



STAFF REPORT ACTION REQUIRED with Confidential Attachment

Transit Network Plan Update and Financial Strategy

Date:	October 31, 2016
To:	Executive Committee
From:	City Manager and Deputy City Manager & Chief Financial Officer
Wards:	All
Reason for Confidential Information	This report involves the security of property belonging to the City or one of its agencies, boards and commissions.
Reference Number:	

SUMMARY

This report provides a status update on the technical and planning analysis underway for priority transit projects, and seek City Council approval to enter into agreements with the Province of Ontario and Metrolinx for cost and revenue sharing for key transit initiatives (the “Agreements”). The report also outlines a recommended funding and financing strategy for the City’s share of costs.

Technical & Planning Analysis

In July 2016, City Council advanced key projects currently in the planning and early design phase that comprise Toronto's 2031 transit network plan. In particular, City Council made the following decisions:

- Approved a SmartTrack/Regional Express Rail (RER) integration scenario with six new stations on the Stouffville/Lakeshore East GO Corridor (Finch East, Lawrence East, Gerrard, and Unilever) and the Kitchener GO Corridor (Liberty Village and St. Clair West);
- Approved an Eglinton West LRT extension with 8 to 12 stops between Mount Dennis and Renforth Gateway and five potential grade separations;

- Removed a three-stop Scarborough Subway Extension (SSE) option from further consideration and supported an express SSE option with final alignment to be confirmed following the completion of a third-party review of cost estimates;
- Approved funding to develop the Eglinton East LRT extension to 5% design; and
- Supported the first phase of the Relief Line along the Pape-Eastern-Queen alignment, subject to an assessment of an alignment west of Pape on Carlaw Avenue (between Gerrard Street East/ the GO rail corridor and Queen Street East).

The SmartTrack project includes the SmartTrack/RER integration with six new stations noted above, and the Eglinton West LRT extension from Mount Dennis to Renforth Gateway (“SmartTrack” and the “SmartTrack Project”).

On June 28 2016, the Metrolinx Board approved the SmartTrack/GO RER integration scenario with six new stations at the locations noted above. The [Metrolinx Board](#) also requested that municipalities commit to funding SmartTrack, through Council resolution, by November 30, 2016.

Additional work has been undertaken by the City of Toronto and TTC in partnership with the Province of Ontario and Metrolinx to advance planning and technical analysis on all projects. An update on each project is provided in this report.

Cost and Revenue Sharing with the Province

In July 2016, City Council also authorized the City Manager to negotiate cost-sharing and intergovernmental agreements with the Province of Ontario for shared costs associated with several transit projects, including: SmartTrack/RER integration, Eglinton West LRT, operating and maintenance on Metrolinx-Toronto LRT projects, municipal utility and infrastructure within Metrolinx-owned rail corridors, and any other outstanding transit-related matters.

City and provincial staff have prepared a term sheet between the parties on cost and revenue sharing for key initiatives as directed by City Council (the “Summary Term Sheet”) which is included as Attachment 1 to this report. Subject to City Council approval the Summary Term Sheet shall form the basis of the Agreements between the parties.

The proposed terms reflect the partnership of the City and the Province in constructing, operating and maintaining Toronto’s expanding transit network. The Summary Term Sheet has been negotiated to seek an equitable distribution of costs among the parties based on the roles, responsibilities and governance arrangements overseeing each asset throughout the lifecycle. Principles of the Summary Term Sheet include a shared objective of maximizing the investment in transit in Toronto and the region to increase mobility and choice. It also ensures Toronto’s contributions are incremental to existing Provincial commitments, such as the Province’s \$13.5 billion (2014\$) Regional Express

Rail Program, and the Province's \$8.4 billion (2010\$) capital commitment to the Metrolinx Rapid Transit Program in Toronto.

This report recommends that City Council adopt the Summary Term Sheet and direct the City Manager to finalize the intergovernmental negotiations through a phased approval process described in this report and in Figure 1 of Attachment 1 to this report (the "Stage Gate Process"). A summary of the key terms is provided below.

Summary of Terms

SmartTrack

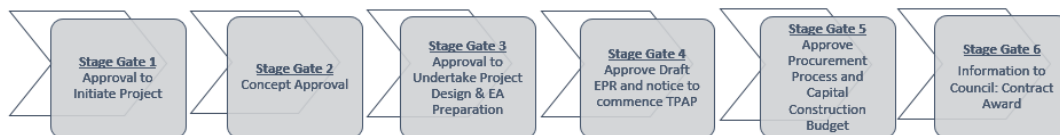
The Province has agreed to integrate the six new SmartTrack stations into the RER program. This report recommends the City commit to funding 100% of the SmartTrack stations capital costs, subject to key conditions, and the incremental operating and maintenance (O&M) costs resulting from SmartTrack on the Kitchener and Stouffville GO corridors. The Province would own the stations and be responsible for the lifecycle maintenance costs.

As part of the approved SmartTrack concept, the City is responsible for the costs of advancing the planning and design of the Eglinton West LRT to the Renforth Gateway. This report recommends City Council request the City of Mississauga and the Greater Toronto Airport Authority (GTAA) to indicate their commitment to extending this project to Pearson Airport.

Stage Gate Process

In order to facilitate future required decisions for SmartTrack and an assessment of City conditions, the City and Province will establish a Stage Gate Process. This Process allows City Council to make key decisions at pre-defined stages of the SmartTrack project. If City Council decides to cancel or alter the Project scope, the City will be required to make the Province whole for costs incurred to-date. Importantly, City Council will be provided the opportunity to review key City conditions, such as the outcome of fare integration, prior to advancing to subsequent stages of the Project. This report recommends City Council make a firm funding commitment to the planning, design and procurement preparation costs, and a conditional commitment to the full cost of SmartTrack.

Figure 1 Summary of the Stage Gate Process



Regional Express Rail

Metrolinx has also identified five grade separations required for RER. Under the proposed terms, the Province will be responsible for 85% of the costs of these grade separations and the City will contribute the remaining 15%. The City's contribution to these RER grade separations is estimated to be approximately \$62 million.

As part of the Regional Express Rail (RER) program, the Province has identified two new stations at Spadina and Bloor-Lansdowne. In addition, Metrolinx is undertaking upgrades to existing stations across the entire GO network in Toronto to facilitate RER. The Province has requested the City contribute towards the capital costs for these projects. The proposed terms commit the City's outstanding payment in respect of its GO Transit Growth Related Capital Costs (GO Growth) obligation, \$60 million, as payment for these RER expansion projects. Furthermore, the City's GO Growth obligations to 2024/25 will be fulfilled by the City's contributions to SmartTrack.

Operating and Maintenance Costs of the Metrolinx Light Rail Transit (LRT) Projects

The Province has committed 100% to the capital costs of the LRTs under the Toronto Metrolinx LRT Program Master Agreement. As the owner of the assets, the Province will also be responsible for lifecycle maintenance costs associated with the LRTs. It is important to note, the Master Agreement requires an operating agreement to be finalized at least two years in advance of the launch of revenue service for any of the Metrolinx projects. The Master Agreement did not contemplate which party would fund the operations and maintenance of the LRT program. In Budget 2016¹, the Province formally requested that all municipalities benefiting from rapid transit investments contribute to the operating and maintenance costs of the projects.

The proposed term sheet commits City Council to fund the operating and day-to day maintenance costs associated with the LRT Program (Crosstown, Finch, and Sheppard), and in exchange:

- The Toronto Transit Commission (TTC) will operate the LRTs
- The City/TTC will set the fare and service level, in consultation with Metrolinx; and
- The City/TTC will retain fare revenues and non-farebox revenues.

The gross costs will be partially offset by reductions in bus operating and maintenance costs on these routes and also by increases in fare revenue as a result of increased ridership. The principles applied to the operating, maintenance, operations and ownership of the LRT Program, would also apply to the proposed extensions of the Crosstown project (Eglinton West LRT and Eglinton East LRT).

¹ P.75 2016 Ontario Budget

Georgetown South Project

In March 2015, City Council considered as part of item EX3.4, 4ai "Financial Issues Involving Metrolinx: Georgetown South, GO Transit Capital Expansion Contributions, and Union Station" a tentative agreement between the City and the Province/Metrolinx for costs associated with the Georgetown South Project. The proposed terms and rationale are outlined in the confidential attachment to the report (Attachment 6). This report recommends City Council approve the terms of the tentative agreement and contribute \$95 million towards the upgrades in this corridor.

Utility Relocation

The Summary Term Sheet also proposes City Council approve the cost-sharing principles tentatively agreed by the City and Province in March 2015 with respect to utility relocation costs, included in the confidential attachment (Attachment 6) of this report. The principles will inform how costs incurred for utility relocations and/or replacements on Metrolinx lands in order to implement the GO RER program will be apportioned between the City and Metrolinx going forward.

City Funding & Financing Strategy

Finally, this report recommends a funding and financing strategy for the City's share of costs in accordance with the proposed terms, and outlines the required contributions from other governments and third parties on key projects.

RECOMMENDATIONS

The City Manager and Deputy City Manager & Chief Financial Officer recommend,

Summary Term Sheet and Agreements

1. City Council approve the Summary Term Sheet and the Stage Gate Process outlined in Attachment 1 of this report.
2. City Council authorize the Mayor, City Manager, and any other relevant City officials to negotiate, enter into and execute Agreements with the Province, Metrolinx, and/or any of its agencies, to agree to the Stage Gate Process of funding approval for the SmartTrack Project, cost-share arrangements in respect of various other transit initiative, and any necessary ancillary agreements substantially in accordance with the Summary Term Sheet set out in Attachment 1 to this report, and on such other terms and conditions satisfactory to the City Manager and in a form satisfactory to the City Solicitor.

3. City Council request the City Manager report back to the Executive Committee at Stage 5 of the Stage Gate Process for approval of full capital funding of the SmartTrack Project, requesting Metrolinx to proceed with the procurement process for SmartTrack, and providing an update on the City's SmartTrack conditions set out in the Summary Term Sheet.
4. City Council direct that the Confidential Attachment (Attachment 6) to this report regarding the terms of the Georgetown South cost sharing agreement, remain confidential in its entirety in accordance with the provisions of the *City of Toronto Act, 2006* as it relates to the security of the property of the municipality or local board, provided that such information or portions of such information may be released publicly at the discretion of the City Solicitor.

Technical and Planning Recommendations

5. City Council direct the Chief Planner and Executive Director, City Planning to continue to work in partnership with the TTC, the Province of Ontario, and Metrolinx to:
 - a. complete the planning and design for the six new SmartTrack stations and two new Regional Express Rail stations as described in Stage 3 of the Stage Gate Process; and
 - b. report to Executive Committee at the next phase of the Stage Gate Process for approval of the draft Environmental Project Reports for the new SmartTrack/RER stations and to authorize the City to proceed with the formal Transit Project Assessment Process (TPAP) with Metrolinx.
6. City Council confirm to Metrolinx its support for transit supportive policies and land uses, as established in the Official Plan, for the SmartTrack and RER station areas.
7. City Council direct the Chief Planner and Executive Director, City Planning to continue to work in partnership with the TTC, the Province of Ontario, and Metrolinx in order to:
 - a. complete the early planning and technical analysis for the Eglinton West LRT extension between Mount Dennis and Renforth Gateway as described in Stage 3 of the Stage Gate Process, and in particular finalize the number of stops and required grade separations for the project; and
 - b. report to Executive Committee at the next stage in the Stage Gate Process on the recommended scope for the Eglinton West LRT extension between Mount Dennis and Renforth Gateway as a result of the technical and planning analysis in part a, and provide a revised Class 4/5 cost estimate for the project; and authorize the City and/or Metrolinx on behalf of or in

conjunction with the City of Toronto to proceed with any required amendment of the formal Transit Project Assessment Process (TPAP).

8. City Council request the City of Mississauga and Greater Toronto Airports Authority (GTAA) to confirm their interest in the extension of the Eglinton West LRT between Renforth Gateway and Pearson Airport, including commitment of resources to the planning, design, construction and delivery of the project.

Finance Recommendations

9. City Council direct the Deputy City Manager & Chief Financial Officer to identify \$71 million in funding, through the 2017 - 2026 capital budgeting and planning process, with cash flows as shown below, for planning, design, environmental assessment preparation, property acquisition, and other predevelopment expenditures related to the proposed six SmartTrack Stations on the Stouffville, Kitchener GO, and Lakeshore East corridors and the Eglinton West LRT.

Table 1: Predevelopment Funding for SmartTrack (\$YOE millions)

	2017	2018	Total
Gross	17.1	53.9	71.0
Net	9.3	29.8	39.1

10. City Council direct the Deputy City Manager & Chief Financial Officer to add, through the 2017 Budget Process, the preliminary SmartTrack total net project cost of \$2.0 billion (\$3.7 billion gross) to the 2017-2026 Capital Program with cash flows as shown below, and that these estimates be refined upon completion of Class 3 cost estimates in accordance with the Stage Gate Process described in this report.

Table 2. Preliminary Capital Case Flow Forecast for SmartTrack (\$YOE, millions)

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total
Gross	17.1	53.9	127.2	383.2	592.2	767.7	801.2	616.2	305.9	55.6	3,720.2
Less: Assumed Contributions from Others	7.8	24.1	56.9	173.0	263.1	346.3	367.3	289.7	152.9	29.1	1,710.2
Net:	9.3	29.8	70.3	210.2	329.1	421.5	433.9	326.4	153.0	26.5	2,010.0

11. City Council direct the Deputy City Manager & Chief Financial Officer to proceed with the \$95 million in total payments related to the City's share of the GO Georgetown South project infrastructure costs as described in the Summary Term Sheet and Attachment 6, and which are currently incorporated in the Council-approved budgets for Water and Transportation Services.
12. City Council direct the Deputy City Manager & Chief Financial Officer to include funding (currently estimated at \$62 million) as part of the 2017-2026 Capital Budget Process for the City's 15% share of 5 grade separations.
13. City Council direct the Deputy City Manager & Chief Financial Officer to include \$60 million in funding for the payment of the City's previously suspended 2015-2017 GO Capital Expansion payments as part of the 2017-2026 Capital Budget Process.
14. City Council direct the Deputy City Manager & Chief Financial Officer to:
 - a. advance the development of the capital funding and financing strategy for SmartTrack, consisting of a combination of municipal tax increment, development charges, tax-supported debt financing, and other potential revenue sources such as asset sales;
 - b. engage capital market and legal consulting expertise in assessing the appropriate debt structure for financing the SmartTrack project; and
 - c. report back to Council with the implementation of this recommended strategy once the capital cost estimates have been refined to a Class 3 level and Council confirms its definitive commitment to the project.

FINANCIAL IMPACT

Summary Term Sheet

This report recommends that City Council adopt Agreements based on the Summary Term Sheet set out in Attachment 1 of this report. The terms will commit the City to both capital, operating and maintenance costs associated with a number of transit initiatives.

Firm Predefined Capital Cost Commitments

The proposed terms will bind the City to the following firm capital cost commitment amounts summarized in Table 3 below:

Table 3: Summary of Firm City Capital Commitment Amounts in Proposed Agreement (\$millions YOY)

Initiative	Project	City Contribution Amount	Description of Commitment
SmartTrack	Upfront predevelopment costs to Stage Gate 5	71	Contribution represents maximum commitment up to Stage 5
Georgetown South GO Corridor	Grade Separations and Utility Relocation	95	Fixed commitment amount
5 RER Grade Separations	15% of Grade Separations	62	Commitment will be based on final cost established through procurement process
GO Capital Expansion		60	Fixed commitment amount
	Total:	288	

Firm Commitment to Actual RER Grade Separation Capital Cost

The recommended terms will bind the City to funding 15% of the capital costs associated with the five grade separations that Metrolinx has identified as part of the RER program. Based on the preliminary cost estimate provided by Metrolinx, the City's contribution amount would be approximately \$62.5 million. However, this estimate is subject to final costs established through a procurement process and the City's contribution will be based on 15% of the actual cost.

Firm Commitments to Actual LRT Operating and Maintenance Costs

In 2012, Metrolinx, the City of Toronto, and the TTC signed a Master Agreement that identified the TTC as the operator of the Metrolinx LRT lines. The Master Agreement was silent on how operating and maintenance costs of the LRT lines would be funded.

The terms will bind the City to the funding of the operating and regular maintenance costs for the Eglinton Crosstown, Finch West, Sheppard East and proposed Eglinton West and Eglinton East LRT projects. Table 4 provides the gross operating and maintenance cost estimates provided by Metrolinx for these LRT lines.

Table 4: Estimated Annual Gross LRT Operating and Maintenance Costs

Project	Estimated Annual Gross Cost (\$ millions)	Estimated Annual Net Financial Impact (\$ millions)
Eglinton Crosstown	80.0 (2021\$)	39.0 (2021\$)
Finch West	51.5 (2022\$)	TBD
Sheppard East	38.1 (2025\$)	TBD
Eglinton West (SmartTrack)	45.0 (2026\$)	TBD
Eglinton East	TBD	TBD

As discussed below, the gross costs will be partially offset by reductions in bus operating and maintenance costs on these routes and also by increases in fare revenue as a result of increased ridership. However, a full analysis of the net impact has not been completed for all of these routes. A preliminary analysis for the Eglinton Crosstown LRT indicates that the bus operating and maintenance savings, along with incremental fare revenue, will offset approximately 50% (\$39 million in \$2021) of the gross operating and maintenance costs of the LRT.

Potential Commitment to Full Capital, Operating and Maintenance Costs of SmartTrack

Finally, the recommended terms will commit the City to a Stage Gate process that, if followed to completion, will result in the total estimated capital costs shown in Table 5 below for the SmartTrack initiative.

The current capital cost estimates have been prepared by Metrolinx and are preliminary Class 4/5 estimates. These estimates are intended for early concept screening and include 50% cost contingencies, but do not yet contain any allowances for financing costs or the transferral of risks under an Alternate Financing and Procurement (AFP) approach

The terms will also commit the City to funding the cost of any additional infrastructure required to accommodate SmartTrack that deviates from planned infrastructure for RER. The costs of this potential additional infrastructure are not yet known.

Table 5: Summary of Preliminary Total SmartTrack Capital Contribution Estimates (\$millions YOY)

SmartTrack Project	Estimated Total Cost	Assumed Federal Government Contribution	Assumed Contributions from Others**	Estimated City Contribution Amount
Six new ST Stations on Kitchener and Stouffville GO RER Corridors	1,251.8	417.1*		834.5
Eglinton West LRT	2,468.4	822.9*	470.1**	1,175.3
Total:	3,720.2	1,240.2	470.1	2,010.0
* Assumed Federal contribution equal to 1/3 of total cost of project ** Assumed Mississauga/GTAA contribution Note: Province funding \$3.7 billion for basic RER infrastructure in Toronto that supports SmartTrack				

In addition, if the SmartTrack Project proceeds to completion, the terms commit the City to funding the direct operating and maintenance costs associated with the SmartTrack station buildings as well as any indirect incremental operating and maintenance impacts, resulting from SmartTrack, on the GO corridors. These operating and maintenance costs have not yet been fully estimated.

Capital Funding

SmartTrack Capital Financing and Funding Strategy

While staff will explore potential capital funding sources, such as asset sales, it is anticipated that the capital costs of SmartTrack will have to be financed and that the debt repayment will be funded through the following potential revenue streams:

1. Development Charges;
2. Incremental municipal property tax revenue from new development along the SmartTrack corridor (TIF); and
should these funding sources be insufficient,
3. Property tax increases or equivalent sources of annual revenue.

The traditional approach for financing the capital costs of SmartTrack would be by way of traditional debenture debt financing (30-year debt). Issuance of debenture debt gives rise to fixed debt charges that must be funded through equal annual payments. As the projected tax increment revenue is small in the early years, initial cash flow shortfalls are forecast between required debt payments and initial development charge and incremental tax revenues.

Even if the full forecast incremental tax revenues are applied to repayment of the debt, a tax increase of 2.1%² is projected to be necessary in order to fund the early shortfalls. Assuming a more conservative allocation of 50% of TIF revenue, a tax increase of 3.0% is projected. Table 6 summarizes the required tax increase based on traditional debenture financing, assuming: an allocation of 100% of TIF revenue, 50% of TIF revenue, and 0% TIF revenue.

Table 6: Tax Increase Requirement based on Traditional Debenture Financing

TIF Capture	Tax Impact
100%	2.1%
50%	3.0%
0%	3.9%

An alternative to traditional debenture financing may be possible through the use of revenue-matched debt instruments. With a revenue-matched debt instrument, the debt repayment stream could be structured to require smaller payments in the earlier years, and increase over time to match the projected tax increment revenue from new development along the SmartTrack corridor. This closer matching of payments with revenues reduces the need for tax increases. Using this approach, a tax increase of 2.0% is estimated (assuming an allocation of 50% of TIF revenues) as shown in Table 7, compared with 3.0% using traditional debenture financing shown in Table 6. It is noted that such a debt instrument would require a City guarantee and possibly legislative or regulatory change.

Table 7: Tax Increase Requirement based on Revenue-Matched Financing

NPV \$M's	TIF @ 100%	TIF @ 50%
TIF	857.1	428.6
DC	252.1	252.1
<i>Proceeds from Revenue-Matched Debt</i>	1,109.2	680.6
Cost	1,558.6	1,558.6
<i>Residual to be Financed</i>	(449.4)	(878.0)
Debenture Borrowing Required	449.4	878.0
Debt Charge	27.6	53.9
<i>Equivalent Tax Increase</i>	1.0%	2.0%

Staff will engage members of the City's debt syndicate and legal expertise to develop an appropriate debt structure instrument, and will report back for City Council consideration.

² Throughout this report tax increase refers to residential tax increase; and by City policy 1/3 of any residential tax increase is imposed on non-residential tax classes

GO Transit Georgetown Corridor Grade Separations and Utility Crossings

The City's \$95.5 million contribution towards the Georgetown South GO Corridor grade separations and utility crossings has already been incorporated in the City Council-approved budgets for Water (\$28.4 million) and Transportation Services (\$67.1 million). Excerpts from staff's confidential report in 2015, explaining the rationale for the settlement are included in the confidential Attachment 6.

RER Grade Separations

Metrolinx has indicated that, according to RER analysis, five level crossings on the GO corridors impacted by the RER initiative will have to be replaced with grade separated crossings. Metrolinx has estimated that these five level crossings will have an estimated total cost of \$417 million (\$YOE). The proposed terms require the City contribute 15% of this cost, or approximately \$62 million (\$YOE).

It is proposed that the City's share of the capital costs be funded through the rate and property-tax supported portion of the Capital Budget as appropriate. In the absence of any alternate funding sources, the City's \$62 million capital obligation, if funded through debentures, would result in debt charges impacting the operating budget by an equivalent residential tax increase of up to 0.12%.

New GO RER stations and upgrading of existing GO stations

Metrolinx and the Province have sought contributions from the City towards the capital cost of the proposed new GO RER stations and the upgrading of existing GO stations.

The City's payments to GO for capital expansion costs were suspended by City Council in 2015 as a result of under-payments by other Greater Toronto Area (GTA) municipalities. Under the recommended Summary Term Sheet, the City would make its suspended \$20 million/year 2015-2017 GO Capital Expansion payments and Metrolinx will apply these payments as the City's contribution towards the two new RER stations (Spadina and Bloor-Lansdowne on the Barrie Corridor) and required upgrades to existing stations on the GO network in Toronto.

It is proposed that the City's share of the capital costs be funded through the property-tax supported portion of the Capital Budget. In the absence of any alternate funding sources, the City's \$60 million capital obligation (payment of the suspended 2015-2017 GO Capital Expansion Payments), if funded through debentures, would result in debt charges impacting the operating budget by an equivalent residential tax increase of up to 0.11%.

Overall Tax Impact of Capital Funding

As discussed above, the illustrative funding model indicates that a property tax increase of approximately 2% will be required to provide additional funding for the SmartTrack capital costs. A further total property tax increase of up to 0.23% (Table 8) will be

required to fund the City's contributions for RER grade separations, and GO Transit Capital Expansion costs. This results in an overall tax increase of up to 2.23%.

Table 8: Estimated Overall Tax Impact of Capital Funding Contributions

Project	Estimated Equivalent Residential Tax Increase Required	Other Funding Sources
SmartTrack	2.00%	Revenue-matched debt, 50% TIF allocation, development charges
RER Grade Separations	0.12%	None identified
GO Expansion Costs	0.11%	None identified
Total:	2.23%	

Overall Impact of Operating and Maintenance Funding for SmartTrack and LRT Projects

As discussed above, the Summary Term Sheet firmly commits the City to funding 100% of the operating and maintenance costs of the LRT projects. If the SmartTrack Project is carried through to completion, the City will also be committed to 100% of its operating and maintenance costs.

These operating and maintenance costs will have a direct impact on the City's operating budget and that impact has not been quantified to date.

Other Considerations – Historical & Proposed Funding Shares

Since amalgamation, the City of Toronto and the Province of Ontario, and the Federal Government, have cooperatively participated in three major transit infrastructure projects: (i) the Sheppard East subway extension; (ii) the Toronto-York Spadina subway extension (TYSSE); and (iii) the Scarborough Subway Extension.

The historical cost-sharing arrangements have been contributions by each order of government for the capital costs of the projects, with ownership and all operating costs, including maintenance and life cycle costs being the obligation of the local transit authority. Under previous cost sharing agreements, the City assumed on average a 29% funding share of the capital costs, and 100% of the operating, maintenance and life cycle costs of these projects (Table 9).

Table 9: Historical Cost Sharing Arrangements

Project	Capital Costs (%)				Life Cycle, Maintenance & Operating Costs (%)		
	Fed.	Prov.	City	Other Partners	Life Cycle	Operating	Maintenance
					City	City	City
Sheppard East (\$1B)	-	60	40	-	100	100	100
TYSSE (\$3.2B)	22	30	29	19	100	100	100
Scarborough Subway (\$3.56B)	18.5	56	25.5	-	100	100	100
Estimated Total (\$7.76B)	\$1.4	\$3.5	\$2.2	\$0.6			
Average City Contribution			29%				

New Cost Sharing Funding Arrangements

Part of the terms being recommended for approval are new cost sharing arrangements for the current and planned transit initiatives. These new cost sharing arrangements reflect that the City of Toronto and the Province of Ontario have each made and have each benefited from significant investments in transit infrastructure in Toronto and the Region. The Province has committed \$13.5 billion for extensive rail improvements through RER and an additional \$8 billion in rapid transit projects in the City of Toronto. The Federal government has also previously announced a financial commitment to fund SmartTrack up to \$2.6 billion.

Table 10: Cost-sharing Arrangements per Terms of Agreement (2016\$)

	Capital Costs (%)				Life Cycle, Maintenance & Operating Costs (%)		
	Fed.	Prov.	City	Other Partners	Lifecycle	Operating	Maintenance
					Province	City	City
Finch West LRT (\$1.1B)		100	-		100	100	100
Eglinton Crosstown LRT (\$6.0B)		100	-		100	100	100
Sheppard East LRT (\$1.1B)	33	67	-		100	100	100
SmartTrack/RER (\$1.1B)	33	-	67		100	100	100
Eglinton West LRT (\$2.1B)	33		48	19	100	100	100
Total (\$11.4B)	\$1.43	\$7.84	\$1.73	\$0.40			
Average City Contribution %			15%				

Assumptions: All figures have been adjusted to reflect 2016 dollars.

As shown in Table 10, the City stands to benefit from an estimated \$11.4 billion in capital investment to build five priority transit projects. The City's share of the capital costs, are expected to be lower overall (15%) than under previous cost sharing

arrangements. The City's financial obligations to transit funding going forward will include annual operating and maintenance costs, as has been its obligation historically, but not lifecycle costs, for which it had been previously responsible.

DECISION HISTORY

On July 13, 2016 City Council considered [EX16.1 Developing Toronto's Transit Network Plan to 2031](#). The report provided technical and planning updates on key projects that were introduced as part of Phase 1 of Toronto's Transit Network Plan ([EX13.3](#)). City Council made key decisions based on results of an initial business case analysis presented for each of the key transit projects to advance the projects to the next stages of planning and design work. The City Manager was also directed to develop a financial strategy for the transit network plan, including work with intergovernmental partners to negotiate principles for cost and revenue sharing for a range of transit projects and programs. A summary of the key decisions are provided below.

SmartTrack

In July 2016, City Council approved a SmartTrack/GO RER integration scenario with up to six new SmartTrack stations on the Stouffville/Lakeshore East GO corridor (Finch East, Lawrence East, Gerrard and Unilever) and the Kitchener GO corridor (Liberty Village and St. Clair West). City Council also approved an Eglinton West LRT with 8 to 12 stops between Mount Dennis and Renforth Gateway as the western corridor for SmartTrack, and potential grade separations at Martin Grove Road, Kipling Avenue, Eglinton Flats, Royal York Road, and Islington Avenue.

Direction was given to complete the planning and technical analysis on the SmartTrack/GO RER stations and refine options for the Eglinton West LRT. City Council also requested that the City Planning division and TTC work in partnership with Metrolinx, the City of Mississauga, and the GTAA to develop options for the extension of the Eglinton West LRT between Renforth Gateway and Pearson International Airport.

Scarborough Transit

In July, City Council removed a three-stop Scarborough Subway Extension from further consideration, and directed the City Manager and the Chief Executive Officer, TTC to continue to develop an express SSE option by undertaking a third-party cost validation of the TTC's 5% design cost estimate. City Council also approved \$7 million for planning and technical analysis on the Eglinton East LRT to 5% design.

Relief Line

City Council approved a Pape-Eastern-Queen alignment for the first phase of the Relief Line project subject to further examination of an alternative alignment west of Pape Avenue, generally between Gerrard Street East and Queen Street East. Direction was

given to the Chief Planner and Executive Director, City Planning, and CEO, TTC to prepare an Environmental Project Report once ready to proceed. This work includes an assessment of optimal connections between SmartTrack/GO RER and Relief Line.

City Council also authorized the City Manager, in consultation with the CEO, TTC to develop a Terms of Reference with the Province of Ontario and Metrolinx for the next phases of planning and design for the Relief Line, including future extensions north to Eglinton Avenue East and Sheppard Avenue East, and west to the Bloor Subway line. The Relief Line is not the subject of the cost-share terms recommended by this report.

Financial Strategy

In July 2016, City Council directed the City Manager to develop a financial strategy for the plan, including negotiating a cost-sharing and intergovernmental funding arrangement with the Province of Ontario for shared costs associated with:

- Implementing SmartTrack within the GO RER program;
- Eglinton West LRT
- Eglinton East LRT
- Toronto-Metrolinx LRT Program operating and maintenance costs
- Municipal utility and infrastructure within Metrolinx-owned corridors; and
- any other outstanding transit matters including the Georgetown South Project Costs, and GO Transit Growth-Related Capital Contributions;

In relation to the above direction it should be noted that in March 2015, City Council endorsed principles contained in a Confidential Attachment regarding outstanding financial issues involving Metrolinx, including Georgetown South, GO Transit Capital Expansion Projects, and Union Station ([2015.EX3.4](#)).

ISSUE BACKGROUND

Significant investment and commitment to expanding Toronto's transit network has been made by all three orders of government over the last decade. In order to implement major transit expansion infrastructure in Toronto, partnership and close collaboration is required between the Province, the City and their respective agencies (TTC and Metrolinx).

In Q1 2016, the Province of Ontario approached the City of Toronto regarding the range of outstanding financial matters between the City and Province requiring resolution as they relate to operating and maintenance costs for the Toronto Light Rail Transit (LRT) Program, GO Growth Capital Contributions, and settlement of the Georgetown South Project. Other key items included contributions to SmartTrack, and grade separations and utility crossings as it relates to the Province's implementation of the RER program.

In Ontario Budget 2016³, the Province reiterated the request for municipalities benefiting from capital contributions to new rapid transit projects which will replace or supplement local transit services (e.g. Eglinton Crosstown, Finch LRT), to provide support for operating and maintenance costs.

In July 2016, City Council approved the scope of the SmartTrack project, and authorized the City Manager to enter into discussions with the Province of Ontario regarding cost and revenue sharing for SmartTrack and the outstanding matters between the two orders of government.

This report provides an update on the ongoing partnership between the City and Province to complete the technical and planning work of shared priority projects. This report also outlines a recommended approach to share in the costs, revenues and risks associated with expanding the transit network in Toronto, and addressing outstanding financial matters between the City and the Province as it relates to transit infrastructure.

COMMENTS

1. Technical and Planning Updates

In July 2016, City Council approved initial business cases that included Class 4 and 5 cost estimates for each of Toronto's 2031 priority transit projects, including SmartTrack/GO RER integration, Eglinton West LRT, SSE, and the Relief Line, and a preliminary options analysis for the Eglinton East LRT. The next stage of work for each priority project is to undertake further technical and planning analysis to complete initial design work and any necessary Environmental Assessments (EA)/TPAPs or EA amendments in order to advance the projects to a state of readiness for procurement once funding is available and committed. An update on the status of the technical and planning analysis is provided below.

Regional Express Rail

The \$13.5 billion RER program is a significant investment by the Province in improving the GO rail network across the region. In order to implement the 10 year program there are a series of projects underway to upgrade the network, including consideration of new grade separations, new stations and upgrades to existing stations. An update on each of these elements as it relates to ongoing planning work between Metrolinx and the City is provided. These elements are subject to the cost share discussions between the City and Province.

³ Ontario Budget 2016, Chapter 1, Section B <http://www.fin.gov.on.ca/en/budget/ontariobudgets/2016/>

RER Grade Separations

Within the City of Toronto there are 21 level crossings on the GO Rail network where road and rail traffic intersect. The implementation of GO RER will significantly increase heavy rail activity on five of the seven GO rail corridors across the City of Toronto. Electrification of the rail corridors will also require replacement or retrofitting of existing grade separations and infrastructure. In order to inform analysis and planning, Metrolinx is undertaking a comprehensive review of the 185 level crossings to determine where a grade separation may be required to mitigate the impacts of RER service on local communities. Through this process, Metrolinx is working with the City of Toronto to review the twenty one existing level crossings in Toronto. This includes determining the rationale to construct a grade separation, identifying the physical impediments to construct a grade separation at each location, timing, and considerations regarding the allocation of capital, operating, and maintenance costs between the parties⁴.

Metrolinx has identified five grade separations that will be constructed 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)

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 discussions regarding future grade separations required in Toronto. More details regarding the five locations identified for grade separation is included as Attachment 3.

Upgrades to Existing Stations

The significant increase in rail activity associated with the implementation of GO RER will fundamentally change the operations of the GO rail network from a peak-demand commuter service to a service that will be able to serve the diverse needs of transit riders all day. New demands for all-day usage of the system must be met with improved access to existing stations for pedestrians, cyclists and local transit users.

Metrolinx is currently updating station access plans for existing stations across the GO rail network, recognizing that ridership growth can no longer be achieved through the expansion of parking facilities. The work includes access plans for 18 existing stations within the City of Toronto (Union Station is not being considered in this work). City staff are providing input to Metrolinx for the development of these station access plans.

⁴ For more information regarding Metrolinx's process, see the [February 10, 2016 GO Road/Rail Grade Separations Report](#) to the Metrolinx Board.

City Planning is supportive of an aggressive approach to shifting demand from drive-alone vehicle access to passenger pick-up and drop-off, transit, walking and cycling, based on the role GO rail stations will play in Toronto's transit network in the future. As Metrolinx updates its access plans for stations within Toronto, targets for access by each transportation mode are being identified for each station based on the local context. Improvements such as bike parking expansion and improved bike facilities and improved connections between local transit and rail station platforms will be proposed to support targets.

In some cases, Metrolinx may consider an expansion of parking facilities. City Planning is not supportive of increasing or improving parking facilities as this is not consistent with Toronto's Official Plan or provincial planning policies and guidelines. Where appropriate, Metrolinx should consider developing employment-related uses on existing parking facilities to provide destinations and increase demand on the network.

City staff will continue to work with Metrolinx to ensure City interests are protected in the refinement of planned upgrades to existing GO rail stations.

New RER Stations

On June 28 2016, the Metrolinx Board approved two new stations in Toronto as part of the RER program:

- Bloor-Lansdowne Station, located at Bloor Street West, west of Lansdowne Avenue (Barrie GO Corridor)
- Spadina Station, located at Spadina Avenue, south of Front Street West (Barrie GO Corridor)

The Bloor-Lansdowne Station will act as a key transit connection to the TTC subway (Line 2), providing the opportunity for Barrie Corridor riders to access the Bloor corridor, the northern part of downtown Toronto and midtown Toronto. This station location is already identified in Toronto's Official Plan, and would be part of the Dundas West mobility hub. Multi-use path connections for pedestrians and cyclists are envisioned to the north and south, connecting to the West Toronto Rail Path in the vicinity of Dundas Street West.

The Spadina Station would provide a key connection to the TTC streetcar network (510 Spadina) and may offer potential connections to a potential waterfront transit solution. The station would be an alternative destination to the western part of downtown Toronto, including key destinations like Rogers Centre and the Metro Toronto Convention Centre for Barrie Corridor riders. There is also the opportunity to integrate with a potential Rail Deck Park.

These proposed stations must be responsive to the existing and planned urban context and support city building goals. Station design must integrate multi-modal access to ensure

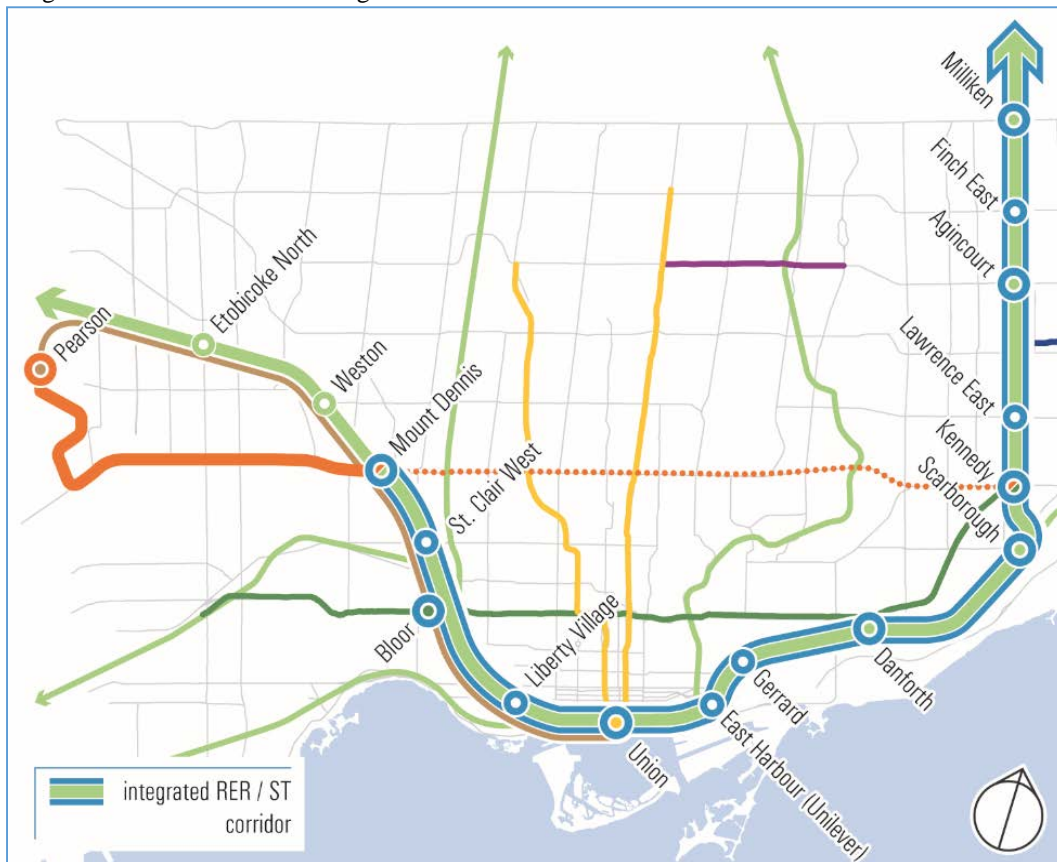
safe, convenient, and seamless transfers for transit riders and prioritize pedestrians and cyclists. Key design issues on each new RER station is included in Attachment 4.

SmartTrack

As approved by City Council in July 2016, the SmartTrack project scope includes two phases:

- A SmartTrack/GO RER integration scenario with six new SmartTrack stations at Finch East, Lawrence East, Gerrard and Unilever (now being referred to as East Harbour) on the Stouffville/Lakeshore East GO Corridors, and Liberty Village and St. Clair West on the Kitchener GO Corridor. This includes a service concept of committed RER frequencies of 6-10 minute peak service and 15-minute off-peak service. The SmartTrack service concept also contemplates through service at Union station. Fare integration is also a fundamental component of SmartTrack.
- An extension of the Eglinton LRT west from Mount Dennis to Renforth Gateway, with between 8 to 12 stops and 5 potential grade separations. Further planning work is required to finalize the concept.

Figure 2: SmartTrack/RER Integration Scenario - Six New Stations



SmartTrack/RER Integration with Six New Stations

The first phase of SmartTrack will build on existing heavy rail transit infrastructure in Toronto and leverage the Province's \$13.5 billion investment in RER. Approximately \$3.7 billion of the Province's RER program comprises infrastructure investments that also support SmartTrack. Base GO RER elements that also support SmartTrack include rail and track infrastructure, grade separations, electrification, and fleet upgrades⁵.

A key benefit of the approved SmartTrack/RER integration concept is the ability to maximize the use of existing and planned infrastructure, with incremental costs incurred to create a more urban heavy rail service within Toronto. Implementing the incremental six new SmartTrack stations alongside the Province's RER program will not require additional track infrastructure or grade separations beyond RER investments, and will provide a relatively more expedient and cost effective solution to increasing transit access in Toronto, given the long-lead time and significant investment to build new transit facilities.

On June 28 2016, the Metrolinx Board approved the SmartTrack/GO RER integration scenario with six new stations at the locations noted above. The [Metrolinx Board](#) also requested that municipalities confirm through Council resolution, the following by November 30, 2016:

- Agreement with Station Location
- Funding commitment for new stations
- Commitment to implementing transit supportive land-uses around stations; and
- Commitment to implementing sustainable station access.

City Council approved the station locations for each of the six new SmartTrack stations in July 2016. Working groups with representation from the City, TTC, and Metrolinx were established to review and discuss preliminary station concepts for each station, including proposed station elements and access. In addition, the working groups considered the land-use planning framework for transit supportive development around each station.

The addition of six new SmartTrack stations at strategic locations in Toronto will act as key transit connections across the City, connecting Scarborough, Downtown East, and Downtown West. Full integration of the SmartTrack and RER stations with other transit facilities in Toronto will be key to ensuring their greatest utility. The stations must be responsive to the existing and planned urban context and support city building goals. Station design must integrate multi-modal access to ensure safe, convenient, and seamless transfers for transit riders, and prioritize pedestrians and cyclists. Transit

⁵ More information can be found in [Table B1: Breakdown of Base GO RER Costs Common to SmartTrack](#) of the SmartTrack/RER Integration Initial Business Case, and Metrolinx's [Regional Express Rail Initial Business Case](#).

supportive land-uses around the station areas will also be key to ensuring full integration and utility of the station.

The City's Official Plan directs growth to Downtown, Centres, Avenues and Employment Areas ([Map 2 –Urban Structure](#))⁶. Although each station is located within one or more of these designated growth areas, further work will be undertaken to identify additional opportunities for transit supportive development. The approach to each station's full integration into Toronto's transit network will be unique to accommodate the planning context (i.e. neighbourhoods, existing and projected growth, and function of station in overall network). For example, the planning vision for lands around stations located in areas that will see the greatest levels of growth (such as Liberty Village and East Harbour/Unilever) is not the same as locations that may be more constrained by market forces (such as Finch East).

Table 11 summarizes the City's initial key design issues for each station resulting from the working group meetings, which will need to be resolved through further design work during the environmental assessment and procurement processes. Additional detail is included in Attachment 4.

Table 11. Highlights of SmartTrack Station Design Issues Identified by City Planning

Station	Initial Key Design Issues
All	<ul style="list-style-type: none"> • No commuter parking lots. They are not supported by either local or provincial planning policies (City's Official Plan, Province's <i>Transit-Supportive Guidelines</i>, Metrolinx's <i>Mobility Hub Guidelines</i>). • No conventional GO multi-lane passenger pick-up and drop-off (PPUDO) facilities as part of the station area; alternative solutions to be explored, including accessible loading and unloading area in close proximity to the station entrance, with space for TTC Wheel-Trans use. • Prioritize station access for pedestrians, cyclists and connecting transit services. • Provide main station entrances from public streets. • Ensure adequate and convenient bicycle parking facilities. • Integrate TTC bus bay/streetcar requirements where appropriate.
St. Clair West	<ul style="list-style-type: none"> • Planning, design and project delivery of station needs to be coordinated with St. Clair West Transportation Master Plan. • Main station entrance should be located on St. Clair to provide high quality access for transferring transit passengers, as well as access from the north.
Liberty Village	<ul style="list-style-type: none"> • Main station entrance should be located on King Street to provide high quality access for transferring transit passengers, as well as access from the north.

⁶ http://www1.toronto.ca/static_files/CityPlanning/PDF/2_urb_str_dec2010.pdf

Station	Initial Key Design Issues
	<ul style="list-style-type: none"> • Provide pedestrian and cycling connections between the surrounding communities, and integrate with the West Toronto Rail Path and planned and approved area pedestrian bridges.
East Harbour (Unilever)	<ul style="list-style-type: none"> • Planning and design of the East Harbour (Unilever) Station, including platform location, must be integrated with the overall comprehensive employment precinct planning. • The station will need to incorporate strong access connections between the future Relief Line station proposed at Eastern Avenue and Broadview Avenue, as well as the future streetcar along the planned extension of Broadview Avenue.
Gerrard	<ul style="list-style-type: none"> • Shift station platforms north towards Pape to best serve the local community, improve neighbourhood connections over the rail corridor, reflect redevelopment potential, and provide interconnection with future Relief Line. • Station access should be provided from each of the surrounding major streets, as well as have a strong connection with the future Relief Line station. • Need to address potential conflicts between surface transit, traffic and cycling along adjacent streets.
Lawrence East	<ul style="list-style-type: none"> • Main station entrance should be located on Lawrence Avenue East to provide high quality access for transferring transit passengers. • Shift station platforms to the north to take full advantage of the potential future development opportunities in the surrounding area. • Need to coordinate construction of the station with construction of the Scarborough Subway Extension and the phasing out of the Lawrence East SRT station.
Finch East	<ul style="list-style-type: none"> • Main station entrance should be located on Finch Avenue. • Provide high quality access for transferring transit passengers; direct connections for passengers transferring from surface transit along Finch is a key consideration.

The next steps to advance planning and technical analysis for SmartTrack stations include:

- EA/TPAP for each station including community consultation;
- More detailed planning and design work to establish specifications for the procurement of engineering and detailed design of each station; and
- Service planning related to new station locations.

A report in Q3 2017 will include the draft Environmental Project Reports for the six new stations. Refined Class 4 cost estimates will be developed once 10% design has been reached, as outlined in the Stage Gate Process.

Eglinton West LRT Extension

In July 2016, City Council approved an Eglinton West LRT concept with 8 to 12 stops between Mount Dennis and Renforth Gateway as part of the SmartTrack project concept. This included up to five potential grade separations at Martin Grove Road, Kipling Avenue, Islington Avenue, and Royal York Road, subject to further assessment.

In July 2016, City Council also requested that City Planning and TTC work in partnership with Metrolinx, the City of Mississauga, and GTAA, to further develop options for extending the Eglinton West LRT between Renforth Gateway and Pearson International Airport, and to examine opportunities to provide commuter parking for the LRT. This report recommends City Council request the City of Mississauga and the GTAA to confirm their interest in the extension of the LRT from Renforth Gateway to Pearson Airport. In order to facilitate planning this extension outside of the City of Toronto, the commitment of both parties to the planning, design and ultimate construction of the extension is required. The City will work with Metrolinx to coordinate further consultation and planning work with the City of Mississauga and GTAA as required to advance this segment of the project.

Since July, the City, Metrolinx and TTC have focused primarily on completing the analysis on the Eglinton West LRT extension between Mount Dennis and Renforth Gateway. Based on an assessment of the potential stop locations, City Planning and TTC have identified 11 stops that will be carried forward for further analysis:

- Commerce
- Martin Grove
- Widdicombe Hill/Lloyd Manor
- Kipling
- Wincott/Bemersyde
- Islington
- Russell/Eden Valley
- Royal York
- Mulham
- Scarlett
- Jane

Further review of the five potential grade separations identified in the July report is also underway. An evaluation framework, described in Attachment 5 to this report, has been developed to assess the grade separations based on traffic operations, customer experience and urban design considerations.

The technical work to confirm the Eglinton West LRT project details includes:

- Comprehensive traffic network modelling;

- Updating environmental information (property impacts, heritage, contamination, flood plain, air quality, groundwater, fish, noise, utilities);
- Analysing opportunities to provide commuter parking;
- Verifying Maintenance and Storage Facility (MSF) requirements;
- Confirming the operating scenario for buses;
- Updating ridership forecasting based on outcomes of transportation and traffic analysis and grade separation work;
- Reviewing the Renforth Gateway interface;
- Investigating the alignment options to Pearson, subject to the confirmation of interest in the project from the City of Mississauga and GTAA; and
- Updating cost estimates to Class 4 (10% design)

Consultation with stakeholders and the public will also be undertaken. An amendment to the approved EA for this project may also be required, depending on the results of the analysis. An update report to City Council is expected in Q3 2017 that will include the recommendations on stop locations and grade separations, more project details regarding the extension from Renforth Gateway to the Pearson International Airport, and a refined cost estimate for the project.

Further detail on the technical and planning analysis can be found in Attachment 5 - Eglinton West LRT Planning and Technical Analysis Update.

Scarborough Subway Extension

In July 2016, City Council removed a three-stop SSE option from further consideration and directed the City Manager and CEO, TTC to focus further work on an express Scarborough subway extension option by 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 five percent design cost estimates for the McCowan corridor and other possible express subway alignments.

The City Manager's office in partnership with the CEO Office, TTC is preparing a report to City Council in December 2016 that will include:

- The recommended alignment for the express SSE to Scarborough Town Centre;
- The outcome of the third party review of cost estimates and risk assessment requested by City Council in July 2016;
- Analysis of project delivery models, including a recommendation on how to proceed;
- Outlines the governance structure; and
- Updates the funding and financing strategy.

It is anticipated that the TPAP for the SSE will commence in early 2017, following City Council's consideration and approval of recommendations in the Q4 2016 report.

Eglinton East LRT

In July 2016, City Council considered a preliminary options analysis for the Eglinton East LRT and requested that additional work be completed on an Eglinton East LRT extension to the University of Toronto Scarborough Campus (UTSC). City Council approved \$7 million from the Capital Financing Reserve Fund to advance planning and technical work to 5% design for this project.

The City and TTC are meeting with Metrolinx to develop a work program to bring the Eglinton East LRT to 5% design.

Relief Line

In July 2016, City Council approved a Pape-Eastern-Queen alignment for phase 1 of the Relief Line subject to further examination of the segment between Gerrard and Queen. An alternate alignment for this segment along Carlaw is being evaluated and community consultations are being planned for late 2016/early 2017. A further report on the results of this work will be brought forward to Executive Committee and City Council in early 2017, prior to commencement of the formal EA/TPAP.

In addition, as part of the SmartTrack stations discussions, optimal connections between the Relief Line and SmartTrack at East Harbour (Unilever) and Gerrard are being reviewed, including the potential for shifting the Gerrard SmartTrack station to the north. City, TTC and Metrolinx staff are also working together to identify the next steps for planning and design of phase 1 of the Relief Line following TPAP approval, as well as the initiation of planning and design work for the northern and western extensions of the Relief Line.

The northern extension of the Relief Line is critical to obtain the full relief required on Line 1. The recent Provincial announcement to provide \$150 million for planning and design of the Relief Line will support advancing this work. A Terms of Reference detailing the roles and responsibilities of Metrolinx, the City and TTC for the next phases of the Relief Line project is being developed to confirm scope, and roles and responsibilities.

2. Revenue and Cost-Sharing with the Province of Ontario

In July 2016, City Council authorized the City Manager to negotiate intergovernmental funding and cost share arrangements with the Province of Ontario on various transit initiatives, including:

- SmartTrack (SmartTrack/RER Integration and Eglinton West LRT extension);
- RER Grade Separations and Utility Crossings;
- Operating and Maintenance Costs for the Metrolinx-Toronto LRT Program; and
- Scarborough Transit Network

The City Manager and Secretary of Cabinet, Province of Ontario convened a senior executive table to discuss and negotiate an arrangement for the sharing of costs and revenues associated with these joint transit initiatives. The Summary Term Sheet contained in Attachment 1 to this report contains a summary of the key terms reached by the City and Province for City Council’s consideration and approval.

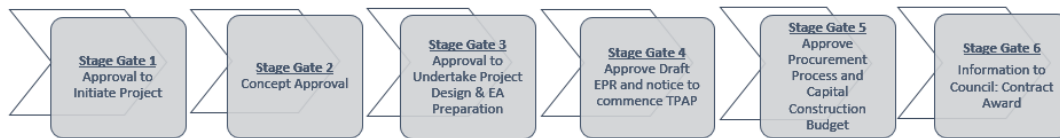
The Summary Term Sheet contains terms that propose either a firm commitment, or a conditional commitment based on the Stage Gate Process described below.

The Stage Gate Process

A key term in Attachment 1 is the approval of a Stage Gate Process for the planning, procurement and funding approvals associated with the SmartTrack Project.

The Stage Gate Process, includes seven stages of work and six decision gates where City Council approval will be sought prior to advancing to the next stage of work. The Stage Gate Process has been developed specifically for the SmartTrack Project, to also reflect cost estimation practices based on AACE industry standards.⁷

Figure 3- Summary of Stage Gate Process



According to this process, City Council approval will be sought at six decision gates to: initiate the project; approve the project concept; undertake project design and EA preparation; approve draft Environmental Project Report (EPR) and give notice to proceed to TPAP; approve capital construction budget and request Metrolinx to proceed with the procurement process. With this approval, City Council commits to full project costs and implementation. At the conclusion of the procurement, City Council will be advised of the outcome and the cost of the project as a result of a competitive procurement process.

At each decision gate, City Council will be asked to make the required decision, which will also include a request to approve funding required to advance the project to the next decision gate. The integration of funding and project development approvals ensures that City Council is presented with the most relevant financial and technical information at various stages of a project's development. In addition, this approach allows for City Council to elect to proceed or terminate a project at each decision gate, allowing for the

⁷ See Appendix 1: Cost and Schedule Estimate Classification of EX16.1: Developing Toronto's Transit Network Plan to 2031 (<http://www.toronto.ca/legdocs/mmis/2016/ex/bgrd/backgroundfile-94597.pdf>)

City's interests to be secured throughout the development of a transit project from initiation to procurement.

It should be noted, however, that as the program advances through each gate, any decision to terminate will require the City to pay for all costs associated with termination including direct costs, penalties, break fees and additional costs that may have been incurred by Metrolinx to accommodate the SmartTrack project.

A process will be put in place at the beginning of each stage of work to ensure there is clarity on roles and responsibilities between the City and Metrolinx, including ensuring appropriate oversight of the allocation of funds within the work program to carry out the joint deliverables.

Table 12 provides an overview of the current status of the SmartTrack Project as it relates to the Stage Gate Process and the expected timing to proceed through subsequent gates.

Table 12: SmartTrack Stage Gate Process Status

Stage Gate #	Eglinton West LRT Extension	SmartTrack/ RER Stations
1. Approval to Initiate Project	Q1 2015- Complete (2015.EX2.2) ; (2016.EX13.3)	Q1 2015- Complete (2015.EX2.2)
2. Concept Approval	Q2 2016 –Complete subject to finalizing number of stops and grade separations (2016.EX16.1)	Q2 2016- Complete (2016.EX16.1)
3. Approval to undertake detailed design and EA preparation	Q4 2016 – Current Gate	Q4 2016- Current Gate
4. Approve draft Environmental Project Report and give notice to proceed to TPAP	Q3 2017 – Determine if addendum to EA/TPAP is required. Note: will also report on number of stops and grade separations.	Q3 2017
5. Approval of Procurement Process and Capital Construction Budget	TBD- Potentially Q1 2019	Q2 2018
6. Information to City Council: Contract Award	TBD- Potentially 2021	2019

A critical decision point in the Stage Gate Process is at Stage Gate 5. At this point in the process, a significant amount of work will have been undertaken to advance the planning and design of the project to 30%, procurement documentation will have been prepared and the EA/TPAP process will be complete. City Council will be provided with an

updated Class 3 cost estimate and be requested to commit to the full capital construction costs of the project. At this Stage Gate, an assessment of whether City conditions associated with the commitment to SmartTrack have been satisfied will also be undertaken by City staff and reported to City Council.

See Attachment 1 for the proposed Summary Terms and the detailed Stage Gate Process map.

3. Financial Assessment and Funding & Financing Strategy

Capital Costs

The following is a discussion of the potential capital costs arising from the terms established in the Agreement.

SmartTrack

Upfront Planning, Design, EA and Procurement Preparation Costs

Currently, staff are working to further develop the design of the project and refine the Class 4/5 cost estimates reported for SmartTrack/RER integration and Eglinton West LRT in the July 2016 report to City Council. A Class 3 estimate with approximately 30% design is recommended prior to committing to the full capital construction, financing and escalation costs (if any) associated with the project. In order to advance the design to the required level, this report recommends City Council commit to and approve the up-front funding for planning, design, EA preparation, property acquisition, and AFP costs to bring the project to 30% design and a Class 3 cost estimate. Metrolinx has provided the City with a budget estimate of \$71 million to carry out this work.

The Stage Gate Process has been set up to allow for City Council to elect to proceed or terminate the project at decision stage gates. Council will have the opportunity to re-evaluate its commitment to the project components at each reporting stage but the City will remain responsible for all planning, design, procurement preparation and property acquisition costs incurred up to that point in time.

Overall Capital Costs

Table 13 provides an initial estimate for the total City capital contribution for SmartTrack that will be necessary if City Council elects to proceed through all of the stages to full project procurement. The Class 4/5 cost estimates presented in Table 13 are from the initial business cases reported to City Council in July 2016 and were prepared by Metrolinx. These estimates are intended for early concept screening and include 50% cost contingencies, but do not yet contain any allowances for financing costs or the transferral of risks under an Alternate Financing and Procurement (AFP) approach.

Table 13: Summary of Preliminary Total SmartTrack Capital Contribution Estimates (\$millions YOE)

SmartTrack Project	Estimated Total Cost	Federal Government	Assumed Contributions from Others**	Estimated City Contribution Amount
Six new ST Stations on Kitchener and Stouffville GO RER Corridors	1,251.8	417.1*		834.5
Eglinton West LRT	2,468.4	822.9*	470.13**	1,175.3
Total:	3,720.2	1,240.2.0	470.1	2,010.0
* Federal contribution equal to 1/3 of total cost ** Mississauga/GTAA contribution Note: Province funding \$3.7 billion for basic RER infrastructure in Toronto that supports SmartTrack				

The term sheet also commits the City to funding the cost of any additional infrastructure required to accommodate SmartTrack that deviates from planned infrastructure for RER. The costs of this potential additional infrastructure are not yet known.

In determining estimates of the City's share of the capital costs, it has been assumed that other partners will fund the portion of the Eglinton West LRT located in the City of Mississauga. It has also been assumed that the Federal government will make contributions toward the SmartTrack stations on the GO corridors and the portion of the Eglinton West LRT in the City of Toronto.

Regional Express Rail

RER Grade Separations

Metrolinx has indicated that, according to their analysis, five level crossings on the GO corridors impacted by the RER initiative will have to be replaced with grade separated crossings. Metrolinx has estimated that these five level crossings will have an estimated total cost of \$417 million (\$YOE). The proposed terms require the City contribute 15% of this cost, or approximately \$62 million (\$YOE). The capital cost estimates are preliminary and will change as planning and design work progresses.

New GO RER stations and upgrading of existing GO stations

Metrolinx and the Province have sought contributions from the City towards the capital cost of the proposed new GO RER stations and the upgrading of existing GO stations in Toronto.

The City's payments to GO for capital expansion costs (\$60 million) were suspended by Council in 2015 as a result of under-payments by other GTA municipalities. Under the

recommended terms, the City would make its suspended \$20 million/year 2015-2017 GO Capital Expansion payments and Metrolinx will apply these payments as the City's contribution towards the new RER stations (Spadina and Bloor-Lansdowne on the Barrie Corridor) and required upgrades to existing stations on the GO network.

GO Transit Georgetown Corridor Grade Separations and Utility Crossings

Under the recommended terms, the City will adopt the capital cost-sharing terms previously considered by Council at its meeting of March, 2015. This will require the City to provide a fixed contribution of \$95 million to Metrolinx, which have already been budgeted and funded in the Toronto Water (\$28.4 million) and Transportation (\$67.1 million) capital budgets.

Operating & Maintenance Costs

SmartTrack Stations on the Kitchener and Stouffville/Lakeshore East GO Corridors

In addition to contributing to capital costs, the recommended Summary Term Sheet will commit the City to funding the incremental operating and maintenance costs arising from the addition of the SmartTrack stations on the Kitchener, Stouffville/Lakeshore East GO corridors. This will include the direct costs associated with operation and maintenance of the SmartTrack station buildings as well as indirect impacts on overall GO corridor operations and maintenance.

Metrolinx has not provided any estimate of the potential indirect operating and maintenance costs.

SmartTrack – Eglinton West LRT and Existing Master Agreement LRT Projects

Under the recommended terms, the City will be responsible for the operating and maintenance costs for the Eglinton Crosstown, Finch West, Sheppard East, and Eglinton West LRT projects. The TTC will set fares in consultation with Metrolinx and also retain all fare revenue. Table 14 provides the estimated annual gross operating and maintenance costs provided by Metrolinx.

Table 14: Estimated Annual Gross LRT Operating and Maintenance Costs

Project	Estimated Annual Gross Cost (\$ millions)	Estimated Annual Net Financial Impact (\$ millions)	Year
Eglinton Crosstown	80.0	39.0	2021\$
Finch West	51.5	TBD	2022\$
Sheppard East	38.1	TBD	2025\$
Eglinton W (SmartTrack)	45.0	TBD	2026\$

The incremental costs associated with these new responsibilities will be partially offset by cost savings resulting from reduced bus service on these routes. In addition, it is anticipated that the improved service resulting from the upgrade from bus to LRT service will result in increased fare revenues that will also partially offset these costs. It is also expected that the City of Mississauga will contribute towards the operating and maintenance costs for the Eglinton West LRT outside of Toronto.

As shown in Table 14, Metrolinx has provided an estimate of \$80 million in 2021\$ for the combined operating and maintenance costs for the Eglinton Crosstown LRT.

Metrolinx has entered into a Design-Build-Finance-and-Maintain contract with Crosslinx Transit Solutions for the Eglinton Crosstown LRT project and Metrolinx has estimated the annual maintenance costs in 2021 based on the terms of this contract. However, Metrolinx has not been able to provide a full copy of this agreement to City or TTC staff for review because of confidentiality clauses in this agreement.

After deducting the TTC estimate of bus operating and maintenance cost savings, and the estimated incremental fare revenues, the forecast net annual cost impact is estimated to be \$39 million.

Table 15: Estimated Net Cost Impact of Operating and Maintenance Responsibilities

	Estimated Amount (2021\$ millions)	Source
Annual Operating & Maintenance Cost	80	Metrolinx estimate for Operating and Maintenance costs
Less: Reduction in Bus Operating and Maintenance Costs	36	Preliminary TTC estimate
Less: Increase in Fare Revenues	5	Preliminary TTC estimate
Estimated Net Impact:	39	

SmartTrack Capital Financing and Funding Strategy

The following is a summary discussion of the SmartTrack Capital Financing and Funding Strategy. A more detailed discussion of the strategy is provided in Attachment 2.

The traditional approach for financing the capital costs of SmartTrack would be by way of traditional debenture financing (30-year debt).

Issuance of debenture debt gives rise to fixed debt charges that must be funded through annual payments. The recommended funding sources for these payments is:

1. Development Charges;

2. Incremental municipal property tax revenue from new development along the SmartTrack corridor; and

should these funding sources be insufficient,

3. Property tax increases or equivalent sources of annual revenue.

Development Charges are one-time, upfront fees levied on land development projects under the provincial *Development Charges Act (DCA)*. The fees help fund a portion of the growth-related share of capital costs. These will be utilized to the extent possible for SmartTrack, as they would for any other growth related eligible project. The risk with this funding source is that forecasted development activity may not materialize, and development charges revenue may not be as high as projected.

Tax Increment Financing (TIF) is a concept premised on capturing future increases in property taxes arising from investments in public infrastructure, that would not otherwise occur but for the investment, for the purpose of repaying the debt obligations of the initial investments. It is important to note the use of TIFs does not impact property tax payers in any adverse way as it is simply an internal allocation of tax revenues from a defined area to a specific purpose. A tax payer in a TIF zone would continue to pay the same tax rate as any other taxpayer throughout the City.

In the context of this report, the use of TIFs is only in respect of the incremental municipal tax revenue, and accordingly the City does not require the authority to use education tax growth from the outstanding regulation under the *Tax Increment Financing Act*.

The risk that must be mitigated in using TIFs is twofold. If all of the future incremental property tax revenues are pledged for the capital project, then insufficient funding would be available to fund the increase in demand for services arising from this growth. In addition, forecasted development activity and property value increases may not materialize, leaving a shortfall in funding availability for debt charges. The default position in this case would be to turn to property taxes to cover any shortfall.

For these reasons, City staff recommend that only 50% of the tax increment revenue from new development be applied to the SmartTrack Project. This leaves funding room to pay for the increase in demand for services arising from this growth, and to leave some funding room should actual development activity fall short of the forecast level, in which case the TIF capture level could be revisited by City Council.

A further challenge with TIFs, particularly in relation to SmartTrack, is that the tax increment revenue projected from new development is small in the early years, but grows significantly in later years. With the issuance of traditional debentures, debt repayment obligations commence shortly after issuance. However, there may be insufficient revenues (TIFs and DCs) to meet these obligations in the early years, and a tax increase may be required to cover the funding gap until such time incremental revenues increase

to the required magnitude of the debt charges. At the inflection point, a surplus in revenue would be realized. In other words, a higher tax increase is required in earlier years than would otherwise be required if the debt repayment obligation could be more closely matched with the projected revenue stream.

In order to cover the shortfall, a tax increase of 2.1% is projected based on the City's preliminary capital cost obligation and assuming 100% of TIF revenue is allocated for debt repayment. Assuming the more conservative allocation of 50% of TIF revenue, as recommended, a tax increase of 3.0% is projected. Table 16 summarizes the required tax increase based on traditional debenture financing, assuming an allocation of 100% of TIF revenue, 50%, and using no TIF revenue.

Table 16: Tax Increase Requirement based on Traditional Debenture Financing

TIF Capture	Tax Impact
100%	2.1%
50%	3.0%
0%	3.9%

Although rarely used in Canada, revenue-matched debt can be an alternative debt vehicle to finance public infrastructure projects. The attractiveness of revenue-matched debt instruments is that the debt repayment stream could be structured to require smaller payments in the earlier years, and increase over time to match the projected tax increment revenue from new development along the SmartTrack corridor. This closer matching of payments with revenues reduces the need for tax increases. For example, a tax increase of 2.0% is estimated through this approach (assuming an allocation of 50% of TIF revenues), compared with 3.0% using traditional debenture financing, as shown Table 17.

Table 17: Tax Increase Requirement based on Revenue Matched Financing

NPV \$M's	TIF @ 100%	TIF @ 50%
TIF	857.1	428.6
DC	<u>252.1</u>	<u>252.1</u>
<i>Proceeds from Revenue-Matched Debt</i>	1,109.2	680.6
Cost	<u>1,558.6</u>	<u>1,558.6</u>
<i>Residual to be Financed</i>	(449.4)	(878.0)
Debenture Borrowing Required	449.4	878.0
Debt Charge	27.6	53.9
<i>Equivalent Tax Increase</i>	1.0%	2.0%

The challenge with revenue-matched debt instruments is that lenders recognize that the revenue streams are uncertain, and will typically require a payment guarantee or would significantly discount the anticipated revenue streams commensurate with the risk. In other words, the amount they would be willing to lend for the rights to the revenue would be significantly less than the projected amount of the revenue stream. For this reason, public sector entities are usually required to provide a payment guarantee, and as such, assume the risk of the revenue stream. Another challenge with revenue-matched debt instruments as it relates to TIF revenues is that under current legislation they cannot be secured by municipal property tax revenue outside of the *Tax Increment Financing Act*. Corporate Finance staff are exploring the feasibility of revenue-matched financial instruments to finance SmartTrack, which would be reported on once final costs of SmartTrack are known and a commitment by City Council to proceed is required to be made.

This report recommends that the Deputy City Manager and Chief Financial Officer be directed to advance the development of the capital funding and financing strategy for SmartTrack, consisting of a combination of tax increment, development charge and tax-supported debt financing, as well as other potential revenue sources such as land sales. Staff will report back to City Council with the recommended implementation of this strategy once the capital cost estimates have been refined to a Class 3 level and City Council confirms its definitive commitment to the project.

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ATTACHMENTS

- Attachment 1 – Summary Term Sheet
 - Appendix A- Stage Gate Process
- Attachment 2 – City Funding and Financing Strategy
- Attachment 3 – Regional Express Rail Grade Separations Planning and Technical Update
- Attachment 4 – New SmartTrack and RER Stations Planning and Technical Update
- Attachment 5 – Eglinton West LRT Planning and Technical Update
- Attachment 6 – Confidential- Georgetown South Project
- Attachment 7 – Presentation to Executive Committee