Overview of Subway Delays & Short Turns Strategy and History

December 7, 2023

Fortunato Monaco
Chief of Operations and Infrastructure

Background

TTC's Operations and Infrastructure Group will provide an overview of our:

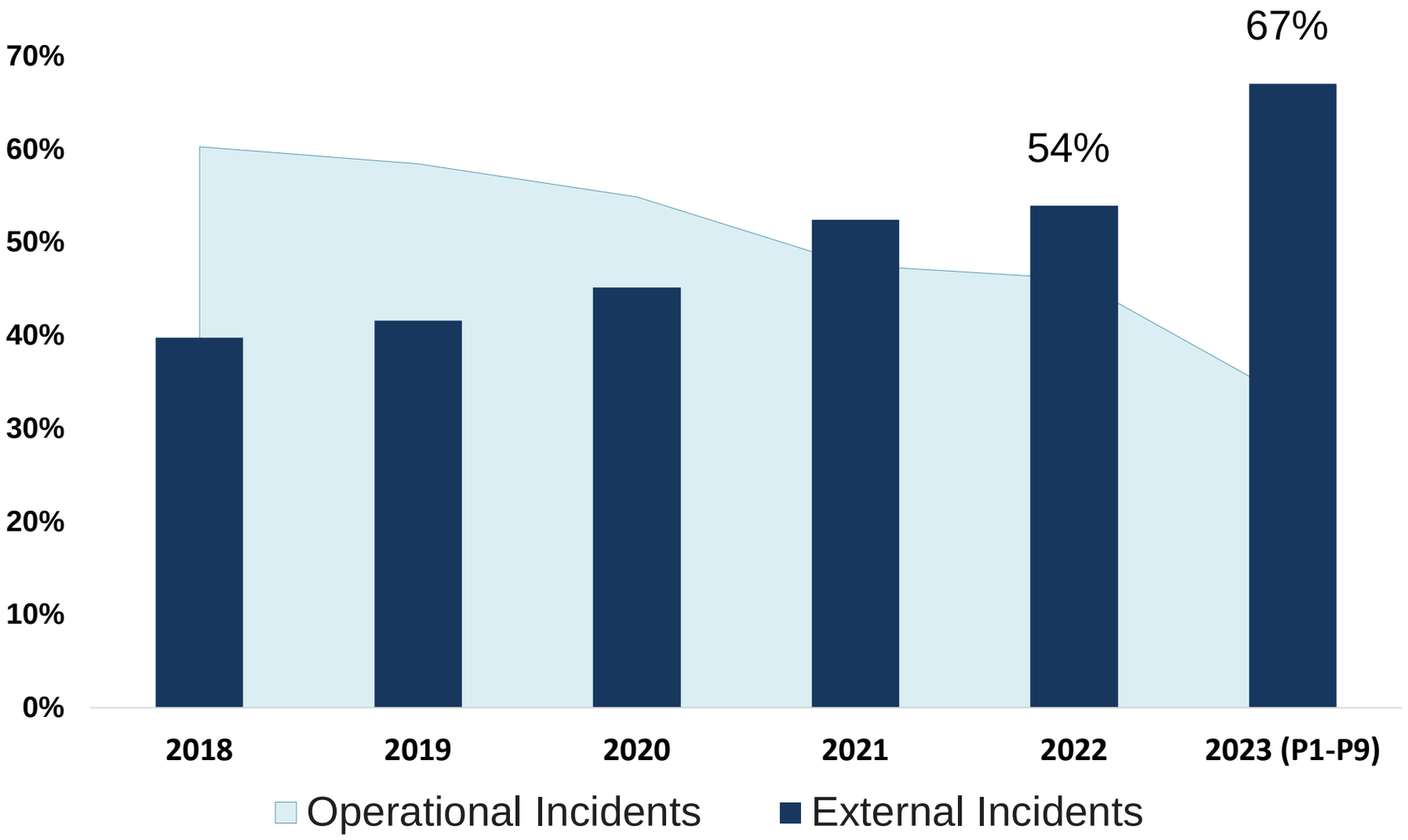
1. **Action plan** to reduce subway delays for our customers.
2. **Short turn strategy and history** for Bus and Streetcar, including progress to date and current targets.

Subway delays summary

- Delay minutes have reduced by 5.2% YTD 2023 compared to YTD 2022*. In 2018 to 2022, delay minutes were increasing.
- In 2023, operational delays accounted for 39% of all delays, and generally decreasing.
- In 2023, 61% of all delays were caused by external factors, and generally increasing.
- Customer-related delays are increasing. Equipment and staff-related delays are improving.

**January – October 2022 vs January – October 2023*

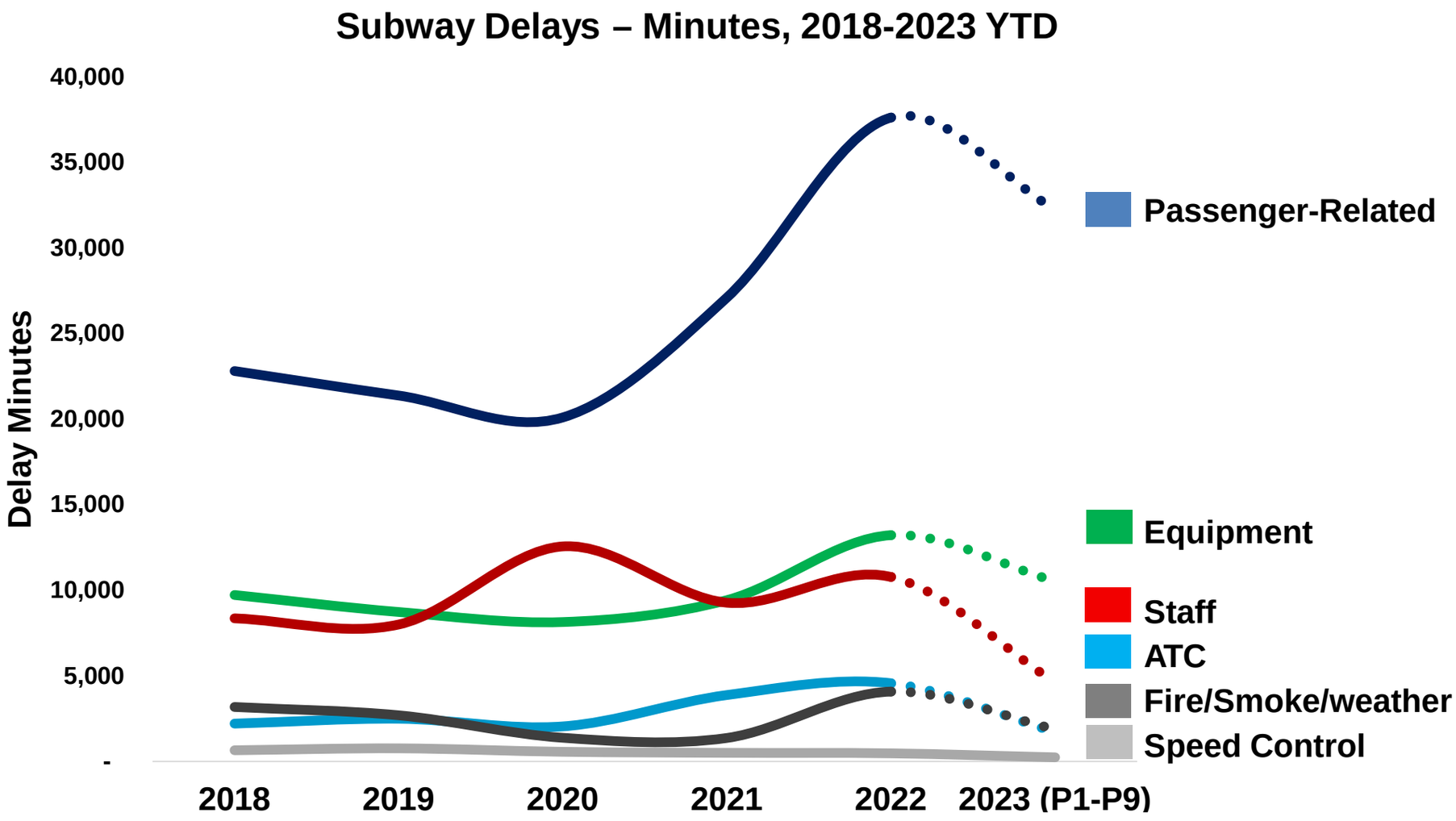
Subway delays 2018 to YTD 2023



- Operational delay incidents steadily declined since 2018.
- Customer-related delays increased external delay minutes and incidents in 2022 and 2023.

Subway delays types: 2018 to YTD 2023

- Increase in Customer-related delays
- Decrease in Operational delay minutes
- Weather/Fire delays are extremely limited



Subway delay improvements

CUSTOMER SUPPORT

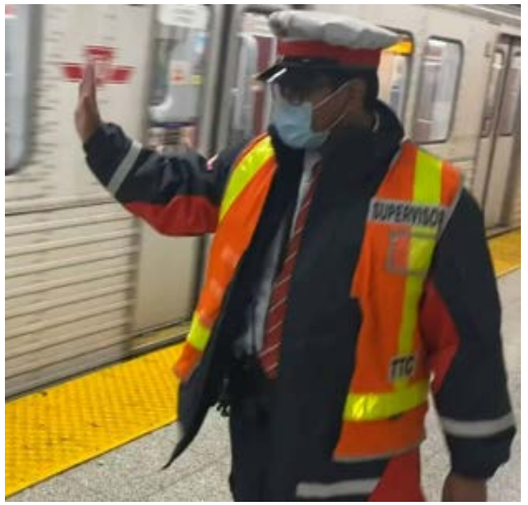
Increased preventative actions

- Six CCTV Hubs 75% to 90%
- Increased frontline staff
- Frequent safety announcements
- In-terminal vehicle cleaning
- Human Factor Training
- **Investigate platform edge doors**

OPERATIONAL

Continue operational advances

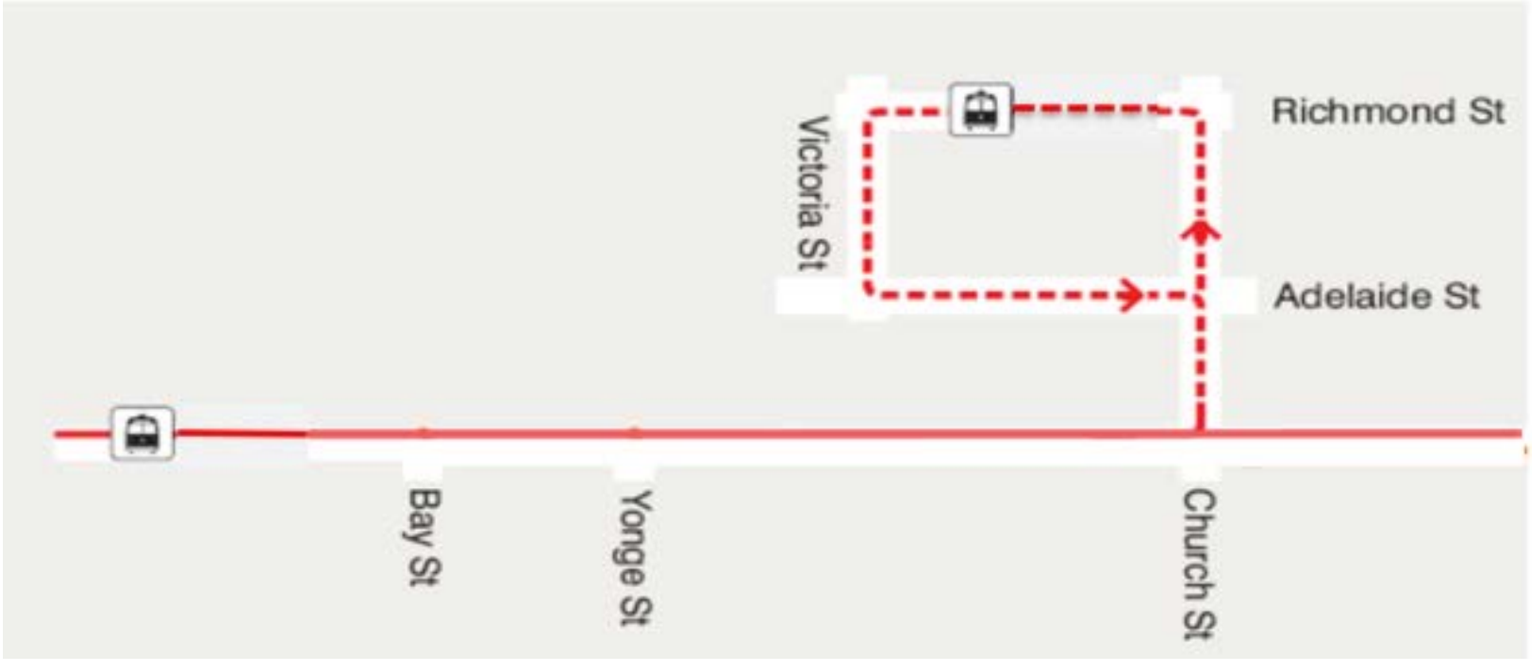
- OPTO Line 1 maturation
- ATC maturation
- Vehicle SOGR
- Work zone management
- Staff-levels and training
- **Radio upgrades**
- **Line 2 trains and signals**



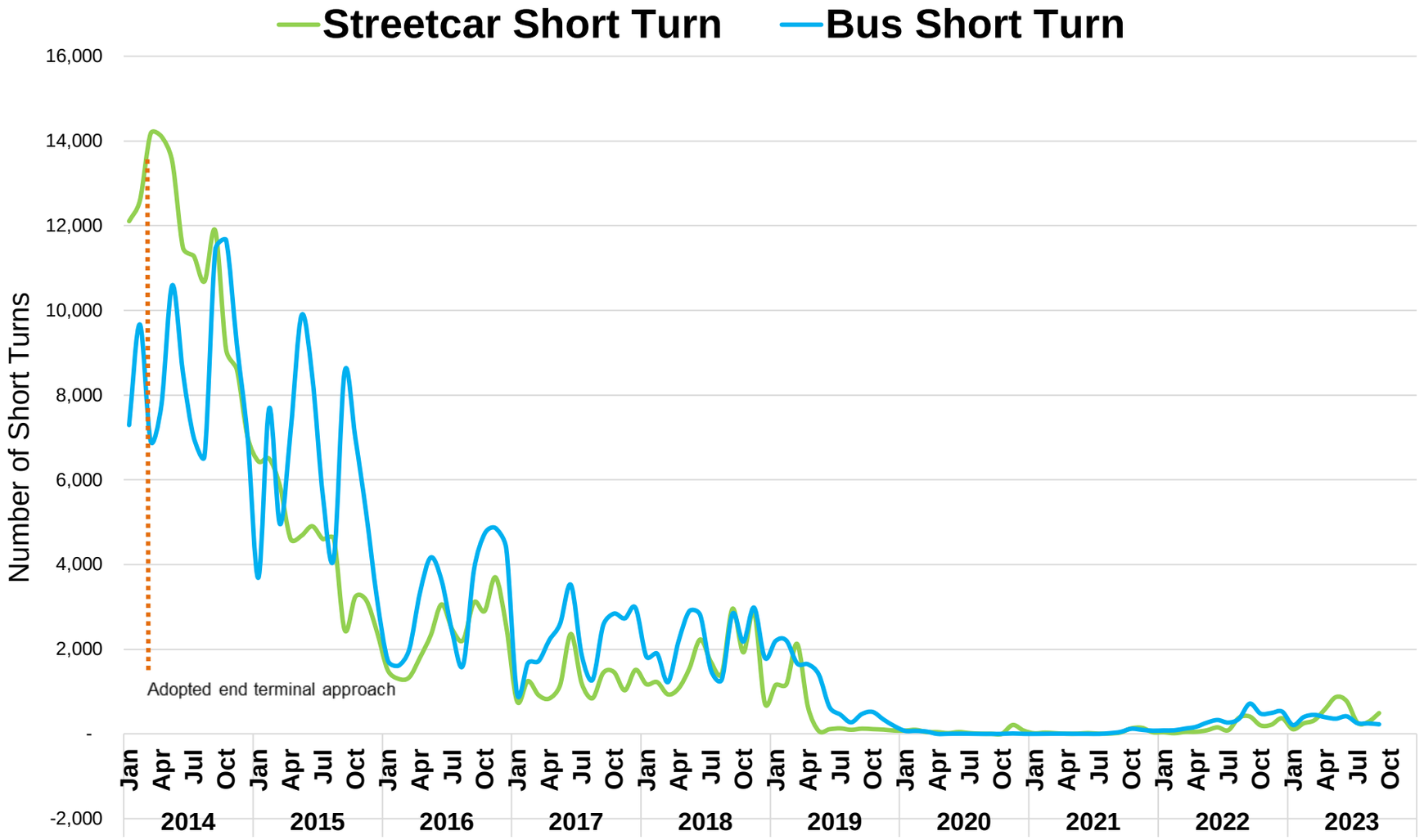
Bus and Streetcar Short Turn Strategy and History

What is a short turn?

A **short turn** occurs when a bus or streetcar is taken out of service and turns back before it reaches the end of its planned route.



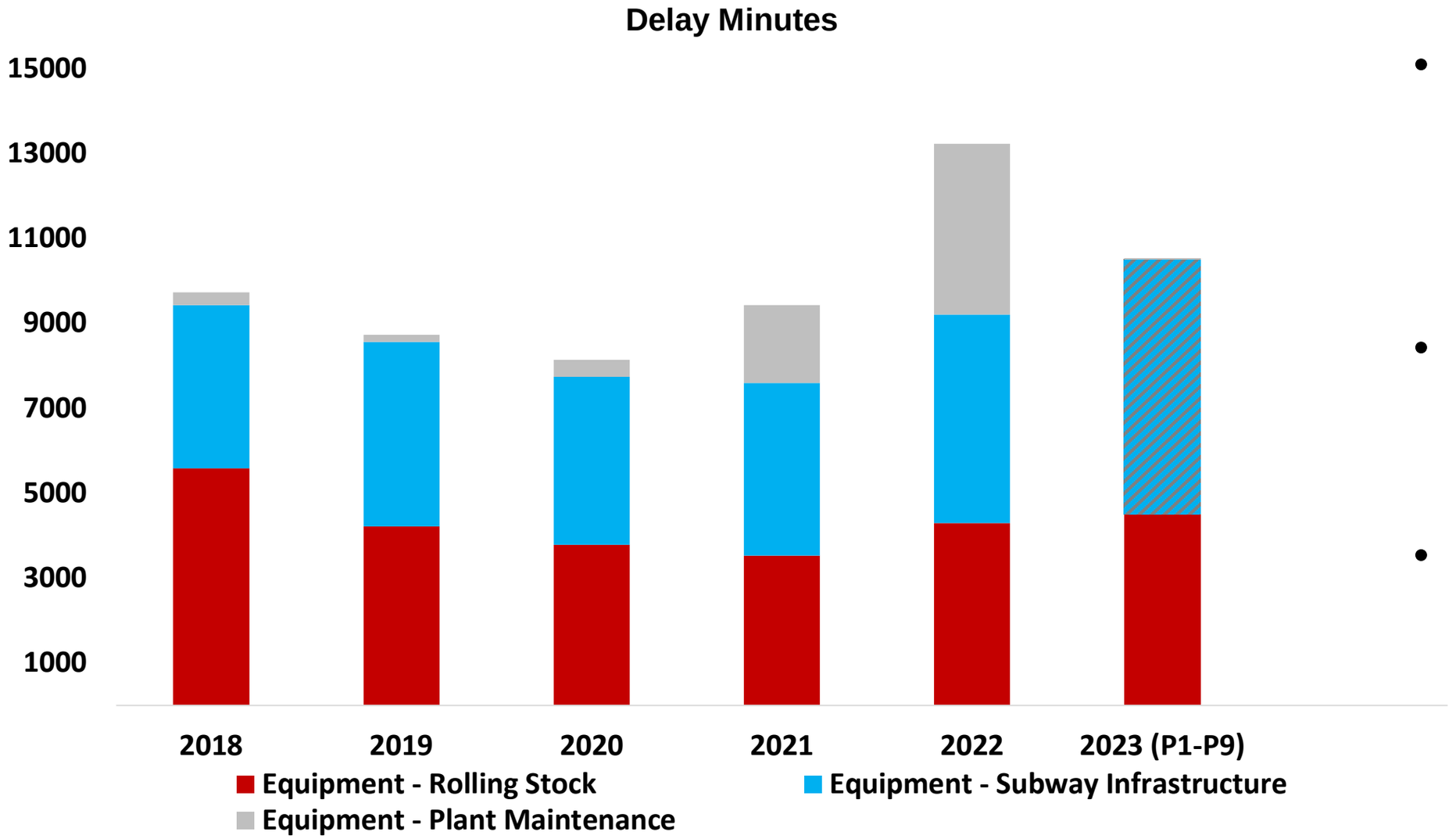
Current Bus and Streetcar short turn targets



The current target is **1%** short turn rate for streetcars and **0.1%** for scheduled bus trips

Appendix: Subway Delays

Equipment and staff-related delays

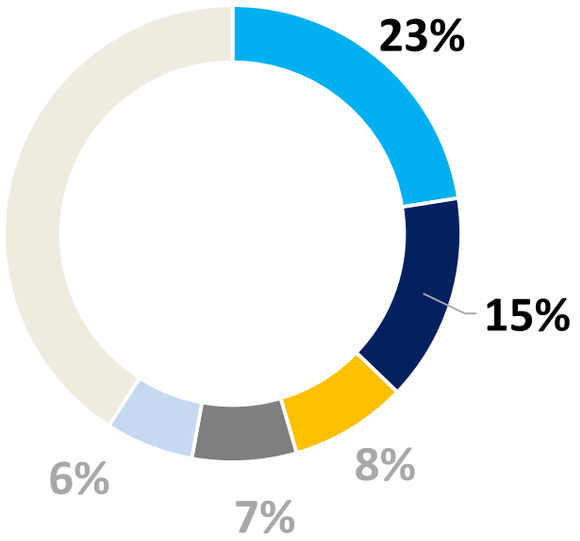


- ATC-related delays were reduced by 51% 2023 YTD compared to 2022 YTD
- OPTO delays decreased in YTD 2023
- Staff-related delays increased in early COVID, but are now on track to be lower than 2019

Note: OPTO delays are part of Subway Infrastructure in 2023

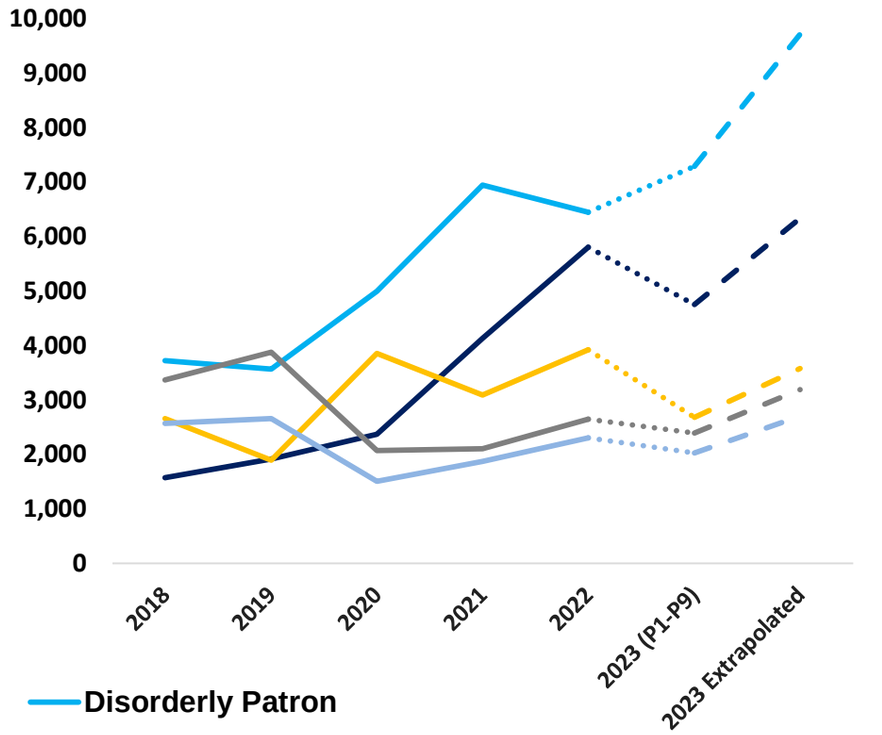
Subway customer-related delays

Top 5 Customer Delay Categories, YTD 2023 (P1-P9)



- Disorderly Patron
- Unauthorized at Track Level
- Priority One - Train in Contact With Person
- Injured or ill Customer (On Train) - Transported
- Injured or ill Customer (On Train) - Medical Aid Refused

Delay Minutes (2018-2023)



- Disorderly patron delays increased by 96% from pre-COVID to YTD.
- Unauthorized at track level delays increased by 269% from pre-COVID levels.

2023 YTD (P1-P7) status: Overall

The YTD total delay minutes for 2023 (P1-P7) have been reduced by **2.6% (-1,140 minutes).**

- **Line 1 total delay minutes YTD (P1-7) reduced by 6.4% (-1,466 minutes).**
- Line 2 total delay minutes YTD (P1-7) increased by 2.7% (+394 minutes).
- Line 3 (SRT Line) total delay minutes YTD (P1-7) increased by 12.6% (+542 minutes).
- **Line 4 total delay minutes YTD (P17) reduced by 29.8 (-610 minutes).**

2023 YTD (P1-P7) status: Controllable delays

In 2023, several major Subway delays from 2022 have shown improvement.

Line 1 (YTD compared to the same period in 2022)

- OPTO (COMMS) train door monitoring delay minutes decreased by 14.7% (286 minutes) to 1,666 minutes.
- ATC project delay minutes have decreased by 46.5% (1,145 minutes) to 1,316 minutes.
- Total ATC-related delays reduced by 50.3% (1,464 minutes).
- Subway Transportation staff-related delays have reduced by 64.7% (2,076 minutes) to 1,135 minutes.
- Speed control-related delay minutes reduced to zero due to ATC full-implementation.
- Line 1 & 4 Fire/Smoke – Source TTC (Plan B) delay minutes increased by 819 minutes; however, Line 2 and 3 (SRT line) Plan B delays reduced by 860 minutes, resulting in an overall reduction of 2.1%.

2023 YTD (P1-P7) status: Uncontrollable delays

In 2023, major Subway delays continue to be primarily passenger-related and are showing a consistent upward trend.

Line 1 (YTD compared to the same period in 2022)

Total passenger-related delay minutes **increased by 19.6%** (2,233 minutes).

- Passenger – Suicides/Intruders/Litter increased by 21.7% (655 minutes);
- Passenger – Police/ Security/Bomb Scare increased by 13.5% (770 minutes)
- Passenger – “Other” increased by 30.3% (808) minutes

Line 2(YTD compared to the same period in 2022)

Total passenger-related delay minutes **increased by 11.0%** (997 minutes).

- Passenger – Suicides/Intruders/Litter decreased by 11.2% (-357 minutes)
- Passenger – Police/Security/Bomb Scare increased by 19.7% (802 minutes)
- Passenger – Other increased by 30.9% (552) minutes

2023 YTD (P1-P7) status: Action plan

- Ensure continuous monitoring of controllable delays
- Address significant delays
- Minimize delay impacts

MUATC: Identify the incidents
PUOPTO: SEC Team; TCC response time; Operator adapting

2022 Performance: Controllable subway delays

Line 1

OPTO train door monitoring, ATC, ST staff-related delays contributed to **67%** of the controllable delays.

- **Equipment - Plant Maintenance delay minutes** amounted to 3,168, a substantial increase of 120% (1,728 minutes) compared to 2021.
  - The primary contributor to this increase was OPTO Train door monitoring-related delays, accounting for 3,065 minutes.
  - Starting on Nov. 20, 2022, Line 1 expanded OPTO to the full line seven days a week (from just VMC to St George), resulting in a surge in delays throughout 2022.
  - In 2023, we transitioned to attributing OPTO train door monitoring-related delays to SEC instead of Plant Maintenance, as the team now reports to SEC.
- **ATC – Project Group delay minutes:** 3,831 minutes, an increase of 16.4% (541 minutes) compared to 2021
- **Subway Transportation staff-related delay minutes:** 4,769 minutes, at the same level compared to 2021. Mainly No Operator immediately available, and transpiration others;
- **Equipment – Rolling Stock delay minutes** increased by 20.3% (244 minutes) compared to 2021
- Door Problems - Faulty Equipment: no trouble found

Prepared by: Angela Li

2022 Performance: Controllable subway delays

Line 2

Infrastructure, ST staff, and equipment-related delays accounted for **66.8%** of the controllable delays

- **Equipment – Subway Infrastructure delays** were 1,867 minutes, an increase of 80% (830 minutes) compared to 2021. This increase was predominantly attributed to rail-related issues, accounting for 709 minutes, as opposed to 2021's 146 minutes.
- **Staff-related delays – Subway transportation** were 2,827 minutes, increased by 23.4% (536 minutes). Top three causes: signal violation, other, mis.
- **Equipment – Rolling Stock delays** were 1,391 minutes, remaining the same level as last year.

Prepared by: Angela Li

Appendix: Bus and Streetcar Short Turns Strategy & History

Bus and Streetcar short turn strategy and history

Before 2014

Headway-based measurements for short turn management

2014

Innovative “zero” tolerance approach to reduce short turns

2021

TTC’s Computer-Aided Dispatch and Automatic Vehicle Location (VISION)

2023

Short turns are less than

2%

of what they were 10 years ago

77%

Reduction in Short Turns over subsequent years