

Toronto's Transit Expansion Program - Update and Next Steps

Date: April 3, 2019

To: Executive Committee

From: City Manager

Wards: All

SUMMARY

In 2016 City Council approved a transit network plan that identified projects required to address capacity constraints on the existing subway network (specifically Line 1), support future growth and city building objectives, and provide rapid transit service to underserved areas of Toronto. Over the last several years, \$224 million has been invested to advance City Council's priority projects. As a result, several projects will be ready to go to procurement and construction in 2019/2020, including the SmartTrack Stations Program, the Line 2 East Extension Project ("L2EE"), the Exhibition Loop-Dufferin Loop Streetcar Connection (a priority segment of the Waterfront Transit Network Plan), and the Relief Line South. Other key projects still in early planning phases continue to progress as well, such as Bloor-Yonge Capacity Improvement, Eglinton East and West LRT extensions, and the Waterfront Transit Network Plan.

This is a critical moment to build transit, and to leverage the investment to date in planning, design and engineering work to achieve that objective. This report provides a comprehensive overview of the current status of Toronto's transit expansion program, and seeks City Council direction to advance progress on building the network.

In 2018, the Government of Canada and the Province of Ontario announced an agreement on Phase 2 of the Investing in Canada Infrastructure Program ("ICIP"), which included \$4.897 billion in federal funding and \$4.040 billion in provincial funding for public transit infrastructure projects in Toronto. The Public Transit Infrastructure Fund Phase 2 ("PTIF2") is a ten year program (2018-2028) under the ICIP designed specifically for projects that build the transit network. The PTIF2 program is focused on delivering the following outcomes:

- Improved capacity of public transit infrastructure;
- Improved quality and/or safety of existing or future transit systems; and
- Improved access to a public transit system.

Funding under PTIF2 has been allocated to Toronto based on ridership. Under the PTIF2 program, both the provincial and federal government must approve projects submitted by the City in order to receive funding.

The City is well positioned to leverage this intergovernmental funding opportunity and invest in projects that will address a key City and TTC priority: ensuring the safety and reliability of the TTC system. This report provides City Council with recommended priorities for the City of Toronto's federal funding allocation under the PTIF2 program.

A total of \$1.245 billion in federal funding has already been prioritized by City Council:

- \$0.660 billion to the **Line 2 East Extension** project (as approved in 2013); and
- \$0.585 billion to the **SmartTrack Stations Program** (as approved in 2018).

The L2EE project is required to replace the Line 3 system that has been in service for over 30 years. The L2EE project addresses broader city-building objectives, but is also critical for the purpose of replacing an asset at the end of its useful life. The SmartTrack Stations Program leverages the provincial investment in GO Expansion to address both growth and city-building objectives and also helps to provide additional transit choice to downtown.

This report recommends that City Council confirm the Relief Line South and Bloor-Yonge Capacity Improvement as priority projects for the remaining \$3.651 billion of the City's federal funding allocation under the PTIF2 program. Specifically:

- \$3.151 billion in federal funding for the **Relief Line South**; and
- \$0.500 billion in federal funding for the **Bloor-Yonge Capacity Improvement** project.

Today, Line 1 has an average daily weekday ridership of over 730,000 riders, making it one of the busiest lines in North America. The Relief Line South, Bloor-Yonge Capacity Improvement project and other related capital enhancements included in the Line 1 Capacity Requirements Program, are critical to reducing overcrowding and congestion on the Line 1 subway, and are necessary to ensure the system is able to safely accommodate future network demand as a result of both population growth and expansion.

The federal funding contributions requested for the four projects comprise the City of Toronto's total federal funding allocation of \$4.897 billion under the PTIF2 program.

The recommendations for allocating federal funding are based on the urgent need to address Line 1 capacity and safety as a first priority. Advancing projects that are procurement and construction-ready is also an important consideration in order to ensure investments in planning, design and engineering are utilized, and currently resourced project teams can be leveraged to continue momentum in building transit.

The City is continuing to hold discussions with the Province on the proposed realignment of transit responsibilities between the parties (i.e., "Upload"). The outcomes of this discussion will inform provincial and municipal cost sharing for subway infrastructure projects identified above for federal funding. It is important to note that recommendations in this report are agnostic of asset ownership and are based on what is required to best serve the transit network and the safety of riders.

In order to take advantage of future intergovernmental funding opportunities, the City must continue to advance projects through the early planning and design phases of the project lifecycle in order to have projects that are "shovel ready". The Waterfront Transit Network and Eglinton LRT extension projects support the City's long-term city building objectives as outlined in the Toronto Official Plan.

This report makes the following recommendations on key city building projects:

- Advance preliminary design and engineering ("PDE") of the Streetcar Loop option for the **Union Station-Queens Quay Link and East Bayfront LRT**, an important component of the Waterfront Transit Network; and
- Request Metrolinx to partner with the City to develop a plan to undertake PDE for two phases of the **Eglinton East LRT**: (i) an easterly extension of Line 5 (Eglinton Crosstown) from Kennedy Station to University of Toronto Scarborough ("UTSC"); and (ii) an extension to Malvern Centre.

Staff will be reporting in the fall of 2019, prior to the 2020 budget process, on updated funding and financing strategies for projects that are not currently contemplated for funding under the PTIF2 program. The outcome of ongoing discussions with the Province will inform that strategy.

The Province of Ontario communicated to the City on March 22nd and March 26th, 2019 in letters from the Deputy Minister of Transportation, and the Special Advisor to Cabinet – Transit Upload, new plans for Toronto's transit network, and identified proposed changes to the Relief Line South and Line 2 East Extension – two projects ready to advance to procurement and construction in 2019/2020 based on current plans. This report identifies additional information required from the Province, as well as due diligence that will need to be undertaken to assess the potential cost, schedule and other impacts associated with the new transit proposals. The Province and/or Metrolinx have shared limited information to date.

The City remains committed to building the transit network and entering into a constructive dialogue with the Province. To assist in ongoing discussions with the Province, it is important to establish Toronto's key interests and objectives – a safe and reliable transit service for Toronto transit riders. This report lays out clear priorities for City Council's consideration with respect to the expansion of Toronto's transit network. Given the Province's role in identifying projects for submission to the federal government under the PTIF2 program, further discussion with the Province will be required.

This report was prepared in consultation with the Chief Executive Officer, Toronto Transit Commission.

RECOMMENDATIONS

The City Manager recommends:

Public Transit Infrastructure Fund Phase 2 Federal Funding Allocation

1. City Council direct the City Manager to advise the Government of Canada and the Province of Ontario of the City of Toronto's priority transit expansion projects for its allocation of \$4.897 billion in federal funding under the Investing in Canada Infrastructure Program Public Transit Infrastructure Fund Phase 2 program as follows:
 - a. \$0.660 billion as previously approved by City Council in October 2013 (CC39.5) for the Line 2 East Extension project as described in Attachment 2;
 - b. \$0.585 billion as previously approved by City Council in April 2018 (EX33.1) for the SmartTrack Stations Program;
 - c. \$3.151 billion for the Relief Line South as described in the October 2018 Environmental Project Report as approved by the Minister of Environment, Conservation and Parks; and
 - d. \$0.500 billion for the Bloor-Yonge Capacity Improvement project as described in Attachment 1.
2. City Council direct the City Manager to advise the Government of Canada that cost-matching requirements of the Province of Ontario and the City of Toronto under the Investing in Canada Infrastructure Program Public Transit Infrastructure Fund Phase 2 program will be determined through ongoing discussions as part of the Toronto-Ontario Transit Responsibilities Realignment Review.
3. City Council authorize the Mayor and the City Manager to negotiate and enter into agreements and amendments as may be required with the Province of Ontario and the Government of Canada for the Investing in Canada Infrastructure Program Public Transit Infrastructure Fund Phase 2, in accordance with these recommendations and upon such terms satisfactory to them in consultation with the City Solicitor.

Line 2 East Extension Project

4. City Council approve \$3.887 billion, which includes \$3.796 billion for the base project scope, \$0.071 billion for scope enhancements and \$0.020 billion for a management reserve, for the one-stop Line 2 East Extension project as described in Attachment 2, and request the Chief Executive Officer, Toronto Transit Commission to proceed with procurement and construction of the project, subject to:

- a. the Province of Ontario providing written support for the Line 2 East Extension Project as outlined in Attachment 2 and confirmation of the Province of Ontario's previous funding commitment by May 15, 2019; and
 - b. the Mayor and the City Manager entering into contribution agreements for the receipt of federal and provincial funding by November 30, 2019, on terms and conditions satisfactory to them in consultation with the City Solicitor.
5. Subject to fulfillment of the conditions set out in Recommendation 4, City Council:
- a. amend the Council Approved 2019-2028 Capital Budget and Plan for the Line 2 East Extension project to commit total project costs of \$3.705 billion with cash flows of: \$0.117 billion in 2019, \$0.241 billion in 2020, \$0.280 billion in 2021, \$0.588 billion in 2022, \$0.578 billion in 2023, \$0.694 billion in 2024, \$0.610 billion in 2025, \$0.200 billion in 2026, \$0.174 billion in 2027 and \$0.223 billion in 2028; and
 - b. approve the project to be funded from \$0.660 billion Investing in Canada Infrastructure Program Public Transit Infrastructure Fund Phase 2, \$1.990 billion in provincial funding, \$0.258 billion in recoverable debt from XR2125 Development Charge Reserve Fund SSE Transit and \$0.797 billion in recoverable debt from XR1725 Scarborough Transit Reserve Fund.
 - c. authorize the Director, Real Estate Services to:
 - i. continue negotiations to acquire the Project Requirements, and if unsuccessful, City Council authorize the initiation of expropriation proceedings for the Property Requirements as set out in Appendix "A" to Attachment 2 and as illustrated on the Property Sketches attached as Appendix "B" to Attachment 2 (collectively the "Project Requirements") for the purposes of the construction, operation and maintenance of the Line 2 East Extension and all works and uses ancillary thereto; and
 - ii. execute, serve and publish Notices of Application for Approval to Expropriate Land for the Project Requirements, to forward to the Chief Inquiry Officer any requests for inquiries received, to attend the hearing to present the City's position and to report the Inquiry Officer's recommendations to City Council for its consideration.
6. City Council amend Section 591-2.1 of Chapter 591, Noise, of The City of Toronto Municipal Code to add the Line 2 East Extension to the list of Major Transit Projects provided that the exemption for government work contained in item EC3.6 is not adopted by City Council.
7. City Council request the following should part a. or b. of recommendation 4 not be met:

- a. request the Province of Ontario to provide written confirmation of the station locations and the terminus of the proposed three-stop subway extension referenced in the March 22 and 26, 2019 letters from the Special Advisor to Cabinet – Transit Upload and the Deputy Minister, Ministry of Transportation to the City Manager and Chief Executive Officer, Toronto Transit Commission, included as Attachment 1 and 2 to the supplementary report from the City Manager on *Engagement with the Province on Toronto's Transit System - Q1 2019 Status Report* (EX3.1a); and
- b. direct the City Manager in consultation with the Chief Executive Officer, Toronto Transit Commission and the Chief Transit Expansion Officer, Toronto Transit Commission to report to City Council on an assessment of the cost, schedule, and operational impacts to the Toronto Transit Commission network (e.g., Line 3 Scarborough and bus operations) associated with changing the scope and/or delivery model of the Line 2 East Extension project, and principles to guide future discussions with the Province of Ontario.

Waterfront Transit - Queens Quay Link and East Bayfront Light Rail Transit

8. City Council approve the Streetcar Option as the preferred technology for the Union Station-Queens Quay Link as described in Attachment 3, thereby concluding the initiation and development phase of the project.
9. City Council request the Deputy City Manager, Infrastructure and Development Services, in partnership with the Chief Executive Officer, Toronto Transit Commission and Waterfront Toronto, to commence the preliminary design and engineering phase of the Union Station-Queens Quay Link and the extension of the Light Rail Transit to East Bayfront in 2020, and report back to City Council when a Class 3 cost estimate and Level 3 schedule have been developed.

Eglinton East Light Rail Transit

10. City Council request Metrolinx to work with the City to develop a plan to address the following matters:
 - a. the phasing for the Eglinton East Light Rail Transit extension of Line 5 (Eglinton Crosstown), including a first phase to University of Toronto Scarborough as described in Attachment 4 and a second phase to Malvern Centre;
 - b. the location and construction timing of the Maintenance and Storage Facility as discussed in Attachment 4;
 - c. commencing the preliminary design and engineering phase of the Eglinton East Light Rail Transit project; and

request the Deputy City Manager, Infrastructure and Development Services to report back to City Council with recommended plan, schedule, cost and funding requirements for consideration in the City's 2020 budget process.

Eglinton West Light Rail Transit

11. City Council direct the Deputy City Manager, Infrastructure and Development Services to report back to Executive Committee on next steps for the Eglinton West Light Rail Transit project once Metrolinx and the Greater Toronto Airports Authority have completed the planning and analysis of the full extension from Mount Dennis Station to Pearson International Airport.
12. City Council request the Chief Planner and Executive Director, City Planning and the General Manager, Transportation Services, in partnership with the Ministry of Transportation, to study potential solutions to existing and future traffic congestion on Eglinton Avenue West and other streets in central Etobicoke and report back by the third quarter of 2020.

General

13. City Council request the City Manager and the Chief Financial Officer and Treasurer to report back in the fall of 2019 prior to the launch of the 2020 Budget process, when project cost estimates have achieved higher levels of refinement and a potential decision relating to the subway upload has been made, on funding and financing options for the Relief Line South, Bloor-Yonge Capacity Improvement and the balance of the Transit Expansion prioritized projects including but not limited to:
 - a. the preliminary design and engineering phase of:
 - i. Waterfront Transit Network – Union Station-Queens Quay Link and the extension of the Light Rail Transit to East Bayfront; and
 - ii. the Eglinton East Light Rail Transit; and
 - b. the procurement and construction phase of the Waterfront Transit Network – Exhibition Place (Exhibition Loop to Dufferin Gate Loop).
14. City Council forward this report to the Toronto Transit Commission Board, the Province of Ontario, Metrolinx, the Greater Toronto Airports Authority, York Region, York Region Rapid Transit Corporation, the City of Mississauga, and Infrastructure Canada for information.

FINANCIAL IMPACT

Public Transit Infrastructure Fund Phase 2 (PTIF2)

The City of Toronto has been allocated \$4.897 billion in federal funding under PTIF2. This includes the federal government's prior commitment of \$660 million to the Line 2

East Extension project. Under the program, the federal government will contribute up to 40% of eligible costs. The Province is required to contribute a minimum of 33% of the project costs, with the balance to be funded by municipalities.

Under the PTIF2 program, the Province is to contribute no less than \$4.040 billion (33%) in new funding.¹ The Province's prior commitment to the L2EE project is not included. Assuming the Province contributes only the minimum 33%, the balance of up to \$3.305 billion (27%) will be the City's responsibility in order to fully leverage the intergovernmental funding available to Toronto under the program (Table 1).

Table 1. Funding Scenario under PTIF2 (40-33-27 Scenario)²

	Funding Share (\$M)	% of Total
Federal	4,896.6	40%
Provincial	4,039.7	33%
City Share	3,305.2	27%
Total	12,241.4	100%

The information and funding details provided in this report are based on the existing alignment of responsibilities including ownership status of the projects. Any change resulting from ongoing discussions with the Province related to the "upload" of subway infrastructure may alter the funding and financing details for the City's transit expansion program.

This report recommends that City Council request the City Manager to advise the Federal and Provincial governments of the City's priorities under the program. The recommended priorities for federal PTIF 2 funding are as follows:

- **\$0.660 billion** as previously approved by City Council in October 2013 (CC39.5) for the Line 2 East Extension project as described in Attachment 2;
- **\$0.585 billion** as previously approved by City Council in April 2018 (EX33.1) for the SmartTrack Stations Program;
- **\$3.151 billion** for the Relief Line South as described in the October 2018 Environmental Project Report and described in Attachment 1; and
- **\$0.500 billion** for the Bloor-Yonge Capacity Improvement project, as described in Attachment 1.

These four projects will maximize the City of Toronto's \$4.897 billion federal funding allocation under PTIF2.

City Council approved a funding and financing strategy for the L2EE and SmartTrack Stations Program that assumed federal funding from the PTIF2 Program. A total of

¹ <https://news.ontario.ca/moi/en/2018/03/under-the-180-billioninvesting-in.html#>

² Ibid.

\$1.245 billion in federal funding under the PTIF2 program has already been confirmed by City Council for these two projects.

The Relief Line South and Bloor-Yonge Capacity Improvement project have not completed the preliminary design and engineering phase ("PDE"), and therefore have Class 5 cost estimates. The federal funding amount requested for each is based on the following:

- The remaining \$3.652 billion in PTIF2 federal funding for the City of Toronto; and
- The best practice to include a provision for projects that have a Class 5 estimate, with an expected accuracy range of -50% to +100%.

Table 2 shows the total project cost estimates for the four projects recommended for inclusion in the PTIF2 program.

Table 2. Total Project Cost Estimates (\$ millions)

Project	Class Estimate ⁵	Total Project Cost	2018 LTD Actuals/PDE	PDE	Procurement and Construction
Line 2 East Extension ¹	3	3,887.5	182.5		3,705.0
SmartTrack Stations Program ²	3	1,491.9	22.0		1,469.9
Bloor-Yonge Capacity Improvements ³	5	1,071.3	4.4	17.6	1,049.3
Relief Line South ⁴	5	7,224.4	15.4	409.7	6,799.3
TOTAL PTIF2 PROJECT		13,675.1	224.2	427.3	13,023.5

Notes:

1. L2EE cost estimates in \$YoE and escalation factors prepared by TTC – does not include lifecycle and operations / maintenance costs. Estimate peer reviewed. See Attachment 2 for details.
- 2 SmartTrack Stations Program Procurement and Construction costs include a capped contribution of \$1,463 million to Metrolinx. Cost estimate prepared by Metrolinx (see EX33.1).
3. Bloor-Yonge Capacity Improvements cost estimates in \$YoE and escalation factors prepared by TTC – does not include lifecycle and operations / maintenance costs.
4. Relief Line South cost estimates in \$YoE and escalation factors prepared by TTC – does not include lifecycle and operations / maintenance costs.
5. Class 5 Estimates up to 0-2% design, with expected accuracy range of -50% to + 100%. Class 3 Estimates have a design range of 10-40% and accuracy range of -20 to +30%. Class 3 estimates are required for budgeting.

Provincial and municipal cost-matching requirements under the PTIF2 program will be determined through ongoing discussions as part of the Toronto-Ontario Transit Responsibilities Realignment Review. Table 3 shows the funding assumed by the three orders of government under the PTIF2 program.

To date, the City has committed funding of \$885 million for the SmartTrack Stations Program out of the City's assumed share of \$3.305 billion under the PTIF2 program. The balance of the City's share of \$2.420 billion is currently unfunded. This report recommends that the Chief Financial Officer and Treasurer report back prior to the 2020 Budget process on the funding and financing strategies for the PTIF2 priority projects

once costs have been refined and the results of the upload discussions are better known.

Table 3. Funding Estimates (\$ millions)

Project	PTIF2 Program Funding (40-33-27 Scenario)				Other Funding			Total Funding
	Federal	Province	City	Total	Federal	Province	City	
Line 2 East Extension ¹	660.0			660.0		1,990.0	1,237.5	3,887.5
SmartTrack Stations Program ²	585.0		884.9	1,469.9	11		11	1,491.9
Bloor-Yonge Capacity	419.7	337.8	313.8	1,071.3				1,071.3
Relief Line South ³	2,719.7	2,666.3	1,413.3	6,799.3	27.5	207.5	190.1	7,224.4
Sub-Total Prior to Provisions	4,384.4	3,004.1	2,612.0	10,000.5	38.5	2,197.5	1,438.6	13,675.1
Bloor-Yonge Provision ⁴	80.7	195.6		276.2				276.2
Relief Line Provision ⁴	431.5	840.0	693.2	1,964.7				1,964.7
Sub-Total Provision	512.1	1,035.6	693.2	2,240.9				2,240.9
Total	4,896.6	4,039.7	3,305.2	12,241.4	38.5	2,197.5	1,438.6	15,915.9
As % Total PTIF2	40%	33%	27%	100%				

Notes:

- Other assumed funding includes Provincial LRT funding (\$1,990M or \$1,480M in 2010\$), City share includes recoverable debt funded from Scarborough Tax Reserve and Development Charges.
- Committed funding includes Federal PTIF1 and City PTIF1 co-payment.
- Committed funding includes Federal PTIF1, City PTIF1 co-payment, and Provincial/Metrolinx Relief Line PDE work; includes \$325 million in added funding to implement a schedule improvement strategy/early work opportunities. The City has identified \$162.5 million; remaining 50% is required from partners.
- Bloor-Yonge provision (26% of costs) and Relief Line provision (29% of costs) are included to maximize federal funding and to account for the fact that each has a Class 5 cost estimate.

The following provides a summary of the current funding and financing strategy by priority project.

SmartTrack Stations Program

In April 2018 City Council approved funding of \$1.469 billion for the procurement and construction of the incremental infrastructure associated with the SmartTrack Stations Program. The financial strategy included an assumed PTIF2 federal allocation of \$585 million and a City contribution of \$885 million (see 2018.EX33.1 for details). The provincial contribution to the SmartTrack Stations Program is the investment in the GO Expansion program along the Kitchener and Stouffville/Lakeshore East GO corridors in order to support the service concept for the SmartTrack Stations Program. The project

is ready to be procured for construction by Metrolinx, who will own the assets, pending the execution of an amended Agreement in Principle with the Province (see Attachment 1). The City has been requesting confirmation from the Province and has yet to receive a formal response. A non-binding Memorandum of Understanding ("MOU") to enter into a final agreement was signed between the parties in May 2018.

Line 2 East Extension Project

City Council approved a \$3.56 billion funding and financing strategy for the Line 2 East Extension project in 2013 that included a federal commitment of \$660 million. These funds are included in the federal share of the PTIF2 program. The Province committed to fund \$1.48 billion (2010\$, or escalated to \$1.99 billion). The City funded the balance of \$910 million through development charges and the SSE tax levy. The City is responsible for any future cost overruns.

The PDE phase of the project is complete, and the project is ready to proceed to procurement and construction, subject to concurrence from intergovernmental partners and securing definitive contribution agreements.

The Class 3 estimate for the project is \$3.887 billion (see Attachment 2). The Class 3 estimate includes cost and schedule risk analysis elements, additional scope requirements to address City Council direction, and optional elements such as public realm. The project is to be procured through a traditional design-bid-build approach. See Attachment 2 for a detailed breakdown on the estimate. A third party international consultancy firm – Turner and Townsend – has peer reviewed the estimate and concluded that it is sound (see Appendix C to Attachment 2).

The updated City share – \$1.237 billion (see Table 4), an increment of \$327 million – will be financed through recoverable debt. The updated financial analysis indicates the debt service costs can be accommodated within the previously approved funding strategy of the 1.6% dedicated SSE tax levy and through development charges.

This accommodation is possible because the funding capacities of development charges for the project and the SSE tax levy available to service the debt have grown in the six years since the project and original funding plan was approved by City Council; the updated Development Charges By-law adopted by City Council in 2018 recovers a much higher amount than was previously forecast; the cost of debt is lower now than it was in 2013; the timing of expenditures is further in the future than was originally forecast; and interest revenue earned from the SSE tax levy is to be allocated to the reserve fund established for this project (as presented in Table 4). Further, updates of the City's Development Charges By-law to account for the updated cost estimate will potentially raise up to \$90 million in additional funding to meet the City's funding obligations for the project.

The increase in available funding is summarized in Table 4. This report recommends amendments to the Council Approved 2019-2028 Capital Budget and Plan for this project for the balance of cash flows.

Table 4. Updated L2EE Funding Assumptions (\$ millions)

	2013 Funding Plan	2019 Funding Plan	
Cost allocation			Change
Federal	660	660	0
Provincial	1,990	1,990	0
City share	910	1,237	327
Total estimated cost	3,560	3,887	327
Funding Assumptions of City Share:	Original Assumptions	Updated Assumptions	Additional Debt Supported
Development Charges	165	270	105
SSE Tax Levy (1.6%) Revenue	38 annually	41 annually	55
Cost of Borrowing	4.3%	3.5% ⁽¹⁾	65
SSE Reserve Fund Interest Earnings	0	2 average annually	40
Total			265
Note: (1) While the current cost of borrowing is 3.1%, the above table uses a 15% allowance for higher rates in the future to be conservative.			

Other Transit Priority Projects

Pending completion of discussions with the Province on the potential realignment of transit responsibilities, staff will be reporting in the fall of 2019 prior to the 2020 Budget process on updated financing and funding strategies for the PTIF2 priorities discussed above. This report will also address funding for other transit expansion projects, including but not limited to:

- The PDE phase of the Waterfront Transit Network – Union Station-Queens Quay Link and East Bayfront LRT and the Eglinton East LRT; and
- The procurement and construction phase of the Waterfront Transit Network – Exhibition Loop to Dufferin Gate Loop.

See Attachments 1 through 5 for further information.

Potential Risks

Approximately \$224 million has been spent to date to advance Toronto's transit priorities. Changes in direction, be it in scope, technology, project delivery or funding create uncertainty and risk. These risks have the potential for delays in the delivery of much-needed public infrastructure and additional costs. The risks are not confined to financial consequences but also relate to reputational risks in public confidence in government.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

The following summarizes key City Council decisions related to the program. Each project attachment contains detailed decision history specific to each project.

In July 2016, City Council considered the report *EX16.1 Developing Toronto's Network Plan to 2031* and advanced key projects that comprise the network plan, including SmartTrack Stations Program, Eglinton West and East LRT extensions, Line 2 East Extension, Waterfront Transit Network, and the Relief Line.

Link: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.EX16.1>

In November 2016, City Council considered the report *EX19.1 Transit Network Plan Update and Financial Strategy*, and endorsed a Summary Term Sheet that established principles for cost-sharing on a number transit expansion initiatives, including the SmartTrack Stations Program, Eglinton West LRT, Toronto LRT Program, etc.

Link: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.EX19.1>

In December 2016, City Council considered the report *EX20.4 Federal Infrastructure Funding – Phase 1 and 2*, and confirmed key priorities for consideration under Phase 2 Federal Infrastructure Funding, including a number of transit projects under the public transit stream: SmartTrack (including Eglinton West LRT), Relief Line South, Eglinton East LRT, and Waterfront Transit Network.

Link: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.EX20.4>

In March 2017, City Council considered *EX 23.1, Next Steps on the Scarborough Subway Extension*, which included approval for the extension of Line 2 from Kennedy Station to Scarborough Centre via the McCowan alignment, including the station concept, tunnel at-grade facilities and the Triton bus terminal. Council requested staff to report back with a Class 3 cost estimate to proceed to procurement and construction.

Link: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.EX23.1>

In May 2017, City Council considered *EX25.1 Advancing Planning and Design for the Relief Line and Yonge Subway Extension* and authorized staff to enter into Memoranda of Understanding with Metrolinx to advance the PDE phase of the Relief Line South and Yonge Subway Extension (YSE). City Council directed further study on Line 1 demand, and reaffirmed the position that the YSE cannot proceed unless construction of the Relief Line South, plus improvements to the Bloor-Yonge station, have been fully funded with a firm schedule for completion; if both projects proceed concurrently, the Relief Line South must be in operation first. The Bloor-Yonge station was also identified as a priority for intergovernmental funding.

Link: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.EX25.1>

In April 2018, City Council considered *EX33.1 Implementation of the SmartTrack Stations Program and the Metrolinx Regional Express Rail Program* and approved a project budget of \$1.470 billion, including a contribution of up to \$1.463 billion to Metrolinx, for the SmartTrack Stations Program subject to the terms and conditions described in Attachment 1 of the report. The approved funding and financing strategy includes \$0.585 billion in federal funding under PTIF2.

Link: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.EX33.1>

In December 2018, City Council considered *CC1.6 Engagement with the Province on Toronto's Transit System*, which authorized the City Manager to negotiate a joint Terms of Reference for a discussion with the Province on the realignment of transit responsibilities between the parties. City Council further authorized the City Manager to engage in the discussion with the Province based upon the joint Terms of Reference.

Link: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.CC1.6>

Attachment 2 - Guiding Principles:

<https://www.toronto.ca/legdocs/mmis/2019/cc/bgrd/backgroundfile-122443.pdf>

On March 27, 2019 City Council considered *EX3.1 Engagement with the Province on Toronto's Transit System – Q1 2019 Status Report*, and allocated funding for resources required to support engagement with the Province. City Council also directed staff to report back to the Executive Committee on the four transit priorities identified by the Province of Ontario in its letters dated March 22, 2019 and reiterate to the Province of Ontario City Council's firm commitment to delivering the Relief Line South as an urgent priority investment and that the Yonge Subway Extension not lead to delaying the Relief Line beyond the accelerated 2029 anticipated completion date.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.EX3.1>

ISSUE BACKGROUND

Importance of the Transit Network to Toronto

The City and TTC have a key role in determining Toronto's transit network priorities. The TTC provides the critical service of connecting the diverse communities of Toronto to economic and social opportunities through an integrated network of subway, bus, streetcar and Wheel-Trans services. The TTC serves approximately 530 million riders annually; accounting for roughly 85 per cent of the Greater Toronto and Hamilton Area ("GTHA") Region's transit riders. The TTC network complements a regional commuter rail network, GO Transit, as well as intersects with other local transit service providers to serve cross-municipal boundary trips.

Toronto has the second highest public transit commuter mode share in North America. Approximately 37 per cent of Toronto residents rely on transit infrastructure to make important connections to employment, school and community and social services. Demand on the TTC network will continue to increase given anticipated growth in the City and region over the coming decades, particularly in Toronto's downtown core.

As Canada's largest and busiest transit agency, the TTC operates an extensive service network that includes:

- Four rapid transit lines, with 75 stations and more than 870 rapid transit cars;
- 10 streetcar routes serving the busiest downtown surface corridors;
- more than 150 bus routes, all but three of which serve subway stations; and
- Wheel-trans – a comprehensive paratransit service.

Approximately two-thirds of the 1.7 million trips made each weekday on the TTC system are made with at least one ride on the subway system, with other parts of the trip made by TTC bus or streetcar. Further, 89 per cent of the 1.7 million daily trips are made entirely within Toronto, comprising more than two-thirds of all daily transit riders in the GTHA.

The TTC system is a critical service in Toronto today, supporting the City's economic vitality, employment growth, and social cohesion. Further development of the transit network is important for the City to achieve a broad range of city-building objectives – economic, social and environmental. There is a strong reliance on the transit network in Toronto, with approximately 46 per cent of trips in the downtown and 28 per cent of all trips citywide made by transit. This compares with mode shares of 4-8 per cent in nearby regions of Durham, York, Peel, Halton, and Hamilton.³

An expanded, connected transit network is central to the City being able to respond to current growth and development, and to plan for the expected 500,000+ new residents⁴ of Toronto over the coming decades.

Toronto's Transit Network Plan

In March 2016, City Council adopted Toronto's Transit Network Plan: Phase 1, which contained a 2031 transit network plan developed using the City's Rapid Transit Evaluation Framework. Since that time, Council has advanced the development of the City's network through a number of Council reports, directions, funding decisions, and provincial agreements. These projects include the Line 2 East Extension Project, Relief Line South, SmartTrack Stations Program, Waterfront Transit, and Eglinton East and West LRT Extensions. The City and TTC are also working with York Region and Metrolinx to advance the PDE phase of the Yonge Subway Extension (Line 1 North Extension).

A longer-term transit network plan is also being developed to identify infrastructure required to serve future needs, including improving the overall transportation network (i.e., roadways and transit). Future growth within Toronto (both residential and employment) will be steered to areas which are well served by transit. The City and TTC also continue to work closely with Metrolinx to implement the 2041 Regional Transportation Plan ("RTP") for the GTHA, which was adopted by the Metrolinx Board in March 2018.

Project Lifecycle and Stage-Gating

As noted above, City Council identified priority projects to advance through the project lifecycle. The project lifecycle can generally be described in three phases:

- Initiation and Development (i.e., concept screening and early planning);
- Preliminary Design and Engineering (i.e., design preferred option); and

³ 2016 Transportation Tomorrow Survey. <http://dmg.utoronto.ca/transportation-tomorrow-survey/tts-reports>

⁴ Growth Plan for the Greater Golden Horseshoe. http://placestogrow.ca/index.php?Itemid=14&id=430&option=com_content&task=view

- Procurement and Construction (i.e., delivery).

As a project moves through the three phases, project definition becomes more refined and the information used as the basis for developing a cost estimate is more mature.

- A *Class 5* cost estimate is typical when starting the initiation and development phase, where the project is conceptual (0-2% design level). This an order of magnitude estimate to inform the decision of whether or not to continue to study an option.
- A *Class 3* cost estimate is based on PDE work (10-40% design level), and is the estimate class recommended when establishing a project budget for procurement and construction. A *Class 3* estimate should be used to inform full funding commitment decisions.

As a result of investment made to date, a number of transit expansion projects will be ready to move to procurement and construction in the next year. The following projects will complete the PDE phase and have a *Class 3* cost estimate:

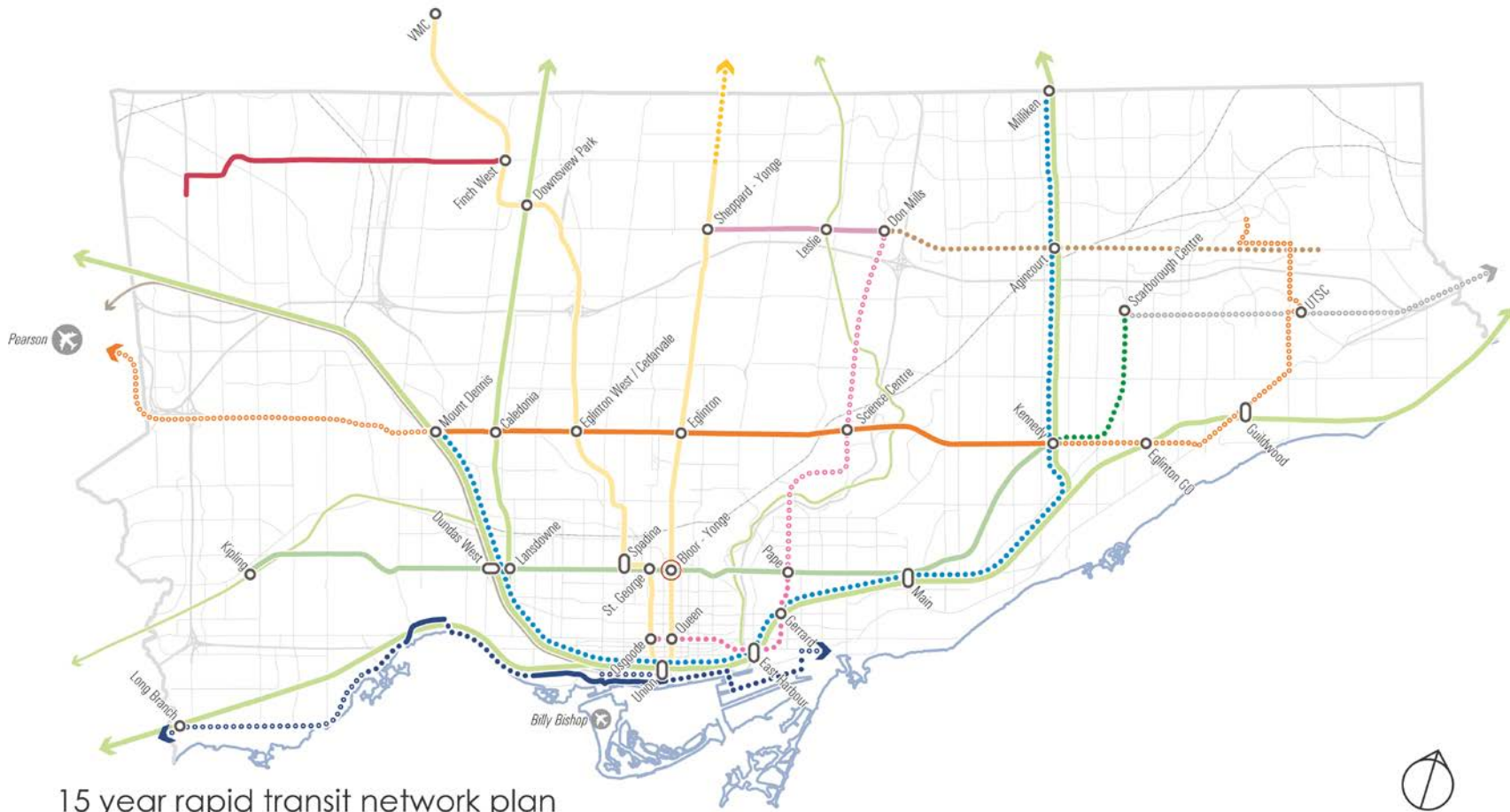
- SmartTrack Stations Program – completed April 2018;
- Line 2 East Extension Project (one stop) – completed April 2019;
- Exhibition Loop – Dufferin Loop Streetcar Connection (Waterfront Transit Network) – expected in Q4 2019; and
- Relief Line South (current plan) – expected in Q1 2020.

Attachment 1 of this report includes an update on the status of transit expansion projects and programs currently underway to expand Toronto's transit network. Attachment 1 also provides further details on the various phases of the project lifecycle including description of cost estimate classifications.

The purpose of the report is to provide a comprehensive update on all projects currently in development. This report also contains recommendations to continue to advance projects through the project lifecycle. The following projects have reached a decision gate in this report and are described in more detail below, and in the following attachments:

- Attachment 2 – Line 2 East Extension
- Attachment 3 – Waterfront Transit Network – Union Station-Queens Quay Link and East Bayfront LRT
- Attachment 4 – Eglinton East LRT
- Attachment 5 – Eglinton West LRT

Figure 1 shows Toronto's Transit Network plan map. Figure 2 describes where current transit expansion projects and programs are in the project lifecycle.



15 year rapid transit network plan

existing	procurement & construction	preliminary design & engineering	initiation & development	interchange stations	Notes
<ul style="list-style-type: none"> Line 1 Yonge-University Line 2 Bloor-Danforth Line 4 Sheppard UP Express GO 	<ul style="list-style-type: none"> Line 5 - Eglinton Finch W LRT GO Expansion 	<ul style="list-style-type: none"> SmartTrack Stations Relief Line North Relief Line South Line 2 East Extension Yonge North Subway Extension Sheppard LRT/RT 	<ul style="list-style-type: none"> Relief Line North Eglinton West LRT Eglinton East LRT Waterfront Transit Durham-Scarborough BRT Bloor-Yonge Station Capacity Improvement 	<ul style="list-style-type: none"> interchange stations 	<p>* City Council, at its meeting of May 7, 8, 9, 2013, resolved to support the extension of the Bloor-Danforth Subway from Kennedy Station to north to Scarborough Town Centre and Sheppard Avenue in place of the Scarborough RT Extension</p> <p>Note: The alignment and stations of projects that are currently being planned are subject to change.</p>

Figure 1. Toronto's Transit Network Plan

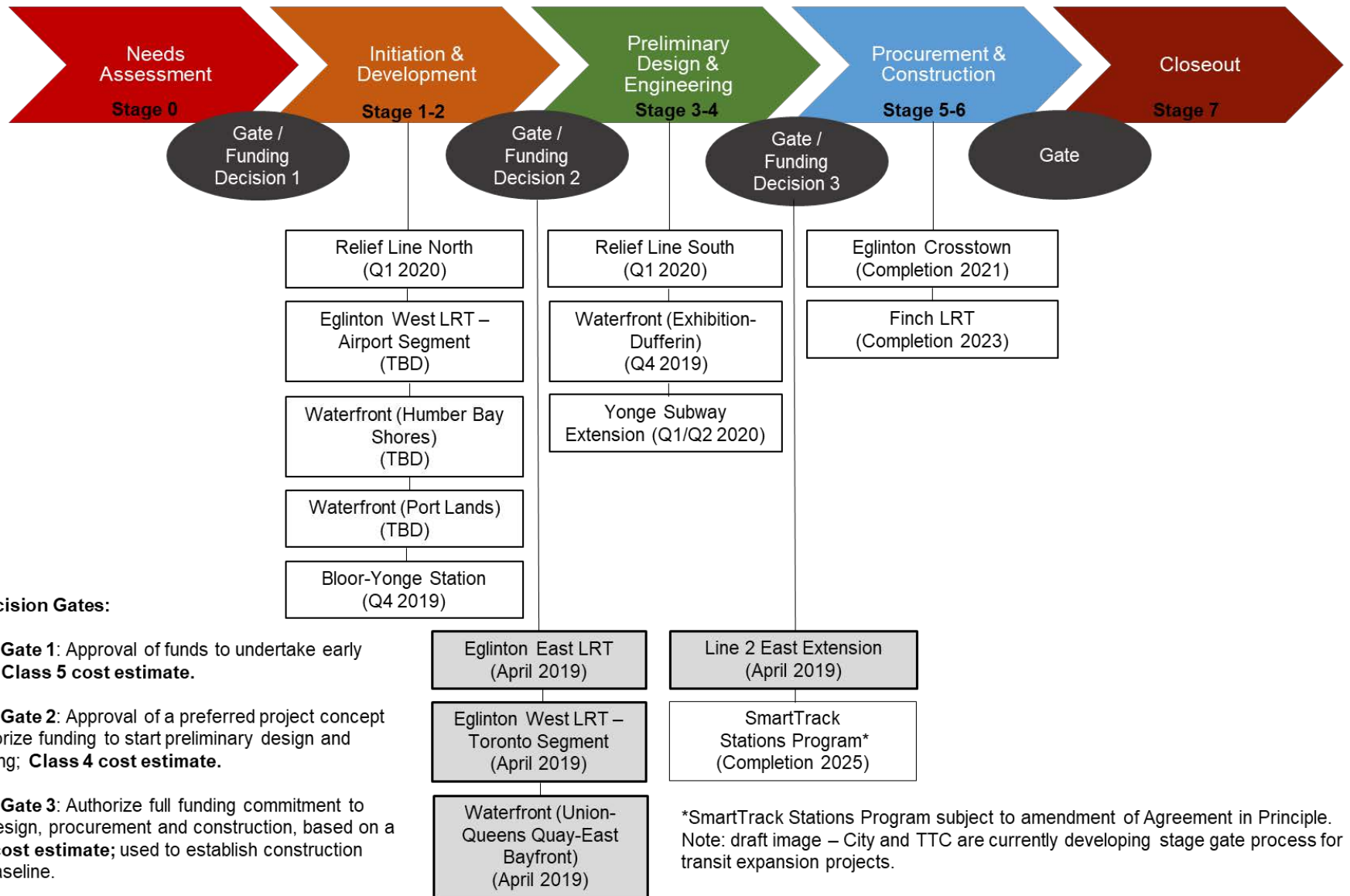


Figure 2. Status of Projects in the Project Lifecycle

COMMENTS

1. Priority Projects for the Investing in Canada Infrastructure Program

Public Transit Infrastructure Fund Phase 2

In 2018, the Government of Canada and the Province of Ontario entered into an agreement for the Investing in Canada Infrastructure Program ("ICIP") to deliver Phase 2 Public Transit Infrastructure Funds ("PTIF2").⁵ Provincial and territorial allocation is determined by a formula based on ridership (70%) and population (30%). Provincial allocations are further sub-allocated to municipalities based on transit ridership.⁶

Under PTIF2, the City of Toronto was allocated \$4.897 billion in federal funding. The program stipulates the following cost sharing requirements:

- The federal government will contribute up to a maximum of 40% of eligible expenditures;
- The Province must contribute a minimum of 33%, equivalent to \$4.040 billion, to leverage the full federal funding envelope; and
- The City is required to contribute the remainder.

In March 2018, the previous provincial government committed to providing new provincial funding of \$4.040 billion⁷ for public transit to the City of Toronto, in order to meet the minimum 33% matching requirement of the program. The Province's prior commitment to the Line 2 East Extension project is not included in this allocation.

PTIF2 is focused on providing funding to build new transit networks and service extensions. The program is not designed for state of good repair projects,⁸ because this was the focus of the PTIF1 program. Key federal outcome targets for the PTIF2 program include:

- Improved **capacity** of public transit infrastructure;
- Improved **quality and/or safety** of existing or future transit systems; and
- Improved **access** to a public transit system.

Under the PTIF2 program, projects are required to be substantially complete by October 31, 2027. Projects that go beyond the completion date of the ICIP will require approvals for an extension.

Under the ICIP agreement, the Province is responsible for identifying and prioritizing eligible projects through engagement with municipalities, and for submitting eligible

⁵ <http://www.infrastructure.gc.ca/alt-format/pdf/agreements-ententes/2018/2018-ON-Bilateral-Agreement-EN.pdf>

⁶ Section A.2 Public Transit Stream: under the ICIP agreement Ontario agreed to allocate Canada's public transit stream contribution funding to each Ultimate Recipient (i.e. municipalities) based on ridership

⁷ <https://news.ontario.ca/moi/en/2018/03/under-the-180-billioninvesting-in.html#>

⁸ PTIF2 has a 15% national cap on allocation to rehabilitation projects.

projects to the federal government. All provincially nominated projects are subject to federal review and approvals.

On March 26, 2019, the Province announced the official launch of the intake process for PTIF2 for all municipalities outside the GTHA. Application intake began on April 2, 2019 and will close on May 28, 2019. The Province did not indicate when intake would open for GTHA municipalities, but that details would be provided soon.⁹

The intake process for non-GTHA municipalities is described as follows in the program guidelines:¹⁰

- Step 1: Applicants (i.e., municipalities and Metrolinx) submit an application to the Province;
- Step 2: Projects submitted for funding will be evaluated. Projects approved by the Province will be nominated to Infrastructure Canada for approval.
- Step 3: Projects submitted for federal approval will be assessed.
- Step 4: The Province will enter into a Transfer Payment Agreement ("TPA") with each recipient for projects that are successfully approved by both the provincial and federal government.

Applications will be accepted through multiple program intakes. Scheduled intakes will be launched based on the balance of remaining allocation that has not been requested/approved. The federal government expects to have all final approvals in place for funding under the PTIF2 program no later than March 31, 2025.

The Canada-Ontario Integrated Bilateral Agreement for ICIP is available at:
<https://www.infrastructure.gc.ca/alt-format/pdf/agreements-ententes/2018/2018-ON-Bilateral-Agreement-EN.pdf>

Recommended Priority Projects for PTIF2

In December 2016, City Council identified a number of transit expansion projects for consideration under the PTIF2 program.¹¹ The projects identified include the SmartTrack Stations Program, Relief Line South, Waterfront Transit, and the Eglinton East and West LRT extensions. In 2017, City Council further identified Bloor-Yonge Station Capacity Improvement as another priority project for consideration.

Each of these projects are at different stages in the project lifecycle, serve different objectives in terms of the expansion of the network, and have different governance models and funding arrangements. The City and TTC have been working in partnership with Metrolinx to advance many of these projects over the last several years. All the projects under consideration address one or more of the PTIF2 federal program outcomes described above.

⁹ <https://news.ontario.ca/moi/en/2019/03/government-for-the-people-improving-public-transit-across-ontario.html>

¹⁰ http://www.grants.gov.on.ca/prodconsum/groups/grants_web_contents/documents/grants_web_content_s/prdr019556.pdf

¹¹ <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.EX20.4>

The following considerations were taken into account in order to identify recommended projects for the PTIF2 funding program:

- City Council Direction:
 - City Council identified the project as a priority for PTIF2;¹² and
 - City Council previously approved a financial strategy and allocated federal funding from PTIF2.
- Projects that address both safety and growth-related objectives: projects required for the continued effective and safe operation of the transit network, while also supporting broader city building objectives.
- Procurement and construction readiness: projects that have completed the PDE phase or have considerable design work completed.

Table 5. Assessment of Projects for Public Transit Infrastructure Phase 2

City Council Identified PTIF2 Priorities	City Council Direction	Safety and Reliability	Growth and City Building	Current Phase in Project Lifecycle	Cost Estimate Class
Line 2 East Extension	✓		✓	PDE – Complete	Class 3
SmartTrack Stations Program	✓		✓	PDE – Complete	Class 3 ¹³
Bloor-Yonge Capacity Improvement		✓	✓	Initiation & Development	Class 5
Relief Line South		✓	✓	PDE	Class 5
WT – Exhibition Loop-Dufferin Loop – Streetcar Connection			✓	PDE	Class 5
WT – Union Station-Queens Quay Link-East Bayfront LRT			✓	Initiation & Development	Class 4
Eglinton East LRT			✓	Initiation & Development	Class 4
Eglinton West LRT			✓	Initiation & Development	Class 4/5

Previous City Council Direction

The Federal Government has indicated that the City of Toronto's \$4.897 billion allocation includes \$660 million for the Line 2 East Extension project. These funds were previously committed as part of the New Building Canada Fund and have been re-profiled into the ICIP PTIF2 Program. In addition, City Council made a full funding commitment to the SmartTrack Stations Program in April 2018. At that time, the funding strategy for the Program assumed \$585 million of federal funding under PTIF2.

¹² See EX20.4 and EX25.1

¹³ The City's contribution to SmartTrack Stations Program is capped (see EX33.1)

Both of these projects have advanced through the project lifecycle and have completed the necessary due diligence for City Council to make a full funding commitment to the project budget. In line with the outcomes of the program, these projects are procurement and construction ready, and improve both capacity and access to public transit. Both of these projects also support future growth and longer term city-building objectives.

Priority Group #1: Safety and Reliability of the System

The Relief Line South and Bloor-Yonge Capacity Improvement projects are critical to reducing overcrowding and congestion on the Line 1 subway, and are necessary to ensure the system is able to safely accommodate future network demand as a result of population growth and expansion.

The TTC's Line 1 Yonge-University is the busiest rapid transit line in Canada. With more than 730,000 riders each day the line plays a crucial role in moving people in Toronto and in the Greater Toronto region. It is closely integrated into the TTC network of surface routes, making more than 100 connections and interchanges seamlessly with regional services at 13 stations.

Ridership on Line 1 has been growing consistently over the last 15 years, all along the line. At the busiest point on the line, south of Bloor-Yonge Station, morning peak ridership has reached maximums of 28,000 to 30,000 people per hour in the peak direction.

Increases in ridership are mainly a result of population and employment growth. Continued growth, along with planned transit expansion projects, is driving forecasted future ridership demand even higher. Current projects will permit modest increases in capacity over the next few years, until approximately 2026. After that point, the continued increase in ridership demand will introduce serious risks to the continued safe, reliable, and effective ability of Line 1 to serve transit customers.

In order to address these risks, the TTC is undertaking a Line 1 Capacity Requirements study, in collaboration with municipal and regional partners. The study is a comprehensive assessment of future expected demand and the changes to subway trains, stations and facilities, signals, electrical power, maintenance procedures, and operating strategies, including staffing, that will be required to meet these demands. The work takes a system-wide approach, and is focused on delivering upgrades in four horizon years between 2021 and 2031. A report will be before the TTC Board in April 2019.

A failure to deliver the necessary capacity on Line 1 will have serious effects on the transit system throughout Toronto. If the line regularly exceeds capacity, the quality of the transit service will decline. Delays will become longer and more common. Customers at some stations will be unable to board trains at busy times. Crowding in stations and on trains will increase. Without increasingly proactive operational measures, such as temporarily closing stations to passenger entry, and bypassing of crowded stations by trains, the safety of customers could be compromised by the mid-

2020s. Ridership will decline, trust in the transit system will be damaged, and the wider economic benefits of a well-functioning transit service will not be fully achieved.

As part of EX25.1, City staff reported that the Relief Line South project is required by 2031 to reduce demand on Line 1 and provide needed additional transit capacity and choice to downtown Toronto. From a TTC operational perspective, the Relief Line South project provides significant benefit in line with the ICIP program outcomes, including:

- Relieving crowding on Line 2 immediately east of downtown, and on Line 1 south of Line 2;
- Providing greatly increased transit capacity and faster travel time for customers along the Pape/Carlaw and Queen Street East corridors;
- Providing excellent connections between existing TTC bus and streetcar routes and the proposed new stations, increasing convenience and journey opportunities for transit customers;
- Providing excellent connections between TTC subway and GO Trains at two new stations, increasing convenience and journey opportunities for transit customers;
- Freeing up capacity for new riders on existing Queen and King streetcar routes in developing areas east of downtown; and
- Providing additional resiliency and redundancy in the TTC subway system.

The Bloor-Yonge Capacity Improvement project is a key component of improving Line 1 capacity. Currently more than 200,000 passengers use the station each day. In the coming years, regional growth and transit expansion will bring more people into the station and add to rush hour crowding. It is critical that the station can safely and accessibly support the increased flow of passengers. From a TTC operational perspective, the project provides benefits in line with the ICIP outcomes, including:

- Reducing crowding in station, allowing customers to transfer more easily between trains and to reach their platforms in the station; and
- Reducing dwell time of trains at the platforms, improving the overall service reliability of the lines.

The last reported cost estimates for both the Relief Line South and the Bloor-Yonge Station were Class 5 estimates, based on a low level of design as part of early conceptual studies. A Class 5 cost estimate typically has an accuracy range of -50% to +100% and is not recommended for budgeting purposes. City staff are recommending that both these projects be submitted as part of PTIF2 with a provision to reflect potential budget changes as staff develop a Class 3 estimate.

This report recommends that City Council request the City Manager to advise the federal and provincial governments of the City's priorities under the ICIP program. Based on the above considerations, the recommended priorities for federal PTIF2 funding are as follows:

- \$660 million for the Line 2 East Extension project;
- \$585 million for the SmartTrack Stations Program;
- \$3.151 billion for the Relief Line South project; and

- \$500 million for the Bloor-Yonge Capacity Improvement project.

2. Highlights on Key Transit Projects

Line 2 East Extension – Scarborough Subway

In 2013, the City and Province agreed to move forward with an extension of the Line 2 subway in order to replace Line 3. Since 2013, several reports have been brought forward to confirm the project scope, alignment, procurement model and integration with city planning objectives and broader network planning considerations. The project is a TTC project with capped funding contributions from the provincial and federal government.

The Line 2 East Extension project has completed the PDE phase and is ready to proceed to procurement and construction. A Class 3 cost estimate, Level 3 schedule and risk analysis have been prepared. The Class 3 cost estimate for the project is \$3.887 billion. The project is scheduled to be complete by 2027 for Phase 1, with Phase 2 (completion of the Scarborough Centre Station Bus Terminal) anticipated to be complete by 2030. The results are documented in detail in Attachment 2. Consistent with the recommendations of the TTC Capital Program Delivery Review, the project has conducted a formal detailed risk assessment, resulting in risk-adjusted estimates that better capture potential delays and costs.

Following the approval of the project scope and budget, the project would proceed to the following milestones:

- Request for Qualification – May 2019
- Complete 60% design – July 2019
- Complete 100% design – December 2019
- Request for Price – January / February 2020
- Contract Award – September 2020

This is the final decision gate for approval to procure and construct the Line 2 East Extension project as currently planned and designed.

City and TTC have staff been seeking clarification from the Province with respect to their interest in changing the scope of the project since the provincial election last spring. The March 22, 2019 letter¹⁴ to the City from the Province confirmed in writing the Province's intent to change the project scope from a one-stop to a three-stop subway. Further clarification from the Province is required on the locations of the two additional stations and the terminus of the line. Planning and design on a three-stop L2EE subway option stopped in 2016.

If the Province is committed to pursuing a three-stop subway option, an assessment of cost, schedule, and operational implications to the TTC network, including both the Line 3 Scarborough and bus operations, will need to be undertaken. A key consideration is that the vehicles on Line 3 are over 30 years old and need to be replaced.

¹⁴ <https://www.toronto.ca/legdocs/mmis/2019/cc/bgrd/backgroundfile-131252.pdf>

Further discussion with the Province is required regarding their interest in changing the scope of the project. This report seeks City Council approval to proceed to procurement and construction subject to agreement from the Province and finalizing required contribution agreements. Should the Province of Ontario provide support for the one-stop subway as currently scoped, this report also requests City Council approve amendments to the City's Capital Budget and Plan for the project.

If the Province does not support the project as currently scoped, the report recommends City and TTC report back on the impacts associated with changing the scope and/or delivery model of the project given that the project is ready to proceed to procurement and construction. City staff would also need to report on principles to guide further discussions with the Province on cost sharing.

In 2013, The Province of Ontario agreed to a capped funding contribution of \$1.48 billion (2010\$)¹⁵ to the project. The City became responsible for incremental costs associated with the change in scope of the project, including sunk costs for the cancellation of the Scarborough LRT. The principles for cost-sharing would need to be reviewed in this context.

More detailed analysis on this project is included in Attachment 2.

Relief Line South

The Relief Line South is a priority project for the City and TTC and is required by 2031 to reduce crowding and congestion on the Line 1 subway (south of Bloor-Yonge Station), improve the resiliency of the subway network, provide development opportunities, connect with major TTC streetcar and bus routes, and support future network extensions (e.g., Relief Line North and Yonge Subway Extension).

The Relief Line is planned to operate as a separate subway line, but will be integrated with the existing subway. The trains, stations, and other infrastructure will be designed to the latest subway standards permitting a high-capacity service to meet the projected passenger demand over the next 30 years at minimum. Provision is being made for automatic train operation, platform edge doors, and longer trains to allow the most flexibility for future increases in ridership demand. The line will be entirely tunnelled, and will be isolated from the weather-related delays that can affect service on Lines 1, 2, and 3. There will be convenient interchange connections for passengers at Pape, Queen, and Osgoode subway stations, and at the proposed Gerrard-Carlaw and East Harbour SmartTrack stations. A separate, short tunnel will allow Relief Line trains to be driven to the TTC's existing Greenwood Yard for necessary maintenance and repairs, thus allowing efficient use of existing subway system resources. For maximum service resilience and redundancy, the connection to the wider subway system would allow for trains from Line 1 or Line 2 to be operated on the Relief Line, if necessary.

Given the importance of this project to the network, in March 2019 City Council approved the TTC's 10-year transit expansion capital plan that included funding to

¹⁵ <https://www.toronto.ca/legdocs/mmis/2013/cc/bgrd/backgroundfile-62260.pdf>

support a schedule improvement strategy for the project. This new funding will allow for early work opportunities such as property acquisition, utility relocation and procurement of tunnel boring machines. The outcomes of this work will be reported to City Council in Q1 2020.

This report recommends that City Council submit the Relief Line South as a priority project for PTIF2 funding, based on the current plans for the project as described in Attachment 1.

The capital construction cost estimate for the Relief Line South is a Class 5 estimate. A Class 3 cost estimate will be reported in Q1 2020. The Class 3 estimate will be informed by a review of build methodology, scope requirements, procurement approach and completion of the PDE work.

The Relief Line South project is governed by an MOU between the City, TTC and Metrolinx that outlines the parties' commitment to advance PDE, including undertaking a procurement options analysis.¹⁶ All parties have been at the table throughout the PDE phase of work to date. Metrolinx and the City were also co-proponents on the Transit Project Assessment Process for the project, which was approved by the Province in October 2018.¹⁷ The PDE phase is expected to be complete in Q1 2020, at which point the project will be ready to proceed to procurement and construction.

The Province of Ontario has recently suggested the possibility of using a different technology for the Relief Line South, details for which have not been shared with the City and TTC. An evaluation of the technical or commercial merits of the proposal versus the current design is required. Given the investment in the PDE phase by the City, Province, and Federal government (through PTIF1), further information, including any analysis and evaluation conducted thus far, is required from the Province.

More detail on the Relief Line South Project is included in Attachment 1.

Waterfront Transit Network – Union Station-Queens Quay Link

In January 2018, City Council approved the Waterfront Transit Network Plan, including identification of priority segments.¹⁸ As part of EX30.1, City staff were directed to complete a focused feasibility study of light rail and automated funicular technology options for connecting transit below grade between Union Station and Queens Quay ("Union Station-Queens Quay Link"). The existing underground streetcar loop at Union Station and the connecting 540 metre long tunnel to Queens Quay are currently overtaxed with existing demand and are inadequate to serve future ridership needs.

The Union Station-Queens Quay Link has now completed the initiation and development phase of work, including updated Class 4 cost estimates. The project is ready to seek approval of the preferred technology option to proceed to the PDE phase of the project.

¹⁶ <http://reliefline.ca/south/the-project/coordinated-transit-planning/memorandum-of-understanding>

¹⁷ <http://reliefline.ca/south/the-project/transit-project-assessment-process/environmental-project-report>

¹⁸ <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.EX30.1>

This report recommends that City Council approve the Streetcar Option as the preferred technology for the Union-Queens Quay Link. The Streetcar Option expands the TTC's network capacity at the critical Union Station hub, allowing substantial flexibility for future waterfront streetcar service and operations. The Streetcar Option also provides a more convenient, moderately faster, and more accessible connection because no additional transfers would be required. Attachment 3 outlines the updated options analysis associated with the Union Station-Queens Quay Link as a component of the East Bayfront LRT Project.

Funding for the next phase of work will be considered as part of the 2020 budget process. Approximately \$38 million is required to undertake the PDE phase of work for the project.

More detailed analysis on this project is included in Attachment 3.

Eglinton East LRT

The Eglinton East LRT would provide transit to underserved communities in the City. The full build out of the LRT would travel through or adjacent to seven Neighbourhood Improvement Areas, and would bring higher-order transit to within walking distance of an additional 49,000 people, including an equity-weighted population of 30,000.

In May 2018, City Council approved a project scope for the Eglinton East LRT and directed staff to report back on the project's updated cost estimate.¹⁹ City and TTC staff, in consultation with Metrolinx, have completed the requirements for the initiation and development phase of work. This phase included completion of conceptual design of the alignment to a proposed Malvern Centre Station and a Maintenance and Storage Facility (MSF) south of Highway 401 and east of Morningside Avenue, and the development of an updated Class 4 cost estimate.

Based on the analysis, this report recommends that the first phase of the Eglinton East LRT be defined as an eastern extension of Line 5 (Eglinton Crosstown) from Kennedy Station to University of Toronto Scarborough ("UTSC"), and a second phase to Malvern Centre.

The Eglinton East LRT will be owned by Metrolinx as an extension of the Eglinton Crosstown LRT. As such, it is necessary to work in partnership with Metrolinx on the next phase of work, including determining the location and construction timing of the MSF and identifying procurement options for an extension of their existing asset. This report recommends City Council request Metrolinx to work with the City to develop a plan to commence the PDE phase of the project. City staff will report back to City Council with a recommended plan, schedule, cost and funding requirements for consideration in the City's 2020 budget process.

More detailed analysis on the Eglinton East LRT project is included in Attachment 4.

¹⁹ <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.EX34.1>

Eglinton West LRT

In December 2017, City Council directed staff to continue planning the Eglinton West LRT transit extension concept for the Toronto Segment between Mount Dennis Station and Renforth Station ("Toronto Segment"), with ten stops as described in Attachment 2 to the report EX29.1. City Council also requested staff to form a working group of community stakeholders, in consultation with local Councillors, to investigate further grade separation and/or tunnelling options.²⁰

Attachment 5 provides an update on the analysis requested by City Council for the Toronto Segment, which includes outputs resulting from a Community Working Group. The additional analysis on the options for the Toronto Segment of the project continue to demonstrate that the at-grade LRT option with 10 stops, as recommended by staff in December 2017, best serves the City's planning and transit service objectives, while taking into consideration cost.

Metrolinx continues to undertake early planning work on the Airport Segment of the Eglinton West LRT extension, which is currently less advanced than the Toronto Segment. Metrolinx has also advised it has an interest in further reviewing the options for the Toronto Segment in the context of the overall extension of the Eglinton West LRT to Pearson Airport and potential regional benefits of a tunnelled option. Metrolinx's additional analysis is not available at this time.

As a result of the current status of Metrolinx's analysis, the Toronto Segment of the Eglinton West LRT is not ready to move through the Stage Gate Process agreed to by the City and Province/Metrolinx under the 2016 Toronto-Ontario Agreement in Principle (see Attachment 5). Further direction will be sought from City Council once Metrolinx and the Greater Toronto Airport Authority (GTAA) have completed their analysis on the full extension from Mount Dennis Station to Pearson International Airport, including Regional Transportation Passenger Centre requirements.

More detailed analysis on this project is available in Attachment 5.

SmartTrack Stations Program

In April 2018, City Council approved a capped funding contribution of \$1.463 billion towards the SmartTrack Stations Program, subject to terms and conditions negotiated with the Province.²¹ In May 2018, the City and the Province entered into a non-binding Memorandum of Understanding to formally indicate the intention of the two parties to amend the Agreement in Principle ("AIP") to reflect the terms and conditions of the SmartTrack Stations Program.

In a letter dated November 29, 2018, Metrolinx notified the City that it is developing a "market-driven approach" to delivering new stations. As a result of adopting this approach, Metrolinx indicated that the in-market Request for Qualifications for five of the six SmartTrack Stations (Finch-Kennedy, Lawrence-Kennedy, Gerrard-Carlow, King-

²⁰ <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.EX29.1>

²¹ <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2018.EX33.1>

Liberty and St. Clair-Old Weston) and the Bloor-Lansdowne GO station will be removed from the procurement process.

The City has requested the Province confirm their commitment to the SmartTrack Stations Program as well as amending the AIP. City Council has confirmed a full funding commitment to the project and the project is ready to advance to procurement and construction. The Province has not yet responded to the City.

In the interim, the City and Metrolinx are continuing discussions to identify if there are transit-oriented development opportunities at each location of the SmartTrack Stations Program.

3. Next Steps

The City remains committed to building the transit network and entering into a constructive dialogue with the Province. To assist in these discussions, it is important to establish Toronto's key interests and objectives: a safe and reliable transit service for Toronto transit riders. This report lays out clear priorities for City Council's consideration with respect to the expansion of Toronto's transit network, and Toronto's federal funding allocation under the PTIF2 program.

Subject to the required approvals, City staff will also continue to advance expansion projects currently in an earlier phase of the project lifecycle. This includes the Waterfront Transit Network Union-Queens Quay Link, the Eglinton East LRT, and Eglinton West LRT. Each of these projects has an integral role in the City of Toronto's Transit Network Plan.

Staff will be reporting in the fall of 2019, prior to the 2020 budget process, on updated funding and financing strategies for projects that are not currently contemplated for funding under the PTIF2 program. The outcome of ongoing discussions with the Province will inform that strategy.

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SIGNATURE

Chris Murray
City Manager

ATTACHMENTS

Attachment 1 – Transit Expansion Program – Status Update

Attachment 2 – Line 2 East Extension

Attachment 3 – Waterfront Transit Network – Union Station-Queens Quay Link and East Bayfront LRT

Attachment 4 – Eglinton East LRT

Attachment 5 – Eglinton West LRT