



# 2019 Fare Evasion Study

## Audit, Risk and Compliance

February 11, 2020



# Content Overview



# Audit, Risk and Compliance (ARC) Fare Evasion Activities

2018

## Initial Involvement

- + Focused efforts to gain a comprehensive understanding of the TTC's fare evasion risk landscape and impact of key infrastructure and customer centric changes.

2019

## Customer Tapping Behaviour on Streetcars and System Wide Fare Evasion Study

- + Observed streetcar customer Tapping Behaviour with and without visible Fare Inspector presence. A 25% increase in customer tapping behaviour was noted when uniformed Fare Inspectors are present. Results informed the design of a comprehensive 2019 Fare Evasion Study.
- + Conducted system wide fare evasion study during November and December 2019. Results to serve as a benchmark for future ARC evasion work.

2020

## Regular Reporting and Board Oversight

- + Provide support of quarterly reporting on TTC's fare evasion and impact of revenue protection initiatives to the Board.



# 2018 Auditor General Fare Evasion Study - Recap

## System Wide Fare Evasion Rates



5.4%

Weighted Average Fare Evasion Rate

Streetcar 15.2%  
Bus 5.1%  
Subway 3.7%

## Financial Impact



\$60.7M\*

Annual Uncollected Revenue\*\*

Streetcar \$12.2M  
Bus \$30.1M  
Subway \$18.4M

## Recommendations



Phase 1: 27  
Phase 2: 34

TTC Board Approved Recommendations

# Fare Evasion Study Methodology Comparison

	AG (2018)	ARC (2019)
<b>Type of Inspection</b>	Plain Clothes Fare Inspectors (all modes)	Plain Clothes TTC Special Constables (all modes)
<b>Fare Inspection Method</b>	Streetcar – POP inspection (100% sweep) Bus – POP inspection (boarding passengers) Subway – Main Entrances (Concession only) and Secondary Entrances (Security video review)	✓
<b>Inspection Period</b>	November to December	✓
<b>Inspection Time</b>	Non-peak and peak periods, week-days and week-ends	✓ Plus crush-loads and late evenings
<b>Type of Enforcement</b>	Education only Hotlist (child concession misuse)	✓ Issued tickets (fraudulent use of child PRESTO card)
<b>Sample Size by Mode</b>	Streetcar (7 routes; 315 streetcars) Bus (26 routes; 76 buses) Subway (15 main entrances; 4 secondary entrances – 38 hours of security camera footage) Total Observations Collected – 19,647	Streetcar (9 routes; 186 streetcars) Bus (52 routes; 117 buses) Subway (38 main entrances; 24 secondary entrances – 24 hours of security camera footage) Total Observations Collected – 30,247*



# 2019 ARC Fare Evasion Study Results - Overall

## System Wide Fare Evasion Rates



5.7%

Weighted Average Fare Evasion Rate

Streetcar 15.9%  
Bus 6.3%  
Subway 2.4%

## Financial Impact



\$70.3M\*

Annual Uncollected Revenue

Streetcar \$23.0M  
Bus \$34.4M  
Subway \$12.9M

## Considerations



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TTC Management to Report Back to the Audit, Risk and Management Committee by Q3 2020

# 2019 ARC Study - System Wide Fare Payment Equipment Availability



## PRESTO Readers

**96%**

**Availability**

- 1,175 PRESTO readers observed on 303 vehicles (bus and streetcar)
- 46 of these were out of service (streetcar only)



## Fare Gates

**100%**

**Availability**

- 432 fare gates observed at 38 main entrances and 24 secondary entrances
- No fare gates were out of service



## SRVMs

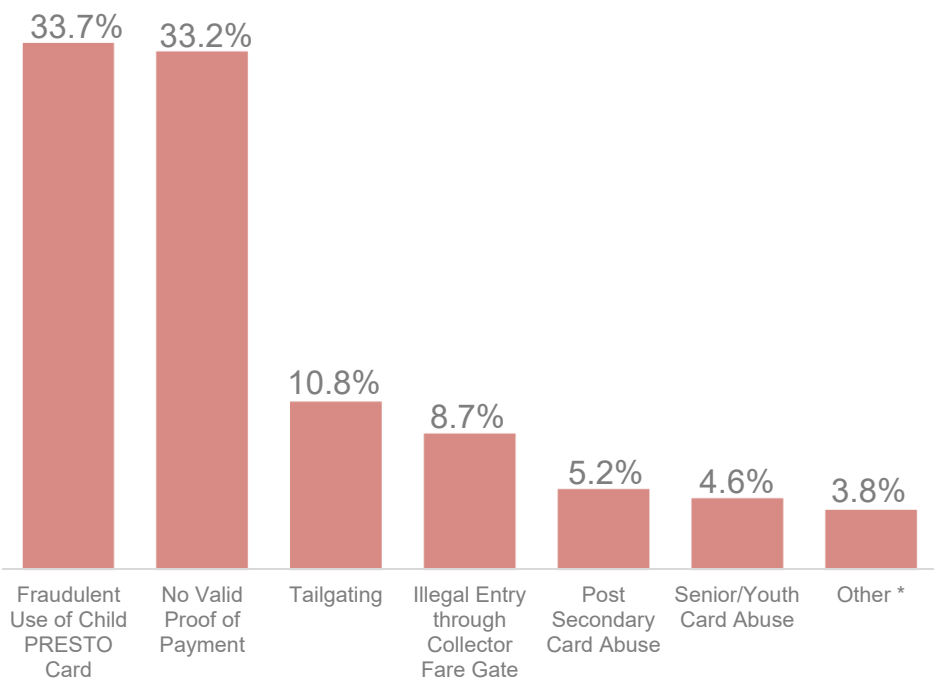
**84%**

**Availability**

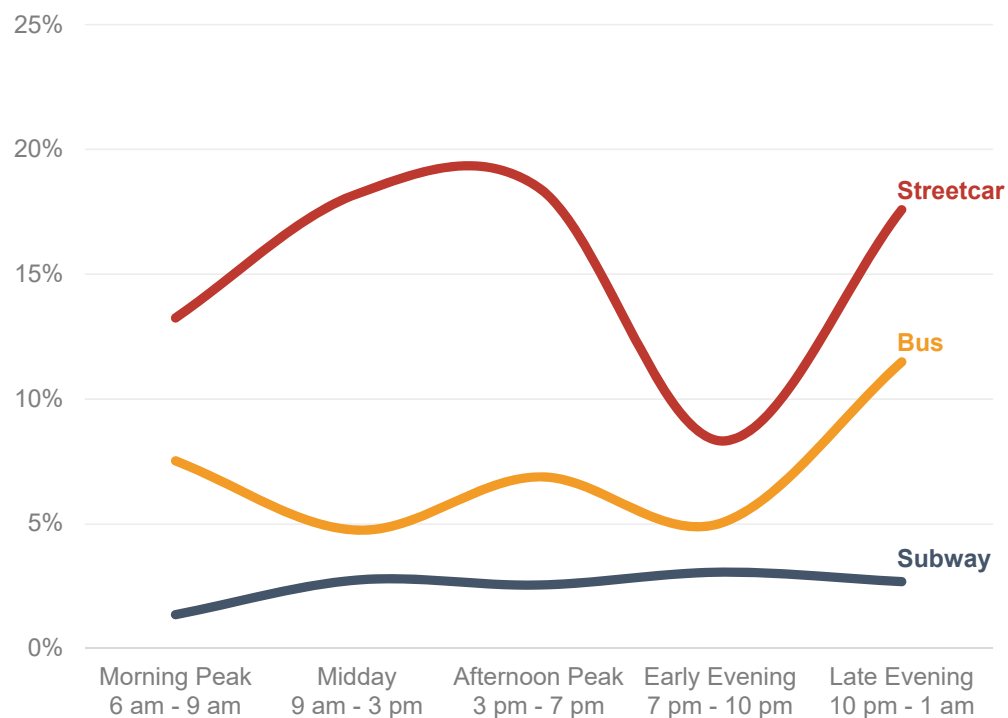
- 95 Parkeon SRVMS and 183 S&B SRVMS observed on 139 LFLRVs
- None of the Parkeon SRVMs were out of service
- 45 of the S&B SRVMs were out of service

# 2019 ARC Study - System Wide Fare Evasion Analysis

## System Wide Fare Evasion Rate by Type



## System Wide Fare Evasion Rate by Time Period



Above results are based on ARC's Fare Evasion Study conducted from November to December 2019.

\* Other Includes: Illegal entry through bus bays, Incorrect fare, Pushing through the fare gates, Expired legacy transfers, Hopping over the barrier, Opening the gate for another person to enter, Employee card abuse and Pensioner card abuse.

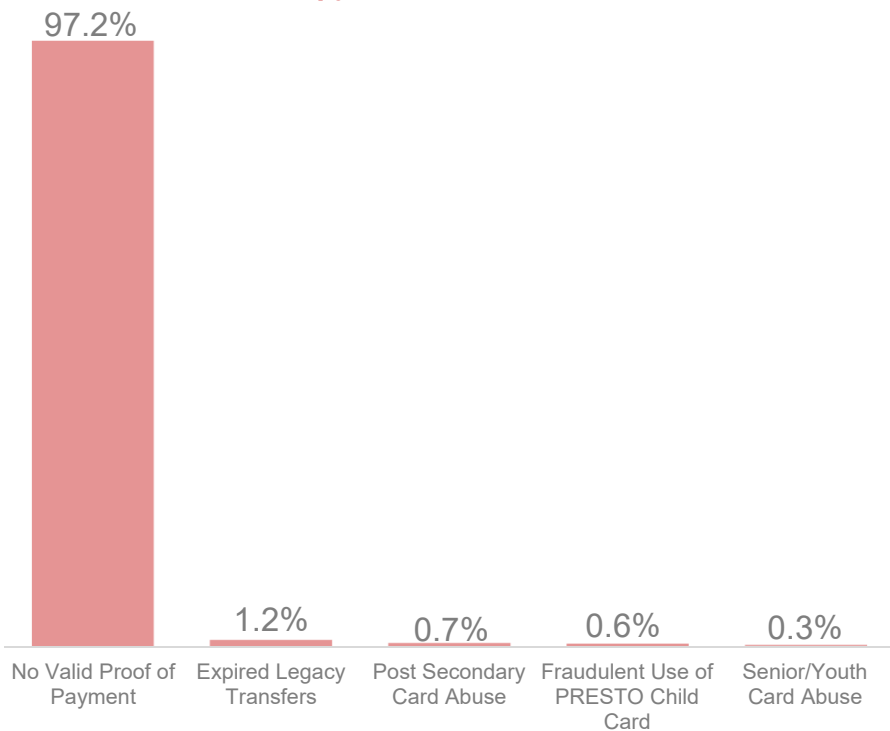




# 2019 ARC Study - Streetcar Fare Evasion Analysis

## Streetcar Fare Evasion by Type

**15.9%** Fare Evasion Rate



## Streetcar Fare Evasion by Vehicle Type

Non-Paying Customers    Paying Customers

Low Floor Light Rail Vehicles (LFLRVs)

17.5%

82.5%

Legacy Streetcars

10.1%

89.9%

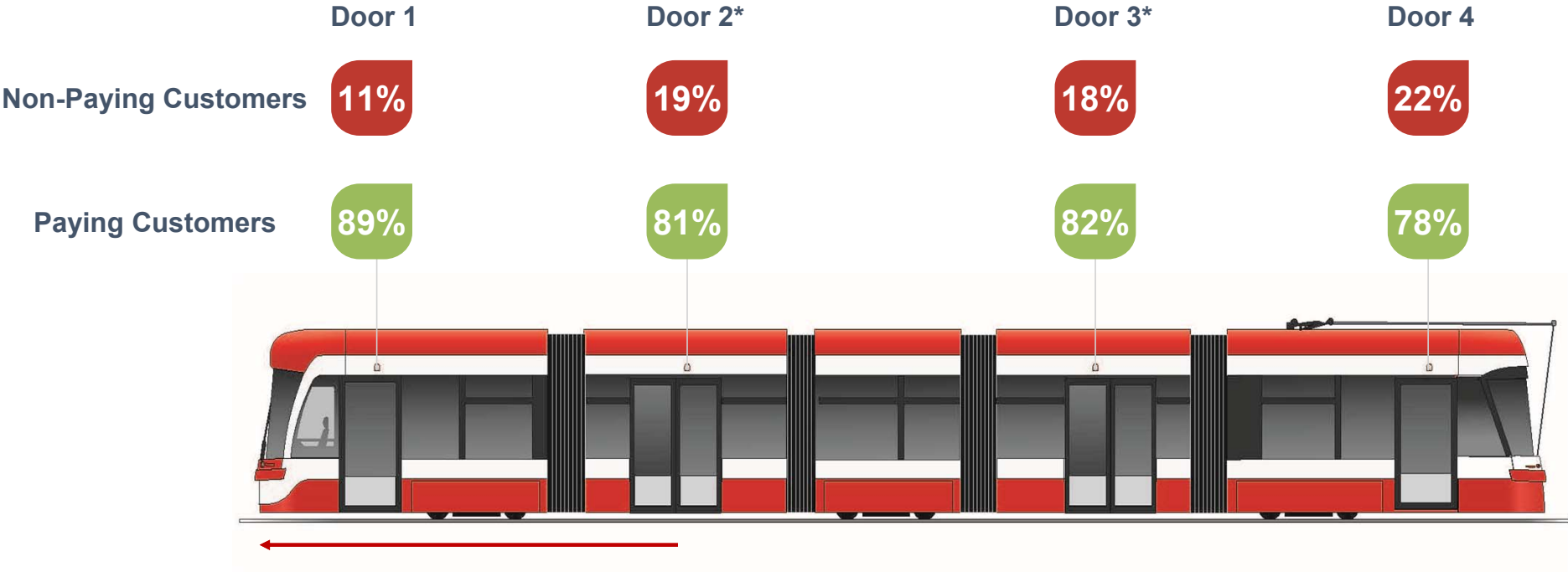
Replacement Buses

7.4%

92.6%



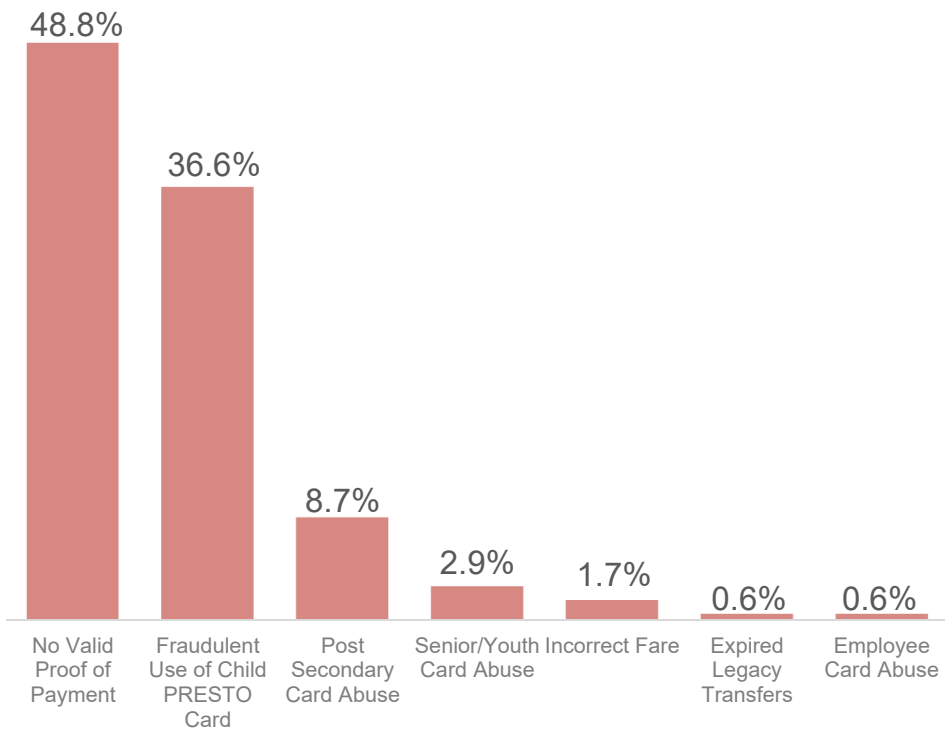
# 2019 ARC Study - Streetcar Fare Evasion Analysis (by Door)



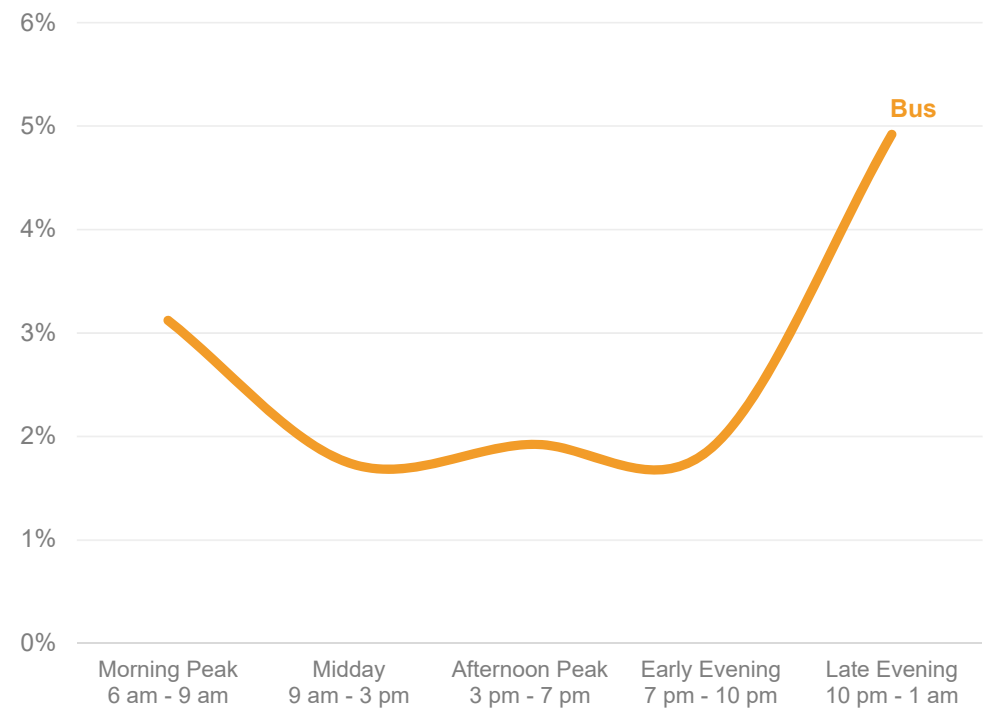
# 2019 ARC Study - Bus Fare Evasion Analysis

## Bus Fare Evasion by Type

**6.3%** Fare Evasion Rate



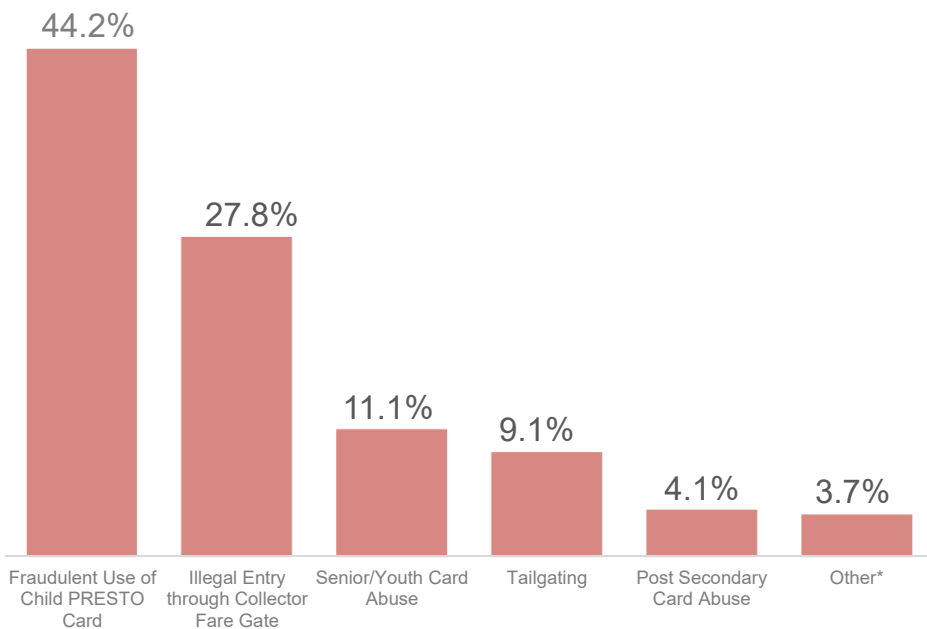
## Fraudulent Use of Child PRESTO Card



# 2019 ARC Study – Subway Fare Evasion Analysis

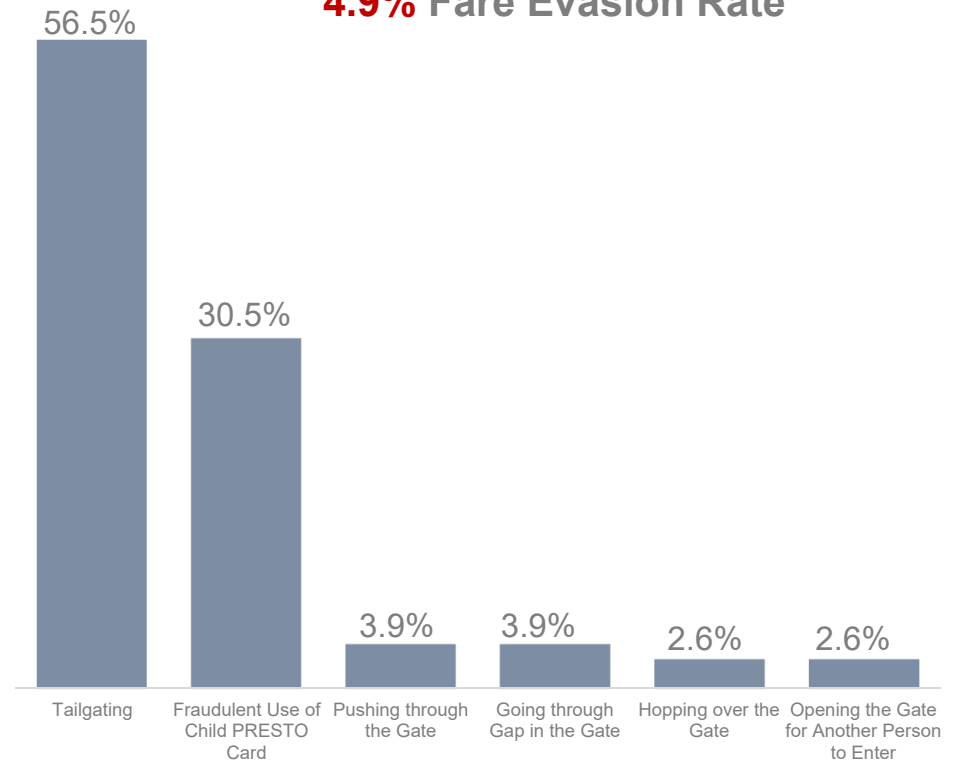
## Main Entrance Fare Evasion by Type

**1.9% Fare Evasion Rate**



## Secondary Entrance Fare Evasion by Type

**4.9% Fare Evasion Rate**



# 2019 ARC Fare Evasion Study - Considerations



## Adaptable Strategies to Align with Revenue Protection Targets

- Conduct a behavioural study to understand root causes that contribute to customer fare evasion behaviour
- Emphasize fare evasion as a serious crime with consequences in public TTC communications
- Increase use of plain clothes inspections to reduce inspection predictability and intentional customer avoidance
- Develop corporate and institutional programs that offer PRESTO card volume incentives to promote transit use as part of corporate social responsibility and Green initiatives



## Operational Agility to Suit Changing Evasion Conditions

- Leverage TTC Special Constable Service's initiatives to collaborate with school authorities to address student fare evasion behaviour and provide increased support to surface personnel
- Re-assess future plan to implement all-door-boarding on buses in light of increased fare evasion risk
- Improve PRESTO reader device and fare payment machine availability/reliability, and offer new payment options (e.g., open payment)



## Technological Improvements and Active Use of Big Data

- Work with Metrolinx to improve the performance of Handheld Point of Sale (HHPOS) devices
- Refine fraud event codes to better represent instances of fare gate fraud
- Continue to leverage big data, improve its accuracy, correlate to inform risk-based revenue protection decisions, and identify vulnerabilities based on tracked results
- Monitor and publicly report the impact of fare evasion reduction and revenue protection strategies by measuring changes in evasion trends



# Final Comments



## The Challenge

- + Changes implemented since 2010 to improve operational efficiencies and modernize the customer experience have inadvertently contributed to fare compliance challenges.
- + Revenue losses contribute to the need for fare increases and create inequities for our paying customers.



## Customer Behaviour

- + To disrupt negative customer behaviour, a culture shift towards fare compliance and a reset of social norms are needed.
- + The success of a Revenue Control Strategy is highly dependent on building a fare compliant culture and therefore, such matters need to be considered and incorporated into all revenue protection initiatives.



