

SmartTrack Project Update and Next Steps

Date: November 17, 2017

To: Executive Committee

From: City Manager and Deputy City Manager, Cluster B

Wards: All

SUMMARY

In July 2016, City Council conditionally approved the SmartTrack concept, based on initial business cases included in the report *EX16.1 Developing Toronto's Transit Network Plan to 2031*. The SmartTrack concept includes two components. The first component is an integrated SmartTrack/Regional Express Rail (RER) service on the Kitchener and Stouffville/Lakeshore East GO corridors with service frequencies of 6-10 minute peak service and 15-minute off-peak service at fourteen stations, which includes six new SmartTrack stations. The second component is an extension of the Eglinton West Light Rail Transit (LRT) line from Mount Dennis Station to Renforth (at Commerce Boulevard) with between 8 and 12 stops. The potential for a further extension of the LRT to Toronto Pearson International Airport is also under review.

In November 2016, City Council committed funding to advance the planning and design of the SmartTrack concept to a Class 3 cost estimate (approximately 15-30% design), at which time City Council will decide whether to commit funding to procurement and construction of SmartTrack. The staged decision-making process for SmartTrack is outlined in the "Stage Gate Process" agreed to by the City and the Province in the report *EX19.1 Transit Network Plan Update and Financial Strategy*. This report provides recommendations to advance both components of the SmartTrack project.

SmartTrack/RER Integration

The planning and design of the six new SmartTrack stations to be incorporated into the overall SmartTrack/RER integration concept have been further advanced to address the City's policy and planning objectives. Attachment 1 includes the emerging station concepts that have resulted from stakeholder and community consultation and collaboration with Metrolinx. The concepts in Attachment 1 will inform the Environmental Project Reports for each station. The report recommends City Council approve the concepts for the new SmartTrack and GO RER stations, and authorize the City to act as co-proponents with Metrolinx in the Transit Project Assessment Process (TPAP) for the SmartTrack stations, which will commence in Q1 2018. This recommendation allows the SmartTrack stations to proceed to the next stage of work. Staff will report to City Council in Q2 2018 to seek authority to proceed to procurement and construction of the new stations. A Class 3 cost estimate and updated funding and financing strategy for the stations will be included in the next report.

Eglinton West LRT Extension

The Eglinton West LRT extension includes two components which are currently in different stages of development. The extension from Mount Dennis Station to Renforth (at Commerce Boulevard), which is the segment located in Toronto (i.e., the "Toronto Segment"), is the furthest advanced. In 2016, City Council requested staff to undertake further analysis of potential stop locations included in the approved 2010 Environmental Assessment (EA)/Transit Project Assessment Process (TPAP), and to also review potential grade separations for the Toronto Segment. The results of this analysis are outlined in Attachment 2. It is recommended that City Council approve a 10-stop at-grade LRT concept for the Toronto Segment of the project and no longer consider grade separations as staff finalize the alignment for the full LRT extension.

The City is supporting Metrolinx in its study of a potential extension of the LRT from Renforth to Toronto Pearson International Airport (i.e., the "Airport Segment") in partnership with the City of Mississauga and the Greater Toronto Airport Authority (GTAA). Further direction on potential alignment options for the Airport Segment is required to finalize the full alignment of the LRT project. The City has also initiated a comprehensive traffic modelling study in the Martin Grove Road area to address traffic management concerns. The outcomes of this study may result in further refinement of the LRT alignment west of Martin Grove Road. Further public and stakeholder consultation will be undertaken as this work develops. A final alignment for the LRT will be recommended to City Council in Q2 2018, at which time staff will seek authority to amend the approved EA/TPAP in partnership with Metrolinx.

Regional Express Rail

Attachment 3 of the report provides an update from Metrolinx on the implementation of Metrolinx's RER program, which is foundational to the SmartTrack/RER integration concept described above. RER is a transformational program to provide increased service on core portions of the GO Rail network. This report recommends City Council request Metrolinx to engage in discussions with the City on required resources to support timely implementation of the RER program and authorize the City Manager to execute an agreement with Metrolinx to have Metrolinx fund City positions to provide services in support of RER implementation in Toronto.

Regional Transportation Plan

In September 2017, Metrolinx released the Draft 2041 Regional Transportation Plan (the "Draft Plan") for public consultation. The City is working closely with Metrolinx to ensure the elements of the Draft Plan align with the City's transit and transportation policies and priorities. The City and TTC are key partners in delivering improved mobility outcomes in the region and should be considered a key partner in the next iteration of the Draft Plan. The City has prepared a submission to Metrolinx in response to the Draft Plan which is included as Attachment 5. This report requests City Council forward the contents of the submission to Metrolinx and the Ministry of Transportation. Metrolinx will be reporting back to their Board in December 2017 with a Draft Final Plan.

RECOMMENDATIONS

The City Manager and Deputy City Manager, Cluster B recommend,

1. City Council approve the concepts for the SmartTrack stations outlined in Attachment 1 as the basis for completing station design work, and authorize the City to act as co-proponents with Metrolinx for, and together commence, the Transit Project Assessment Process (TPAP) for the SmartTrack stations, which will consider the following station-specific design elements:
 - a. St. Clair-Old Weston SmartTrack station will be coordinated with the ongoing work on the St. Clair Avenue West Transportation Master Plan, and all efforts made to advance aspects of that Master Plan concurrently with the station;
 - b. King-Liberty SmartTrack station will include the consideration of strong connections for pedestrians and cyclists directly into Liberty Village, provision for the King High Line crossing and other enhancements to cycling infrastructure in and through the area;
 - c. East Harbour SmartTrack station will be fully integrated into the broader Unilever Precinct planning process to support the development of this area as a major employment area;
 - d. Gerrard-Carlaw SmartTrack station will include entrances that optimize connections with the planned Relief Line station, other transit lines and the broader station area;
 - e. Lawrence-Kennedy SmartTrack station will feature direct access from the Lawrence Avenue overpass, and will allow for the continued operation of Line 3 until the opening of the Scarborough Subway Extension while optimizing connections to areas of potential future development north of Lawrence Avenue; and
 - f. Finch-Kennedy SmartTrack station will be integrated with a road-under-rail grade separation being constructed as part of Regional Express Rail, feature direct access from station entrances on Finch Avenue, include new local access roads at the north end of the station to provide for passenger pick up/drop off and consideration of improved access from areas south of the station.
2. City Council request that Metrolinx include strong connections to Bloor Street and all provisions required to improve the network of pedestrian/cycling pathways along the GO corridor that were initiated through the Davenport Diamond Grade Separation project as part of the Transit Project Assessment Process (TPAP) or addenda for the Bloor-Lansdowne GO RER station.

3. City Council request that Metrolinx work in partnership with the Deputy City Manager, Cluster B to advance the Spadina-Front GO RER station, the Rail Deck Park proposal and other aligned capital projects in the rail corridor, and request consideration of a decking structure in the planning, design and engineering work for the Spadina-Front GO RER station, including but not limited to the station's Transit Project Assessment Process (TPAP) or addenda.
4. City Council approve an at-grade Eglinton West Light Rail Transit extension concept for the Toronto Segment between Mount Dennis Station and Renforth Station (at Commerce Boulevard), including:
 - a. Ten stops as described in Attachment 2; and
 - b. No further consideration of grade separations at Eglinton Flats (i.e., Jane Street and Scarlett Road), Royal York Road, Islington Avenue, Martin Grove Road, and Kipling Avenue.
5. City Council request Metrolinx to engage in discussions with the City on required resources to support timely implementation of the Metrolinx Regional Express Rail program and authorize the City Manager and any other relevant City officials to execute an agreement with Metrolinx to have Metrolinx fund:
 - a. Dedicated City staff resources in support of Regional Express Rail implementation in Toronto; and
 - b. The City's Property Acquisition Unit to provide property acquisition services for transit expansion initiatives to Metrolinx, including the Light Rail Transit and Regional Express Rail programs in Toronto.
6. City Council forward the City's submission on Metrolinx's draft Regional Transportation Plan as outlined in Attachment 5 to Metrolinx and the Ministry of Transportation.

FINANCIAL IMPACT

There are no financial implications resulting from the implementation of the recommendations in this report.

In November 2016, City Council approved funding for SmartTrack preliminary planning and design work to be incurred to Stage Gate 5 in the SmartTrack Stage Gate Process. Preliminary costs include costs associated with the planning, design, property acquisition, enabling works (including investigative and planning work for utility relocations), Alternative Financing and Procurement (AFP) and TPAP preparation. Stage Gate 5 in the process represents the completion of the required preliminary planning and design work to achieve a Class 3 cost estimate for the project. The approved budget includes \$71 million for planning, design and other predevelopment expenditures related to the six SmartTrack stations and the Eglinton West LRT. No additional funding for the project is required at this time.

An updated SmartTrack funding and financing strategy will be provided to Council for its consideration in Q2 2018, once Class 3 cost estimates are available for the SmartTrack/RER integration concept. Class 3 cost estimates for the full Eglinton West LRT extension will be available in Q1 2019. A preliminary funding and financing strategy for SmartTrack was included in the report EX19.1.

The City is seeking Metrolinx financial support to fund required staff positions to support RER implementation in Toronto. If Council authorizes the City to execute an agreement with Metrolinx, any financial impact to the City that may arise will be reported to Council as required.

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

DECISION HISTORY

In July 2016, City Council considered the report *EX 16.1 Developing Toronto's Transit Network Plan to 2031*, and approved a SmartTrack/RER integration scenario that provides service enhancements to fourteen stations including six new SmartTrack stations on the Kitchener and Stouffville/Lakeshore East GO corridors. City Council also approved an Eglinton West LRT scenario with 8 to 12 stops between Mount Dennis Station and Renforth Station as the western corridor for SmartTrack, and directed staff to consider potential targeted grade separations to address potential traffic impacts of an at-grade LRT along the corridor, including a review of their associated costs. City Council also requested that the City 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 Station and Toronto Pearson International Airport.
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 adopted terms for a broad cost-sharing agreement with the Province of Ontario that included terms and conditions for the funding and construction of the six new SmartTrack stations and the Toronto Segment of the Eglinton West LRT. City Council adopted a "Stage Gate Process" developed by the City and the Province that allows for key decisions at defined stages of the SmartTrack project. At that time, City Council committed to fund the preliminary planning and design costs for SmartTrack and directed staff to work with Metrolinx to complete the planning and design for the new stations and LRT extension.
Link: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.EX19.1>

In December 2016, City Council considered the report *EX 20.4 Federal Infrastructure Funding – Phase 1 and 2*, and identified SmartTrack (including Eglinton West LRT extension) as a priority project for federal funding under Phase 2 of the Public Transit Infrastructure Fund (PTIF Phase 2).
Link: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.EX20.4>

In November 2017, City Council considered *MM34.3 Park Lawn GO*, advised Metrolinx that a new Park Lawn GO station is a priority for the City of Toronto, and directed City staff to work with Metrolinx to consider further the feasibility of a Park Lawn GO station

on the Lakeshore West GO corridor to coincide with and support potential future development in the vicinity.

Link: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.MM34.3>

ISSUE BACKGROUND

In July 2016, City Council considered initial business cases prepared by Metrolinx and the City for SmartTrack/RER integration¹ and the extension of the Eglinton West LRT² from Mount Dennis Station to the Renforth (at Commerce Boulevard) and to Toronto Pearson International Airport. A range of options were assessed using the Metrolinx Business Case Methodology that evaluates projects from a strategic, economic, financial and deliverability perspective. The City further enhanced the business case methodology by incorporating the City's Rapid Transit Evaluation Framework (RTEF) into the strategic case section of the IBCs.

The IBCs for both SmartTrack/RER integration and the Eglinton West LRT extension identified options that demonstrated a range of strategic benefits and positive benefit-cost ratios. As approved by City Council in July 2016, the SmartTrack project scope includes two components:

1. A SmartTrack/RER integration scenario with six new SmartTrack stations at Finch-Kennedy and Lawrence-Kennedy on the Stouffville GO corridor, Gerrard-Carlaw and East Harbour on the Stouffville/Lakeshore East GO corridors, and King-Liberty and St. Clair-Old Weston on the Kitchener GO corridor. This scenario includes service frequencies of 6-10 minute peak service and 15-minute off-peak service. The SmartTrack service concept also includes service at eight existing GO stations and contemplates potential through-service at Union station.
2. An extension of Eglinton Crosstown LRT (Line 5) west from its western terminus at Mount Dennis Station to Renforth Station, with between 8 to 12 stops and up to five potential grade separations.

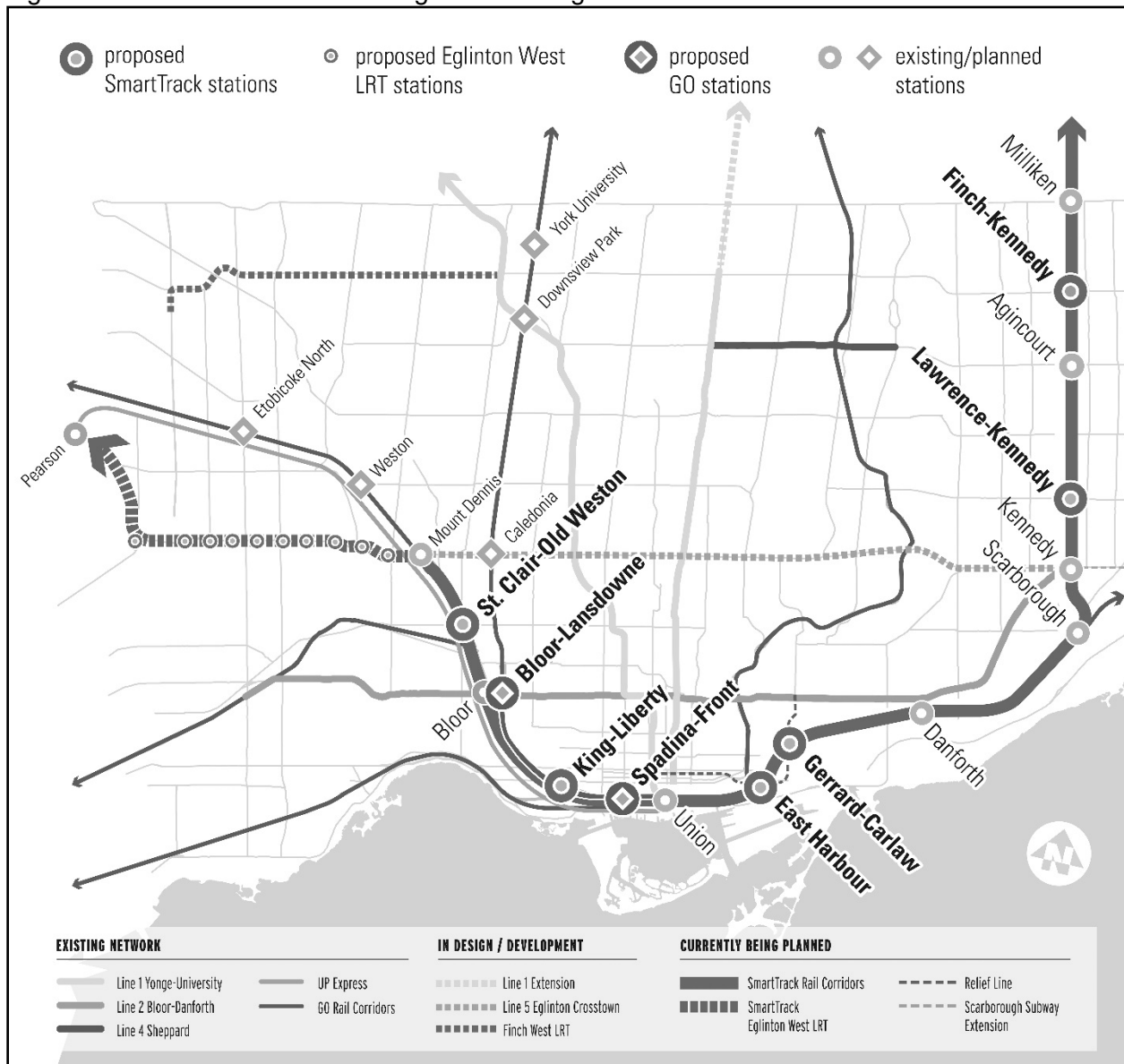
SmartTrack/RER integration builds on existing heavy rail transit infrastructure in Toronto and leverages the Province's \$13.5 billion (2014\$) investment in RER. Approximately \$3.7 billion (2014\$) of the RER program comprises infrastructure investments that also support SmartTrack, including rail and track infrastructure, grade separations, electrification and fleet upgrades. SmartTrack/RER integration represents the maturation of the existing GO Rail commuter network into an urban rail service within the City of Toronto. With additional stations, all-day, two-way service, increased frequency and speed, the SmartTrack/RER integration concept expands transit access for Toronto residents travelling within and beyond the City. The SmartTrack/RER integration concept also represents a significant opportunity for supporting population and employment growth within Toronto. Proposed new stations are positioned in areas where existing population and employment or planned growth will significantly benefit from increased transit service.

¹ SmartTrack/RER Integration IBC: <http://www.toronto.ca/legdocs/mmis/2016/ex/bgrd/backgroundfile-94599.pdf>

² Eglinton West LRT IBC: <http://www.toronto.ca/legdocs/mmis/2016/ex/bgrd/backgroundfile-94621.pdf>

The Eglinton West LRT extension will fill a missing link in the local and regional transit network, connecting the western terminus of the Eglinton Crosstown at Mount Dennis Station and the eastern terminus of the Mississauga BRT at Renforth Station. The project will provide improved rapid transit access across the City by connecting neighbourhoods in North Etobicoke and Scarborough. The project will also improve rapid transit connections to users of north-south bus routes along the Eglinton West corridor. The Eglinton West LRT extension is also a key component of Metrolinx's Regional Transportation Plan and supports the GTAA's plans to develop Toronto Pearson International Airport as a multi-modal transportation hub, connecting air travel and regional transit to local services.

Figure 1. SmartTrack/GO RER Integration and Eglinton West LRT Extension



Note: SmartTrack station names are working names only and subject to change.

The SmartTrack concept is part of an overall 2031 and 2041 transit network plan that includes a number of other key priority transit expansion projects currently in planning

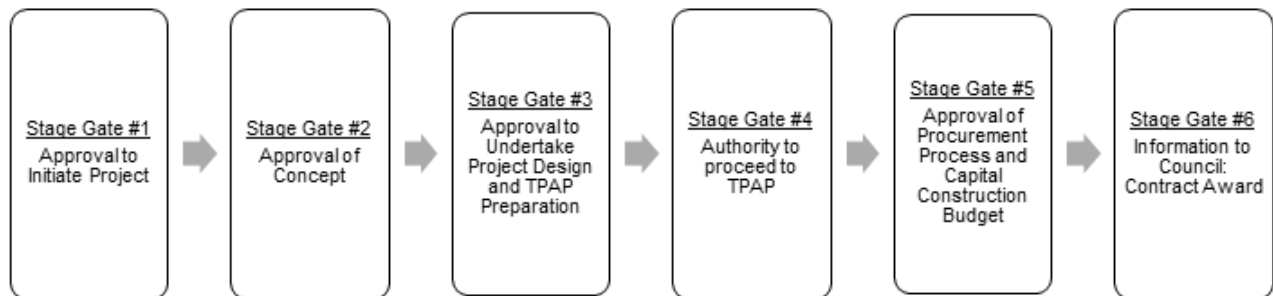
and design development—Relief Line, Scarborough Subway Extension, Eglinton East LRT, and Waterfront Transit. Service and fare integration with the current TTC network and these future planned expansions are important conditions for the success of both the Province’s RER program and the SmartTrack concept.

Stage Gate Process

In November 2016, City Council approved a Stage Gate Process for phased decision-making on the SmartTrack project that was developed by the City and the Province and included in a Summary Term Sheet (EX19.1, Attachment 1 – Appendix A)³. This Process allows City Council to consider advancing commitments at defined stages of the SmartTrack project, and identifies decision points in the project where City Council and the Province reserve the right to assess the following:

- Whether the City and Province’s conditions outlined in the Summary Term Sheet have been addressed to the City and Province’s satisfaction; and
- Whether to cancel or alter the Project scope, subject to the party who cancels or alters the Project scope making the other party whole for costs incurred to date.

Figure 2. Schematic of the Stage Gate Process



The components of SmartTrack are at different stages as outlined below. The SmartTrack/RER integration component of SmartTrack is at Stage Gate 4 in this report. The report recommends City Council provide authority to proceed to TPAP for the SmartTrack stations. The report also includes recommendations in response to Council direction to assess grade separations and stop locations on the Toronto Segment of the Eglinton West LRT. A full alignment for the Eglinton West LRT will not be complete until further analysis on the Airport Segment has concluded. It is anticipated the Eglinton West LRT component of the project will seek City Council direction to amend the EA/TPAP for the project (Stage Gate 4) in Q2 2018. Table 1 provides an update of the status of the SmartTrack project as it relates to the Stage Gate Process in more detail.

³ <http://www.toronto.ca/legdocs/mmis/2016/ex/bgrd/backgroundfile-97894.pdf>

Table 1. Status of SmartTrack Project in Stage Gate Process

Stage Gate	SmartTrack/RER Integration	Eglinton West LRT – “Toronto Segment”	Eglinton West LRT – “Airport Segment”
1. Approval to initiate project	February 2015 – complete (EX2.2)	February 2015 – complete (EX2.2; EX13.3)	February 2015 – complete (EX2.2; EX13.3)
2. Approval of concept	July 2016 – complete (EX16.1)	July 2016 – complete (EX16.1)	July 2016 – complete (EX16.1)
3. Approval to undertake project design and TPAP preparation	November 2016 – complete (EX19.1)	November 2016 – complete (EX19.1)	November 2016 – complete (EX19.1)
4. Authority to proceed to Transit Project Assessment Process (TPAP)	November 2017 – current report	Q2 2018 Current report responds to Council directives on stop locations and grade separations	Q2 2018
5. Approval of procurement process and capital construction budget based on Class 3 estimate	Q2 2018	TBD – estimated for Q1 2019	TBD
6. Information to City Council: contract award	2019	TBD – estimated for 2021	TBD

COMMENTS

1. SmartTrack/RER Integration

Station Planning and Design

Since 2016, the City, TTC and Metrolinx have significantly advanced the concepts for each station, addressing the issues identified by City Planning in the initial business case designs (EX19.1, Attachment 4). Considerations in station design have included:

- Platform and station access locations;
- Connectivity with TTC transit network;
- Locations for accessible transit pick up/drop off;
- Pedestrian and cyclist access and local circulation, including connectivity with adjacent development and context sensitivity; and
- Partnerships and property impacts for station elements and opportunities for integrated station and/or joint development.

The station designs have also taken into consideration the need to coordinate with related infrastructure projects, including:

- East Harbour SmartTrack station with the Unilever Precinct Planning Study;
- East Harbour and Gerrard-Carlaw SmartTrack stations with the Relief Line Project Assessment;
- St. Clair-Old Weston SmartTrack station with the St. Clair Transportation Master Plan;
- Bloor-Lansdowne GO RER station and King-Liberty SmartTrack station with West Toronto Railpath extensions; and
- Lawrence-Kennedy SmartTrack station with Scarborough Subway Extension.

Attachment 1 of this report contains the emerging station concepts for each of the six new SmartTrack stations and the two new GO RER stations. Using the City's guiding principles for design, these concepts will form the basis for completing station design and advancing the stations through the TPAP process with Metrolinx. The station design work will also include an assessment of the technical feasibility of aspects of the station concepts. The TPAP process for the new stations is to commence in Q1 2018.

Central to the design work for the SmartTrack and GO RER stations is integrating the new stations into the existing and planned local context. City staff have undertaken an initial phase of work on Station Area Planning to support effective integration of the new stations. As work on the stations progresses through the TPAP process and beyond, City Planning staff will continue to engage with local Councillors and their communities to shape the design of the stations and to consider how the areas around the stations may evolve.

Public & Stakeholder Consultation

The station concepts were presented to stakeholders and the public in September and October 2017. The purpose of the consultation was to keep the public and stakeholders apprised of station planning and design work, and receive feedback about local context, challenges and opportunities. All Councillors were notified of the public meetings. More information on the methods and results of the consultation is available in Attachment 1.

Key themes which emerged from the consultation include the following:

- Participants were supportive of the new stations, noting they will benefit communities, increase access to developing areas and employment lands, and give neighbourhoods an economic boost.
- Connections to stations must be accessible and transfers with other transit services must be convenient. There is concern about distances between some of the stations and the existing transit network. Some participants voiced a desire for weather protected walkways rather than open sidewalk connections.
- Noise and vibration are major concerns for many people, particularly with regard to train bells, diesel train engines and construction.
- Community impacts and integration must be considered in the development of the new stations. This consideration should include understanding of nearby future development plans, ensuring traffic and congestion impact around stations

is mitigated, and finding opportunities to integrate with and expand existing pathways.

- Participants commenting on downtown station locations emphasized the desire for more pedestrian and cycle infrastructure around station areas. In Scarborough, parking was considered necessary by many participants.
- Passenger pick-up and drop-off areas should be included at the stations, especially for passengers with accessibility needs.
- Safety at stations is very important, including the provision of adequate lighting, security cameras and visibility on pedestrian walkways and in tunnels.
- Fare integration and system integration between the GO and TTC networks is essential to the success of SmartTrack. Transfers between the two networks should be seamless.

The next round of public engagement is planned for Q1 2018 to review environmental studies and updated station designs.

Transit Project Assessment Process

This report recommends City Council approve the concepts for the SmartTrack/GO RER stations outlined in Attachment 1 as the basis for completing station design work, and authorize the City to act as co-proponents with Metrolinx for the TPAP for the SmartTrack stations. The TPAP process for the new stations is anticipated to commence with the issuance of the required TPAP Notice of Commencement in Q1 2018. Feedback from public and stakeholder consultation will inform the design of the stations and feed into the draft Environmental Project Reports (EPRs) that will inform the TPAP.

The City and Metrolinx acting as co-proponents for the TPAP process will properly reflect the partnership and ensure the perspectives of both parties will continue to be brought to the design of the stations and all related public consultation efforts.

Public and stakeholder consultation is only one component of the TPAP process, which also includes the assessment of potential environmental effects of each of the new stations, all of which will be included in the draft EPRs for the stations. Under Ontario Regulation 231/08, the City and Metrolinx will:

- Evaluate the existing environmental conditions and the significance of specific features;
- Identify and document potential impacts of the project on these features; and
- Recommend appropriate mitigation measures, monitoring strategies and any necessary future studies.

The following areas of potential impact will be studied through the TPAP process:

- Natural Environment – consideration of natural features in the study area, including environmentally sensitive areas and the presence of Species at Risk
- Socio-Economic Environment – consideration of socio-economic and key land use features in the study area, including air quality, noise and vibration, potential property impacts and traffic

- Cultural Environment – consideration of cultural heritage and archaeological features in the study area, such as buildings, bridges, and other structures

Property Acquisition

SmartTrack stations will require temporary and permanent property acquisitions, the list for which is also being coordinated with property acquisitions for Metrolinx's larger RER program and any other overlapping capital projects (e.g., St. Clair Avenue West Transportation Master Plan in the context of St. Clair-Old Weston SmartTrack station). City and Metrolinx staff will work with affected property owners in the coming months, and will present potential property acquisition requirements at the next round of public and stakeholder consultation in Q1 2018.

Principles for Third Party Enhancements to Stations

The City and Metrolinx are determining for each station which design elements are considered essential, and which elements are considered "enhancements". Defining the essential elements of the station is important in the context of cost-sharing for enhancements that are requested from third parties. "Enhancements" are additional features and elements that enhance the program and design quality of the station to support and/or benefit adjacent developments.

The Summary Term Sheet adopted by Council in November 2016 established the following high-level principles for cost-sharing:

- Foundational (or "essential") station design standards for SmartTrack stations will be determined by the Province/Metrolinx in consultation with the City/TTC and will consider Metrolinx and TTC operational needs and safety and City Planning guidelines.
- Any enhancement to SmartTrack stations beyond the agreed-upon foundational station design standards will be jointly determined by the Province/Metrolinx and the City/TTC.
- Any incremental capital, operating, maintenance and lifecycle costs associated with such enhancements, including costs resulting from delay in procurement/delivery to accommodate these enhancements, will be paid by the party that requests the enhancement (including private third parties and/or the City).

City and Metrolinx staff have received input on the station concepts from some nearby property owners. Preliminary discussions have occurred with some of these landowners with respect to contributions towards the cost of potential station enhancements. Terms for third party contributions towards any requested enhancements will be based on the principles set out above and will be provided to Council at Stage Gate 5 in Q2 2018.

Metrolinx Business Case Updates

In the Metrolinx Business Case lifecycle, once a project has undergone an Initial Business Case (IBC), and after it has progressed from conceptual design into preliminary design, it becomes the subject of a Project Definition Business Case. The

next round of business case analysis builds on the earlier IBC work and takes into consideration more detailed costing and analysis of benefits. Metrolinx is currently in the process of developing Project Definition Business Cases for all stations that underwent Initial Business Cases in 2016, including the 11 Toronto sites (East Harbour; Gerrard-Carlaw; Ellesmere; Lawrence-Kennedy; Finch-Kennedy; Spadina-Front; Bloor-Lansdowne; St. Clair W (Barrie corridor); King-Liberty; St. Clair-Old Weston (Kitchener corridor); and Park Lawn). Per the report to the Metrolinx Board in June 2016, Metrolinx is also continuing to work with the City on the business case for the Park Lawn site. Additionally, an Initial Business Case is underway for the Highway 27-Woodbine site.

A report on the Project Definition Business Cases will be made to the Metrolinx Board at its meeting on February 16, 2018. This will provide the Board with updated and refined information on the expected benefits associated with these projects, which can be considered as one of multiple factors which contribute to decision-making. The City does not anticipate that the report will impact the City's Stage Gate process.

Metrolinx has requested information from the City to include in its analysis. The City has provided information to Metrolinx that outlines the significant merit in a SmartTrack station on the Stouffville corridor at Lawrence Avenue East (Attachment 4), and is preparing all other information requested by Metrolinx.

The proposed Lawrence-Kennedy SmartTrack station is a critical component of the Scarborough Rapid Transit Network Plan, and has greater development potential than was assumed in the Initial Business Case (IBC) for the station.

The Metrolinx IBC model underestimated the number of riders that transfer from the busy 54 Lawrence East surface bus route. The IBC model also assumed a three-stop configuration of the Scarborough Subway Extension, which included a station on Lawrence Avenue East at McCowan Road, situated approximately two kilometres from the proposed SmartTrack station. This assumption greatly diminished the anticipated ridership at the Lawrence-Kennedy SmartTrack station in the IBC. Council has decided to remove the three-stop subway configuration from further consideration, and have endorsed the extension of Line 2 from Kennedy Station express to Scarborough Centre. If the proposed Lawrence-Kennedy station was not built, the lack of any rapid transit station on Lawrence would have a significant negative impact on the connectivity of the transit network, resulting in longer travel times on surface transit routes.

Coordination with Rail Deck Park

The City's proposed Rail Deck Park between Bathurst Street and Blue Jays Way presents an opportunity for direct access from street level at Spadina-Front GO RER station. This report recommends City Council request that Metrolinx work in partnership with the Deputy City Manager, Cluster B to advance the Spadina-Front GO RER station, the Rail Deck Park proposal and other aligned capital projects in the rail corridor, and request consideration of a decking structure in the planning, design and engineering work for the Spadina-Front GO RER station, including but not limited to the station's TPAP or addenda.

Next Steps on SmartTrack/RER Integration

The next report back to City Council on SmartTrack/RER integration will occur at Stage Gate 5 in Q2 2018. Next steps include:

- The City and Metrolinx co-leading work toward the TPAP Notice of Commencement in Q1 2018, including further public and stakeholder consultation;
- Technical work on the stations, including due diligence (e.g., geotechnical investigations, environmental studies, utility surveys, property identifications, etc.) and technical feasibility analysis;
- Preparation of Reference Concept Designs and Class 3 cost estimates (15-30% design), including a process to balance the scope and budget for each station;
- Further development of a property acquisition strategy; and
- Preparation of preliminary procurement documents. Metrolinx will procure the SmartTrack stations using an Alternative Financing and Procurement (AFP) approach.

At Stage Gate 5 in Q2 2018, it is anticipated that a funding and financing strategy will be recommended to Council for the capital, financing and escalation costs of the SmartTrack stations based on Class 3 cost estimates and satisfaction of the following key conditions:

- Mutual agreement on governance and dispute resolution;
- Further assessment of foundational station design requirements and validation of costs associated with the construction, operations and maintenance of the SmartTrack stations;
- Fare setting for SmartTrack will be combined with the broader regional fare integration framework and address the related request from the City in July 2016 City staff report (EX16.1);⁴
- Consideration of through service at Union Station;
- Treatment of federal funding for SmartTrack; and
- Confirmation of federal funding for the SSE.

2. SmartTrack – Eglinton West LRT Extension

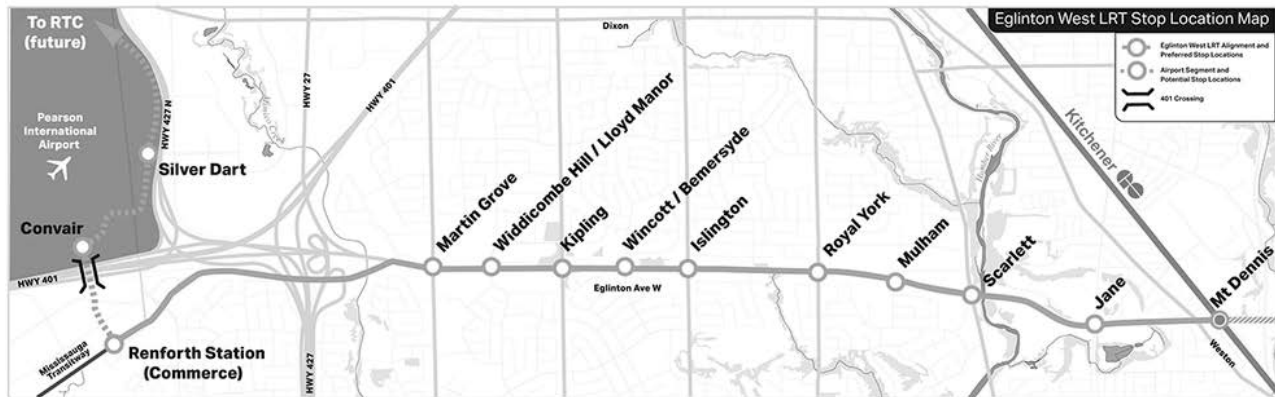
In July 2016, City Council directed City staff to continue to work in partnership with the TTC and Metrolinx to recommend an optimized concept with between 8 and 12 stops and potential grade separations at five locations for the Eglinton West LRT extension from Mount Dennis Station to Renforth Station. City Council also directed staff to continue to work in partnership with Metrolinx, TTC, City of Mississauga and the GTAA on the extension from Renforth Station to Toronto Pearson International Airport.

City and TTC staff have reviewed stop locations in the 2010 EA and are recommending that 10 stop locations be carried forward as part of the Toronto Segment concept. The evaluation of stop locations has been completed to provide optimal local access while

⁴ In November 2017, City Council adopted EX28.6, "Advancing Fare Integration", which addresses the Co-Fare program request from City Council (EX16.1).

minimizing the need for a parallel local bus service. Attachment 2 provides the detailed analysis. Figure 3 illustrates stop locations for the Toronto Segment of the Eglinton West LRT extension.

Figure 3. Stop locations for the Toronto Segment of the Eglinton West LRT extension.



As directed by City Council, staff have completed further analysis to assess the feasibility, costs and benefits of potential grade separations at the following locations to address potential traffic impacts of implementing the Eglinton West LRT extension:

- Eglinton Flats (i.e., Jane Street and Scarlett Road);
- Martin Grove Road;
- Kipling Avenue;
- Islington Avenue; and
- Royal York Road.

An initial review of possible grade separation configurations at each location was completed to identify technically feasible options for each intersection. The technically feasible options were carried forward for further analysis. In order to understand the costs and benefits of each grade separation, an evaluation was completed based on the City's Rapid Transit Evaluation Framework. Detailed traffic modelling of the corridor was completed to determine the transportation benefits of each grade separation. Preliminary Class 5 cost estimates were also developed and used as a key input in the analysis. A detailed description of the methodology used is included in Attachment 2.

As indicated in Attachment 2, City and Metrolinx staff analysis of potential grade separations indicate low benefits and high costs for each grade separation. Based on the strategic evaluations of the grade separations, along with the assessment of costs and benefits, this report recommends no further consideration of grade separations for the Toronto Segment.

In order to minimize the traffic impacts of an LRT in this corridor, staff are also examining alternative opportunities to mitigate traffic impacts, including signal optimization and changes to traffic operations. In the case of Martin Grove Road, staff are studying more comprehensive solutions to address underlying traffic issues, as an alternative to a grade separation.

Martin Grove Road / Eglinton Avenue West Intersection

The Eglinton West LRT passes through one of the City's most congested intersections at Eglinton Avenue West and Martin Grove Road. Traffic at this intersection has been a long-standing issue, including high volumes using both arterial roads and vehicles making eastbound-northbound and northbound-westbound turns to access Highways 401, 427 and 27.

Although the City has recently implemented short-term operational improvements including multiple optimizations of signals at this intersection, a long-term solution is needed. A functional transportation planning study is underway to identify opportunities for improving the functionality of the road network in this area (bounded by Lloyd Manor Road to the east and The East Mall/Hwy 27 to the west). City staff are working closely with the Ministry of Transportation to ensure alignment with Provincial interests and plans to improve connections to highways. This study may recommend solutions to traffic issues that are more effective and less costly than a grade separation at Martin Grove Road, and may recommend alternative routing of the LRT.

Airport Segment

The 2010 TPAP for the Eglinton West LRT did not identify a specific alignment from Silver Dart Drive to Toronto Pearson International Airport. In June 2017, Metrolinx initiated a study to recommend an alignment and stop locations for the Airport Segment, including reconfirming the alignment from Renforth Station to Silver Dart Drive. It is anticipated this work will be completed in early 2018. The recommended Airport Segment concept will feed into a TPAP addendum and a business case update for the project.

The GTAA will be launching a study for the conceptual design of its Regional Transit Centre (RTC) which is anticipated for completion in late 2018. The RTC is envisioned by the GTAA to act as a hub for all forms of ground transportation, including multiple rapid transit lines such as the Eglinton West LRT and Finch West LRT. As a key component of Toronto Pearson's growth plan, the vision is to transform the airport area into the next global "Megahub" airport, increase use of transit to access the airport area, and also act as a hub for regional travel across neighbouring municipalities. Metrolinx's Airport Segment study of the LRT is being completed with consideration of several options for connecting to the RTC. Strong integration between the terminus of the Eglinton West LRT and the RTC is a key consideration in the planning/technical work underway.

City staff are working closely with Metrolinx, the City of Mississauga, and the GTAA to ensure coordination between all studies. The results of these studies will be important input into staff analysis and recommendations on a refined LRT concept for the TPAP addendum.

In November 2016, City Council requested that the City of Mississauga and GTAA confirm their interest in this project for the segment between Renforth Station at Commerce and Toronto Pearson International Airport, including a commitment of resources to the planning, design, construction and delivery of the project. There has been no confirmation of funding commitment received from the City of Mississauga or

GTAA to date. Following completion of Metrolinx's Airport Segment study, the business case for this project will be updated to clarify the local and regional benefits.

Public & Stakeholder Consultation

Stakeholders and the public have been consulted on the grade separations analysis. Feedback received from the consultation has been added to the strategic evaluation. Further consultation will be undertaken before the Q2 2018 report. The final pre-TPAP consultation will focus on findings of all studies including potential alternatives to grade separations, functional planning work on the Martin Grove Road / Eglinton Avenue West intersection, land use planning analysis, airport connection and land use planning work. See Attachment 2 for more detail on the public consultation process.

Next Steps on SmartTrack – Eglinton West LRT Extension

Work is underway to confirm the alignment between Martin Grove Road and Renforth Station (at Commerce Boulevard), and to recommend an alignment and stop locations for the Airport Segment extending from the Renforth Gateway to Toronto Pearson International Airport. Staff will update the business case for the project, including an assessment of Toronto Segment costs and benefits in relation to the costs and benefits of extending the line to the Airport.

In Q2 2018, staff will report back with a full LRT alignment and concept to be advanced to TPAP addendum which includes both the Toronto Segment and the Airport Segment. The report will include:

- Airport Segment alignment and stop locations;
- Refined at-grade LRT with 10 stops for the Toronto Segment (as recommended in this report);
- Business case update that includes more detailed information on the Airport Segment of the project; and
- Measures and associated costs to mitigate local traffic impacts, including findings from the Martin Grove Road/Eglinton Avenue West Transportation Study.

A Class 3 cost estimate (Stage Gate 5) for the Eglinton West LRT extension is anticipated to be available in Q1 2019. For more details on the technical and planning studies underway, see Attachment 2.

3. Regional Express Rail – Update

RER is a \$13.5B (2014\$) program to substantially expand GO service by 2024/25. RER includes electrification of five GO corridors (Barrie, Stouffville, Lakeshore East, Lakeshore West and Kitchener) and enhancements to Union Station. RER is a large and complex program that requires significant coordination and partnership between the City and Metrolinx. Attachment 3, prepared by Metrolinx, provides an update on the status of RER implementation in Toronto.

City staff are assessing the potential impacts and opportunities associated with the interface between City assets and the Metrolinx-owned GO corridors. In order to

support Metrolinx's accelerated timelines related to RER implementation, the City will require additional staff resources in the form of a dedicated team to support Metrolinx TPAPs, detailed design, property acquisition, procurement, stakeholder engagement, and transfers of City property as required.

The proposed RER resourcing arrangement is an extension to the one currently used for the LRT Program (i.e., Eglinton Crosstown, Finch West and Sheppard East). In 2012, the City entered into a Master Agreement with Metrolinx and the TTC for the delivery of the \$8.4B (2010\$) LRT Program. Under this agreement, Metrolinx provides funding for City resources dedicated to the implementation of the LRT Program. This model is an integral part of the success of work accomplished under the LRT Program to date.

RER also requires property acquisition services. The Property Acquisition Unit (PAU) comprises City staff from Legal Services and Real Estate Services currently doing work for Metrolinx on the LRT Program in Toronto pursuant to the LRT Master Agreement signed in 2012. The role of the PAU will need to expand to undertake property acquisitions from third parties for RER and other overlapping capital programs. This report therefore recommends authorization to execute an agreement with Metrolinx for the PAU to continue to provide property acquisition services for transit expansion initiatives, including the LRT and RER programs in Toronto.

4. Regional Transportation Plan

In September 2017, the Metrolinx Board of Directors approved the Draft 2041 Regional Transportation Plan for the Greater Toronto and Hamilton Area (the "Draft Plan") for official public release. The Draft Plan is a high level document outlining Metrolinx's proposed vision and goals to transform the transportation network in the GTHA.

The Draft Plan identifies many of the transit projects that make up the City of Toronto's 2031 Transit Network Plan, including the Eglinton West LRT, Scarborough Subway Extension, Relief Line, Waterfront transit and the Eglinton East LRT. The Draft Plan also promotes the advancement of the 10-year GO RER program including the addition of 12 new stations. SmartTrack/RER integration is therefore a key component of both the City's 2031 Transit Network Plan and the 10-year GO RER program.

Given that Toronto riders comprise 85% of the regional transit system, it is imperative that regional expansion works for Toronto residents and transit users. The City has been engaged with Metrolinx in the development of the Draft Plan to ensure it aligns with local and regional policies and plans. The current Draft Plan does not provide key details related to implementation such as governance and decision-making roles and responsibilities, funding, and the process for prioritizing transit expansion projects. Continued municipal consultation will be critical in the implementation of the final Regional Transportation Plan. Given the scale and scope of transit services provided and funded by the City of Toronto and its agency, TTC, the City should be engaged as a key partner in achieving the vision laid out by Metrolinx in the Draft Plan.

The City has prepared a submission to Metrolinx in response to the Draft Plan which is included as Attachment 5 to this report. This report recommends Council forward the City's response to the Draft Plan to Metrolinx and the Ministry of Transportation.

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ATTACHMENTS

Attachment 1 – New SmartTrack/GO RER Stations Technical & Planning Update
Attachment 2 – Eglinton West LRT Extension Technical & Planning Update
Attachment 3 – Metrolinx Update on Regional Express Rail
Attachment 4 – City response to Metrolinx re: additional information on the proposed Lawrence East station
Attachment 5 – City response to Metrolinx re: Draft 2041 Regional Transportation Plan for the Greater Toronto and Hamilton Area