

## Attachment 3 – Regional Express Rail Grade Separations Planning and Technical Update

### 1. Background

There are currently twenty one level crossings in Toronto where roads intersect Metrolinx GO rail corridors. When fully implemented, Regional Express Rail (RER) will significantly increase rail movements through these level crossings. As part of the RER program, a process has been initiated by Metrolinx to review level crossings across its GO rail network to identify grade separations that will be recommended for construction within a ten-year time frame<sup>1</sup>.

This attachment includes a profile of each the five level crossings that Metrolinx has identified for grade separation in the next ten years to accommodate RER service:

1. Steeles Avenue East (Stouffville GO Corridor)
2. Finch Avenue East (Stouffville GO Corridor)
3. Scarborough Golf Club Road (Lakeshore East GO Corridor)
4. Galloway Road (Lakeshore East GO Corridor)
5. Morningside Drive (Lakeshore East GO Corridor)

Separately, a grade separation at Wallace Avenue on the Barrie GO Corridor will be completed in conjunction with the Davenport Rail Overpass project. City and Metrolinx staff will undertake further negotiations regarding other grade separations in Toronto resulting from RER service increases.

### 2. Initial RER Grade Separations

Metrolinx has identified five locations on the Stouffville and Lakeshore East GO corridors for grade separation within the next ten years to ensure service reliability and to minimize interaction with road traffic. Table 2 includes the Class 4/5 capital cost estimates for these grade separations.

Grade separations at Steeles Avenue East and Finch Avenue East would be at the two level crossings with the highest Exposure Index (EI) on the Stouffville GO Corridor. The EI measures the number of rail and vehicular movements at a level crossing. Generally, the higher the combined number of movements through the intersection of road and rail, the greater the benefits that result by separating that traffic.

Metrolinx is proposing grade separations at Scarborough Golf Road, Morningside Avenue and Galloway Road to address at-grade crossings on roads with high traffic volumes as a practical solution. These three grade separations are included in the Lakeshore East Rail Corridor

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<sup>1</sup> For more information regarding Metrolinx's process, see the [February 10, 2016 GO Road/Rail Grade Separations Report](#) to the Metrolinx Board.

Expansion (Guildwood to Pickering) EA<sup>2</sup> that will be completed in Q4 2016. The Statement of Completion for this EA is anticipated for January 2017.

For roads with lower traffic volumes or other available routes, Metrolinx is proposing potential road closures. Further work is required to determine where road closures are appropriate, and the City will work with Metrolinx and report to City Council once further information is available.

Table 2: Grade Separation Capital Cost Estimates

Crossing Location	Cost Estimate (\$ millions)
Steeles Avenue East	122
Finch Avenue East	56
Scarborough Golf Club Road	69
Galloway Road	71
Morningside Drive	69
<b>Total</b>	<b>387</b>
<b>Notes:</b> Capital Cost estimates are preliminary and will change as planning and design work progresses. Incremental maintenance costs are assumed to be limited. Direct capital construction costs include: roadworks, electrical, bus stop/shelter, utility relocation, trackwork, structures, retaining walls, flagging, etc. Indirect Costs include risk/contingency, design and project management. Includes the following indirect costs: Professional Services Cost (18% of direct costs); contingency allowance (30% of direct cost) property acquisition; and 1.76% non-recoverable HST. Escalation, financing and AFP costs not included. Lifecycle costs not included (major refurbishments)	

## 2.1 RER Grade Separation Profiles

### Steeles Avenue East (Wards 39 Scarborough-Agincourt and 41 Scarborough Rouge River)

Steeles Avenue East crosses the Stouffville GO Rail corridor between Kennedy Road and Silver Star Boulevard. This level crossing has the highest EI on the Stouffville Corridor in Toronto. A grade separation at this location is important given existing traffic volumes on Steeles Avenue East.

A grade separation at this location will be challenging to construct. There are space constraints at this location that will result in more complex bridge design and utility relocations. The design of this grade separation will also need to consider future rapid transit along Steeles Avenue East. Measures will need to be undertaken to minimize the impact on surrounding properties. In addition, the design of this grade separation should integrate active transportation infrastructure such as pedestrian bridges, ramps, and cycling tracks given its close proximity to Milliken GO train station.

The City of Toronto is currently undertaking a Schedule C Municipal Class EA study to update previous studies completed for this rail crossing, including a 1994 EA and a 2004 EA Addendum. Although led by the City of Toronto, the EA ("Steeles Avenue Grade Separation at Stouffville GO Transit Rail Corridor EA Study") is being one-third cost-shared with the

<sup>2</sup> More information on this EA can be found here: [http://www.metrolinx.com/en/regionalplanning/rer/guildwood-pickering\\_meetings.aspx](http://www.metrolinx.com/en/regionalplanning/rer/guildwood-pickering_meetings.aspx)

Regional Municipality of York and Metrolinx ([PW12.9](#)). The anticipated completion for this EA is in Q1 2017. A report to the Public Works and Infrastructure Committee is expected in Q1 2017.

Rail Corridor	Current Exposure Index (2016)	Projected Exposure Index (2030)
Stouffville	919,000	9,336,000



Finch Avenue East (Wards 39 Scarborough-Agincourt and 41 Scarborough Rouge River)

Finch Avenue East crosses the Stouffville GO corridor between Kennedy Road and Midland Avenue. This location currently has the second highest EI on the Stouffville GO Corridor. Existing traffic volumes on Finch Avenue East warrant a grade separation at this location.

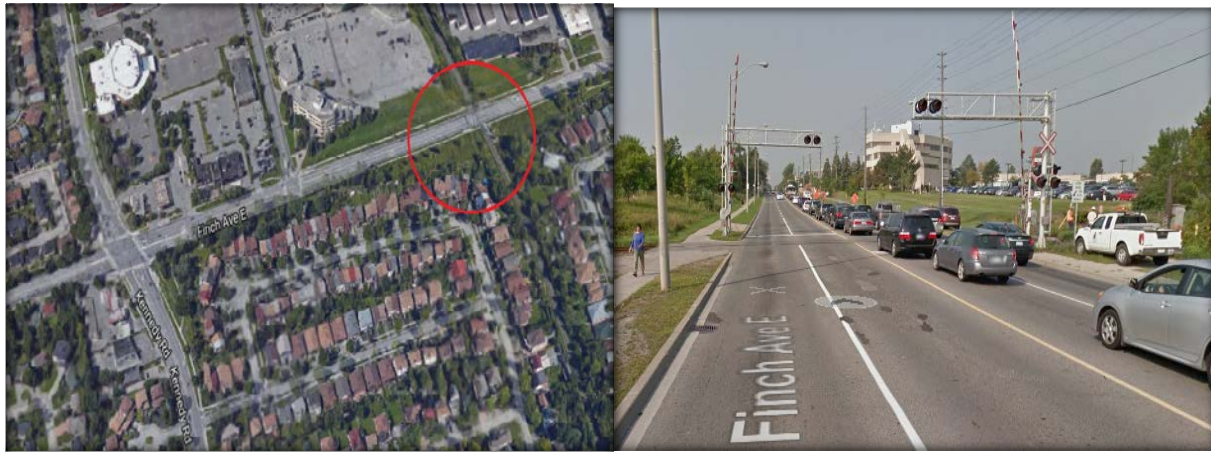
The design and delivery of this grade separation will need to be coordinated with the ongoing station planning and design for the Finch East SmartTrack station. This will include, for example, integrating active transportation infrastructure into the design of this grade separation to provide connectivity to Finch East SmartTrack station.

It is anticipated that this grade separation will require substantive property takings on the north side of Finch Avenue.

Metrolinx has not yet initiated the EA for this grade separation. The opportunity to combine the EA for this grade separation with the Finch East SmartTrack station EA process will be considered.

Rail Corridor	Current Exposure Index (2016)	Projected Exposure Index (2030)
Stouffville	846,000	8,170,000



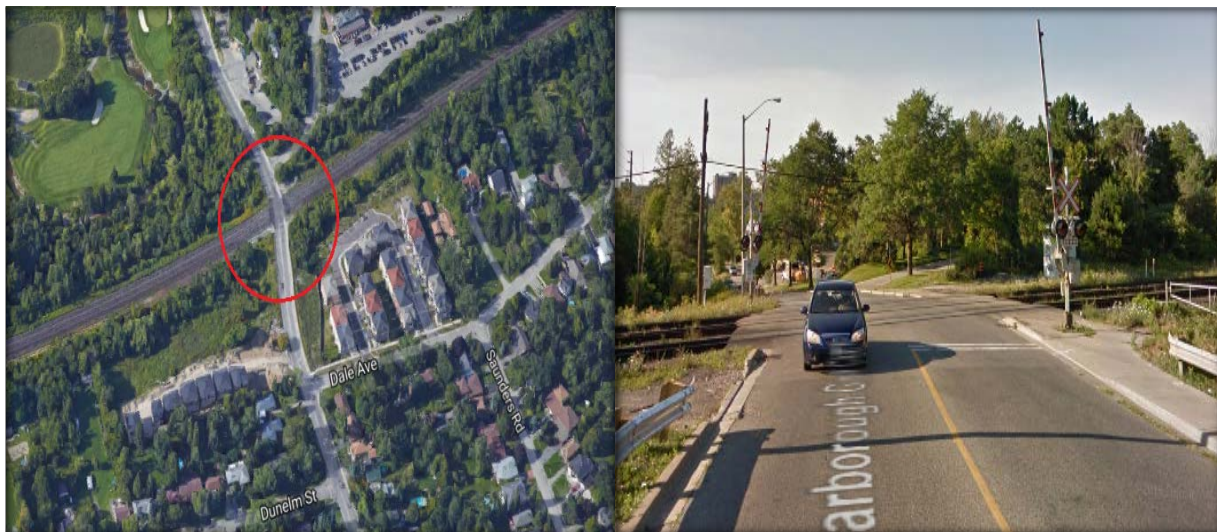


Scarborough Golf Club Road (Ward 36 and Ward 43)

Scarborough Golf Club Road crosses the Lakeshore East GO corridor between Lawrence Avenue East and Kingston Road.

The EA for this grade separation is included in the [Lakeshore East Rail Corridor Expansion EA](#).

Rail Corridor	Current Exposure Index (2016)	Projected Exposure Index (2030)
Lakeshore East	1,118,000	2,421,000



Galloway Road (Ward 43 – Scarborough East)

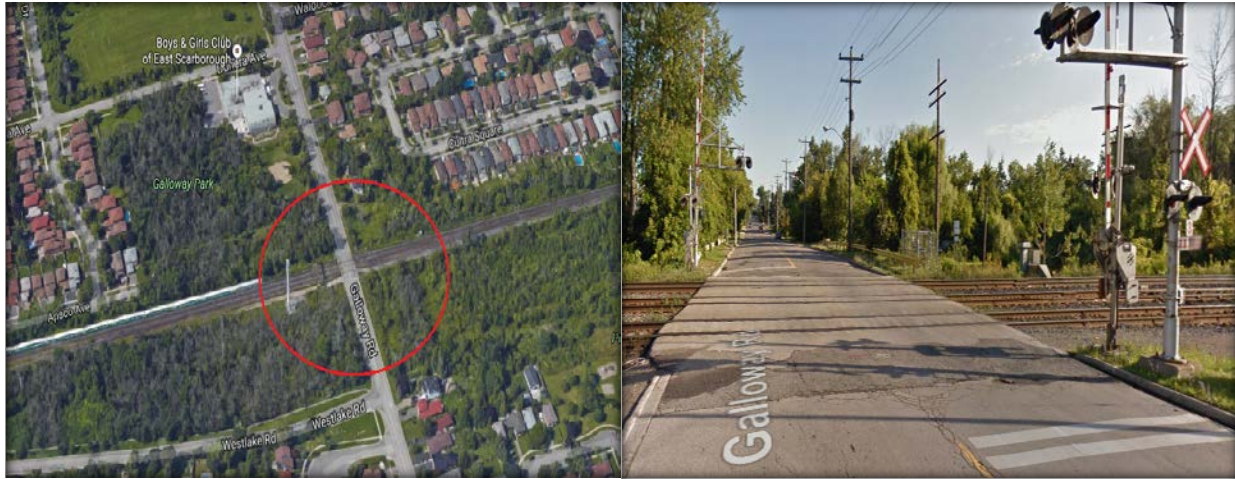
Galloway Road crosses the Lakeshore East GO corridor between Kingston Road and Guildwood Parkway. Galloway Road is a two-lane collector road with significant traffic travelling both north and south. There are no sidewalks or bike lanes where Galloway Road currently crosses Lakeshore East GO corridor. The rail corridor at this location will continue to have three tracks in the future but the grade separated structure will protect for a potential fourth track. This grade



separation is being designed to meet current City road design standards and will accommodate future electrification of the rail corridor.

The EA for this grade separation is included in the [Lakeshore East Rail Corridor Expansion EA](#).

Rail Corridor	Current Exposure Index (2016)	Projected Exposure Index (2030)
Lakeshore East	367,000	794,000



Morningside Avenue (Ward 43 and Ward 44)

Morningside Avenue crosses the Lakeshore East GO Corridor between Coronation Drive and Cumber Avenue. The grade separation would be located on the border of the two Scarborough East Wards 43 and 44. Metrolinx is currently undertaking detailed design for this grade separation in consultation with the City.

The EA for this grade separation is included in the [Lakeshore East Rail Corridor Expansion EA](#).

Rail Corridor	Current Exposure Index (2016)	Projected Exposure Index (2030)
Lakeshore East	1,215,000	2,630,000



### **3. Next Steps**

Detailed design is currently underway for the three grade separations (Scarborough Golf Club Road, Galloway Road, Morningside Drive) on the Lakeshore East GO Corridor in tandem with the Lakeshore East Rail Corridor Expansion (Guildwood to Pickering) EA. A thirty day public review period will be held from early November 2016 to December 2016 for these grade separations.

The Steeles Avenue grade separation is undergoing an EA process that is anticipated for completion in Q1 2017. Detailed design for this grade separation will be through Metrolinx's AFP process.

An EA for the Finch Avenue East grade separation will be initiated by Metrolinx in the near future. Opportunities to combine the EA for the Finch East SmartTrack station and this grade separation will be considered. It is anticipated that the detailed design for this grade separation will also be through Metrolinx's AFP process.