Developing Toronto's Transit Network Plan: Phase 1

SmartTrack | GO RER | Scarborough | Relief Line | Waterfront Transit

Executive Committee
March 9, 2016

John Livey
Deputy City Manager, Cluster B

Jennifer Keesmaat
Chief Planner and Executive Director, City Planning Division
Outline

1. Developing Toronto’s Transit Network Plan
2. SmartTrack
   a) Western Corridor
   b) Integration with GO Regional Express Rail
3. Scarborough Transit Expansion
4. Relief Line
5. Waterfront Transit ‘Reset’
Projects Currently Underway

The City, Metrolinx and the TTC are working together on integrated transit planning within Toronto.

- **Rapid transit projects design/construction already underway:**
  - Toronto-York Spadina Subway Extension (TYSSE)
  - Eglinton Crosstown LRT
  - Finch West LRT
  - Sheppard East RT

- **Rapid transit planning underway by City and Metrolinx:**
  - GO RER and SmartTrack

- **Rapid transit planning underway by City and TTC:**
  - Scarborough Subway
  - Relief Line
  - Waterfront Transit Reset

These projects form the basis of Toronto’s future transit network and are the focus of this report.
## Status of Projects

<table>
<thead>
<tr>
<th>Transit Projects</th>
<th>Project Assessment</th>
<th>TPAP</th>
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<tbody>
<tr>
<td><em>Transit Projects</em></td>
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<tr>
<td><strong>SmartTrack</strong></td>
<td><em>Some studies complete, continuing technical due diligence</em> *</td>
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<tr>
<td><strong>Relief Line</strong></td>
<td><em>Selection of Preferred Corridor, assess alignment</em></td>
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<tr>
<td><strong>Scarborough Subway Extension</strong></td>
<td><em>Finalizing Preferred Corridor</em></td>
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<tr>
<td><strong>Eglinton East LRT</strong></td>
<td><em>LRT option being optimized</em> **</td>
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<tr>
<td><strong>Eglinton West LRT</strong></td>
<td><em>Heavy rail options removed, LRT option being optimized</em> **</td>
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<tr>
<td><strong>Waterfront LRT</strong></td>
<td><em>Commencing</em></td>
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*Will be integrated into the EA/TPAP process as part of the Metrolinx RER Program

**Re-evaluation of previously approved Environmental Assessments, which may lead to amendments (i.e. new TPAP)
Developing Toronto’s Transit Network Plan

March
Update and recommendations on projects currently being studied

June / July
Recommendations on projects currently being studied
  • Seeking authority to proceed to Final Review (TPAPs)
  • Report on Phase 1 of the Waterfront Transit ‘Reset’

Fall 2016
Re-evaluation of all candidate projects using Feeling Congested? criteria

Early 2017
Recommended transit network for inclusion in Toronto’s’s Official Plan
Our Rapid Transit Network
Being Built Within the Next 6 Years
Our Rapid Transit Network
Recommended To Be Built from 6 to 15 Years in the Future
Recommendations

Summary

SmartTrack

• Remove heavy rail options on the western corridor from further consideration

• Complete the analysis for SmartTrack/GO RER integration options C and D, and remove from consideration the Separate and Parallel SmartTrack option, option A and option B

Scarborough Transit Expansion

• Remove the Bellamy corridor and Scarborough Express Rail (SmartSpur) from further consideration

• Identify further planning work required for Eglinton East LRT corridor

Relief Line

• Approve Pape to Downtown via Queen/Richmond as the preferred corridor for the Relief Line project

Report to Executive Committee on all projects in June, 2016
SmartTrack Western Corridor Feasibility
SmartTrack Western Corridor Feasibility Study Findings

- 8 potential heavy rail alignments were developed and evaluated
- All alignments would need to be grade-separated from other traffic and pedestrians (tunneled or elevated)
- Heavy rail on Eglinton would have significant community impacts
  - Disruptions to Eglinton Flats and Black Creek
  - Extensive property takings
  - Impacts to municipal roads and bridges
- New infrastructure/tracks would be needed along Eglinton and Kitchener GO Corridor
- Costs:

<table>
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<tr>
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<th>Cost Range</th>
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<tbody>
<tr>
<td>Heavy Rail - Northern Corridor</td>
<td>$2.7 - $4.8 Billion</td>
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<tr>
<td>Heavy Rail - Eglinton Corridor</td>
<td>$3.7 - $7.7 Billion</td>
</tr>
<tr>
<td>Light Rail - Eglinton LRT Extension</td>
<td>$1.3 - $1.4 Billion</td>
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</table>
Remove heavy rail options on the western corridor from further consideration

• All eight potential alignments had:
  – High cost
  – Significant community impact
  – Lower projected ridership compared to the LRT

• Extending Crosstown LRT along Eglinton to Mississauga Airport Corporate Center and Pearson Airport would provide excellent rapid transit service for this part of the City

Metrolinx is reviewing five options as part of an LRT optimization study of the Eglinton LRT West

• City staff are working closely with Metrolinx
• It is anticipated that an update will be presented to the Metrolinx Board in June, 2016
SmartTrack/GO RER Integration Options
GO RER is Foundation for SmartTrack

SmartTrack / GO RER

- The City, the TTC and Metrolinx are assessing the opportunities to integrate SmartTrack with GO RER.
Integrated GO RER/SmartTrack Options Being Reviewed

Separate and Parallel

- 9 existing + 13 new stations
- Heavy rail along Western Corridor
- Two new tracks and related infrastructure along the entire route
- Kitchener and Stouffville through service
- Significant costs and community impacts
- **Not recommended**
Integrated GO RER/SmartTrack
Options Being Reviewed

**Option A**
- 9 existing + 5 new stations
  - Potential stations: St. Clair West, Liberty Village, Bathurst-Spadina, Unilever, Gerrard-Carlaw
- 4 – 6 minute frequency in peak period
- 7.5 minute frequency in the off-peak period
- Significant costs and community impacts
- **Not recommended**

**Option B**
- 9 existing + 8 new stations
  - Potential stations: St. Clair, Liberty Village, Bathurst-Spadina, Unilever, Gerrard-Carlaw, Lawrence East, Ellesmere, and Finch East
- 20 minute express service at existing stations
- 20 minute all-stop service
- Lower frequency of service
- Increased costs and community impacts
- **Not recommended**
Integrated GO RER/SmartTrack
Options Being Reviewed

**Option C**

- 9 existing + 7 to 8 new stations
  - Potential stations: St. Clair West, Liberty Village, Unilever, Gerrard-Carlaw, Lawrence East, Ellesmere and Finch East
- 5.5 – 10 minute frequency in peak period

**Option D**

- 9 existing + 4 to 5 new stations
  - Potential stations: St. Clair West, Liberty Village, Unilever, Gerrard-Carlaw, Lawrence East
- 5.5 – 10 minute frequency in peak period
Complete the analysis for SmartTrack/GO RER integration options C and D, and remove from consideration the Separate and Parallel SmartTrack option, option A and option B.

- Options C and D
  - allow the leveraging of planned investments in GO RER to avoid substantial widening of the GO corridors
  - would be able to deliver new riders and added benefits more quickly
  - would provide levels of service frequency consistent with SmartTrack

Further recommendations about stations and approach to integration with GO RER will be made in June, 2016.

- Staff will recommend that Council ask Metrolinx to undertake the Final Reviews (TPAPs) for new stations and other new infrastructure related to SmartTrack.
January 28, 2016 – Staff brought forward priorities for the Scarborough Transit Plan to Executive Committee. Staff received direction to continue technical work and report back with final recommendations.

**Priority 1: Regional Connectivity**

Support development of Scarborough Centre as a vibrant urban area

- Encourage employment and residential growth in the centre
- Link Scarborough Centre with key destinations across the city

**Priority 2: Local Access**

Support development of complete communities along the ‘Avenues’ and improve local accessibility in Scarborough

- Connect people to the places they need to go every day
- Improve the quality of life for Scarborough residents
Scarborough Transit Expansion
Optimized Transit Network - Subway

Work currently underway

• Alignment of an express subway extension will be determined through further study
• Develop station concept for Scarborough Centre including bus terminal and other elements
• Refining cost estimates
• Modelling
  – Accessibility
  – Travel demand
Scarborough Transit Expansion
Optimized Transit Network - Eglinton East LRT

**Work currently underway**

- Detailed review of approved 2009 Environmental Assessment to confirm
  - Service concept
  - Station Spacing
  - Traffic impacts
- Determine connection with Crosstown LRT at Kennedy Station
- Integration with University of Toronto master planning process
- Modelling
  - Accessibility
  - Travel demand
Remove the Bellamy corridor and Scarborough Express Rail (SmartSpur) from further consideration

- Bellamy corridor is longer and most costly, and does not make sense for an express subway to Scarborough Centre
- SmartSpur would provide a much less frequent service and have significant property impacts

Identify further planning work required for Eglinton East LRT corridor

- Further work will encourage appropriate intensification and economic development in this corridor

Further recommendations will be made in June, 2016

- Staff will report on the preferred alignment for the express subway and seek authority to proceed to Final Review (TPAP),
- Staff will report on required amendments to the Eglinton East LRT Environmental Assessment (EA)
Relief Line
• Potential corridors have been evaluated to identify which would best address project objectives and city-building criteria.

• Each corridor diverts a similar number of riders from the Yonge subway, south of Bloor.

• The corridors that connect from Pape station (B and D) perform best.
Relief Line
Preferred Corridor

- Corridor B1 (Pape Station to Downtown via Queen/Richmond) has emerged as the Preferred Corridor
- Next Step is to develop and evaluate refined alignment options
# Relief Line

**Main Advantages of Corridor B1**

<table>
<thead>
<tr>
<th>Advantage</th>
<th>Description</th>
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<tbody>
<tr>
<td>Creates Dynamic Multi-Modal Hub in the Core</td>
<td>Opportunity to create interchange station in the psychological centre of the city (Nathan Phillips Square at City Hall) Supported with strong pedestrian connections to Queen and Osgoode Stations on Line 1 and to the Financial District via PATH network</td>
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<tr>
<td>Fills Rapid Transit Void in the Core</td>
<td>Improves rapid transit connections to northerly areas of the core (between Union Station and Yonge-Bloor Station)</td>
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<tr>
<td>Recognizes That Downtown is Not Just 9-5</td>
<td>Provides alternative route for people to access jobs in the Financial District Best for full array of daily travel needs and destinations, such as universities, hospitals and public institutions</td>
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<tr>
<td>Spreads Out Pedestrians</td>
<td>Does not add more pedestrian congestion to Union Station area Supports more options for people to access jobs throughout the downtown</td>
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<td>Performs Well with Other Transit Initiatives</td>
<td>Complements SmartTrack / GO RER connections into Union Station Complements planned transit priority corridor along King Street Connects to #6 Bay bus and bus lanes for onward connections north and south Bike Station under Nathan Phillips Square to open soon</td>
</tr>
<tr>
<td>Supports Social Equity</td>
<td>Closest to Regent Park Neighbourhood Improvement Area (5 minute walk) Closest to Moss Park at Queen &amp; Sherbourne</td>
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<tr>
<td>Lowest Projected Cost</td>
<td>Avoids costly soil stabilization needs for crossing Don River south of Queen Requires a shorter crossing of the Don River</td>
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Relief Line
Potential Alignments

Potential Alignments within the Preferred Corridor
Approve Pape to Downtown via Queen/Richmond as the preferred corridor for the Relief Line project

Next steps

• Evaluate potential alignments and station locations
  – Queen v. Richmond, downtown
  – Queen v. Eastern, east of Don River
  – GO corridor to connect Pape and Queen

• Identify construction methods

Further recommendations will be made in June, 2016

– Staff will report on the preferred alignment and station locations for the Relief Line, and seek authority to proceed to Final Review (TPAP)
Waterfront Transit ‘Reset’
Waterfront Transit ‘Reset’

Background

• In November 2015 City Council directed staff to work with TTC and Waterfront Toronto to review waterfront transit options and report back early 2016

• Why Waterfront Transit ‘Reset’?
  
  – A comprehensive transit network approach is needed, rather than the incremental approach of the past
  
  – Significant new development has been taking place along the Waterfront corridor with the promise of public transit
  
  – These developments have been built, but public transit has not yet materialized.
  
  – In the context of the Gardiner Expressway Environmental Assessment, the need for improved Waterfront transit was raised repeatedly
  
  – Appropriate transit services need to be developed to reflect existing and projected demand
Waterfront Transit ‘Reset’

Previous Work and Key Issues to be Addressed

"WATERFRONT 2.0"

'COLLECTIVE VISION FOR WATERFRONT TRANSIT'

<table>
<thead>
<tr>
<th>Segment</th>
<th>Long Branch to Park Lawn Road</th>
<th>Park Lawn Road to Roncesvalles Avenue</th>
<th>Roncesvalles Avenue to Dufferin Street</th>
<th>Dufferin Street to Exhibition Loop</th>
<th>Exhibition Loop to Union Station</th>
<th>Union Station to Parliament Street</th>
<th>Parliament Street to Leslie Street</th>
<th>Leslie Street to Woodbine Avenue</th>
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Key Issues and Preliminary Considerations

- Right-of-way constraints along Lake Shore Blvd
- Significant growth pressures in Mimico/Humber Bay Shores
- Utilization of the former Christie Site
- Implementation of Park Lawn Loop
- Gardiner Expressway/Rail corridor crossing
- N/S connectivity
- Overcrowding of King and Queen streetcar routes
- Right-of-way constraints
- Previous Alignment south of, and adjacent to Gardiner Expressway (2008)
- N/S connectivity for transit and active transportation infrastructure
- Heritage Impacts
- Significant growth pressures in Liberty Village, Fort York, CityPlace, Ontario Place and Exhibition Place
- N/S connectivity for transit and active transportation infrastructure
- Bathurst/Flato/Lake Shore Boulevard intersection
- Right-of-way constraints
- Union Station
- Significant growth pressures
- Technical issues associated with grade separations
- N/S connectivity for transit and active transportation infrastructure
- Union Station
- Significant future growth pressures in Port Lands and former Unilever Site
- Connection to Leslie Barns
- Smart Track and Relief Line Planning
- N/S connectivity for transit and active transportation infrastructure
- Transit Terminus and N/S connectivity alignment
Waterfront Transit ‘Reset’

Current Work

- Phase 1 Study starting up now to develop a Vision and Strategy for integration and implementation of a waterfront transit network.
- City Planning’s “Feeling Congested?” Official Plan Review preliminary analysis has identified both the Waterfront West and Waterfront East Light Rail Transit Projects as within the “Top 5 performing but unfunded transit projects.”
- Need to coordinate with directions emerging from SmartTrack/GO RER and Relief Line studies.
Waterfront Transit ‘Reset’
Recommendation

Update on progress will be provided in June, 2016
### June/July Report

<table>
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<tr>
<th>Project/Program</th>
<th>Scope of Work</th>
<th>Required Council Authorities</th>
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<tbody>
<tr>
<td><strong>SmartTrack</strong></td>
<td>• Test and refine SmartTrack / GO RER integration scenarios</td>
<td>• Approval for the recommended SmartTrack concept</td>
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<td>• Identify best performing new stations</td>
<td>• Initiate discussions on funding and financing with the Provincial and Federal governments</td>
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<td></td>
<td>• Identify a fare integration solution</td>
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<td></td>
<td>• Develop Eglinton West LRT extension</td>
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<tr>
<td><strong>Regional Express Rail</strong></td>
<td>• Engage on emerging Environmental Assessments including grade separations and new stations beyond the SmartTrack corridor</td>
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<tr>
<td><strong>Relief Line</strong></td>
<td>• Identify preferred alignment and station locations</td>
<td>• Approval to commence the formal TPAP process</td>
</tr>
<tr>
<td><strong>Scarborough Transit</strong></td>
<td>• Review the corridor and alignments for the Express Subway</td>
<td>• Approval for the preferred alignment for the Scarborough Subway Extension and to commence the formal TPAP process</td>
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<tr>
<td></td>
<td>• Update the approved plan for the Eglinton East LRT</td>
<td>• Recommended amendments to the environmental assessment for the Eglinton East LRT extension may be brought forward</td>
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<tr>
<td><strong>Waterfront Transit</strong></td>
<td>• Provide findings on the Waterfront Transit Reset Study, and report on next steps</td>
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<tr>
<td><strong>Long Term Transit Plan/ Feeling Congested?</strong></td>
<td>• Continue to advance refinements to the transit network vision for the City</td>
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<td><strong>Fare Integration</strong></td>
<td>• Analysis of the implications of potential new fare structures proposed by Metrolinx</td>
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Progress Milestones

February-April 2016
• Further analysis on each of the projects to develop recommended solutions.

May 2016
• Public consultations on findings of this further analysis

June / July 2016
• Report to City Executive Committee and Council on recommendations regarding the priority transit network improvements
• Metrolinx Board meeting to discuss GO RER and SmartTrack integration

Q3 2016
• Launch environmental assessment processes as required
• Subject to Council approval, proceed with Phase 2 of the Waterfront Transit ‘Reset’ Study
Questions?