

ATTACHMENT #2

Technical Program Update

The SmartTrack Stations Program consists of five stations, namely, St. Clair-Old Weston, Bloor-Lansdowne, King-Liberty, East Harbour and Finch-Kennedy (Figure 1). This attachment provides a description of the location and general arrangement of the five stations, and a brief update of the major design changes since the previous report, EX20.02 - Advancing the SmartTrack Stations Program¹, adopted by City Council in February 2021.

New SmartTrack Stations

Legend

Subway and LRT Lines
SmartTrack Stations

GO Lines
Kitchener Line
Barrie Line
Stouffville Line
Lakeshore East Line
Other GO Lines



Figure 1. Map of rapid transit network showing five SmartTrack Stations.

Program Milestones

Finch-Kennedy Station

The Request for Proposal (RFP) for the procurement of the Construction Manager at Risk (CMAR) delivery model for the Station was issued by Metrolinx on August 18, 2021. The RFP - CMAR Step 1 process closed on October 5, 2021, followed by the RFP - CMAR Step 2 process, which closed on November 25, 2022. Following a technical evaluation process in which the City of Toronto was involved, the CMAR contract was awarded to SmartTrack Construction Partners (STCP) on April 22, 2022. Since staff last reported to City Council in February 2021, Metrolinx along with its Technical Advisor (TA) and Construction Manager (CM) completed the 60% design and presented the associated

¹ [Agenda Item History - 2021.EX20.2 \(toronto.ca\)](#)

market pricing to the City on January 23, 2023 (included in Confidential Attachment 1). Metrolinx, along with its TA and CM, are advancing the design to 90%, which is expected to be completed by June 2023.

Construction is scheduled to start in October 2023 and substantial completion is estimated for July 2027. The Station is estimated to be in-service by August 2027. The initial schedule of October 2026 for in-service was established by the Metrolinx's TA based on certain assumptions at the time with regards to procurement, design, and construction. However, the revised schedule for the Station to be in-service is based on the CM's input, including assumptions related to productivity, construction staging, and means and methods assumptions, amongst other matters.

Early Works

The following early utility relocation works are currently ongoing at the site:

- Bell: started drilling operations on December 3, 2022 with work expected to last four months.
- Toronto Hydro-Electric System Limited (THESL): Design was completed and THESL is currently working on obtaining railway crossing permit and City of Toronto permits.
- Enbridge Gas Inc. (EGI): Design is in progress; including the 2" pipeline on the Northeast quadrant.

St. Clair–Old Weston Station

The RFP for the CMAR delivery model was issued by Metrolinx on August 18, 2021. The RFP - CMAR Step 1 process closed on October 5, 2021, followed by the RFP - CMAR Step 2 process, which closed on November 25, 2022. Following a technical evaluation process in which the City of Toronto was involved, the CMAR contract was awarded to Graham Construction and Engineering Inc., on April 22, 2022. Since staff last reported to City Council in February 2021, Metrolinx along with its CM completed the 60% design and presented the associated market pricing at 50% design level to the City of Toronto on February 8, 2023 (included in Confidential Attachment 1), Metrolinx, along with its TA and CM, are advancing the detailed design to 90%, which is scheduled to be completed by July 2023.

Construction is scheduled to start in January 2024 and substantial completion is estimated for December 2028. The station is expected to be in service in March 2029. The initial schedule of December 2026 for in-service was established by the Metrolinx's TA based on certain assumptions at the time with regards to procurement, design, and construction. The revised schedule is based on CM's input, including assumptions related to productivity, construction staging, and means and methods assumptions, amongst other matters.

Early Works:

No early works have begun; however, Metrolinx's Construction Manager has proposed the following utility relocations as early works:

- CP Signal Overhead power lines - Fall 2023
- Metrolinx Signal Bridge - Fall 2023
- Billboard removal - Fall 2023

King-Liberty Station

The RFP for the CMAR delivery model was issued by Metrolinx on August 18, 2021. The RFP - CMAR Step 1 process closed on October 5, 2021, followed by the RFP - CMAR Step 2 process, which closed on November 25, 2022. Following a technical evaluation process in which the City of Toronto was involved, the CMAR contract was awarded to Kiewit Corporation on April 22, 2022. Since staff last reported to City Council in February 2021, Metrolinx, along with its CM, completed the 60% design and presented the associated market pricing at this design level to the City of Toronto on February 6, 2023 (Included in Confidential Attachment 1). Metrolinx, along with its TA and CM, are advancing the design to 90%, which is expected to be completed by June 2023.

Construction scheduled to start in January 2024 and substantial completion estimated for December 2027. The station is estimated to be in-service date by March 2028. The initial schedule of September 2026 for in-service was established by Metrolinx's TA and was based on certain assumptions at the time with regards to procurement, design, and construction. The revised schedule is based on CM's input, including assumptions related to productivity, construction staging, and means and methods assumptions, amongst other matters.

Early Works

No early works have begun; however, Metrolinx's CM has proposed vegetation/tree removals anticipated in April 2023.

Bloor-Lansdowne Station

The RFP for the Design Build (DB) delivery model was issued by Metrolinx on February 24, 2022 and it closed on November 4, 2022. The technical evaluation process, which included the City of Toronto as a participant, was completed on November 29, 2022, identifying the First Negotiations Proponent (FNP) as the successful proponent on December 21, 2022. The FNP had originally agreed to hold its bid price until March 4, 2023; however, at the City's request, Metrolinx successfully negotiated an extension of the procurement until April 5, 2023 with no price increase. At present, Metrolinx has developed a Reference Concept Design (30% design) for the station, which will be advanced by the design builder once the contract is awarded. The design builder will provide a detailed schedule 40 days following the award and will commence the 30% design. Based on Metrolinx's schedule, 100% detailed design will be completed by July 2024.

Construction will start in February 2024 with substantial completion projected for May 2027. The station is estimated to be in-service by November 2027. The initial schedule of August 2026 for in-service was established by Metrolinx's TA and was based on certain assumptions at the time with regards to procurement, design, and construction. Once the DB contract is awarded a revised baseline schedule will be developed up with the Design Builder.

Early Works

No early works have begun; however, tree removals are anticipated in fall 2023.

East Harbour Station

The RFP - Step 1 for the Alliance delivery model was issued by Metrolinx on April 20, 2022 and closed on June 16, 2022, followed by the RFP - Step 2, which was issued by Metrolinx on June 18, 2022 and closed on September 30, 2022. The technical evaluation process, which included the City of Toronto, awarded the contract to the Alliance team Rail Connect Partners (JV SNC Lavalin Major Projects Inc. & Bird Construction Industrial Service Ltd.) in November 2022. Since staff last reported to City Council in February 2021, the station reached 30% design stage in August 2022, it is currently developing the 60% design and working towards the 90% design milestone for August 2023. The Alliance project proposal is expected by August 2023 and the execution of the Project Alliance Agreement is estimated by December 2023.

Construction is anticipated to start in March 2023 with substantial completion projected for May 2028. The station is estimated to be in-service by August 2028. East Harbour Station started off as a Transit Oriented Communities (TOC) project, with its design and construction to be led by a developer. Due to complex geographical interfaces and live rail operating environments surrounding the Station, it was established that careful management of corridor access and detailed planning in construction staging were key requirements for the successful delivery of the Station. Given the joint corridor interface complexities in the area, the suitability of the developer-led approach was reconsidered in favour of the Alliance contracting model. As a result, the preliminary in-service schedule of December 2027 used for planning purposes has been updated with a schedule provided by the Alliance team.

Early Works

The scope of early works to be undertaken by the Alliance contractor from March 2023 to December 2023 includes:

- Protection and relocation of utilities;
- Completion of mobilization and establishing work zone in corridor;
- Grading and track construction for the initial south track shift;
- Demolition of the southern half of Eastern Avenue bridge; and
- Construction works including excavations, foundations and substructure works for temporary and permanent retaining walls and abutments related to the new Eastern Ave bridge.

Program Delivery Models

The City, along with Metrolinx, has recently seen that bidders on large capital projects are becoming more risk averse and are reluctant to take on unnecessary risks given the availability of biddable capital projects, both nationally and globally. As such, there are three delivery models being used to deliver the Program, Construction Manager at Risk (CMAR), Design-Build (DB) and Alliance. The definition of the three models, as well as the

rationale for the selection of the most appropriate model for each of the five stations is outlined below.

Construction Manager at Risk Model (St. Clair-Old Weston, Finch-Kennedy, King-Liberty)

As a result of these emerging market conditions and identified station-specific risks, Metrolinx evaluated the option of adopting the Construction Manager at Risk (CMAR) model in the Program. The evaluation assessed the CMAR model's ability to address the following:

- Potential project risks (e.g., ability to mitigate risks associated with utilities, contamination, existing infrastructure conditions, property, rail corridor access, future design changes);
- Supply chain concerns (e.g., specialty materials such as bridge girders or elevators have been shown to have supply chain sensitivities);
- Stakeholder input (e.g., approvals required from CP Rail);
- Complex/specialty construction (e.g., expertise required for construction on active rail corridors);
- Schedule and cost certainty requirements (e.g., certainty needed to meet capped funding contribution amount; certainty needed for alignment with Metrolinx's GO Expansion On-Corridor Works procurement); and
- Design/delivery flexibility.

The evaluation concluded that for three stations, namely Finch-Kennedy, St. Clair-Old Weston and King-Liberty, the CMAR delivery model could provide the most certainty in delivering the intended benefits of the Program.

Construction Management at Risk (CMAR) Model – under this model, the Designer and Contractor (Construction Manager) are separately contracted by Metrolinx. The Contractor engages collaboratively with the Designer and Metrolinx throughout the development phase to influence and input into the design but has no contractual relationship with the Designer. In this model, the project owner retains risk for changes to requirements and design risk. Pricing is established via the development phase with various options, but a Guaranteed Maximum Price is established at the end of this phase. There is a degree of market familiarity with this procurement model.

Design-Build Model (Bloor-Lansdowne)

Metrolinx initially contemplated the CMAR model for Bloor-Lansdowne, however, based on the analysis above, it was determined that the Bloor-Lansdowne Station should be delivered as a Design-Build (DB) procurement, since the scope of infrastructure works is less complex and has fewer delivery risks.

Design-Build (DB) Model – under this traditional model Metrolinx awards both, design and construction work under a single contract. The selected contractor holds the design risk, with the design required to be completed based on Metrolinx's stated requirements and with Metrolinx retaining risk for changes to requirements. This model relies on robust project requirement documents before tender. Pricing is typically bid as fixed price/lump sum. There is a degree of market familiarity with this procurement model.

Alliance Model (East Harbour Transit Hub)

Since the inception of East Harbour Transit Hub (EHTH) as a developer-led solution in 2019, the geographical interfaces and live rail operating environments surrounding the station have become increasingly complex, which requires careful management of corridor access and detailed planning in construction staging. Due to the Joint Corridor interface (i.e., where multiple rail lines run parallel to one another) complexities in this area, Metrolinx reassessed the suitability of the developer-led approach to deliver the EHTH and examined alternative delivery strategies.

The results of this assessment determined direct delivery of EHTH by Metrolinx would be more suitable. This change in station delivery strategy provides Metrolinx full control of all the interface project contracts along the Joint Corridor and will provide Metrolinx more visibility on schedule, cost and risk management. As a result, Metrolinx in consultation with the City would be better able to manage the significant interfaces and risks between projects and would facilitate decisions that are best for the overall Program. Subsequently, a Procurement Options Analysis (POA) for EHTH was conducted in February 2022 to assess the use of other procurement models. Based on the project scope and complexity of the project, the Alliance Contracting Model ranked the highest against other delivery options, including CMAR and Progressive Design-Build.

Alliance Model – under this model, a public sector agency (the “Owner”) works collaboratively with private sector parties (Non-Owner Participants or “NOPs”) to share the risks and responsibilities in delivering the project. Typically, the NOP is a team comprised of a contractor and designers who have been selected based on their experience, expertise and their demonstrated ability to work as part of a team that includes the Owner. All project delivery risks are shared by the Alliance Participants (the Owner and the NOPs). Under an Alliance model, the NOPs are typically guaranteed reimbursement of their direct project costs and payment of corporate project overheads in an open-book arrangement. Targets for cost, schedule and other key parameters are developed jointly during the pre-construction phase. If actual delivery is better than the agreed targets, all parties share the reward (“gain-share”). Conversely, if delivery does not meet agreed targets, the pre-agreed “pain share” formula applies. This is a new model to the Ontario transit sector.

The primary advantages of the Alliance model for EHTH include allowing greater collaboration with private sector parties to share the risks and responsibilities in delivering the construction phase of a project, promoting a positive culture based on “no-fault, no-blame” and unanimous decision-making, and requiring all Alliance participants to find the “best for project” solutions. This type of joint decision-making under an Alliance is intended to meet the project objectives and current challenges more effectively.

Technical Program Update

St. Clair-Old Weston Station



Figure 2. Conceptual plan of St. Clair-Old Weston Station. Source: Metrolinx (February 2023). Note: Station plan shown above is indicative and does not represent a final design.

Description

St. Clair-Old Weston Station will be located along the Kitchener GO rail corridor, between the future King-Liberty Station to the east and the under-construction Mount Dennis Station, part of the Eglinton Crosstown Light Rail Transit project, to the west. The station will be situated on the north side of St. Clair Avenue West, about halfway between Weston Road and Old Weston Road.

The station will have four (4) entrances, two on either side of the rail corridor. The main station entrance will be located on the eastern side of the rail corridor, at the southern end of the site, and accessible from Union Street through an entrance plaza. Passengers using this entrance will be able to directly access the southern end of the two (2) side platforms through the southern pedestrian tunnel under the rail corridor. The second station entrance will also be located at the eastern side of the rail corridor, at the northern end of the site, and accessible from Union Street through a pathway. Passengers using this entrance will be able to directly access the northern end of the two (2) side platforms through the northern pedestrian tunnel under the rail corridor. The third station entrance will be located on the west side of the rail corridor with access from the Weston and Gunns Road intersection along a pathway. Passengers using this entrance will be able to directly access the northern end of the two (2) side platforms through the same northern pedestrian tunnel connected to the secondary entrance. The fourth entrance is located on the west side of the rail corridor at the southern end of the site, opposite the main station building, and it will be accessible along a pathway connecting to the St Clair Ave and Weston Road intersection. The two (2) pedestrian tunnels

under the rail corridor will have a set of stairs and elevators at both ends.

A curbside passenger pick-up and drop-off zone will be provided on the west side of Union Street near the main entrance. Union Street can be accessed from St. Clair Avenue West through Old Weston Road and Townsley Street. The station facilities include a TTC bus loop located between the main and secondary entrances with buses approaching from Union Street. A Wheel-Trans pick-up and drop-off lay-by is provided within the bus loop, and adjacent to the main station building entrance.

The station delivery will include components of the St. Clair West Area Transportation Master Plan (STMP) such as Union Street and St. Clair Avenue West road widenings, Gunn's Road and Davenport Road extensions.

Changes to Station Design

Since February 2021, the following notable change has been made to the St. Clair-Old Weston Station design:

- The eastern island platform together with the associated stairs and elevators was removed.

Bloor-Lansdowne Station

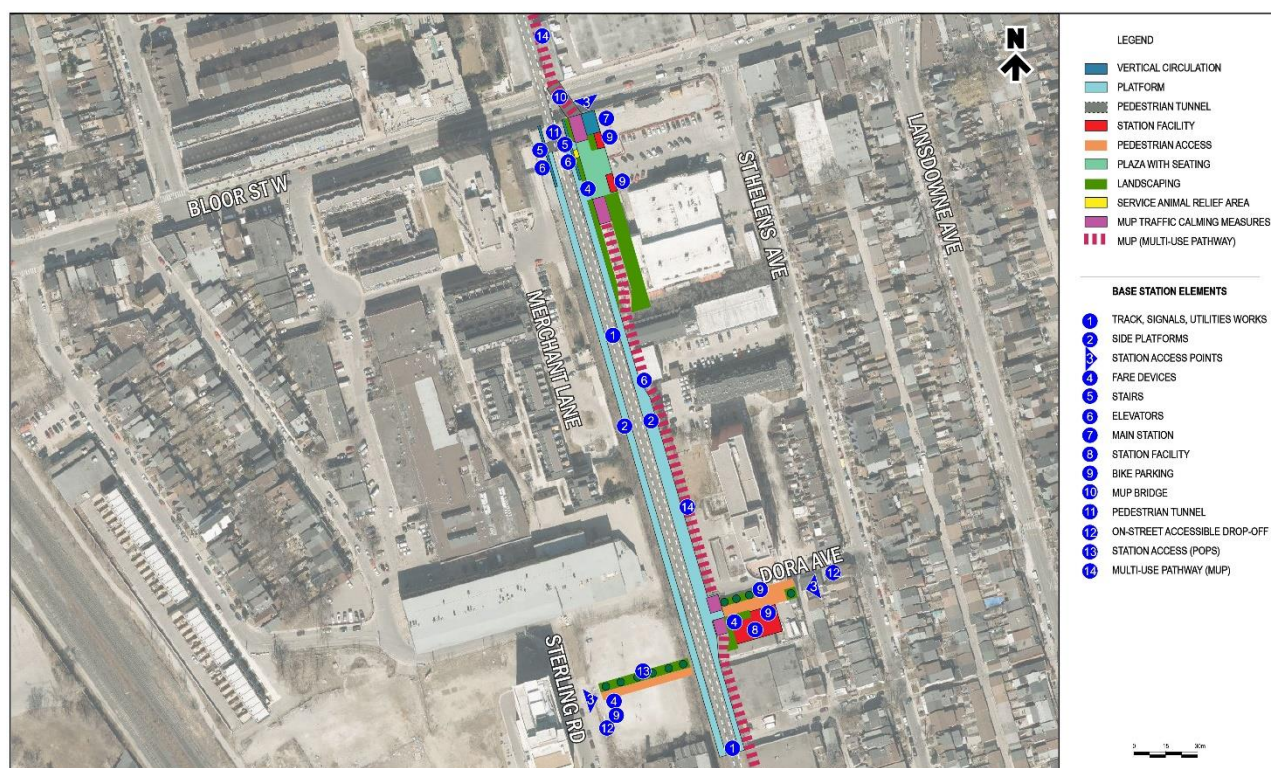


Figure 3. Conceptual plan of Bloor-Lansdowne Station. Source: City of Toronto (Based on site plan by Metrolinx, February 2023). Note: Station plan shown above is indicative and does not represent a final design.

Description

Bloor-Lansdowne Station will be located along the Barrie GO rail corridor, between the future Spadina-Front GO Station to the south and the under-construction Caledonia GO Station to the north. The station will be situated on the south side of Bloor Street West, west of Lansdowne Avenue.

The station will have three (3) entrances. The main entrance will be located on the east side of the rail corridor, at the northern end of the station site, and directly accessible from Bloor Street West. Passengers using this entrance will be able to directly access the northern end of the two (2) side platforms through a pedestrian tunnel, under the rail corridor. A set of stairs and elevators will be provided at both ends of the pedestrian tunnel. The second entrance will also be on the eastern side of the rail corridor at Dora Avenue. Passengers using this entrance will have direct access to the northbound platform and can access the southbound platform by going through the pedestrian tunnel located at the northern end of the platform. The third entrance will be on the western side of the rail corridor at Sterling Road. Passengers using this entrance will have direct access to the southbound platform and can access the northbound platform by going through the pedestrian tunnel located at the northern end of the platform.

Metrolinx will deliver two (2) pedestrian connections as committed to the community through the station contract, namely, the multi-use path (MUP) bridge over Bloor Street West and the MUP extending from the southern end of the eastern platform and connecting to the West Toronto Rail Path beyond.

Changes to Station Design

Since February 2021, the following notable changes have been made to the Bloor-Lansdowne Station design:

- The size of the main station building has been reduced.
- The plaza behind the main entrance to the station building has been enlarged and an ample landscaped area has been added to the south.

King-Liberty Station

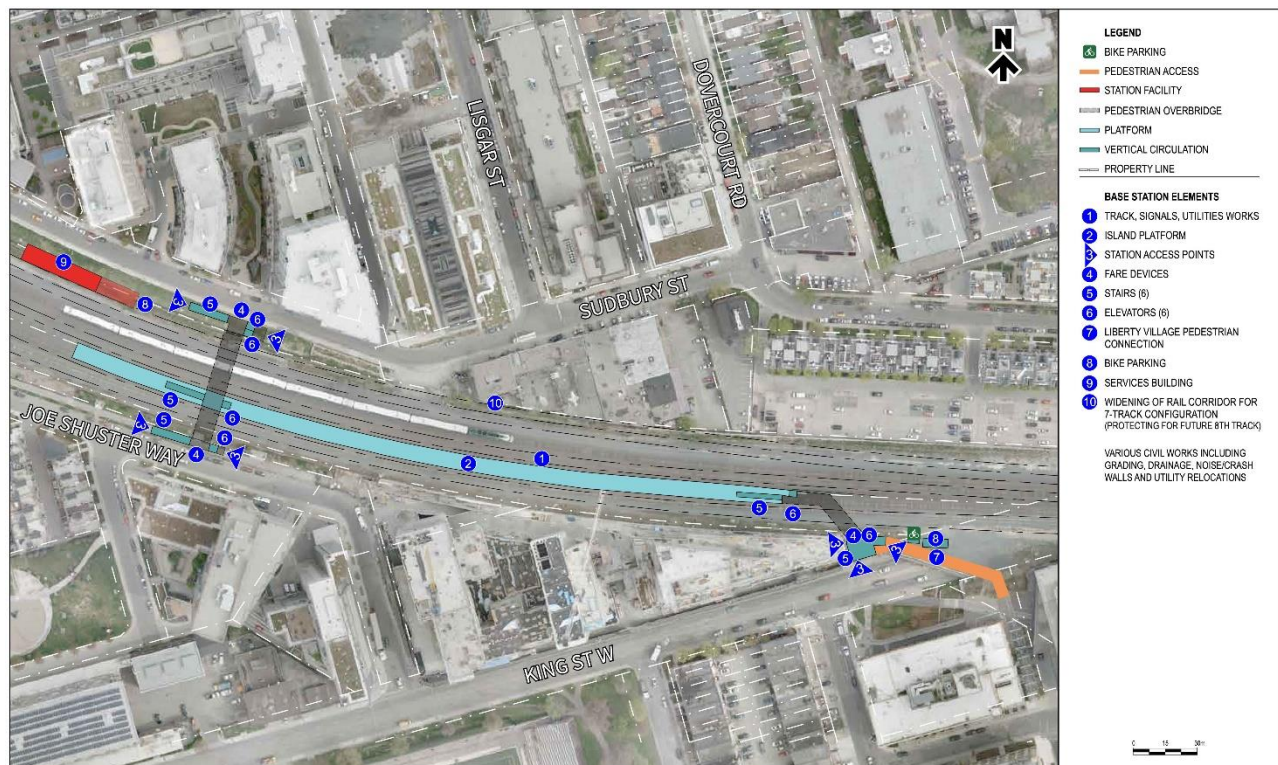


Figure 4. Conceptual plan of King-Liberty Station. Source: Metrolinx (February 2023). Note: Station planshown above is indicative and does not represent a final design.

Description

King-Liberty Station will be located along the Kitchener GO rail corridor, between Union Station to the east and the future St. Clair-Old Weston Station to the west. The station will be on the north side of King Street West, between Sudbury Street and Joe Schuster Way, on the north and south side of the rail corridor.

The station will have three (3) entrances. The main entrance will be located on King Street West, immediately west of the rail corridor. Passengers using this entrance will be able to directly access the island platform through the eastern enclosed pedestrian bridge at its upper level. The main entrance will also be accessible at pedestrian bridge level to the King Street Bridge, King High Line, and the King Liberty Village beyond. The second entrance will be located on Sudbury Street on the north side of the rail corridor and the third entrance will be located on Joe Shuster Way on the south side of the rail corridor. The second and third entrances will be connected by an enclosed pedestrian bridge that also provides passengers using these entrances with direct access to the western end of the island platform. The second and third entrances will both have stairs and elevators to facilitate access to the bridge level. The station will include a Service Building located on the north side of the rail corridor, within the Sudbury Street public right of way, and adjacent to the second entrance.

The station will have two (2) outdoor secured and covered bike storage spaces located adjacent to the main and second entrances.

Changes to Station Design

Since February 2021, the following notable changes have been made to the King-Liberty Station design:

- The northern island platform has been removed and the station is now configured around a single island platform.
- The eastern and western pedestrian bridges were straightened and shortened.
- The western bridge has been shifted further west.
- The second and third entrances located at Sudbury Street and Joe Shuster Way associated with the west bridge respectively, were minimized to only accommodate stairs and elevators.

East Harbour Station

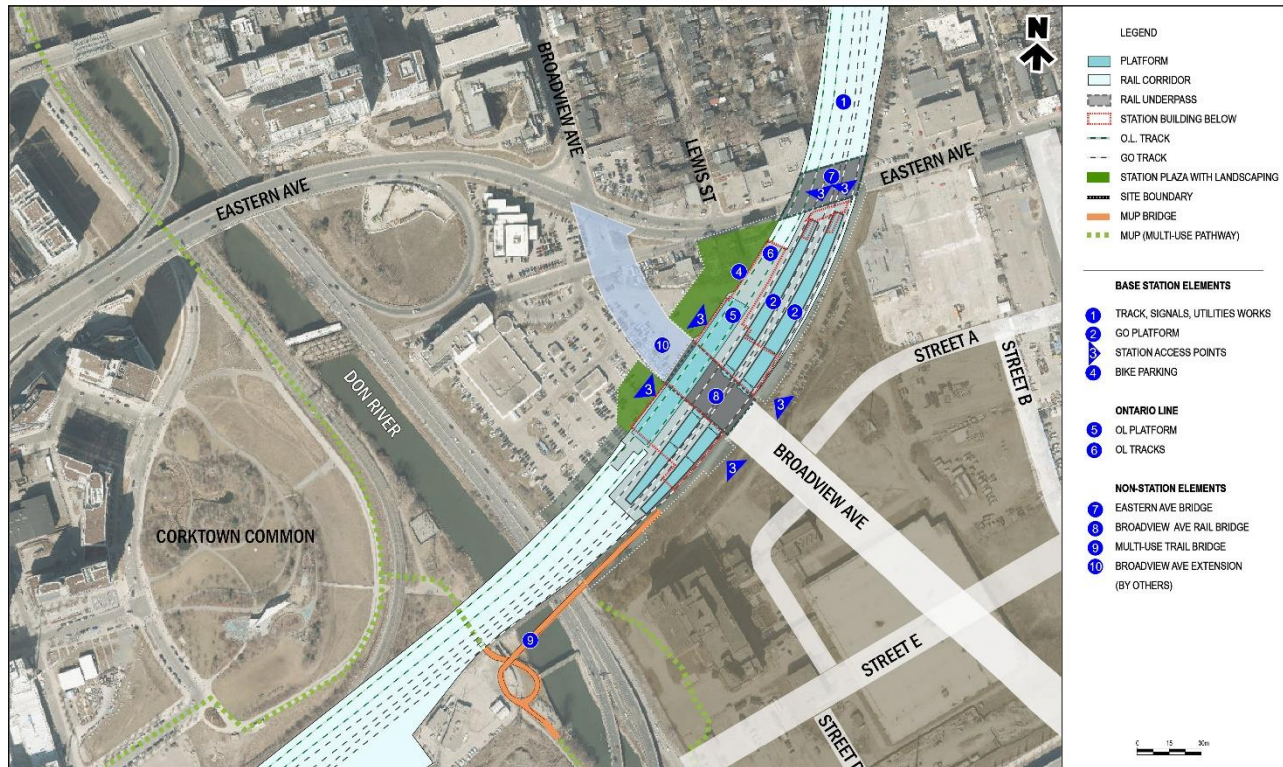


Figure 5. Conceptual plan of East Harbour Station. Source: City of Toronto (Based on site plan by Metrolinx, February 2023). Note: Station plan shown above is indicative and does not represent a final design.

Description

East Harbour Station will be located along the Lakeshore East and Stouffville GO rail corridors, between Union Station to the west in Downtown Toronto and Danforth Station (at Main Street) to the east. The station will generally be situated between the Don Valley Parkway and Eastern Avenue, at the crossing location of the future Broadview Avenue extension in the Unilever Precinct. The station will be built as an integrated transit hub with the Ontario Line East Harbour Station.

The station will have six (6) entrances with three on either side of the rail corridor, fitted with stair and elevator access to the platforms. Four entrances will be located at the four corners of the Broadview Extension underpass and two on the western embankment of Eastern Avenue, underneath the rail bridge.

A multi-use pathway (MUP) bridge will be provided to connect the Corktown Common and communities on the west side of the Don River with the station. The eastern landing of this MUP bridge will connect with the station entrance on the west side of Broadview extension. The MUP bridge will provide access to the station from the Lower Don Trail on the west side of the river, and from the West Don Lands (Canary District) neighborhood and future Keating Precinct beyond, enhancing station access and the overall cycling network in the area. Passenger pick-up and drop-off will be accommodated within the main station plaza in the northeast quadrant, with access from Eastern Avenue. The widening of the rail bridge over the Broadview Avenue underpass to accommodate the Ontario Line tracks is included in the station delivery scope and funded by Metrolinx.

Changes to Station Design

Since 2021, the following changes have been made to the East Harbour Station design:

- Two (2) cross platforms were replaced by two GO island platforms and one Ontario Line platform.
- Four (4) of the six (6) station entrances were relocated and consolidated, such that there are two (2) entrances on either side of the Broadview Extension underpass, providing access to the station from the north and south sides of the rail corridor.
- The service road proposed on the north side of the rail corridor was removed.
- A new station plaza and passenger pick-up and drop-off area with direct access from Eastern Avenue and an emergency access route were added to the northeast quadrant of the site.
- A second landscaped plaza was added to the north-west quadrant, on the west side of Broadview Extension.
- The pedestrian bridge proposed on the North side of the rail bridge across the Don River was removed.

Finch-Kennedy Station

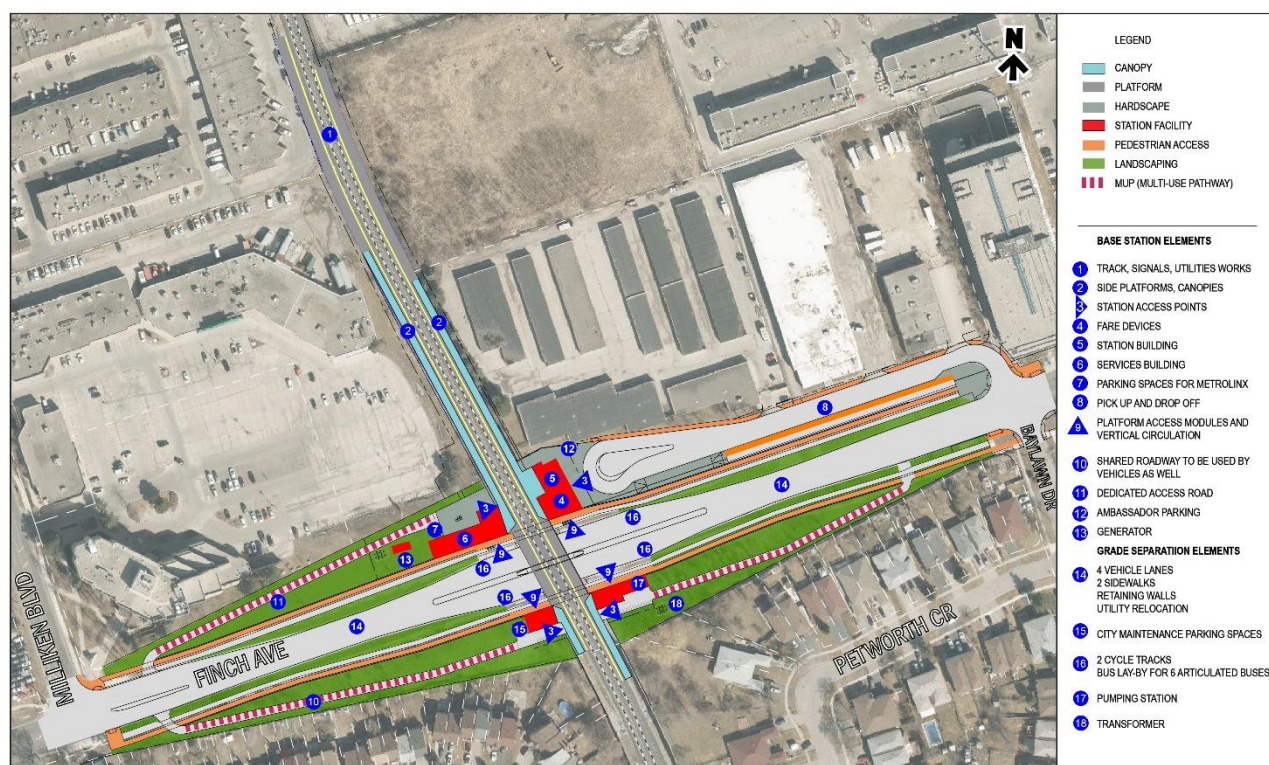


Figure 6. Conceptual plan of Finch-Kennedy Station. Source: City of Toronto (Based on site plan by Metrolinx, February 2023). Note: Station plan shown above is indicative and does not represent a final design.

Description

The Finch-Kennedy Station will be located along the Stouffville GO rail corridor in Scarborough, between Milliken Station to the north (at Steeles Avenue East) and Agincourt Station to the south (at Sheppard Avenue East). The station will be integrated with a new

grade separation at Finch Avenue East. It will be approximately halfway between Kennedy Road and Midland Avenue.

The station will have four (4) entrances located at the corners of the grade separation with two (2) on either side of the street. The entrances will provide direct access to the side platforms on the east and west sides of the rail corridor. Each entrance will have fare vending machines, stairs, elevators, and bike parking facilities and will be directly accessible from the new multi-use paths (MUPs) along Finch Avenue East.

A passenger pick-up and drop-off facility will be provided at the north-east quadrant, adjacent to the main station building. Access to this station facility will be through a new public street from Finch Avenue East. TTC buses will have lay-by stops near the entrances on both sides of Finch Avenue East.

Changes to Station Design

Since February 2021, the following notable changes have been made to the Finch-Kennedy Station design:

- The station building footprints were reduced.
- The MUP on the Northeast quadrant was replaced with dedicated pedestrian and cycling paths.