

hwy401quintewest.ca

Highway 401

Quinte West

Planning, Preliminary Design, and Class Environmental Assessment Study

GWP 4027-18-00







Sign In



Chat with Project Team



Fill out a comment sheet



Let us know if you have any accessibility needs

Welcome to Public Information Centre 1

The purpose of this PIC is to present and gather your feedback on the:

- The study area
- Study overview and the process being followed
- Background information on the need for the improvements
- Bridge and structural culvert rehabilitation/replacement alternatives, interchange alternatives, and future Highway 401 footprint for six and eight lanes alternatives that will be evaluated as part of this project
- Existing conditions in the study area (i.e., natural, social, economic, and cultural)
- Evaluation process and evaluation criteria
- Answer questions about the study



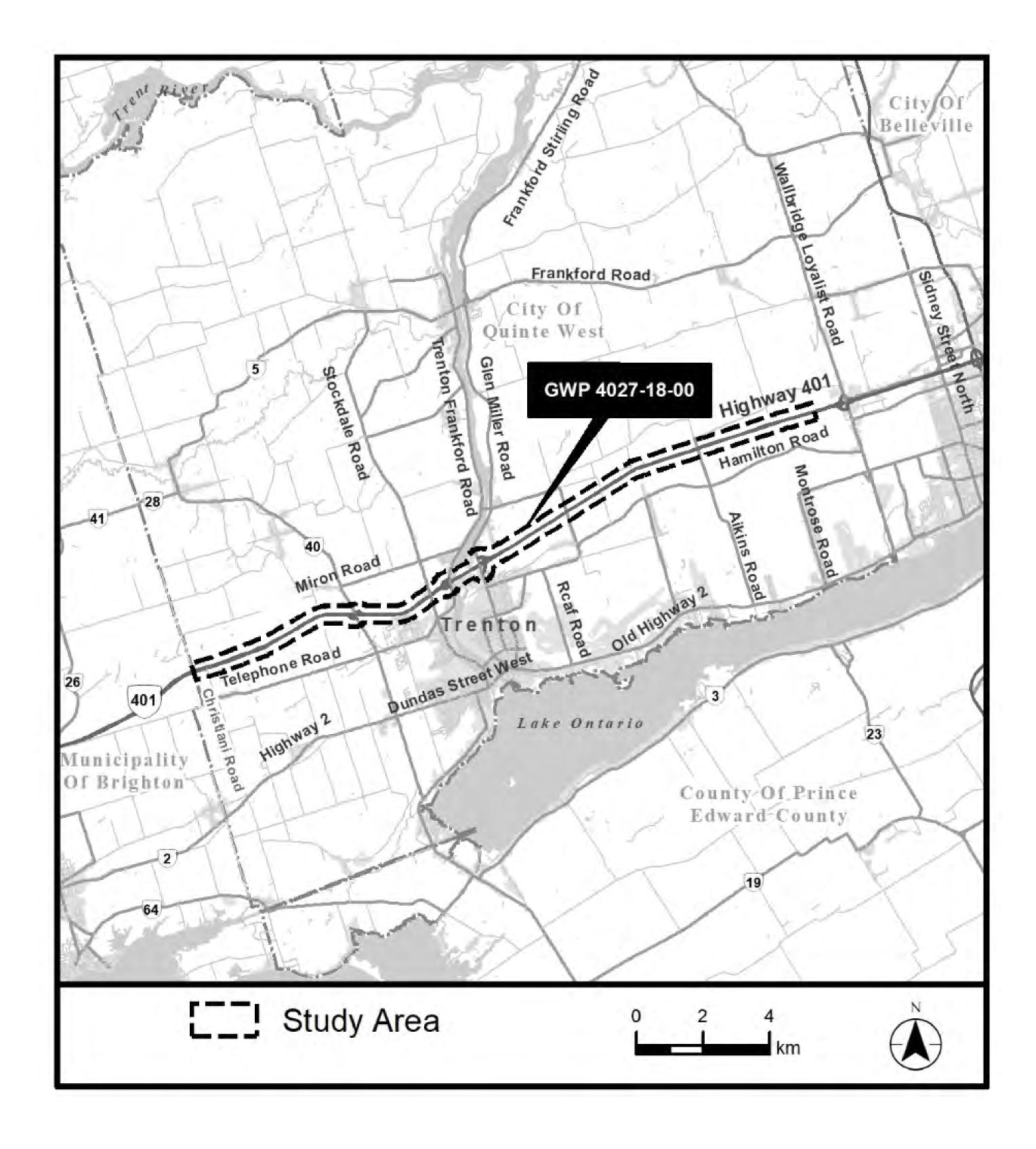


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About the Project

The Ontario Ministry of Transportation (MTO) has retained Stantec Consulting Ltd. to undertake a Planning, Preliminary Design, and Class Environmental Assessment (Class EA) Study on Highway 401 for the replacement and rehabilitation of bridges and culverts, interchange modifications, and identifying the future Highway 401 footprint for an interim six lanes and ultimate eight lanes, from 0.4 km west of Christiani Road to 1 km west of Wallbridge Loyalist Road (approximately 20 km) which includes the following:

- Replacement and/or rehabilitation of bridges and structural culverts
- Interchange modifications at Wooler Road, Glen Miller Road and County Road 33
- Establishing the Highway 401 future footprint for interim
 6-lanes and ultimate 8-lanes
- Commuter parking lot expansions or relocations



Highway 401 is a controlled-access 400-series provincial highway that connects southwestern Ontario (Windsor) to Quebec, a total of 830 km. The highway, and with the structures along it, was built in the 1950s and 1960s. Locally, Highway 401 connects the communities of Quinte West to Belleville and Brighton.

As part of this study, the project team will review existing conditions, develop and evaluate alternatives, identify appropriate improvements, and develop environmental protection and mitigation measures. At the completion of the study, a recommended plan for the Highway 401 study area will be confirmed and designated (i.e. protected).





Challenges and Opportunities

The purpose of this study is to identify a recommended plan that addresses current and future transportation needs in the study area as part of the Ministry's ongoing review of safety and operational needs for the provincial highway network.

This study has been initiated to address the following challenges and opportunities:

Challenges

- Many of the bridges and culverts in the study area are nearing the end of their service life and will require rehabilitation and/or replacement in the near future
- The existing Highway 401 platform cannot accommodate the traffic staging required to rehabilitate or replace the bridges and structural culverts

Opportunities

- The study will assess the existing bridges and culverts in the study area and develop appropriate rehabilitation or replacement strategies to maintain the safe operation of the Highway 401 corridor for the current and future planning horizons
- For structural planning purposes the study will establish the future Highway 401 footprint for six and eight lanes, to ensure an appropriate design of the replacement bridges

Alternatives to the Undertaking

The Class EA process requires that 'reasonable alternatives' be considered to address identified problems. This involves two levels of analysis. The Alternatives to the Undertaking considers a broad range of alternatives that could address the project needs. The Alternatives to the Undertaking identified for this study are listed below:

Alternatives to the Undertaking

Does it address the problem?

Do Nothing

Rehabilitate existing bridges and culverts, or replace existing structures with no accommodation for the Highway 401 future footprints for interim six and ultimate eight lanes



Does not address structural replacement and future transportation needs.

Do not carry forward.

Transportation Demand Management (TDM)

TDM shifts demands on the highway network by shifting demands to the time periods outside of the critical congestion periods and shift demands to alternative modes of transportation.



Does not address structural replacement and future transportation needs.

Do not carry forward.

Improve Adjacent Road Systems

Expansion of existing municipal and regional road networks



Does not address structural replacement and future transportation needs.

Do not carry forward.

Improved Provincial Transportation Facility

Replace existing bridges and culverts to accommodate the Highway 401 future footprints of interim six and ultimate eight lanes



Addresses structural replacement and future transportation needs.

Carry forward.

Environmental Assessment Process

This study is being carried out under the requirements of the Class Environmental Assessment for Provincial Transportation Facilities (2000), which has been 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. The study is following a Group 'B' process, which includes major improvements to existing provincial transportation facilities.

At the end of the study, a Transportation Environmental Study Report (TESR) will be prepared and made available for a 30-day public comment period.

Class Environmental Assessment Process

For Group 'B' Projects

Ongoing Transportation Needs Assessment



Ongoing Public Consultation

Need Identified

Preliminary Design

Data Collection

Review available background information and conduct field investigations as required to identify existing conditions in the study area

Generate & Evaluate

Develop preliminary design alternatives to address structural needs, improve the highway safety and operations, and consider potential impacts to the existing natural, social, and cultural environment to identify a preferred plan

Select

Identify the preferred plan and mitigation measures to address potential impacts

Refine

Complete preliminary design of the preferred plan including a potential implementation strategy

Report

Document the process leading to the preferred plan

Clearance

The Class EA requirements are met and the project is cleared to proceed to detail design

Future Stages

Detail Design

Construction

Consultation during Preliminary Design



Study Commencement Notifications and project website (September 2022)
Newspaper Notice published September 15, 2022



Municipal Advisory Committee Meeting 1 (February 1, 2024)



Public Information Centre 1 (February 22, 2024)



we are here



Municipal Advisory Committee Meeting 2 (TBD)



Public Information Centre 2 (TBD)



Transportation Environmental Study Report 30-day public comment period

30-day Minister of Environment, Conservation and Parks Review



Consultation during Detail Design (timing to be determined)



Consultation during Construction (timing to be determined)

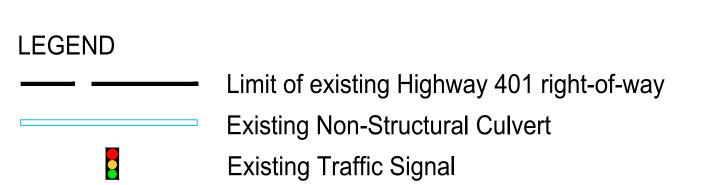
Existing Study Area Conditions

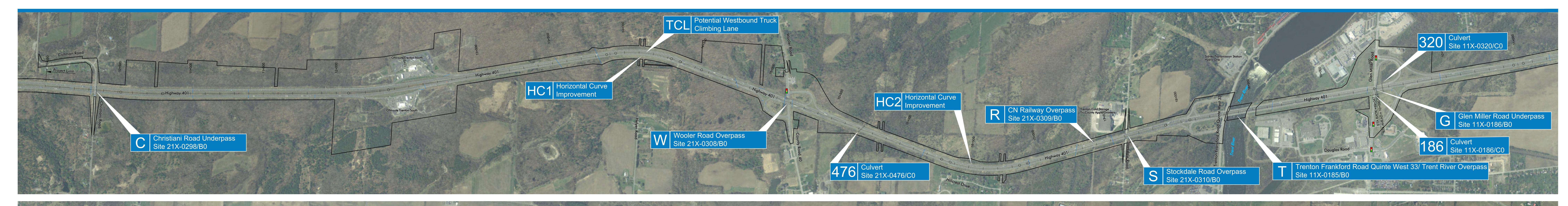


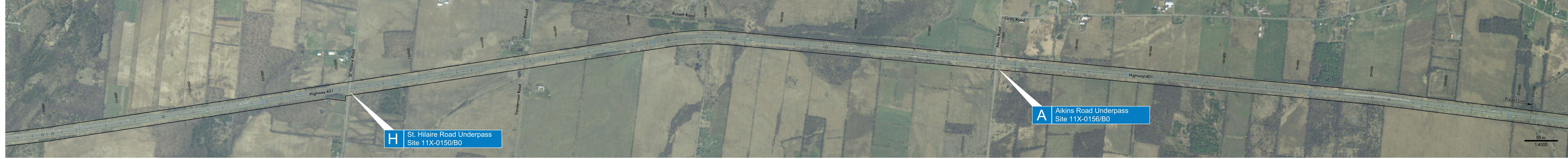
- Highway 401 has a posted speed of 100 km/h and design speed of 120 km/h and is classified as an east-west, rural, four-lane, divided freeway, located within the City of Quinte West in Hastings County
- The study area is a mix of agricultural, rural-residential, industrial and urban land uses
- The surrounding landscape contains potential built heritage resources, including residences, farmsteads, and barns
- Areas with the potential for the recovery of archaeological resources are present
- 27 watercourse crossings identified in the study area
- The Trent River supports significant fish habitat and species at risk
- Candidate Significant Wildlife Habitat for a number of species have been identified
- Aquatic and terrestrial species at risk have been recorded in the study area
- Terrestrial, fisheries, archaeological, built heritage, contamination, groundwater, and landscape existing conditions investigations and reports will be undertaken as part of this study

Project Overview

Highway 401 Quinte West Planning Study GWP 4027-18-00









The bridges within the study area are approaching the end of their service life and will need to be replaced. The new bridges will need to accommodate the future Highway 401 footprint for interim six lanes and ultimate eight lanes.

> for more details, see Bridge Improvement Alternatives The following structures are being assessed:

- Christiani Road bridge over Highway 401
- R Highway 401 bridge over CN Railway
- S Highway 401 bridge over Stockdale Road
- Highway 401 bridge over Trent River / Trenton Frankford Rd Quinte West 33
- Glen Miller Road bridge over Highway 401
- St. Hilaire Road bridge over Highway 401
- Aikins Road bridge over Highway 401



Highway 401 Improvements

The study includes establishing the future Highway 401 footprint for the interim six lane and ultimate eight lane configurations.

> for more details, see

Highway 401 Alternatives (Sections 1-5)





HC1 & HC2 Horizontal Alignment Improvement Alternatives



Interchange Improvements

Existing interchanges at Wooler Road (County Road 40), Trenton Frankford Road Quinte Road 33, and Glen Miller Road may need to be reconfigured to accommodate the Highway 401 footprint for the interim six lanes and ultimate eight lanes and future transportation needs.

- > for more details, see:
- W Wooler Road (CR 40) Interchange Alternatives
- T Trenton Frankford Road Quinte West 33 Alternatives
- G Glen Miller Road Interchange Alternatives



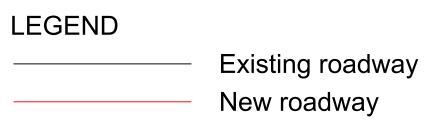
There are three structural culverts (Station 15+716 Murray Township and Stations 10+057 and 20+133 Sidney Township), which are approaching the end of their service life and will need to be rehabilitated or replaced. The culverts will need to accommodate the future Highway 401 footprint for interim six lanes and ultimate eight lanes.

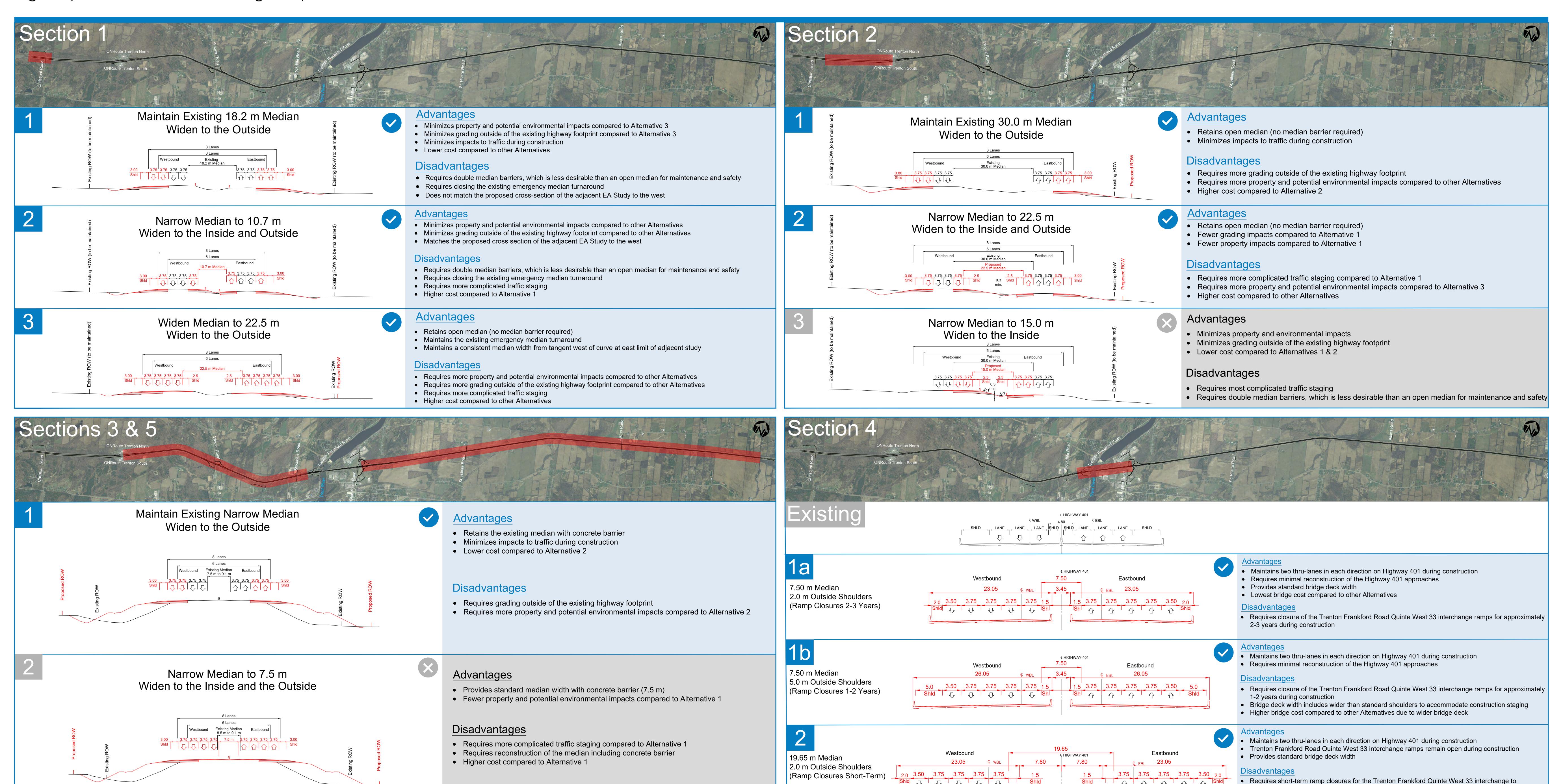
>for more details, see: Drainage Improvements Plan

476 Culvert 21X-0476/CO 186 Culvert 11X-0186/CO 320 Culvert 11X-0320/CO

Highway 401 Alternatives

Highway 401 Quinte West Planning Study GWP 4027-18-00





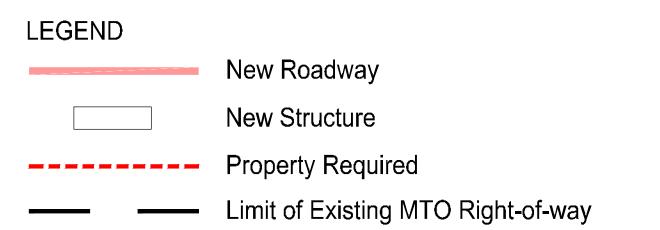
Stanted

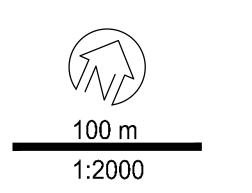
Requires significant reconstruction of the Highway 401 approaches

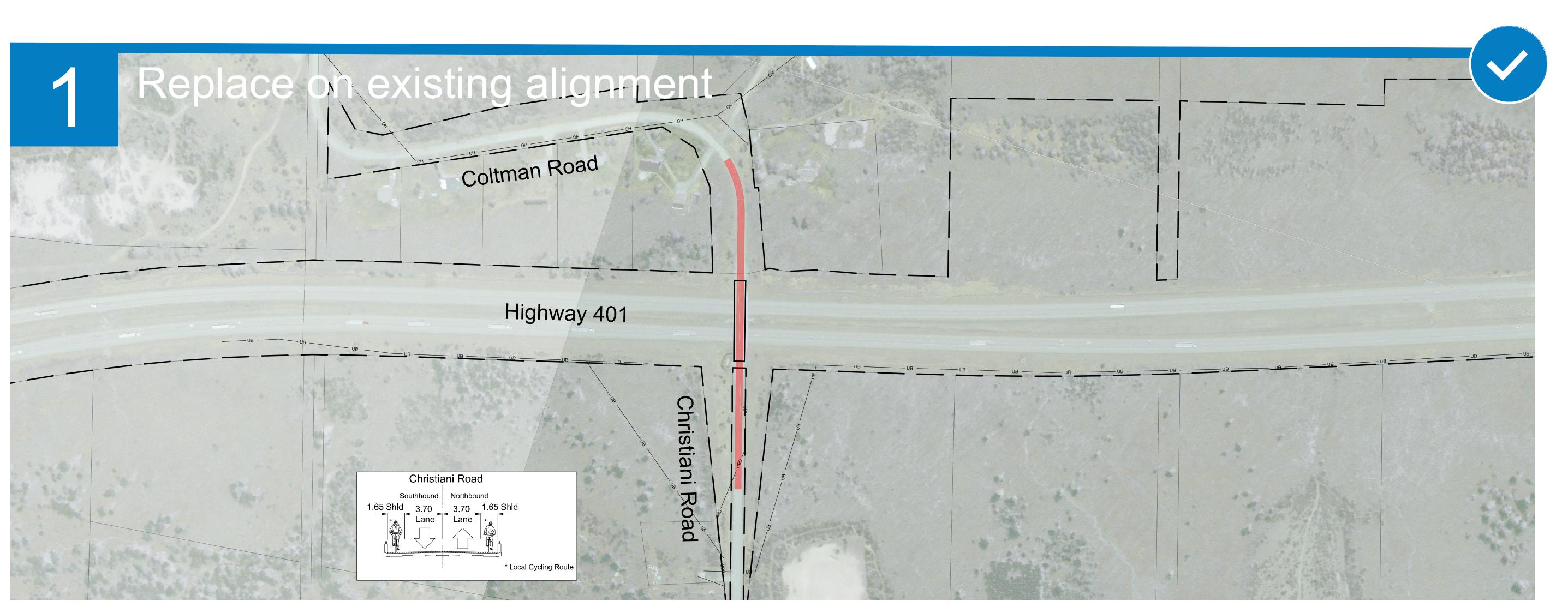
Highest cost compared to other Alternatives due to the reconstruction of the Highway 401 approaches

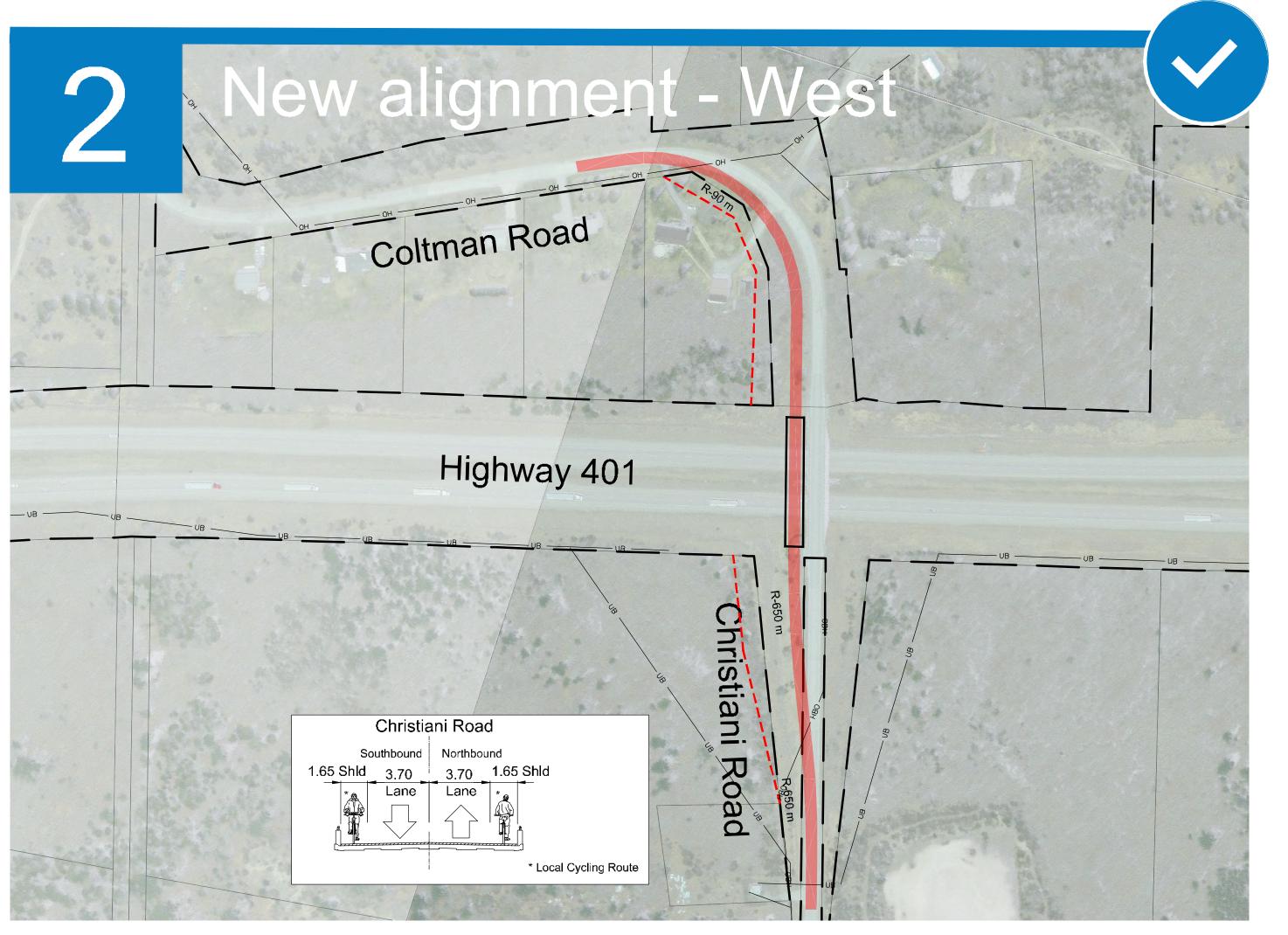
Christiani Road

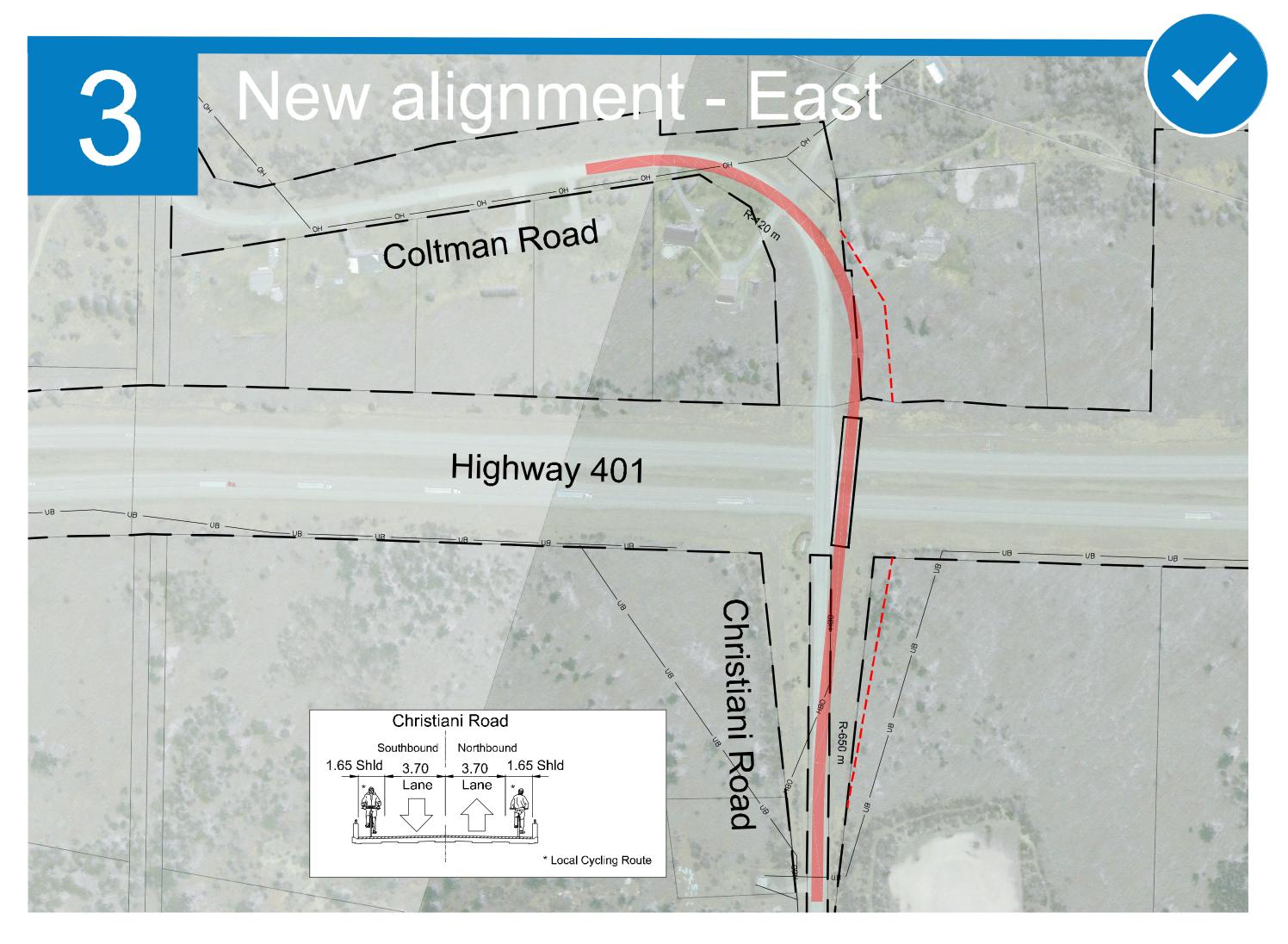
Bridge Improvement Alternatives











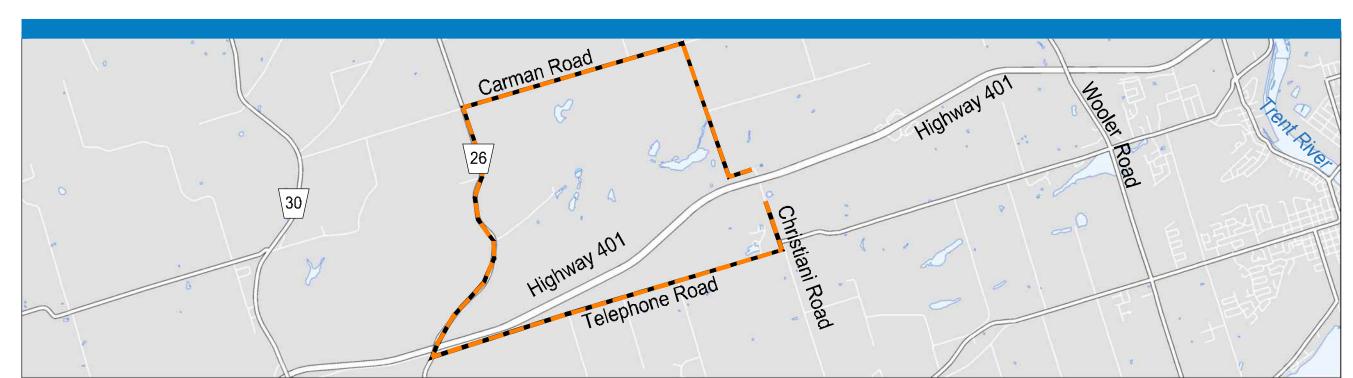
A range of alternatives for replacing this bridge have been developed. A preliminary screening has been carried out to identify the alternatives that should be carried forward for further consideration.







Bridge closed with detour



Advantages

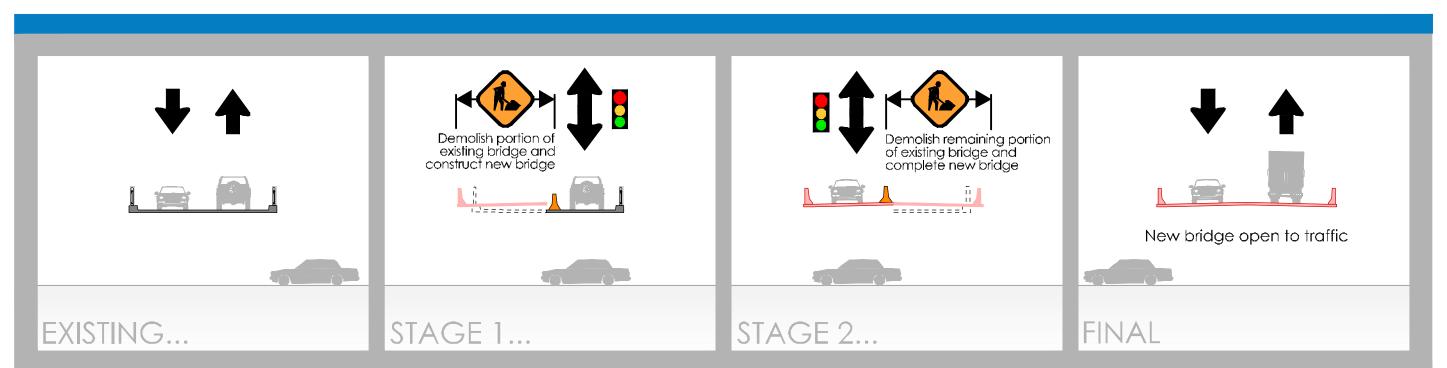
- Retains existing alignment of Christiani Road
- No property required
- Fewer utility impacts compared to Alternatives 2 and 3
- Faster method of construction compared to staged construction with single lane
- Lower construction staging cost compared to keeping bridge open during construction

Disadvantages

 Introduces up to 16 km of travel for traffic to cross Highway 401 via detour route

Note: The final detour route will be confirmed in consultation with the affected municipalities.

Bridge open with single lane



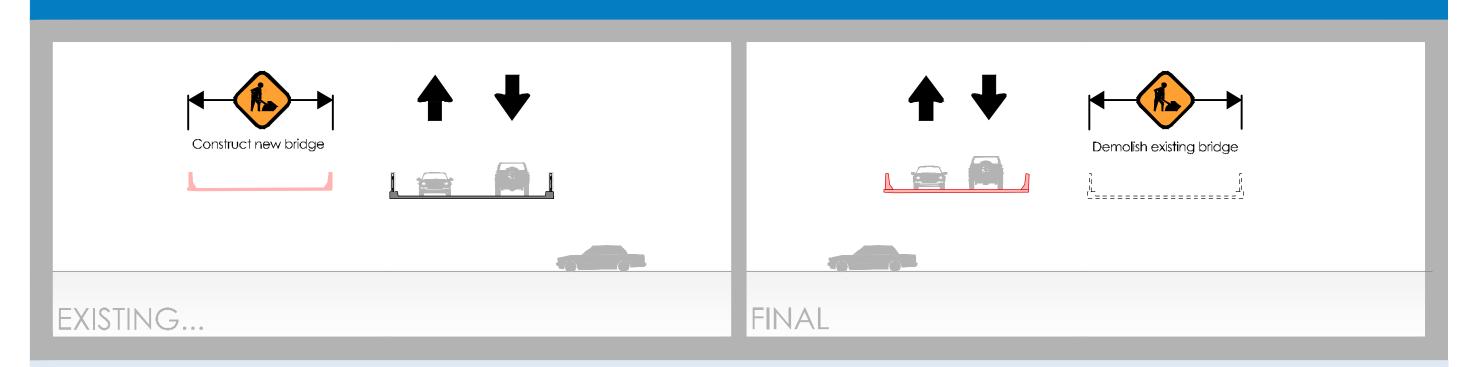
Advantages

- Retains existing alignment of Christiani Road
- Maintains access across Highway 401 during construction
- No property required
- Fewer utility impacts compared to Alternatives 2 and 3

Disadvantages

- Minor traffic delays due to single lane of traffic across the bridge during construction
- Longer construction duration compared to closing the bridge
- Higher construction staging cost compared to closing the bridge

Bridge open with two lanes



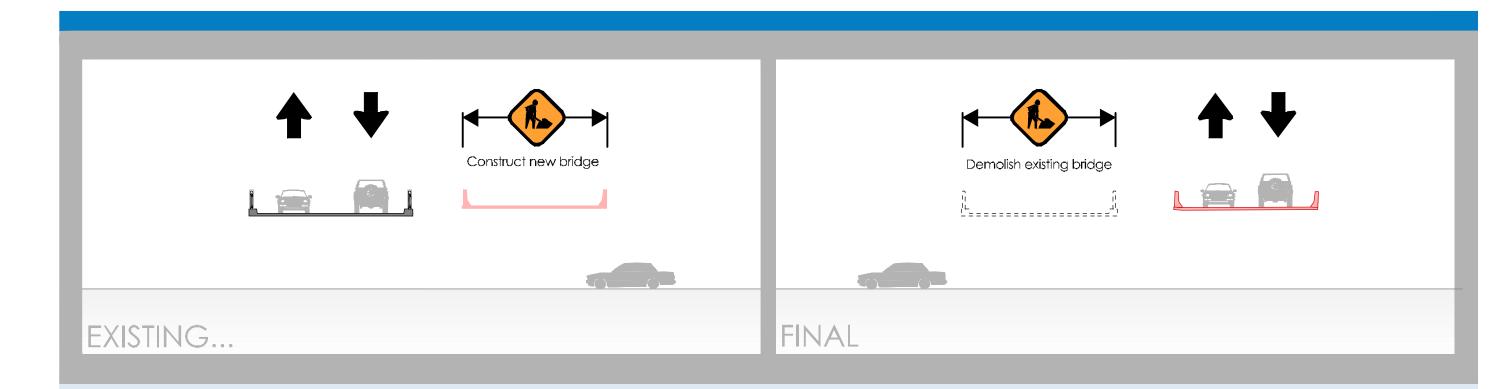
Advantages

- Maintains access across Highway 401 during construction with minimal impacts to traffic
- Similar construction duration as closing the bridge
- Similar construction staging cost as closing the bridge

Disadvantages

- Requires alignment shift on Christiani Road
- Requires property
- Impacts utilities
- Significantly higher cost compared to replacing on existing alignment

Bridge open with two lanes



Advantages

- Maintains access across Highway 401 during construction with minimal impacts to traffic
- Similar construction duration as closing the bridge
- Similar construction staging cost as closing the bridge

Disadvantages

- Requires alignment shift on Christiani Road
- Requires property
- Impacts utilities
- Significantly higher cost compared to replacing on existing alignment

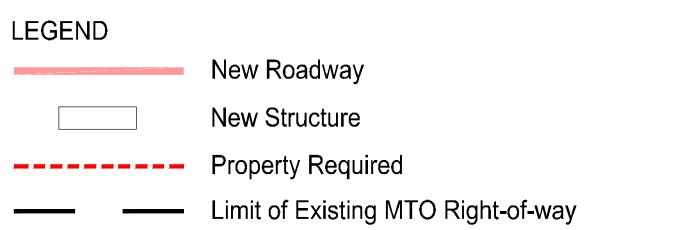
Do Nothing

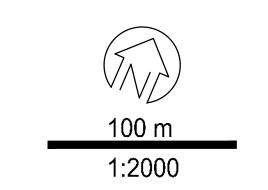
Disadvantages

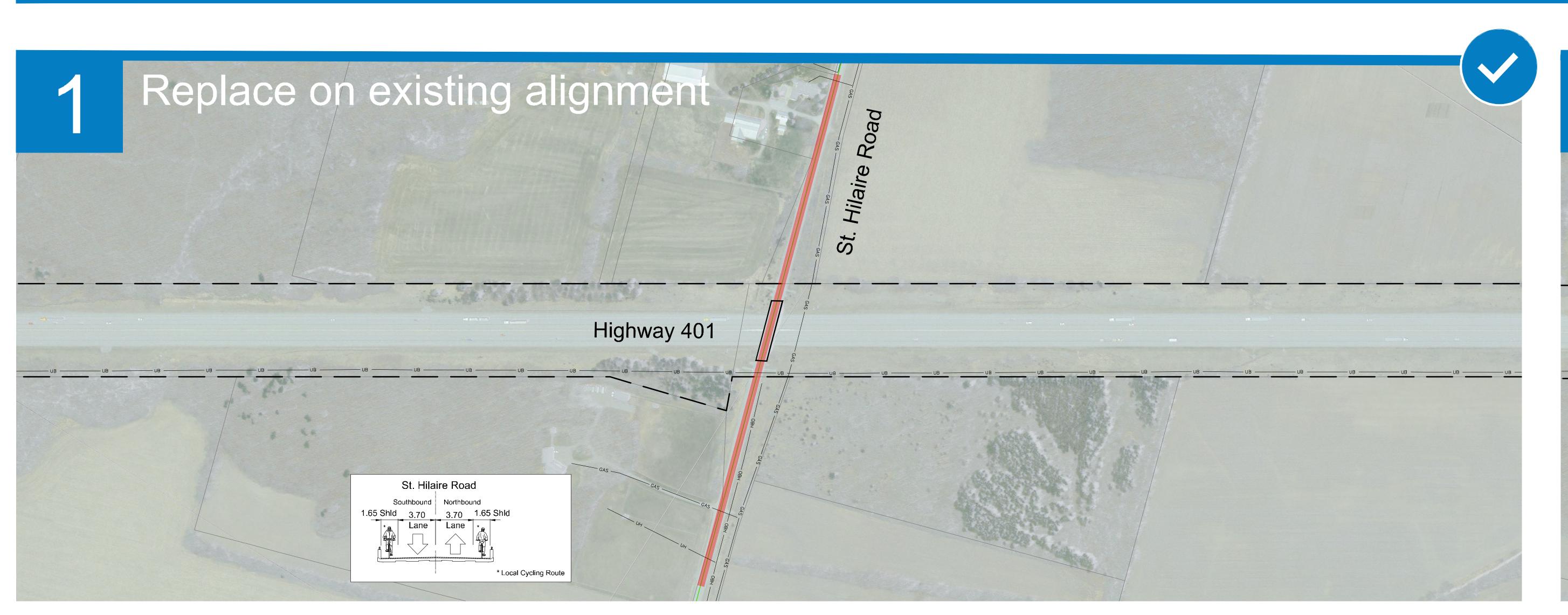
 Does not accommodate short-term or long-term structure needs

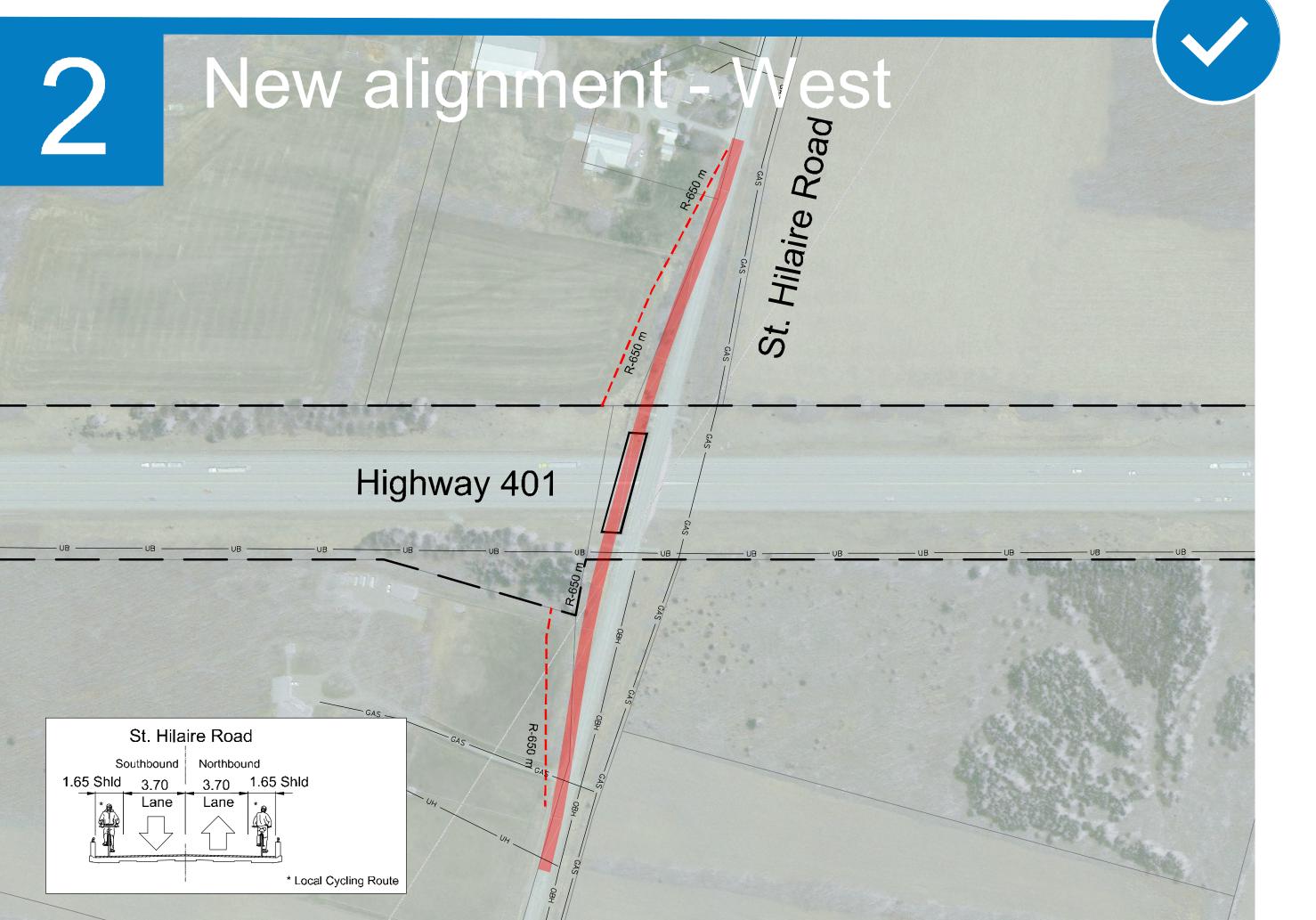
St. Hilaire Road

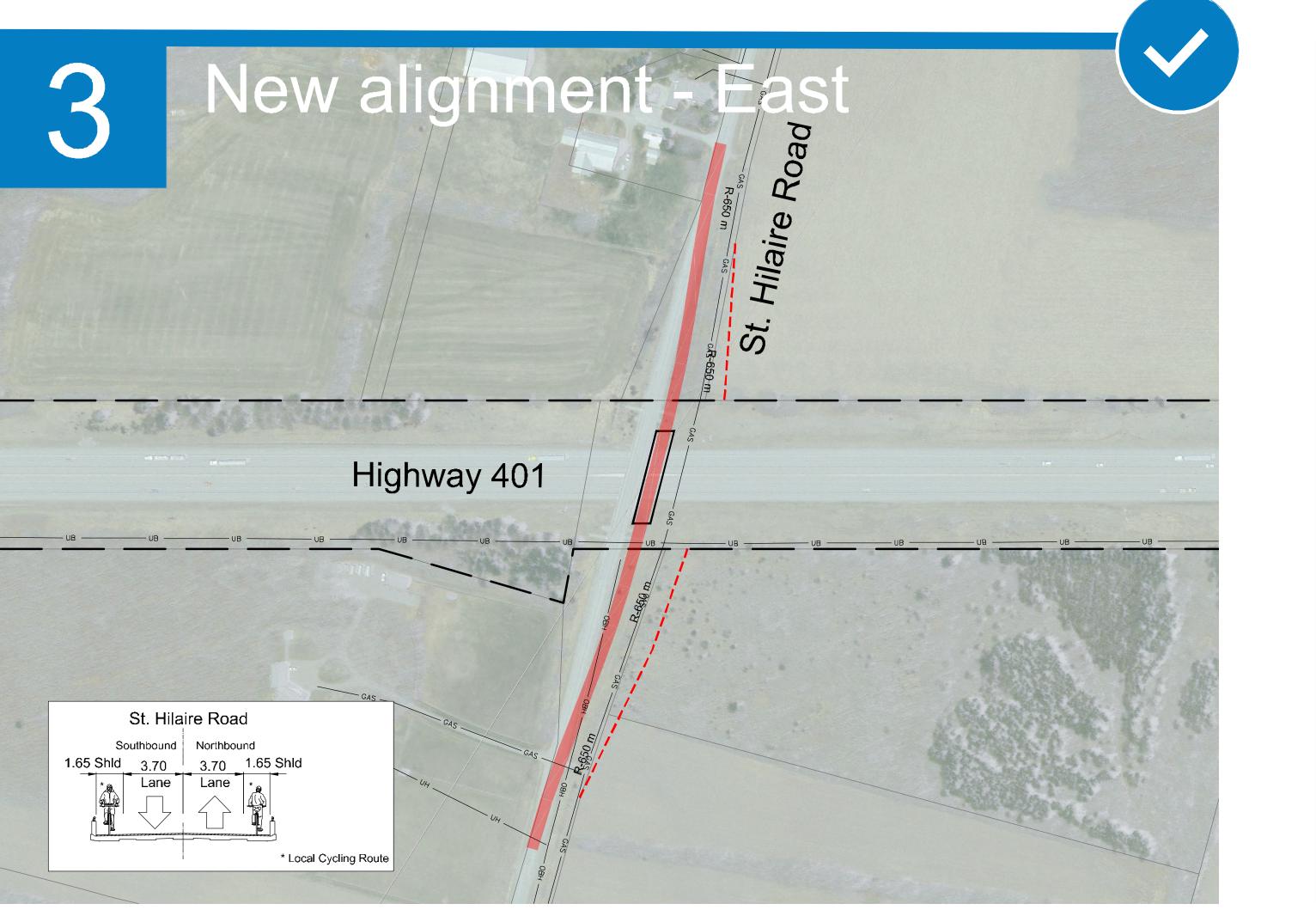
Bridge Improvement Alternatives

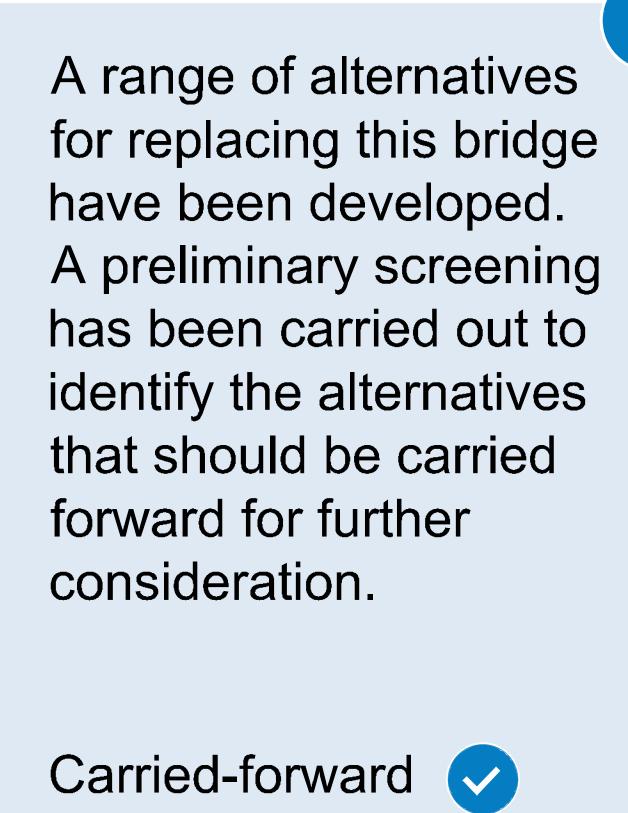








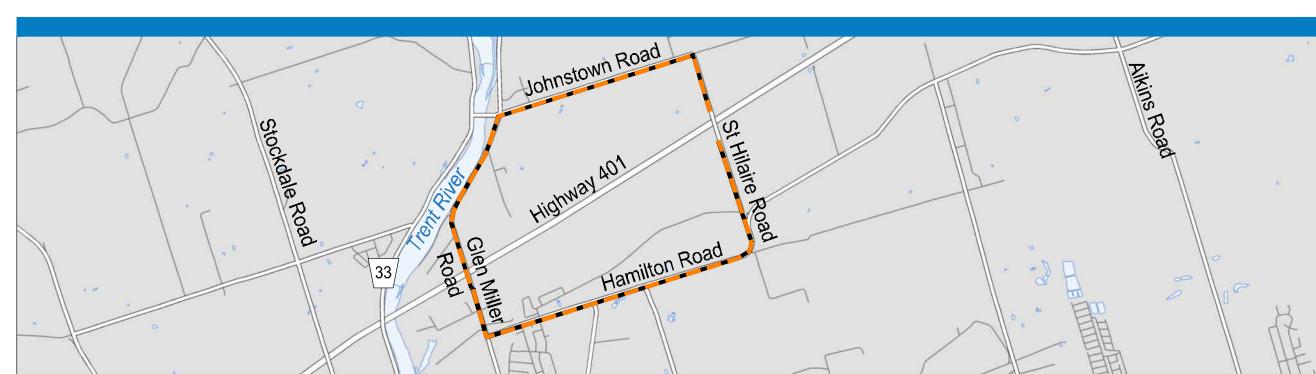








Bridge closed with detour



Advantages

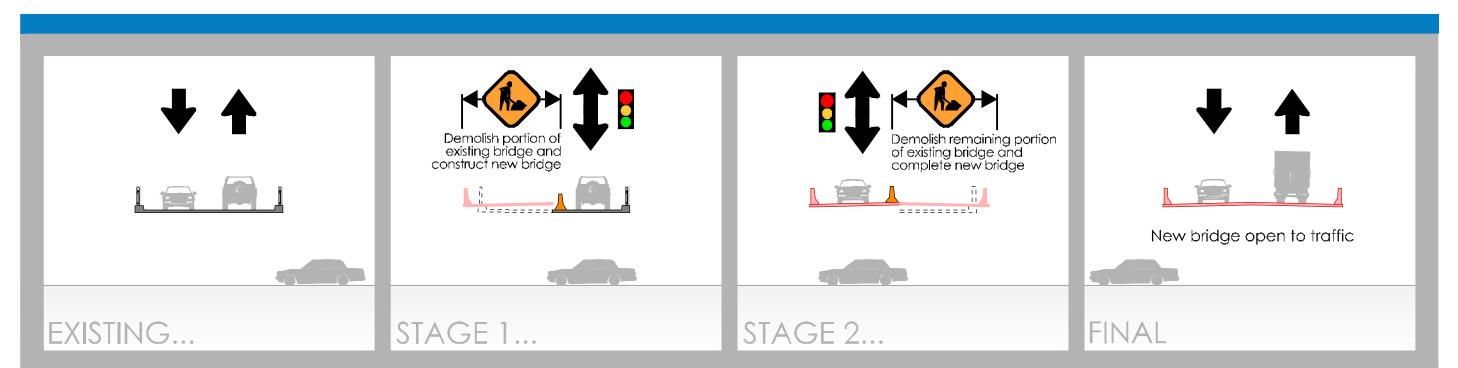
- Retains existing alignment of St. Hilaire Road
- No property required
- Faster method of construction compared to staged construction with single lane open on St. Hilaire Road bridge
- Lower construction staging cost compared to keeping bridge open during construction

Disadvantages

- Minor utility impacts
- Introduces up to 9.7 km of travel for traffic to cross Highway 401 via detour route

Note: The final detour route will be confirmed in consultation with the affected municipalities.

Bridge open with single lane



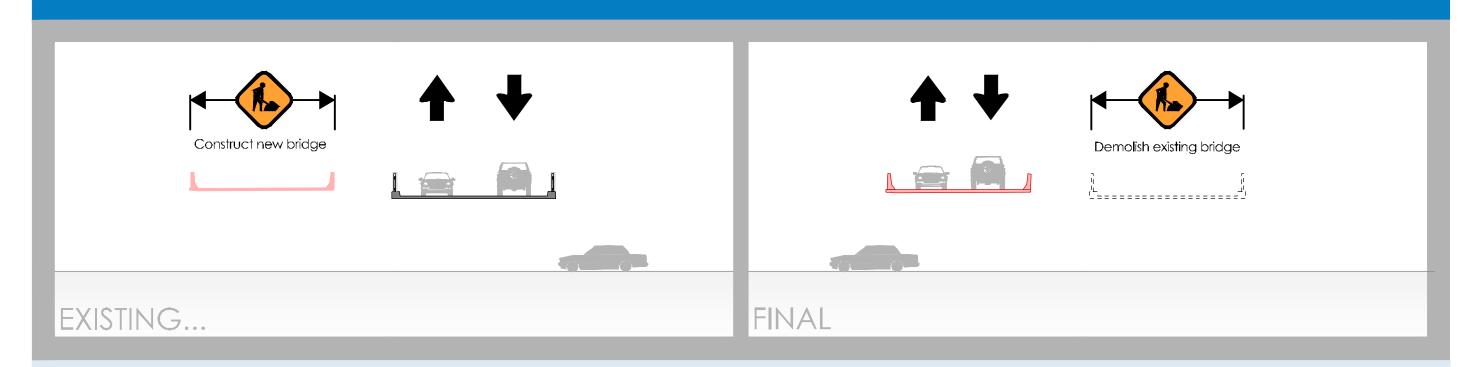
Advantages

- Retains existing alignment of St. Hilaire Road
- Maintains access across Highway 401 during construction
- No property required

Disadvantages

- Minor utility impacts
- Minor traffic delays due to single lane of traffic across the bridge during construction
- Longer construction duration compared to closing the road
- Higher construction staging cost compared to closing the road

Bridge open with two lanes



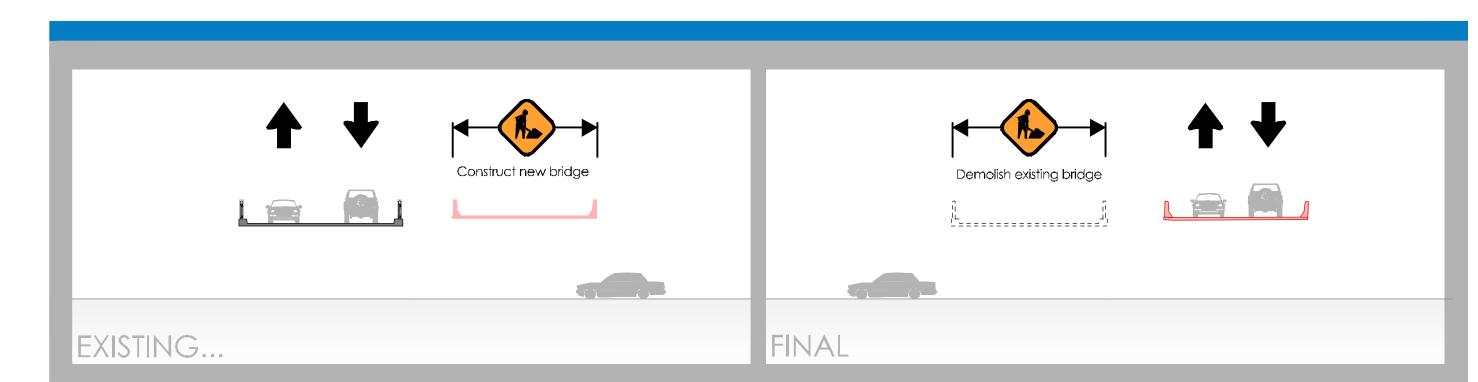
Advantages

- Maintains access across Highway 401 during construction with minimal impacts to traffic
- Similar construction duration as closing bridge
- Similar construction staging cost as closing bridge

Disadvantages

- Minor utility impacts
- Requires alignment shift on St. Hilaire Road
- Requires property
- Significantly higher cost compared to replacing on existing alignment

Bridge open with two lanes



Advantages

- Maintains access across Highway 401 during construction with minimal impacts to traffic
- Similar construction duration as closing bridge
- Similar construction staging cost as closing bridge

Disadvantages

- Requires alignment shift on St. Hilaire Road
- Requires property
- Greater utility impacts compared to Alternatives 1 & 2
- Significantly higher cost compared to replacing on existing alignment

Do Nothing

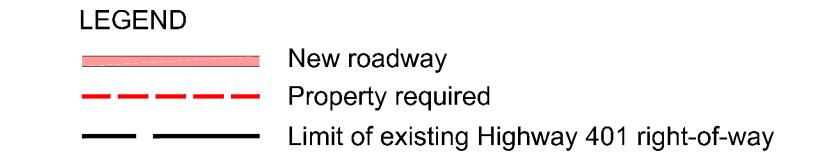
Disadvantages

 Does not accommodate short-term or long-term structure needs

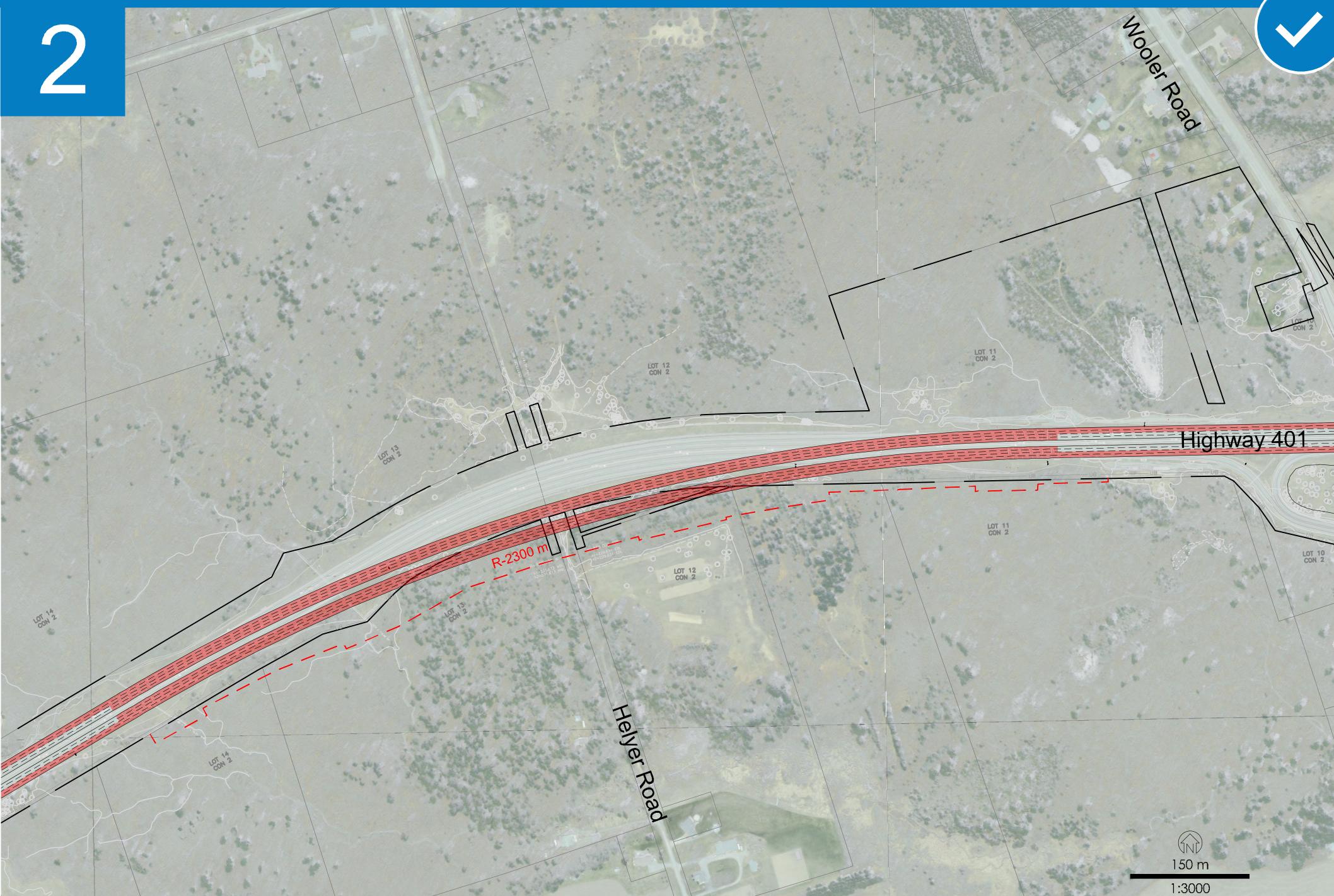


Horizontal Curve #1

Highway Alignment Improvement Alternatives (Upgrade Highway to Design Speed of 130 km/h)







Maintain Existing Horizontal Curve Radius of R-872.5 m

Increase Horizontal Curve Radius to R-2300

Advantages

- Minimizes property and potential environmental impacts
- Minimizes grading outside of the existing highway footprint
- Lower construction cost compared to Alternative 2
- Minimizes impacts to traffic during construction

Disadvantages

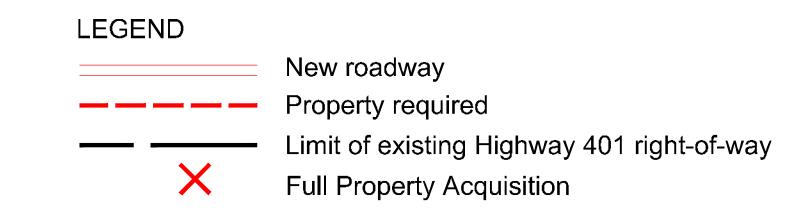
- Curve radius does not satisfy the desirable design speed of 130 km/h
- Sight distance for westbound traffic does not meet the requirements for a design speed of 130 km/h due to the proximity of the median barrier wall and horizontal curve radius

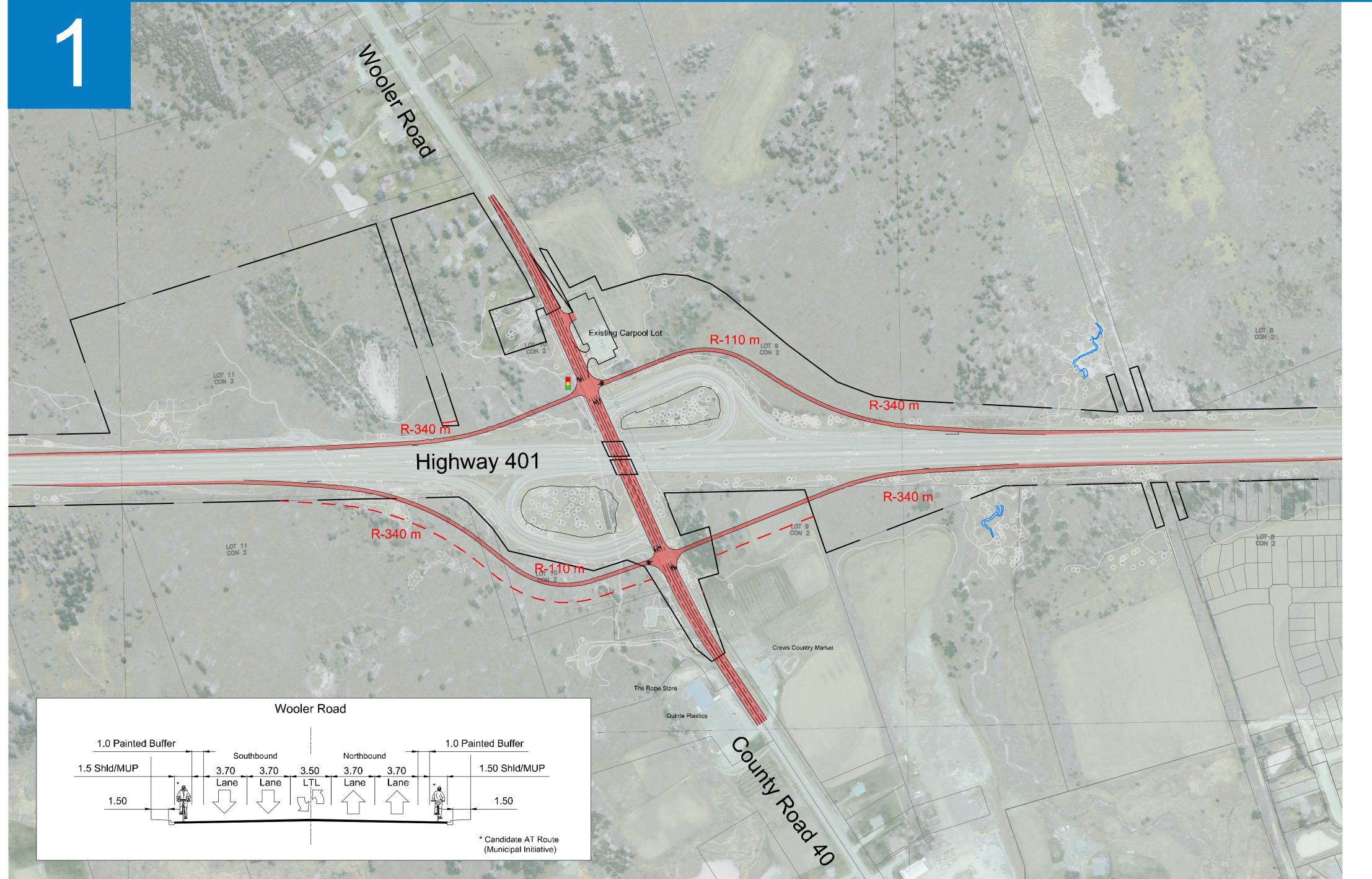
Advantages

- Curve radius satisfies the desirable design speed of 130 km/h
- Sight distance for westbound traffic meets the requirements for a design speed of 130 km/h due to larger horizontal curve

Disadvantages

- Requires more property and potential environmental impacts compared to Alternative 1
- Requires more grading outside of the existing highway footprint
- Higher construction cost compared to Alternative 1
- Requires more complicated traffic staging





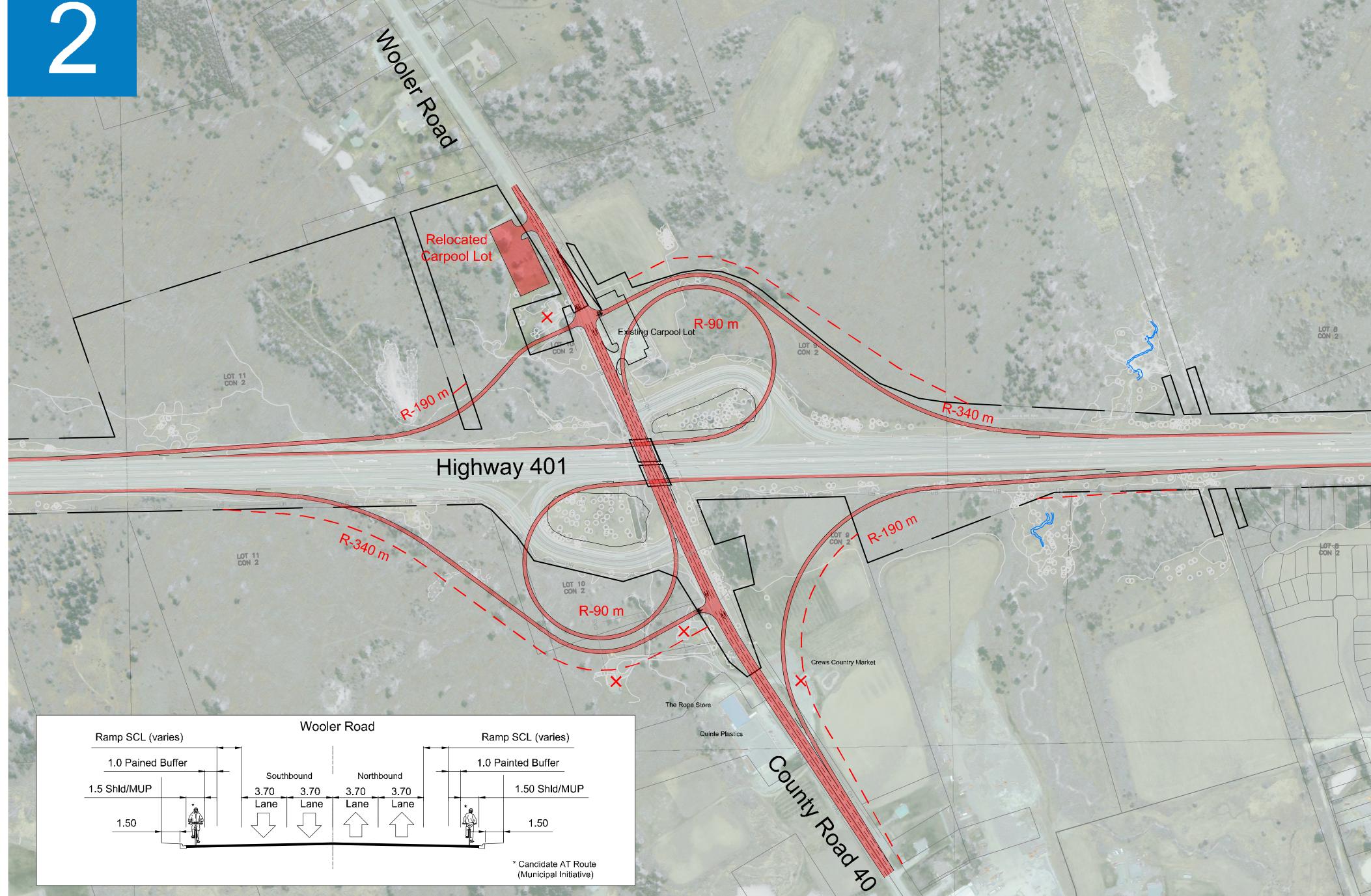
Diamond

Advantages

- Standard interchange configuration in Ontario
- Requires less property and potential environmental impacts than Parclo A and Parclo B interchange configurations
- Maintains existing carpool lot
- Lower cost compared to Parclo A4 configuration

Disadvantages

- Lower traffic capacity than a Parclo A configuration
- Potential for left-turn conflicts and potential for higher collision severity
- Does not work well in locations where the left-turn movements on the crossing road are high
- Requires 6 partial property acquisitions



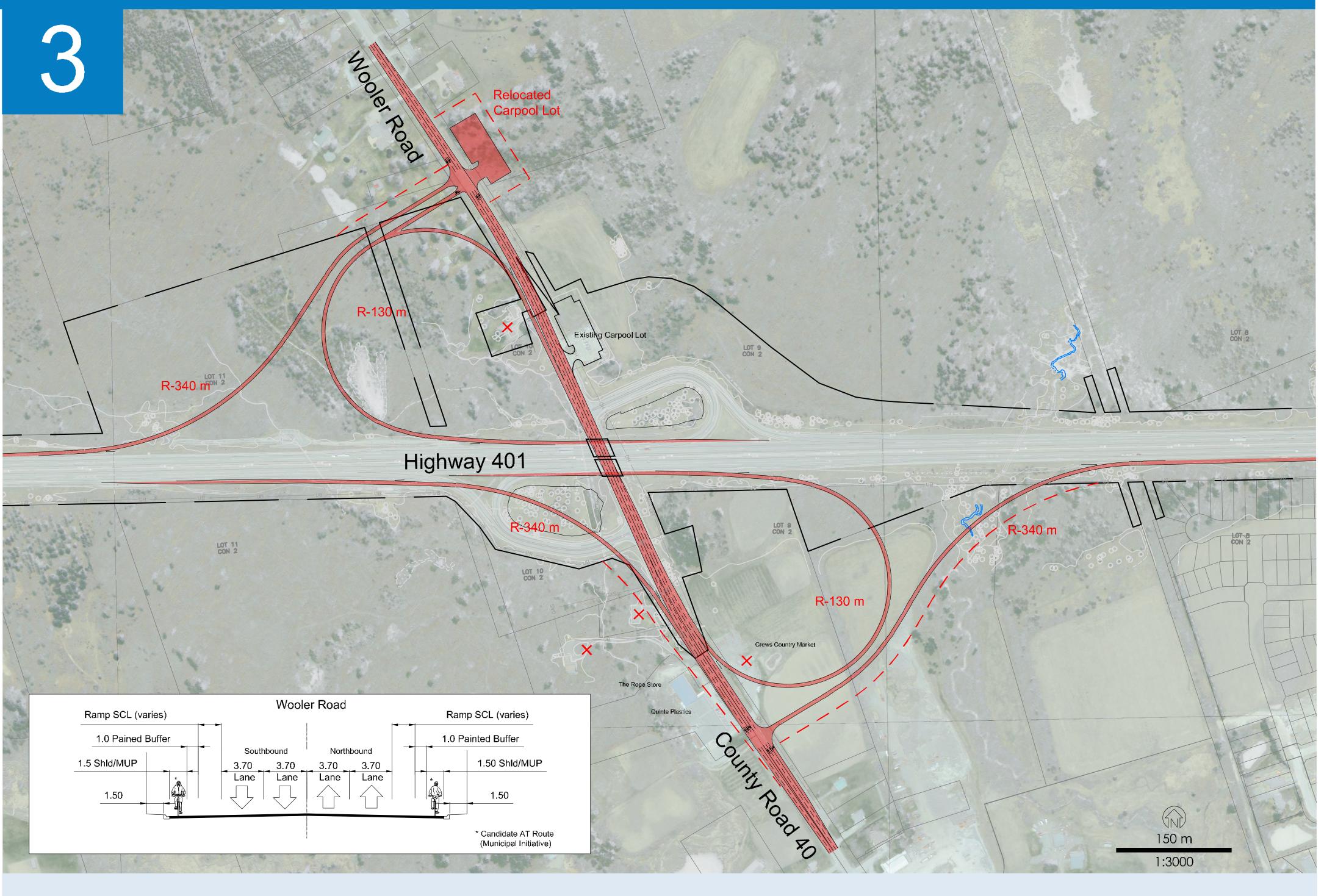
Parclo A

Advantages

- Higher traffic capacity compared to Diamond configuration
- Standard interchange configuration in Ontario
- Direct ramps eliminate left-turn conflicts and potentially reduce collision severity
- Works well in locations where the left-turn movement on the crossing road are high volume

Disadvantages

- Requires more property and potential environmental impacts than Diamond interchange configuration
- Requires relocation of existing carpool lot
- Higher cost compared to Diamond configuration
- Requires 6 partial property acquisitions
- Requires 3 full property acquisitions



Parclo B

Advantages

- Higher traffic capacity compared to Diamond configuration
- Standard interchange configuration in Ontario
- Direct ramps eliminate left-turn conflicts and potentially reduce collision severity
- Works well in locations where the left-turn movement on the crossing road are high volume

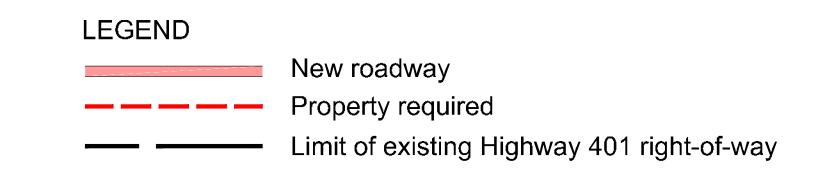
Disadvantages

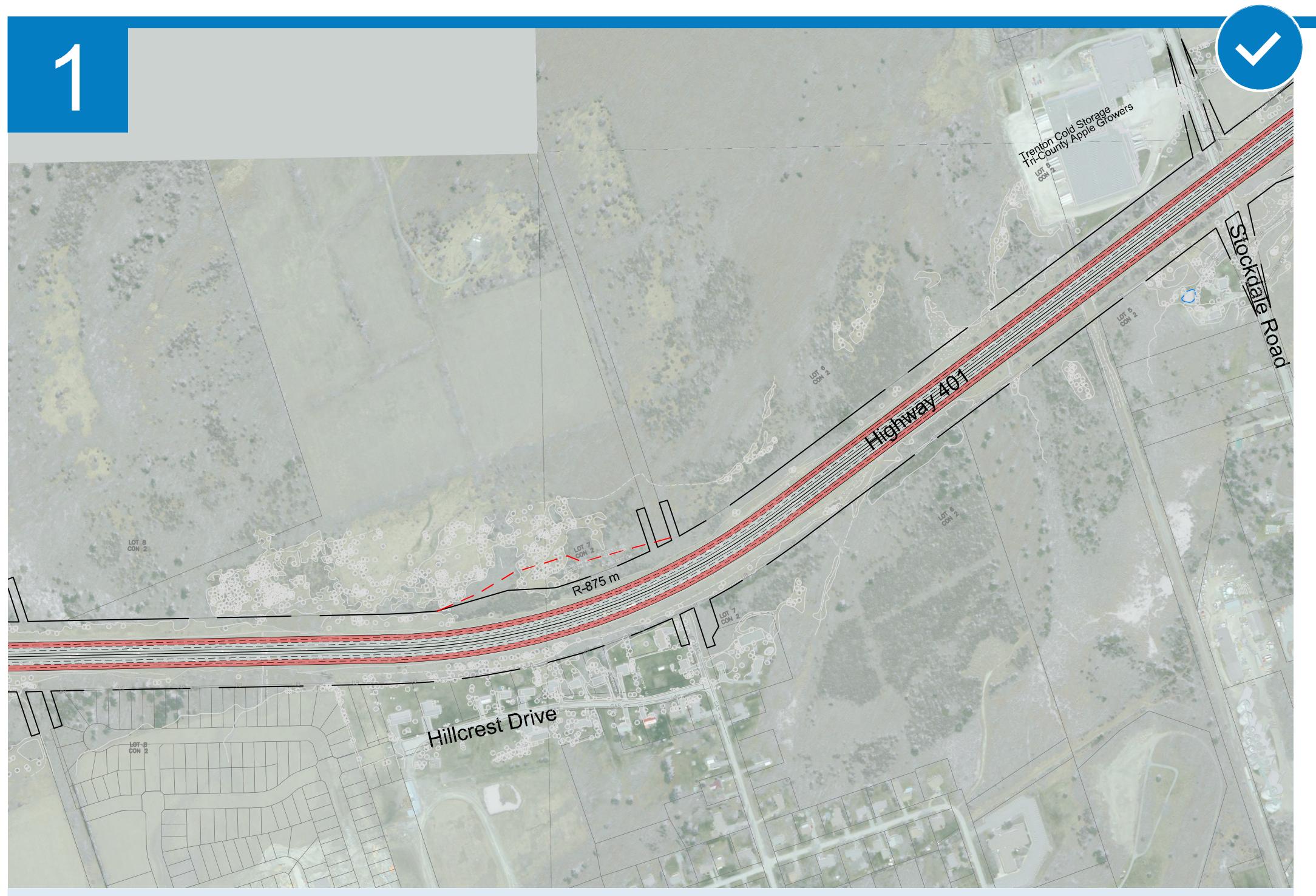
- Loop ramp exits on freeways are less desirable than direct ramps
- Requires more property and potential environmental impacts compared to Diamond and Parlco A configurations
- Requires relocation of existing carpool lot
- Requires 11 partial property acquisitions
- Requires 3 full property acquisitions
- Typically higher construction cost compared to other interchange alternatives

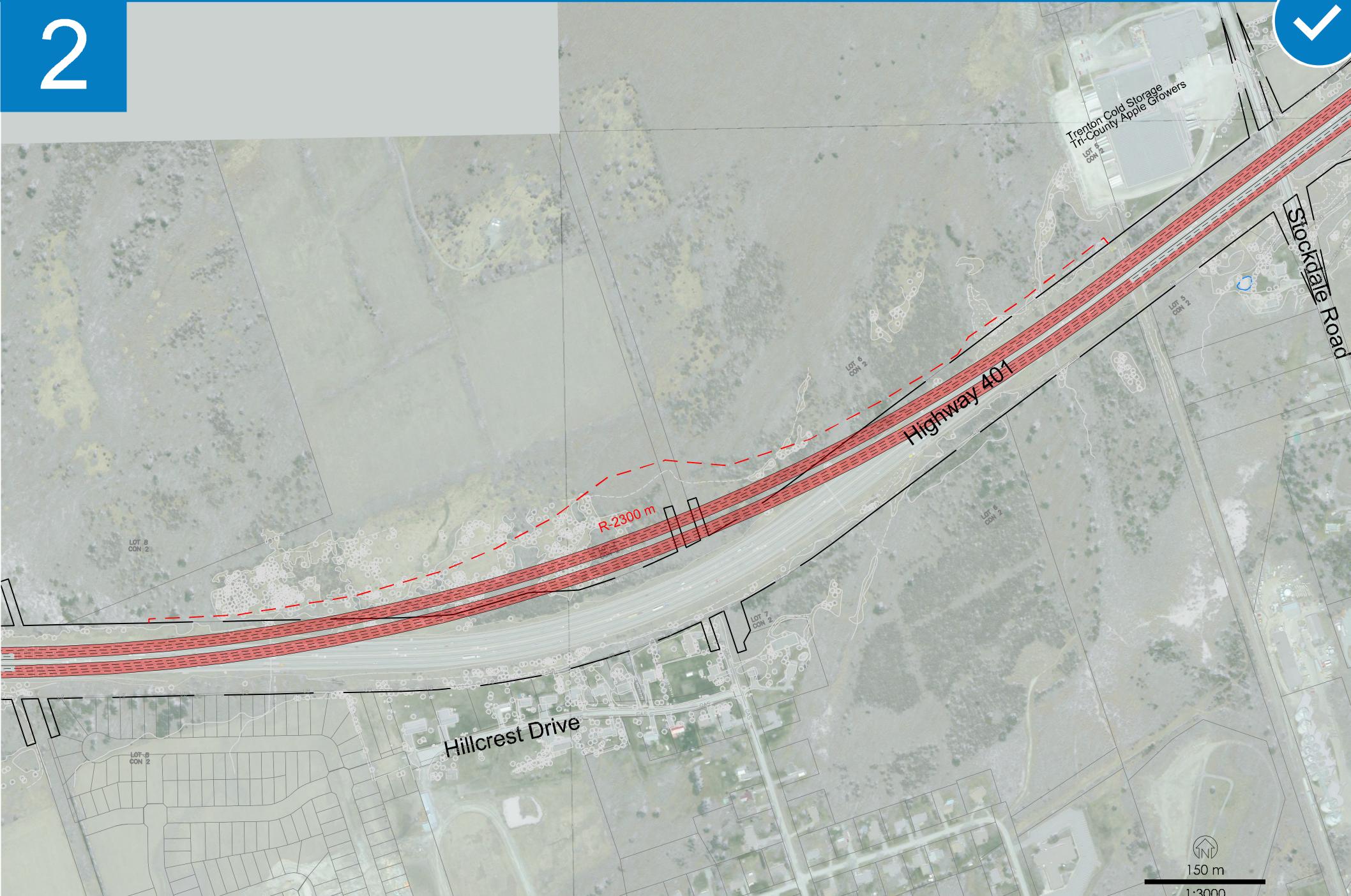


HC2 Horizontal Curve #2

Highway Alignment Improvement Alternatives (Upgrade Highway to Design Speed of 130 km/h)







Maintain Existing Horizontal Curve Radius of R-875 m

Advantages

- Minimizes property and potential environmental impacts
- Minimizes grading outside of the existing highway footprint
- Lower construction cost compared to Alternative 2
- Minimizes impacts to traffic during construction

Disadvantages

- Curve radius does not satisfy the desirable design speed of 130 km/h
- Sight distance for eastbound traffic does not meet the requirements for a design speed of 130 km/h due to the proximity of the median barrier wall and horizontal curve radius

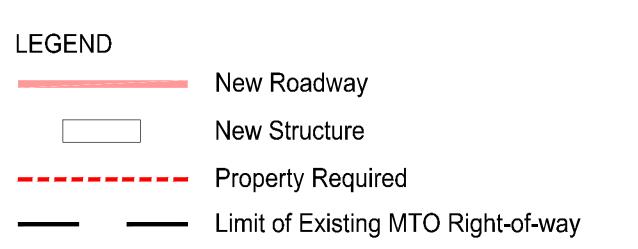
Increase Horizontal Curve Radius to R-2300

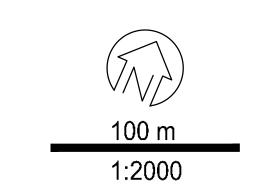
Advantages

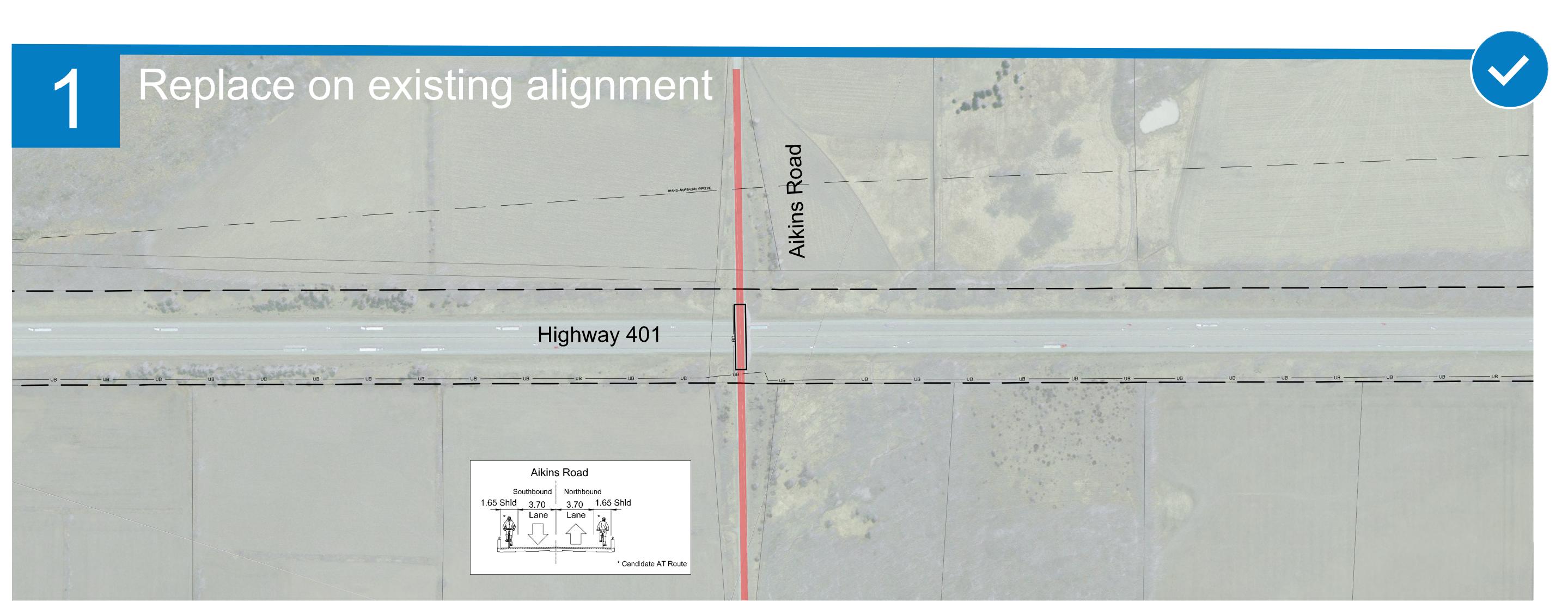
- Curve radius satisfies the desirable design speed of 130 km/h
- Sight distance for eastbound traffic meets the requirements for a design speed of 130 km/h due to larger horizontal curve

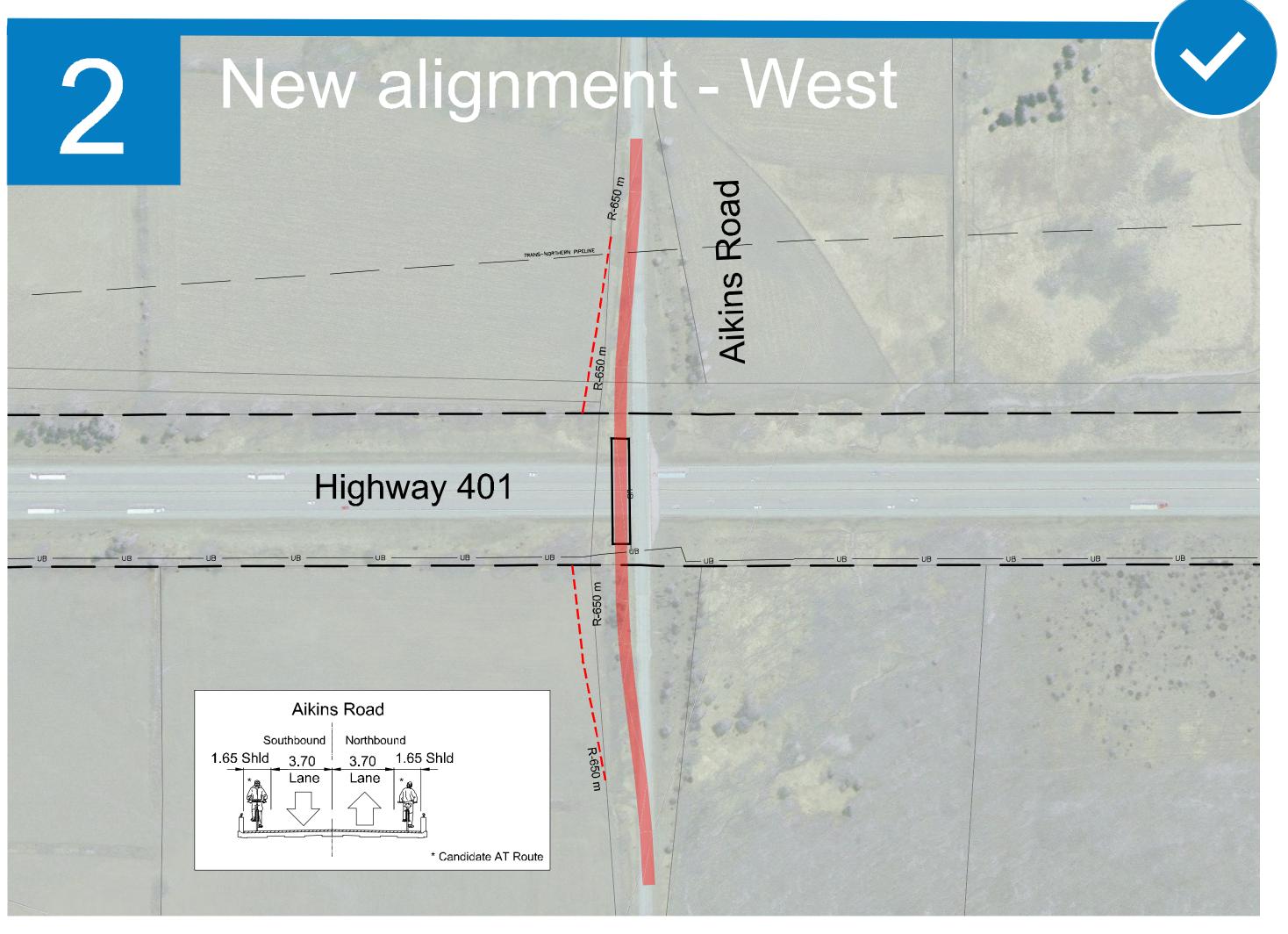
Disadvantages

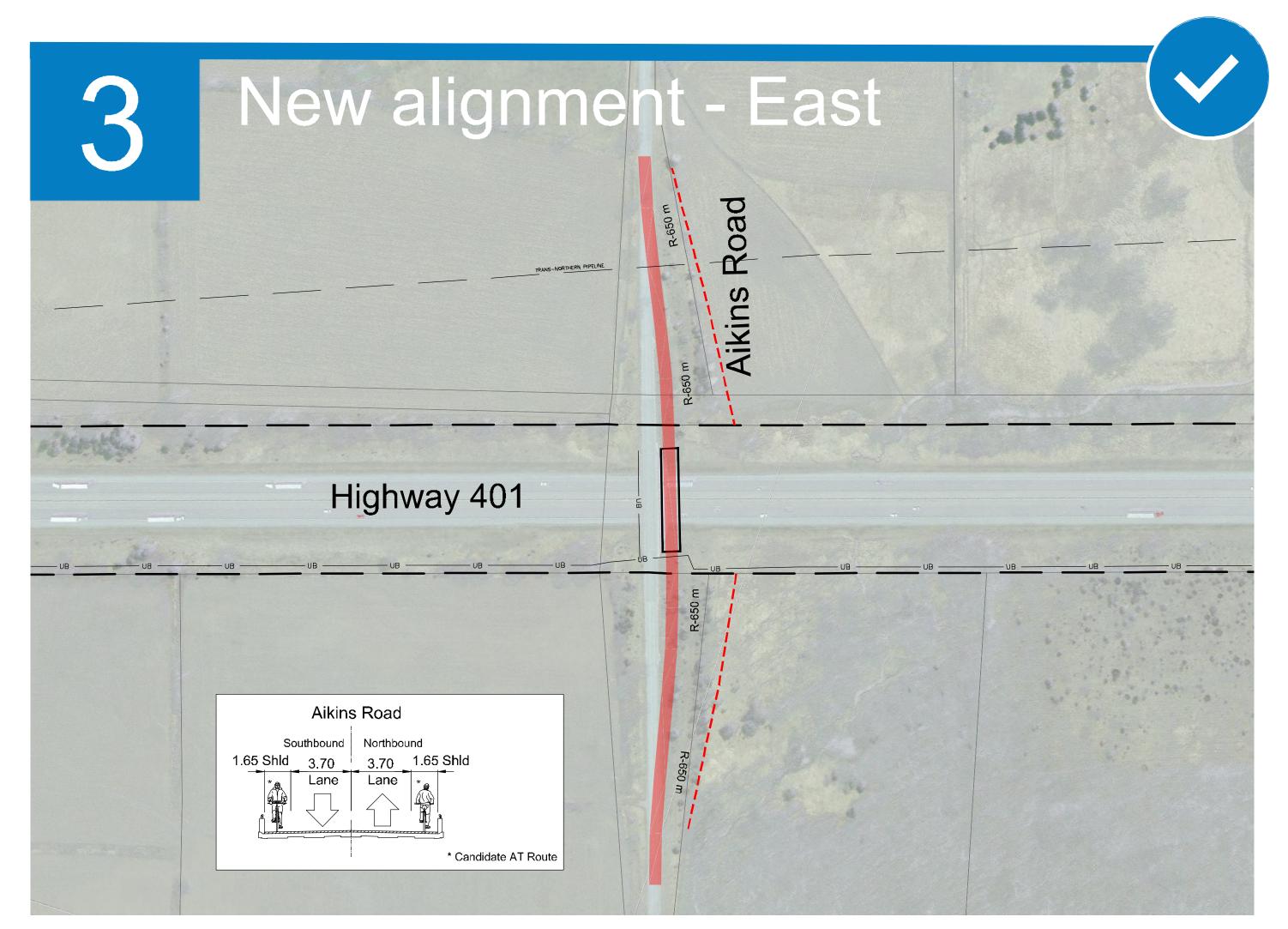
- Requires more property and potential environmental impacts compared to Alternative 1
- Requires more grading outside of the existing highway footprint
- Higher construction cost compared to Alternative 1
- Requires more complicated traffic staging

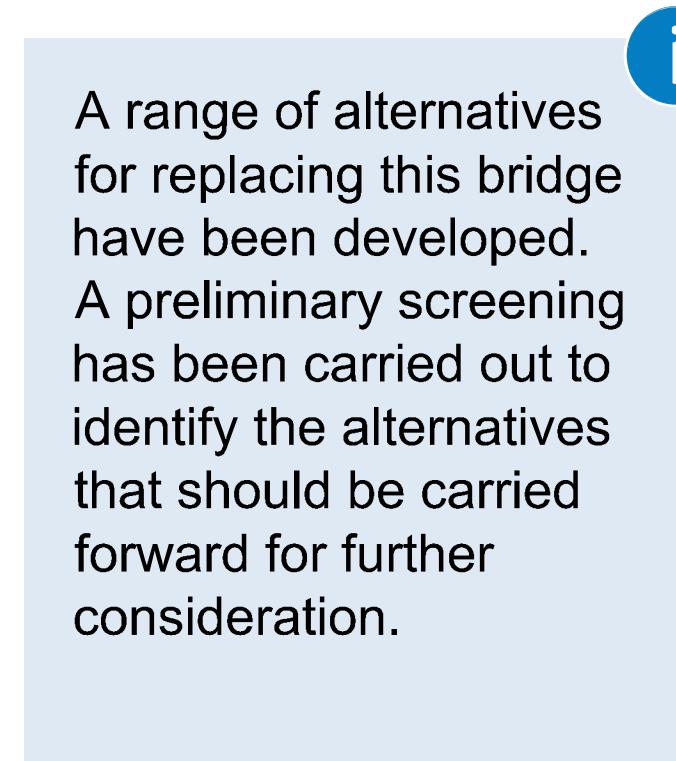










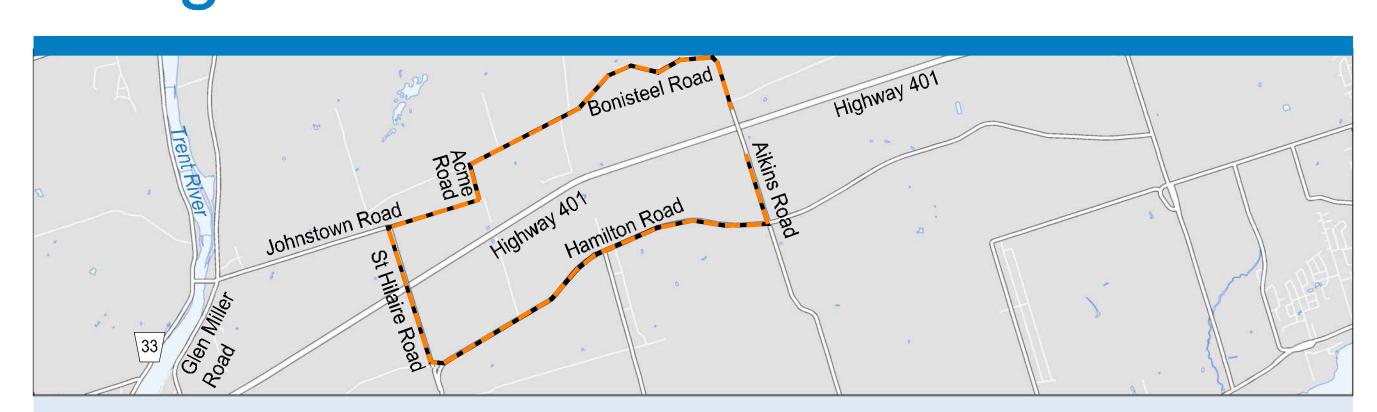








Bridge closed with detour



Advantages

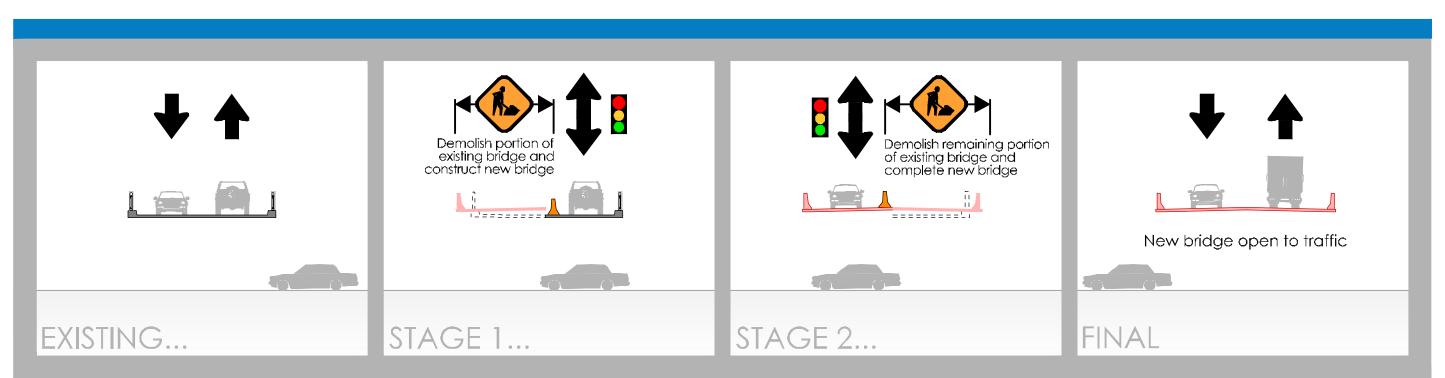
- Retains existing alignment of Aikins Road
- No property required
- Faster method of construction compared to staged construction with single lane open on Aikins Road bridge
- Lower construction staging cost compared to keeping bridge open during construction

Disadvantages

- Minor utility impacts
- Introduces up to 13.1 km of travel for traffic to cross Highway 401 via detour route

Note: The final detour route will be confirmed in consultation with the affected municipalities.

Bridge open with single lane



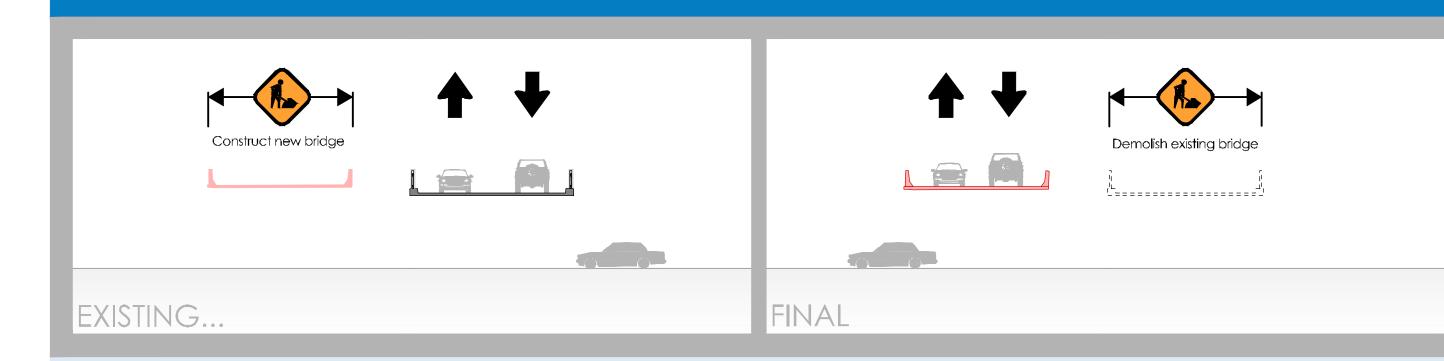
Advantages

- Retains existing alignment of Aikins Road
- No property required
- Maintains access across Highway 401 during construction

Disadvantages

- Minor utility impacts
- Minor traffic delays due to single lane of traffic across the bridge during construction
- Longer construction duration compared to closing the road
- Higher construction staging cost compared to closing the road

Bridge open with two lanes



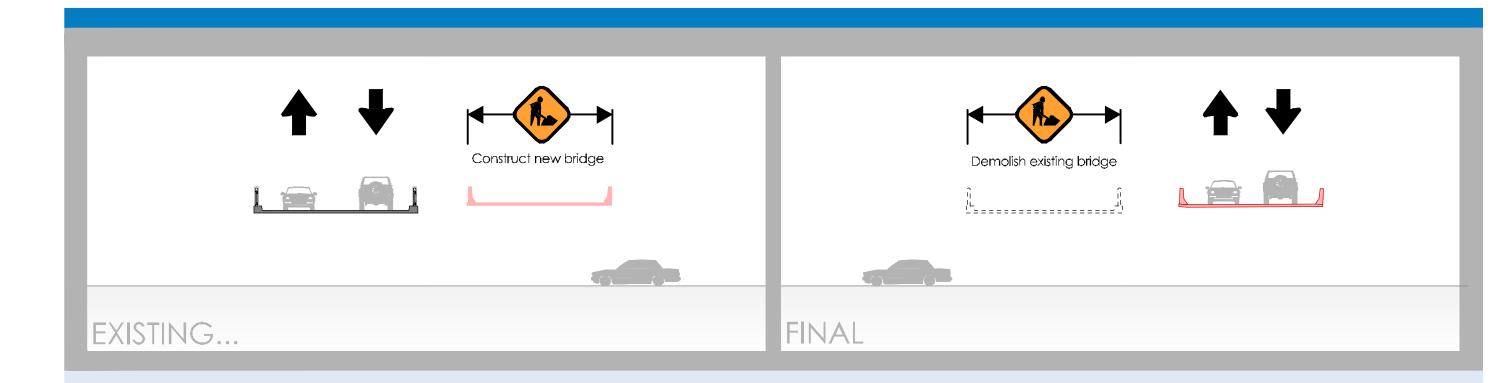
Advantages

- Maintains access across Highway 401 during construction with minimal impacts to traffic
- Similar construction duration as closing bridge
- Similar construction staging cost as closing bridge

Disadvantages

- Greater utility impacts compared to Alternatives 1 & 3
- Requires alignment shift on Aikins Road
- Requires property
- Significantly higher cost compared to replacing on existing alignment

Bridge open with two lanes



Advantages

- Maintains access across Highway 401 during construction with minimal impacts to traffic
- Similar construction duration as closing bridge
- Similar construction staging cost as closing bridge

Disadvantages

- Requires alignment shift on Aikins Road
- Requires property
- Minor utility impacts
- Significantly higher cost compared to replacing on existing alignment

Do Nothing

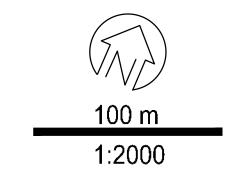
Disadvantages

 Does not accommodate short-term or long-term structure needs

Railway Overpass

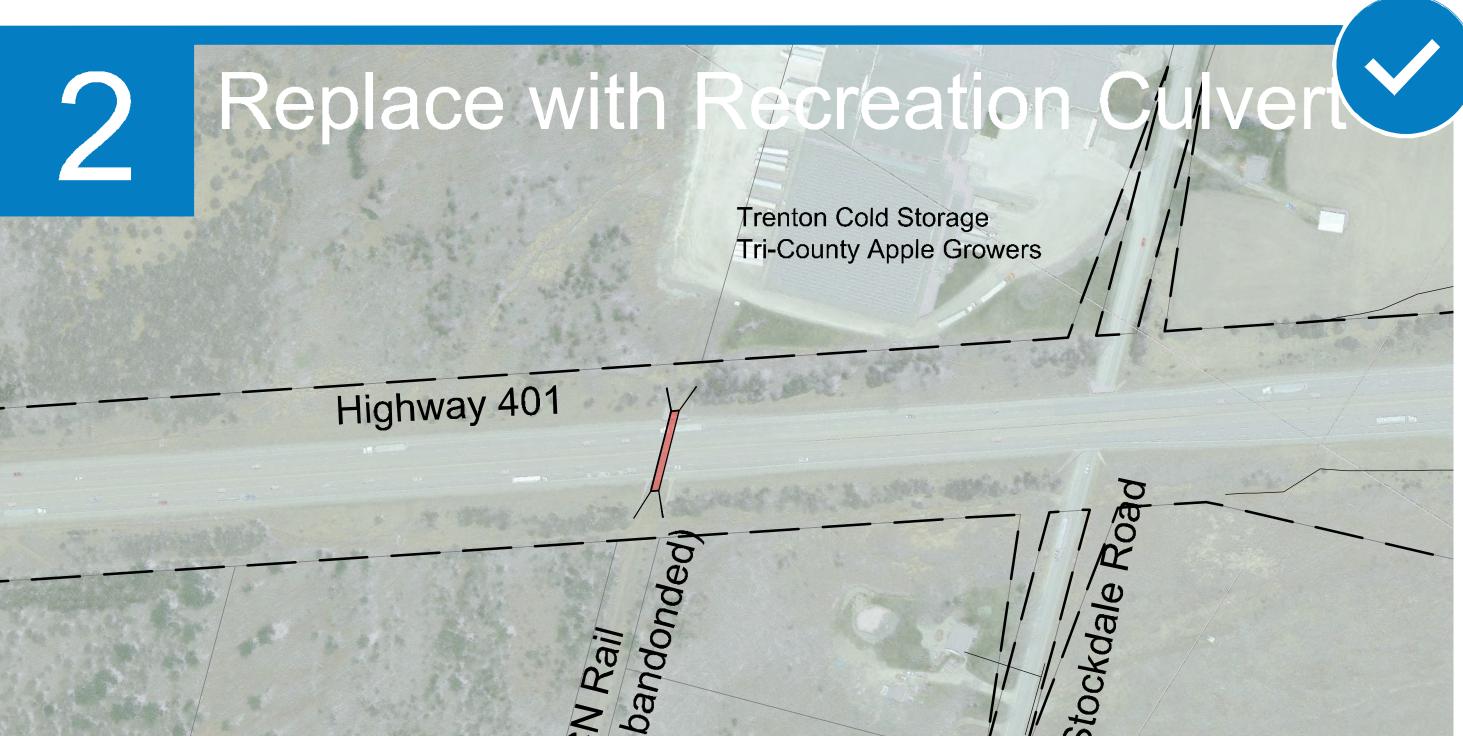
New Structure Limit of Existing MTO Right-of-way

LEGEND



Bridge Improvement Alternatives







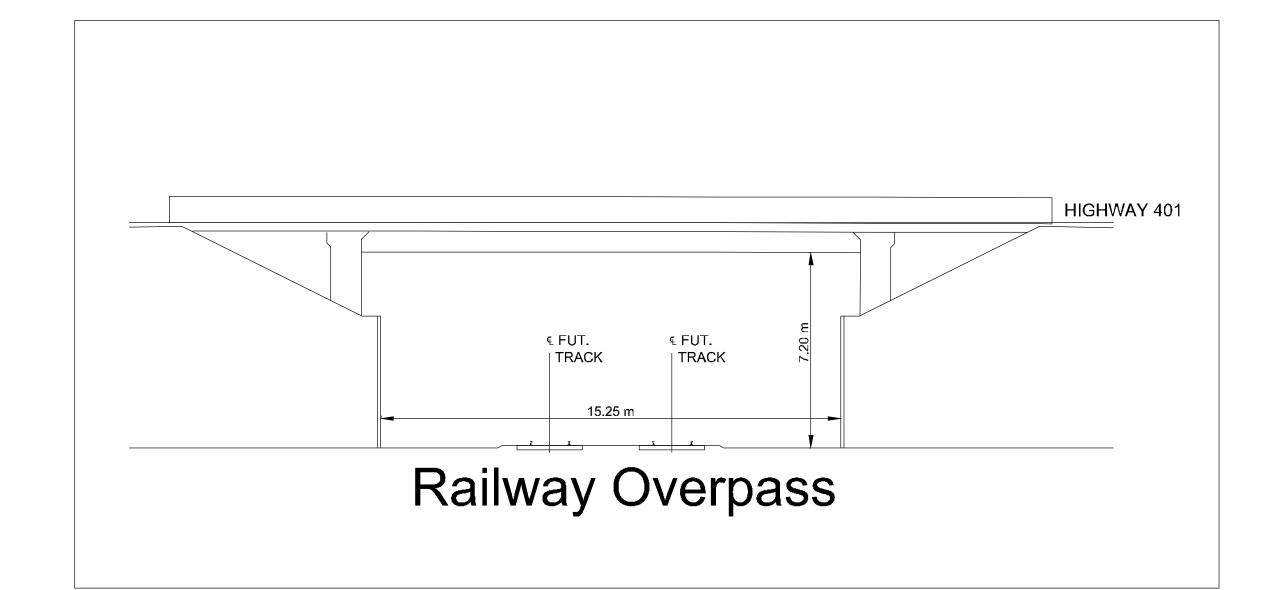
A range of alternatives for replacing this bridge have been developed. A preliminary screening has been carried out to identify the alternatives that should be carried forward for further consideration.

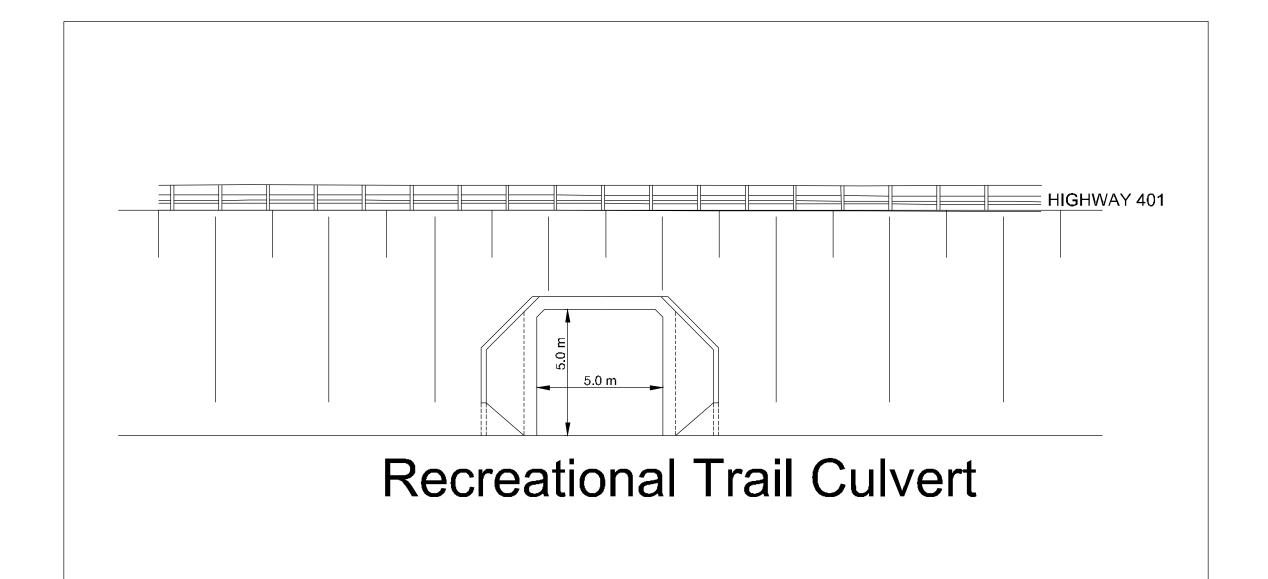
Carried-forward

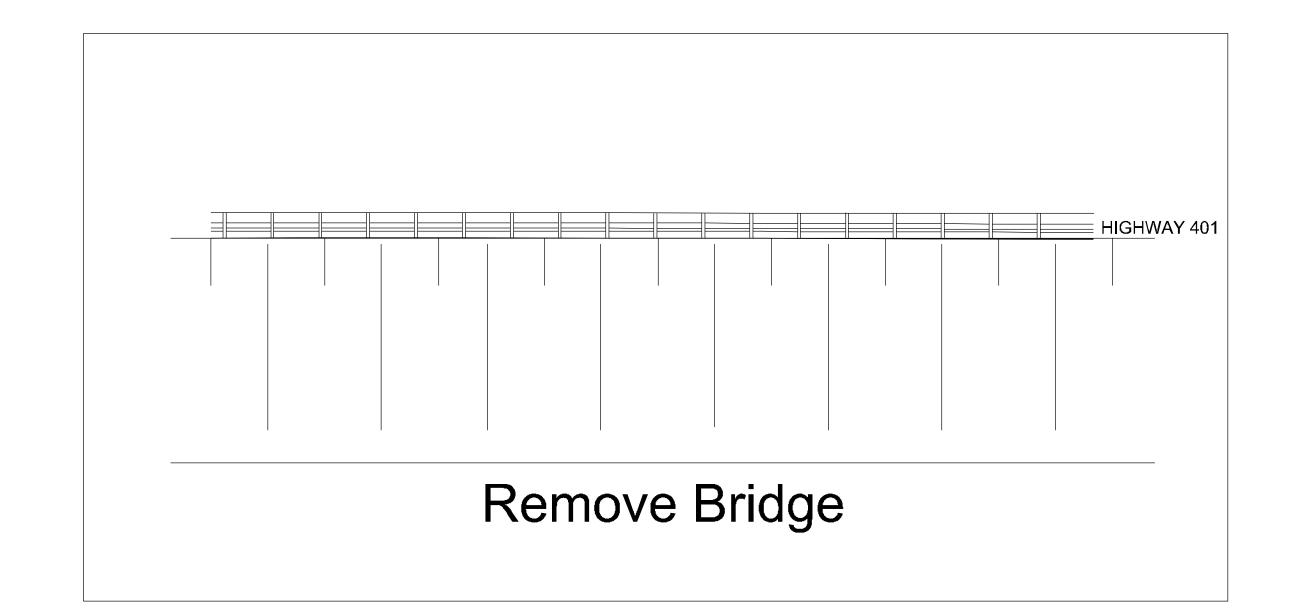


Screened-out









Advantages

- Maintains access for ATV and other recreational activities across/under Highway 401 (short-term)
- Provides an opportunity for future reinstatement of two railway tracks across/under Highway 401 (Long-term; pending consultation with CNR)

Disadvantages

- Higher construction cost compared to other alternatives
- Longer construction duration anticipated compared to other alternatives
- There is no demonstrated need for a rail crossing because the tracks have been removed from the crossing, and CN no longer owns the property (former rail corridor) to the north of Highway 401

Advantages

 Maintains access for ATV and other recreational activities across/under Highway 401

Disadvantages

- Higher construction cost compared to removing the bridge
- Longer construction duration anticipated compared to removing the bridge
- There is currently no formal trail across/under Highway 401
- Does not provide an opportunity for future reinstatement of two railway tracks across/under Highway 401

Advantages

- Lower construction and maintenance costs compared to other alternatives
- Shorter construction duration anticipated compared to other alternatives

Disadvantages

- Does not maintain access for ATV and other recreational activities across/under Highway 401
- Significant earth fill is required
- Potential foundation/embankment settlement concerns

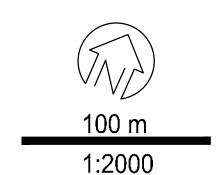
Do Nothing

Disadvantages

 Does not accommodate short-term or long-term structure needs

Stockdale Road

LEGEND New Roadway New Structure _imit of Existing MTO Right-of-way



Bridge Improvement Alternatives



A range of alternatives for replacing this bridge have been developed. A preliminary screening has been carried out to identify the alternatives that should be carried forward for further consideration.

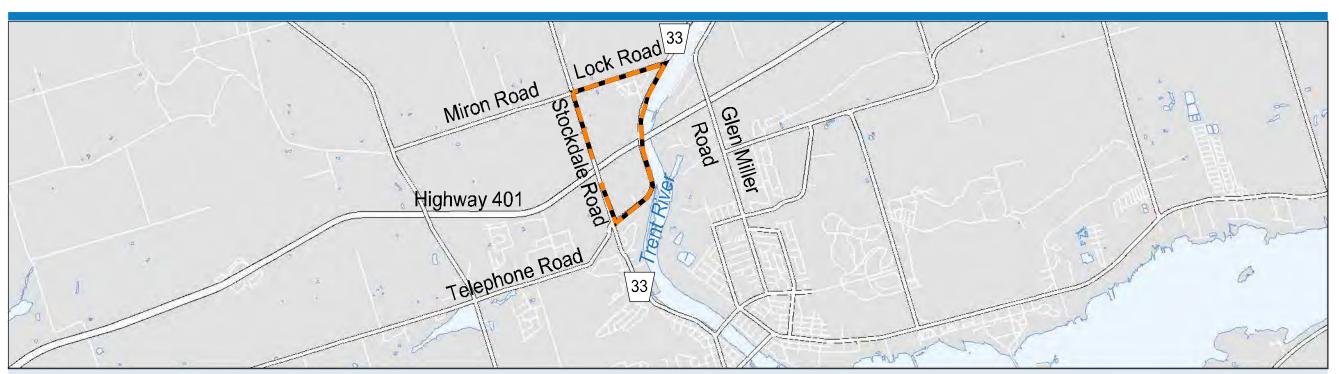
Carried-forward



Screened-out



Stockdale Road closed with detour during Construction



Advantages

No out-of-way travel

Advantages

- Shorter construction duration because crossing road is closed to traffic
- Lower construction cost compared to keeping the crossing road open

Disadvantages

Longer construction duration compared to closing the road

Stockdale Road open during Construction

- Requires reduced lane widths and lane shifts on Stockdale Road during construction
- Minor delays to traffic during construction
- Higher construction cost compared to closing the road

Disadvantages

Introduces up to 5.4 km of travel for traffic to cross Highway 401 via detour route

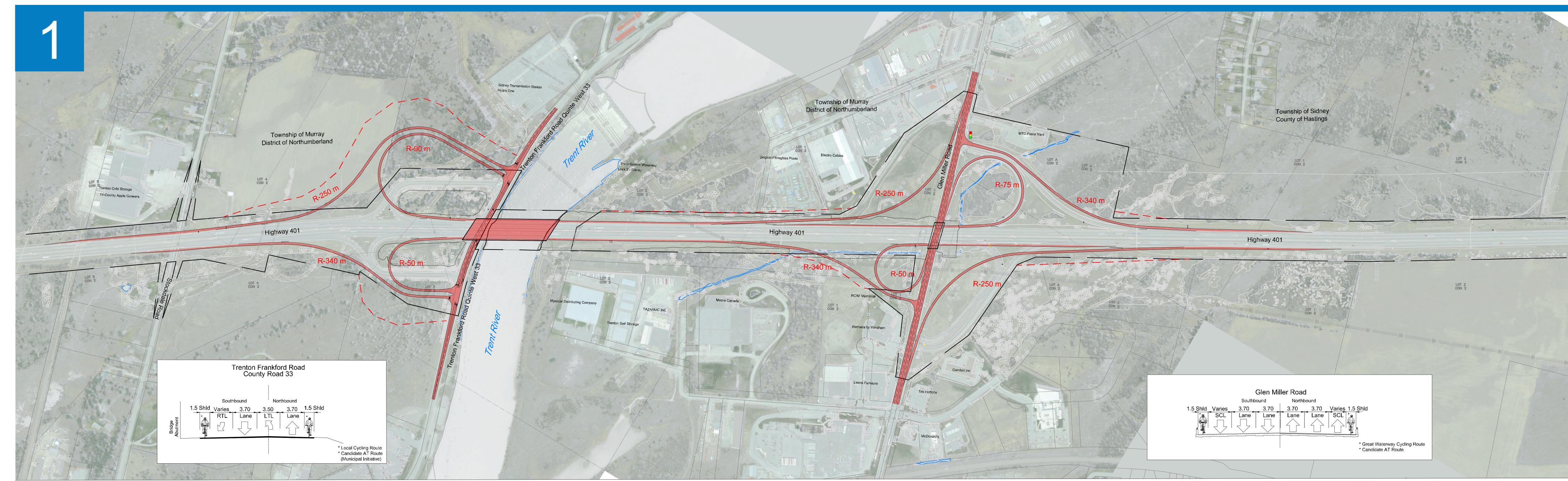
Note: The final detour route will be confirmed in consultation with the affected municipalities.

Do Nothing

Disadvantages

Does not accommodate short-term or long-term structure needs

Trenton Frankford Quinte West 33 & Glen Miller Road



Advantages

- Maintains two thru-lanes in each direction on Highway 401 during construction
- Requires minimal reconstruction of the Highway 401 approaches
- Requires less property and environmental impacts compared to Alternative 2
- Minimizes impacts to existing hydro plant

Disadvantages

- Requires closure of the Trenton Frankford Road Quinte West 33 interchange ramps for approximately 1-3 years during construction
- The westbound Highway 401/Trenton Frankford Road Quinte West 33 exit ramp radius meets the minimum standard for a design speed of 100 km/h
- The eastbound Highway 401 entrance ramp radius does not meet the minimum standard for a design speed of 100 km/h on Trenton Frankford Road Quinte West 33
- The eastbound Highway 401/Trenton Frankford Road Quinte West 33 entrance ramp radius does not accommodate long combination vehicles
- Requires 13 partial property acquisitions

Advantages

- Maintains two thru-lanes in each direction on Highway 401 during construction
- The westbound Highway 401/Trenton Frankford Road Quinte West 33 exit ramp radius meets the minimum standard for a design speed of 120 km/h
- The eastbound Highway 401 entrance ramp radius meets the minimum standard for a design speed of 100 km/h on Trenton Frankford Road Quinte West 33
- The Highway 401/Trenton Frankford Road Quinte West 33 eastbound entrance ramp radius accommodates long combination vehicles

Disadvantages

- Requires short-term ramp closures for the Trenton Frankford Quinte West 33 interchange to accommodate tie-ins
- Requires significant reconstruction of the Highway 401 approaches
- Requires more property and environmental impacts compared to Alternative 2
- Significant impacts to existing hydro plant
- Requires 13 partial property acquisitions

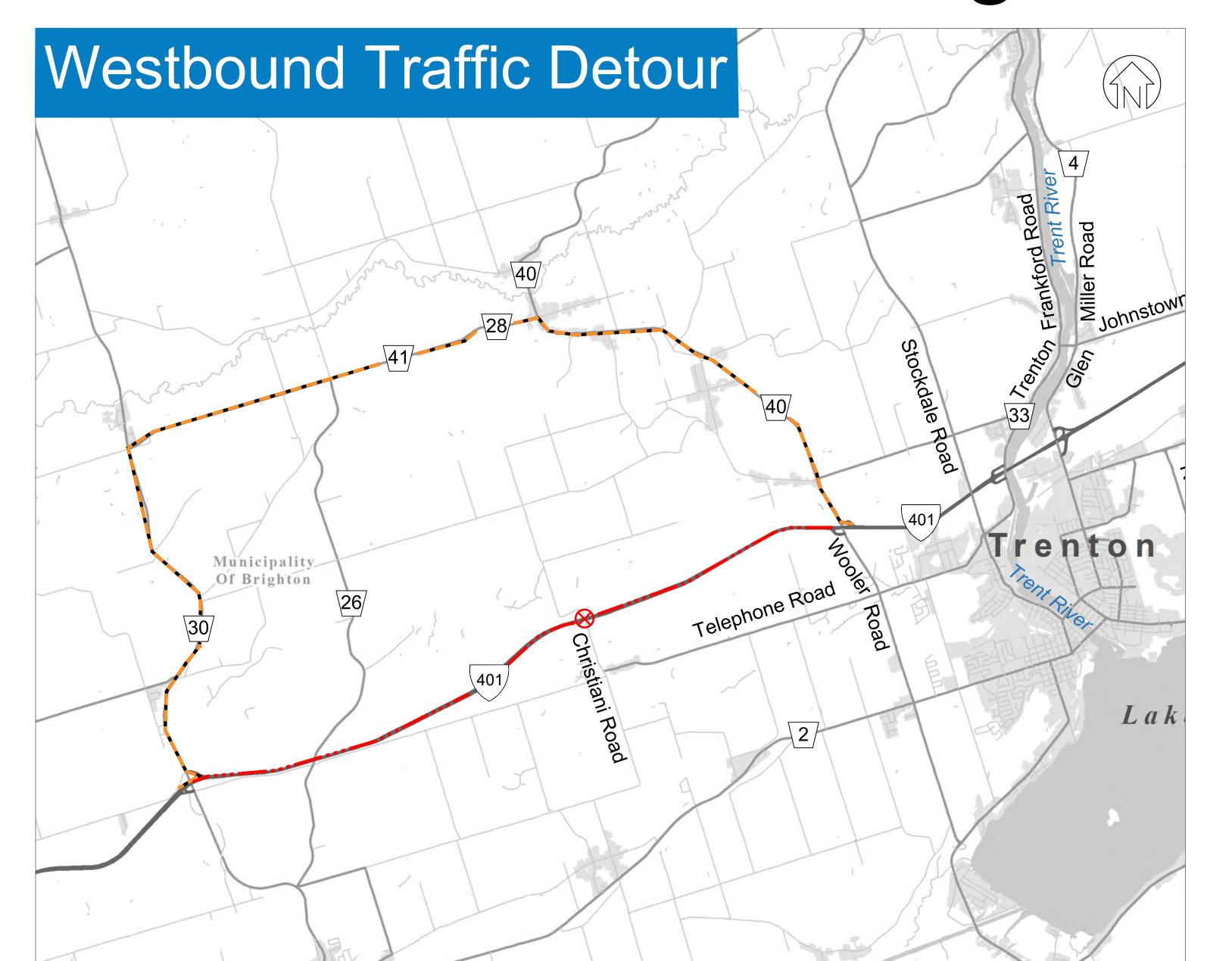
Interchange Improvement Alternatives

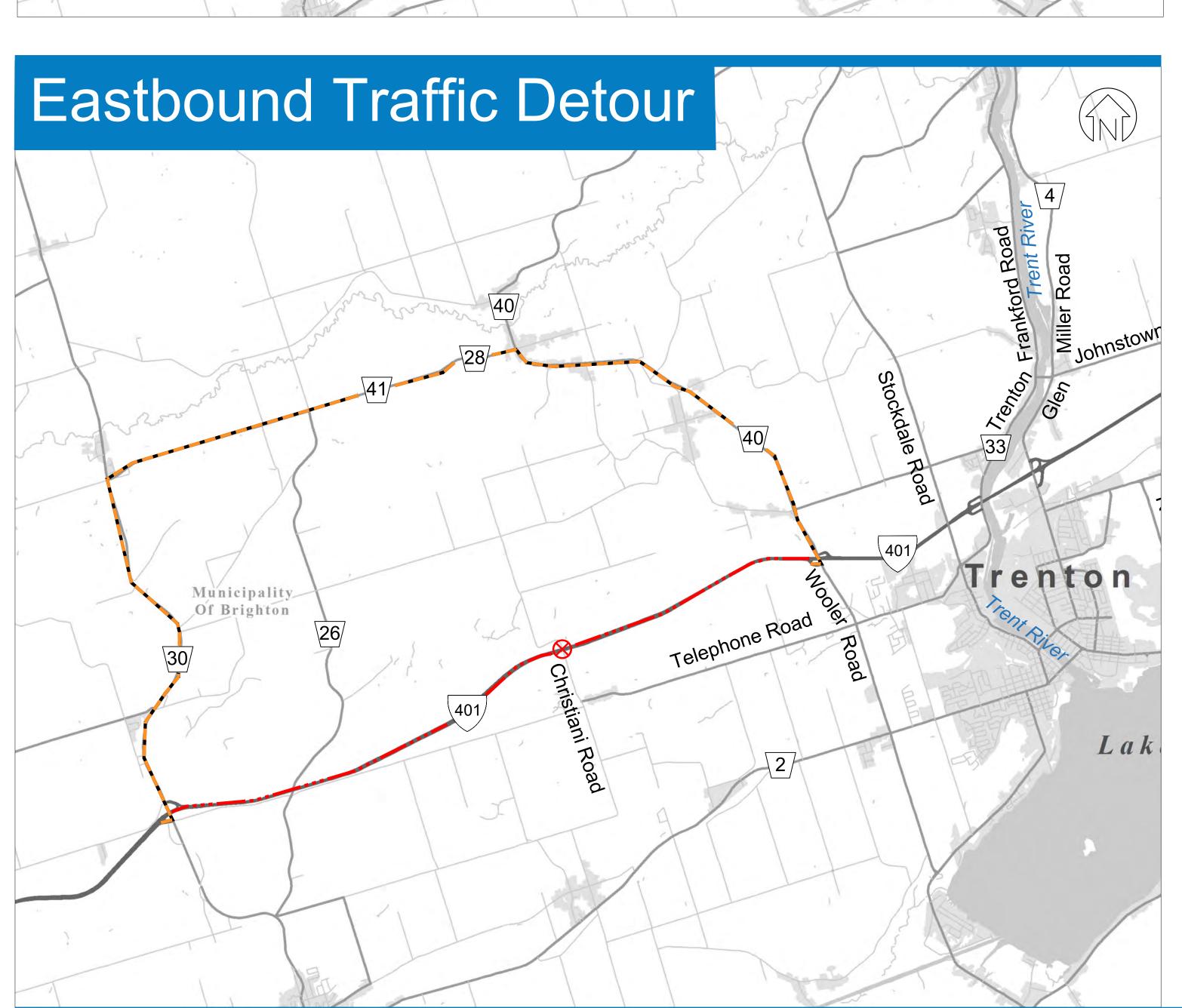
Note: Highway 401 will require overnight closures to traffic (approx. 12-18 hours for each closure) for the demolition of each existing bridge over the highway and potential girder placement for each new bridge. Detour routes for the closure of Highway 401 for the four underpass bridge locations are shown below. Duration and number of closures will be finalized during Detail Design, the timing of which is unknown. Additional potential detours for temporary interchange ramp closures may be required. The final detour routes will be confirmed in consultation with the affected municipalities.

LEGEND

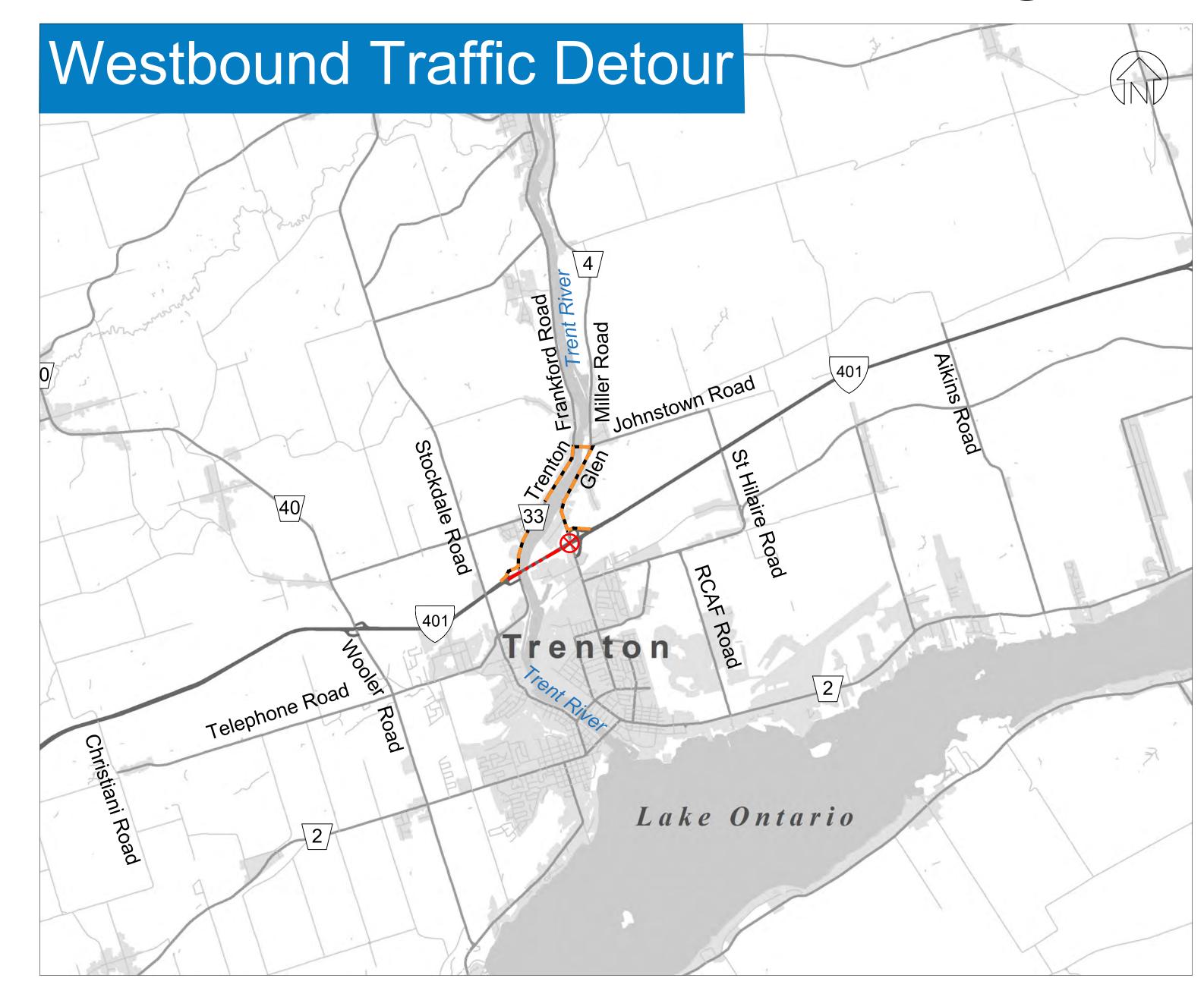
Highway Closure
Bridge Demolition
Proposed Detour Route

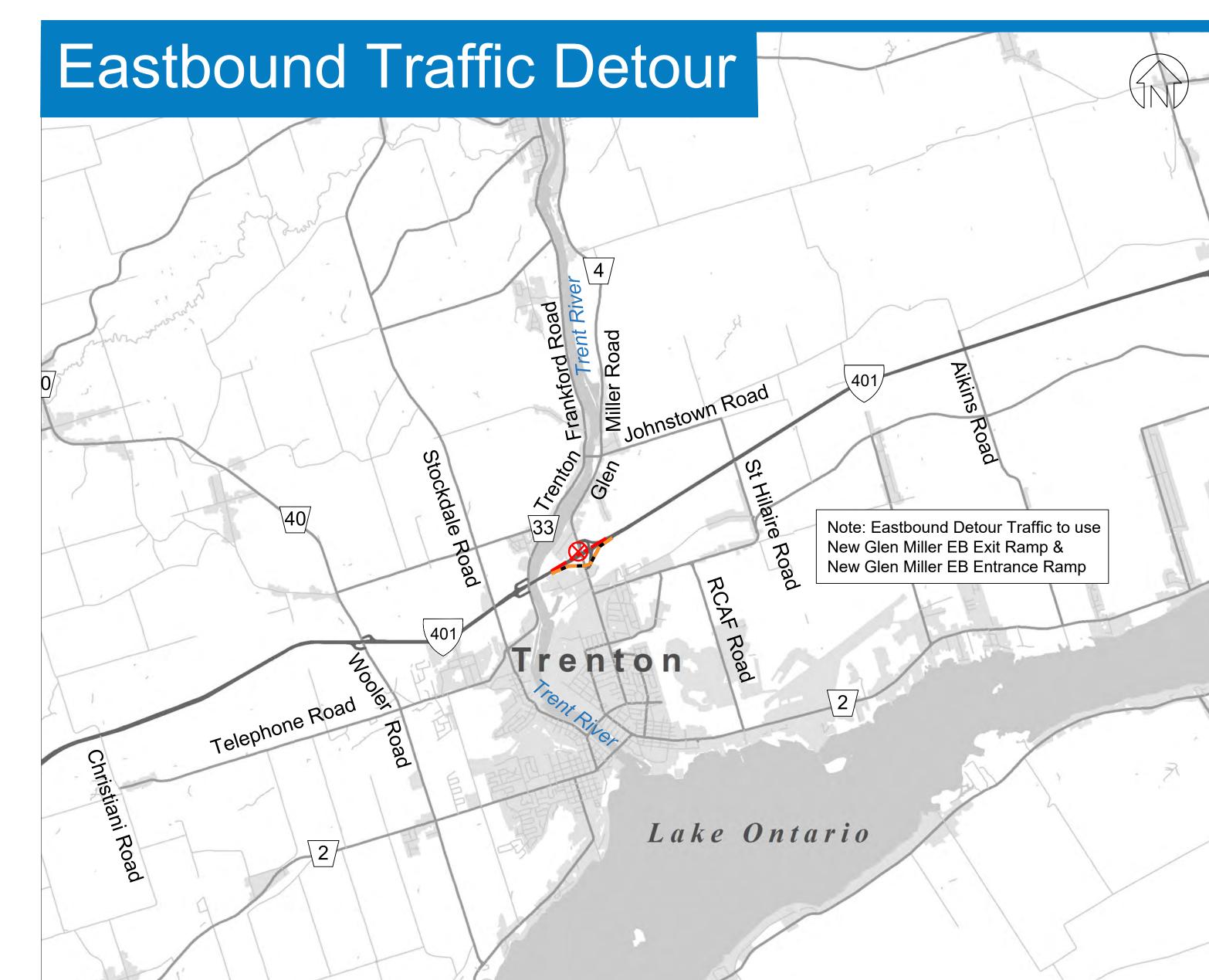
Christiani Road Bridge



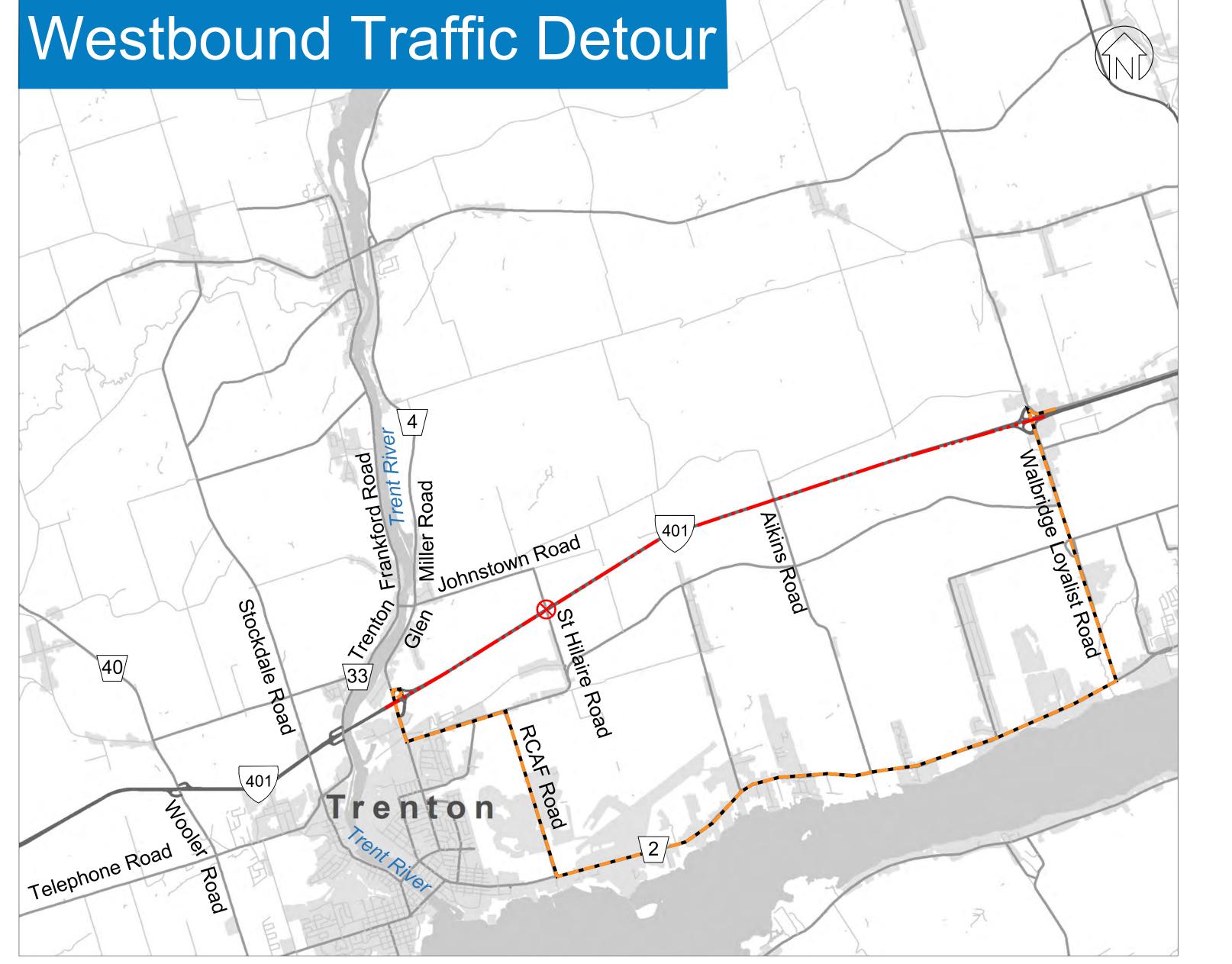


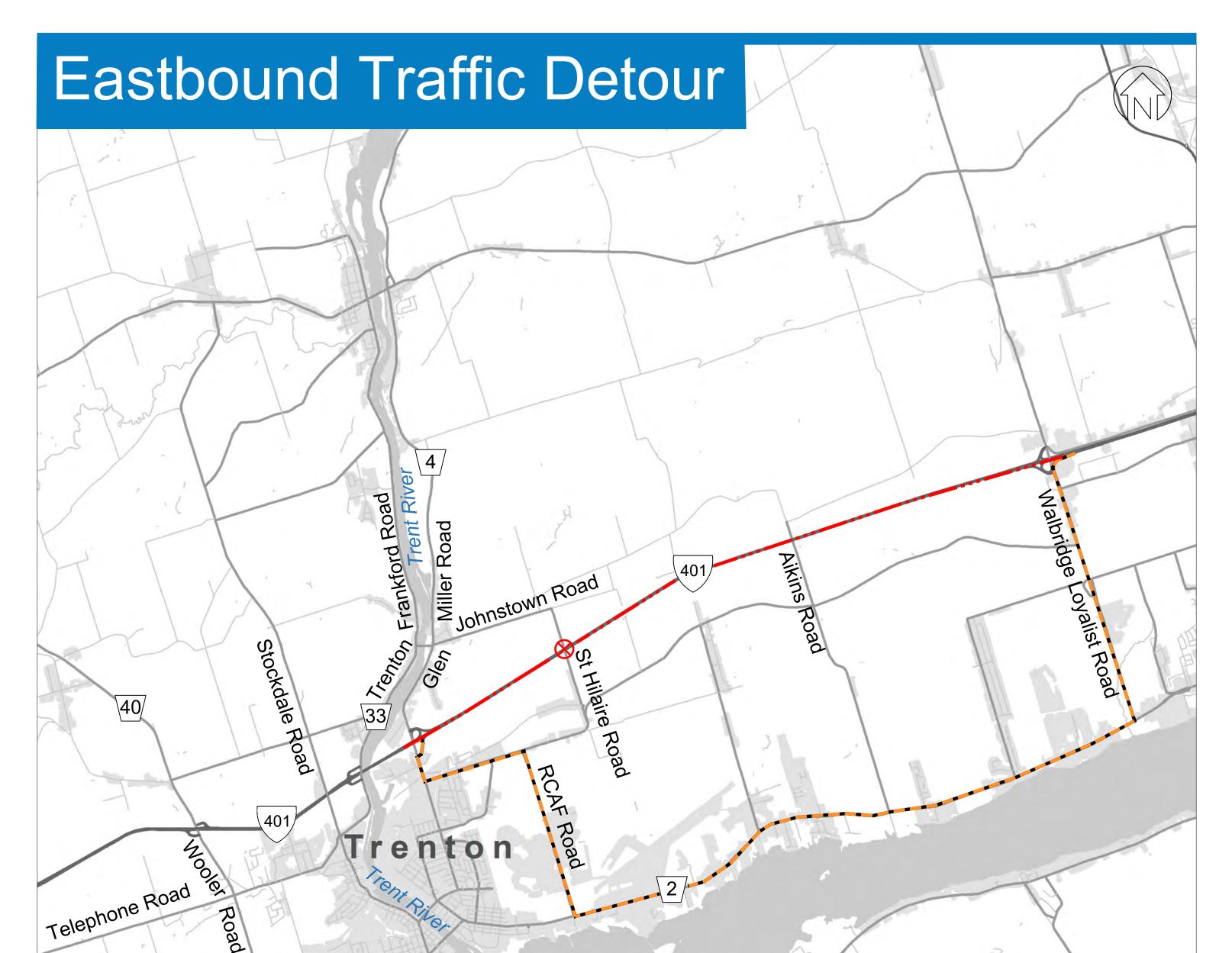
Glen Miller Road Bridge



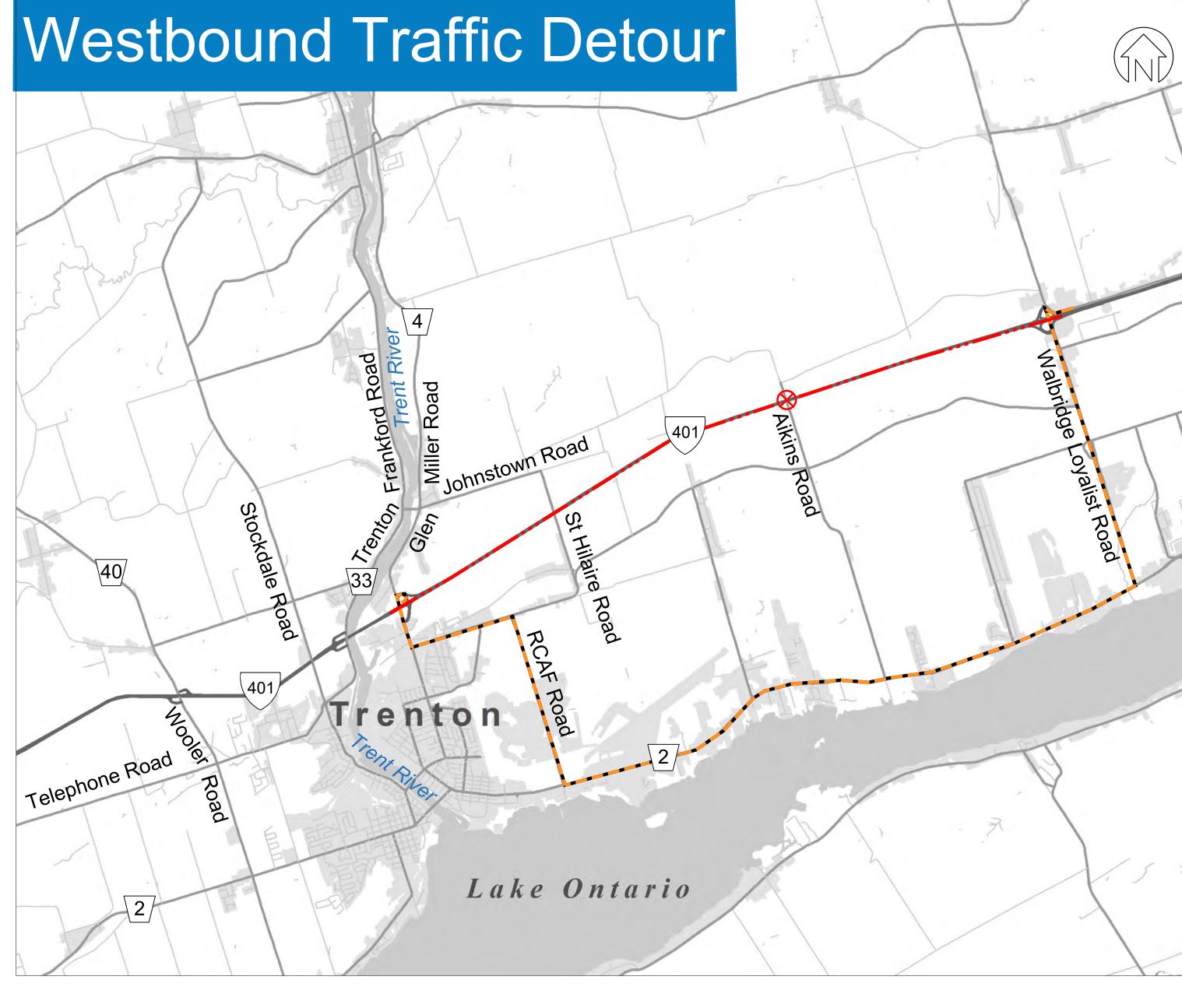


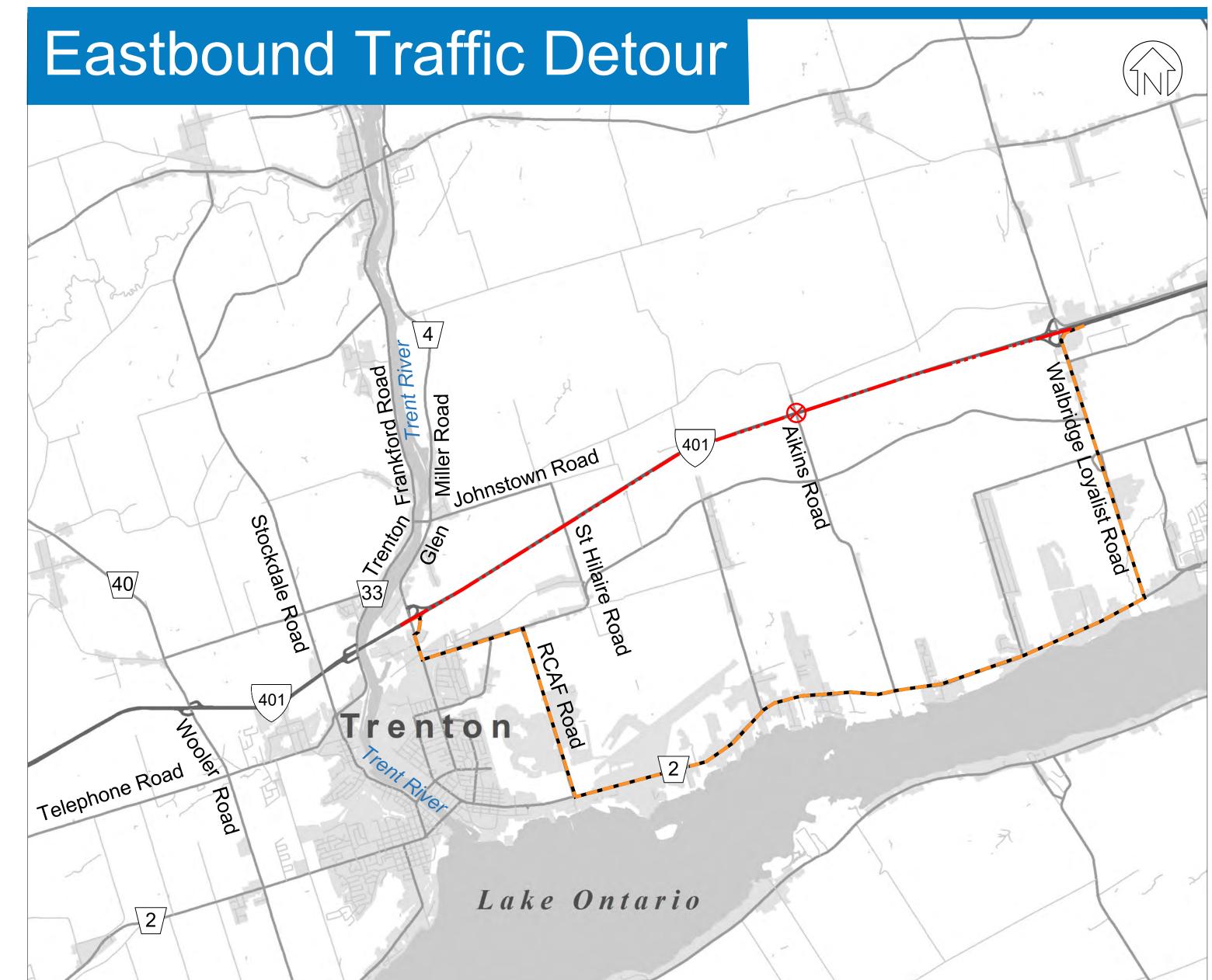
St. Hilaire Road Bridge





Aikins Road Bridge





Drainage Improvements

There are three structural culverts in the study area.

The following improvement strategies will be considered:



Replace with new culvert:

- Long-term strategy
- Accommodates interim (6-lane) Highway 401
- Accommodates ultimate (8-lane) Highway 401
- Requires significant excavation and temporary shoring

Culvert rehabilitation with extension:

- Not a long-term strategy
- Minimizes excavation and traffic disruptions
- Accommodates interim (6-lane) Highway 401
- Does not accommodate ultimate (8-lane) Highway 401
- Future rehabilitation or replacement of original culvert can be challenging





Replace with bridge:

- Long-term strategy
- Accommodates interim (6-lane) Highway 401
- Accommodates ultimate (8-lane) Highway 401
- Not economical for small embankments
- ⊕ Suitable only for Site 11X-0186/CO in conjunction with Glen Miller Road Underpass replacement

Culvert rehabilitation and retaining walls:

- Not a long-term strategy
- Minimizes excavation and traffic disruptions
- Accommodates interim (6-lane) Highway 401
- Does not accommodate ultimate (8-lane) Highway 401
- Requires retaining walls



Evaluation Process

A detailed evaluation of alternatives will be carried out to identify an improvement plan that addresses structural and future transportation needs and provides safe operations, while minimizing the impacts to the natural, social and cultural environments. This is accomplished by identifying evaluation criteria along with their relative importance, and then ranking the overall scores of the design alternatives.

A second PIC will be scheduled following PIC 1 to present the evaluation of the alternatives and a preferred plan for the Highway 401 Planning Study.

The Preferred Plan

The concluding step in the analysis and evaluation process is the selection of a preferred plan.

This process includes:

- Reviewing the results of the analysis and evaluation based on specialist work and input received during the study
- Determining which criteria have the most influence on the outcome of the evaluation process
- Considering the sensitivity of the weightings
- Confirming the ranking of the alternatives
- Considering public/stakeholder response to the evaluation process



Identify Criteria

Evaluation Criteria are established through:

- public input
- project needs and requirements
- similar projects
- provincial guidelines
- existing conditions



Weigh Criteria

Each criterion is assigned a weight factor that best reflects its relative importance.



Evaluate Alternatives

The sum of the weighted scores provides a total score for each alternative. This is the basis for ranking the alternatives and, along with a reasoned argument assessment approach, helps to identify the preferred plan



The highest scoring alternative

Preliminary Evaluation Criteria

Engineering

Traffic Operations

- Projected future traffic
- Level of Service (LOS) on Highway 401 and at interchanges

Geometrics & Safety

- Design standards for provincial highways and interchanges
- Potential for collisions on Highway 401
- Potential to accommodate Long Combination Vehicles
- Crossing road grades at ramp terminals
- Pedestrian and cyclist accommodations

Community

Property

Impacts to private property

Noise & Air Quality

Proximity to residences

Built & Cultural Heritage

Impacts to potential cultural heritage resources

Archaeology

 Impacts to areas of archeological potential

Contamination

Potential to encounter contaminated soils/groundwater

Constructability

- Construction techniques
- Traffic flow and operations, including local access and out-of-way travel

Utilities

Impacts to utilities

Cost

Consider total cost including utility relocations and property acquisition

Environment

Terrestrial Ecosystem

- Impacts on wildlife habitat
- Impacts on significant trees and vegetation

Fish & Fish Habitat

Impacts to watercourses and fish and fish habitat

Species of Conservation Concern

 Impacts to Species-at-Risk and habitat associated with Species-at-Risk

Designated Areas

Impacts to Provincially Significant Wetlands









Investigations

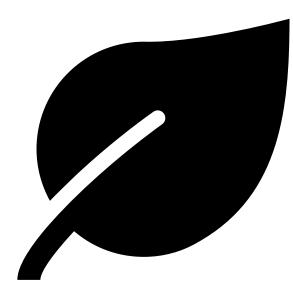
In accordance with the MTO class environmental assessment process, this study includes engineering and environmental specialists who are carrying out background studies and site-specific investigations to support the development and the evaluation of alternatives, and identify potential impacts and mitigation measures. The investigations for this study include, but are not limited to, the following:



Engineering Investigations

- Highway
- Traffic and Safety
- Bridge
- Drainage and Hydrology

- Geotechnical
- Foundations
- Electrical



Natural Environment Investigations

- Terrestrial
- Aquatic
- Species at Risk



Socio-Economic Investigations

- Heritage
- Noise and Air Quality
- Groundwater
- Archaeology
- Contamination

Next Steps

The following will be completed after this PIC:

- ✓ Review, consider and respond to the comments received
- Evaluate alternatives
- ✓ Identify the Preferred Plan
- ✓ Identify the potential impacts and mitigation measures
- ✓ Host second PIC
- ✓ Prepare the Transportation Environmental Study Report (TESR)
- ✓ Issue Notice of Study Completion and File the TESR for a 30-day comment period

Thank you for attending

Your input is important

3 ways to provide your comments:



Fill out a comment sheet and place it in the box



Email: comments@hwy401quintewest.ca



Contact the Project Team:

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1355 John Counter Boulevard, Postal Bag 4000
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Tel: 613-449-2615

Toll Free: 1-800-267-0295 ext. 4701 Email: comments@hwy401quintewest.ca

We would appreciate receiving your comments by March 22, 2024