

TORONTO TRANSIT COMMISSION REPORT NO.

MEETING DATE: March 26, 2014

SUBJECT: **KENNEDY INTERCHANGE STATION:
METROLINX EGLINTON CROSSTOWN LIGHT RAIL TRANSIT
PROJECT - PRELIMINARY CONCEPT DESIGN APPROVAL**

ACTION ITEM

RECOMMENDATION

It is recommended that the Board:

- a) Approve the preliminary concept design for Kennedy interchange station presented in this report as it adequately addresses the TTC's fundamental requirements that:
 - customers can transfer between transit modes in a direct, convenient way with no backtracking or circuitous movements, and enjoy fast and easy inter-modal transfers which are the hallmark of the TTC system; and
 - the new Light Rail Transit station not negatively affect the existing subway station and TTC system operating performance.

- b) Note that:
 - to reduce future cost for TTC upgrades to the fire ventilation system and for the expansion of the TTC electrical substation at Kennedy station, \$65 Million (\$2017) may be included in future Capital Budget requests;
 - the selected Bidder of the Metrolinx Alternative Financing and Procurement process may bring forward alternative designs that are significantly different from the preliminary designs presented in this report;
 - a minimum of 500 commuter parking spaces will be provided at Kennedy station during the construction period with a total of 1,100 spaces at the completion of construction, with incorporation of the Toronto Green Standard requirements;
 - 600 commuter parking spaces will remain available for use during the construction period at Warden North commuter parking lot;
 - the station will require excavation under the existing Scarborough Rapid Transit structure and bus transfer area, and may require weekend closures which have not yet been identified;
 - the constructability analysis, cost and schedule are not included in this report as they have not been established for the station modifications in sufficient detail;
 - an update on the status of the Metrolinx Eglinton Crosstown Light Rail Transit Project is included in this report; and
 - future design and construction staging recommendations will be brought forward to the Board for approval including: final designs for Eglinton West, Eglinton and Kennedy interchange subway stations; the number and duration of subway closures required; and any material or significant change to the concepts presented in this report.

FUNDING

The Metrolinx-City of Toronto-TTC Master Agreement provides that expenditures related to the implementation of the Eglinton Crosstown Light Rail Transit Project are the sole responsibility of Metrolinx. In order to reduce TTC's future cost, TTC and Metrolinx staff are examining the merit of including TTC's future fire ventilation system upgrades and electrical substation expansion requirements for the subway system as part of the Metrolinx contract, including:

- the cost to upgrade fire ventilation equipment for Kennedy subway station will be examined and depending on the required scope, an estimated \$50 Million (\$2017) may be required in a future TTC Capital Program budget request; and
- Metrolinx will need to decommission the existing TTC electrical substation and replace it in kind at their cost; however, TTC is examining the future power requirements for the Scarborough Subway project and an expansion of the TTC substation is required. The TTC may require Metrolinx to incorporate this upgrade into their contract. The cost of this requirement is estimated to be \$15 Million (\$2017). The funds for this expenditure are included in the Scarborough Subway project, as set out in pages 1029 to 1032 of the TTC 2014-2023 Capital Program (Category – Expansion) which was approved by City Council on January 29/30, 2014.

BACKGROUND

The Eglinton Crosstown Light Rail Transit (ECLRT) Project is a Metrolinx project that will run along and underneath Eglinton Avenue from Black Creek Drive in the west to Kennedy subway station in the east. Ten kilometres of the line will be underground between Black Creek and Laird Drive, with three of the proposed Light Rail Transit (LRT) stations directly connecting to the TTC's existing Eglinton West, Eglinton, and Kennedy subway stations.

At its meeting on May 30, 2012, the TTC Board received the report "*LRT Projects in Toronto – Project Delivery*". The report provided information regarding the implications to the TTC of the Province of Ontario's decision to deliver the LRT Program in Toronto by Alternative Financing and Procurement (AFP) and Infrastructure Ontario with TTC as the Operator. The TTC Board confirmed its commitment to work with the Province of Ontario, Metrolinx and Infrastructure Ontario to deliver the LRT Program in Toronto.

The Province's decision to deliver the LRT projects by AFP with the TTC operating results in two key roles for the TTC:

- TTC as the Future Operator - As TTC will operate the Eglinton Crosstown LRT, the TTC is providing requirements for the operating systems to ensure that the completed project can be safely and efficiently operated. The TTC will also require extensive commissioning and testing at the completion of the project, before accepting the responsibility to operate the new line; and
- TTC as Owner and Operator of the Existing Transit System - The TTC has a responsibility to ensure that the structural integrity of existing stations that become interchanges with the

Metrolinx ECLRT Project (Eglinton, Eglinton West and Kennedy) is maintained through the design and construction stages. The TTC also has a responsibility to ensure the safe and efficient operation of the existing system during construction of the LRT line. As the Operator, the TTC has an interest in ensuring that the interchange stations are designed to provide convenient and efficient transfers from one line to another for TTC and LRT Customers.

The Province's decision for AFP delivery of the LRT Program has several major implications for the TTC. The first is that the traditional Design-Bid-Build (DBB) approach, used by TTC and most other major transit authorities, involving design of the project to TTC specifications and construction through a series of contracts, is not used. Instead, the AFP process requires that performance standards be developed and included in the Request for Proposal (RFP) for the entire project. The second implication is that the TTC is to operate a transit project, but does not have responsibility for managing the design, construction or maintenance of the line. The traditional approach of DBB provides certainty that the TTC's specifications are designed into the project, whereas the AFP process means that the TTC provides performance requirements that the successful company may implement in a number of ways.

DISCUSSION

As the Metrolinx ECLRT Project is being delivered by AFP process, the design, construction, maintenance and financing of this line will be the responsibility of the successful Proponent. Since late 2012, TTC staff has been working with City of Toronto and Metrolinx staff on the review of the ECLRT Project requirements including design concepts for the three subway interchange stations, the Concept of Operation requirements, and the proposed layouts for future TTC bus facilities.

The RFP document for the ECLRT Project was released in December 2013 to the Proponents by Metrolinx. This RFP contains requirements for the design and construction of the Project. In keeping with TTC practice, conceptual design approvals are required for modifications to TTC's subway stations. The preliminary concept designs in the RFP, also called Reference Concept Designs, will be used as a design basis; however, the Proponents will have the opportunity to propose alternative designs. Should there be significant changes to the conceptual designs for the subway interchange stations, the revised designs will be brought back to the Board for approval.

In accordance with the Master Agreement, TTC staff will have the opportunity to review the interchange station designs at the 10%, 30%, 60%, 90%, 100% and construction staging Milestones. TTC's approval to proceed with construction will not occur until completion of these Milestone reviews. At this time, no formal Milestone reviews have been completed although there have been numerous reviews of design concepts and requirements by staff.

The three locations that will become interchange stations for the new LRT line are: Eglinton West, Eglinton and Kennedy subway stations. At its meeting of November 18, 2013, the TTC Board

approved the preliminary design concepts for Eglinton West and Eglinton interchange stations. This report describes the preliminary concept design for Kennedy station.

Metrolinx held a public consultation that included the proposed Kennedy station design on December 11, 2013. Also, at the time of writing this report, TTC staff has scheduled meetings with the local Councillors to review the Kennedy interchange station design.

Preliminary Concept Design of Kennedy Station

The preliminary concept design for Kennedy station has been developed by Metrolinx to approximately 5% completion, and is shown in Appendix A, attached. The proposed LRT station is proposed to be located underground, between Eglinton Avenue and the existing subway station. The LRT concourse is to be located in the first level below grade with the LRT station platform located one level below it. The concourse and platform levels for the subway and LRT are roughly equivalent, although there are elevation differences.

The weekday peak hour transfers between the subway and LRT stations at this location are forecast to be 1,600 passenger transfers in the year 2051. TTC requires that the detailed design of the interchange demonstrate an acceptable level-of-service for customer circulation. The concept design includes three connecting walkways between the existing subway concourse and the proposed LRT concourse. The existing subway entrance and TTC electrical substation structure will be demolished and a new accessible entrance structure for both the LRT and subway stations will be located to the west. The LRT station will include an additional accessible entrance located east of the rail corridor.

Metrolinx will decommission the TTC's electrical substation, once a replacement has been constructed and commissioned. Metrolinx and TTC staff are examining the merit of including an expansion of this substation to accommodate the future power supply requirements for the Scarborough Subway project.

Staff is assessing the merit of including the TTC's future fire ventilation upgrades for Kennedy subway station as part of the Metrolinx contract in order to reduce future funding requirements and to avoid additional disruption to Kennedy station.

The TTC's Passenger Pick-Up and Drop-Off facility, south accessible entry and access from the eastern side of the rail corridor will remain. No changes are proposed to the TTC's bus and SRT terminals.

At its meeting of December 19, 2013, the TTC Board approved advising Metrolinx to maximize the current commuter parking capacity at Kennedy station, both during and post construction of the Eglinton Crosstown LRT Project. The Board also approved advising the City and Build Toronto of the deferral of the planned commuter parking lot closures for Victoria Park and Warden North, as they are to remain open during the construction of the Eglinton Crosstown LRT and Scarborough Subway projects.

TTC's requirement for commuter parking at Kennedy station during the construction period is 500 spaces with a total of 1,100 spaces to be provided at the completion of construction, while meeting the Toronto Green Standard requirements. At Warden North commuter parking lot, there is presently a surplus of 600 parking spaces which will remain available during the construction period to accommodate the reduction of parking at Kennedy station.

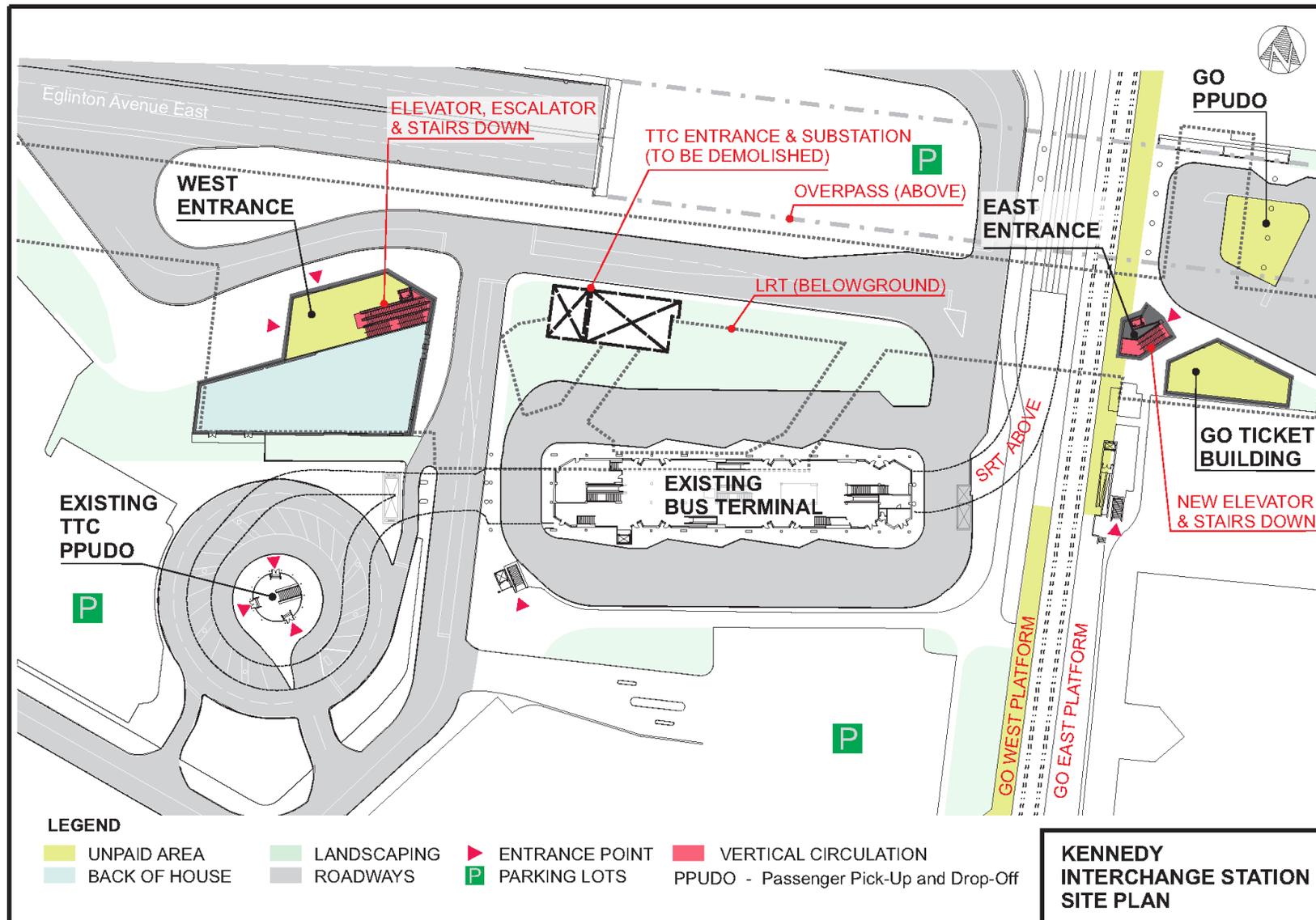
As the new LRT structure will be located under portions of the bus transfer area and SRT line in close proximity to the subway structure, TTC staff expects that service closures will be required during construction. Any required closures would be scheduled to minimize the impact on TTC's Customers. As the construction approach is not yet determined, there is no request for closures at this time. Any required closures will be brought to the Board for approval at a future meeting.

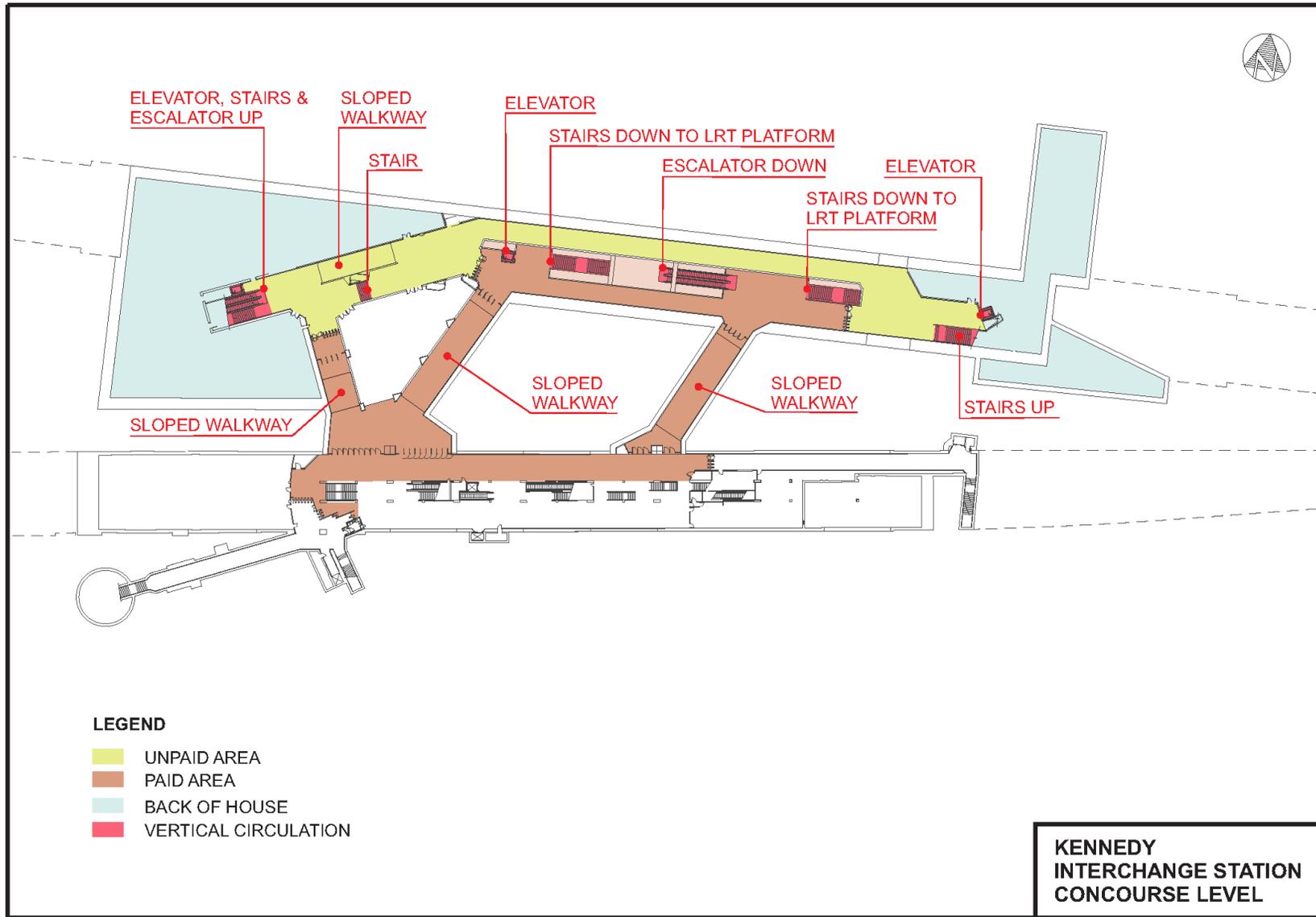
JUSTIFICATION

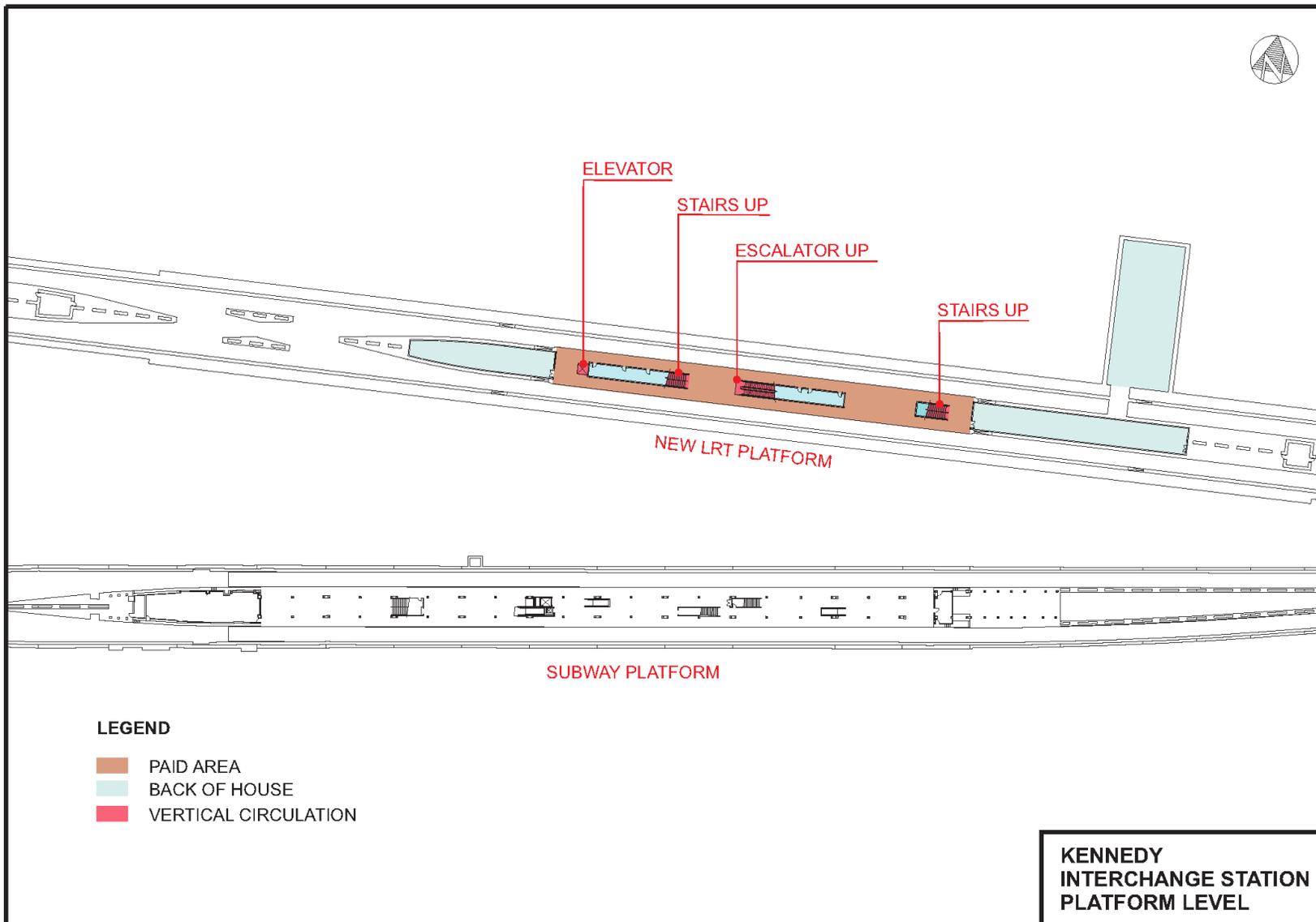
Approval of the Metrolinx preliminary concept design for Kennedy interchange station will allow the design delivery to progress for this location in a manner that provides direct and seamless customer transfers without negatively affecting the TTC's system operation. The final concept and any significant changes to the preliminary concept will be brought back to the TTC Board for approval at a future meeting.

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Attachment: Appendix A







LEGEND

- PAID AREA
- BACK OF HOUSE
- VERTICAL CIRCULATION

**KENNEDY
INTERCHANGE STATION
PLATFORM LEVEL**