

## Attachment 3 – Platform Protection Program Update

This attachment outlines the assessment of platform protection technologies, station prioritization, and presents implementation strategies, contained within the broader report, *Advancing Safety on the TTC: 2026 Focus Areas*, specifically under the Safer Infrastructure & System Design Focus Area.

- i. Pilot platform safety barriers (guardrails) at ten (10) high-priority stations, aligned with the AI technology pilot to detect track intrusions.
- ii. Complete deliverability assessment of Platform Edge Doors (PEDs) at high-priority stations on Line 1, to enable pilot installation as part of larger ten (10) station installation.

Though there is funding to proceed with the continued planning and immediate implementation actions required, additional funding required to fully implement these strategies will be considered as part of the 2027 budget process.

The above two actions form the short-term implementation strategy. Long-term implementation continues to require line-level funding to support the implementation of platform protection technologies across entire lines, leveraging delivery efficiency and coordination with other upgrades, including the Line 2 Automatic Train Control (ATC) and the Capacity Enhancement Programs.

### Analysis

PEDs are identified in the TTC's Corporate Plan in *Action 3.1.4 Evaluate Opportunity to Integrate Platform Edge Doors into Subway Improvements* and aligns with TTC corporate objectives related to customer safety, service reliability, and system resiliency. The implementation strategy supports prudent asset management, informed decision-making, and integration with other major initiatives such as ATC upgrades and capacity enhancement programs. Advancing a prioritized and data-driven approach ensures alignment with broader network planning and capital investment strategies.

In June 2025, the Board referred the proceeding with a pilot installation of PEDs at TMU Station to the Strategic Planning Committee, with funding to be considered for inclusion in the 2027–2036 Capital Budget and/or a future submission. Initially planned to report back to the May 2026 Strategic Planning Committee meeting, which was ultimately cancelled, staff are now providing this update on work to date.

Following the Board's direction, staff have advanced planning work, including development of a station prioritization plan, and validated Class 5 cost estimates for feasible intrusion-detection and prevention technologies, with RATP (Paris) and MTA (New York). The Board also directed staff to broaden the review of platform protection measures and prioritize stations based on risk, need, and key operational drivers.

In response, staff evaluated PEDs, sensor- and camera-based track detection systems, and platform barriers (guardrails) against weighted criteria such as safety performance, capital cost, installation complexity, operational impacts, flexibility for future upgrades, and service-proven experience. While PEDs offer the highest level of

safety, they also present the greatest cost and implementation complexity. Sensor-based systems combined with platform safety barriers (guardrails) could provide a lower-cost, faster-to-implement option. Though they do not fully prevent unauthorized track access, platform safety barriers enable faster implementation with minimal operational impact while enhancing customer perception of safety and confidence.

A station prioritization plan was developed using weighted criteria for ridership, track-level injury history, and unauthorized access incidents. The highest-ranked stations, without consideration of deliverability, are predominantly downtown stations and interchange locations, as shown in Table 1.

**Table 1 – Station Prioritization, pending deliverability analysis**

<b>Rank</b>	<b>Station</b>	<b>Line</b>
1	Bloor/Yonge	Line 1
2	Bloor/Yonge	Line 2
3	TMU	Line 1
4	Queen	Line 1
5	Union	Line 1
6	St George	Line 1
7	St George	Line 2
8	College	Line 1
9	Sheppard	Line 1
10	Wellesley	Line 1
11	Victoria Park	Line 1
12	Spadina	Line 2
13	Eglinton	Line 1
14	Warden	Line 2
15	Castle Frank	Line 2

Based on these findings, the implementation strategy includes two short-term actions:

- 1) Installation of platform safety barriers at ten high-priority stations, coordinated with the planned deployment of AI-enabled technology to detect track intrusions.

Installation is planned to begin as early as late 2026, pending confirmation of TTC resources. The installation activities will be scheduled during non-operating subway hours to avoid impacts to service and passenger safety during installation.

The estimated capital cost for the installation of platform safety barriers at ten highest-priority stations is \$20 million with an average cost of \$2 million per station, based on the preliminary (Class 5) cost estimate.

- 2) Completing deliverability assessment for PED installation at ten (10) high-priority stations, including nine (9) Line 1 stations and the Bloor-Yonge station on Line 2.

PED installation requires Automatic Train Control (ATC) to be enabled, and so Line 1 stations are prioritized, given the existing ATC on Line 1. As ATC is currently being procured for Line 2, Bloor-Yonge Line 2 station is included as part of the ongoing assessment, though not expected to be implemented until Line 2 ATC is enabled and major works are completed as part of the Bloor-Yonge Capacity Improvements Project.

TMU Station continues to be prioritized as the first planned pilot installation based on need and anticipated deliverability, and existing Line 1 ATC.

Deliverability assessment will involve the selection of stations to enable coordinated installation to reduce service impacts during installation given the need for service closures, and alignment with other project and maintenance timelines. PED installation will result in significant service impacts, including extended station or line closures and station bypasses, and the longer-term rollout will be aligned with future capital planning to achieve efficiencies at scale.

Following that, and contingent on funding allocated as part of the 2027 budget process, planning for TMU and Bloor-Yonge stations will proceed, starting with site investigations, and a commercial and procurement strategy will be developed so that proceeding with the pilot installation can begin at TMU and other high-priority stations.

The capital cost for implementation of PEDs at ten (10) high-priority stations is estimated at \$500 million with average cost of \$50 million per station. The capital cost to upgrade the existing Line 1 ATC to enable interface with PEDs is estimated to be an additional \$10 million and will require further review and consultation with the Line 1 ATC supplier as the project advances.

The total capital cost of PEDs implementation remains unfunded in the Capital Investment Plan. Though there is funding to proceed with the continued planning and immediate implementation actions required in 2026, additional funding required to fully implement these strategies will be considered as part of the 2027-2036 Capital Budget and Plan submission.

In addition to these short-term actions, long-term implementation at scale of platform protection technologies continues to require line-level funding to support the implementation across entire lines, leveraging delivery efficiency and coordination with other upgrades, including the Line 2 Automatic Train Control (ATC) and the Capacity Enhancement Programs.

The proposed approach balances near-term innovation with long-term sustainability by evaluating emerging and established platform safety technologies. Pilot installations allow the TTC to test solutions, refine standards, and incorporate lessons learned while avoiding premature large-scale capital commitments. Long-term PED deployment

supports sustainability objectives by reducing service disruptions, emergency response requirements, and associated operational inefficiencies. (Refer to Figure 1 for visual example)

**Figure 1: Platform Safety Barriers (Guardrails) installed in New York City**

