

Eglinton East Light Rail Transit (EELRT)

Functional (10%) Design Phase

May 2023



Land Acknowledgements

Toronto

We acknowledge the land we are meeting on is the traditional territory of many nations including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Huron-Wendat peoples and is now home to many diverse First Nations, Inuit and Métis peoples. We also acknowledge that Toronto is covered by Treaty 13 with the Mississaugas of the Credit.

Scarborough

The land we are standing on today is the traditional territory of many nations including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Huron-Wendat peoples and is now home to many diverse First Nations, Inuit and Métis peoples. We also acknowledge that Toronto is covered by Treaty 13 signed with the Mississaugas of the Credit, and the Williams Treaties signed with multiple Mississaugas and Chippewa bands.



EELRT Project Team



Transit Expansion
City Planning
Transportation Services

Agenda

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Introduction



Why We're Here Today

- To share an update on the functional (10%) design of the Eglinton East Light Rail Transit (EELRT) project.
- To provide design details on specific Focus Areas throughout the project corridor.
- To provide an opportunity for public input and to respond to your questions through a Q&A session.



Public Consultation Process

Two phases of Public Consultation are planned for this stage of design, referred to as the **functional (10%) design** stage.

In Phase One, the public has an opportunity to indicate support for the project and to identify specific areas of concern where further improvements may be needed. Phase Two will be part of the Transit Project Assessment Process (TPAP) required by the province.

Phase One Consultation Period:

1. Provide a project update on the LRT route components, such as major stops and track alignment.
2. Consult with public on LRT stop preferences, public realm components and station user experience.

Opportunities for feedback through meetings, via phone or email or using the online survey [Toronto.ca/EglintonEastLRT](https://toronto.ca/EglintonEastLRT).

Comment Deadline: June 21st, 2023



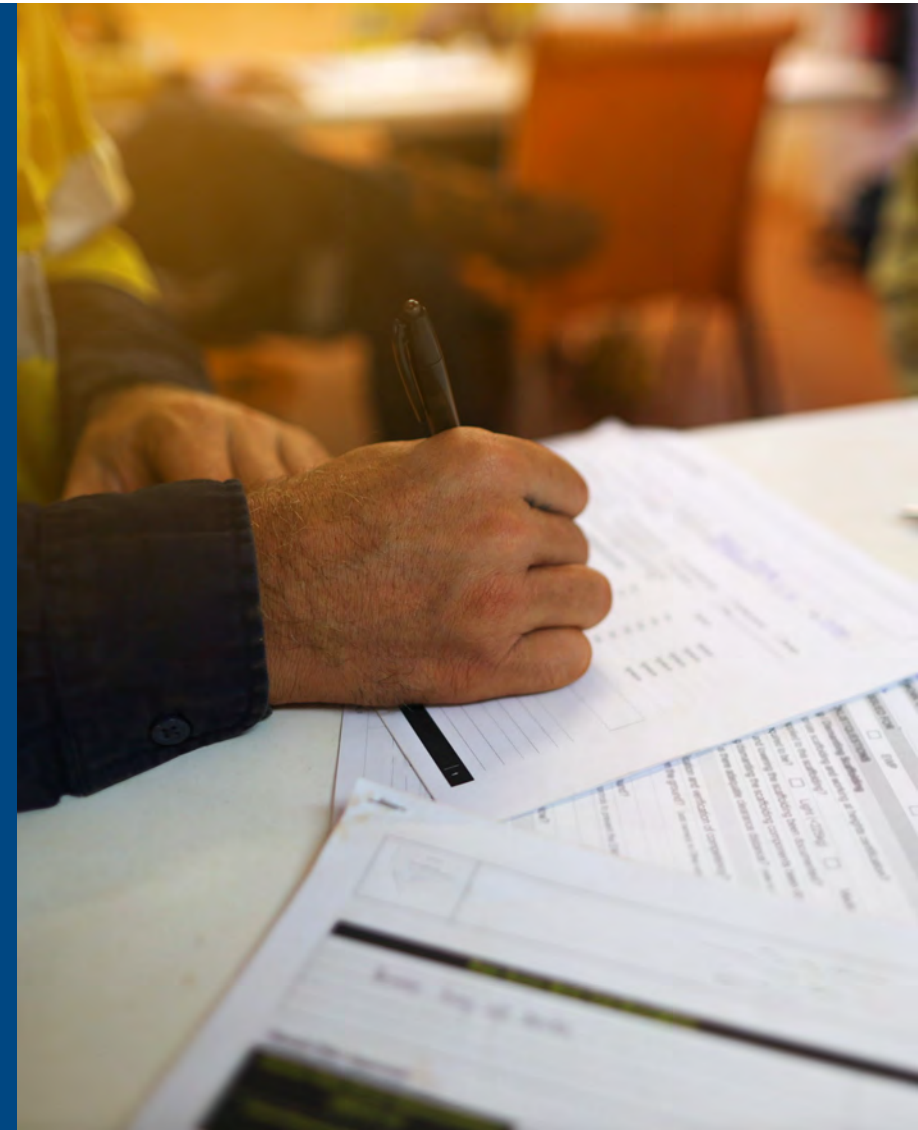
Transit Project Assessment Process (TPAP)

The **Transit Project Assessment Process (TPAP)**, a streamlined Environmental Assessment process, for the EELRT project will begin this fall.

Environmental studies are underway to evaluate any potential impacts the project may have on the surrounding community or natural environment and recommend ways to mitigate or minimize those impacts.

In the next phase of public consultation, the project team will share the findings and results from the **Environmental Project Report (EPR)**, which will include the following studies:

- **Cultural Heritage** Resource Studies
- **Archaeological** Assessment Report
- **Natural Environment** Baseline Conditions and Impact Assessment Report
- **Socio-Economic and Land Use** Baseline Conditions and Impact Assessment Report
- **Transportation and Traffic** Impact Analysis
- **Air Quality** Baseline Conditions and Impact Assessment
- **Noise and Vibration** Baseline Conditions and Impact Assessment
- **Property / Contamination** Overview Study



Project Overview and History



Citywide Rapid Transit Network



City of Toronto
Existing and Future
Rapid Transit Network
Source: City of Toronto, 2022

Note: The alignment and stations of projects that are currently being planned are subject to change.
Last Update Date: 08/29/2022

EELRT is a priority component of the City's planned rapid transit network.

Project History Timeline



Project History Timeline, continued

2019

- Province announced funding for four priority subway projects, including a modified 3-stop Line 2 extension (Scarborough Subway Extension) to Sheppard opening in 2029/30.
- City Council approves EELRT alignment to Malvern.
- Public and stakeholder engagement for conceptual design and planning takes place.

2022

- EELRT Scarborough Subway Extension (SSE) interface constructability assessment informed Council direction for separate service from the Eglinton Crosstown LRT and expansion of EELRT system to Sheppard/McCowan.
- City Council confirms preference for Conlins Yard MSF site.
- No longer a through service at Kennedy.

2020

- City Council directs staff to advance EELRT design to 10%, complete a Transit Project Assessment Process (TPAP) and continue discussions with the UTSC on the Maintenance Storage Facility (MSF) location.

2023

- City anticipates to complete the functional (10%) design for EELRT system, draft the Environmental Project Report and launch the TPAP.

What We've Heard Previously

Public consultation was carried out during the conceptual design phase of the project from 2017 to 2019. Some common themes expressed by the public included:



Extend the LRT Line north to Malvern



Make good connections to existing and planned transit in Scarborough



Provide good planning for amenities and public spaces along the corridor (e.g., seating area, wider sidewalks, more trees along the corridor)



Communicate the process and timelines of this project



Manage traffic and improve accessibility and the experience for pedestrians



Prioritize local access to LRT stops along the corridor



Create gathering spaces, public spaces, civic spaces



Make this project happen!

City Design Guidelines and Strategic Priorities

- City Official Plan.
- City of Toronto Standard Drawings.
- City of Toronto Road Engineering Guidelines:
 - Lane width guidelines.
 - Curb radii guidelines.
- Ontario Traffic Manual books.
- City of Toronto Streetscape Manual.
- City of Toronto Complete Streets Guidelines.
- City of Toronto Municipal Consent Requirements.
- City of Toronto Transit Design Guide.
- Toronto Accessibility Design Guidelines.

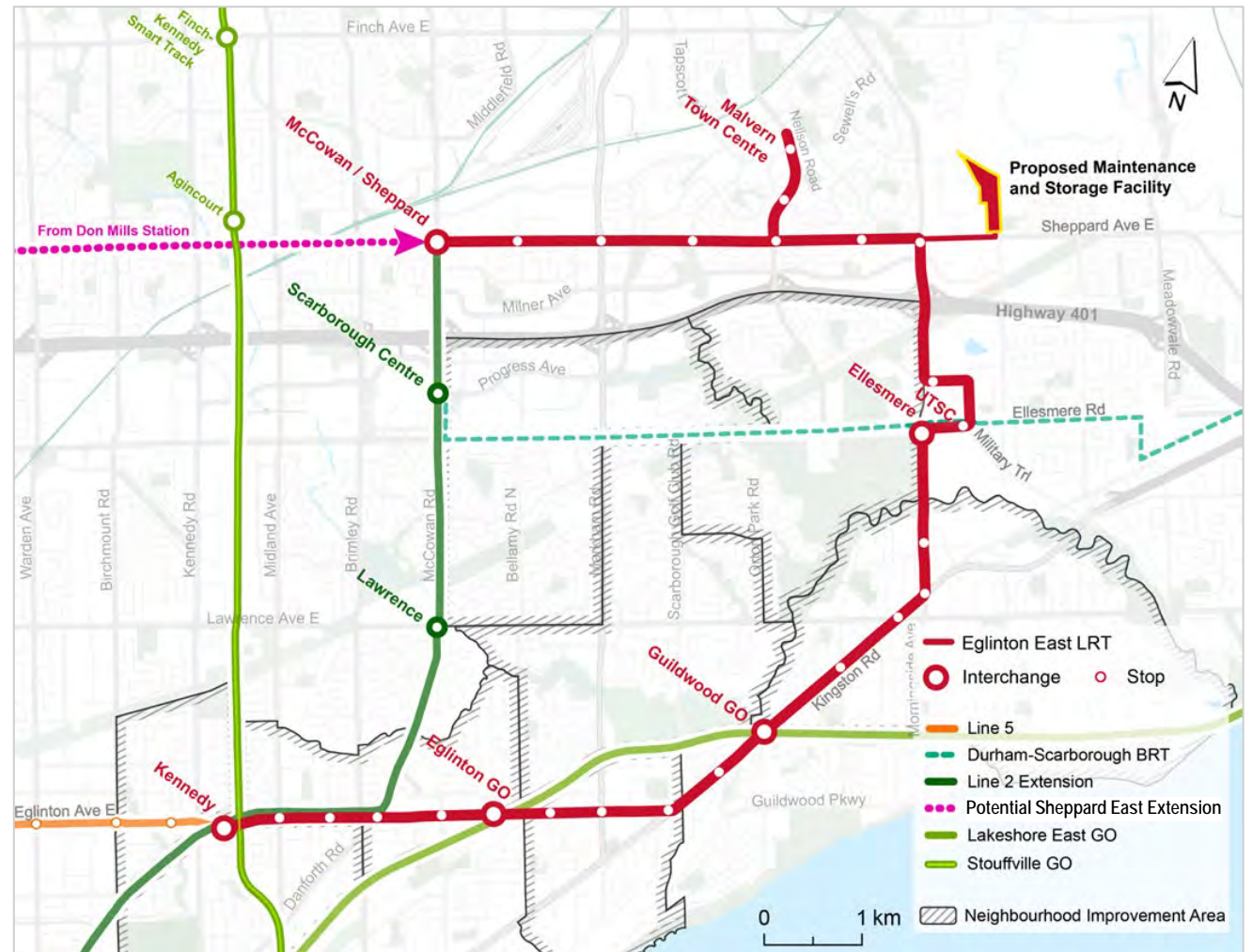


Eglinton East Light Rail Transit Project

The proposed EELRT project (future Line 7) is an 18 km-long light rail transit line through Scarborough that will travel along Eglinton Avenue East, Kingston Road, Morningside Avenue, and Sheppard Avenue East, through the University of Toronto Scarborough Campus and to Malvern Town Centre via Neilson Road.

The line will provide connections to multiple existing and proposed transit routes and bring rapid transit to historically underserved areas of Scarborough.

EELRT will be a separate service from the Eglinton Crosstown Line 5.



Project Features and Benefits



Project Features and Benefits



EELRT will feature up to 27 proposed stops.



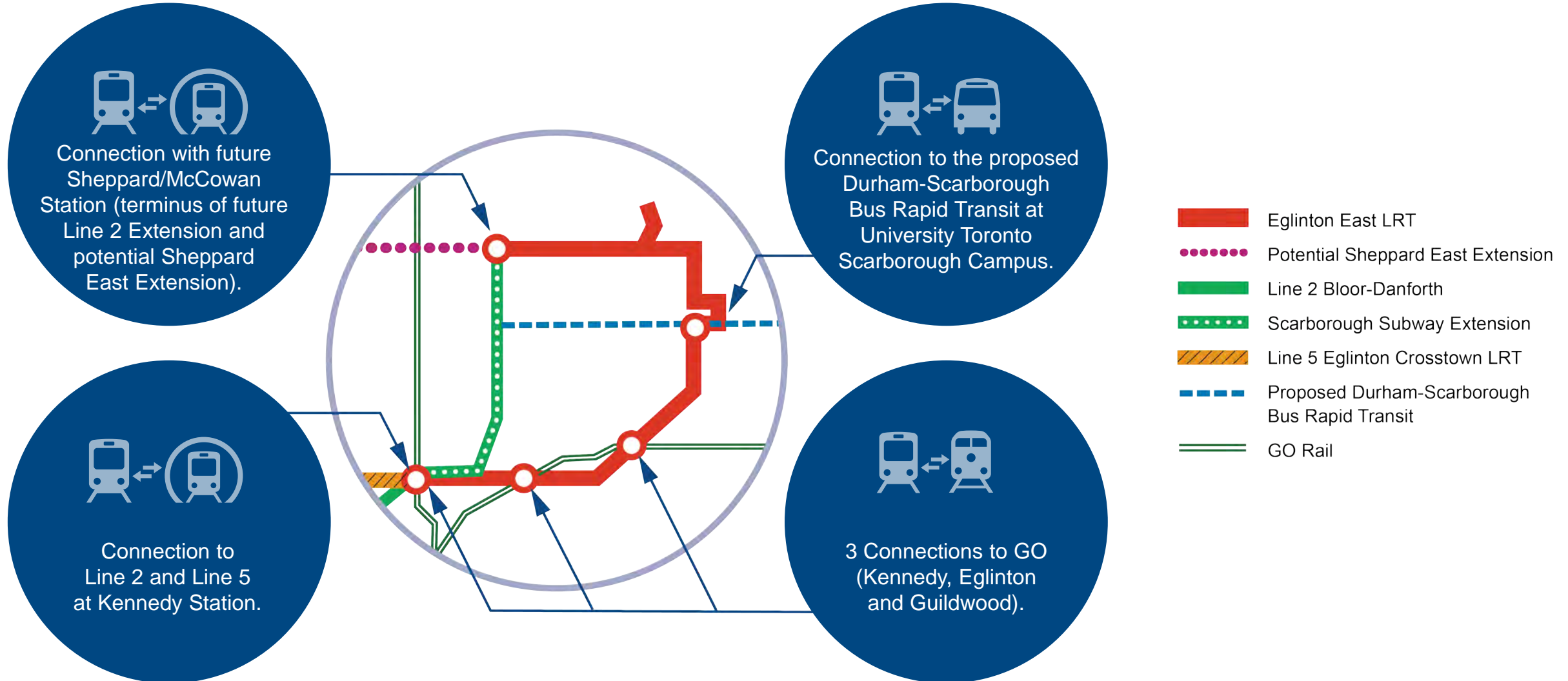
During peak periods, trains will run every 4-5 minutes.



The line will utilize a proposed Maintenance and Storage Facility (MSF) at Conlins Road and Sheppard Avenue East.

Project Features

EELRT will connect riders to several other City and regional transit lines.



Project Benefits | Neighbourhood Improvement Areas



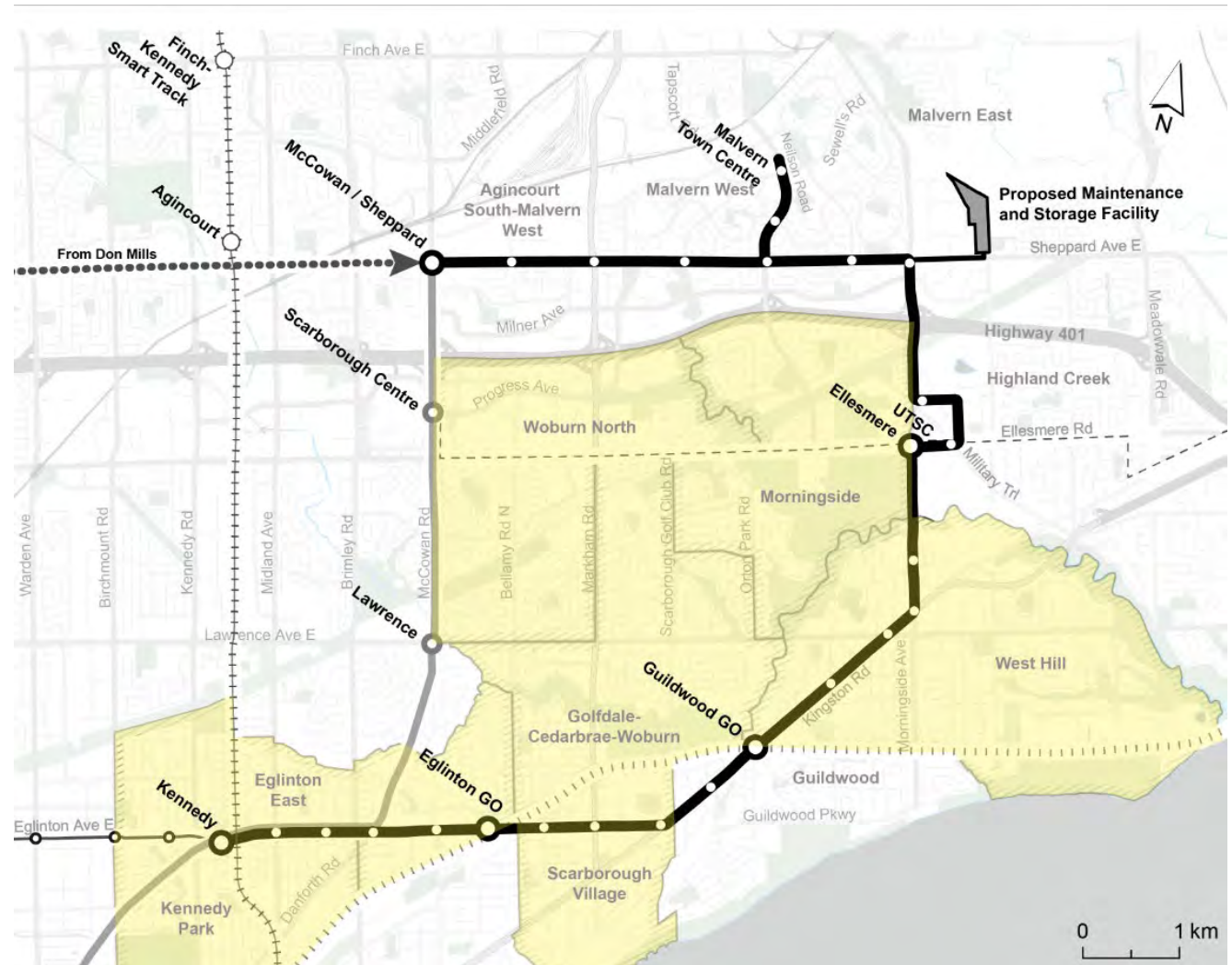
EELRT will serve seven Neighbourhood Improvement Areas (NIAs).

The City of Toronto identifies NIAs as the neighbourhoods that are facing the most inequitable outcomes when compared to others throughout the city.

By bringing transit to these NIAs, EELRT will provide increased access to historically underserved communities throughout Scarborough.

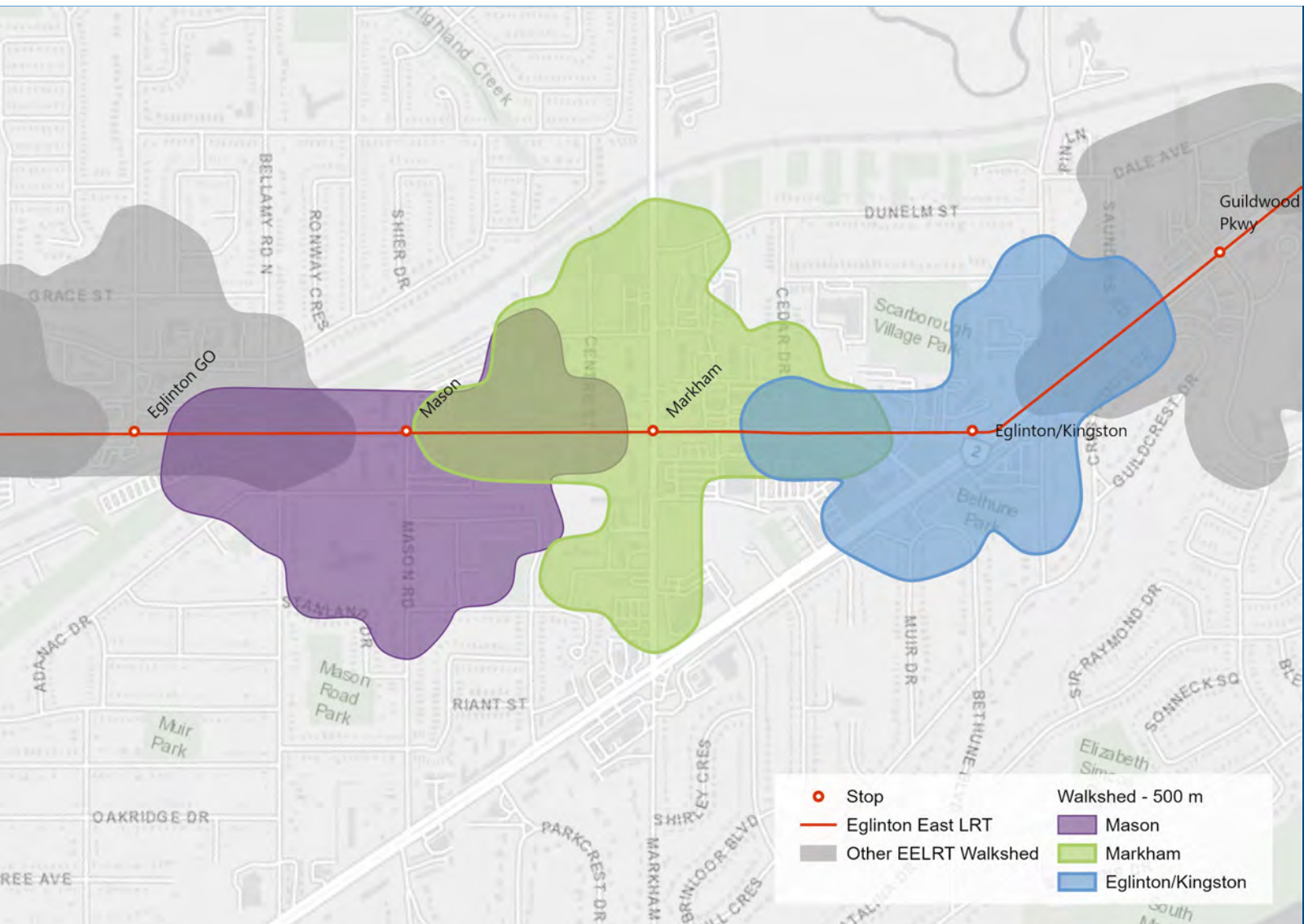
Project Benefits | Neighbourhoods Served by EELRT

The vision of transit in Scarborough is to improve local accessibility, to provide more transit options for residents and commuters and to support the development of more connected and complete communities.



Neighbourhood Improvement Areas

Project Benefits | Walkability to Transit



EELRT will bring rapid transit within walking distance of an estimated 71,000 people.

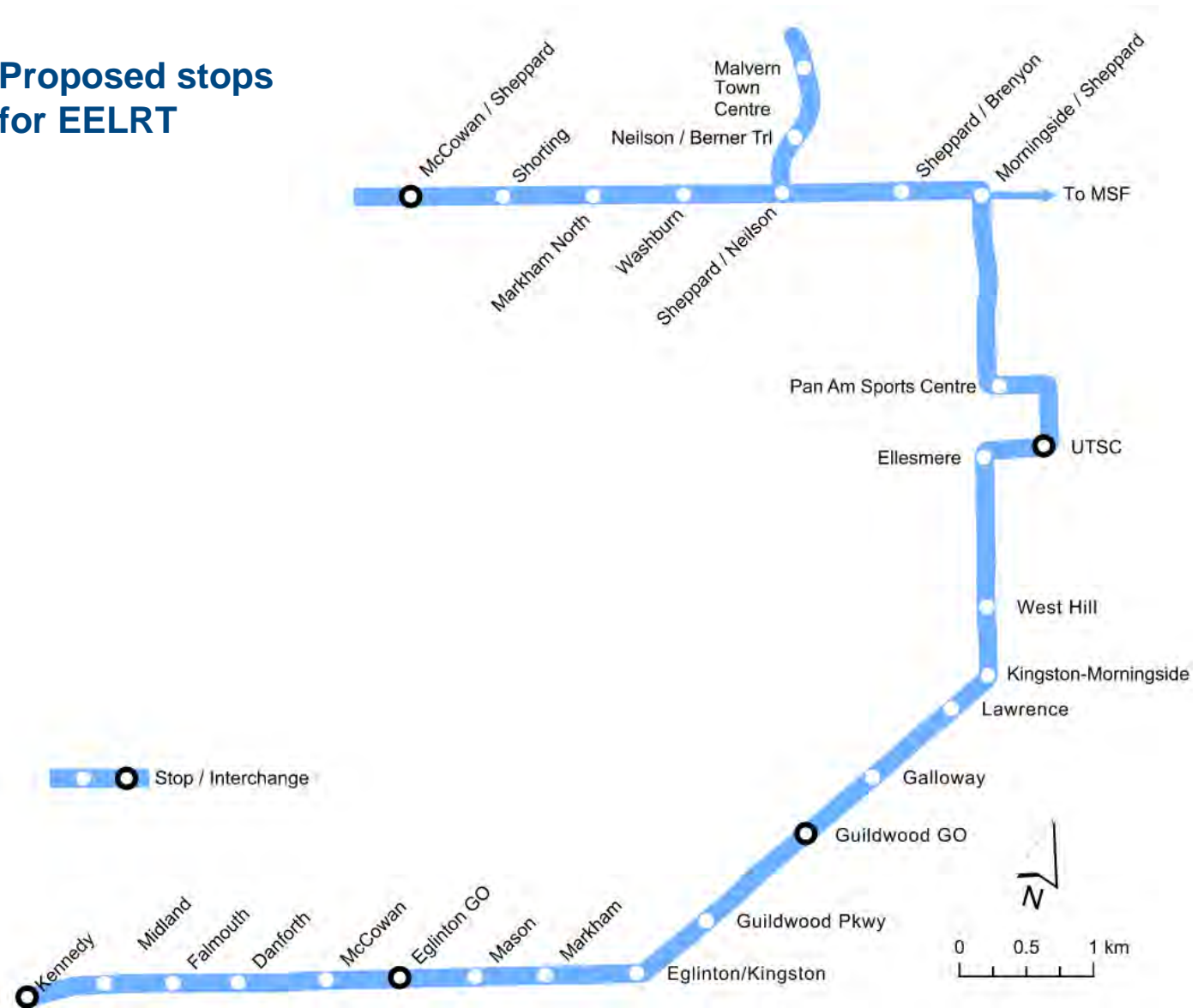
Based on 2041 projected population.

Here, 'walking distance' is defined as a 500-metre radius from an EELRT stop. It takes the average person 5-10 minutes to walk 500 metres, depending on age and ability.

EELRT Stop Locations

- The functional (10%) design of EELRT proposes 27 stop locations throughout Scarborough.
- On average, stops are spaced 670 metres apart.
- Key considerations for stop locations include:
 - Access to key destinations (e.g., UTSC, Malvern Town Centre).
 - Maintain high ridership at each stop.
 - Integration with existing and future rapid transit and intersecting bus routes.
 - A balance between LRT travel time and the number of access points.

Proposed stops for EELRT



Traction Power Substations

- Traction Power Substations use electricity from the local power supply to generate the consistent power needed to operate light rail vehicles.
- The substations are similar in size to a shipping container and will be located every 1.5 to 2 kilometres along the EELRT corridor.
- Substation locations will be presented during the next phase of public consultation.



Finch West LRT TPSS



Hurontario LRT TPSS rendering

Public Realm Enhancements



Sidewalk



Cycle track



Tree planting

In addition to dedicated LRT tracks and platforms in the roadway, public realm improvements are planned along the route including enhanced landscaping and street trees, cycle tracks and improved pedestrian infrastructure.

Public Realm Improvements



Public Realm Improvements | What are Complete Streets?

EELRT is more than a transit project. It would also bring significant public realm improvements throughout the corridor, primarily through the implementation of **Complete Streets** design principles.

Complete Streets are roadways that are designed to be safe for all users: pedestrians, people who cycle, take transit or drive, and people of varying ages and levels of ability.

Complete Street designs enhance multi-modal transportation options by providing dedicated and safe bicycle and pedestrian infrastructure along the LRT corridor.



Source: City of Toronto

Complete Streets | Conceptual Overview



Left: Example of Complete Street elements in Toronto.

Right: Examples of elements that are often considered when designing Complete Streets.

Complete Streets | Design Principles

The following design principles will guide the design of Complete Streets for the EELRT project:

- Accommodate pedestrian and cycling infrastructure and continuous rows of trees.
- Protect cycling paths from auto traffic by installing enhanced buffers or tree planting zones.
- Preserve healthy and mature trees in their original place, where possible.
- Restrict vehicular lane widths to minimum dimensions required for design speed.



Rendering of Surrey, B.C. LRT, which demonstrates potential for EELRT public realm.

Typical Design



What is Typical Design?

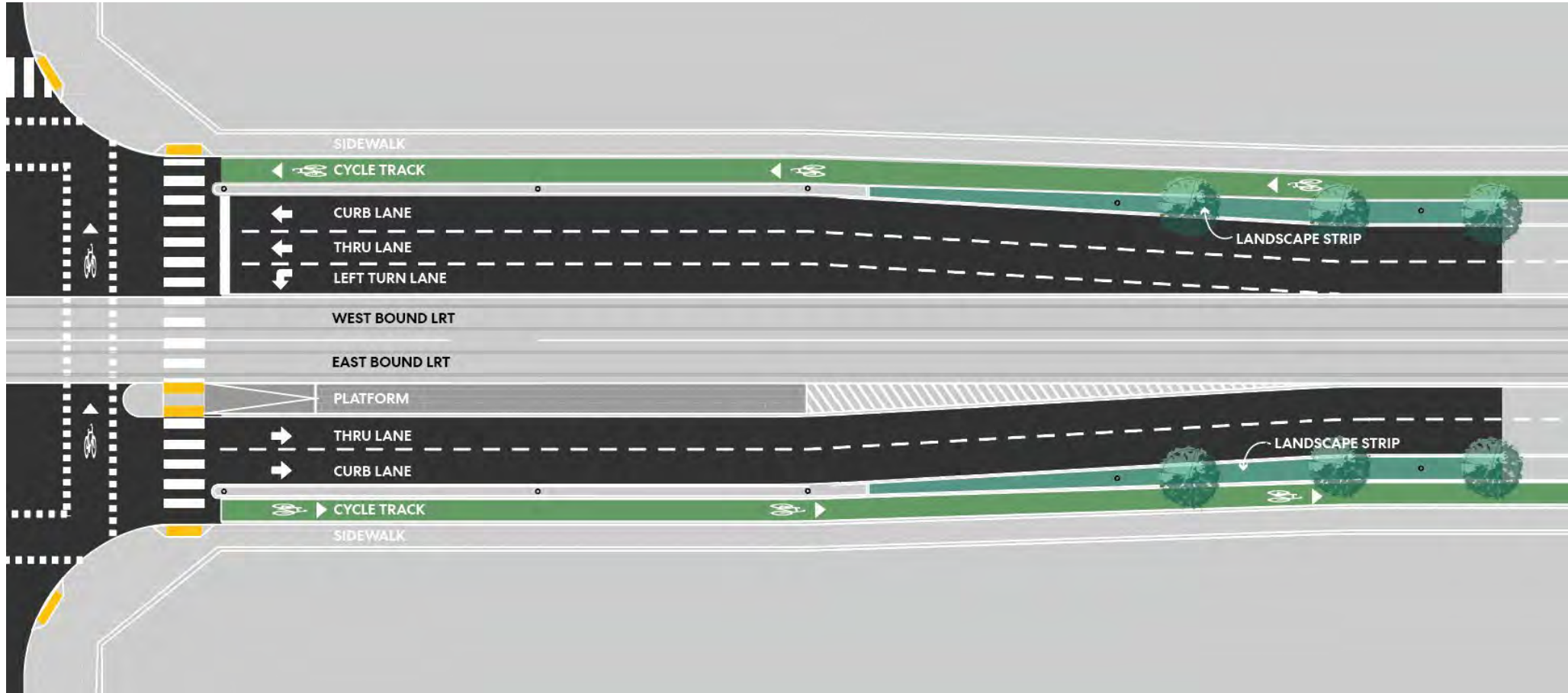
In the case of EELRT, the term **Typical Design** refers to the standard design of the project's infrastructure throughout the corridor. This includes the:

- Alignment of the LRT tracks (which are always centre-running for EELRT)
- Position of platforms in relation to the roadway
- Number of traffic lanes (2 or 4)
- Presence and position of landscaping and other amenities
- Position of cycle tracks and bike crossings
- Position of sidewalks and pedestrian crossings
- Position of buffer zones between traffic and cyclists/pedestrians

On the next three slides, you can see examples of the EELRT typical design at station platforms near signalized intersections, first from overhead views of the platform area and intersection, and then from a street-level view. Note that these designs are generic in nature and meant to illustrate how the project's design principles are employed across the project.

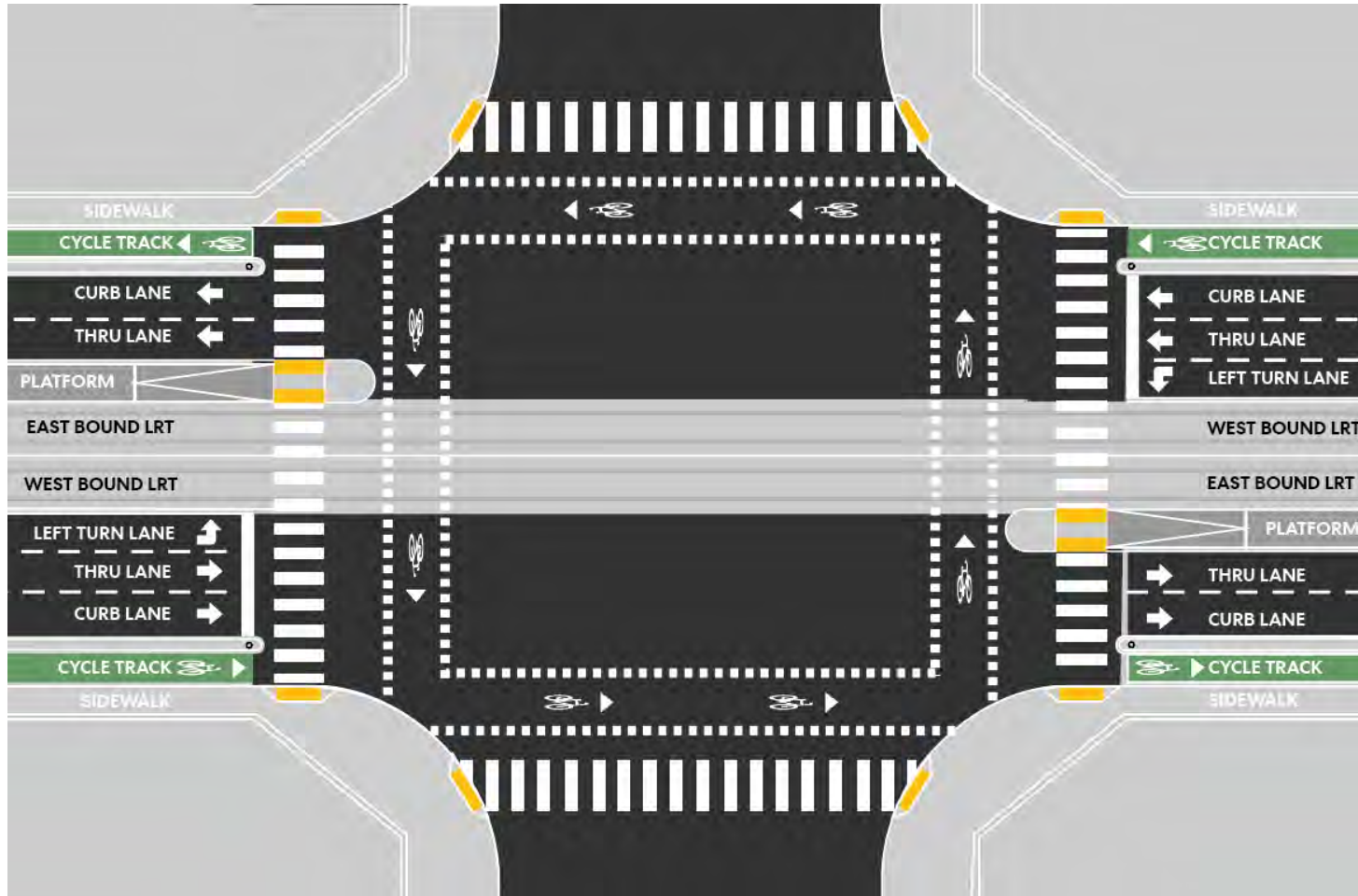


Proposed Typical Stop Design | Overhead View



Typical plan view of an EELRT stop platform at a signaled intersection.

Proposed Typical Intersection Design



Typical plan view of an EELRT stop at a signalized intersection, with a focus on the intersection.

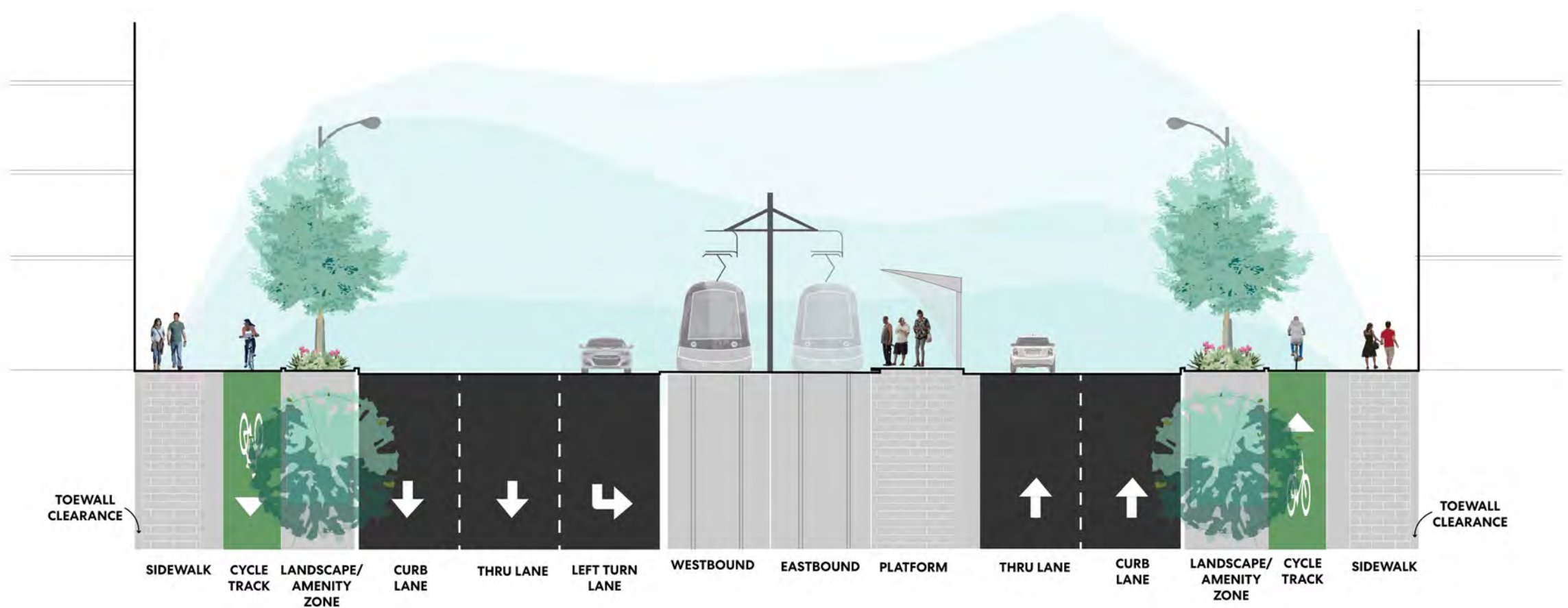


Six Points interchange



Eglinton Crosstown – Sunnybrook Station

Proposed Typical Stop Design | Street View



Typical 4-lane cross section for platform locations across EELRT.

- Stops will be located every 400 metres to 1 kilometre, with an average distance of 670 metres between stops.

Typical Design Zones

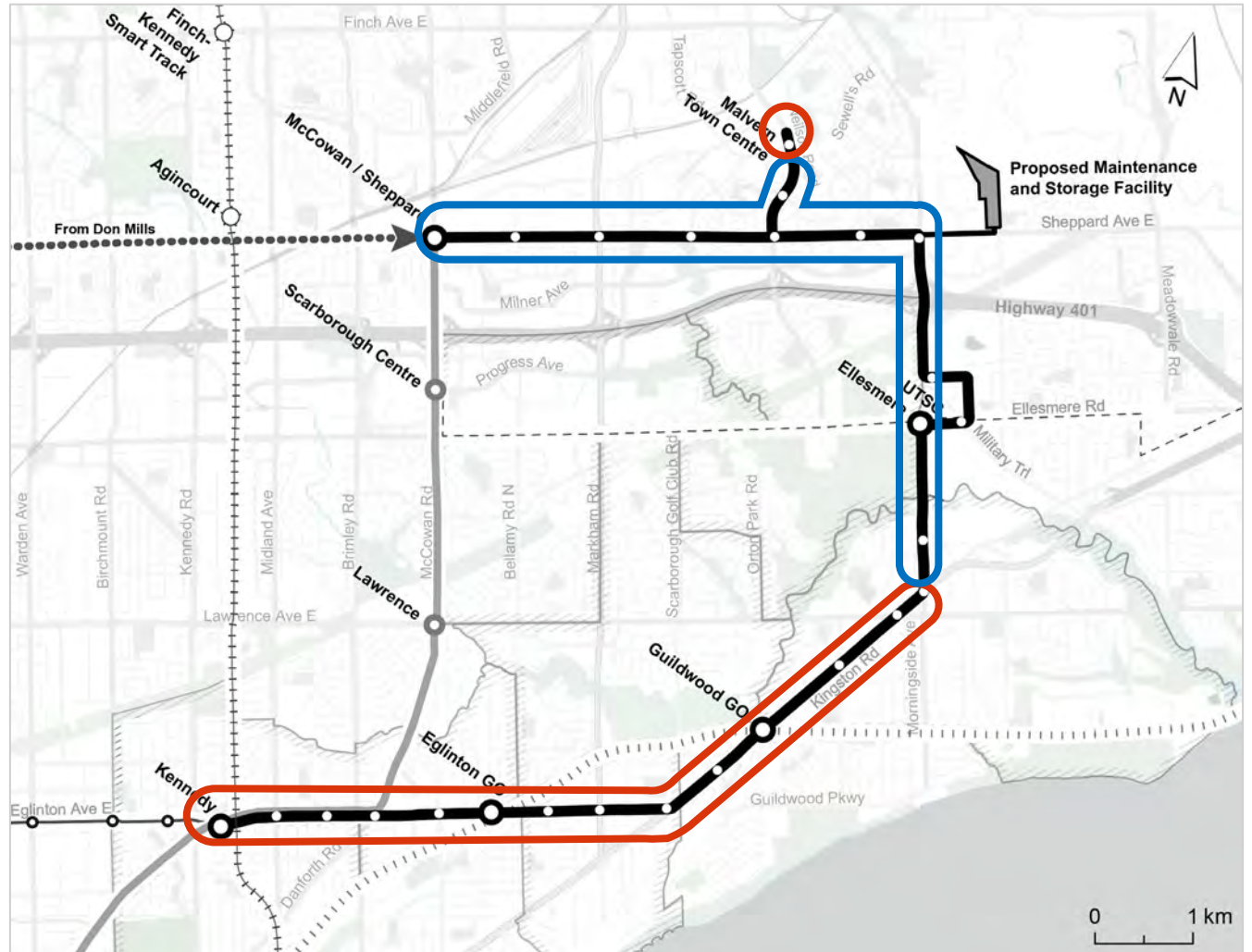
The typical design for the EELRT is broken into two 'zones'. Each zone features its own standard design that is generally applied to the zone's full alignment.

Design Zone A

Mixed-use Context: Along Eglinton Avenue East, Kingston Road and Neilson Road north of Berner Trail.

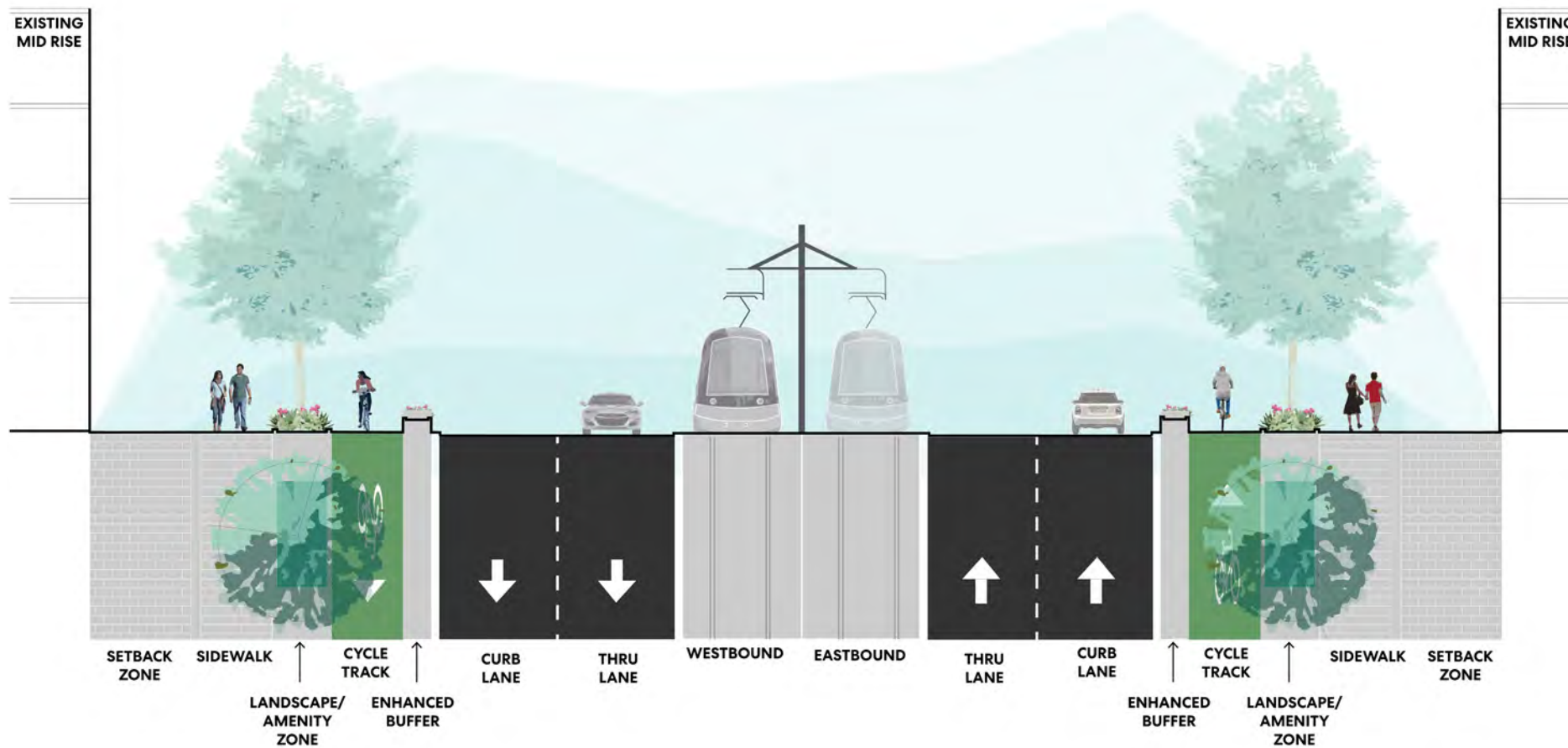
Design Zone B

Primarily Employment or Neighbourhood Context: Along Morningside Avenue, Sheppard Avenue and Neilson Road south of Berner Trail.



 Design Zone A  Design Zone B

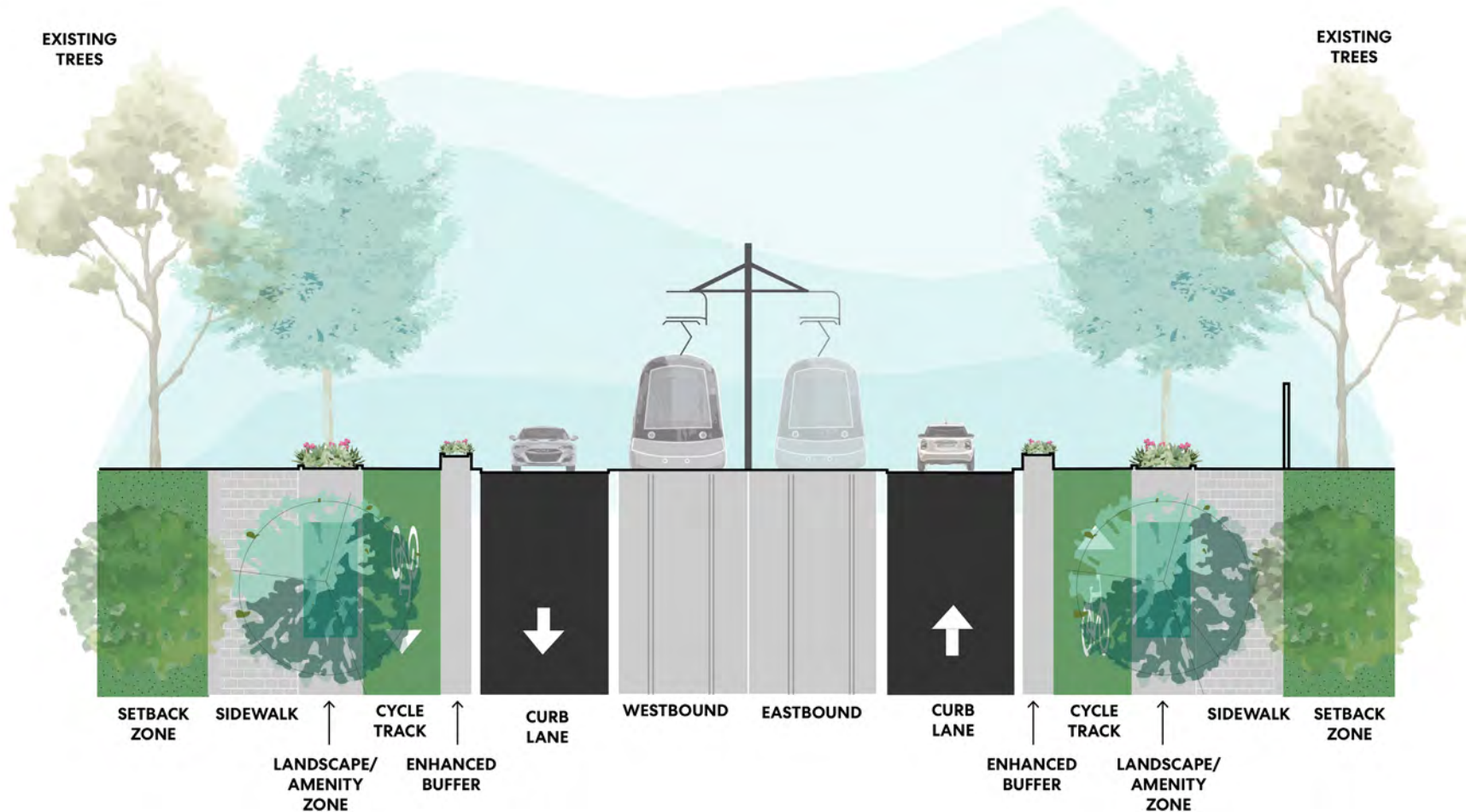
Typical Design | Zone A Cross Section with 4 lanes



Zone A features higher density areas with an emphasis on creating a vibrant, social public realm through use of sidewalks, attractive landscaping and public spaces.

Typical 4-lane cross section in Zone A. This design is proposed to be implemented along **Eglinton Avenue East** and **Kingston Road**.

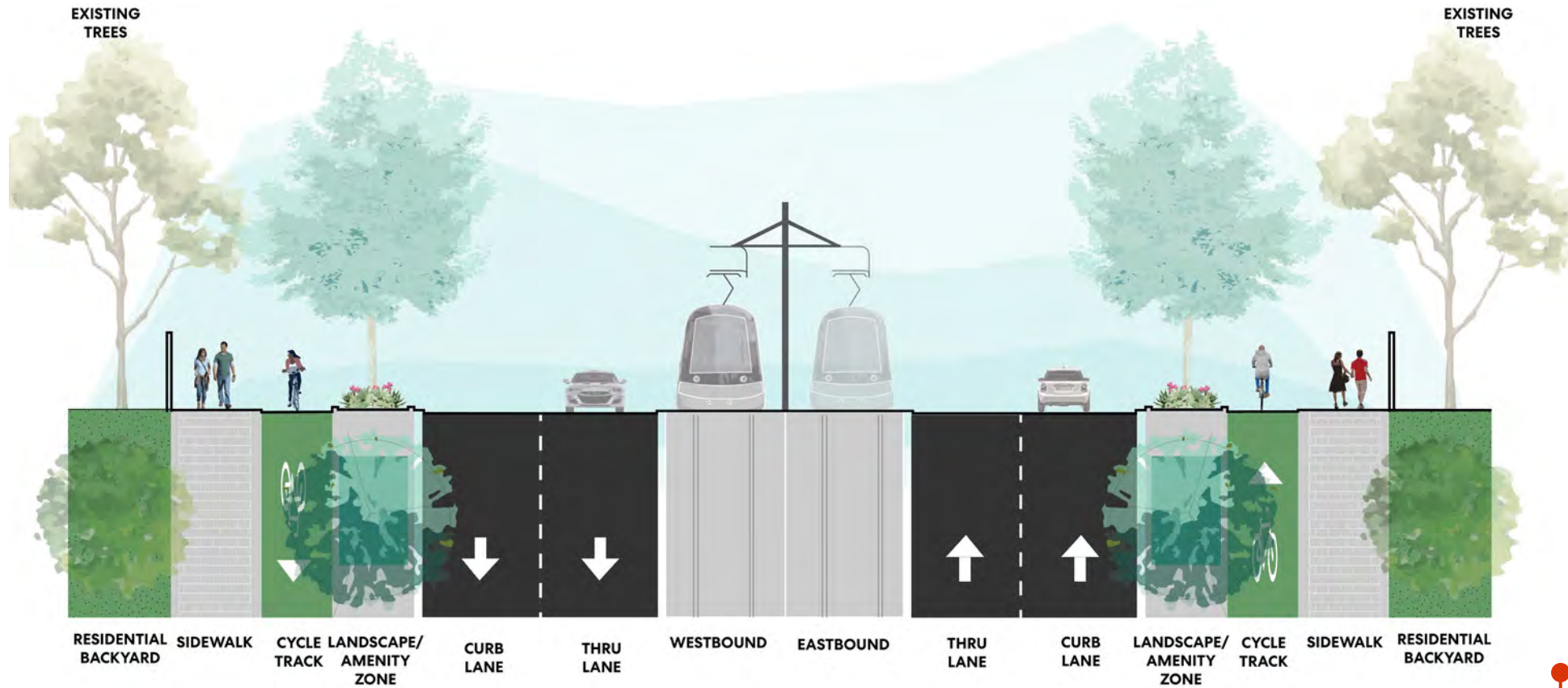
Typical Design | Zone A Cross Section with 2 lanes



Zone A features higher density areas with an emphasis on creating a vibrant, social public realm through use of sidewalks, attractive landscaping and public spaces.

Typical 2-lane cross section in Zone A. This design is proposed to be implemented along **Neilson Road north of Berner Trail**.

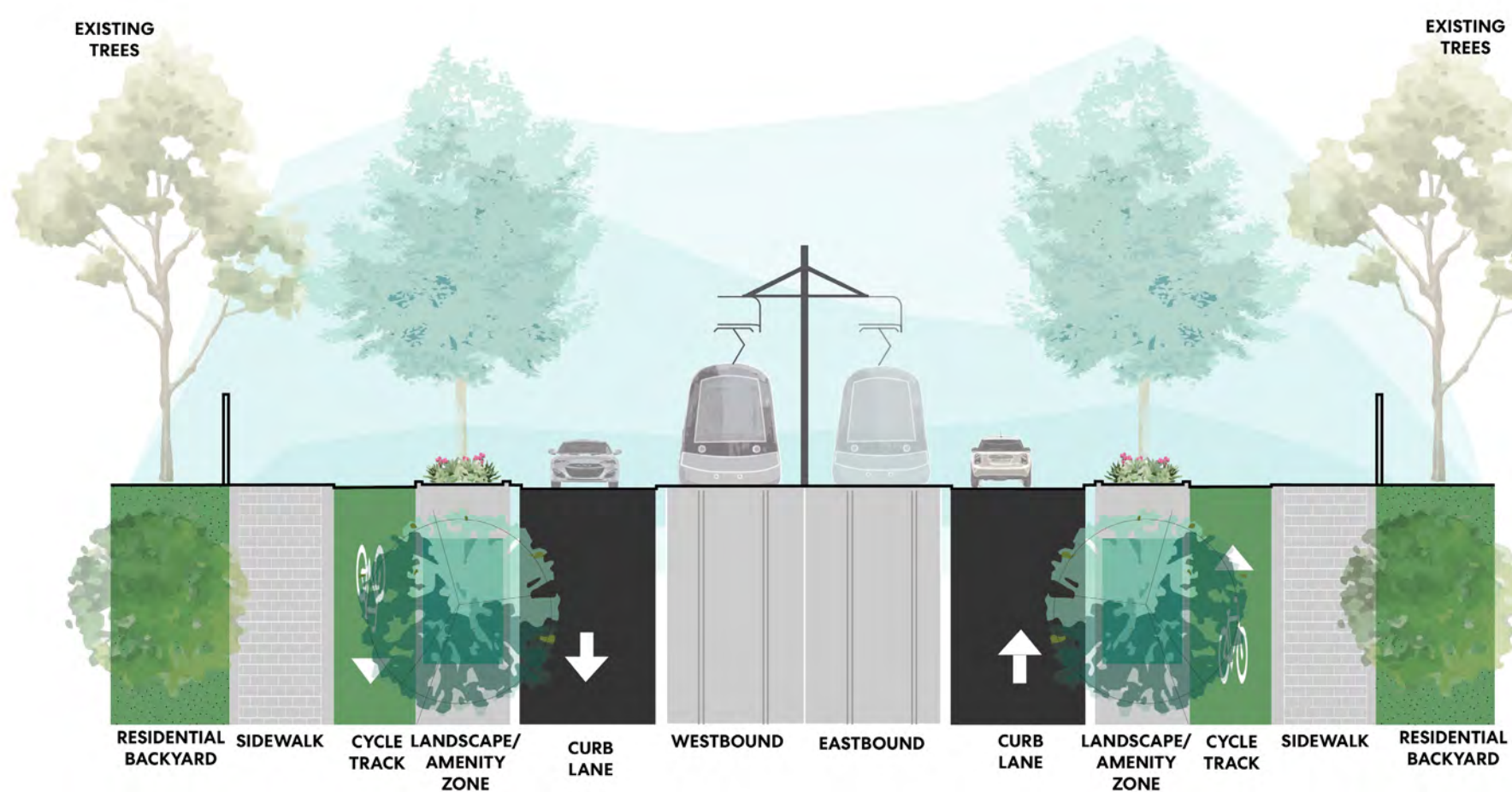
Typical Design | Zone B Cross Section with 4 lanes



Typical 4-lane cross section in Zone B. This design is proposed to be implemented along **Morningside Avenue north of Ellesmere Road** and along **Sheppard Avenue**.

Zone B features many single-family homes, with commercial plazas and business parks.

Typical Design | Zone B Cross Section with 2 lanes



Typical 2-lane cross section in Zone B. This design is proposed to be implemented along **Morningside Avenue south of Ellesmere Road** and **Neilson Road south of Berner Trail**.

Zone B features many single-family homes, with commercial plazas and business parks.

Project Focus Areas

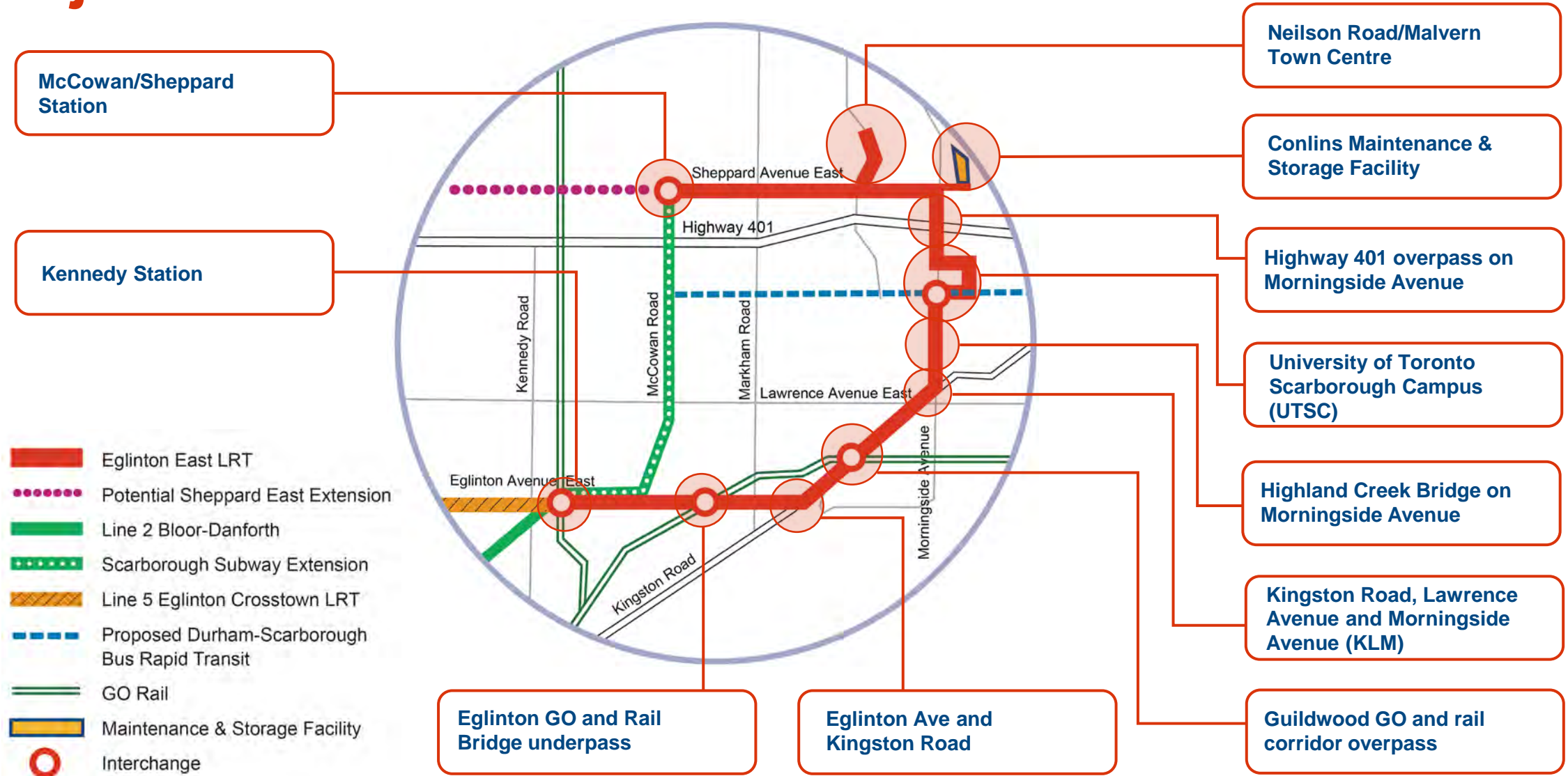


Project Focus Areas | Overview

- 11 focus areas have been identified for the functional (10%) design phase of the project.
- Focus areas are determined through a variety of factors, such as:
 - Interface with other transit projects and existing infrastructure.
 - Community interest.
 - Stakeholder coordination.
 - Environmental considerations, such as parks and creeks.
 - Importance to other aspects of the Functional (10%) Design, such as physical constraints, etc.



Project Focus Areas



Kennedy Station

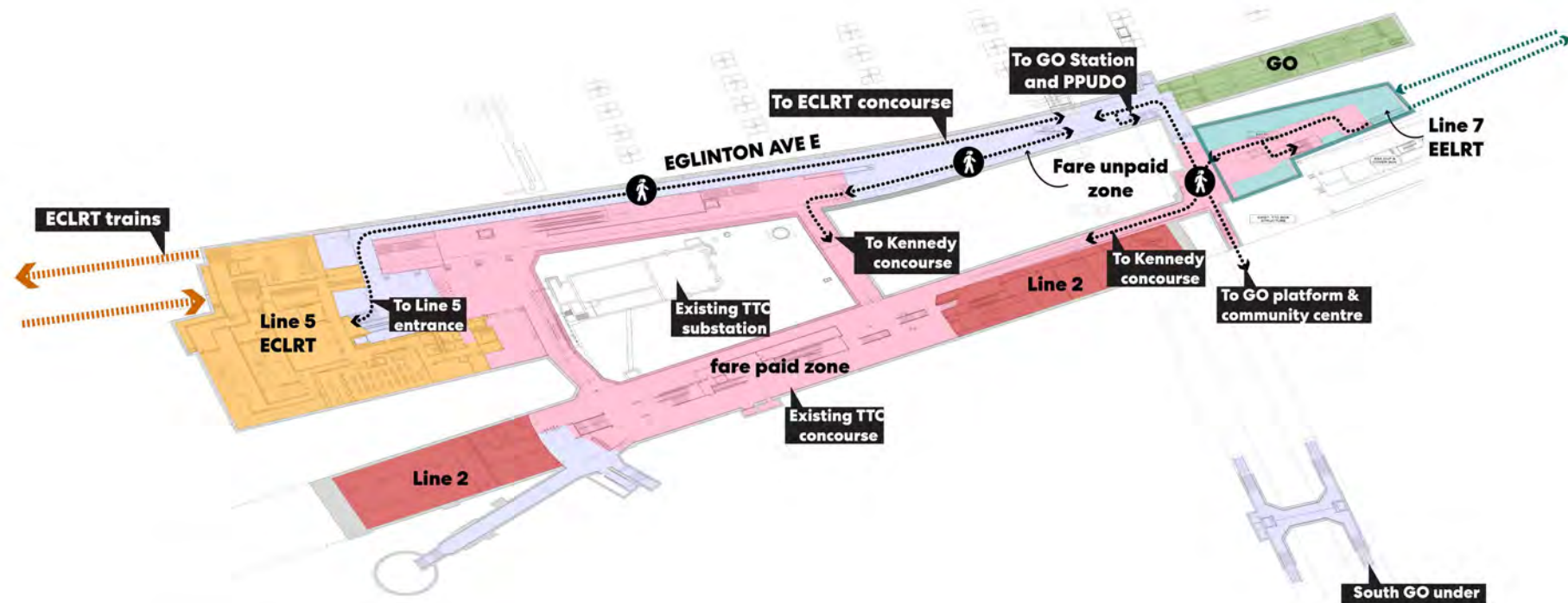
Kennedy Station | Proposed Alignment

- A new station building is proposed to be constructed at Kennedy Station to accommodate the EELRT terminus (first/final stop).
- This station would feature transfers to and from Line 2, Line 5 and the Stouffville GO line.
- Eglinton Loop Road would be redesigned to feature traffic signals at the south intersection.









Kennedy Station | Proposed Design: Underground Level

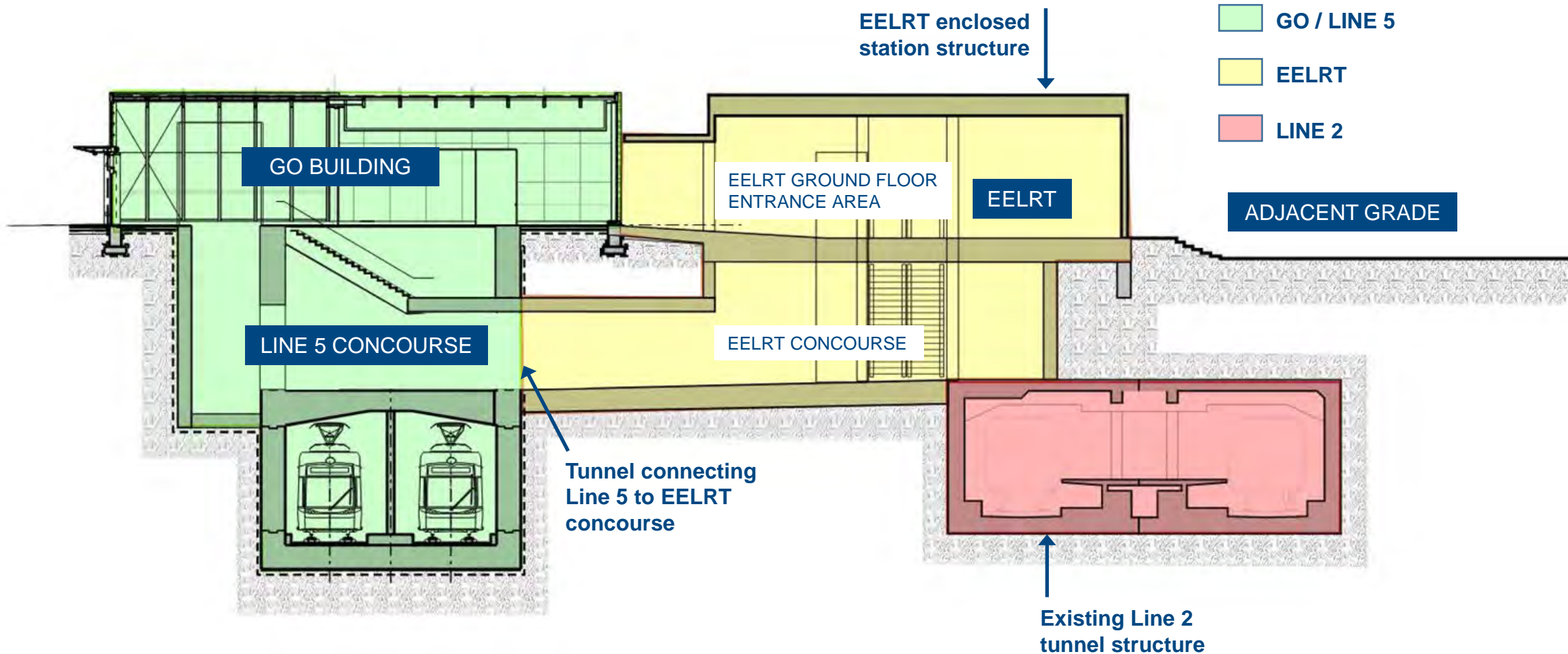
- This image shows the interconnectivity of EELRT and Line 2, Line 5 and the Stouffville GO Line at Kennedy Station.
- The project's proposed design would include safe pedestrian access to the EELRT platform.
- Fare lines for connections between EELRT and other transit would be in convenient areas and priced as follows:
 - Fare unpaid connection to and from GO.
 - Single fare between EELRT, Line 2 and 5.



Legend

 Line 2 - Staff/Service Zone	 Line 7 - EELRT Staff/Service Zone	 Fare paid zone
 Line 5 - ECLRT Staff/Service Zone	 GO Staff/Service Zone	 Fare unpaid zone

Kennedy Station | Proposed Design: Cross-section



At-grade connection to the Kennedy EELRT platform via GO building to the north, and Don Montgomery Community Centre parking lot from the south. The platform also has an underground tunnel connection with Line 5 concourse.

Note: Conceptual diagram to demonstrate structure interactivity; not to scale.

Eglinton GO and Rail Bridge Underpass

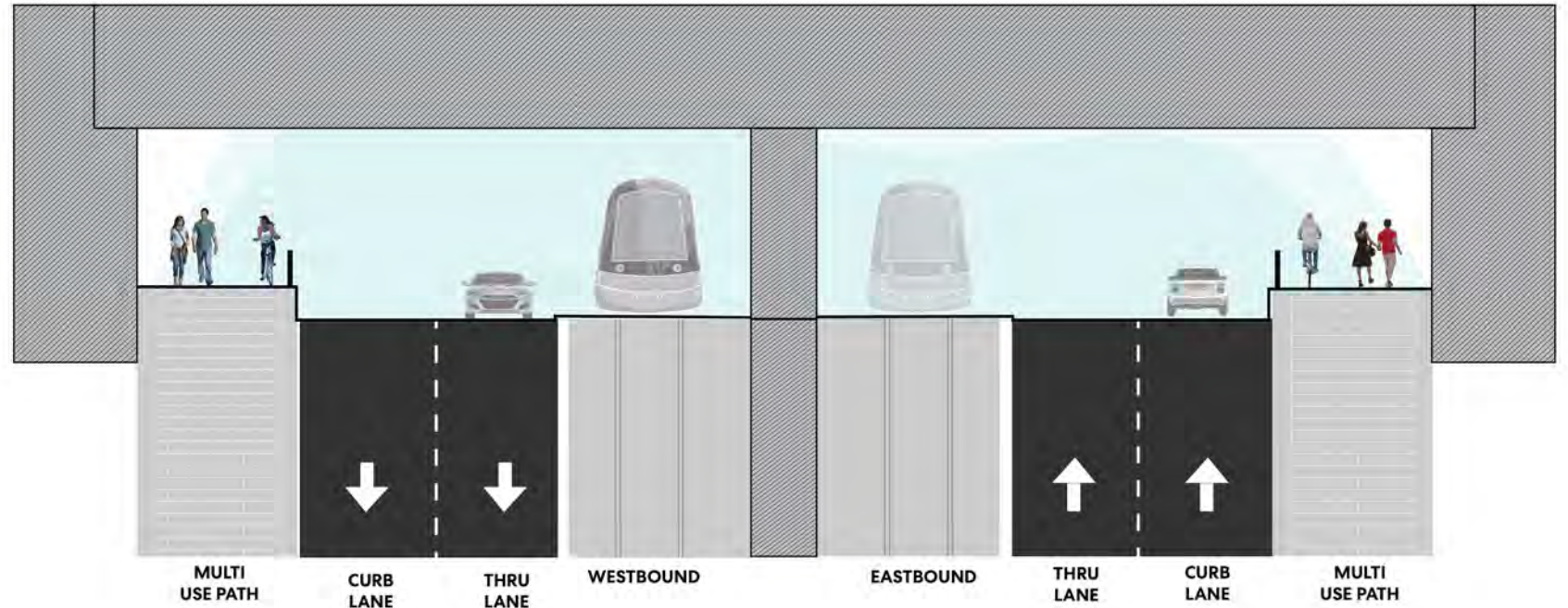
Eglinton GO | Alignment Features

- A key design feature in this area is to help ensure convenient transfers between EELRT and the Lakeshore East GO Line at Eglinton Station.
- Eglinton GO station is currently undergoing accessibility upgrades; coordination with Metrolinx is ongoing to create the best possible connection between EELRT and the GO station.



Eglinton GO | Proposed Underpass Design

The proposed EELRT design in the Eglinton GO area would also improve access for cyclists and pedestrians at the Eglinton GO rail underpass, which is a constrained area due to the existing bridge.



Cross-section at the Eglinton GO Lakeshore East Line underpass.

Eglinton Avenue and Kingston Road

Eglinton-Kingston | Alignment Features

There are several design features that have driven the proposed design around the intersection of Eglinton Avenue and Kingston Road:

- Realignment of Eglinton Ave
- Maximizing the amount of continuous green space.
- Ensuring convenient transfers with bus routes.
- Retaining access to driveways.
- Minimizing the amount of re-grading.
- Providing train turnback and storage facilities.



Guildwood GO and Rail Corridor Overpass

Guildwood GO | Alignment Features

- A key design feature in this area is to ensure convenient transfers between EELRT and the Lakeshore East GO Line at Guildwood Station.
- The EELRT design team is striving to avoid widening the bridge on Kingston Road over the rail corridor.
- The design would feature improved access for cyclists and pedestrians on the existing overpass.



**Kingston Road, Lawrence Avenue
and Morningside Avenue (KLM)**

Kingston-Lawrence-Morningside (KLM) | Alignment Features

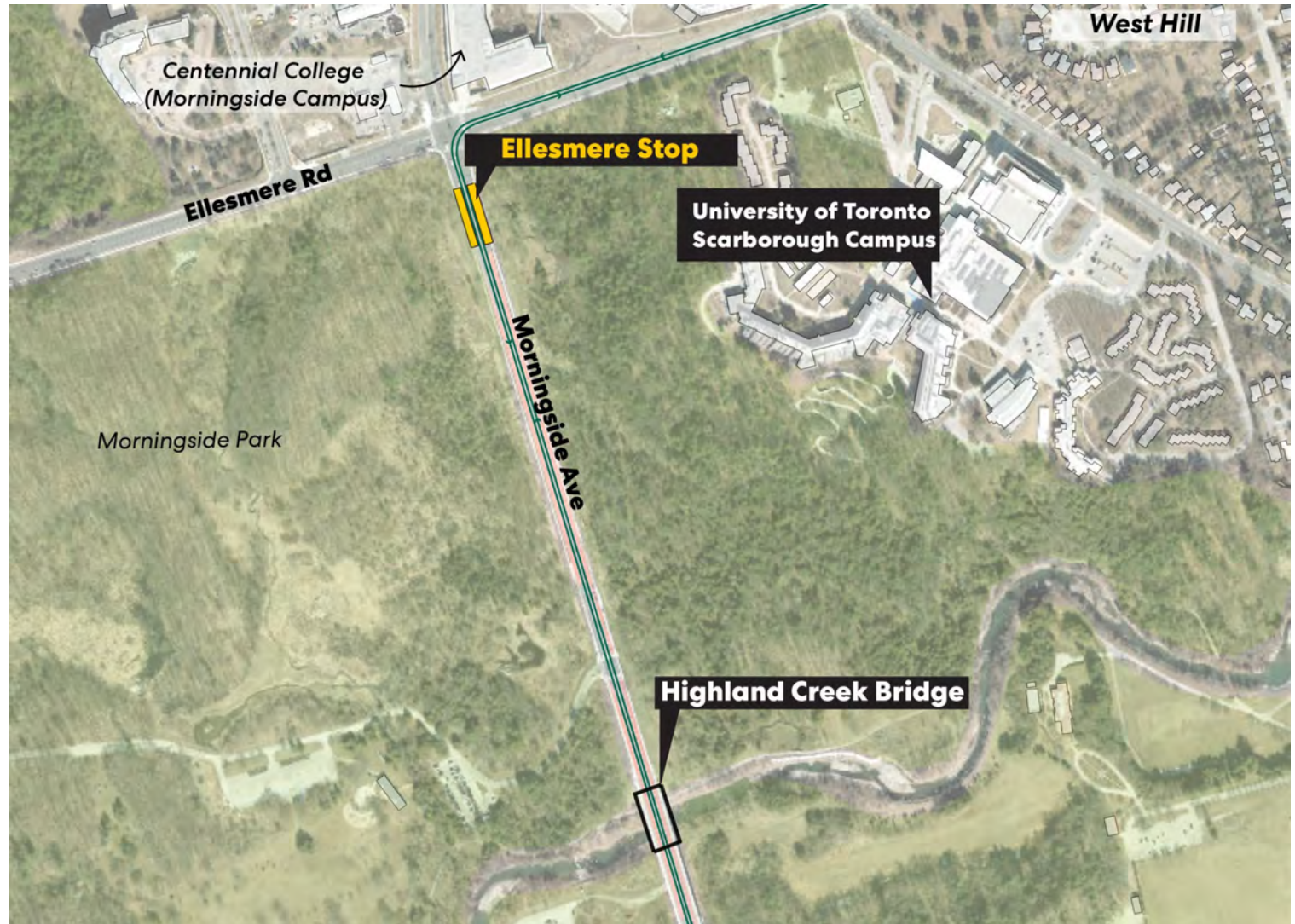
- Two centre-island platforms are proposed for the KLM area, as seen in the map on the right. 50-metre trains and platforms built into the functional (10%) design will minimize impacts to property and traffic.
- The design also includes a centre storage track east of Lawrence Avenue East.



Highland Creek Bridge on Morningside Avenue

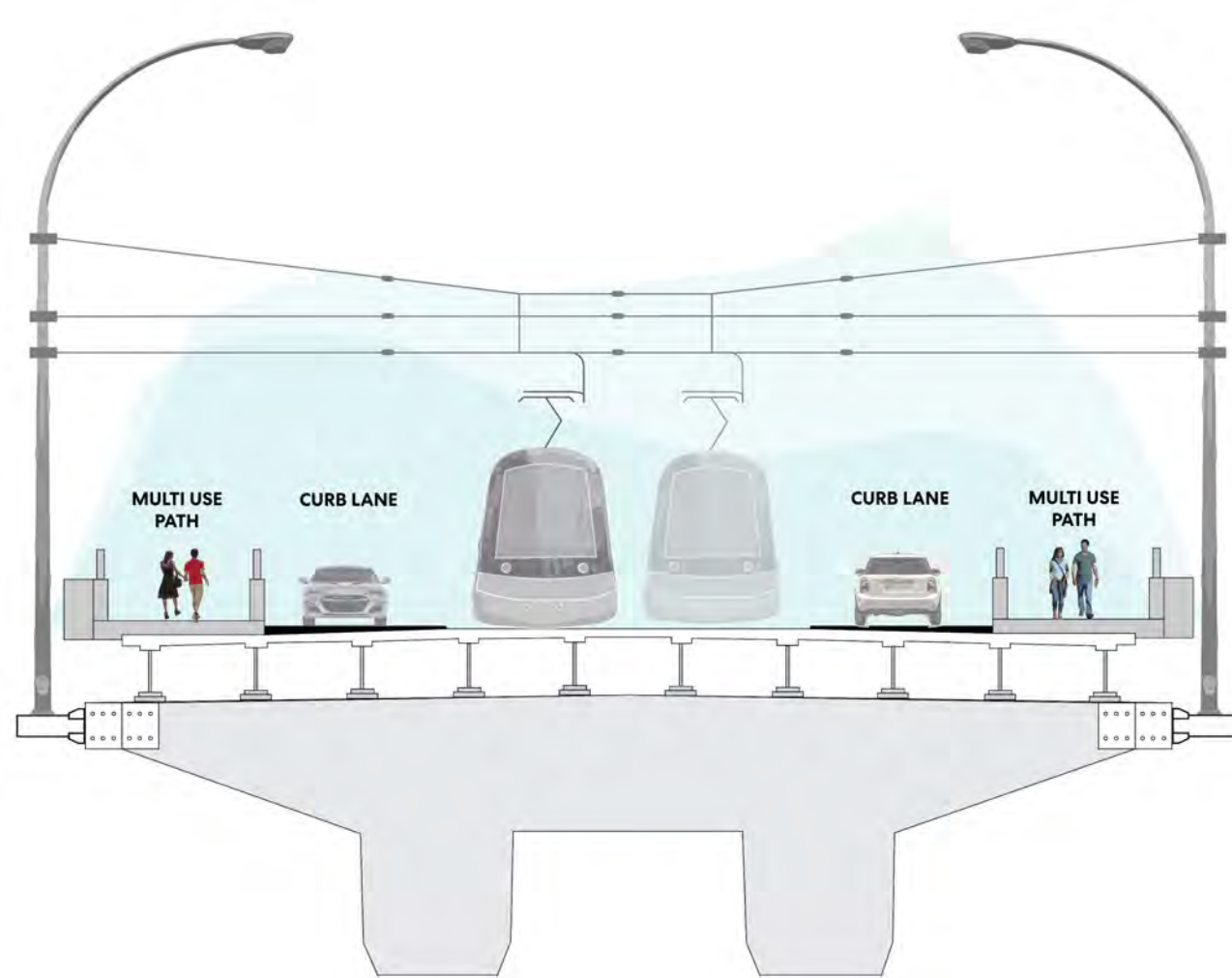
Highland Creek Bridge | Alignment Features

- The proposed design for EELRT over Highland Creek and the Morningside Park is to use the existing bridge for all project infrastructure.
- Crucially, this means a new bridge across the area would not be necessary, minimizing the project's impact on the creek, park and surrounding green space.



Highland Creek Bridge | Proposed Design

- A key design feature of the Highland Creek Bridge is to ensure access for cyclists and pedestrians can be accommodated on the existing bridge.
- The proposed design includes a barrier-separated multi-use path on either side of the bridge, which would provide access to Morningside Park.



Cross-section on Morningside Avenue at Highland Creek Bridge.

University of Toronto Scarborough Campus (UTSC)

UTSC | Alignment Features

- Through coordination with UTSC, the functional (10%) design would utilize the future New Military Trail included in the University's Master Plan. With this design, EELRT would serve both the north and south campuses at UTSC.
- A projected 7 out of 10 transit users to and from UTSC would be using EELRT, amounting to a projected 16,000 daily LRT trips to and from campus by 2041.



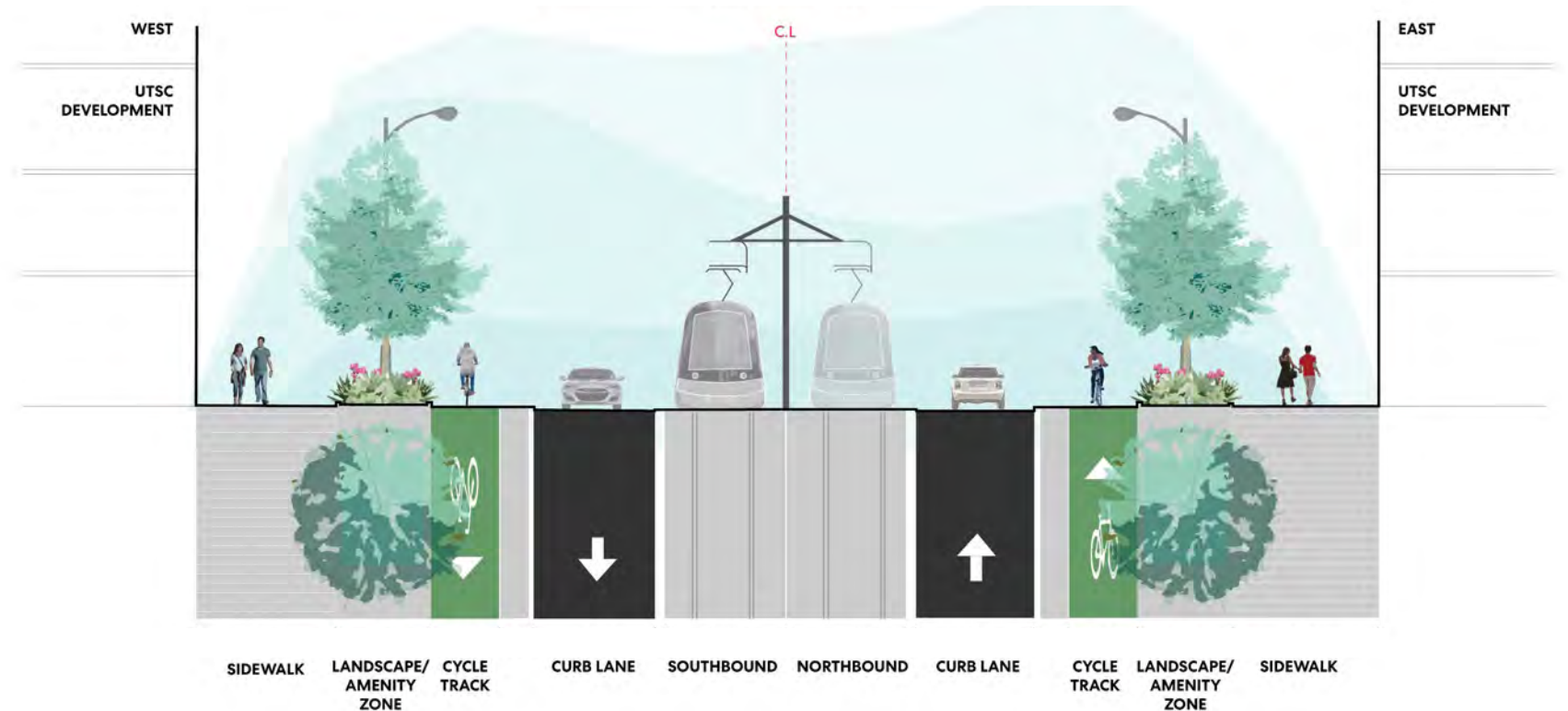
UTSC | Alignment Features, continued

- Running EELRT through a median on Ellesmere would minimize impacts to the valley and avoid high-pressure watermain.
- EELRT riders would be able to connect with the nearby proposed bus terminal at UTSC.
- Coordination with the proposed Durham-Scarborough Bus Rapid Transit project is ongoing to determine connections between the two services.



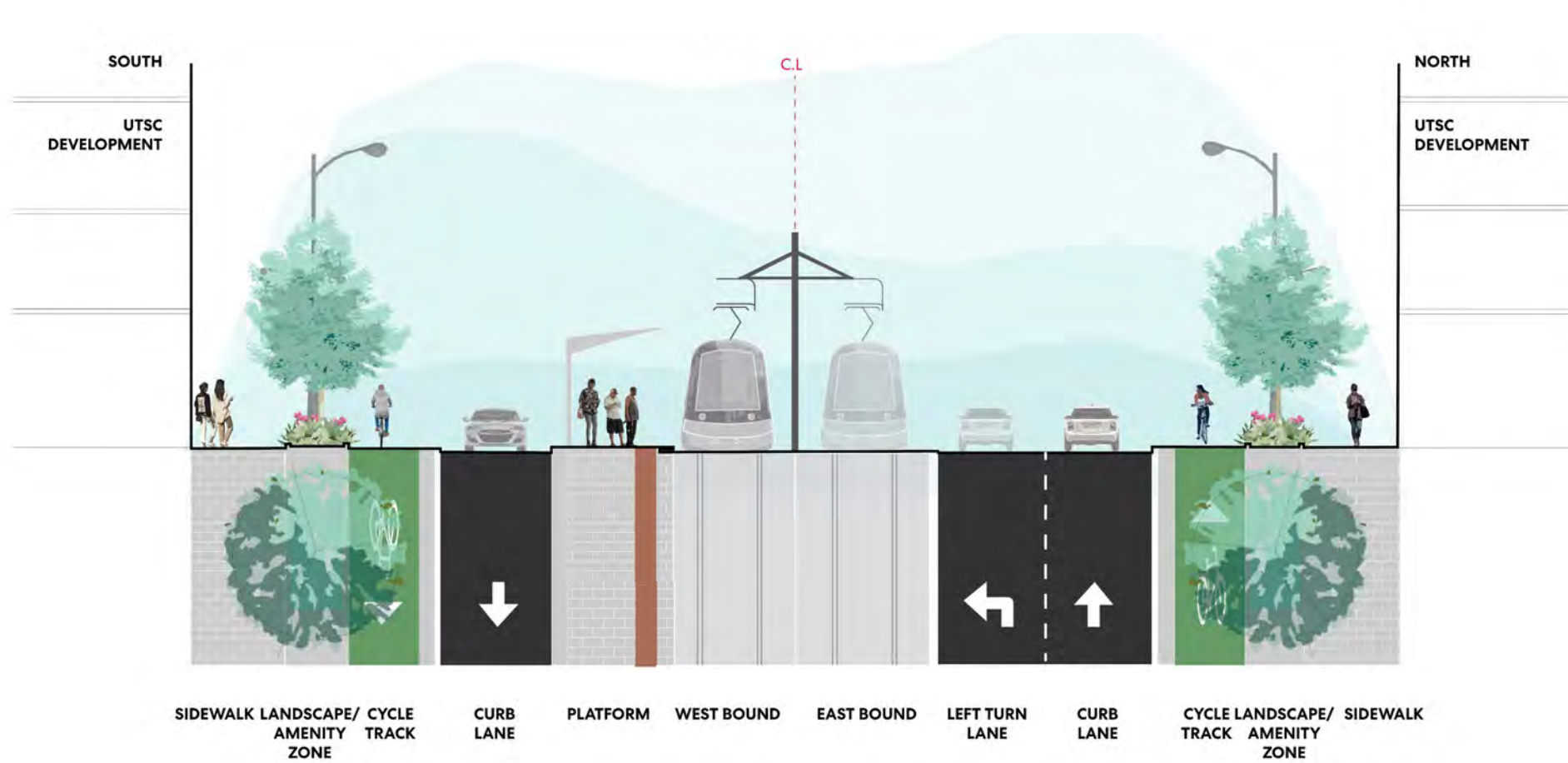
UTSC | Proposed Design along New Military Trail

- The proposed design through UTSC would offer a vibrant campus experience for university students and staff.
- A key component of the design in the area is to ensure safe and convenient pedestrian crossings.
- Easy transfers between EELRT and Durham-Scarborough Bus Rapid Transit will be prioritized as both projects advance.



Proposed typical midblock cross-section on New Military Trail in the University of Toronto Scarborough Campus.

UTSC | Proposed Platform Design on New Military Trail

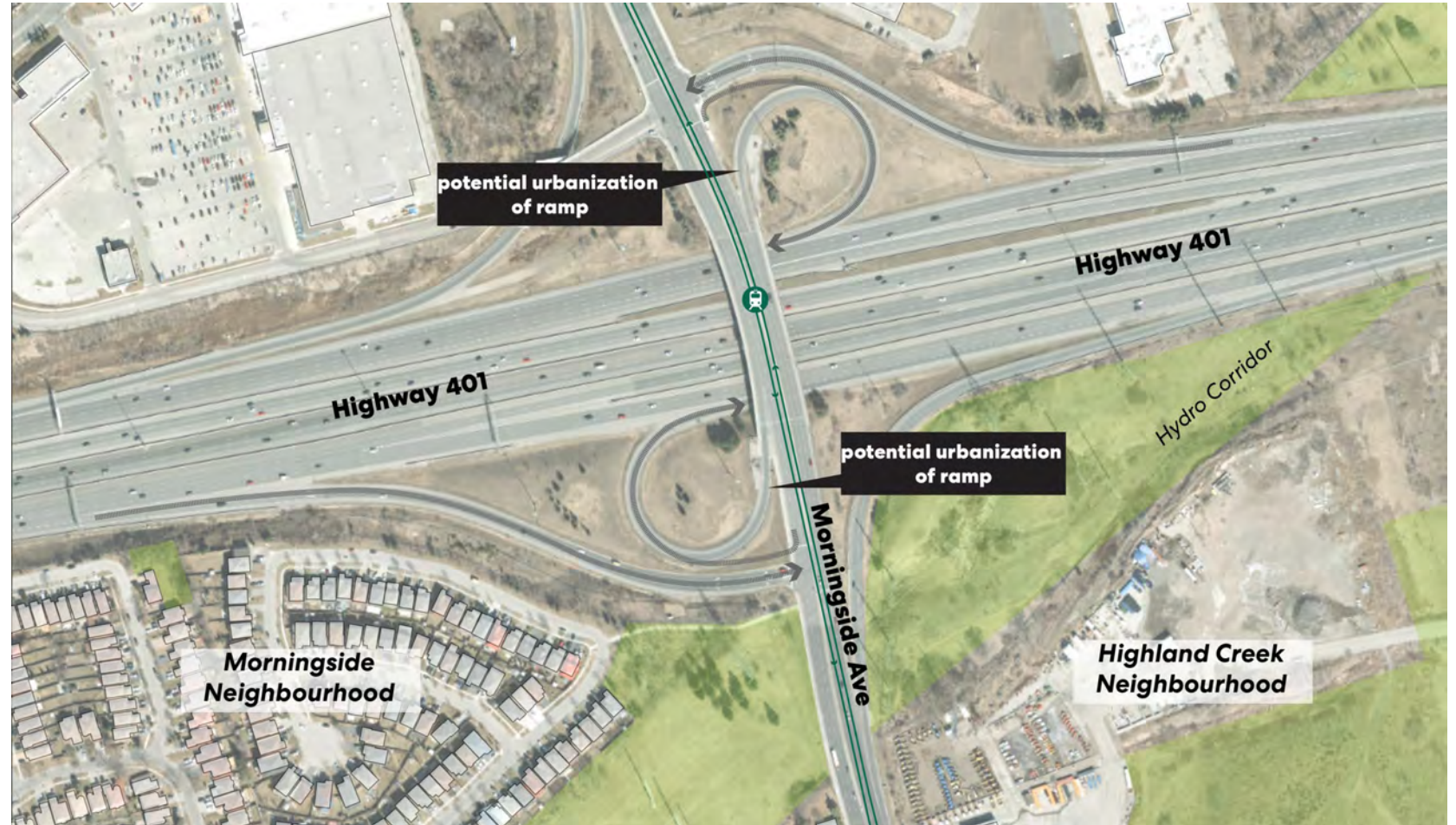


Proposed typical stop cross-section on New Military Trail in the University of Toronto Scarborough Campus.

Highway 401 Overpass on Morningside Avenue

Highway 401 Overpass | Proposed Alignment

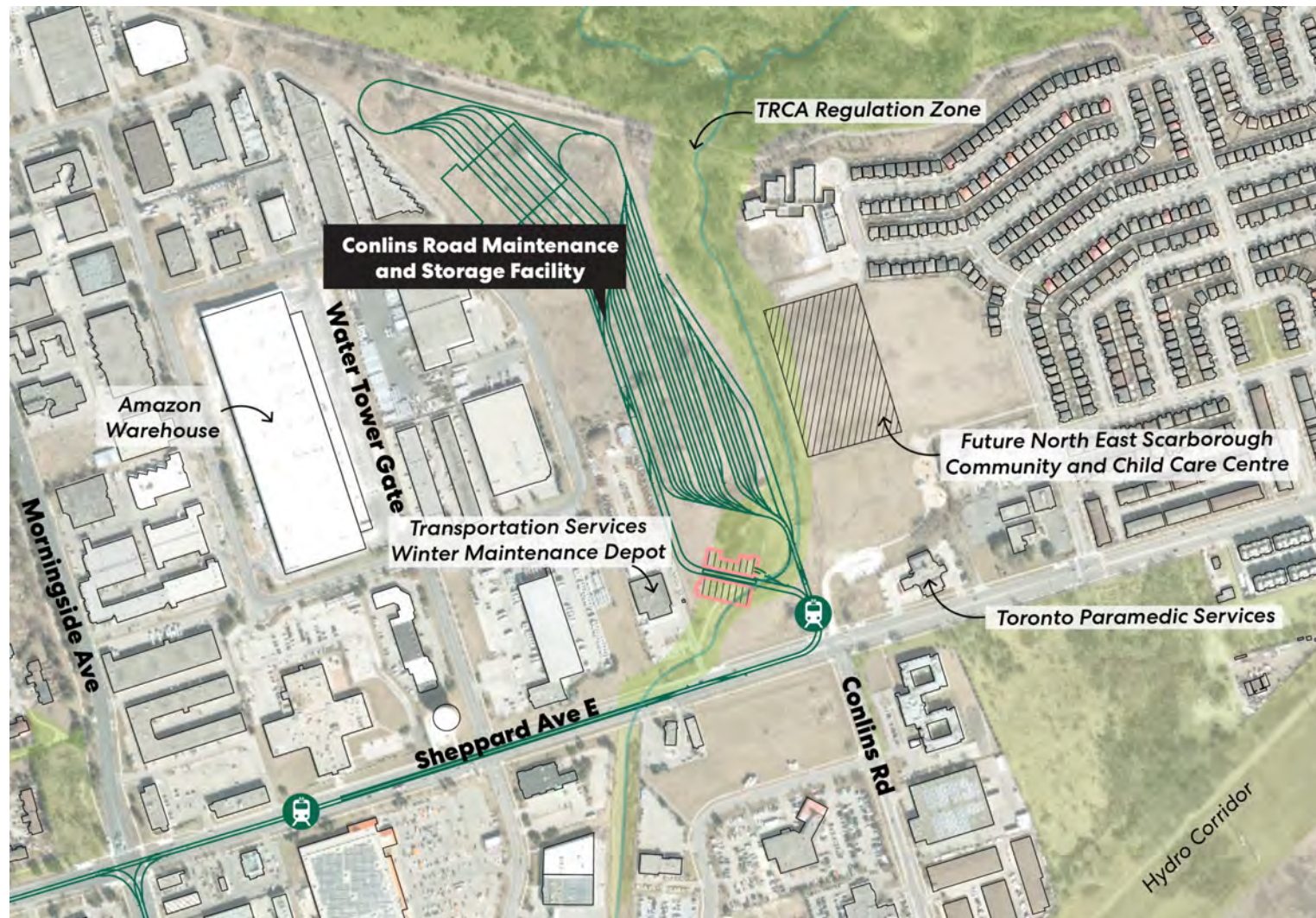
- EELRT would run in the centre of the Morningside Avenue bridge over Highway 401 and will accommodate bicycle and pedestrian access on both sides of the roadway.
- The City is exploring the possibility to urbanize the Highway 401 interchanges at Morningside; coordination with MTO bridge rehabilitation and highway corridor management is ongoing.



Conlins Road Maintenance and Storage Facility (MSF)

Conlins Road Maintenance and Storage Facility | Proposed Alignment

- City Council's preferred location for the EELRT Maintenance and Storage Facility (MSF) is on a site north of Sheppard Ave East and Conlins Road.
- There is a floodplain on this site which is regulated by the Toronto and Region Conservation Authority (TRCA). Coordination with TRCA is ongoing to minimize and mitigate potential impacts to the floodplain.
- Environmental studies are currently underway to evaluate potential impacts and identify appropriate mitigation measures.



Maintenance and Storage Facility | Non-EELRT Sample Rendering



Rendering for Eglinton Crosstown LRT Maintenance and Storage Facility (MSF) demonstrates the potential for the EELRT MSF.

**Neilson Road /
Malvern Town Centre**

Neilson Road/Malvern Town Centre | Alignment Features

- The functional (10%) design would run EELRT in the centre of Neilson Road to a terminus stop at Malvern Town Centre.
- To accommodate all elements of the EELRT design principles (access for cyclists and pedestrians, green space), the current design proposes a traffic lane reduction from 4 lanes to 2 lanes on Neilson Road north of Sheppard Ave to McLevin Ave.



Neilson Road/Malvern Town Centre | Alignment Features, Continued

The proposed lane reduction on Neilson Road would benefit both the EELRT and the community in the following ways:

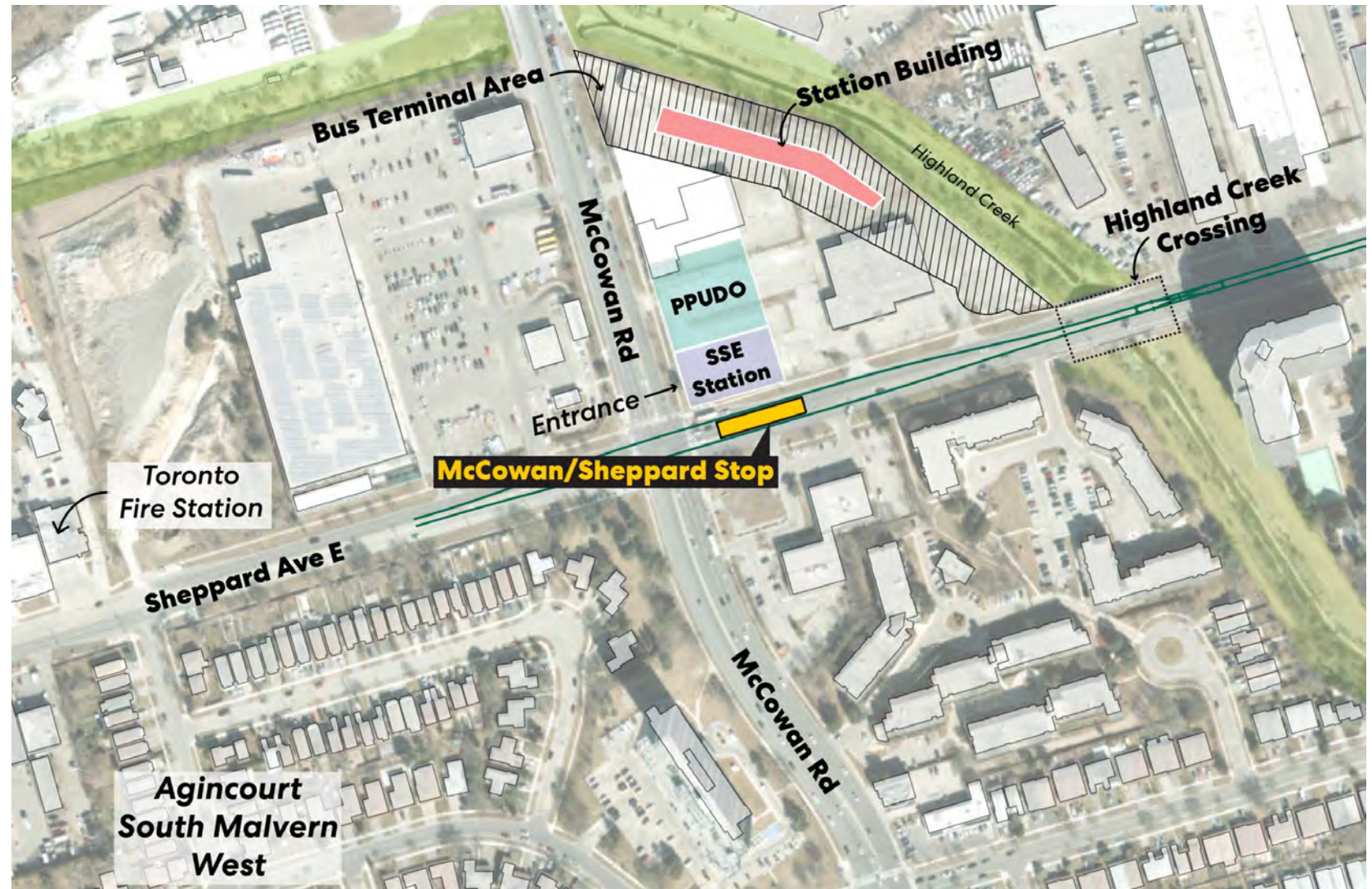
- It would introduce public realm enhancements and landscaping.
- It would help align the area with future development opportunities at Malvern Town Centre.
- It would minimize any potential impacts along Neilson Road.
- It would bring the roadway up to date with the current right-of-way design standards and policies.



McCowan / Sheppard Station

McCowan/Sheppard Station | Alignment Features

- McCowan/Sheppard is the proposed terminus of EELRT.
- The EELRT platform is proposed to be in the centre of the roadway.
- There would be convenient, underground connections to the TTC bus terminal, the Scarborough Subway Extension station and the potential Sheppard East Extension.
- Coordination with Metrolinx and the Scarborough Subway Extension team is ongoing.



Next Steps and How to Get Involved



Project Next Steps



We Want to Hear From You



Submit your comments
and take our online survey:
[Toronto.ca/EglintonEastLRT](https://toronto.ca/EglintonEastLRT)



Sign up for our mailing list:
[Toronto.ca/EglintonEastLRT](https://toronto.ca/EglintonEastLRT)



Contact the project team:
EglintonEastLRT@Toronto.ca

Comment Deadline:
June 21st, 2023