



Easier Access Phase III – Project Status Update February 2022

Date: February 10, 2022
To: TTC Board
From: Chief Capital Officer

Reason for Confidential Information

This report contains advice or communications that are subject to solicitor-client privilege, including communications necessary for that purpose.

Summary

The purpose of this report is to provide a status update on the delivery of the Easier Access Phase III (EAIII) program for completion by 2025.

A cornerstone of the TTC's Corporate Plan 2018-2022 is accessibility, and as a proud leader in providing accessible public transit in the city of Toronto, we are committed to ensuring reliable, safe and inclusive transit services for all our customers.

The EAIII program is an important part of the 2019-2023 TTC Multi-Year Accessibility Plan in its objective to fulfil the provincially legislated requirements in the Accessibility for Ontarians with Disabilities Act, 2005 (AODA).

The Board adopted the recommendations in the report entitled, '2021 Accessibility Plan Status Update' at its May 12, 2021 meeting. At that meeting, the Board adopted the following Member motion:

That the TTC Board direct staff to bring back on a semi-annual basis an Easier Access Update Report. The report is to outline a program for each station, including:

- a. Major milestones through to project completion;
- b. Interdependencies with the City's planning and permit approvals process; and
- c. A high level program risk register.

The Board received a report titled, 'Easier Access Phase III Project Status Report' at its July 14, 2020 meeting. The report recommended that the Board receive the current EAIII schedule noting the acceleration efforts presently underway and that staff will continue to seek opportunities for schedule improvement. The Board also received a

report titled, 'Feasibility of Acceleration – Easier Access Phase III' at its October 27, 2016 meeting.

The 2016 and 2020 reports highlighted the key challenges and complexities with delivering the EAIII program. Managing these challenges and working collaboratively with City agencies and staff, utility authorities as well as developers is key for TTC to successfully deliver the EAIII program.

To date, 55 stations are accessible and there are 17 remaining subway stations to be made accessible by 2025. Overall the program is ambitious and achievable as at our peak we have unto 16 stations concurrently in various stages of construction. To ensure that we meet our accessibility commitment the following actions have been taken:

- a. The Board at its meeting on July 7, 2021 meeting adopted the recommendation to delegate authority to the TTC Chief Executive Officer to award future Easier Access III construction contracts provided that the contract award values are within the TTC construction estimates.
- b. Advancing design development to identify requirements early to commence the lengthy process of approvals and property acquisitions in parallel with completing the design and commencing construction.
- c. City and TTC have set up an Executive Steering Committee to oversee and advance all approvals and property acquisitions.
- d. Separating and completing station power upgrades using both external and internal resources in advance to reduce construction complexity as well as performing utility relocations ahead of EAIII construction.
- e. Implement EY recommendations will improve control of the project, provide more accurate and timely reporting, and enhance the probability of project success

The Board is provided with an annual status update on Accessibility Plan and this includes an update to the EAIII program schedule.

This report also includes a review of the Easier Access program undertaken by Ernst & Young on the direction of the CEO as a pilot review of the new capital projects assurance function which is currently in development. A summary of the review findings submitted to the CEO and TTC management response are included in the confidential attachment of this report.

Recommendations

It is recommended that the Board:

1. Receive the current EAIII Program schedule noting the acceleration efforts presently underway, and that staff will continue to seek opportunities for schedule improvement.

2. Endorse the management recommendations outlined in the confidential attachment; and
3. Authorize the information contained in the confidential attachment to remain confidential as it contains commercial and technical information that is supplied in confidence; and if disclosed could reasonably be expected to prejudice significantly the commercial interests of the TTC in the ongoing management of current third party contracts.

Financial Summary

This report has no additional capital financial impact beyond what has been approved in the 2022-2031 Capital Budget and Plan.

The total approved project cost for the Easier Access Phase III Project is \$1,089.6 million comprising costs to the end of 2020 of \$387.7 million, projected year-end spending of \$81.3 million for 2021, and funding of \$620.6 million cash flowed between 2022 and 2027 under Program 3.9 Other Buildings and Structures – Easier Access Phase III Project, as approved by the Board on December 20, 2021 and will be reviewed by City Council on February 17, 2022. Approximately \$600 million of the total approved project cost has been committed to date.

Construction contracts at Glencairn and Greenwood stations have been awarded by delegated approval by the Board to the TTC's CEO. The cumulative value of these awards is approximately \$26.8 million.

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

Equity/Accessibility Matters

A cornerstone of the TTC's Corporate Plan 2018-2022 is accessibility, and as a proud leader in providing accessible public transit in the city of Toronto, we are committed to ensuring reliable, safe and inclusive transit services for all our customers.

This is supported through the work of the EAIII project. An accessible path with elevators and the associated equipment and finishes will be provided from street level to subway platforms for all remaining subway stations not currently accessible.

The prioritization of making stations accessible was determined in consultation with the Advisory Committee on Accessible Transit (ACAT). Factors considered by ACAT include: geographical location, daily usage of the station, proximity to hospital and senior citizens' facilities, proximity to other accessible stations, and transfers/connections to other modes of transportation and Wheel-Trans. The ACAT Design Review Subcommittee reviews and provides input and constructive feedback on all EAIII designs at the preliminary design stage. All ACAT comments are addressed prior to completing the detail design.

Decision History

In order to meet the 2025 required completion date, the EAIII Program schedule has been accelerated where possible. For further project background and history refer to:

[Board Report Feasibility of Acceleration Easier Access III \(azureedge.net\)](#)

[Easier Access Phase III Project Status Report \(azureedge.net\)](#)

[2021 Accessibility Plan Status Update.pdf \(azureedge.net\)](#)

Issue Background

The EAIII program is an important part of the 2019-2023 TTC Multi-Year Accessibility Plan in its objective to provide accessible transit to all customers and fulfil the provincially legislated requirements in the Accessibility for Ontarians with Disabilities Act, 2005 (AODA).

The TTC started work to make subway stations accessible to people with disabilities in 1990 and has a target to complete all subway stations by 2025. To date, 55 stations are accessible, and there are 17 remaining subway stations to be made accessible by 2025 as depicted in Appendix A – Easier Access Phase III Program Schedule. Note: the remaining Scarborough Rapid Transit (SRT) or Line 3 stations are being replaced by the Scarborough Subway Extension and will not be made accessible under the program.

The EAIII program will provide an accessible path from street level, buses and streetcars, to subway platforms for all remaining stations not currently accessible.

The overall project scope at each station can vary according to individual station requirements, but will include as applicable: elevators, accessible doors, ramps, wide fare gates, electrical power upgrade, communication system upgrades, fire alarm modifications, tactile tiles, Wheel-Trans stops, associated HVAC and electrical equipment, ceiling and signage modifications and architectural finishes. Existing service rooms will be renovated or new service rooms constructed to house the required equipment. Structural modifications are required for wall and floor openings to accommodate elevator shafts and corridors. Some stations require removal or reconstruction of existing stairs and escalators.

Comments

The current program schedule is meeting the project delivery commitment with six stations put into service in 2020 (Wellesley, Dupont, Chester, Runnymede, Wilson and Bay), and Keele, Sherbourne and Yorkdale stations put into service in 2021.

Elevator construction is ongoing at eight stations: Lansdowne, Donlands, College, Summerhill, Rosedale, Castle Frank, Glencairn and Greenwood. Four stations are in

the Tender phase: Christie, Lawrence, Museum and High Park. The remaining five stations are: King, Spadina (Line 1), Old Mill, Warden and Islington. Refer to Appendix A for expected timing for each station.

As with most other construction projects, EA projects have been impacted by the COVID-19 pandemic. Although deemed essential and allowed to continue throughout the pandemic, the necessary restrictions implemented to protect the health and safety of those involved have affected availability of resources and materials, and impacted design and construction progress. The TTC has recently implemented a Mandatory Vaccination Policy that includes contractors and consultants performing work for the TTC. Continual assessment on the impact of the policy on the progression of contract work will be reviewed as necessary. In addition, in late October, the progression of project and design work was affected by a cybersecurity incident, which impacted the ability to access project-related files, and correspond and issue documents effectively with external consultants and contractors.

Due to the low ridership on the system, opportunities were reviewed to advance EA project construction work. TTC closed an entrance at Lansdowne Station in 2021 for approximately three months to facilitate elevator and entrance work, and we are looking at further potential entrance closures and extended bus loop closures to facilitate the work at other stations. This includes Museum and Lawrence stations, which will require station entrance closures to facilitate elevator construction. Lawrence has 2 entrances and Museum main entrance to be closed once second exit/entrance is built/ opened. The local Councillors and communities are advised in advance of planned station entrance closures. Some stations, such as Lawrence Station, will also require weekend subway closures to facilitate the construction work affecting track level areas. Approximately four closures are planned for the work at Lawrence Station.

The previous July 14, 2020 report, 'Easier Access Phase III Project Status Report' discussed the increasing complexities of the remaining stations to be made accessible and the challenges faced by EAIII projects. Since that update in 2020, completion dates for the following stations have been moved to 2024 as noted in the May 12, 2021 Accessibility Plan Update report:

- Spadina: additional time was required to resolve utility conflicts and relocations.
- King: additional time was required to resolve utility conflicts and relocations.
- Lawrence: additional phasing co-ordination was required due to the complexity of the construction work in order to maintain access between the main entrance, bus terminal and subway platform throughout.
- High Park: additional time was required to revise the design to address constructability issues and complexities related to the existing station layout.

In addition, Christie station is currently tracking behind its public commitment date of end of 2023 due to challenges with final approvals required to proceed to construction. However, the project teams have been able to accelerate other stations, including Rosedale and Glencairn which are tracking ahead of their end of 2024 public commitment dates as shown in Appendix A.

Stations made accessible early in the program were chosen for both geographic accessibility and comparatively less complex design and construction constraints. The majority of the remaining stations are significantly more challenging due to station configuration, conditions and constraints. The following discussion provides an update to the information in the previous Project Status report.

Project Life Cycle

The project life cycle begins with a design concept, which is achieved at Stage Gate 1, followed by preliminary design development at Stage Gate 2. At this stage, the required project scope elements are identified and agreed to by the principle project stakeholders.

The project then proceeds past Stage Gate 3 detail design development. At the completion of this stage gate, the design is thoroughly vetted through all internal stakeholders for acceptance for construction. Stage Gate 4 is the tender and award process and Stage Gate 5 is achieved at the commencement of the construction phase, which is typically a two-to-three-year duration and includes the elevator in-service milestone. Project estimates and schedules are progressively updated at each stage gate based on the level of design maturity and development. Stage 6 is contract closeout and handover to the end user.

The current status of the remaining Easier Access stations is as follows:

Station	Stage Gate Achieved
Keele	G6
Sherbourne	G5
Yorkdale	G5
Lansdowne	G5
Donlands	G5
College	G5
Summerhill	G5
Rosedale	G5
Castle Frank	G5
Glencairn	G5
Greenwood	G5
Christie	G4
Lawrence	G4
Museum	G4
High Park	G4
Spadina	G3
King	G3
Old Mill	G3
Warden	G3
Islington	G3

All designs have now been advanced past Stage Gate 2, and as such, the project constraints and complexities have been identified for resolution and management, including as applicable: property acquisitions, utility relocations, station power upgrades, site plan approval, co-ordination/interfaces with development works, etc. Every station is unique, with different risks identified and required mitigation efforts to manage the risk to the project schedule. A project risk register is developed for each station and is used to identify and manage the potential risks, impacts and mitigation strategies.

Refer to Appendix B – Easier Access III Critical Issues and Risks for further information on issues and risks by station.

Project Risks and Mitigation

Risks associated with significant station modifications:

- Structural demolition (wall and floor openings, etc.);
- Stair/escalator reconstruction;
- Deep excavations and shoring systems;
- Groundwater ingress;
- Operational constraints;
- Managing customer impacts; and
- Co-ordination/interfaces with future municipal developments.

Mitigation efforts include early and thorough design development, surveys for the existing services, including embedded services conflicting with the construction of new elevators and relevant work, constructability workshops, retaining specialist consultants, code and peer reviews, extensive stakeholder reviews and industry expert consultations. Some projects will also require temporary street closures and bus re-routing and employing community relations staff, customer service agents and additional janitorial services to manage the construction disruptions.

Depending on the level of impacts, consultations are undertaken with local communities and city councillors throughout the project life cycle to ensure members of the community are aware of the work and have an opportunity to provide feedback. This includes public open house sessions and councillor briefings at various stages. Complex projects within the community, such as Donlands Station, also employ dedicated community liaison personnel on the site.

Risks associated with third party processes and resources are:

- Property acquisitions;
- Permits and approvals;
- Electrical power upgrades;
- Utility relocations; and
- Specialized elevator suppliers.

Mitigation efforts include advancing design development to identify requirements early to commence the lengthy process of approvals and property acquisitions in parallel with completing the design and commencing construction. Separating and completing station

power upgrades using both external and internal resources in advance to reduce construction complexity as well as performing utility relocations ahead of EAIII construction.

The above processes rely on City resources and third party agencies to ensure timely execution of property acquisitions, permits and approvals. There remain several stations that require completion of property acquisitions, permits and/or approvals by the City and/or utility agencies in order to proceed to construction. In many cases, multiple rounds of permit or approval reviews are required to satisfy requirements. Property easement agreements remain to be completed for the following stations, which could affect project timelines: Museum, High Park, Old Mill and Islington.

Continued support from City staff and utility agencies and identification of EAIII as a priority project is critical in completing the stations according to schedule. Some progress has been made, including delegated approval to City Transportation for Right of Way occupancies related to EAIII projects.

Further discussions have taken place with the City and an Executive Steering Committee has been set up to progress approval and property acquisitions. The TTC in its 2022 budget submission has identified and included for additional City resources to support site plan, permit and property approvals process.

Risks associated with resources are:

- Design resources;
- Project management;
- Construction management; and
- Supporting functions.

Advancing design and the managing associated complexities requires extensive design resources, including specialized consultants. The project team utilizes multiple design services contracts and firms, along with in-house engineering resources, to meet these needs. Dedicated Easier Access Project Management and Construction Management teams have been established to ensure continued focus on the project.

These projects also require staff and external resources outside of the project team including, but not limited to, customer service, community relations, legal, property acquisition and development, and utility and permit reviewers/co-ordinators.

Warden and Islington Stations

Warden and Islington stations were designed with multiple individual drive-through bus bay configurations with stairs to each bus bay, and as such require new multi-bay bus platforms to achieve accessibility requirements. A dedicated project team was implemented to advance both designs. Funding for the redevelopment of both stations was provided in 2019 during conceptual design and further supplemented in 2021 upon completion of the Stage Gate 2 milestone. The Board in the 2021 Budget approved an additional \$315.8M to fully fund the EA program.

Existing and adjacent sites at both stations are designated for future development by CreateTO, and as a result, extensive co-ordination and commitment is required among CreateTO, City Planning and Transportation and the TTC to develop a feasible and co-ordinated development plan that is constructible within the required timelines and respects both transit and housing needs. Since the last update to the Board in 2021, both station designs have proceeded to the detailed design phase and site plan approval applications have been submitted to the City in mid-2021 for review and approval. Timely reviews and approvals are required to maintain the project schedules.

These stations are significantly more complex due to the complex third-party issues, and redevelopment requirements, which are more than four times the cost of typical EA projects. As such, the project team is continuing to investigate mitigation strategies to expedite the completion of design phases, including necessary approvals in order to commence construction as soon as possible.

For Warden Station, this includes splitting the work under three separate construction contracts as follows:

- Selective electrical upgrades that will be completed by early 2022;
- Construction of train platform and concourse elevators, which is expected to be completed by the end of 2023; and
- Station Redevelopment work, which includes a temporary island bus terminal as an initial phase to make the station fully accessible by the end of 2024. Further work would follow, including construction of a new island bus terminal in the location of the existing terminal.

For Islington Station, construction and phasing of the work will be done under one contract and will include electrical room upgrades, train platform elevator and new accessible entrance as initial phases that is planned to be completed by the end of 2024, followed by construction of the new permanent island bus terminal north of the existing bus terminal.

Acceleration Efforts

Acceleration of the program has been ongoing since the 2016 report to the Board titled, 'Feasibility of Acceleration Easier Access III.' Prior to that time, an average of one station was made accessible per year. Since then, the average number of stations being made accessible has ramped up to three per year on average. This is expected to increase further and result in 15 stations becoming accessible between 2023 and 2024.

In 2017 the Board approved acceleration of the design works and additional design services have been retained and dedicated Project Management and Property staff were assigned to advance designs in parallel, and identify permit, property and other requirements early. Earlier acceleration efforts are paying off. Since 2020, five stations have commenced construction (Summerhill, Rosedale, Castle Frank, Glencairn and Greenwood). Appendix A shows that by the end of 2022, all stations with the exception of Warden (Redevelopment contract) and Islington stations are expected to have proceeded to the construction phase.

At its July 7, 2021 meeting, the Board delegated approval of contract awards at remaining EAIII stations to the TTC CEO based on construction estimates, which can result in expediting contract approvals for award by approximately one month or more as the Board may not meet every month. This delegated approval has facilitated the award of two EAIII contracts to date at Glencairn and Greenwood stations.

The later stations in design are more technically complex as discussed in this report, and required construction staging and operating constraints add to the project complexity and construction durations. Staff work collaboratively with contractors to identify opportunities to accelerate the work during construction.

The EAIII projects have all utilized the design-bid-build (DBB) process. This traditional industry practice is best suited for these types of projects where operating constraints and the product is more technically complex and dependent on quality assurance and quality control to deliver to the owner's expectations, especially given components of the work that have a high frequency of usage and long service life. The DBB method has the advantage of being the most familiar, and the rules and procedures are well understood among the parties (owner, designer and contractors). DBB also allows for a competitive market fixed price bid where all performance-related risks are the contractor's responsibilities.

The EAIII project primary risks are related to unforeseen conditions, operational constraints, quality and technical requirements, property acquisition and third-party process. The DBB process is better suited for this application where the owner has a more involved role rather than design-build, integrated project delivery or construction management type approaches.

Given the described project constraints affecting the EAIII projects, the current construction schedule, which has up to 16 stations in construction concurrently is ambitious and achievable.

The EAIII program is scheduled to be completed by 2025. The project team will continue to advance station designs and to seek opportunities for schedule improvement.

Ernst & Young (EY) – Independent Review

Ernst & Young (EY), at the direction of the TTC CEO, has conducted a review of the Easier Access Phase III (EAIII) project. The primary objectives of the review was to provide the TTC with an independent assessment against which the project progress and project deliverables can be measured to assess the status of a sample of five EA III stations in meeting the AODA compliance deadline, and to determine whether the key project elements and processes are in place to manage the EAIII Project. It is important to note that the EAIII project started in 2007 and is itself a successor of earlier phases of Easier Access projects. Consequently, some of the processes in use by the EAIII Project Team were established before the more recently developed TTC standards and guidelines.

Having recognized the long history of Easier Access projects, it is also relevant to note that some \$500 million of budget remains to be spent and that the scope of the EAIII project will not be fully delivered for another four years, including the redevelopment works at Islington and Warden. With this understanding, EY believes that is not too late in the project to implement recommendations that will improve control of the project, provide more accurate and timely reporting, and enhance the probability of project success.

The review considered the project management processes employed in several disciplines across the EAIII project and the report describes findings and related recommendations. Additionally, based on a review of available information, EY provided an opinion on the probability and risks associated with achieving on-schedule and on-budget outcomes of five selected EAIII stations. In a follow-on review, EY anticipates performing additional project-specific reviews of the remaining stations in the EAIII project.

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Signature

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Chief Capital Officer

Attachments

Appendix A – Easier Access Phase III Program Schedule
Appendix B – Easier Access Phase III Critical Issues & Risks
Confidential Attachment 1 – Confidential Information

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APPENDIX A
Easier Access Phase III Program Schedule

Station	Design Completion	RFP Construction	Contract Award	Construction Planned to Begin	Elevators In Service	Substantial Completion	Status
Keele				Complete	In Service	Achieved	Complete
Yorkdale				Underway now	In Service	Q3 2022	Construction
Sherbourne				Underway now	In Service	Q1 2022	Construction
Donlands				Underway now	Q4 2022	Q3 2023	Construction
Lansdowne				Underway now	Q4 2022	Q4 2022	Construction
College				Underway now	Q4 2023	Q4 2023	Construction
Summerhill				Underway now	Q4 2023	Q1 2024	Construction
Castle Frank				Underway now	Q4 2023	Q1 2024	Construction
Rosedale				Underway now	Q4 2023	Q2 2024	Construction
Greenwood				Underway now	Q4 2023	Q2 2024	Construction
Glencairn				Underway now	Q2 2024	Q2 2024	Construction
Christie	Q2 2021	Q3 2021	Q1 2022	Q1 2022	Q1 2024	Q2 2024	Tender
Lawrence	Q3 2021	Q4 2021	Q2 2022	Q2 2022	Q4 2024	Q4 2024	Tender
Museum	Q3 2021	Q4 2021	Q2 2022	Q2 2022	Q4 2024	Q4 2024	Tender
High Park	Q4 2021	Q1 2022	Q2 2022	Q2 2022	Q4 2024	Q4 2024	Tender
Spadina	Q3 2021	Q1 2022	Q2 2022	Q2 2022	Q4 2024	Q1 2025	100% Design
King	Q4 2021	Q2 2022	Q2 2022	Q2 2022	Q4 2024	Q1 2025	100% Design
Old Mill	Q2 2022	Q3 2022	Q4 2022	Q4 2022	Q4 2024	Q2 2025	Detail Design
Islington (EA)*	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q4 2024	Q3 2026	Detail Design
Islington (Redev)	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q4 2024*	Q2 2026	Detail Design

Station	Design Completion	RFP Construction	Contract Award	Construction Planned to Begin	Elevators In Service	Substantial Completion	Status
Warden (EA)**	Q4 2021	Q1 2022	Q2 2022	Q2 2022	Q4 2023	Q1 2024	100% Design
Warden (Redev)	Q4 2022	Q1 2023	Q2 2023	Q2 2023	Q4 2024**	Q3 2026	Detail Design

***Note: Islington EA work will provide accessibility from new street level entrance (ramp) to concourse and from concourse to subway platform (elevator). Accessibility from new bus terminal to concourse will be provided with an elevator as part of Redevelopment. Bus access to new street level entrance to be completed by end of 2024.**

****Note: Warden EA Contract will provide accessibility from drop off PPUDO to concourse (1 elevator) and concourse to subway (2nd elevator). The station becomes accessible during Redevelopment contract once temporary bus terminal is completed (end of 2024).**

APPENDIX B
Easier Access Phase III Critical Issues & Risks

Project	Description	Impact	Risk Status	Notes (General Note: Mitigation Plans for noted Issues/Risks are in place as indicated and where feasible)
A45-17 YORKDALE STATION ELEVATOR-EASIER ACCESS PHASE III COMBINED WITH ESCALATOR REPLACEMENT				
A45-17 YORKDALE	Complexity Construction complexity and staging	- Delay in contract completion.	Occurred	<ul style="list-style-type: none"> - High design and construction complexity due to new elevator, plus escalators replacement - General contractor has implemented a countdown plan, which TTC is closely monitoring - Escalators to be completed in 2022
A45-18 SPADINA STATION - EASIER ACCESS PHASE III				
A45-18 SPADINA	Utilities Utilities work delayed due to high complexity (Enbridge gas, City, Toronto Hydro)	- Additional time and cost due to delays	Occurred	<ul style="list-style-type: none"> - High complexity with Enbridge gas relocation at Northbound Elevator (E1). - Additional investigation and discussion ongoing between TTC and utilities regarding the final option will result in additional project cost and under review - Elevators in service date rebaselined to 2024.
B45-11 CHRISTIE STATION ELEVATORS-EASIER ACCESS PHASE III				
B45-11 CHRISTIE	Property Acquisition Longer than expected time to obtain the properties required for construction of the project	- Schedule Delay: Delay to contract award and mobilization of the contractor	Occurred	<ul style="list-style-type: none"> - The project required the acquisition of all or parts of 6 properties in total - All property acquisition has now been completed (early July 2021)
B45-11 CHRISTIE	Relocation of Family Temporary relocation of a family to accommodate construction of street level elevator access to concourse and WB platform (elevator E1)	- Cost impact: relocation cost impact to the project	Occurred	<ul style="list-style-type: none"> - A local family requires relocation for the construction duration - A draft agreement has been completed, pending settlement with the local family for execution prior to start of construction

Project	Description	Impact	Risk Status	Notes (General Note: Mitigation Plans for noted Issues/Risks are in place as indicated and where feasible)
B45-11 CHRISTIE	Permits/Approvals Permits and approvals take longer than expected (building permit, ROW permit(s), TPUR)	- Cost and schedule impact: Design rework to address multiple rounds of comment	Occurred	- Additional design requested by City of Toronto and Toronto Water to meet provincial requirements to offset additional discharge to the storm sewer network expected from the future installation for the project resulted in delays to permit approval, tender of the project, and impacted the Elevators-in-Service date which has moved to Q1 2024. Continuing to meet with City staff to expedite review and approvals.
B45-6 LANSLOWNE STATION ELEVATORS-EASIER ACCESS PHASE III				
B45-6 LANSLOWNE	Property Damage during construction Damage to adjacent private properties/buildings during construction	- Increase in cost and schedule.	Occurred	- Unknown buried conditions encountered during shoring work temporarily stopped construction of the Eastbound Elevator (E3) pending further investigation - The shoring methodology has been revised, and work has resumed
D45-6 GREENWOOD STATION ELEVATORS-EASIER ACCESS PHASE III				
D45-6 GREENWOOD	Design Complexity Complexity of sewer relocation/close proximity to adjacent properties/complex staging including road closures	- Delay to completion of Detailed Design and tender	Occurred	- Detailed Design duration was longer than anticipated due to required extensive utility investigations - Additional construction stages have been added, increasing the duration of the overall construction
D45-6 GREENWOOD	Right Of Way Permits Delay in obtaining Right-Of-Way permit from City of Toronto	- Delay to issuance of Tender/start of construction	Occurred	- ROW permit approval delay has impacted the tender release - Multiple reviews with the City of Toronto were required to obtain concurrence on the ROW permit - Council approval of the ROW permit obtained on December 13, 2021 - Current delay of 6 months, with potential impacts on Elevator-in-Service date of end of 2023

Project	Description	Impact	Risk Status	Notes (General Note: Mitigation Plans for noted Issues/Risks are in place as indicated and where feasible)
D6-3 DONLANDS STATION - SECOND EXIT/ENTRANCE & EASIER ACCESS PHASE III				
D6-3 DONLANDS	Vibration Vibration impacts on adjacent zones	<ul style="list-style-type: none"> - Private property complaints - Claims for damage/business loss 	Occurred	<ul style="list-style-type: none"> - In July 2021, during shoring work, the plaster ceiling of a nearby church was damaged - A stop work order was issued to investigate the cause of the damage - Investigation has shown that damage was not a result of construction - Work resumed in August 2021 after approximately 6 weeks delay - Cost and schedule impacts being reviewed, may impact elevator completion date of end of 2022
D6-3 DONLANDS	Right Of Way Permits Delay in obtaining Right-Of-Way permit from City of Toronto	<ul style="list-style-type: none"> - Delay to issuance of Tender/start of construction 	Occurred	<ul style="list-style-type: none"> - Additional traffic measures required to address additional comments, delayed ROW permit issuance
D6-3 DONLANDS	Resident Requests for Additional Parking Resident requests for additional parking during construction due to lack of on-street parking	<ul style="list-style-type: none"> - Cost Impact: Obtain additional offsite parking 	Occurred	<ul style="list-style-type: none"> - Residents requested additional parking that could not be accommodated on local streets - An agreement to convert a local Toronto Parking Authority (TPA) parking lot to resident parking has been implemented - Conversion of the parking lot, and loss of TPA revenue has resulted in a cost impact to the project
E4-13 WARDEN STATION REDEVELOPMENT				

Project	Description	Impact	Risk Status	Notes (General Note: Mitigation Plans for noted Issues/Risks are in place as indicated and where feasible)
E4-13 WARDEN REDEVELOPMENT	Site Plan Approval Site Plan Approval (SPA) process is delayed	<ul style="list-style-type: none"> - Cost and schedule impact due to design changes in order to accommodate/comply with City requirements - Delay to other permits and approvals such as Building Permit and Minor Variances 	Open	<ul style="list-style-type: none"> - Site Plan Approval (SPA) is required to support construction of the main contract at Warden - Submission has been made to the City of Toronto (completed July 2021) - Approval is required within 9-12 months of submission, based on a commitment made to the TTC by the City of Toronto Transit Commission - Typical approval window would be 24 months
E4-13 WARDEN REDEVELOPMENT	Additional Utilities SOW Additional utilities scope of work identified during detailed design (delays to obtain permits due to increased comments/review with the utility)	<ul style="list-style-type: none"> - Schedule and cost impact to incorporate additional utilities work in the design and execute additional scope during construction 	Open	<ul style="list-style-type: none"> - Additional utility investigations are in progress - Current focus is on identifying extent of utility replacement under the existing bus bays
E45-5 WARDEN STATION EASIER ACCESS PHASE III - PPUDO AND PLATFORM ELEVATORS				
E45-5 WARDEN	Opportunity to Advance Easier Access Opportunity to advance the completion of the Easier Access portion of the project through revised staging	<ul style="list-style-type: none"> - Schedule savings to making the station accessible 	Occurred	<ul style="list-style-type: none"> - The main contract at Warden was split to advanced design and construction of the Platform and Passenger Pick Up & Drop Off (PPUDO) accessibility elements under contract E45-5, and Electrical Upgrades under contract E3-49 - Allows the advanced works to proceed in parallel with the E4-13 SPA, which can have a significant, positive schedule impact

Project	Description	Impact	Risk Status	Notes (General Note: Mitigation Plans for noted Issues/Risks are in place as indicated and where feasible)
S2-17 COLLEGE STATION SECOND EXIT & EASIER ACCESS				
S2-17 COLLEGE	Unforeseen site conditions Unforeseen site conditions encountered during construction	<ul style="list-style-type: none"> - Cost and schedule impacts: Additional time and cost for the site conditions encountered during construction to be addressed 	Occurred	<ul style="list-style-type: none"> - Several site conditions, including a 4-inch layer of bituminous substance on top of the box tunnel structure, have been discovered on site - As a result, previously installed shoring must be removed, and the substance removed and result in revised shoring design - Ongoing assessments of cost and schedule impacts
S2-17 COLLEGE	Impact to Local Businesses and Residents Construction activities, vibration, noise, dust, disruption impacting local business and/or residents	<ul style="list-style-type: none"> - Business complaints and losses due to reduced foot traffic - Residential complaints due to disruption 	Occurred	<ul style="list-style-type: none"> - Original execution plan had work in front of local businesses taking place over night - The overnight work has resulted in noise concerns from local residents - Work is currently taking place on the west side of Yonge; impacts may be greater once work moves to the east side
S45-7 KING STATION ELEVATORS-EASIER ACCESS PHASE III				
S45-7 KING	Coordination with Local Developments/ Construction Projects Other projects in the area requiring access to Colborne St. take longer than expected	<ul style="list-style-type: none"> - Schedule Delay: Not able to commence E3 since access to Colborne St. is required 	Occurred	<ul style="list-style-type: none"> - Several residential and commercial developments in the area have led to increased traffic on Colborne street, which has created restrictions to construction of the Northbound Elevator (E3) - New developments in the pipeline, and local city watermain replacement, and TTC track work on Wellington Street are also placing pressure on construction at Colborne and Yonge Streets for E3
S45-7 KING	ROW permit for E3 Rejected City requests for modification ROW permit for E3	<ul style="list-style-type: none"> - Schedule Delay: ROW revisions 	Occurred	<ul style="list-style-type: none"> - Currently working to obtain ROW permit which reflects latest changes in design. - Working with Toronto Hydro to reach agreement on support-in-place of its existing ductbank including support in place with a redundant line

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S45-7 KING	Damage to adjacent utilities Damage to adjacent utilities (i.e. Enwave, hydro duct, water main, etc.)	- Schedule and Cost Impact: Replace/Repair damaged utility	Open	<ul style="list-style-type: none"> - The combined sewer line in the area of elevator E3 must be moved. Added extensive complexity to the design - Collaborating with Enwave to support in place existing steam line while constructing new sewer line - Additional investigations are in progress to identify a feasible alternative to resolve utility congestion in this area, which has delayed the project - Elevators in service rebaselined to 2024
U3-16 MUSEUM STATION - 2ND EXIT COMBINED WITH EASIER ACCESS PHASE III				
U3-16 MUSEUM	Delay in Obtaining Permits/Approvals Obtaining permits and project approvals takes longer than expected (ROW, Building Permit, Tree Removal Permit, Committee of Adjustment, etc.)	<ul style="list-style-type: none"> - Construction Start Delay - Additional time and cost due to delays 	Open	<ul style="list-style-type: none"> - A temporary property easement with University of Toronto (UofT) is required to support construction of the concourse elevator (E1) - The easement process is taking longer than expected, which has delayed ROW permit approval - Ongoing meetings with UofT to resolve
U3-16 MUSEUM	Capital coordination with University of Toronto Complex construction coordination with University of Toronto activities in the immediate area.	- Delays to elevator construction	Open	<ul style="list-style-type: none"> - TTC and the UofT are planning to conduct heavy construction in the area of the new elevator concurrently - Complex coordination is required to ensure that each project does not impact the other over the course of the construction
U3-16 MUSEUM	Utility Relocations Utility relocations to be completed by 3rd party stakeholders in Right-of-Way delayed	- Utilities relocation scope added to general contract, extending contract duration	Open	<ul style="list-style-type: none"> - Construction of the new elevators within the right-of-way requires relocation and/or support-in-place for several utilities - Field work for the initial round of relocations is in progress

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W4-18 ISLINGTON STATION REDEVELOPMENT				
W4-18 ISLINGTON REDEVELOPMENT	Design Development Additional Design Development during detailed design	- Cost impact to detailed design and construction for increased complexity, validated assumptions, changes introduced through design maturity	Occurred	<ul style="list-style-type: none"> - As the design matures from 30% to 100%, additional items requiring design changes or mitigation have been identified - Interdependency with timing and location of CreateTO future site redevelopment have impacted plans for construction access, and a temporary PPUDO for the duration of construction - Acceptance of existing and future site configuration by Hydro One, TO Water, and CreateTO is required to facilitate approval of the project - Rehabilitation/mitigation of existing site conditions is required to facilitate the current design and future site redevelopment
W4-18 ISLINGTON REDEVELOPMENT	HONI Property Costs Property easement with HONI costs more than expected	- Cost impact due to higher cost of property	Occurred	<ul style="list-style-type: none"> - A permanent easement with Hydro One (HONI) is required to secure land within the local transmission corridor for the project - Costs for this property easement were not previously captured in the project cost estimate - Negotiation of a final easement agreement is in progress

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W4-18 ISLINGTON REDEVELOPMENT	Site Plan Approval Site Plan Approval (SPA) process is delayed	<ul style="list-style-type: none"> - Cost and schedule impact due to design changes in order to accommodate/comply with City requirements - Delay to other permits and approvals such as Building Permit and Minor Variances 	Occurred	<ul style="list-style-type: none"> - Site Plan Approval (SPA) is required to commence construction - Submission has been made to the City of Toronto (completed May 2021) - Mitigation of municipal requirements is needed for approval - Several items related to compliance with municipal standards remain outstanding - Approval is required within 9-12 months of submission, based on a commitment made to the TTC by the City of Toronto
W4-18 ISLINGTON REDEVELOPMENT	Additional Utilities scope Additional utilities scope of work identified during detailed design	<ul style="list-style-type: none"> - Schedule and cost impact to incorporate additional utilities work in the design and execute additional scope during construction 	Open	<ul style="list-style-type: none"> - Mitigation of existing site conditions of buried/embedded services/utilities is required - Several items are to be finalized with the 100% design

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W4-18 ISLINGTON REDEVELOPMENT	Contractor Performance Poor contractor performance and/or work productivity	<ul style="list-style-type: none"> - Schedule impact: Low quality of product, resulting in rework to be done by the contractor - Schedule impact: Poor contract management leading to work conflicts on site, delays to multiple sub contracts 	Open	<ul style="list-style-type: none"> - A comprehensive project risk analysis has identified contractor performance issues as a key risk to completing the project according to schedule - Prequalification of GC is planned for the procurement to obtain best value and GC with appropriate capabilities to safely deliver the project on time
W45-7 HIGH PARK STATION EASIER ACCESS PHASE III				
W45-7 HIGH PARK	Property Acquisition Delays in obtaining temporary and permanent easement	<ul style="list-style-type: none"> - Delay in tender/award of the contract 	Open	<ul style="list-style-type: none"> - Property acquisition for the affected property easement is essential by Q1, 2022 to maintain tender/award dates. - Elevators in service date rebaselined to 2024
W45-8 OLD MILL STATION EASIER ACCESS PHASE III				
W45-8 OLD MILL	Property Acquisition Obtaining property easements (3 apartment buildings/condos) required takes longer than expected (i.e. easements and fee simple)	<ul style="list-style-type: none"> - Schedule impact: Delays to overall project schedule and contract award - Schedule impact: Expropriation(s) required 	Open	<ul style="list-style-type: none"> - Property acquisitions are required to facilitate construction site access over private property - Negotiations with condo board and unit owners are ongoing - Delay in property acquisitions beyond Q3, 2022 will result in significant delay to Elevators-in-Service date

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W45-8 OLD MILL	Complexity and Constructability Structural issues, site conditions and adjacent lands impacting design	- Complete redesign from concept due to design complexity and Schedule impacts: Delay of design completion/tender	Occurred	- Original design was progressed to Scope review, but was abandoned due to complexity issues and constructability. Major issues included egress capacity, vicinity to Humber river flood plain, and major structural issues. A new concept developed starting mid-2019 and completed late 2021 resulting in 2.5 year delay. Design review and approval needs to be expedited to meet schedule commitments.
Y45-3 LAWRENCE STATION ELEVATORS-EASIER ACCESS PHASE III				
Y45-3 LAWRENCE	Closure cancellations Scheduled closures during construction are cancelled	- Schedule impact: Activities scheduled during closures take longer than expected	Open	<ul style="list-style-type: none"> - Several weekend closures, extended station entrance closures and extensive night shift track access are required due to track level activities related to the project - Due to competing priorities with other projects, there is a risk that weekend closures, and/or track access may not be available to accommodate this work - Continuing to coordinate designated substance removal to undertake the work to be completed by internal forces or contractors
Y45-3 LAWRENCE	Designated Substance Removal TTC Designated Substance team not available to complete work in time	<ul style="list-style-type: none"> - Schedule impact: Activities will be part of contract and cause further delays - Cost impact: Higher Cost to award to contractor 	Occurred	<ul style="list-style-type: none"> - Designated substances require removal to facilitate construction at track level - Due to competing priorities and constrained resources, two previously scheduled closures for this work have been cancelled - Current schedule impact of 6 months (no current impact to Elevators-in-Service of 2024)

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Y45-3 LAWRENCE	Discovery of embedded services Discovery of embedded services not shown on reference drawings or not identified during scanning by the consultant	<ul style="list-style-type: none"> - Schedule Impact: Relocation of embedded services - Cost Impact: Resources and material for relocation 	Open	<ul style="list-style-type: none"> - Extensive service relocations are required in the station to facilitate the relocation of the existing electrical room - Scanning and other investigations are in progress to identify any potentially hidden services embedded in walls or slabs