Developing Toronto’s Transit Network Plan to 2031

Public Information Meeting
June 21, 2016
March 2016 City Council Direction

SmartTrack:
• Approved SmartTrack/GO Regional Express Rail (RER) Integration options C and D for further study and removed from consideration the separate and parallel SmartTrack option, option A and option B.
• Removed heavy rail options on the western corridor for SmartTrack from consideration and requested a review of the Eglinton West LRT extension from Mount Dennis to Mississauga Airport Corporate Centre (MACC) and Pearson International Airport.

Scarborough Subway Extension:
• Removed from consideration the Bellamy and Scarborough Express Rail (SmartSpur) corridors for the Scarborough Subway Extension (SSE)

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

Other:
• Council directed staff to report back in June 2016 on funding and financing discussions.
Report Recommendations

SmartTrack

- SmartTrack/RER Integration scenario with up to six new stations on the Stouffville/Lakeshore East GO corridor (Finch, Lawrence, Gerrard, and Unilever) and the Kitchener GO Corridor (Liberty Village and St. Clair West); and
- An Eglinton West LRT extension with 8 to 12 stops between Mount Dennis and Renforth Gateway, as the western corridor for SmartTrack.

ScARBOROUGH Transit Network

- Remove from further consideration the 3-stop SSE,
- Retain third party expert to review cost estimate for Express McCowan option, and other express subway options;
- Advance to Transit Project Assessment Process (TPAP) for express subway.
- Undertake additional technical and planning analysis for the Eglinton East LRT.

 Relief Line

- Approve the Pape-Eastern-Queen alignment for the first phase of Relief Line and advance to TPAP.
Typical Transit Project Lifecycle and Phases of Work

<table>
<thead>
<tr>
<th>EXPLORATION</th>
<th>PROJECT &amp; DESIGN DEVELOPMENT</th>
<th>DELIVERY</th>
<th>OPERATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feasibility Review</td>
<td>Initial Design Work (less than 30%)</td>
<td>Procurement</td>
<td>Transition to operations</td>
</tr>
<tr>
<td>Initial Service Concept and Infrastructure Plan development</td>
<td>Environmental Assessment/TPAP</td>
<td>Detailed Design</td>
<td></td>
</tr>
<tr>
<td><strong>Initial Business Case</strong></td>
<td>Funding &amp; Financing Strategy</td>
<td>Construction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Project Delivery Assessment/Procurement Options Analysis</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Intermediate/Full Business Case</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Design (less than 10%)</th>
<th>Design (10% to 30%)</th>
<th>Design (30% to 100%)</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 4 or 5 Cost and Schedule Estimates</td>
<td>Class 3 or 4 Cost and Schedule Estimates</td>
<td>Class 1 or 2 Cost and Schedule Estimates</td>
<td></td>
</tr>
</tbody>
</table>

We are here
<table>
<thead>
<tr>
<th>Project</th>
<th>Lead/Partnership</th>
<th>Current Status</th>
<th>EA/TPAP Status</th>
<th>Funding Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSE</td>
<td>City, TTC</td>
<td>Initial Business Case Class 4 Estimate</td>
<td>Pre-TPAP. Project Assessment underway</td>
<td>$3.56B (YOE/Escalated$) committed</td>
</tr>
<tr>
<td>Relief Line</td>
<td>City, TTC</td>
<td>Initial Business Case Class 5 Estimate</td>
<td>Pre-TPAP. Project Assessment underway</td>
<td>Unfunded</td>
</tr>
<tr>
<td>SmartTrack</td>
<td>City, TTC, Metrolinx</td>
<td>Initial Business Case Class 4/5 Estimate</td>
<td>Pre-TPAP. Project Assessment underway</td>
<td>Unfunded</td>
</tr>
<tr>
<td>Eglinton West LRT</td>
<td>City, TTC, Metrolinx</td>
<td>Initial Business Case Class 4/5 Estimate</td>
<td>EA Approved (2010). Amendment required</td>
<td>Unfunded</td>
</tr>
<tr>
<td>Eglinton East LRT</td>
<td>City, TTC, Metrolinx</td>
<td>Preliminary Options Analysis-Class 5 Estimate</td>
<td>EA Approved (2009). Amendment required</td>
<td>Unfunded</td>
</tr>
</tbody>
</table>
PROJECT UPDATES AND RECOMMENDATIONS
SmartTrack

SmartTrack/GO RER Integration
SmartTrack Stations
Eglinton West LRT
SmartTrack/RER Integration Option C

New stations shown are conceptual; recommendations for any new stations will come through new stations analysis. Eglinton West LRT shown in red.
Recommended SmartTrack/GO RER Integration

<table>
<thead>
<tr>
<th>GO Corridor</th>
<th>Recommended New Stations</th>
<th>Existing GO Stations</th>
</tr>
</thead>
</table>
| Stouffville/Lakeshore East GO Corridor | 1. Finch East  
2. Lawrence East  
3. Gerrard  
4. Unilever/Don Yards  
Not Included:  
• Ellesmere  
• Queen/Degrassi | 1. Unionville*  
2. Milliken  
3. Agincourt  
4. Kennedy  
5. Scarborough  
6. Danforth |
| Union Station Rail Corridor               | 7. Union                                                        |                                   |
| Kitchener GO Corridor                         | 5. Liberty Village  
6. St. Clair West  
Not Included:  
• Spadina*** | 8. Dundas West/Bloor  
9. Mount Dennis** |

Notes:  
*Outside jurisdiction  
** Planned station  
***Recommended on Barrie Corridor
An Eglinton West LRT Extension with 8 to 12 new stations between Mount Dennis and Renforth Gateway, and potential grade separations located at Martin Grove Road, Kipling Avenue and the Eglinton Flats is being recommended.
# SmartTrack Capital Cost Estimates ($Billions)

<table>
<thead>
<tr>
<th>Estimate Class Level</th>
<th>Constant 2014$</th>
</tr>
</thead>
<tbody>
<tr>
<td>SmartTrack/RER with up to 6 new stations</td>
<td>4/5</td>
</tr>
<tr>
<td>Eglinton West LRT with 8-12 stops and 3 potential grade separations.</td>
<td>4/5</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>$2.2 – 3.2</strong></td>
</tr>
</tbody>
</table>

**Notes:**
- Cost estimates prepared by Metrolinx, and have not been validated by the City. Cost estimates require reconciliation with the individual station costs outlined in each new station initial business case.
- Costs are described in 2014 figures, and do not include escalation, financing, lifecycle and operations/maintenance. See attachments 1 to 3.
- Province of Ontario has committed $13.5 billion (2014$) in capital costs for RER, including an estimated $3.7 billion (2014$) in capital costs to support key infrastructure for SmartTrack.
- Eglinton West LRT directly benefits the City of Mississauga and the Greater Toronto Airport Authority.
- Cost estimates for the incremental components of SmartTrack have been developed at 0% design and are a Class 5 cost estimate. Base components associated with RER are at a higher level of design.

For more information: Financial Impact Section (Page 7) of Developing Toronto’s Transit Network Plan to 2031 Report
• SmartTrack/RER Integration scenario with up to six new stations on the Stouffville/Lakeshore East GO corridor (Finch, Lawrence, Gerrard, and Unilever) and the Kitchener GO Corridor (Liberty Village and St. Clair West);

• Eglinton West LRT Extension with 8 to 12 new stations between Mount Dennis and Renforth Gateway, and potential grade separations located at Martin Grove Road, Kipling Avenue and the Eglinton Flats.
Next Steps

• Advancing further technical and planning work in order to undertake the EA/TPAP processes required for the recommended SmartTrack/RER Integration scenario, the new SmartTrack stations, and the Eglinton West LRT extension from Mount Dennis to Renforth Gateway;

• Commencing negotiations on cost-sharing, project governance, asset ownership, fare policy, funding and project delivery for SmartTrack and the Eglinton West LRT extensions;

• Undertaking further work with the City of Mississauga and the Greater Toronto Airport Authority (GTAA) in partnership with Metrolinx to refine options for extending the LRT between Renforth Gateway and Pearson International Airport as a next phase of the project.
• Initial business case assessed three express options against the approved 3-stop SSE via McCowan corridor. The SSE Express to Scarborough Centre Station via McCowan Corridor is the preferred corridor based on options assessed in the IBC.

Option 1: 3-Stop McCowan

Option 2: Express via McCowan
A preliminary options analysis assessed two rapid transit options for serving this corridor against a base case of continuing existing bus services. The Eglinton East LRT to UTSC will be further developed and considered in the context of the Scarborough Transit Network solution.
## Scarborough Transit Network Capital Cost Estimates ($Billions)

<table>
<thead>
<tr>
<th>Estimate Class Level</th>
<th>Construction Cost</th>
<th>SRT Life Extension and Decommissioning ($156M+$133M)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSE- 3 Stop McCowan (Option 1)</td>
<td>4</td>
<td>4.32</td>
<td>0.289</td>
</tr>
<tr>
<td>SSE- McCowan Express (Option 2A)</td>
<td>4</td>
<td>2.87</td>
<td>0.289</td>
</tr>
<tr>
<td>Eglinton East LRT to UTSC (Option 3)</td>
<td>5</td>
<td>1.58 – 1.67</td>
<td></td>
</tr>
</tbody>
</table>

### SSE Notes:
- SSE Cost estimates prepared by the TTC. Estimates include cost to construct.
- Costs do not include financing, lifecycle and operations/maintenance. See attachments 4 to 5.
- Assumes line in service by late 2025, with construction taking approximately 6 years (2020-2025). Note this is a preliminary schedule based on City Council approving the preferred alignment in July 2016.
- Cost estimates have been developed at approximately 5% design and are a Class 4 cost estimate (per AACE guidelines). Class 3 estimates are required to establish the project budget baseline.
- Potential risks include the incorporation of a single tunnel design and the increased depth of the station(s), which could affect the expected accuracy of the estimates.
- Costs assume traditional procurement approach. A separate analysis on project delivery options is underway per City Council direction.

### Eglinton East LRT to UTSC Notes:
- Eglinton East LRT cost estimate prepared by 3rd party consultant for the City. Estimates include cost to construct. Do not include cost to finance.
- Assumes line in service by late 2023, with construction taking approximately 4 years (2020-2023). Project timeline, funding source and procurement method still to be determined.
- Cost estimates have been developed at 0% design, and are a Class 5 estimate.
- Option 3 estimate includes storage tracks; does not include a maintenance facility.
3. City Council request the City Manager and the CEO, Toronto Transit Commission to remove from consideration the 3-stop McCowan Scarborough Subway Extension (SSE) and continue to develop an SSE Express option, by conducting the following:

a. Retaining the services of a third-party rail transit construction and cost estimation expert to undertake a risk assessment and detailed review of the TTC's 5% design cost estimates for the McCowan corridor and other possible express subway alignment options; and

b. Prepare the Environmental Project Report for the SSE express subway and issue the Notice of Commencement for the Transit Project Assessment Process (TPAP) once ready to proceed.
Next Steps

- Retaining the services of a third-party expert in rail transit construction and cost-estimation to undertake a risk assessment and detailed review of the TTC’s 5% design cost estimates for the Express McCowan subway, and other possible express subway alignments;

- Preparing the Environmental Project Report for the SSE Express subway in order to issue the Notice of Commencement for the TPAP once ready to proceed;

- Advancing the design on the Eglinton East LRT to a minimum of 5% in order to support decision-making; and

- Evaluating the SSE Express subway option in conjunction with the Eglinton East LRT extension to UTSC and Malvern, in order to determine the preferred network solution for Scarborough through a business case analysis.
An initial business case assessed two options within this corridor against a base case of continued improvements to the surface transit network and Line 1 (ATC). Alignment Pape-to-Downtown via Eastern then Queen has emerged as the preferred alignment.

**Option 2: Pape-to-Downtown via Queen**

**Option 3: Pape-to-Downtown via Eastern then Queen**
<table>
<thead>
<tr>
<th>Relief Line- Pape-Eastern-Queen (Option 3)</th>
<th>Estimate Class Level</th>
<th>YOE/Escalated $'s</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>6.80</td>
</tr>
</tbody>
</table>

**Notes:**
- Cost estimate prepared by the TTC. Costs assume traditional procurement approach;
- Costs do not include financing, lifecycle and operations/maintenance. See attachment 6.
- Assumes line in service by 2031, with construction taking approximately 10 years (2021-2031)
- Cost estimates have been developed at less than 5% design and are a Class 5 cost estimate (per AACE guidelines).
Recommendations

Approve the Pape-Eastern-Queen alignment for the first phase of Relief Line, and authorize City and TTC staff to prepare the Environmental Project Report (EPR) to move towards the Environmental Assessment (EA)/Transit Project Assessment Process (TPAP).
Next Steps

• Further design to build on City and TTC work to-date including:
  • refinements to station locations and preparation of station concept plans;
  • development of the conceptual design for the preferred alignment;
  • determining potential impacts and mitigation measures;
  • completing the Environmental Project Report (EPR); and
  • launching the formal Transit Project Assessment Process (TPAP).

• Work with Metrolinx to define next steps on subsequent phases of Relief Line (Northern and Western extensions)

• Develop a Memorandum of Agreement with roles and responsibilities for Metrolinx, the City and TTC for this project.
Fare Integration – Current State Assessment

- Metrolinx GTHA Fare Integration study is examining options for an integrated regional fare structure.

- The City is examining the relationship between the current GO fare structure and City of Toronto, including:
  - Fare by distance and fairness to Toronto residents
  - Integration with local service
  - Lack of co-fare in Toronto
In November 2015, City Council directed staff to work with the TTC and Waterfront Toronto on Phase 1 of a comprehensive review of waterfront transit initiatives and options from Long Branch to Woodbine Avenue.

25 alignment concepts were assessed across the 23 km study area and this was short-listed to 16 concepts for further study in Phase 2.
Recommendations and Next Steps

Report Recommendations:

• Approve Phase 2 of the Waterfront Transit Study to further develop and cost the alignment concepts, complete the ridership forecast, identify priority solutions, and prepare a Business Case.

• Approve a 30% preliminary design by the TTC to extend exclusive streetcar service from the Exhibition Loop to the Dufferin Gate Loop.

Next Steps:

• The cost of $3.6 million to complete the preliminary design to extend exclusive streetcar service from the Exhibition Loop to the Dufferin Gate Loop will be presented for Council’s consideration as part of the 2017 budget process.

• Staff to report back on the results of Phase 2 in Q2 2017.
Next Steps

- Enter into cost-sharing discussions with Province of Ontario, Federal Government and other key partners for SmartTrack, Eglinton West LRT, and Scarborough Transit.

- City Manager will bring subsequent report with respect to status of negotiations with the Province of Ontario, Metrolinx, and Government of Canada on funding implications for Toronto transit expansion initiatives.

- Chief Planner & Executive Director, City Planning, will report in Q1 2017 on second phase of Toronto’s Long Term Transit Network Plan