Welcome to the GO Expansion OnCorridor Program
Grade Separation Overview

Justification for Grade Separations

- Metrolinx is improving service as part of the GO Expansion Program by increasing train frequency and availability.
- The long-term goal and vision of the GO Expansion Program is to provide 15-minute two-way all-day service.
- With trains planned to run every 15 minutes (a crossing every 7 minutes in one direction or the other), it is not possible to maintain at-grade crossings.
- By grade separating the crossings, Metrolinx can increase travel speed and capacity on our rail lines by allowing trains to freely pass over or under roads without the need for stoppages. Grade separations will support the growth of our cities by increasing traffic flow and transit capacity.

Benefits of Grade Separations

Grade separations are essential to support transit expansion, and provide other community benefits, including:

- Improved traffic flow and elimination of the potential for conflicts between trains and vehicles
- Better connections and crossings for pedestrians and cyclists
- Air quality benefits from reduced car idling
- Reduced noise from at-grade crossing signals and train whistles
- Opportunities to bring roads up to new standards, by incorporating wider lanes and sidewalks, separated bike lanes, or improved lighting
## Design and Construction Commitments

<table>
<thead>
<tr>
<th>Rail Tunnel - Design</th>
<th>Traffic - Design</th>
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<tbody>
<tr>
<td>Rail tunnel reduces the Project footprint and improves traffic operations.</td>
<td>Traffic and pedestrian safety measures will be designed to applicable standards, such as medians and guiderails.</td>
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<tr>
<td>Where necessary, electrification protection barriers will be placed along the corridors, including on top of retaining walls, to prevent access to the tracks and the electrified overhead contact system wires.</td>
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<tr>
<td>Transparent barriers will be used at the corner of Danforth and Midland to improve visibility for traffic and pedestrians.</td>
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<thead>
<tr>
<th>St. Clair Avenue East Bridge - Design</th>
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<tbody>
<tr>
<td>The existing road and sidewalks will be maintained with limited disturbance.</td>
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<tr>
<td>Lighting under the rail bridge promotes traffic and pedestrian safety.</td>
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<thead>
<tr>
<th>Utilities</th>
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<td>Relocation and/or realignment of the utilities will occur in consultation with the City of Toronto and other applicable utility owners.</td>
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<td>Service interruptions related to utility relocation will be communicated with affected public.</td>
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<tr>
<th>Properties</th>
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<tr>
<td>Where entrances to properties must be closed to accommodate the grade separation, alternative entrances or new access locations have been identified.</td>
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<tr>
<td>Further discussion will occur with property owners regarding access requirements, temporary easements during construction, and property acquisition requirements.</td>
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At Danforth Road, potential effects to pedestrian and cyclist activities will be mitigated through the installation of appropriate way finding, regulatory, and warning signs.

At Danforth Road, MetroLinx will consult with the TTC to establish a suitable mitigation strategy to be implemented.

At Danforth Road, a sidewalk will be maintained on one side of the road during construction.

At Danforth Road, signal timing optimization for key intersections will mitigate the impacts of temporary construction stages.

At St. Clair Avenue East, two lanes of traffic will be maintained in each direction during construction.

A site-specific Construction Traffic Control and Management Plan will be prepared and implemented to maintain reasonable access through work zones, to the extent possible, and include construction signage and safety fencing requirements.

A full list of impacts and mitigation measures will be identified as design progresses, and will be documented in the Environmental Project Report which will be made available for public review.
Corvette Park Crossing Options

- To facilitate two-way all day service on the Stouffville Line, the existing at-grade crossing of the rail corridor near Corvette Park needs to be replaced with a structure that separates pedestrian and cyclist traffic from the tracks.
- To maintain pedestrian and cyclist connectivity, Metrolinx is considering options for a new multi-use crossing to either pass over or under the rail corridor (through a new bridge or tunnel).
- Metrolinx has identified a bridge crossing as the preferred design. Based on ongoing discussions with the City, Metrolinx is obtaining TPAP approval for both bridge and tunnel options.

**Pedestrian Bridge (Preferred)**

**Pedestrian Tunnel**

**Bridge and Tunnel: Common Elements**
- Ramps and crossings will be designed to a minimum width of 3 m, with slopes that meet accessibility requirements.
- A new connection to Wolfe Ave. will be created using existing City of Toronto property, and direct access to the Scarborough Centre for Alternative Studies will be removed through fencing.
- Impacts and mitigation to Corvette Park splash pad will be coordinated with the City of Toronto, including coordinating construction works, relocation plans for the splash pad and playground improvements or modifications.
Corvette Park Crossing Options

**Pedestrian Bridge (Preferred)**

- New pedestrian bridge with a 3-level ramp on the west and 2-level ramp on the east to cross the rail line at about 6.9 m high
- Transparent protection barriers over the rail lines will protect electrification infrastructure
- Guardrails and barriers will be designed to reduce visual impact and maximize natural lighting
- Open/transparent design will maximize sightlines across ramps and bridge
- The western ramp into Corvette Park will require relocation of the splash pad
- Since the splash pad will require removal, this area can be used as a construction laydown area, to limit the temporary impacts on the neighborhood and other areas of the park

**Pedestrian Tunnel**

- New ramps will descend to approximately 4.5 m underground to allow the 2.5 m - 3 m vertical height of the tunnel to pass beneath the rail lines
- Retaining walls as high as approximately 4 - 6 m will be required to support the new depressed ramp structures
- Retaining walls and structural elements will be limited where feasible to maximize natural lighting. Lighting will be included in the tunnel to improve visibility
- Where feasible, ramp configuration will be designed to maximize sightlines through tunnel
- The western ramp will limit direct impacts on the splash pad, and allow it to remain in place
- A laydown area within Corvette Park will need to be confirmed to facilitate construction, while limiting impacts on park users during construction

**Design Elements**

**Construction Impacts and Mitigation**

- Metrolinx will work with the City of Toronto and Toronto District School Board to discuss property acquisition needs
- Construction activities will be limited to daytime hours to the extent possible to limit the potential for nuisance effects such as noise, vibration and dust
- The ability to cross the corridor will be restricted during construction, but detour signage can be provided (such as directions to the nearest pedestrian crossing at Benjamin Blvd. / Saugeen Crescent or Danforth Road)
- Service interruptions related to utility relocation will be communicated to the public
Tell us what you think

Corvette Park Multi-use Crossing Options

Your feedback is one of many important factors that Metrolinx considers in decision-making.

Place a dot on the option you like and use a sticky note to tell us why.

### Corvette Park Pedestrian Bridge
- Place your dot here
- Stick your note here

### Corvette Park Pedestrian Tunnel
- Place your dot here
- Stick your note here

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Public Feedback

Municipal Support

Provincial Support

Technical Feasibility

Stakeholder Feedback

Other

Cost
Danforth Road Rail Tunnel

**Design Elements**

1. New rail tunnel maintains Danforth Road at-grade
2. Lowered rail corridor is necessary to facilitate the Scarborough Junction rail-rail grade separation
3. Property fence and electrification protection barrier on Danforth bridge
4. Reinstated sidewalks
5. Improved intersection configuration to remove right-turn channels

Stouffville tracks to pass underneath Danforth Road, replacing at-grade crossing and improving traffic operations.
Scarborough Junction Grade Separation Project

Danforth Road Rail Tunnel

Traffic Findings

• A three-lane detour is proposed during construction to maintain adequate traffic flow across Danforth with limited delays.
• Optimization of signal timings is expected to help reduce queues and delays significantly.
• Following construction, the grade separation will allow traffic, pedestrians and cyclists to travel more efficiently and without interruption.
• Full detour of TTC bus services will not be required. Some delays to TTC Route 16 expected.

Construction Staging

• Site Preparation – delineation of construction zones through signage and hoarding as needed, site clearing, temporary access to properties as needed, and installation of rail or road detours as required.
• Construction – will vary based on each site, but generally will include excavation, utility relocation, installation or modification of structures and barriers, road/track construction.
• Restoration – final landscaping, road paving/marking, site cleanup and removal of construction zones.
Scarborough Junction Grade Separation Project

Rail / Rail Grade Separation

Design Elements
1. The new second Stouffville track will drop below grade and cross under the Lakeshore East tracks before meeting with the existing Stouffville track.
2. The Stouffville line will continue within a lowered rail corridor to accommodate the rail tunnel at Danforth Road.

Key Points
• With increased train service from GO Expansion, the current track configuration at the Scarborough Junction will not provide effective train movement between the Stouffville and Lakeshore East rail corridors.
• Currently, north-south trains along the Stouffville Rail Corridor would need to cross three tracks at-grade, creating potential train conflicts and delays.
• Switching across tracks will not be feasible to maintain train flow with increased service levels.
• To remove the potential for train conflicts and meet future service targets, a rail-rail grade separation just east of Midland Avenue is proposed.
St. Clair Avenue East Bridge Expansion

**Key Points**
- Expanded bridge at St. Clair Avenue East is required to accommodate the additional Stouffville track.
- The new structure will match the existing bridge.

**Design Elements**
1. Extended bridge
2. New retaining walls (as high as 5.3 m), wing walls, abutments to support additional track
3. Maintained elevated sidewalks
4. Reinstated road conditions
5. Additional lighting under the rail bridge promotes traffic and pedestrian safety

The existing Metrolinx St. Clair Yard has been identified as the Project construction staging site.