



ACTION REQUIRED

Subject: SmartTrack Status Update

Date: October 28, 2015

At its meeting on October 20, 2015, the City of Toronto Executive Committee adopted EX9.1: SmartTrack Status Update, and in doing so, requested that the report be forwarded for information to the Toronto Transit Commission, the Ministry of Transportation, Metrolinx, the City of Mississauga and York Region.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.EX9.1>

It is recommended that the TTC Board:

1. receive the foregoing for information.

Original signed by

Vincent Rodo
Chief Financial &
Administration Officer

1-11

Attachment: EX9.1 – SmartTrack Status Update

October 26, 2015

Andy Byford
Chief Executive Officer
Toronto Transit Commission
1900 Yonge Street
Toronto, ON M4S 1Z2

Dear Mr. Byford,

Re: SmartTrack Status Update Report

At the October 20, 2015 Executive Committee meeting, Executive Committee requested the City Manager to forward the SmartTrack Status Update report for information to the Toronto Transit Commission, the Ministry of Transportation, Metrolinx, the City of Mississauga and York Region.

The full report, *EX9.1 SmartTrack Status Update* is enclosed for your reference, and can also be found at the following link: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.EX9.1>

City staff have been working closely with the TTC, Metrolinx, and the Province, to implement the accelerated work plan that was approved at the February 10, 2015 meeting of Toronto City Council. We look forward to continued partnership with the TTC on this project.

Lastly, City staff provided the TTC Board with an update on Toronto transit expansion projects, including an introduction to SmartTrack, at its September 28, 2015 meeting. The TTC Board requested an additional SmartTrack update following the October 20, 2015 Executive Committee meeting. This report will be transmitted to the TTC Board's October 28, 2015 meeting.

Sincerely,

A handwritten signature in blue ink that reads "Peter Wallace".

Peter Wallace
City Manager

c. Vince Rodo, Chief Financial and Administration Officer

Encl: EX9.1 SmartTrack Status Update Report

SMARTTRACK STATUS UPDATE

Presentation to Toronto Transit Commission Board

October 28, 2015

John Livey, Deputy City Manager, Cluster B, City of Toronto

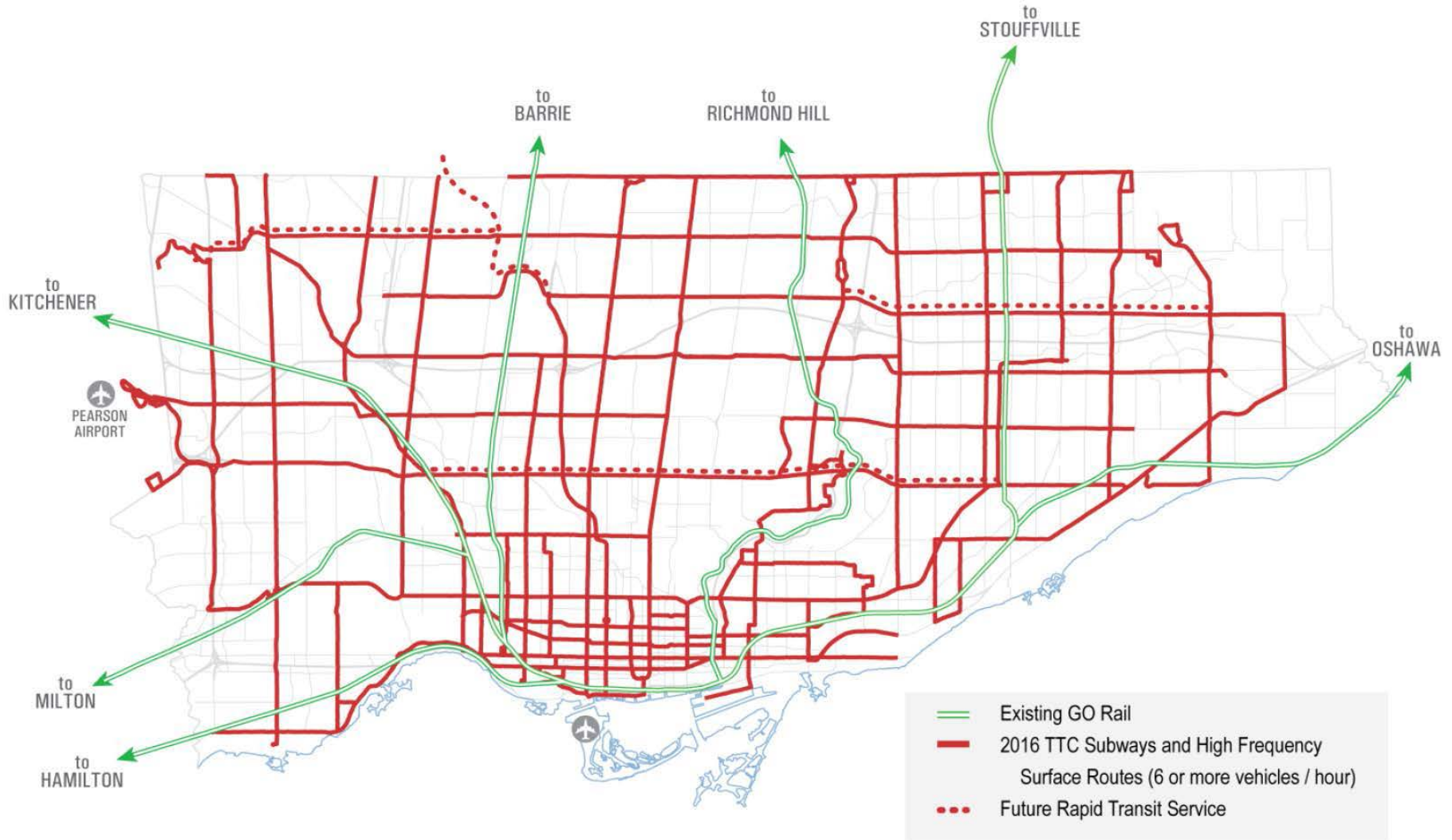
Chris Upfold, Chief Customer Officer & Deputy CEO, Toronto Transit Commission

Outline

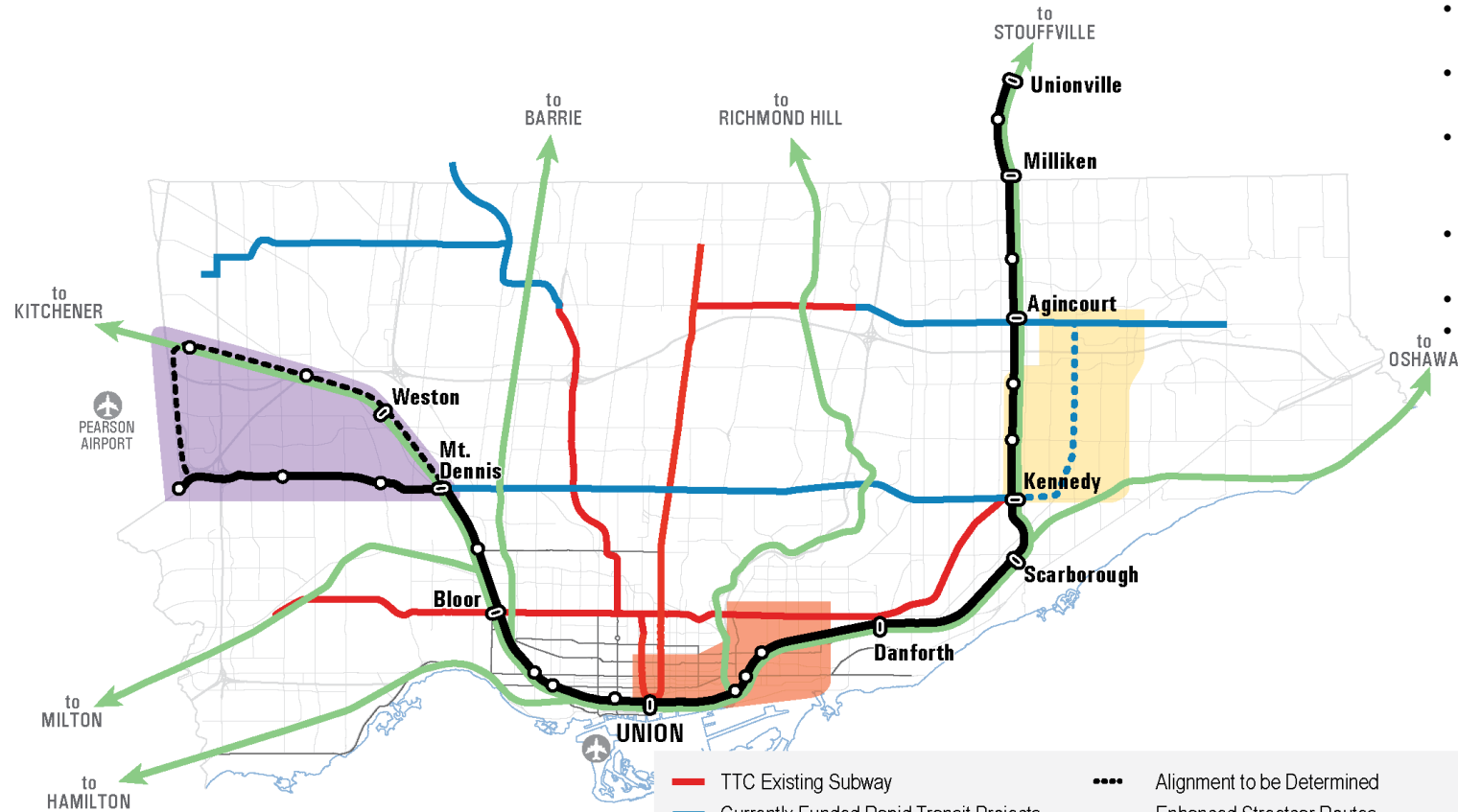
- Issue Background
- Project Status & Updates
- Next Steps

ISSUE BACKGROUND

Toronto's Existing High Frequency & High Capacity Transit Network

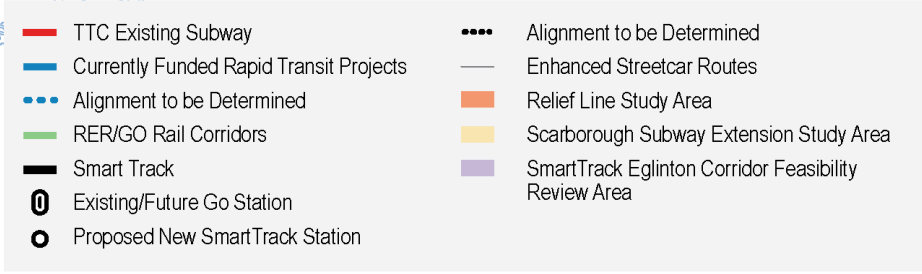


Toronto Transit Expansion Projects Currently in the Planning Stage



Current Projects

- SmartTrack (City, TTC, Metrolinx)
- Regional Express Rail (Metrolinx)
- Scarborough Subway Extension Project Assessment/EA (City/TTC)
- Relief Line Project Assessment/EA (City/TTC)
- Finch LRT (Metrolinx)
- Sheppard LRT (Metrolinx)



Metrolinx GO Regional Express Rail

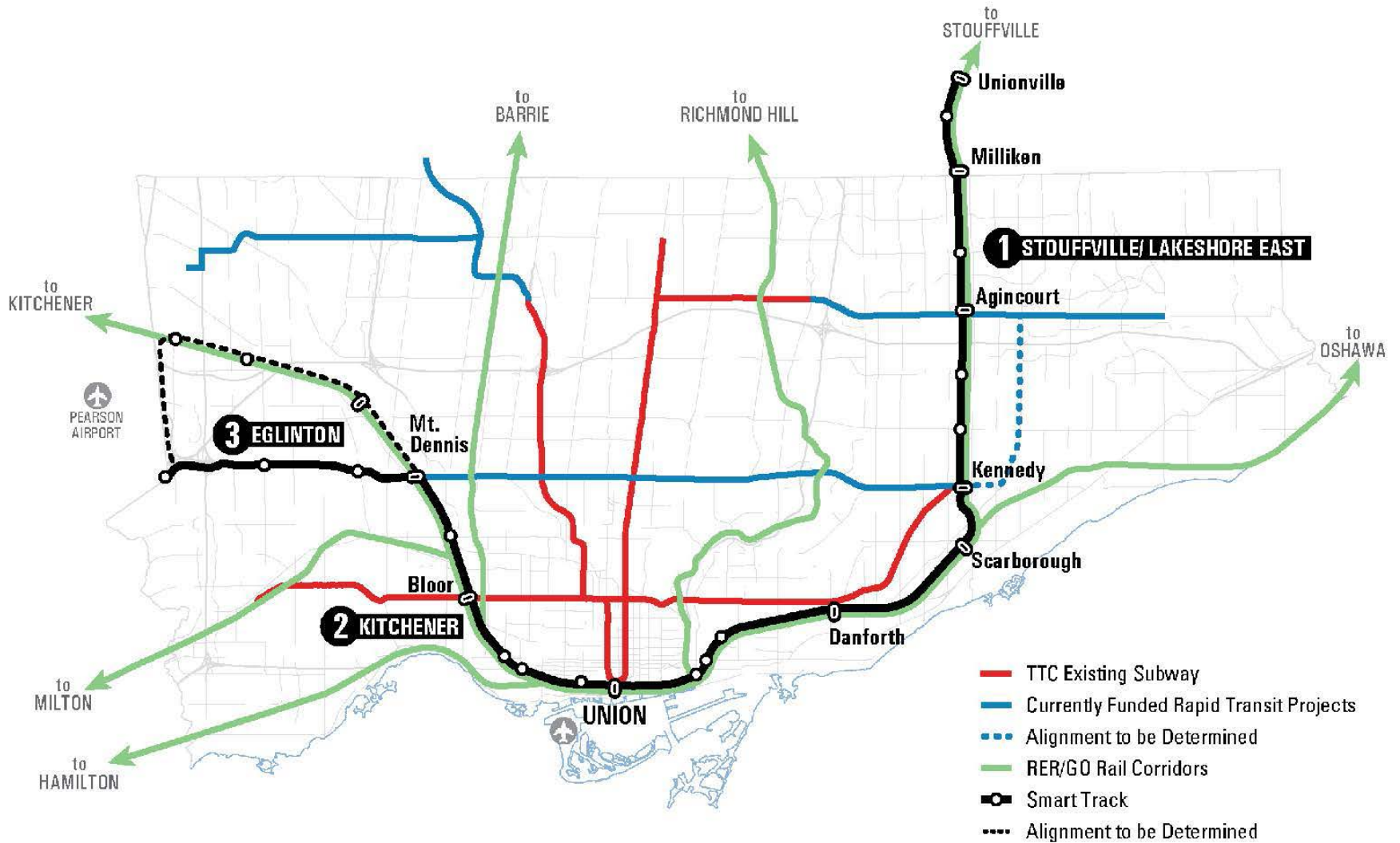
Weekday Rush Hour (Peak Direction)



Mid-Day, Evening and Weekend



SmartTrack Study Areas



SmartTrack and GO RER

Regional Express Rail (RER)

SmartTrack

General

- | | |
|---|--|
| <ul style="list-style-type: none">• Service frequency of 15 minutes or better• Fare policy to be determined.• Union Station key destination• Electrification | <ul style="list-style-type: none">• Service frequency of 15 minutes or better• All stop service in both directions• TTC fare option included in study• Union Station, Mississauga Airport Corporate Centre/Pearson are key destinations• Electrification• Local Service Integration |
|---|--|

Corridor #1- Stouffville/Lakeshore East GO (*Unionville to Union Station*)

- | | |
|---|---|
| <ul style="list-style-type: none">• 6 existing GO stations• Consideration of new stations undergoing analysis and consultation | <ul style="list-style-type: none">• 6 existing GO stations (1 in Markham)• 7 new stations (1 in Markham) |
|---|---|

Corridor #2- Kitchener GO (*Mt. Dennis to Union Station*)

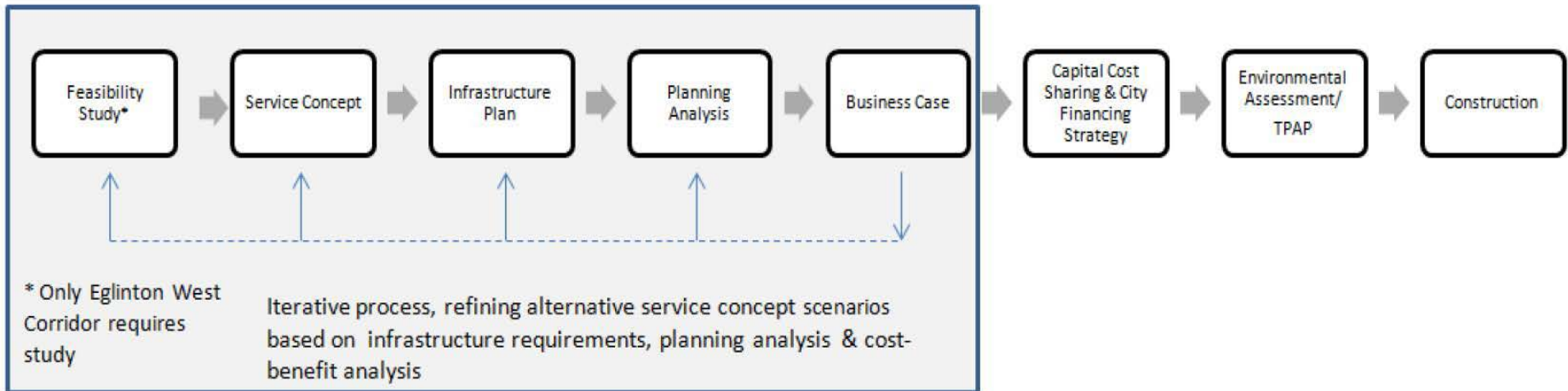
- | | |
|---|---|
| <ul style="list-style-type: none">• 1 existing GO station (Bloor)• 1 future GO station (Mt. Dennis)• Consideration of new stations undergoing analysis and consultation | <ul style="list-style-type: none">• 1 existing GO station (Bloor)• 1 future GO station (Mt. Dennis)• 4 new stations |
|---|---|

Corridor #3- Eglinton West (*Mt. Dennis to Airport Corporate Centre*)

- | | |
|--|---|
| <ul style="list-style-type: none">• Not in RER plan.• Extension of Eglinton Crosstown LRT to Pearson Airport is an unfunded project in The Big Move Plan. | <ul style="list-style-type: none">• New heavy rail corridor to Mississauga Airport Corporate Centre• 3 new stations (1 in Mississauga) |
|--|---|

PROJECT STATUS & UPDATES

SmartTrack/RER Review Process



Developing the SmartTrack Service Concept & Infrastructure Plan

SmartTrack Components Under Review:

- Service Concept Options:
 - Service Frequency (4 to 12 trains an hour)
- Fare Options:
 - (TTC fare or GO fare)
- Infrastructure Options:
 - New Stations (14+ new stations)
 - Western Heavy Rail Corridor (8 Corridors, 11 alignments).

SmartTrack Infrastructure Plan Development: New Stations

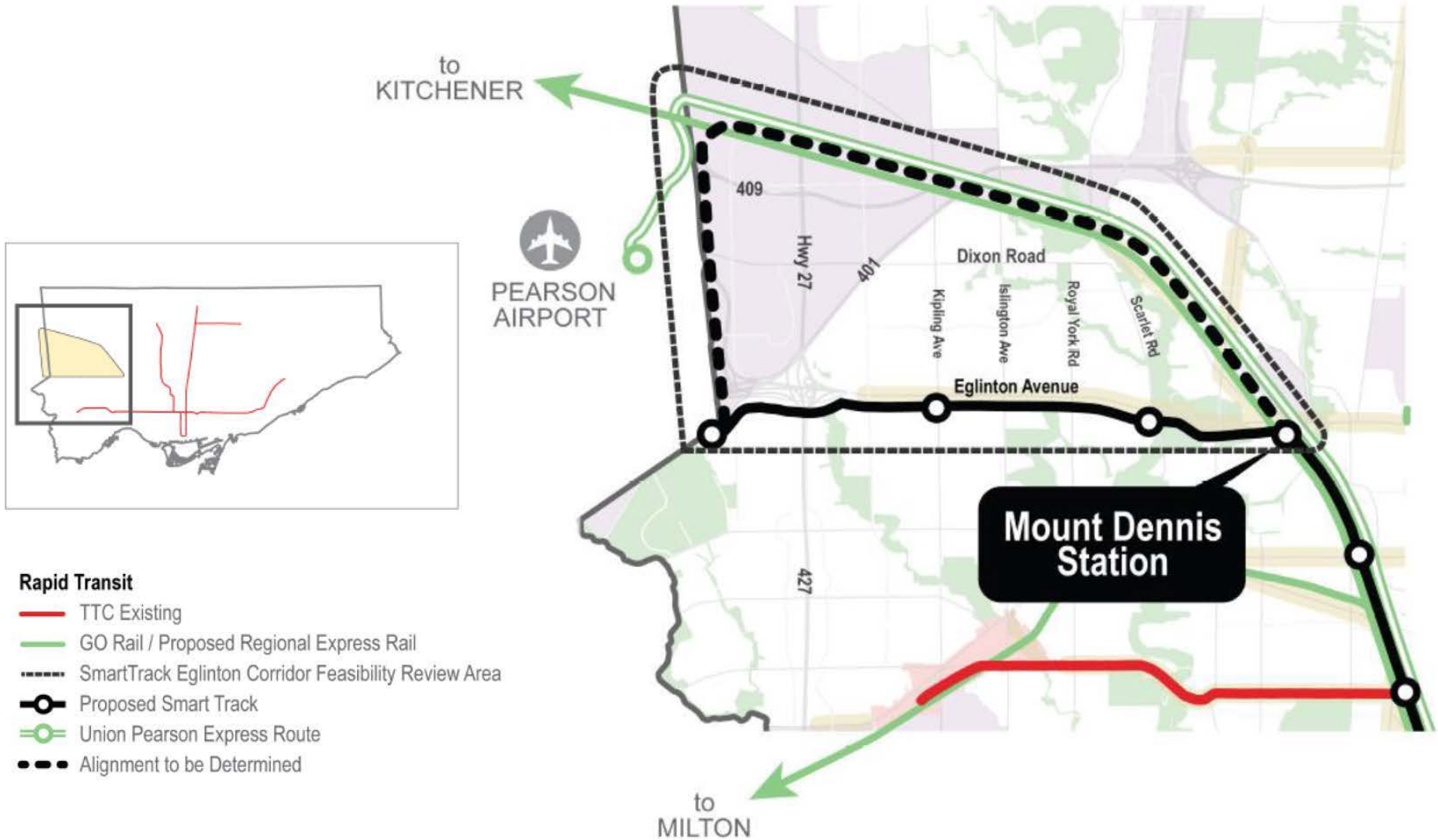
- SmartTrack proposes approximately 14 new stations
 - Stouffville/Lakeshore East Corridor: 7 new stations
 - Kitchener GO Corridor: 4 new stations
 - Western Heavy Rail Corridor: 3-4 new stations
 - See Table 2 p. 13-14 of staff report contains full list of stations
- City preliminary assessment focuses on new stations within Toronto.
 - Appendix 2 of report contains City Planning assessment. Appendix 2A contains profiles of each station.
- GO RER as announced does not include new stations.
- Metrolinx has a process currently underway to assess potential new stations across the GO network.
 - List of 50+ stations (includes proposed SmartTrack stations) being considered by Metrolinx for further analysis and an initial business case.
- Additional analysis is required and public consultation

GO RER Electrification Plan

- Electrification is critical to achieving service levels proposed under both RER and SmartTrack
- System wide Environmental Assessment is expected to be complete by late 2017



Western Heavy Rail Corridor Feasibility Review



Western Heavy Rail Corridor Feasibility Review

- 8 corridors and 11 alignment options were assessed for heavy rail
- Base case is the unfunded EA-approved Eglinton LRT extension
 - Metrolinx has recently started to develop optimized options for Eglinton LRT extension. City staff will be consulted.
- The review has identified a number of technical areas requiring additional analysis:
 - Integration with the Kitchener GO Corridor and additional infrastructure requirements
 - Operations management with the Kitchener Corridor (including RER, UPX, VIA Rail and freight)
 - Impacts on existing development adjacent to the corridor
- Additional analysis is required, including inputs from ridership model prior to recommendations being brought forward in Q1 2016
- See Appendix 3 of the staff report for details

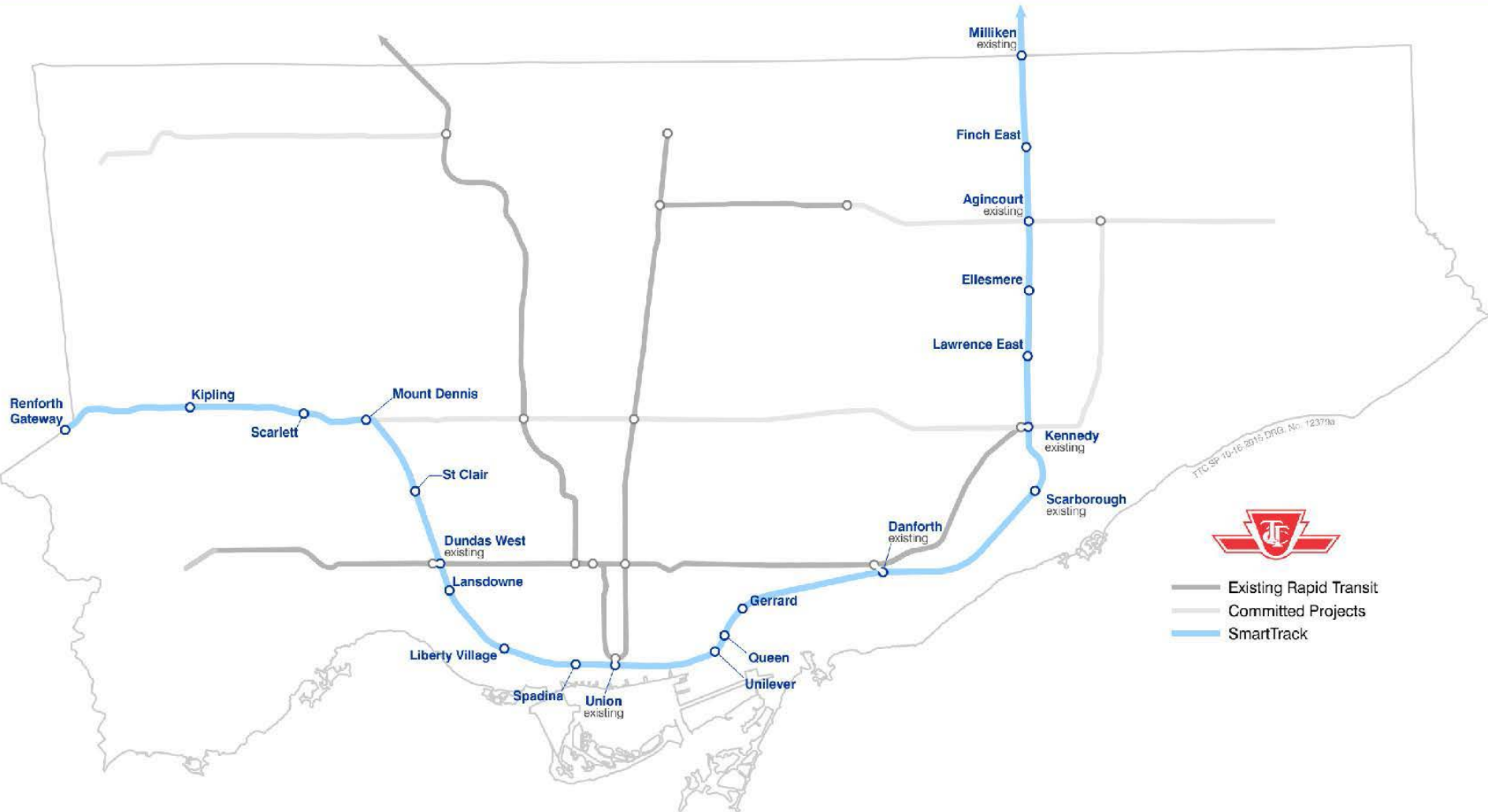
Western Heavy Rail Corridor Review: Preliminary Options Screening Results

Corridor Option	Preliminary Screening – Carried forward?	Number of Alignment Options Carried Forward for Further Study
Eglinton Corridor 1A	Yes	2
Eglinton Corridor 1B	Yes	1
Eglinton Corridor 1C	Yes	1
Eglinton Corridor 1D	Introduced after primary screening	Alignment to be developed
Woodbine/Airport Corridor 2A	No	N/A
Woodbine/Airport Corridor 2B	Yes	1
Woodbine/Airport Corridor 2C	Yes	2
Stand-alone Eglinton Corridor 3	No	N/A

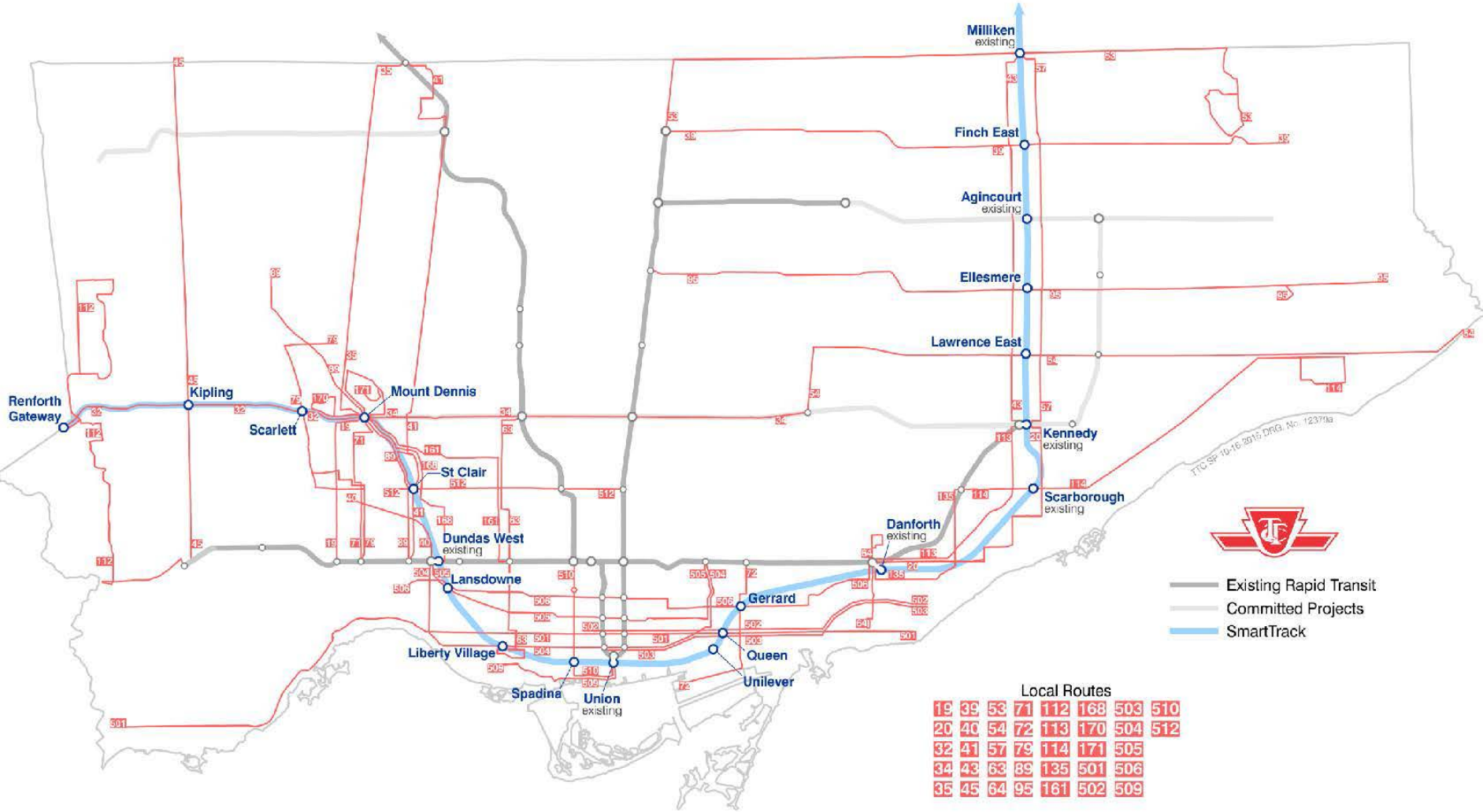
TTC Service Integration



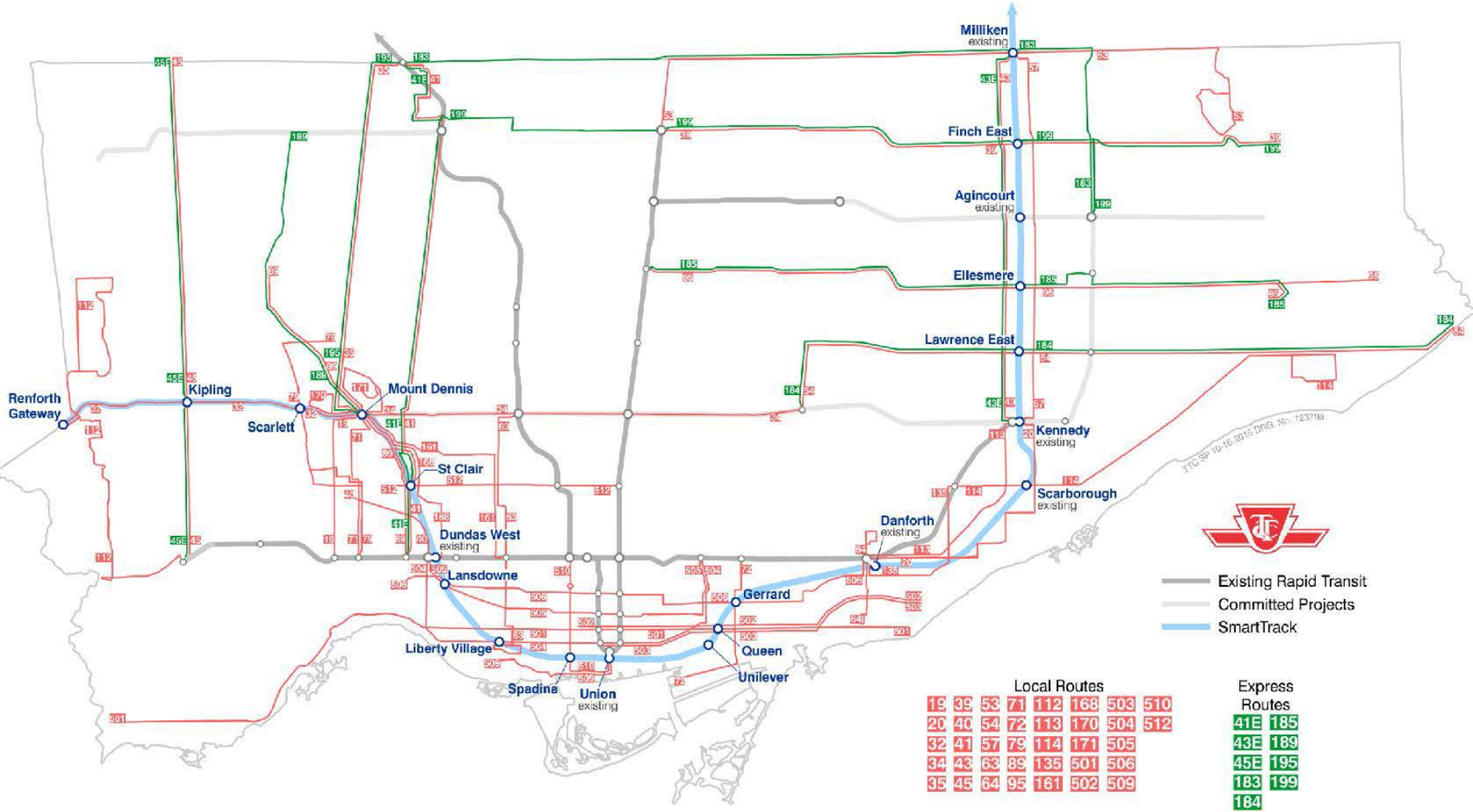
TTC Service Integration



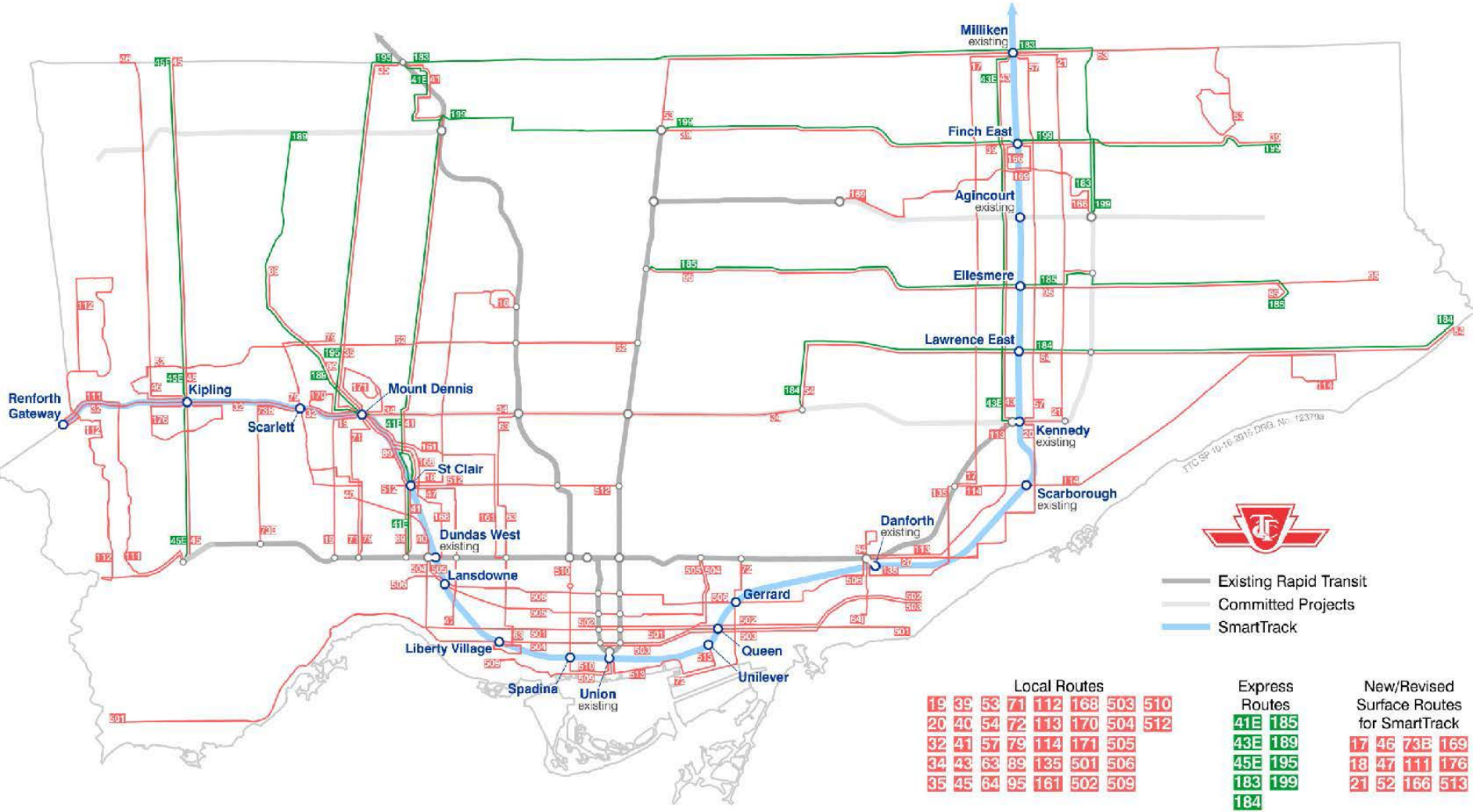
TTC Service Integration



TTC Service Integration



TTC Service Integration with SmartTrack



TTC Service Integration – Preliminary Findings

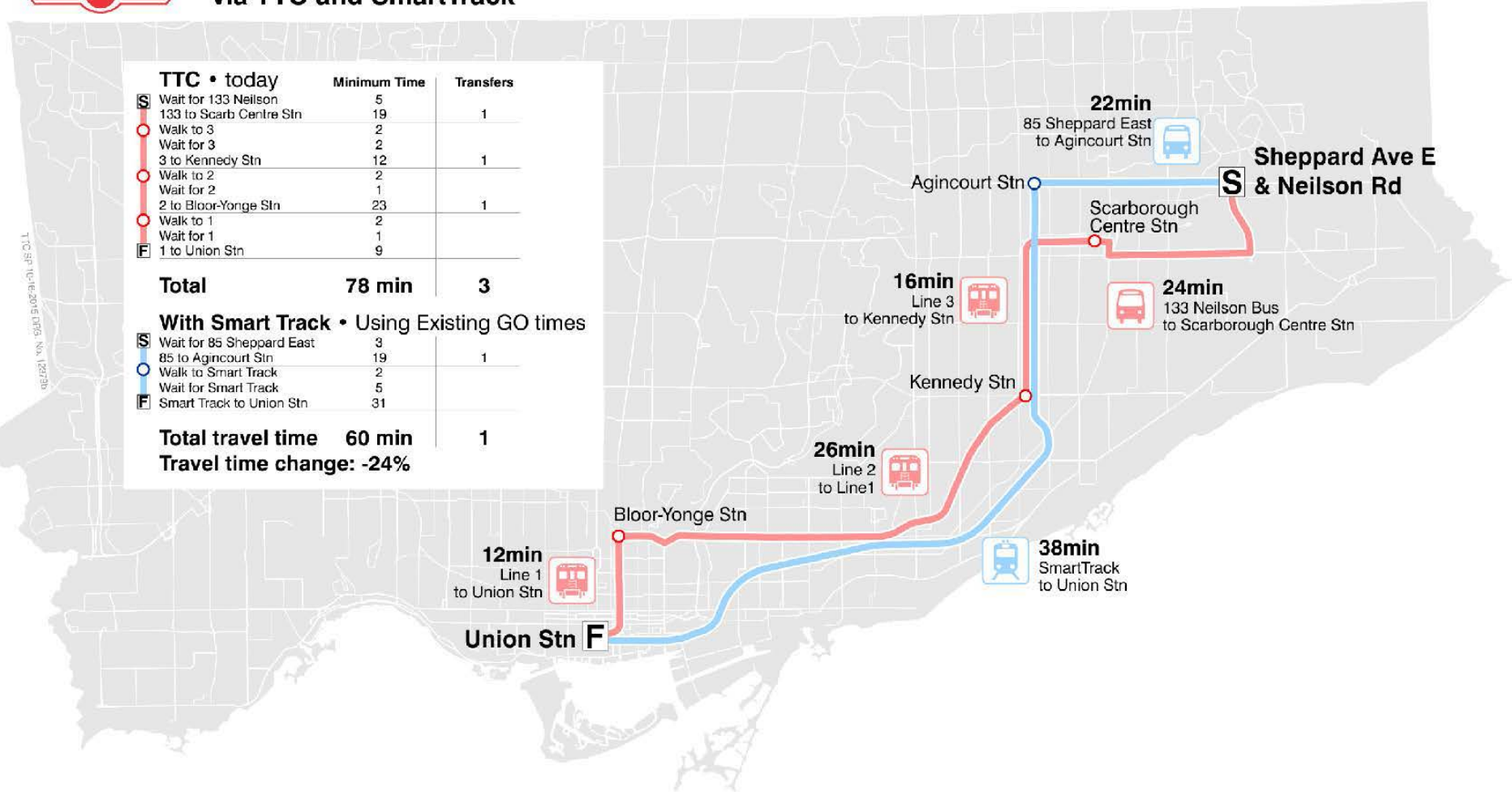
- 75 transfers: TTC routes @ 21 SmartTrack stations
- 9: off-route diversions
 - done by exception only at TTC
 - must satisfy criterion of net benefit to users
- use in ridership modelling, forecasting:
 - project customers transferring to ST
- use for ST station planning and assessment
- iterative process – overall ST planning

TTC Service Integration



Sheppard & Neilson to Union Station via TTC and SmartTrack

TTC • today		
	Minimum Time	Transfers
S Wait for 133 Neilson	5	
133 to Scarb Centre Stn	19	1
Walk to 3	2	
Wait for 3	2	
3 to Kennedy Stn	12	1
Walk to 2	2	
Wait for 2	1	
2 to Bloor-Yonge Stn	23	1
Walk to 1	2	
Wait for 1	1	
F 1 to Union Stn	9	
Total	78 min	3
With Smart Track • Using Existing GO times		
S Wait for 85 Sheppard East	3	
85 to Agincourt Stn	19	1
Walk to Smart Track	2	
Wait for Smart Track	5	
F Smart Track to Union Stn	31	
Total travel time	60 min	1
Travel time change: -24%		

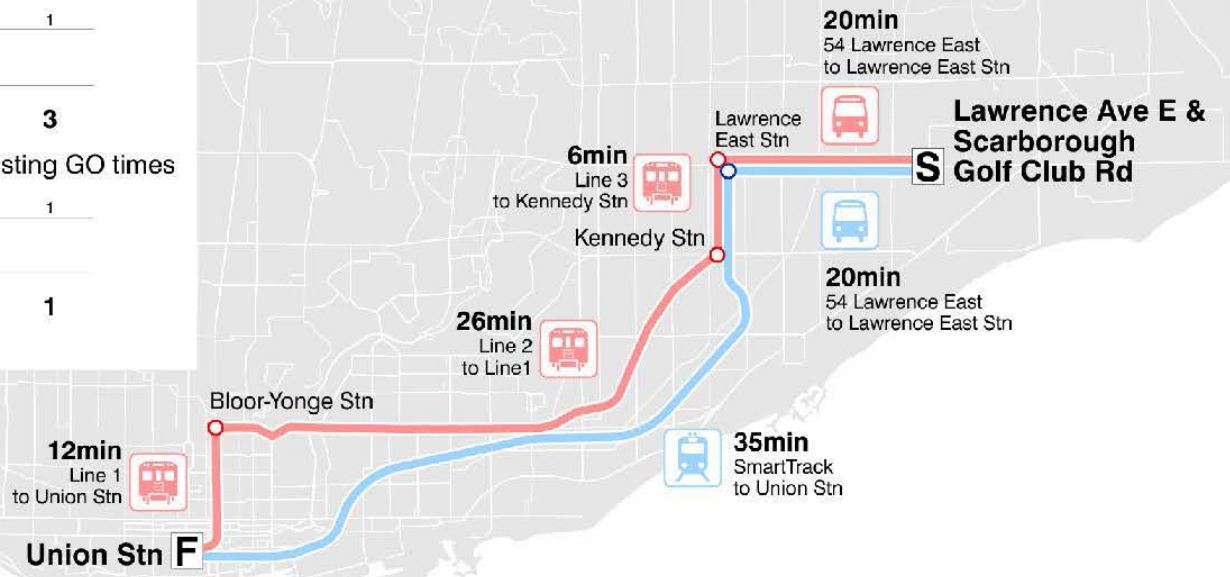


TTC Service Integration



Lawrence & Scarborough Golf Club Rd to Union Station via TTC and SmartTrack

TTC • today		
	Minimum Time	Transfers
S Wait for 54 Lawrence East	2	
54 to Lawrence East Stn	18	1
Walk to 3	1	
Wait for 3	2	
3 to Kennedy Stn	3	1
Walk to 2	2	
Wait for 2	1	
2 to Bloor-Yonge Stn	23	1
Walk to 1	2	
Wait for 1	1	
F 1 to Union Stn	9	
Total time	64 min	3
With Smart Track • Using Existing GO times		
S Wait for 54 Lawrence East	2	
54 to Station at Lawrence Ave East	18	1
Walk to Smart Track	2	
Wait for Smart Track	5	
F Smart Track to Union Stn	28	
Total travel time	55 min	1
Travel time change: -14%		



Preliminary SmartTrack Planning Analysis

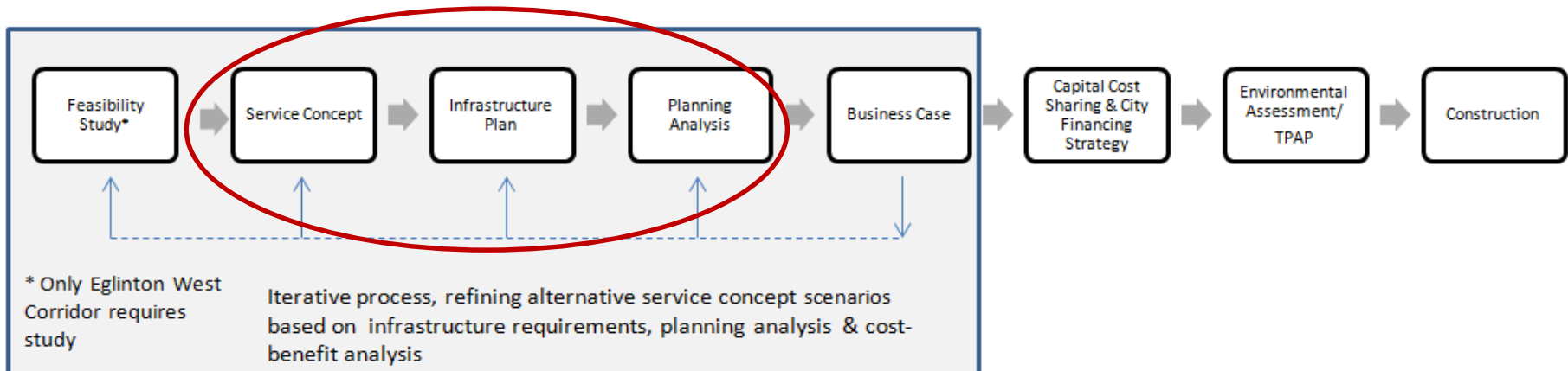
- SmartTrack will be evaluated in context of transit network using the Rapid Transit Evaluation Framework (RTEF) from the Official Plan Review Feeling Congested?
- RTEF contains 3 policy principles; 8 evaluation criteria; 20+ measures
- U of T is developing a new ridership model (GTHA Model V4)
 - provides important improvements over current models used to estimate ridership demand (incl. different network scenarios and off-peak demand)
 - Many RTEF measures require ridership outputs
 - Model is delayed; currently being calibrated and validated;
 - Ridership results are expected Q4 2015
- Preliminary assessment of SmartTrack included in Appendix 6
 - Assessment will be refined as optimal SmartTrack scenario developed, and all required inputs to the RTEF are available.

Capital Funding and Financing Strategy

- Ontario 2015 Budget committed \$13.5 billion to implement GO RER. GO infrastructure improvements support and enable SmartTrack.
- Federal government commitment of up to \$2.6 Billion (one-third of the costs) for SmartTrack, under new Public Transit Fund.
- City Capital Funding and Financing review examining feasibility of various financing options, including:
 - Property Taxes
 - Tax Increment Financing
 - Development Charges
 - Sale of development rights on City owned lands along SmartTrack corridor
- Capital and Operating costs for SmartTrack are currently undefined as the optimal SmartTrack scenario is still being developed.

Next Steps

- November Consultations on SmartTrack, Scarborough Subway Extension, and Relief Line.
- Ridership modelling data will be available in late 2015.
- Report to Executive Committee in Q1 2016 with comprehensive update and findings to optimize SmartTrack plan.



QUESTIONS AND DISCUSSION

APPENDIX 1: STATIONS

Stations: Stouffville/Lakeshore East GO Corridor

#	Station Name	Proposed New or Existing Station	Preliminary City Assessment Score (High, Medium, Low)	Included in Metrolinx 50+ Stations
1	Unionville **	Existing GO	Outside Jurisdiction	-
2	14 th Ave**	New	Outside Jurisdiction	√
3	Milliken	Existing GO	High	-
4	Finch East	New	Low	√
5	Agincourt	Existing GO	Low	-
6	Ellesmere	New	Medium	√
7	Lawrence East	New	Medium	√
8	Kennedy	Existing GO	High	-
9	Scarborough	Existing GO	Low	-
10	Danforth	Existing GO	Medium	-
11	Gerrard	New	Medium	√
12	Queen	New	Low	√
13	Unilever	New	High	√

Stations: Union Station Rail Corridor

#	Station Name	Proposed New or Existing Station	Preliminary City Assessment Score (High, Medium, Low)	Included in Metrolinx 50+ Stations
14	Union	Existing GO	High	-



Stations: Kitchener GO Corridor

#	Station Name	Proposed New or Existing Station	Preliminary City Assessment Score (High, Medium, Low)	Included in Metrolinx 50+ Stations
15	Spadina	New	High	√
16	Liberty Village	New	High	√
17	Lansdowne	New	Low	√
18	Dundas West	Existing GO	High	-
19	St. Clair West	New	Medium	√
20	Mt. Dennis	Existing GO	Medium	-

Stations: Western Heavy Rail Corridor

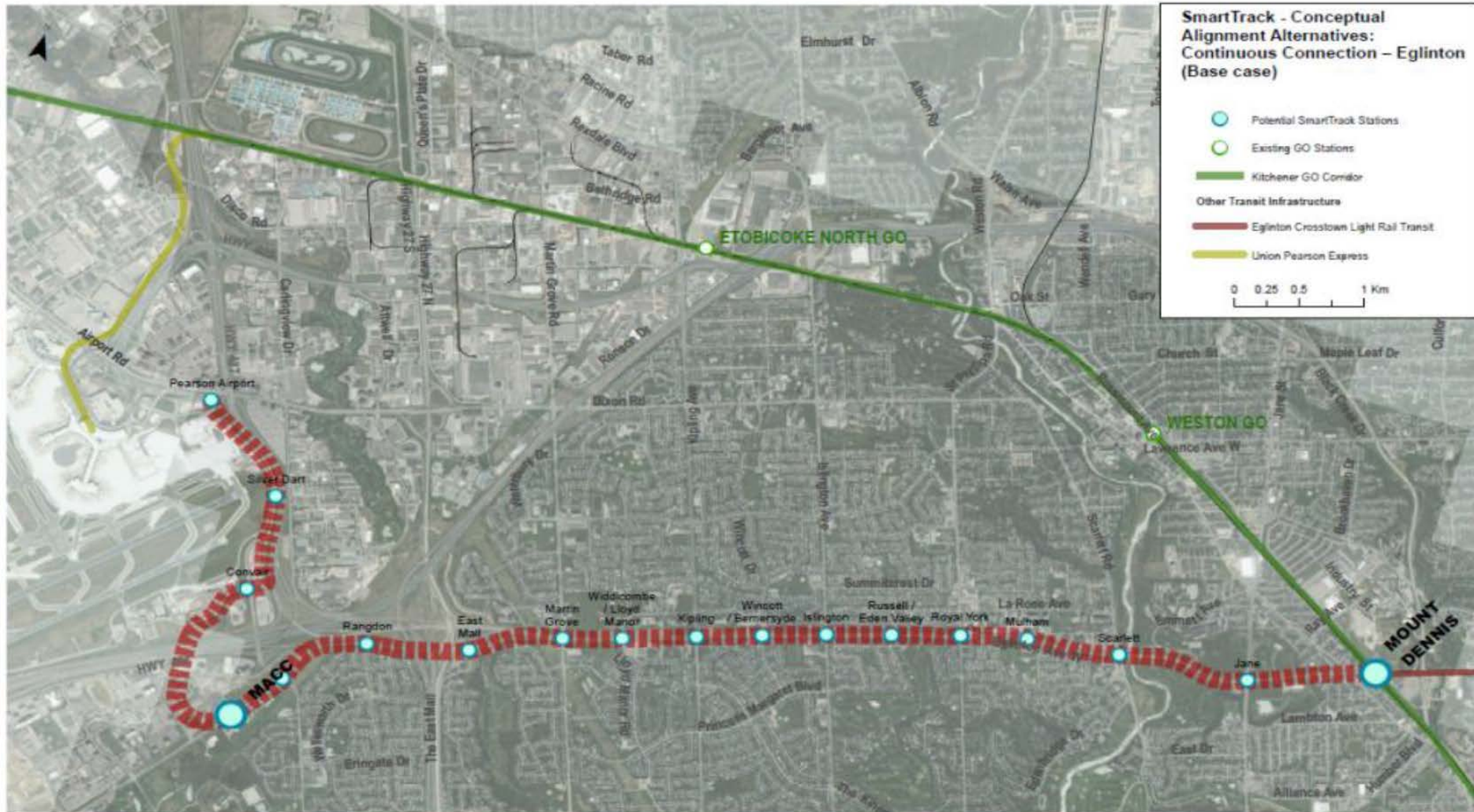
#	Station Name	Proposed New or Existing Station	Preliminary City Assessment Score (High, Medium, Low)	Included in Metrolinx 50+ Stations
Eglinton West Corridor Options*				
21	Scarlett/Jane	New	Low	N/A
22	Kipling	New	Low	N/A
23	Renforth Gateway	New	Outside Jurisdiction	N/A
24	MACC West **	New	Outside Jurisdiction	N/A
Northern Extension (Woodbine/Airport) Corridor Options*				
21	Weston	Existing GO	Medium	-
22	Etobicoke North	Existing GO	Medium	-
23	Woodbine	New	High	N/A
24	Pearson Airport passenger terminals**	New	Outside Jurisdiction	N/A
25	Renforth Gateway**	New	Outside Jurisdiction	N/A
26	MACC West**	New	Outside Jurisdiction	N/A

*Note: Eglinton West and the Northern Extension Corridor Options are both under review.

** Note: SmartTrack stations outside City of Toronto jurisdiction are not being assessed by the City of Toronto.

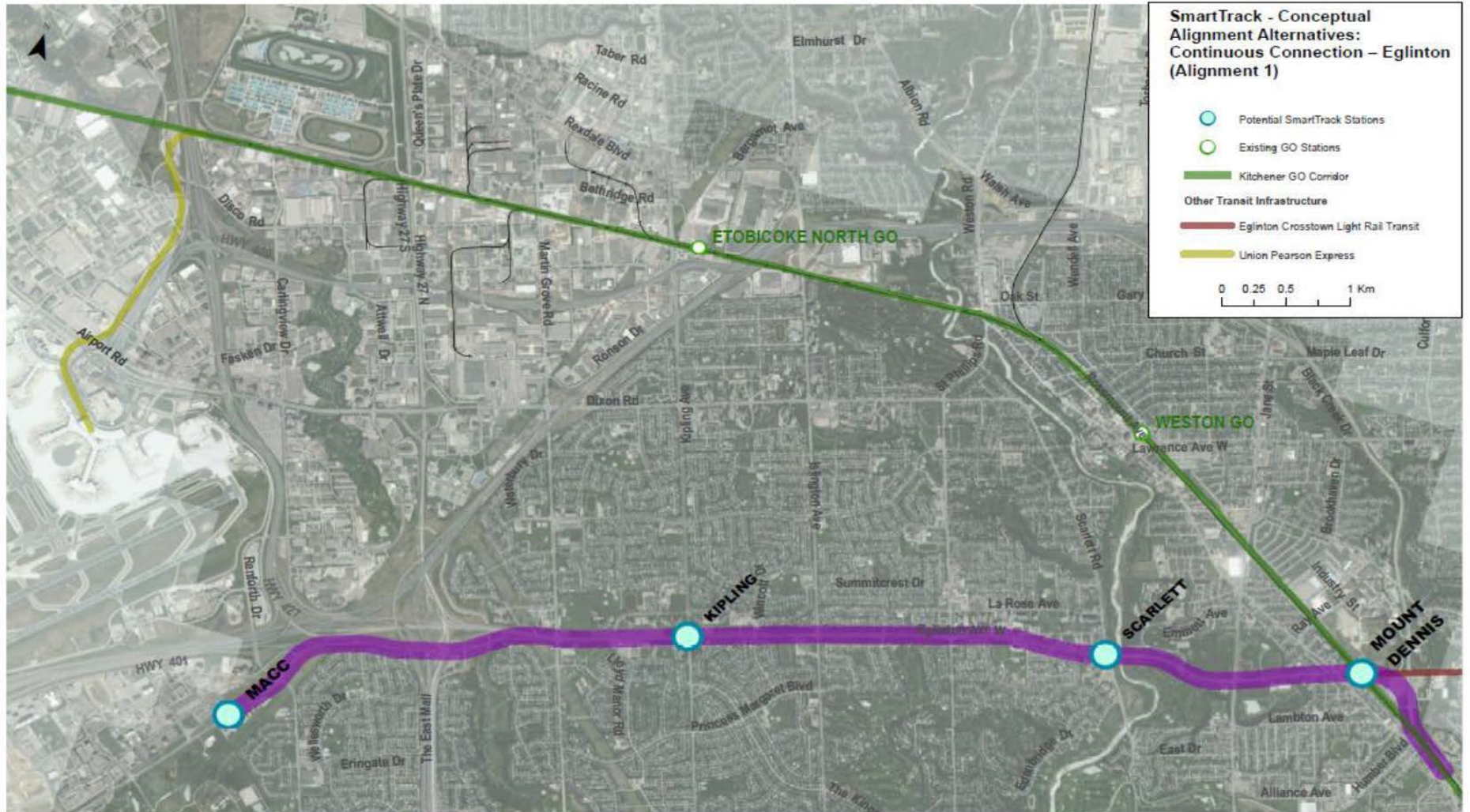
APPENDIX 2: WESTERN CORRIDOR FEASIBILITY REVIEW OPTIONS

Base Reference Case – Eglinton Crosstown LRT Phase 2



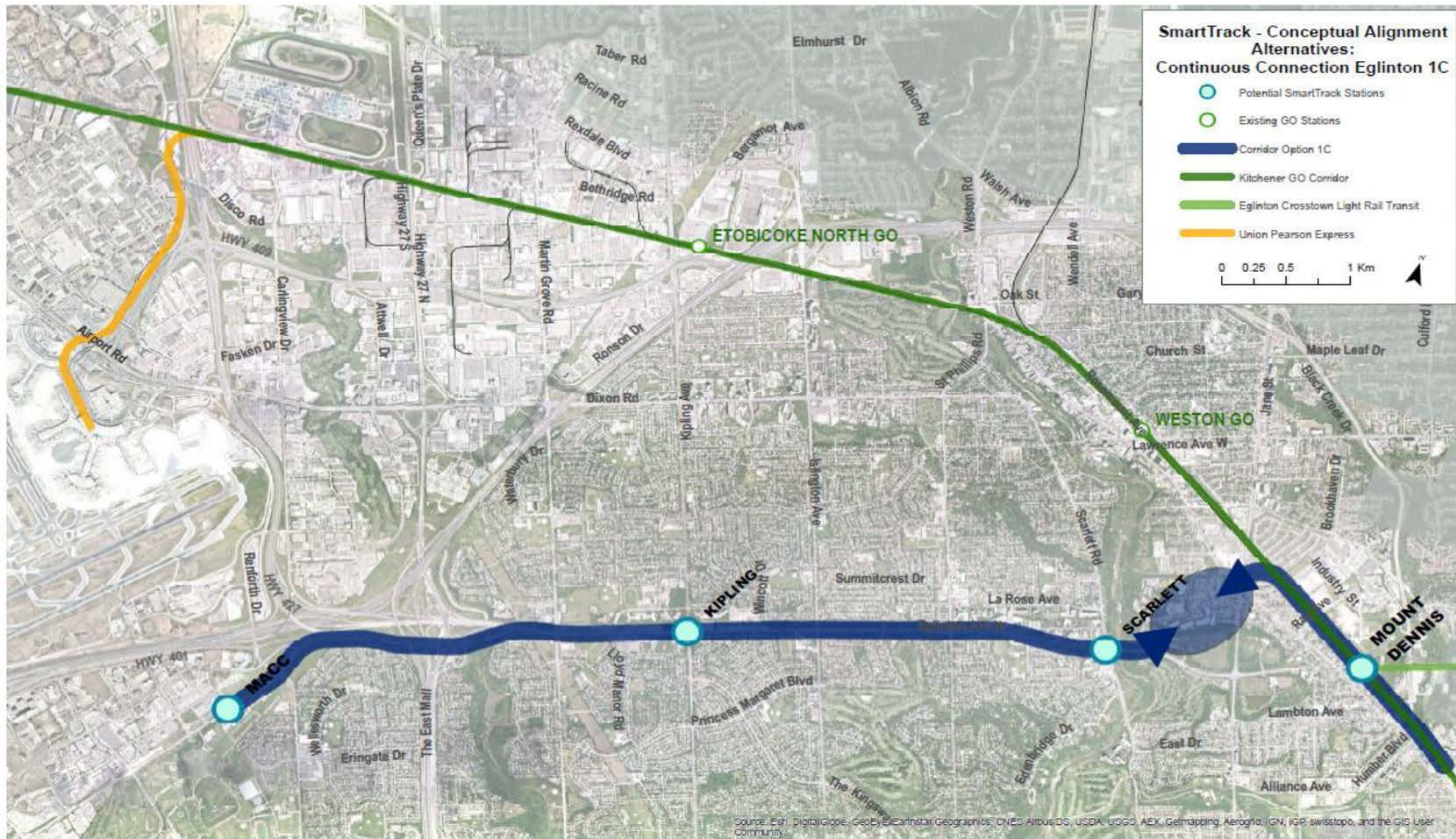
Date: 8/1/2015 **HDR**

Eglinton Avenue Corridor Option 1A

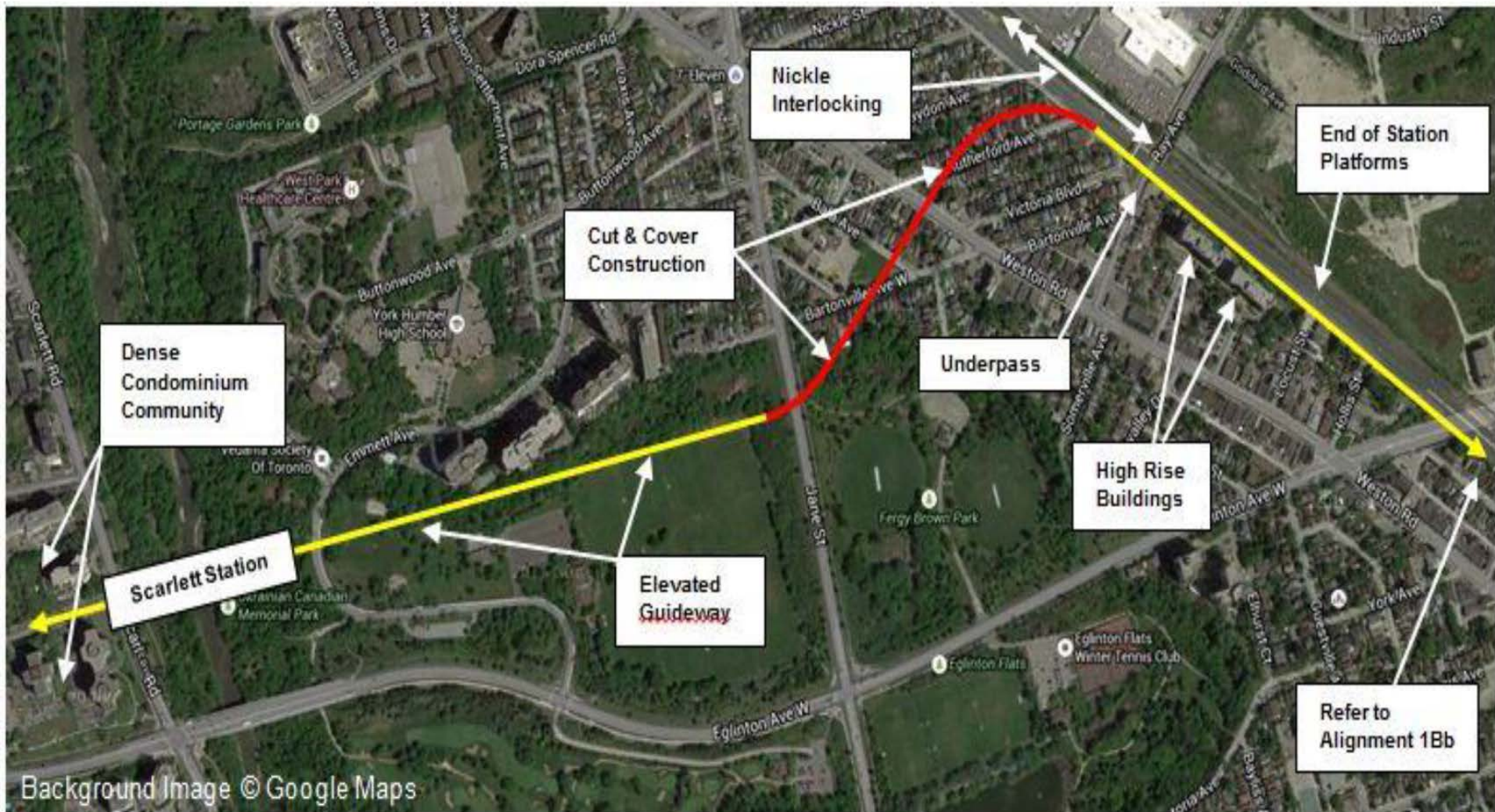


Date: 6/1/2015 

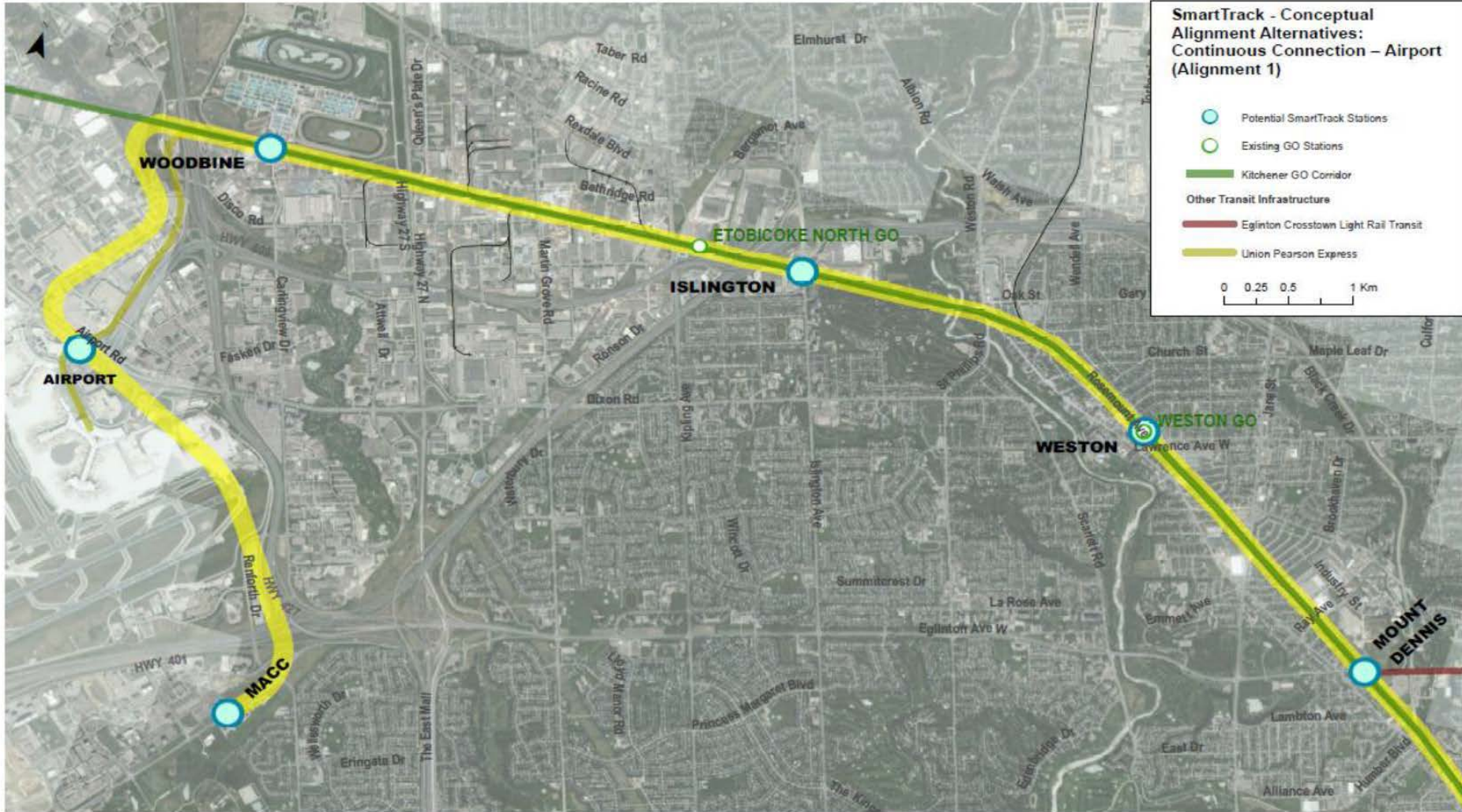
Eglinton Avenue Corridor Option 1C



Eglinton Avenue Corridor Option 1D (brought forward following consultations)

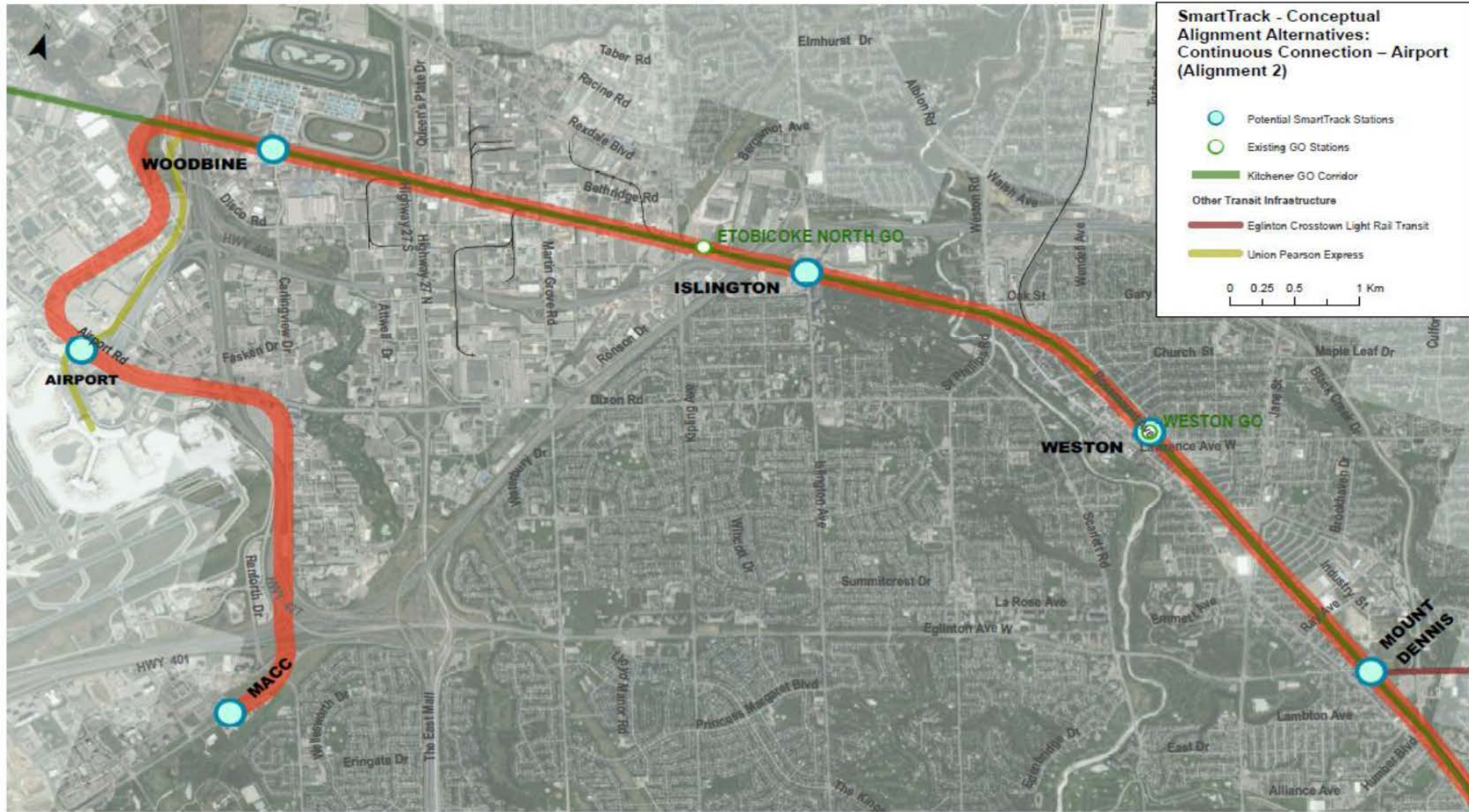


Northern Extension Option 2A



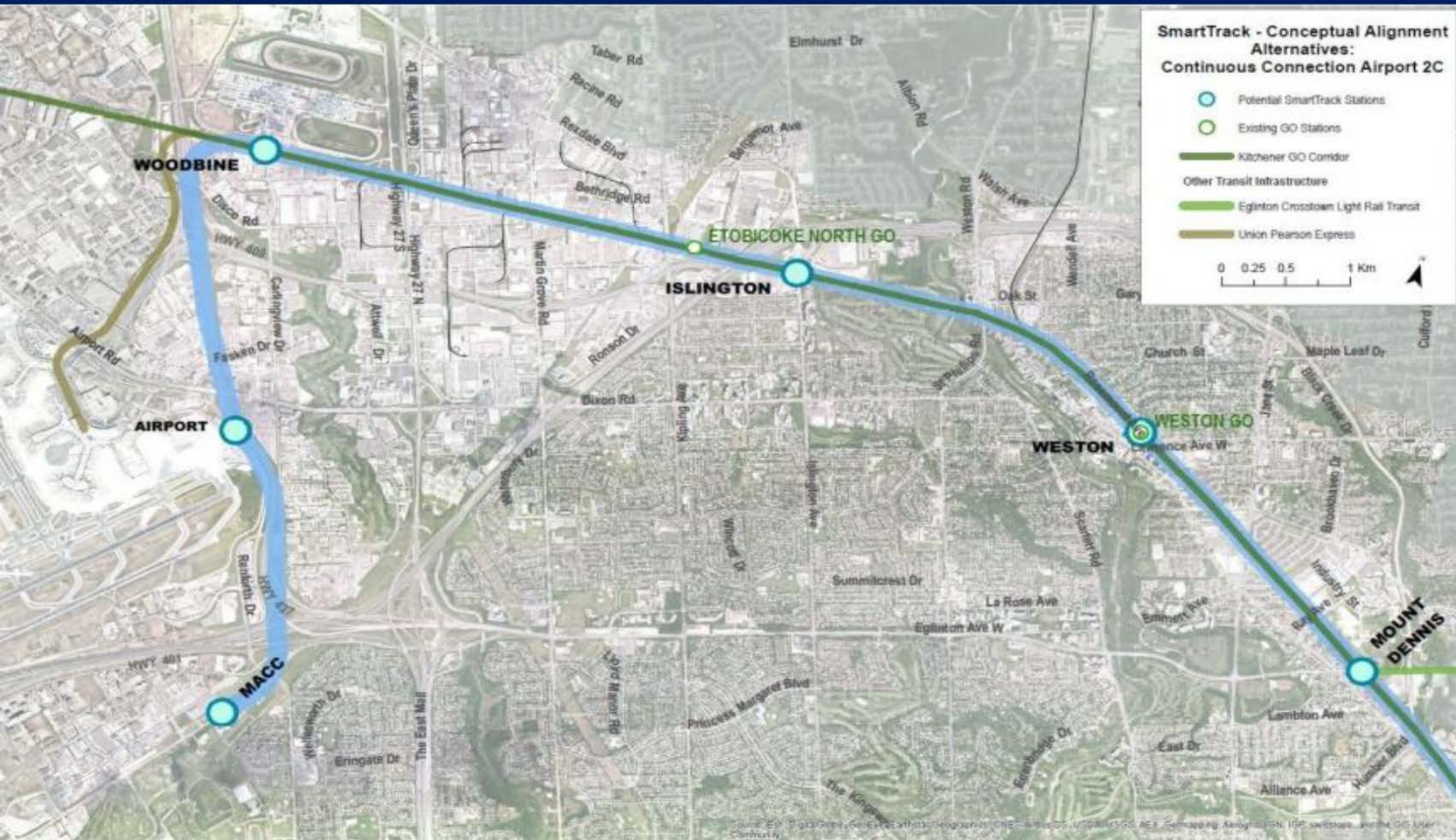
Date: 6/1/2015 

Northern Extension Option 2B

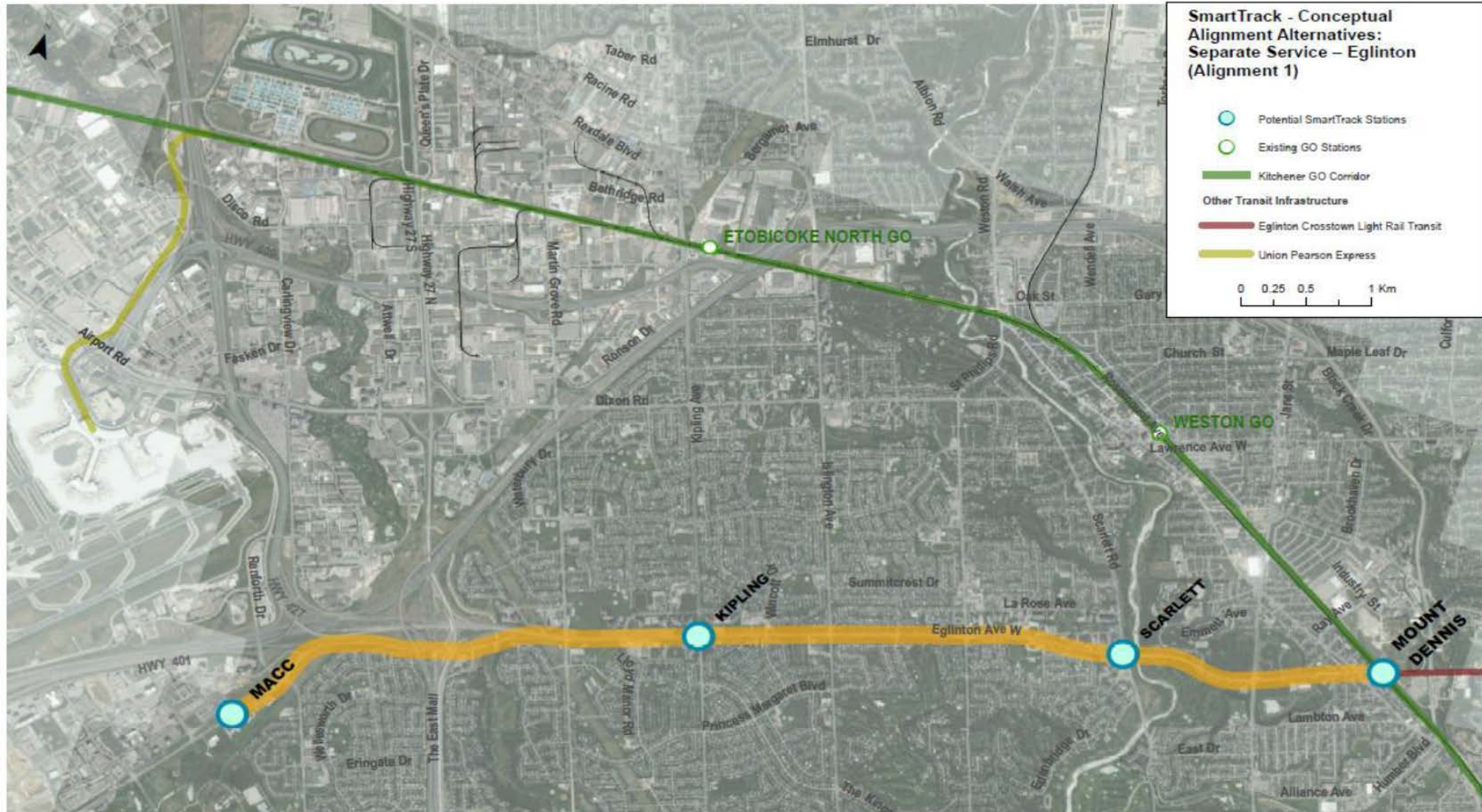


Date: 6/1/2015 

Northern Extension Option 2C



Option 3 – Stand-alone Eglinton Corridor



Date: 6/1/2015 **HDR**