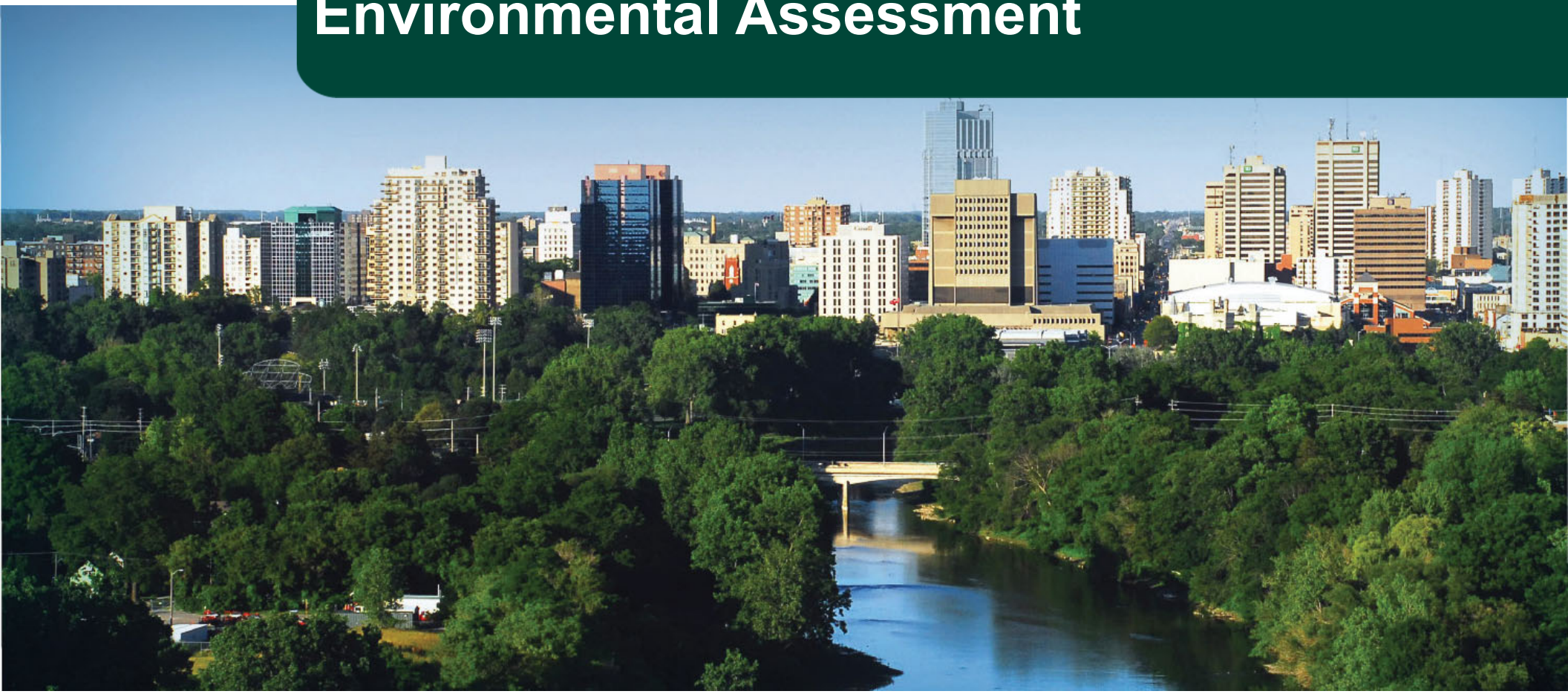
Kensington Bridge Municipal Class Environmental Assessment



Integrated Transportation and Community Advisory Committee

February 15, 2022, from 3:00-4:30p.m.

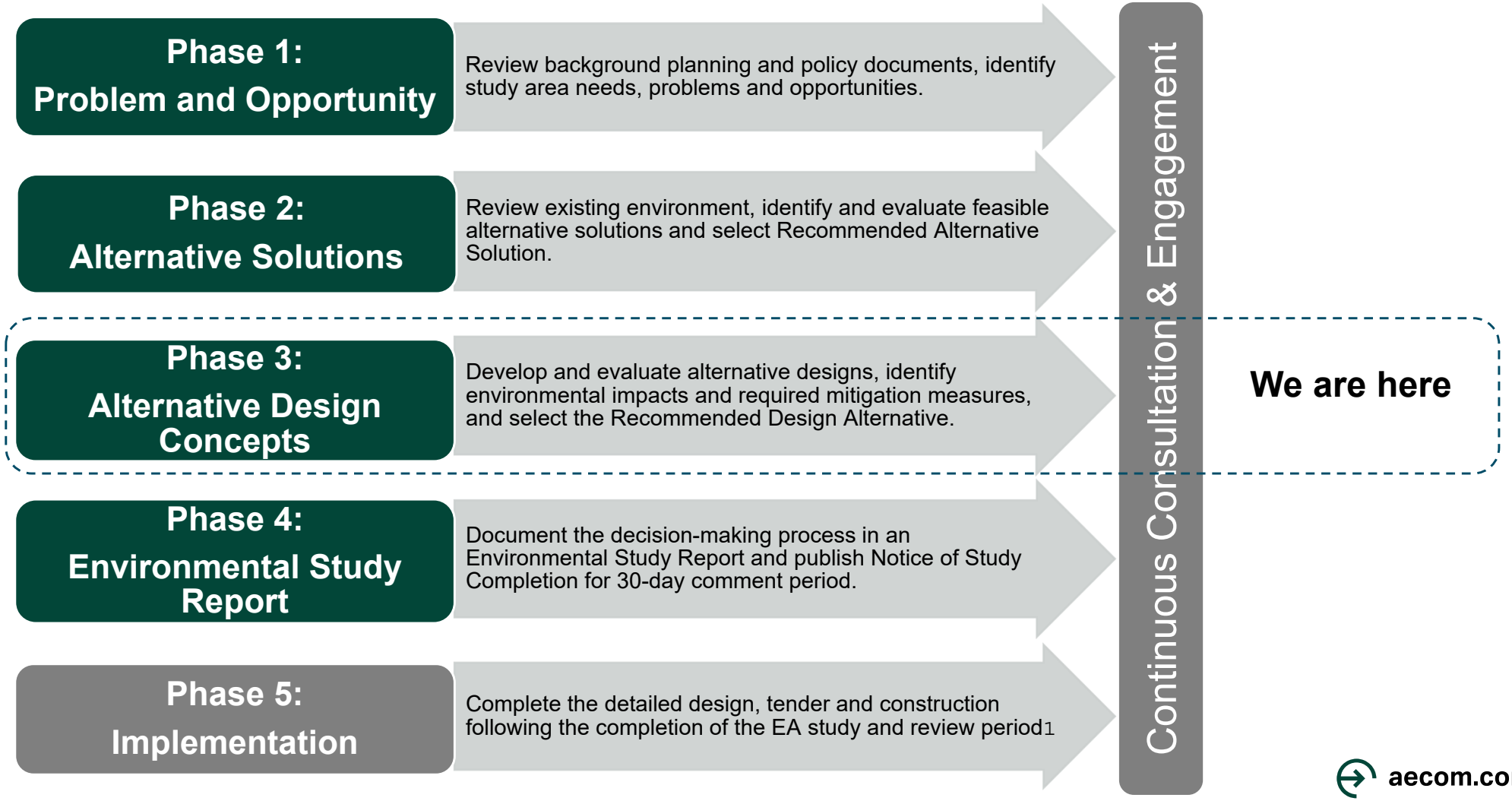
PIC #2

The Purpose of PIC#2 will be to:

- Present the alternative design concepts
- Present the recommended design concepts
- Solicit feedback

Municipal Class EA Study Process

The Class EA study will be completed in accordance with the **Ontario Environmental Assessment Act** and will fulfill the requirements of the Municipal Class EA process for **Schedule C** projects. At the end of the EA process, an **Environmental Study Report** will be prepared for public review and comment to document the planning process followed.



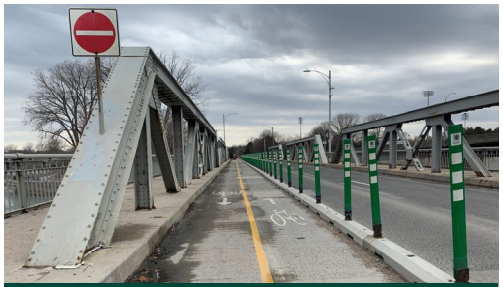
Study Area Features / Existing Conditions

Bridge Description

- Kensington Bridge was constructed in 1930 and is a 3-span steel modified Warren pony-truss structure.
- The bridge deck currently has two 3.0 m wide eastbound travel lanes.
- The Annual Average Daily Traffic count at the bridge is 9,500 vehicles per day.
- Active transportation accommodations include sidewalks on both sides of the bridge and bidirectional cycle track on the south side of the bridge (2020).
- The Thames Valley Parkway (TVP) passes below the east and west spans adjacent to the Thames River. The daily users on the TVP averages about 1200 users per day with over 2500 users per day during summer periods.

TVP passing under the west side of the Kensington Bridge

TVP passing under the east side of the Kensington Bridge



Existing two way cycle track on Kensington Bridge

Existing pedestrian walkway on Kensington Bridge

Study Area Features / Existing Conditions

Bridge Condition

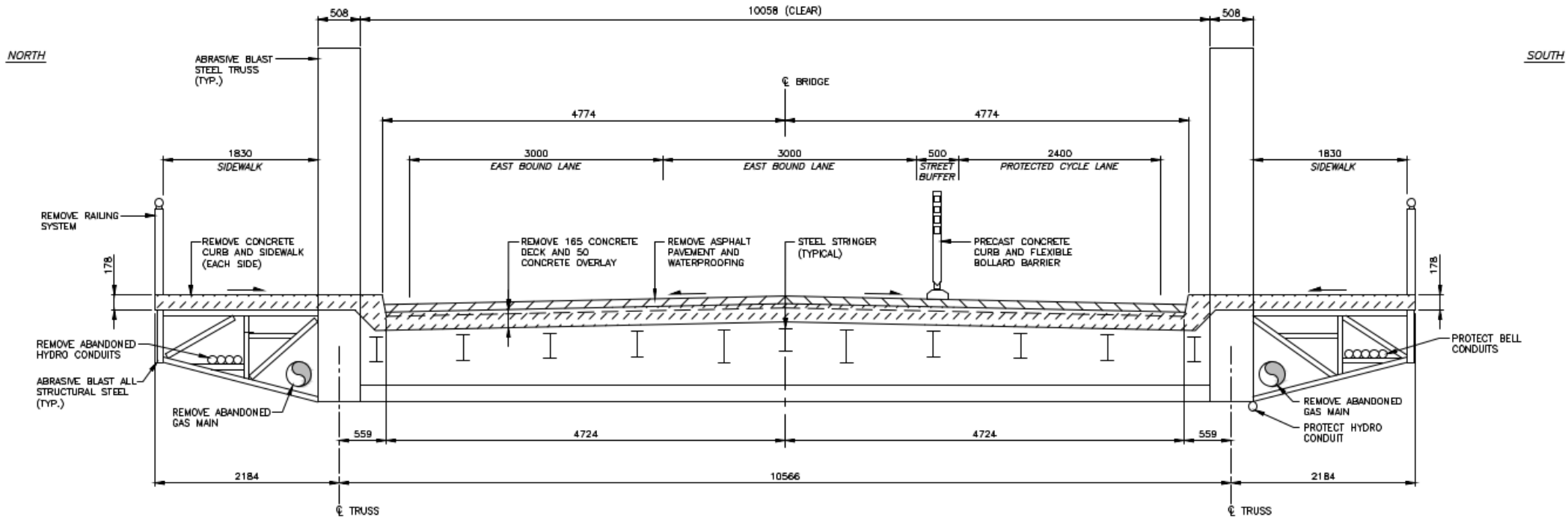
- Previous major rehabilitation includes deck replacement (1960), construction of an exposed concrete overlay (1985), and structural steel recoating (1996). Kensington Bridge is 92 years old and has ongoing maintenance issues. Maintenance of the bridge since 2004 has included abutment refacing, sidewalk and deck repairs, bearing seat repairs, and replacement of the expansion joints.
- Exposed concrete deck is in fair to poor condition with narrow to wide cracking, concrete delaminations and previous patching. Concrete repairs and lane closures are required annually to address issues.
- Structural steel is in fair condition with localized poor conditions below the deck at the abutments and piers.
- Bridge bearings are in fair to poor condition with light to severe corrosion, flaking and pack rust.

Kensington Bridge – South Elevation

Localized corrosion on bridge truss

Kensington Bridge Soffit

Existing Conditions - Cross-section



EXISTING AND REMOVALS

Existing Conditions – Road Network

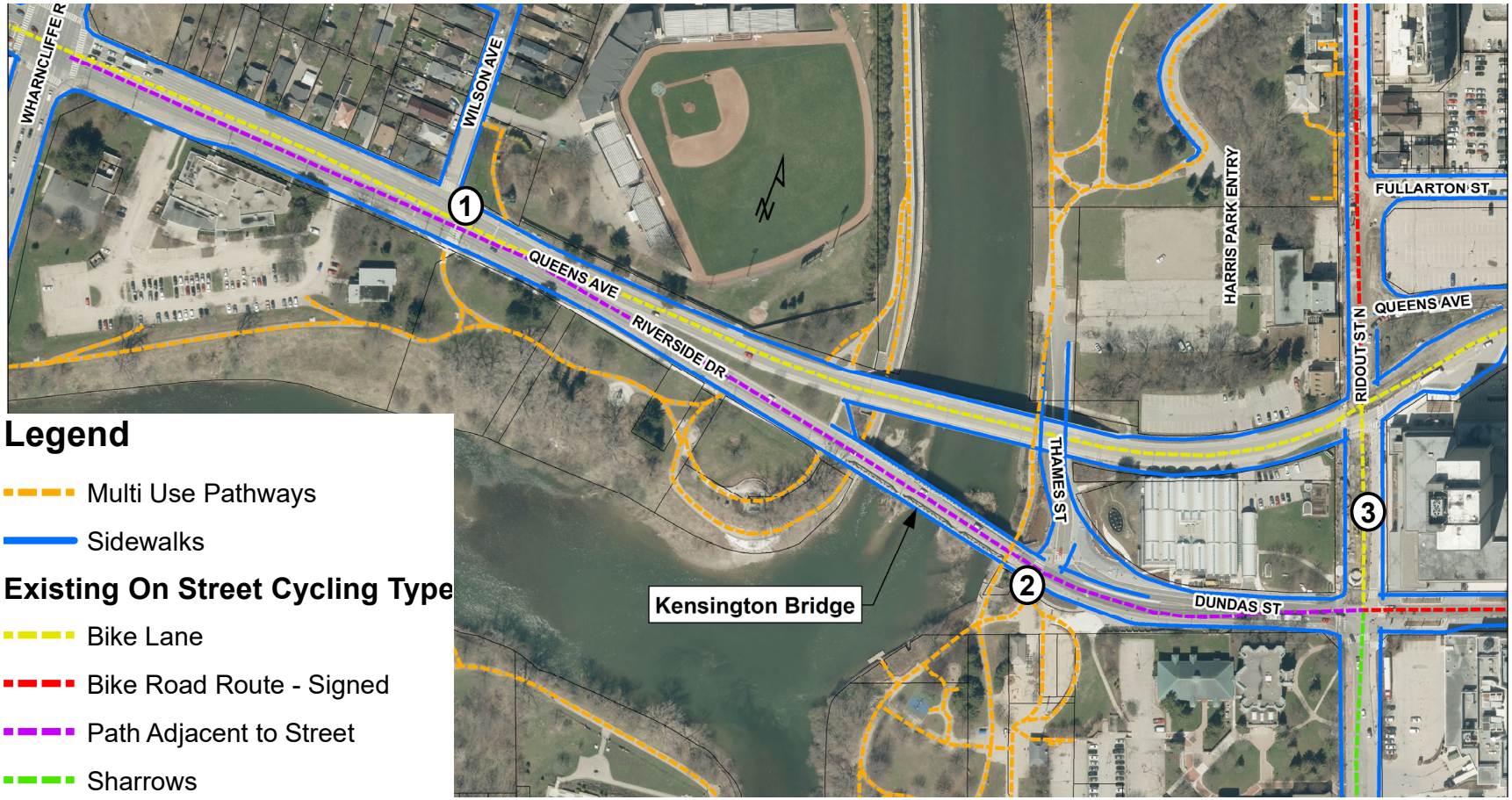
Kensington Bridge:

- Accommodates two eastbound lanes of vehicular traffic.
- Accommodates bi-directional cycle track on the south side of the bridge.
- The bridge is classified as Civic Boulevard.

The Queens Bridge:

- Accommodates two westbound lanes of vehicular traffic.
- Accommodates west bound cycle lane on the north side of the bridge. The planned Queens Bridge rehabilitation does not include cycle lanes.
- Queens Avenue including The Queens bridge is classified as a RT Boulevard.

1. Signalized walk and bike crossing
2. PXO Cyclists must dismount
3. Cycle tracks in both directions on west and east side of Ridout St N.



Legend

- Multi Use Pathways
- Sidewalks

Existing On Street Cycling Type

- Bike Lane
- Bike Road Route - Signed
- Path Adjacent to Street
- Sharrows

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Existing Conditions – Road Network

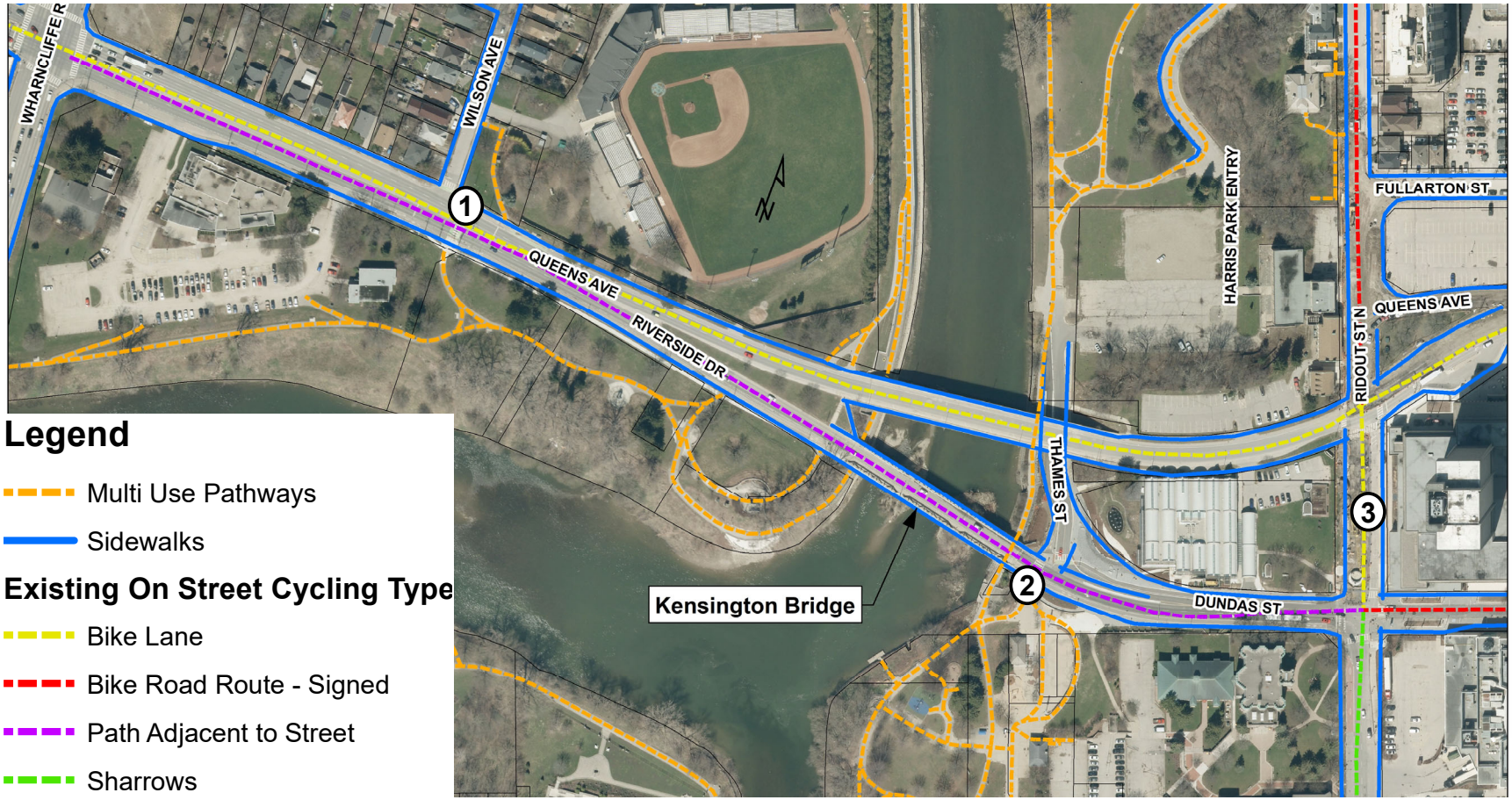
Riverside Drive:

- A four-lane arterial road, classified as a Civic Boulevard.
- It serves as the primary western entrance to the City centre.
- Traffic from the westbound-only Queens Avenue forms the westbound lanes of Riverside Drive immediately west of the Thames River, while the eastbound lanes of Riverside Drive cross the river on the Kensington Bridge and become Dundas Street.

Ridout Street North:

- A two-lane arterial road, classified as a RT Boulevard.
- Restricted to one-way southbound traffic and functions as the westernmost through street in Downtown London

1. Signalized walk and bike crossing
2. PXO Cyclists must dismount
3. Cycle tracks in both directions on west and east side of Ridout St N.



Legend

- Multi Use Pathways
- Sidewalks

Existing On Street Cycling Type

- Bike Lane
- Bike Road Route - Signed
- Path Adjacent to Street
- Sharrows

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Existing Conditions – Road Network

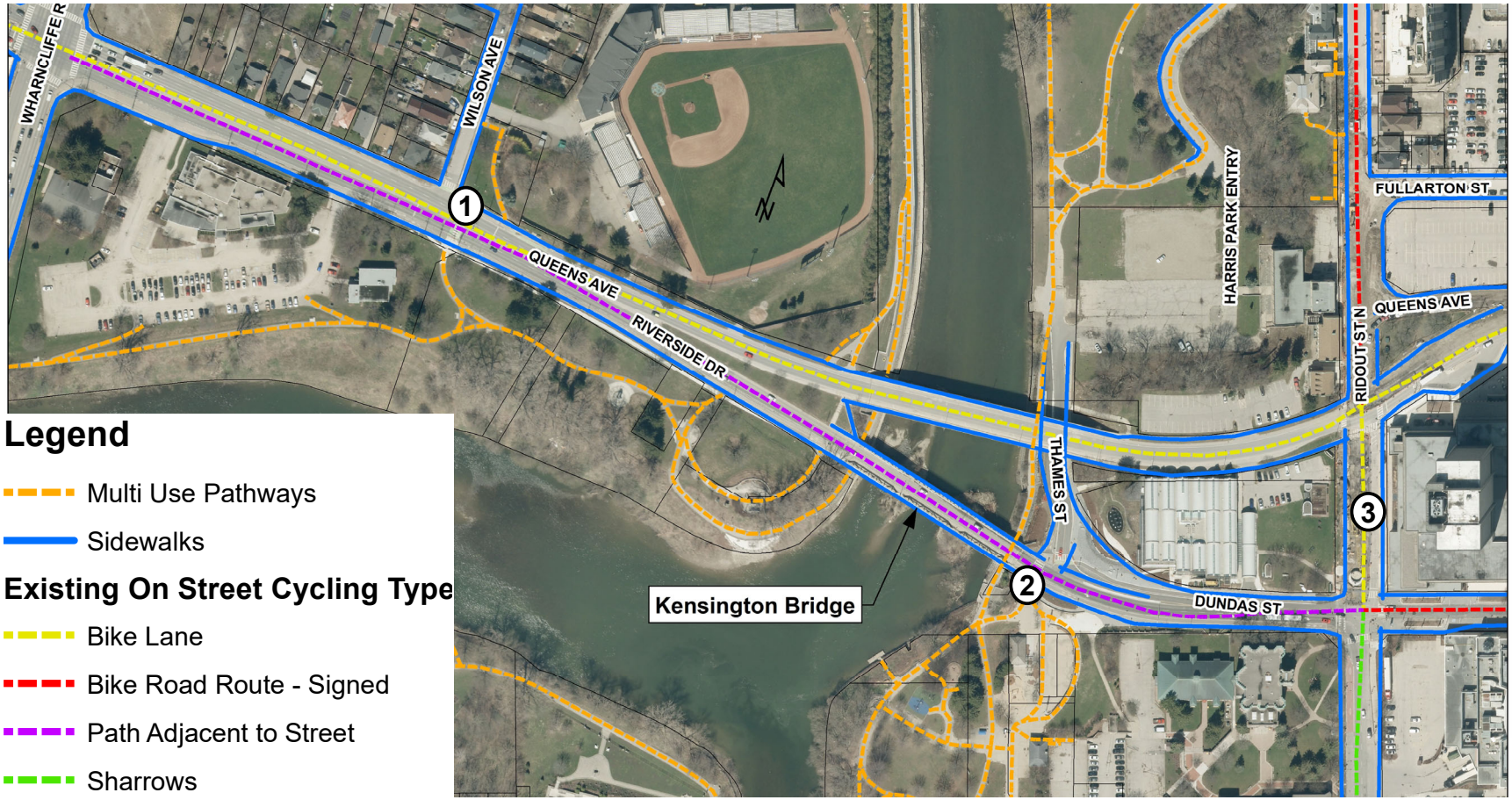
Wilson Avenue:

- A two lane stop-controlled local road connecting the residential neighbourhood with Riverside Drive.

Wharncliffe Road:

- A four-lane arterial road.
- Wharncliffe Road south of Riverside Drive is classified as a Civic Boulevard whereas to the north Wharncliffe Road is classified as a RT Boulevard.

1. Signalized walk and bike crossing
2. PXO Cyclists must dismount
3. Cycle tracks in both directions on west and east side of Ridout St N.



Legend

- Multi Use Pathways
- Sidewalks

Existing On Street Cycling Type

- Bike Lane
- Bike Road Route - Signed
- Path Adjacent to Street
- Sharrows

Existing Conditions – Road Network

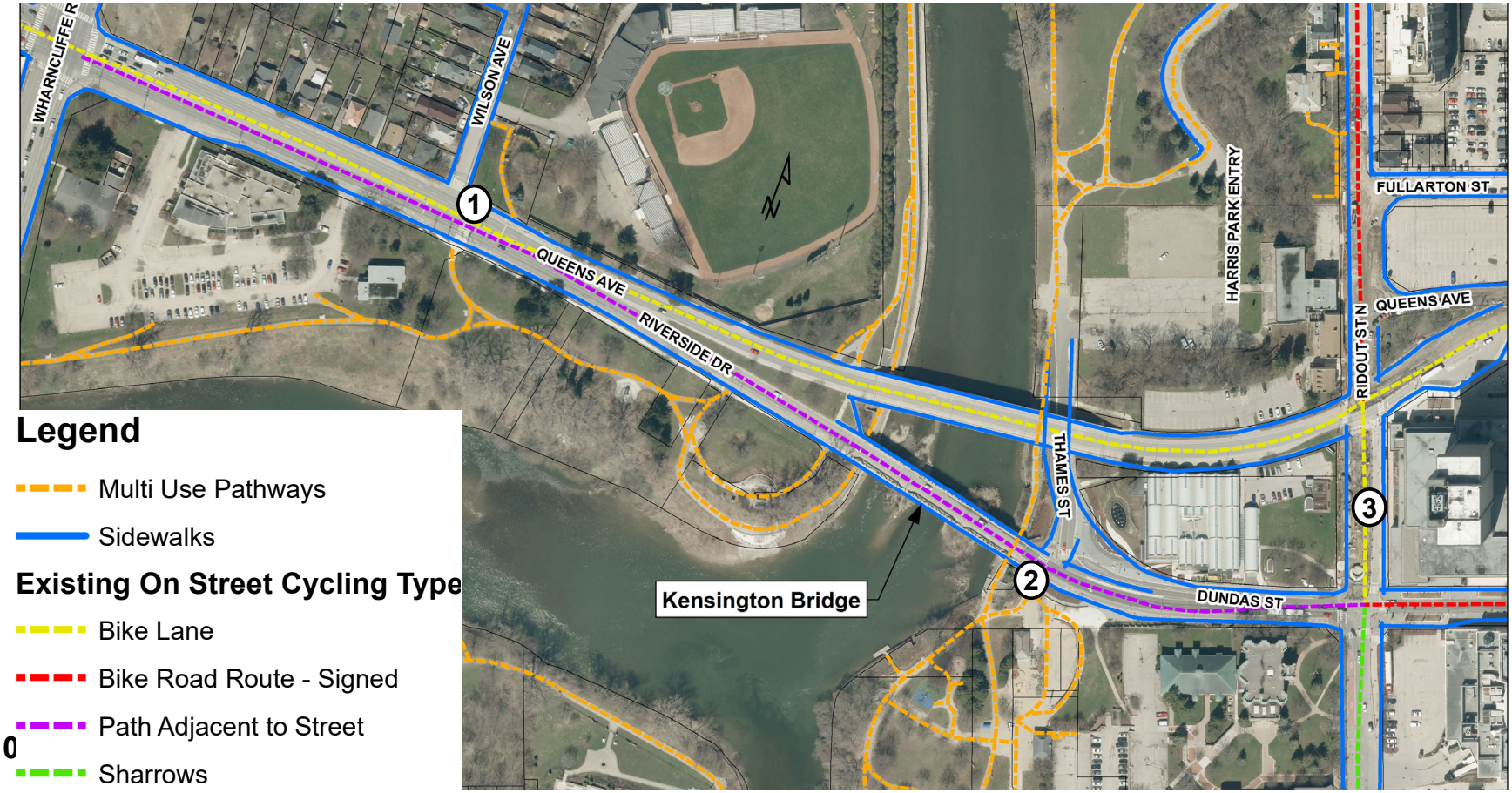
Thames Street:

- A two lane stop-controlled local road connecting the Harris Park Gate to Dundas Street.
- Right turn movements are prohibited from Thames Street as Kensington Bridge only accommodates eastbound traffic.

Dundas Street:

- A two-lane road, classified as a Civic Boulevard.
- It serves as the primary east-west commercial corridor in Downtown London.

1. Signalized walk and bike crossing
2. PXO Cyclists must dismount
3. Cycle tracks in both directions on west and east side of Ridout St N.



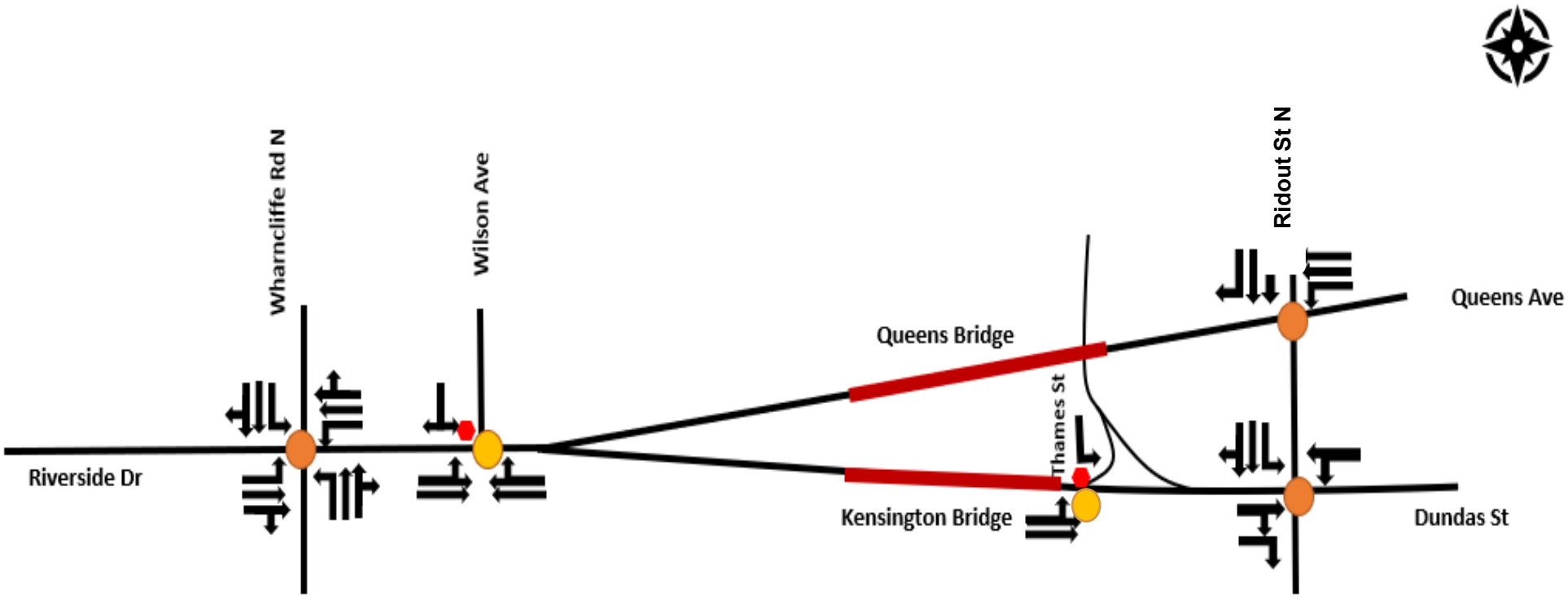
Legend

- Multi Use Pathways
- Sidewalks

Existing On Street Cycling Type

- Bike Lane
- Bike Road Route - Signed
- Path Adjacent to Street
- Sharrows

Existing Conditions Traffic Controls



Legend

- Intersection movements
- Signalized intersection
- Bridge
- Stop sign control
- Study area road network
- Signalized pedestrian crosswalk

Existing Conditions AM / PM Peak Traffic Volumes

Existing Traffic Volumes at the Bridges – AM and PM Peak

Kensington Bridge (East Bound):

AM Peak – 673 Annual Average Daily Traffic (AADT)
PM Peak - 1498 AADT

The Queens Bridge (West Bound):

AM Peak – 1818 AADT
PM Peak - 538 AADT

Problem and Opportunity Statement

The Problem and Opportunity Statement is the principal starting point of a MCEA and becomes the central theme and integrating element of the project. It also assists in setting the scope of the project.

The Problem:

- To address ongoing maintenance issues with the bridge and achieve an additional service life objective of 50 years, complete concrete deck replacement, steel recoating and other major repairs are required.
- The Thames Valley Parkway (TVP) passes below the east and west spans of the bridge, with height clearances of 2.5 to 4.0m.
- The Bridge meets the criteria to merit heritage designation under the Ontario Heritage Act (OHA) and is currently designated under Part V of the OHA as part of Blackfriars/ Petersville Heritage Conservation District.

Problem and Opportunity Statement

The Opportunity:

- To identify the preferred solution for a new or rehabilitated Kensington Bridge through supporting background studies, field investigations and a systematic qualitative evaluation process.
- Gather feedback from public, area stakeholders, agencies and Indigenous Communities allowing the sharing of ideas.
- Coordinate any bridge work with planned improvements to the TVP.

Kensington Bridge – South Elevation

Kensington Bridge – North Elevation

Alternative Planning Solutions Presented at PIC #1 (June 2022)

Planning solutions are alternatives that can implement the previously identified opportunities**.** The Planning Solutions for this project were identified below:

1. **Do Nothing** – This alternative provides a basis to which other alternative planning solutions can be compared. This alternative does not address the Problem and Opportunity Statement and therefore will not be evaluated as a viable option.

2. **Rehabilitate the Existing Structure** - This alternative would involve completing the recommended works to achieve a minimum 50-year service life objective. **Recommended and Carried Forward for further evaluation.**

3. **Replace Structure**
   a) New Bridge on the existing alignment (remove existing bridge). **Not Recommended for further evaluation.**
   b) New Bridge on a new alignment to the south. **Not Recommended for further evaluation.**

PIC #1 Recommendation: Rehabilitate the Existing Structure

1. Rehabilitate existing bridge with **necessary repairs to increase** service life.
2. Traffic Detour using The Queens Bridge during construction. (Coordination with Rapid Transit required) Right turn required at Ridout St.
3. TVP closed during construction. TVP detours necessary.
4. Coordination with planned replacement of retaining wall.
5. Coordination with Harris Park erosion control project.
6. Coordination with West London Dyke feasibility study.
7. Coordination with Queens Bridge rehabilitation project.

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Design Concept Alternatives - Summary

General Bridge Rehabilitation Base Scope – Required Works

- Deck replacement.
- Patch repairs.
- Joint elimination.
- Structural steel strengthening and recoating.
- Substructure repairs.
- Replacement of street lighting.
- Coordinate TVP improvements in detailed design.

Pedestrian Railing System Alternatives

1. Rehabilitate and reuse the existing railing system.
2. Replacement with replicated/sympathetic design approach – **Recommended.**

Bridge Barrier System Alternative

1. Do Nothing – Structure and traffic are not protected from impact.
2. Concrete parapet wall.
3. Metal tube rail system – **Recommended.**

Pillar Alternatives

1. Do Nothing – Maintain status quo (original pillars were removed and not part of arrangement).
2. Construct sympathetic Pillars at west end in the general area of the bridge in alignment with the truss (approaches/park).
3. Construct sympathetic Pillars at west end close to the bridge and outside of the sidewalk – **Recommended.**

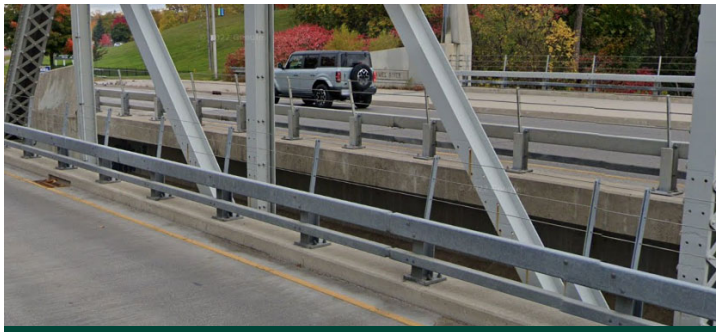
Bridge Barrier System Design Rationale and Summary

Rationale for Tube System

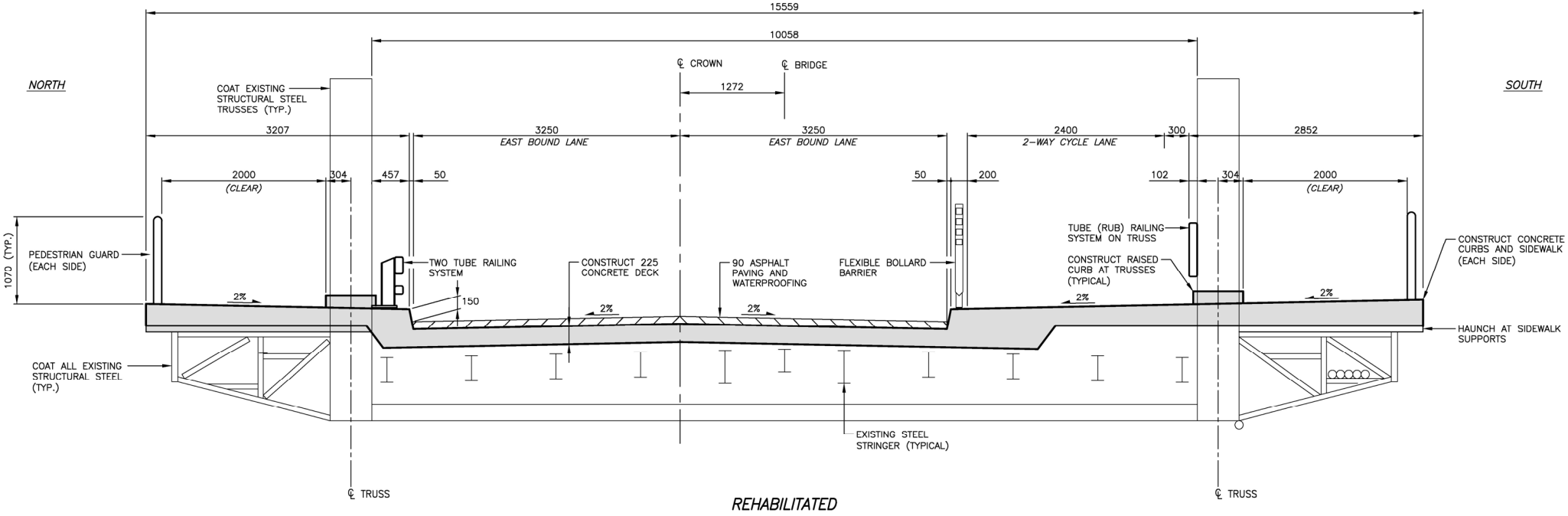
- Less aesthetic impact, preserves views from the bridge.
- Protects cyclists from impacts with the bridge trusses.
- Provides some vehicle collision protection for the bridge trusses.

Design Summary for Tubes System Barrier

- Barrier will be adjacent to the curb on the north side of the bridge.
- Barrier will be adjacent to the trusses on the south side of the bridge.

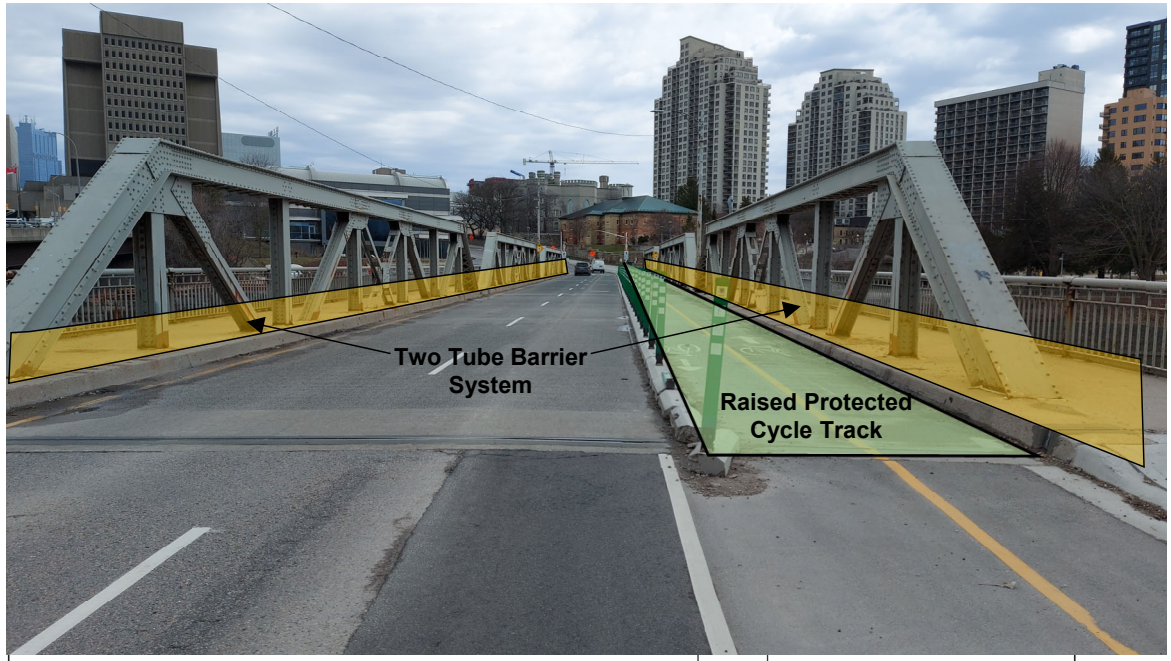


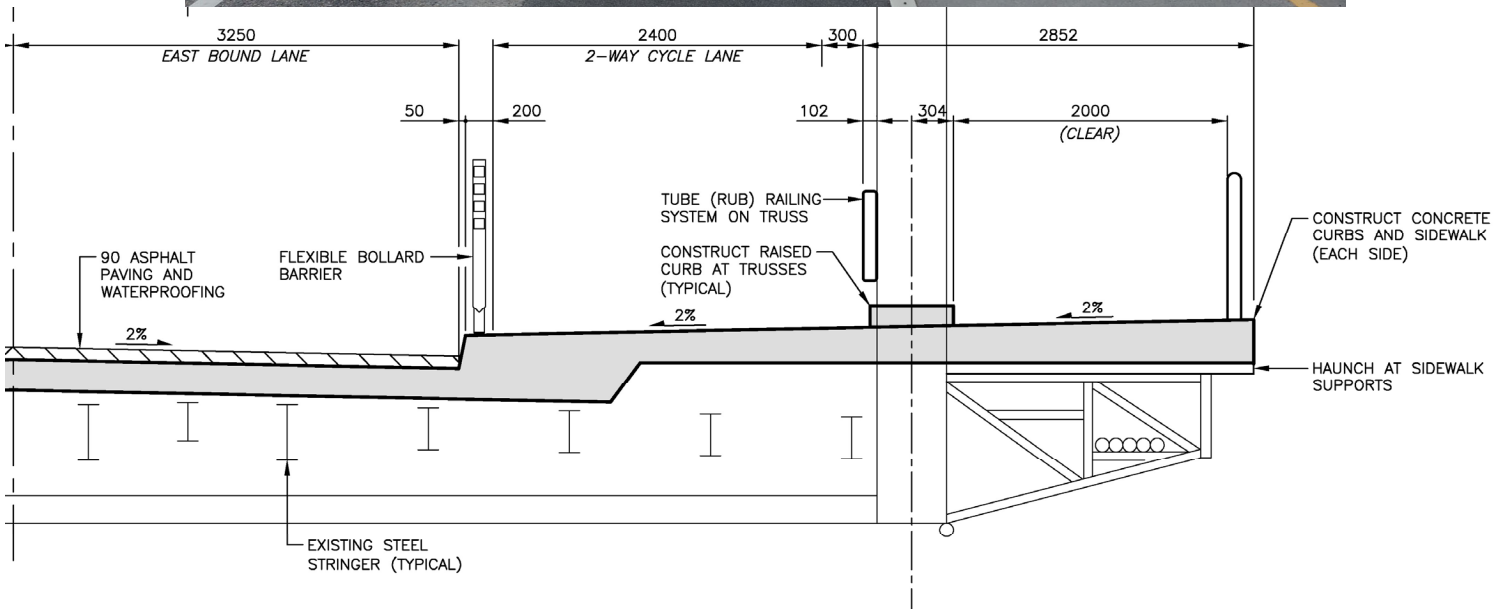
West Brough's Bridge – Example of two tube system



Preliminary Design Only – Lane widths, and tube railing system to be confirmed during detailed design

Bridge Barrier System Design Rationale and Summary



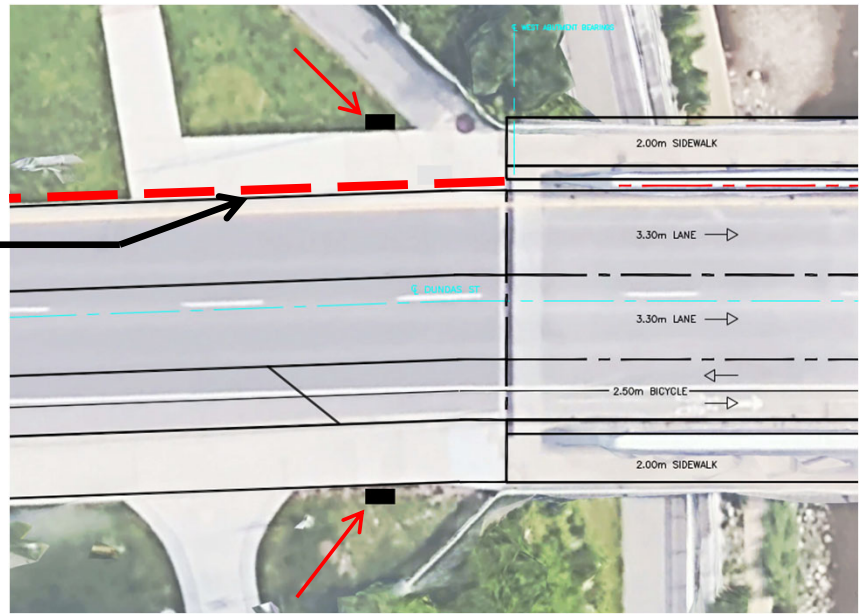


Pillars Design Rationale and Summary

Place Pillars Outside of the Walking Area on West Side

- Placing Pillars outside of the walking area is safer for active transportation and road users.
- Does not obstruct site lines.
- Prevents damage from vehicles and ploughs and reduces potential for deterioration from winter salt.
- Placing the Pillars on the west side will create a gateway feature entering the Downtown Core.

Two tube guide rail system will terminate west of the bridge to reduce crossing Riverside Dr and encourage using the TVP underpass or the PXO at the east end of the Bridge. (Exact location will be determined during detailed design)



Kensington Bridge Pillar (Removed in 2006)

Next Steps

Winter 2023
Collect input from PIC #2

Receive and consider input from the public, agencies and stakeholders to confirm the preferred planning alternatives.

Winter/Spring 2023
Environmental Study Report

Prepare Environmental Study Report (ESR)

Report will be available for Public Review for 30-Days. ITCAC will be circulated with the Notice of Completion.

If no issues are raised within the 30-day review period and subject to MECP acceptance, the City can proceed to detailed design.