maintenance, and operations, or construct a new by-pass facility.	•Would result in significant economic implications for businesses in the hamlet, and high construction costs. **Not Carried Forward**

The Project Team is recommending that Intersection Improvements at the Existing Location be carried forward for further consideration.

Development of Alternatives: Roundabout

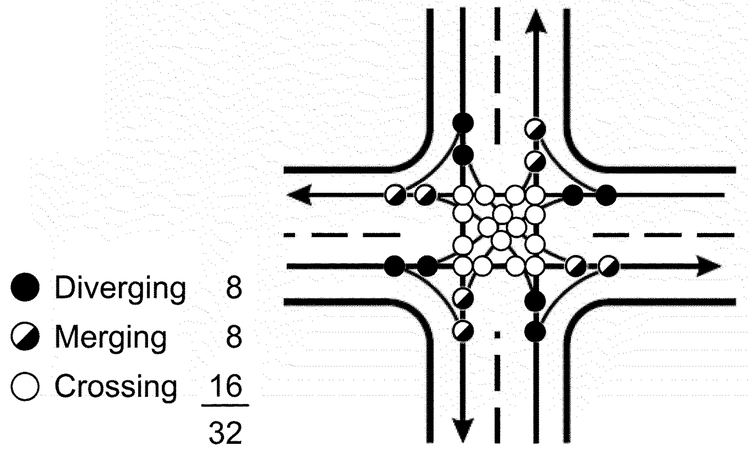
A roundabout is an alternative form of intersection traffic control that is a circular intersection with yield at entry. Roundabouts promote safe, efficient traffic flow.

Points of conflict occur when vehicles cross paths. As shown in the diagram, a traditional four-legged intersection has 32 points of conflict. A roundabout has only eight points of conflict, reducing the opportunity for collision. Roundabouts also reduce the severity of collisions by lowering vehicle speeds and eliminating right angle collisions.

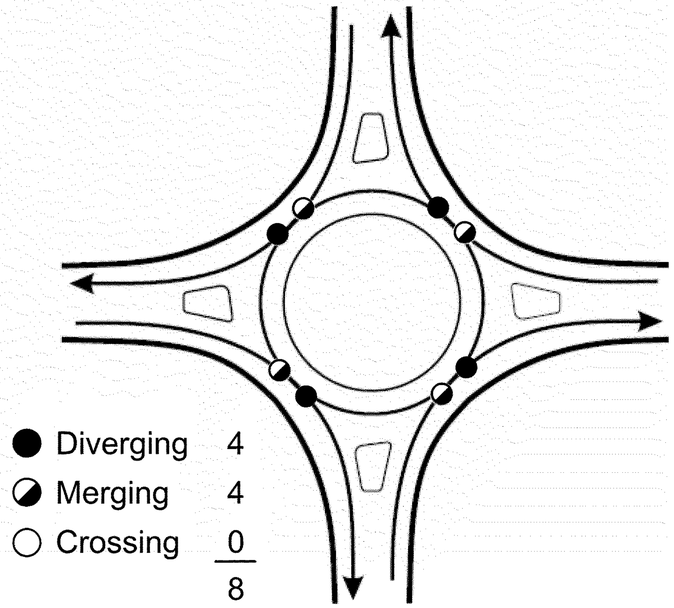
Roundabouts:

- Increases intersection capacity by reducing delays and queues;
- Reduces air and noise pollution, and fuel consumption;
- Reduces severity of collisions; and
- Provides a traffic calming effect.

Traditional Intersection



Roundabout



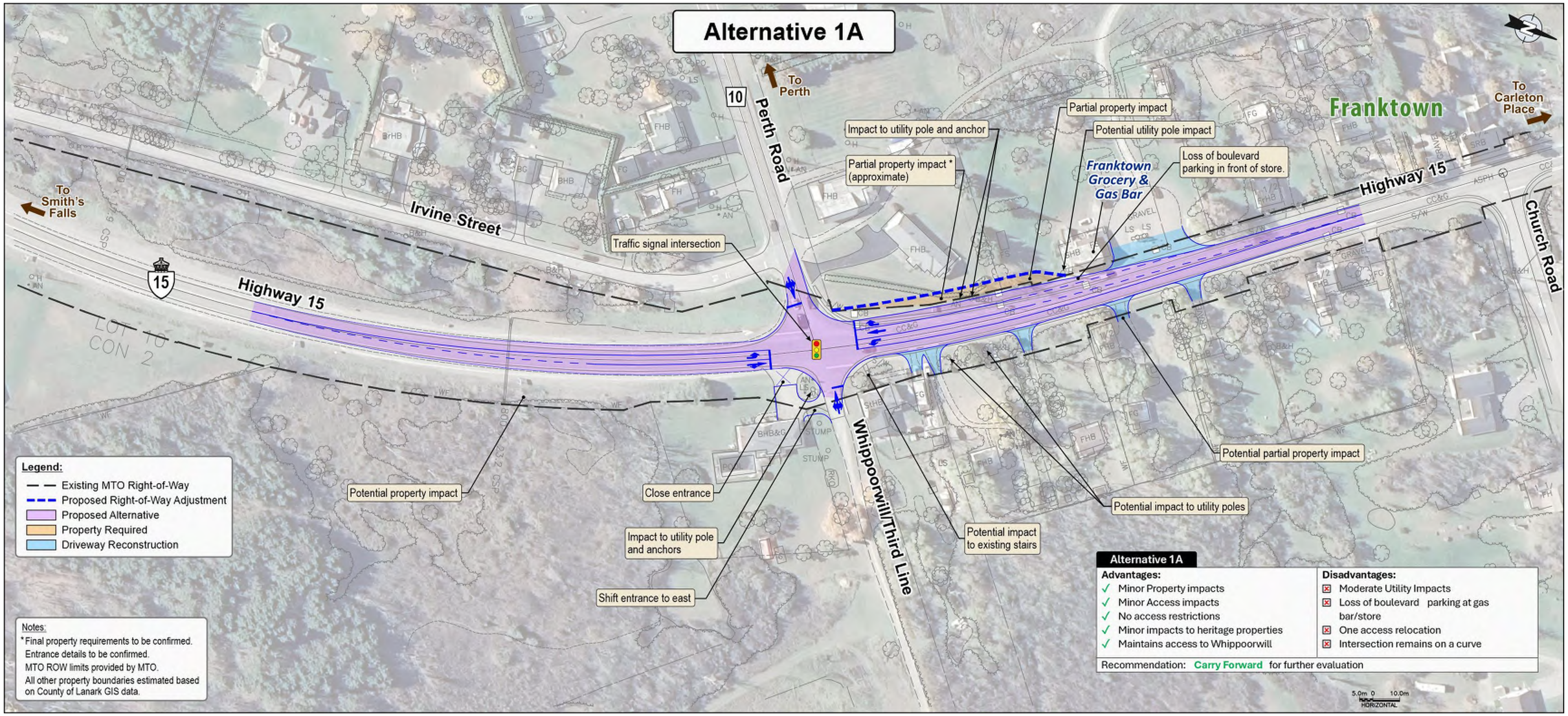
Alternatives Screening

The Project Team developed a long list of a range of signalized intersection and roundabout options (“Alternatives”) with different layouts and alignments. These alternatives address the identified problems and opportunities at the Highway 15 and Perth Road intersection and have different advantages and disadvantages.

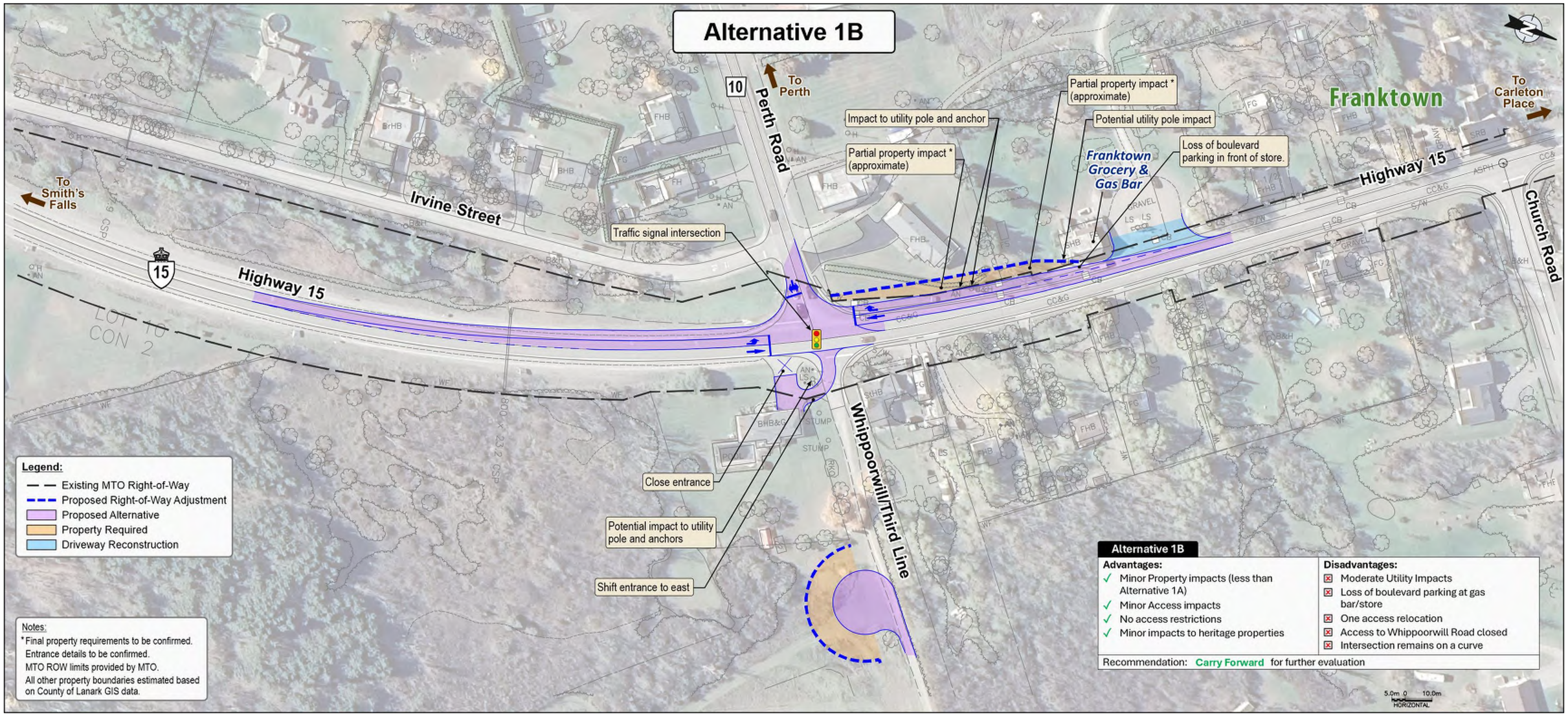
Following the development of alternatives, the Project Team screened each alternative to determine which should be carried forward for further consideration. Factors the Project Team considered included:

- Technical Feasibility (e.g. MTO standards);
- Intersection Safety;
- Property Impacts;
- Environmental Impacts;
- Access Impacts; and
- Traffic Operations.

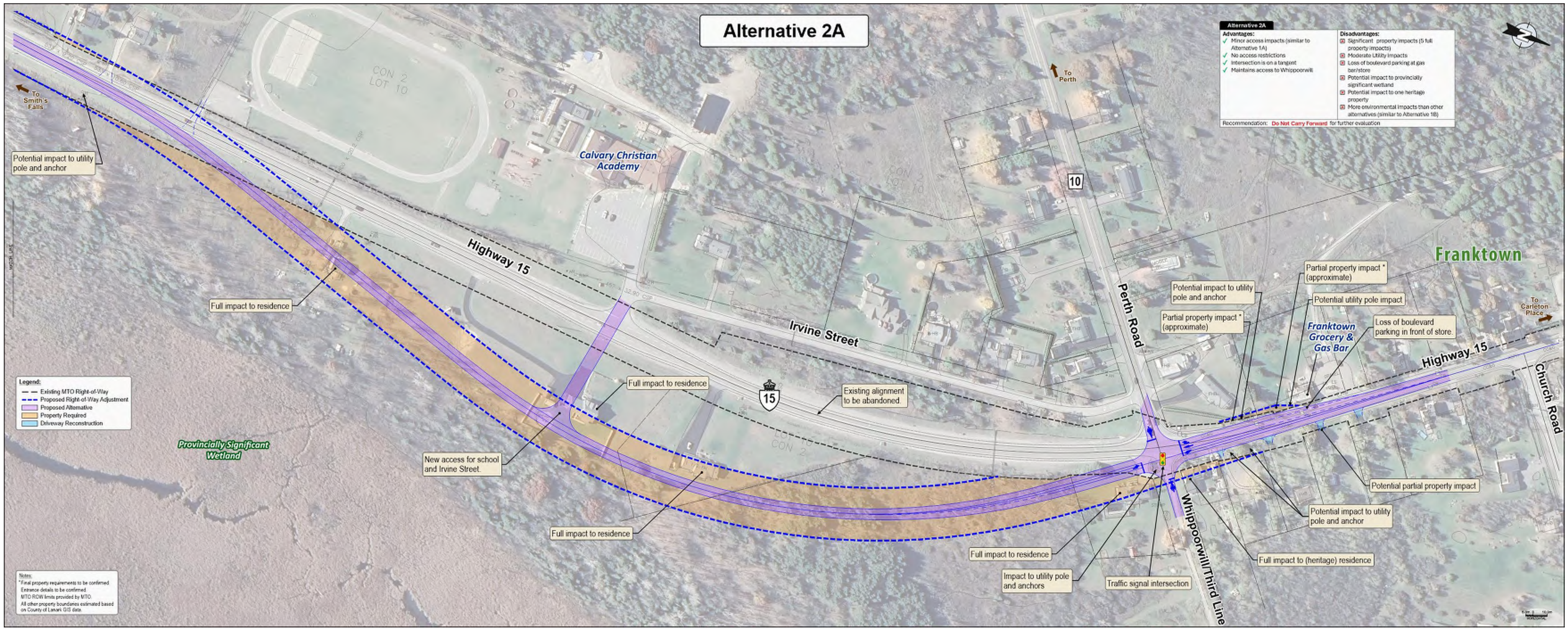
Alternative 1A (Carried Forward)



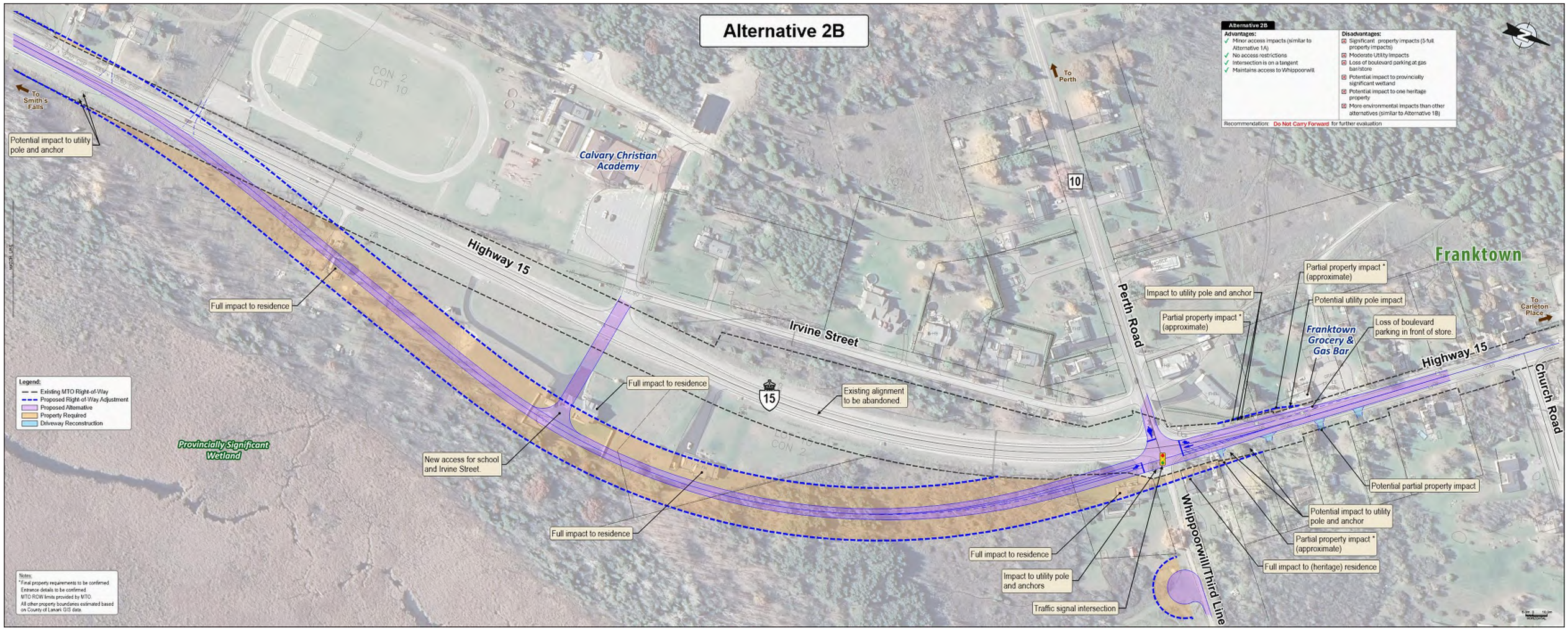
Alternative 1B (Carried Forward)



Alternative 2A (Not Carried Forward)

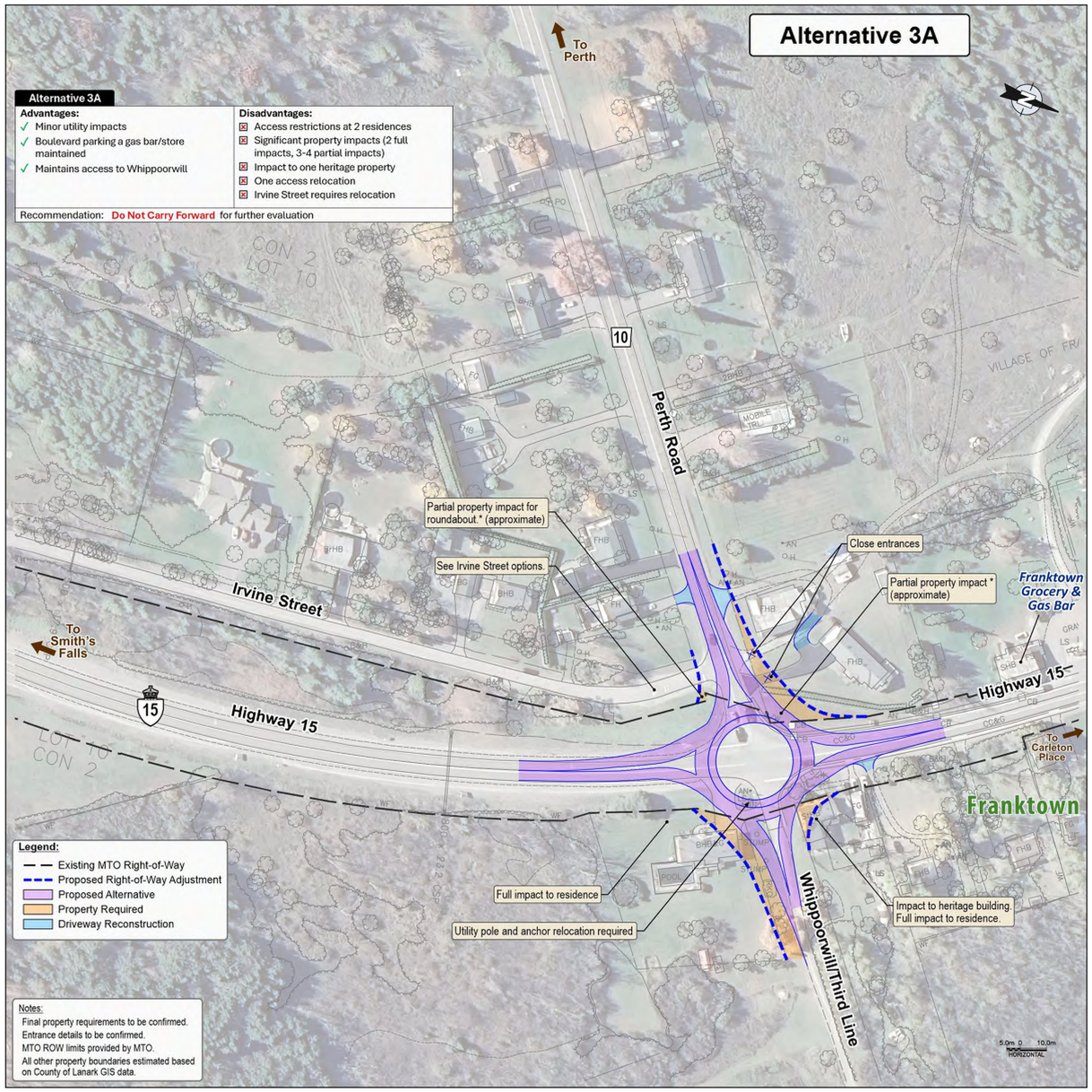


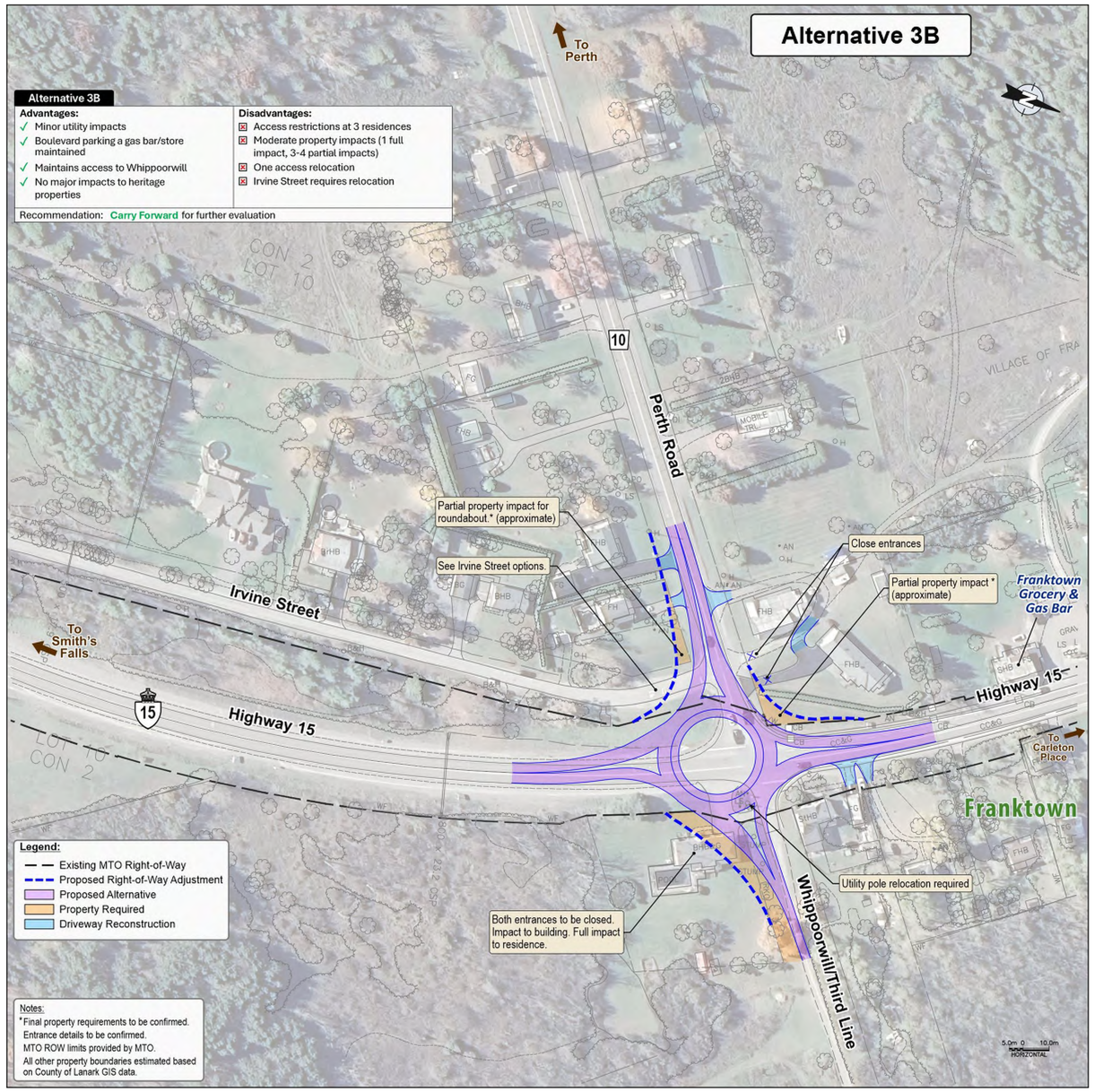
Alternative 2B (Not Carried Forward)



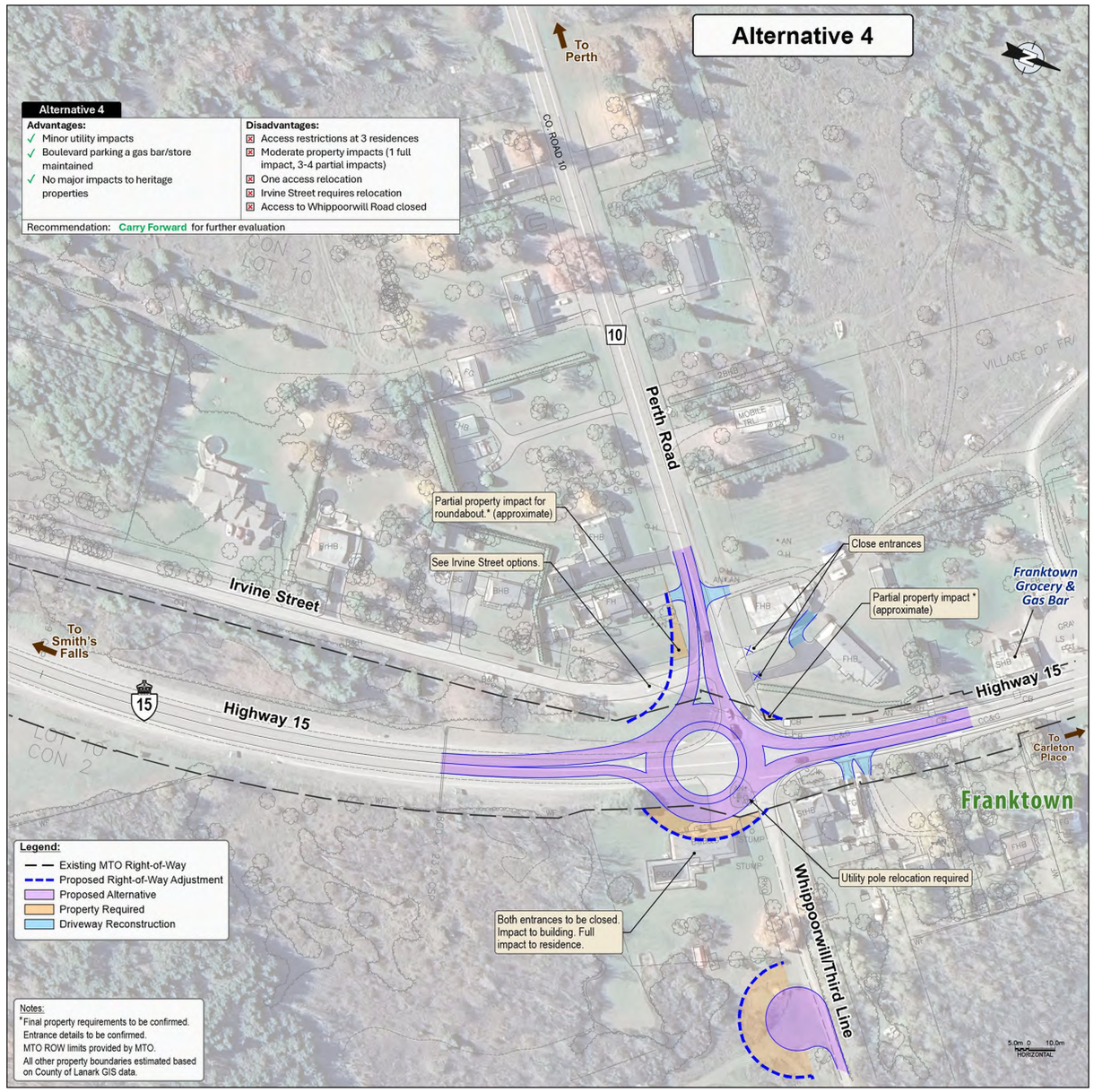
Alternative 3A
(Not Carried Forward)

Alternative 3B
(Carried Forward)

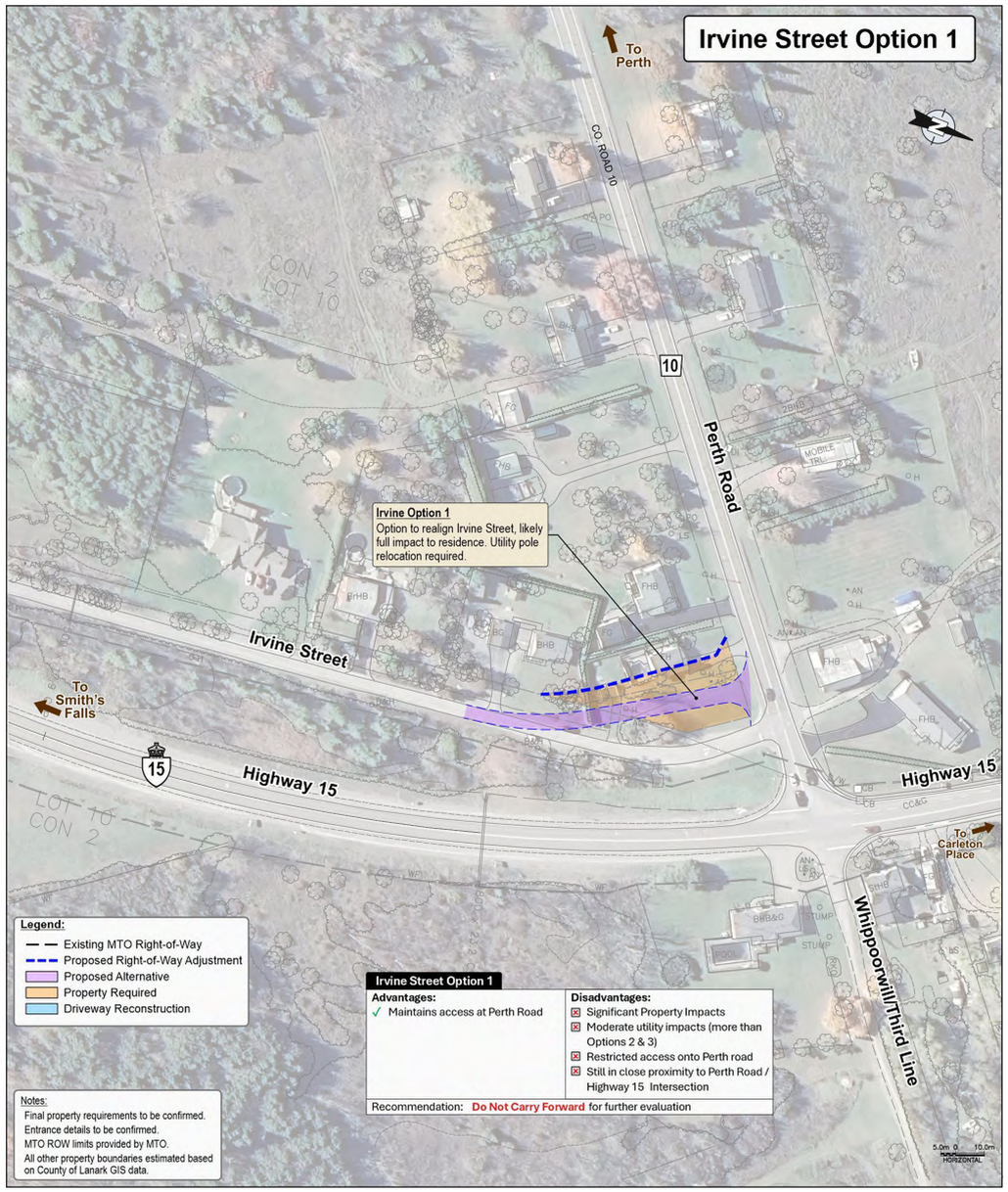




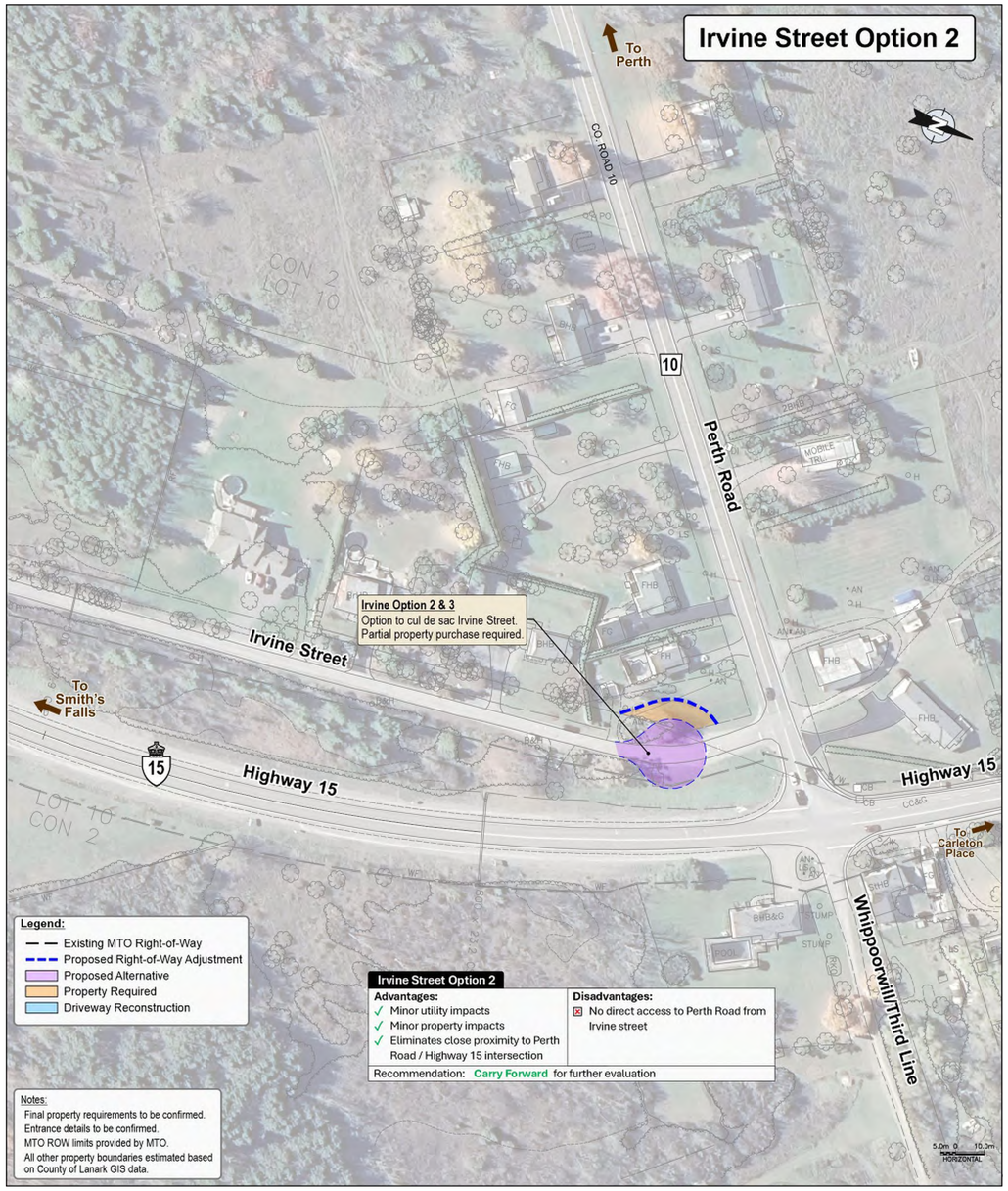
Alternative 4
(Carried Forward)



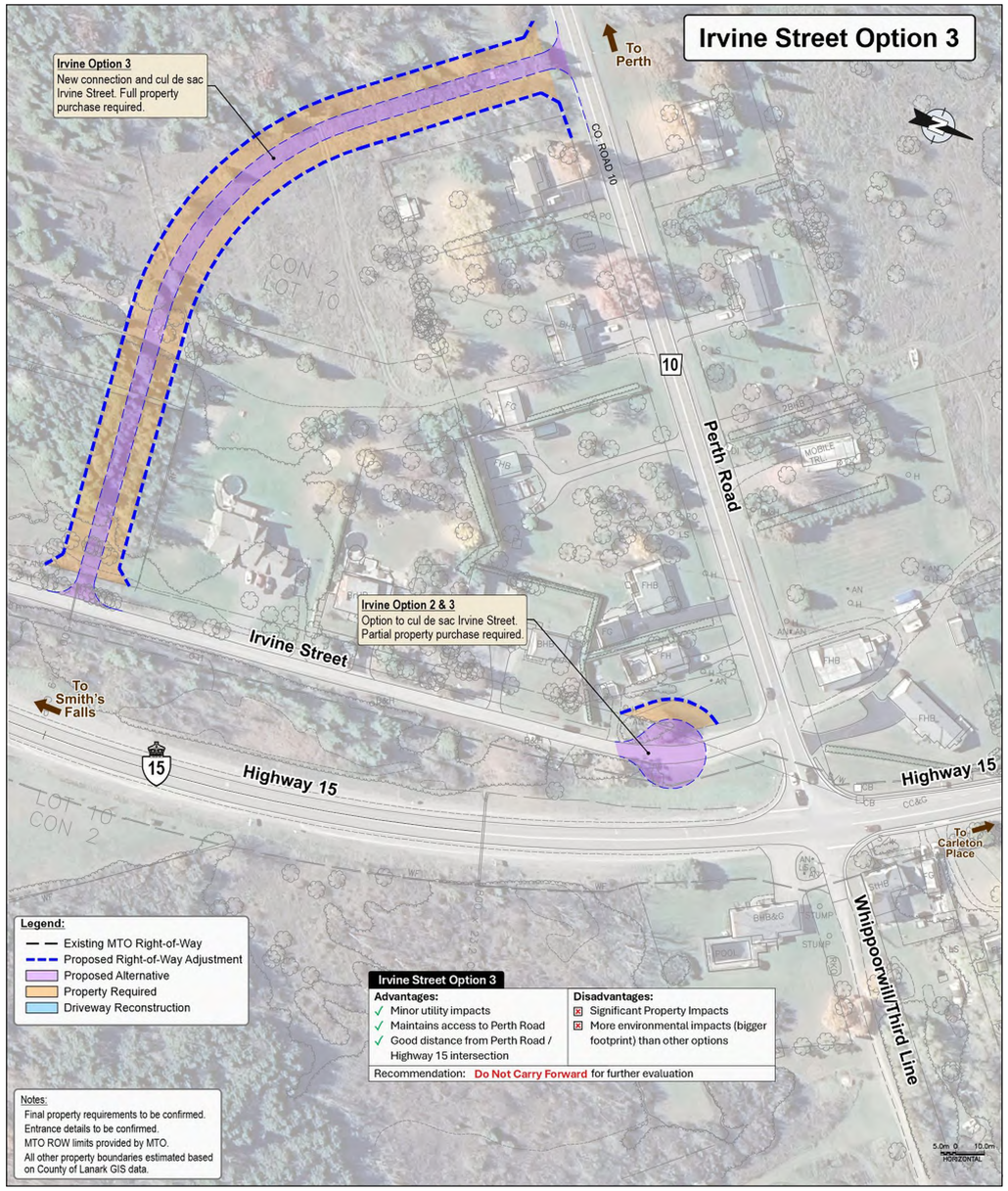
Irvine St Option 1
(Not Carried Forward)



Irvine St Option 2
(Carried Forward)



Irvine St Option 3
(Not Carried Forward)



Long List of Alternatives - Intersection

Alternative	Carry Forward?
Alternative 1A: Four-legged signalized intersection with southbound and northbound left turn lanes and southbound right turn lane.	✓ Yes
Alternative 1B: Three-legged signalized intersection with northbound left turn lane and southbound right turn lane. Whippoorwill/Third Line is not directly connected to Highway 15 and ends as a cul-de-sac at the west end.	✓ Yes
Alternative 2A: Four-legged signalized intersection with southbound and northbound left turn lanes and southbound right turn lane. Highway 15 is realigned to the south to accommodate a tangent through the intersection.	✗ No
Alternative 2B: Three-legged signalized intersection with northbound left turn lane and southbound right turn lane. Highway 15 is realigned to the south to accommodate a tangent through the intersection.	✗ No
Alternative 3A: Four-legged roundabout centred about the centre of the existing intersection.	✗ No
Alternative 3B: Four-legged roundabout shifted slightly to the south of the centred of the existing intersection.	✓ Yes
Alternative 4: Three-legged roundabout shifted slightly to the south of the centred of the existing intersection. Whippoorwill/Third Line is not directly connected to Highway 15 and ends as a cul-de-sac at the west end.	✓ Yes

Alternatives 1A, 1B, 3B and 4 *will be carried forward for consideration to the Short List of Alternatives for the Intersection.*

Long List of Alternatives – Irvine Street

Alternative	Carry Forward?
Irvine St Option 1: Realign Irvine Street to shift the connection to Perth Road approximately 20 m to the west.	✗ No
Irvine St Option 2: Terminate Irvine Street at the north end with a new cul-de-sac so there is no direct connection to Perth Road.	✓ Yes
Irvine St Option 3: Terminate Irvine Street at the north end with a new cul-de-sac (which is shown in Option 2) and build a new connection road from the mid point of Irvine Street to Perth Road approximately 250 m west of the Perth Road and Highway 15 Intersection.	✗ No

The 'Do Nothing' and Option 2 will be carried forward for consideration at Irvine Street.

Note: The 'Do Nothing' option for Irvine Street will be carried forward for the signalized intersection only. This option is not feasible for the roundabout option.

Next Steps: Approach to Evaluating the Short list of Alternatives

Refine Evaluation Criteria established through public input, similar projects, provincial guidelines, and existing conditions. Refer to the following slide for preliminary criteria.

Identify potential impacts on the natural, cultural and socio-economic environments, and technical and financial criteria.

Rank alternative designs according to their relative advantages and disadvantages.

Identify a **preferred alternative**.

PIC #2 will present the evaluation of the short-list of alternatives and a preferred plan for this project.

Next Steps: Preliminary Evaluation Criteria

The qualitative evaluation of the short-list of alternatives will identify the **preferred alternative** that best meets future transportation needs of the intersection, while minimizing negative impacts to the social, economic and natural environments. The below preliminary evaluation criteria will be refined and used to evaluate the short-list of alternatives.

Evaluation Criteria

Socio-Economic

- Impacts to private properties.
- Direct and indirect impacts to residents and businesses.
- Access for local residents, school buses and emergency vehicles.
- Traffic noise effects on adjacent residential areas.
- Relocation and/or closure of existing entrances

Natural Environment

- Direct and indirect impacts on wetlands.
- Direct and indirect impacts on species at risk.
- Direct and indirect impacts on terrestrial ecosystems.
- Storm water drainage.

Cultural Heritage

- Direct and indirect impacts to built heritage features.
- Direct and indirect impacts to cultural landscapes.
- Impacts to archaeological resources.

Transportation / Technical

- Ability to accommodate future traffic forecasts.
- Forecasted traffic performance.
- Improvements to substandard geometrics and intersection design.
- Cost.
- Constructability/traffic staging.

What's Next?

Review the comments received following PIC #1 and respond to comments;

Incorporate any refinements into the planning alternatives based on public and agency input;

Complete the analysis and evaluation of the planning alternatives and select the preferred alternative; and

Hold PIC #2 later in the study to present and receive feedback on the results of the evaluation process and the preferred alternative.

We'd love to hear from you!

Please feel free to submit comments through the project website or by sending your comments to one of the Project Team members listed below. Comments would be appreciated by June 21, 2025.

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Thank you for your time and participation
Information presented today is available online at the study website:
www.hwy15perthroadintersection.com

Ontario

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