



Subway Platform Gap Retrofit Program

Date: September 24, 2019

To: TTC Board

From: Chief Infrastructure and Engineering Officer

Summary

The purpose of this report is to finalize the retrofit gap standard and adopt a solution to correct, to the best extent possible, the existing horizontal and vertical gaps between trains and subway platforms, which can make it challenging for customers using mobility devices and strollers to enter/exit subway trains.

The program recommended in this report will replace the existing subway platform edge tiles, where needed, with new prefabricated sloped tactile tiles in order to reduce the excessive vertical gap between the top of the platform edge and the subway car doors' threshold. Where applicable, a horizontal platform gap filler will be added to reduce the horizontal gap. A minimum horizontal clearance of 70 mm between the trains and platforms will remain to ensure that no contact is made while trains enter and exit the stations.

Recommendations

It is recommended that the TTC Board:

1. Adopt a platform edge gap retrofit standard of a maximum horizontal gap of 89 mm and a maximum vertical gap of 38 mm;
2. Direct staff to report back on the status of this program in fall 2020; and
3. Adopt the retrofit solution of a sloped tactile edge tile at a maximum 5% gradient.

Financial Summary

The cost of the Platform Edge Tile Replacement program is approximately \$28 million to complete the gap remediation at the first 103 platforms over the 10-year horizon (2019-2028). At its meeting on March 7, 2019, City Council approved funding of \$4.835 million for this program which is included under 3.1 Finishes. The approved funding will complete the gap remediation scope of work at the first 21 platforms scheduled and will be expended in years 2019 through 2021. Additional funding to cover the remaining

platform edge tile replacement locations will be included in the 2020-2029 Capital Budget and Plan submission for consideration.

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

Equity/Accessibility Matters

The TTC has a strong organizational commitment to equity and accessibility and is making continuous progress towards making its vehicles, facilities and services more inclusive and accessible. This program is aligned with the parameters of the TTC Five – Year Corporate Plan 2018-2022. It supports Critical Path 4 “*Make taking public transit seamless.*” The modifications described in this report to reduce the gap between subway trains and platforms will enable the existing subway system to be inclusive to more customers in compliance with the Accessibility for Ontarians with Disabilities Act (AODA).

TTC staff have worked closely with the Advisory Committee on Accessible Transit (ACAT), and have informed the committee of the progress and proposed solutions. ACAT has been involved in the physical testing of platform edge modifications and has been consulted throughout the process.

The TTC’s implementation of accessibility improvements is guided by the 2019-2023 TTC Multi-Year Accessibility Plan. This plan was adopted by the TTC Board at its meeting on May 8, 2019 and outlines the TTC’s long-term vision for an accessible transit system. Modifications to the platform edge are required to upgrade the barrier free path of travel in subway stations and make the conventional transit system easier and safer for all customers to use.

[http://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2019/May 8/Reports/6 2019-2023 TTC Multiyear Accessibility Plan.pdf](http://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2019/May%208/Reports/6%202019-2023%20TTC%20Multiyear%20Accessibility%20Plan.pdf)

Decision History

At its meeting on October 27, 2016, the TTC Board received correspondence from ACAT requesting that safety and accessibility between the subway trains and platforms be improved by examining larger than normal gaps. ACAT specifically requested that the TTC:

1. Expedite detailed measurements of subway vertical and horizontal platform gaps at all stations where this data remains to be collected;
2. Define the scope of remedial work; and
3. Package work as a capital project to be funded and implemented as soon as possible.

[http://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2016/October 27/Reports/3 Improving Safety and Accessibility when moving between Sub.pdf](http://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2016/October%2027/Reports/3%20Improving%20Safety%20and%20Accessibility%20when%20moving%20between%20Sub.pdf)

At its meeting on November 13, 2017, the TTC Board received a report entitled, *Gap Between Subway Trains and Platforms*, which recommended that the TTC Board:

1. Endorse an interim platform gap retrofit standard of 89 mm horizontal and 38 mm vertical along a minimum of 90% of each platform on an interim basis until the final study is complete;
2. Authorize staff to commence basic corrective work to meet the interim retrofit gap standard to address horizontal and vertical gaps at key platform edges in coordination with Wheel-Trans Family of Services priorities; and
3. Direct staff to report back to the Board in 2019 on the findings of the study and a proposed gap retrofit program.

[https://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2017/November 13/Reports/11 Gap Between Subway Trains and Platforms.pdf](https://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2017/November%2013/Reports/11%20Gap%20Between%20Subway%20Trains%20and%20Platforms.pdf)

Issue Background

The Gap Between Subway Trains and Platforms report that was adopted by the TTC Board recommended that mitigation work on the platform gap issue begin at five station platforms in 2018 using the interim platform gap retrofit standard: Davisville Station southbound (vertical gap), St Clair Station southbound (vertical and horizontal gap), St Clair Station northbound (vertical and horizontal gap), Union Station northbound to Sheppard West (horizontal gap) and Dundas Station southbound (horizontal gap).

The AODA does not specify acceptable gaps dimensions between trains and platforms. Therefore, the TTC's operational track, platform and train limitations and Americans with Disabilities Act (ADA) guidelines were consulted in order to prepare the interim gap standard. With ACAT's endorsement, this interim gap standard was determined to be the maximum manageable gap size until the completion of a full comparative analysis.

Comments

Progress on Corrective work.

TTC staff, in consultation with manufacturers of tactile walking surface indicators and platform gap fillers, investigated various options to retrofit subway platform edges to reduce the vertical and horizontal gap. The solution was based on a 2015 pilot project at Eglinton Station where a portion of the existing platform was reconstructed to slope up the platform edge at a 5% gradient using a traditional cast-in-place construction method. Execution of this work required the establishment of a work zone and was only practical

during a full weekend subway closure. The result of this construction was well-received by ACAT. However, the cast-in-place construction method is not practical to apply to longer platform lengths.

Staff determined that the best interim solution was to remove the existing tactile tiles and replace them with sloped prefabricated pavers that incorporate the tactile tile pattern in 610 mm segments. The pavers are sloped at 1:20 (5%) to transition between the existing terrazzo platform finish and the train doors. Due to design and scheduling constraints, not all of the locations referenced in the November 2017 report were chosen for the 2018-2019 modifications. The following five locations were chosen for the 2018-2019 modifications:

- St George Station southbound platform
- Eglinton Station southbound platform
- Eglinton Station northbound platform
- St Clair Station southbound platform
- St Clair Station northbound platform

Work at three of these locations, St George Station southbound and Eglinton Station southbound and northbound, was completed. Work has commenced and is ongoing at St Clair Station. Work at the completed locations was performed during non-operational hours, with minor platform modifications and was staged to maintain access to the trains during operational hours. Vertical gaps were reduced significantly.

Proposed Solution



Photo 1 – Sloped precast tactile edge tile with horizontal gap filler for maximum 32 mm vertical gaps.



Photo 2 – Sloped precast tactile edge tile for vertical gap corrections in excess of 32 mm.



Photo 3a – Pre-existing vertical gap at Eglinton Station.



Photo 3b – Post repair platform condition.

Integration of Subway System with TTC Accessibility Plan

The 2019-2023 TTC Multi-Year Accessibility Plan includes the replacement of platform edge tiles. This is required to reduce the existing vertical gaps throughout the system that may create accessibility barriers and safety concerns. Horizontal gaps will typically be reduced with the addition of horizontal platform edge gap fillers. This modification will integrate TTC Family of Services delivery model with TTC accessible conventional transit system providing customers with greater access, flexibility and spontaneity of travel. The replacement program will improve the current deteriorated condition of tiles, and address accessibility issues associated with excessive horizontal and vertical platform edge gaps.

Consultant's Study

CIMA Canada Inc. was retained in May 2018 to undertake a comparative analysis of the existing codes, standards, guidelines, studies and published articles worldwide. They produced two reports: "Scope Review Technical Memorandum, Gap Analysis Platforms and Trains, Summary Report" and "Review of Gap Retrofit Solutions, Review of Train-Platform Interface Solutions" both dated July 16, 2019. Findings were discussed with TTC internal stakeholders in a series of workshops to establish a retrofit gap standard and solution.

Results from the available subway tunnel clearance data, (excluding the recent Toronto-York Spadina Subway Extension) were evaluated to determine which locations exceeded the maximum 38 mm vertically and 89 mm horizontally. It was determined that only six locations exceeded the 89 mm horizontal gap, but almost all stations exceeded the 38 mm vertical gap.

A number of retrofit solutions were considered and analyzed, applying various criteria:

- Minimum platform site work.
- Installation during non revenue hours.
- No disruptions to train operation.
- Use of a standardize modular tiles,
- Ease of installation, replacement and durability.

The preferred retrofit solution is to install a sloped tactile tile for the vertical gap and add a horizontal rubber gap filler for the horizontal gap. These are stationary fixed solutions requiring limited platform modifications. The fixed solution will require far less maintenance and be significantly more reliable than a solution with movable parts.

In the final analysis, the consultant's report recommended the acceptance of a Retrofit Gap Standard of a maximum horizontal gap of 89 mm and a maximum vertical gap of 38 mm.

The consultant's report prioritized the station platforms for retrofit repairs (refer to Attachment 2 which provides relevant excerpts from the consultant's report). Eleven stations are identified as high priority. Platforms deemed high priority were accessible and exceed the vertical gap standard by 90% or greater. For these priority locations, work at Eglinton Station was completed and work at St Clair Station is ongoing.

Davisville Station, an exterior platform, is also ranked as a high priority. However, a more detailed site-specific custom design solution will be required for exterior locations. Work at the Davisville Station northbound platform is planned to be incorporated with a capital project for structural platform rehabilitation starting in 2023. The southbound platform modifications will require a different solution. Rosedale Station, a medium-to-high priority location, is another exterior station where the standardized retrofit solution is not applicable.

The TTC's intent is to complete the work at all high priority platforms, with the exception of Davisville Station, by the end of 2022 (refer to Attachment 3 for schedule). Work to address the gap issue at the remaining platforms will be co-ordinated and phased to complement the Easier Access III Program. Remedial work to address platform edge gap issues at all remaining non-high-priority locations is estimated to be completed by 2028.

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Attachments

Attachment 1 - Contract G85-351B Gap Analysis between Platforms and Trains
Executive Summary

Attachment 2 - Priority of Retrofit Gap Analysis between Platforms and Trains Rev. 04

Attachment 3 - TTC Retrofit Schedule 2019-2022

Background. The Toronto Transit Commission (TTC) is working towards making all its subway stations barrier-free by 2025 as part of the TTC Multi-Year Accessibility Plan to help establish a more inclusive, reliable, safe and accessible transit system. The Multi-Year Accessibility Plan (Gap Between Subway Trains and Platforms, November 13, 2017) endorses an interim platform Gap Retrofit Standard of 89 mm horizontal and 38 mm vertical along a minimum of 90% of each platform on an interim basis until the final study is completed.

Gap Standard. CIMA undertook a comparative analysis of relevant existing codes, Standards, guidelines, studies and wide-reaching peer reviewed publications. Thereafter, CIMA discussed findings with TTC teams and internal stakeholders at a series of workshops. Furthermore, review of subway system tolerances was conducted to determine feasibility of the proposed Gap Standard. Gap Standards analysed for feasibility in TTC's system and barrier-free access include but are not limited to the following:

- Americans with Disabilities Act (ADA) Requirement no. 1 which allows for a horizontal gap of 76.2 mm and a vertical gap of 15.9 mm for new vehicles operating in new stations;
- ADA Exception no. 2 which allows for a horizontal gap of 76.2 mm and a vertical gap of 38.1 mm in new vehicles operating in existing stations;
- ADA Exception no. 3 which allows for a horizontal gap of 101.6 mm and a vertical gap of 50.8 mm in retrofitted vehicles in new or key stations;
- The Australian Disability Standards for Accessible Public Transport (DSAPT) which endorses an accessible horizontal gap of 45 mm and a vertical gap of 15 mm.

After the review of the aforementioned regulations and documents in addition to stakeholders' inputs and system tolerances, CIMA developed a practical approach to establish a recommended horizontal and vertical Gap Standard at the train-platform interface. The following two Gap Standard extremes were considered during the study: ADA Exception no. 3 which allows for a horizontal gap of 101.6 mm and a vertical gap of 50.8 mm and DSAPT which recommends an accessible horizontal gap of 45 mm and a vertical gap of 15 mm.

In parallel to CIMA's research and stakeholder inputs, TTC has also worked closely with the Advisory Committee on Accessible Transit (ACAT) to develop a gap recommendation that is feasible for the existing system. In the final analysis, it's recommended the new Gap Standard should be a maximum **horizontal gap of 89 mm** and a maximum **vertical gap of 38 mm** be accepted.

LiDAR. TTC's detailed LiDAR survey data of the existing subway system at each station in both directions was evaluated by CIMA to determine the station platforms that are exceeding the newly developed Gap Standard. Upon analysis of this data, it was determined that six (6) stations exceed the 89 mm horizontal Gap Standard, while almost all stations exceed the 38 mm vertical Gap Standard. The curved track may cause larger discrepancies with the LiDAR and will need to be assessed individually to determine actual horizontal and vertical gap through on-site survey.

Priorities. The stations that exceed the Gap Standard were then prioritized for retrofit repair. All stations analysed were given a priority-of-repair rating. The priority-of-repair rating for station retrofit is based on several factors including the existing accessibility of station, portion of platform length in exceedance of the Gap Standard and actual gap dimensions.

Retrofit. Retrofit solutions were analysed to determine the most appropriate solution for TTC's existing infrastructure. The preferred retrofit solution is to install sloped tactile surface for vertical gaps and provide rubber gap fillers for the horizontal gaps. This solution requires minor platform modifications and can be combined when both horizontal and vertical gaps are an issue. This solution, which has already seen a test installation on the TTC system, is constructible during non-revenue hours and can be applied to 90% of the platform length. Stations with curved track may require specialized retrofit solutions due to the location of the doors in comparison to the platform edge. The curved track creates a varying degree of horizontal gaps between the platform edge and train door throughout the platform. The retrofit solutions for curved track and exterior stations should be analysed on a case-by-case basis using precise survey data.

Path Forward. TTC will use the information provided by CIMA to develop a multi-year capital project plan to deliver associated improvements throughout the subway system for barrier-free access at the train-platform interface. The priority of repair developed with CIMA will be used for scheduling station rehabilitation efforts based on highest priority. It is recommended further detailed site surveys at each station be conducted prior to the start of rehabilitation measures in order to confirm LiDAR data.

ATC LiDAR 3D tunnel survey of TTC subway stations was conducted by Geomatic Technologies in 2016. The data from the survey was used to determine the dimensions of the horizontal and vertical gaps at the train-platform interface, the deviation of those gaps from the newly developed Gap Standard and the station retrofit priority. Station retrofit priority has been determined based on several factors. These factors include station accessibility, length of platform exceeding the Gap Standard and degree of deviation from Gap Standard according to the LiDAR data. Stations have been classified into four priority levels. The highest priority was given to accessible stations that either exceed the Gap Standard (both horizontal and vertical) or exceed the vertical Gap Standard by 90% or greater. Station Priority of Repair (POR) classification criteria identified in Table 1 describes the high-level summary of POR levels. See Tables 2 to 4 for the detailed classification of criteria used to determine rehabilitation and construction precedence for POR.

Table 1: High-Level Summary for Priority of Repair Levels

Priority of Repair (POR) No.	High Level Description of Priority of Repair (POR)
1 – High	Stations with Barrier-Free Access: <ul style="list-style-type: none"> ● Large vertical and/or a horizontal gap deviation from the Standard. ● Combined influence of both the horizontal and vertical gap. ● Nearly all of the platform length exceeds the vertical Gap Standard. ● The combined influence of the horizontal and vertical gap will make the transition at the train-platform interface more difficult to overcome. ● These stations require the most rehabilitation efforts to meet the Gap Standard.
2 – Medium to High	Stations with Barrier-Free Access: <ul style="list-style-type: none"> ● Vertical gaps with large deviations from the Gap Standard. ● Greater than half of the platform length exceeds the vertical Gap Standard. ● The large vertical gap deviation creates a potential tripping hazard and an accessibility barrier. The stations in this category have less of the platform length affected by the vertical gap deviation in comparison to POR 1. <hr/> Non-Accessible Stations: <ul style="list-style-type: none"> ● Large vertical and/or a horizontal gap deviation from the Standard. ● Combined influence of both the horizontal and vertical gap. ● Nearly all of the platform length exceeds the vertical Gap Standard. ● The combined influence of the horizontal and vertical gap will make the transition at the train-platform interface more difficult to overcome. ● These stations require the most rehabilitation efforts to meet the Gap Standard.

Priority of Repair (POR) No.	High Level Description of Priority of Repair (POR)
3 – Medium	Stations with Barrier-Free Access: <ul style="list-style-type: none"> Vertical gaps with medium to large deviations from the Gap Standard Between twenty percent and half of the platform length exceeds the vertical Gap Standard.
	Non-Accessible Stations: <ul style="list-style-type: none"> Vertical gaps with large deviations from the Gap Standard. Greater than half of the platform length exceeds the vertical Gap Standard. The large vertical gap deviation is a potential tripping hazard and an accessibility barrier. The stations in this category have less of the platform length affected by the vertical gap deviation in comparison to POR 2.
4 – Low	Stations with Barrier-Free Access: <ul style="list-style-type: none"> Vertical gaps with low deviations from the Gap Standard. Less than a half of the platform length exceeds the vertical Gap Standard.
	Non-Accessible Stations: <ul style="list-style-type: none"> Vertical gaps with medium to large deviations from the Gap Standard Between twenty percent and half of the platform length exceeds the vertical Gap Standard.
Notes: 1 – See Tables 2 to 4 for detailed classification of criteria for the Priority of Repair Rating.	

POR criteria at the train-platform interface for the horizontal gap is presented in Table 2. The criteria delineates between barrier-free accessible stations and non-accessible stations. Criteria for the POR ratings have been tailored to suit LiDAR data set to adequately represent the findings.

Table 2: Horizontal Gap Exceedance Criteria for Priority of Repair Rating

Accessible Station	Combined Variables	Priority of Repair (POR) 1	Priority of Repair (POR) 2	Priority of Repair (POR) 3	Priority of Repair (POR) 4
Stations with Barrier-Free Access	Dimension over 89 mm Horizontal Gap Standard	<ul style="list-style-type: none"> Greater than or equal to 20 mm 	<ul style="list-style-type: none"> 9 mm to 19 mm 	<ul style="list-style-type: none"> 5 mm to 8 mm 	<ul style="list-style-type: none"> 1 mm to 4 mm
	Length of Platform in Exceedance of Horizontal Gap Standard	<ul style="list-style-type: none"> Greater than or equal to 50% 	<ul style="list-style-type: none"> Less than or equal to 49% 	<ul style="list-style-type: none"> Less than or equal to 49% 	<ul style="list-style-type: none"> Less than or equal to 49%

Accessible Station	Combined Variables	Priority of Repair (POR) 1	Priority of Repair (POR) 2	Priority of Repair (POR) 3	Priority of Repair (POR) 4
Non-Accessible Stations	Dimension over 89 mm Horizontal Gap Standard	N/A	● Greater than or equal to 20 mm	● 9 mm to 19 mm	● Less than or equal to 8 mm
	Length of Platform in Exceedance of Horizontal Gap Standard	N/A	● Greater than or equal to 50%	● Less than or equal to 49%	● Less than or equal to 49%
Notes: 1 – Criteria for the POR ratings have been tailored to suit LiDAR data set to adequately represent the findings. 2 – The combination of the <i>dimension over the Gap Standard</i> and the <i>length of platform in exceedance of the Gap Standard</i> criteria influences the POR rating. Table is to be read as such.					

The vertical gap has been found to be the critical variable throughout all stations. All station platforms exceed the vertical Gap Standard in at least one direction. The vertical gap exceedance POR rating criteria can be found in Table 3 for barrier-free access stations and Table 4 for non-accessible stations. Criteria for the POR ratings have been tailored to suit LiDAR data set to adequately represent the findings.

Table 3: Vertical Gap Exceedance Criteria for Priority of Repair Rating: Accessible Stations

Combined Variables	Priority of Repair (POR) 1	Priority of Repair (POR) 2	Priority of Repair (POR) 3	Priority of Repair (POR) 4
Dimension over 38 mm Vertical Gap Standard	● Greater than and equal to 36 mm	● 20 mm to 35 mm	● 10 mm to 19 mm	● 2 mm to 9 mm
Length of Platform in Exceedance of Gap Standard	● Greater than or equal to 80%	● 50% to 79%	● 25% to 49%	● Less than or equal to 50%
OR				
Dimension over 38 mm Vertical Gap Standard	N/A	● Greater than and equal to 36 mm	● 20 mm to 35 mm	● 20 mm to 35 mm
Length of Platform in Exceedance of Gap Standard	N/A	● 50% to 60%	● 20%-65%	● 15% and under
OR				

Combined Variables	Priority of Repair (POR) 1	Priority of Repair (POR) 2	Priority of Repair (POR) 3	Priority of Repair (POR) 4
Dimension over 38 mm Vertical Gap Standard	N/A	N/A	● 10 mm to 15 mm	N/A
Length of Platform in Exceedance of Gap Standard	N/A	N/A	● Greater than or equal to 80%	N/A
Notes: 1 – Criteria for the POR ratings have been tailored to suit LiDAR data set to adequately represent the findings. 2 – The combination of the <i>dimension over the Gap Standard</i> and the <i>length of platform in exceedance of the Gap Standard</i> criteria influences the POR rating. Table is to be read as such.				

The vertical gap exceedance POR rating criteria can be found in Table 3 for barrier-free access stations and Table 4 for non-accessible stations. Criteria for the POR ratings have been tailored to suit LiDAR data set to adequately represent the findings.

Table 4: Vertical Gap Exceedance Criteria for Priority of Repair Rating: Non-Accessible Stations

Combined Variables	Priority of Repair (POR) 1	Priority of Repair (POR) 2	Priority of Repair (POR) 3	Priority of Repair (POR) 4
Dimension over 38 mm Vertical Gap Standard	N/A	● Greater than or equal to 30 mm	● 15 mm to 29 mm	● 14 mm and under
Length of Platform in Exceedance of Vertical Gap Standard	N/A	● Greater than or equal to 80%	● Greater than or equal to 70%	● Less than or equal to 70%
OR				
Dimension over 38 mm Vertical Gap Standard	N/A	N/A	● 20 mm to 35 mm	N/A
Length of Platform in Exceedance of Vertical Gap Standard	N/A	N/A	● 20% to 55%	N/A
Notes: 1 – Criteria for the POR ratings have been tailored to suit LiDAR data set to adequately represent the findings. 2 – The combination of the <i>dimension over the Gap Standard</i> and the <i>length of platform in exceedance of the Gap Standard</i> criteria influences the POR rating. Table is to be read as such.				

Stations that are currently barrier-free or in the process of becoming barrier-free should be considered a higher priority for rehabilitation and the POR should be updated as such. The

combined horizontal and vertical gap exceedance can make the effort to cross the gap more difficult for a passenger using an accessibility device. As a result, the stations with combined horizontal and vertical gap exceedances should be considered a high priority for repairs. The stations that are considered as a medium to high priority of repair for rehabilitation measures based on the criteria detailed in previous tables are listed in Table 5.

Table 5: Medium to High Priority of Repair for Stations Exceeding the Gap Standard

Station	Accessible Station Access	% Platform Exceeding Gap Standard (Horizontal)	% Platform Exceeding Gap Standard (Vertical)	Priority of Repair (POR) (See Table 1)
Finch Station	Yes	0%	100%	1
York Mills Station ¹	Yes	54%	100%	1
Eglinton Station	Yes	0%	96%	1
Davisville Station	Yes	0%	100%	1
St. Clair Station ¹	Yes	4%	100%	1
Dundas Station ¹	Yes	8%	100%	1
Queen Station	Yes	0%	100%	1
Union Station ¹	Yes	4%	100%	1
Osgoode Station	Yes	0%	100%	1
St. Patrick Station	Yes	0%	100%	1
Sheppard West Station	Yes	0%	100%	1
Kipling Station ^{1,2}	Yes	4%	100%	2
North York Centre Station	Yes	0%	100%	2
Sheppard-Yonge Station	Yes	0%	100%	2
Summerhill Station	No	0%	100%	2
Rosedale Station	No	0%	83%	2
Bloor Station	Yes	0%	100%	2
Wellesley Station ¹	No	4%	100%	2
College Station	No	0%	100%	2
King Station	No	0%	100%	2
Queen's Park Station	Yes	0%	100%	2
St. George Station	Yes	0%	100%	2
Spadina Station	Yes	0%	100%	2

Station	Accessible Station Access	% Platform Exceeding Gap Standard (Horizontal)	% Platform Exceeding Gap Standard (Vertical)	Priority of Repair (POR) (See Table 1)
St. Clair West Station	Yes	0%	100%	2
Eglinton West Station	Yes	0%	100%	2
Lawrence West Station	Yes	0%	100%	2
Wilson Station	No	0%	100%	2
Jane Station	Yes	0%	100%	2
Bathurst Station	Yes	0%	100%	2
Spadina Station	Yes	0%	100%	2
Yonge Station	Yes	0%	100%	2
Broadview Station	Yes	0%	100%	2
Pape Station	Yes	0%	100%	2
Woodbine Station	Yes	0%	100%	2
Main Street Station	Yes	0%	100%	2
Victoria Park Station	Yes	0%	100%	2
Kennedy Station	Yes	0%	100%	2
Notes: 1 – Gap has a combined horizontal and vertical influence affecting the priority of repair. 2 – One location at the end of the platform that exceeds 75 mm vertically, the remaining locations are below 57 mm. POR based on the summation of both sides of platform at each station. See Appendix A for POR per platform side.				

Union Station and St. Clair Station are both on curved track. The curved track may cause larger discrepancies with the LiDAR and will need to be assessed individually to determine actual horizontal and vertical gap through on-site survey.

Attachment 3 - TTC Retrofit Schedule (2019-2022)

Station	Platform	Start	Priority*	Funding
Eglinton	NB	2019	1	Funded
Eglinton	SB	2019	1	Funded
Finch	SB	2019	1	Funded
St Clair	NB	2019	1	Funded
St Clair	SB	2019	1	Funded
Dundas	NB	2020	1	Funded
Dundas	SB	2020	1	Funded
Finch	NB	2020	1	Funded
Queen	NB	2020	1	Funded
Queen	SB	2020	1	Funded
St George YUS	NB	2020	2	Funded
Union	NB	2020	1	Funded
Union	SB	2020	1	Funded
Bloor-Yonge YUS	NB	2021	2	Funded
Eglinton West	SB	2021	2	Funded
Osgoode	NB	2021	1	Funded
Osgoode	SB	2021	1	Funded
Sheppard West	NB	2021	1	Funded
Sheppard West	SB	2021	1	Funded
York Mills	NB	2021	1	Funded
York Mills	SB	2021	1	Funded
Spadina YUS	SB	2021	2	Unfunded
Bloor-Yonge YUS	SB	2022	2	Unfunded
North York Centre	NB	2022	2	Unfunded
North York Centre	SB	2022	2	Unfunded
Sheppard-Yonge YUS	NB	2022	2	Unfunded
Sheppard-Yonge YUS	SB	2022	2	Unfunded
Wellesley	NB	2022	2	Unfunded
Wellesley	SB	2022	2	Unfunded
College	NB	TBD	2	Unfunded
College	SB	TBD	2	Unfunded
Davisville	NB	TBD	1	Unfunded
Davisville	SB	TBD	1	Unfunded
Eglinton West	NB	TBD	2	Unfunded
King	NB	TBD	2	Unfunded
King	SB	TBD	2	Unfunded
Lawrence West	NB	TBD	2	Unfunded
Lawrence West	SB	TBD	2	Unfunded
Queen's Park	NB	TBD	2	Unfunded
Queen's Park	SB	TBD	2	Unfunded
Rosedale	NB	TBD	2	Unfunded
Rosedale	SB	TBD	2	Unfunded
St Clair West	NB	TBD	2	Unfunded

Station	Platform	Start	Priority*	Funding
St Clair West	SB	TBD	2	Unfunded
St Patrick	NB	TBD	1	Unfunded
St Patrick	SB	TBD	1	Unfunded
Summerhill	NB	TBD	2	Unfunded
Summerhill	SB	TBD	2	Unfunded
Wilson	NB	TBD	2	Unfunded
Wilson	SB	TBD	2	Unfunded
Bathurst	WB	TBD	2	Unfunded
Bathurst	EB	TBD	2	Unfunded
Bloor-Yonge BD	WB	TBD	2	Unfunded
Bloor-Yonge BD	EB	TBD	2	Unfunded
Broadview	WB	TBD	2	Unfunded
Broadview	EB	TBD	2	Unfunded
Jane	WB	TBD	2	Unfunded
Jane	EB	TBD	2	Unfunded
Kipling	WB	TBD	2	Unfunded
Kipling	EB	TBD	2	Unfunded
Main Street	WB	TBD	2	Unfunded
Main Street	EB	TBD	2	Unfunded
Pape	WB	TBD	2	Unfunded
Pape	EB	TBD	2	Unfunded
Spadina BD	WB	TBD	2	Unfunded
Spadina BD	EB	TBD	2	Unfunded
Victoria Park	WB	TBD	2	Unfunded
Victoria Park	EB	TBD	2	Unfunded
Woodbine	WB	TBD	2	Unfunded
Woodbine	EB	TBD	2	Unfunded
Kennedy SRT	WB	TBD	2	Unfunded
Kennedy SRT	EB	TBD	2	Unfunded

* Priority based on CIMA G85-351B 2019/8/20 Table 5: Medium to High Priority of Repair for Stations Exceeding the Gap Standard