The TTC’s Revenue Protection Strategy
Presentation to the TTC Board

February 25, 2020
Agenda

- The TTC’s Revenue Protection Strategy
  - Preparation Work in 2019
- Ensuring Fare Payment Equipment is Available and Reliable
- Revenue Control and Data Analytics
  - 2019 Ridership and Revenue
  - Presto Adoption
  - Stop Sell Impact
  - Analysis and Insights
    - Child Concession Card Insights
The TTC’s Revenue Protection Strategy
Revenue Protection Objective
Maximize revenue

Correct Fares
Customer Service
Reliable Equipment

Maximize Revenue
Streetcar Deployment Tactics

- Consistent resource assignment
- ‘Crush load’ inspection
- ‘U-Turn’ customer inspection
- Offboarding inspection
- Zone assignment
- Proportional network coverage
Streetcar Deployment Tactics

Zone coverage map
Reducing Fareline Permeability – ‘Locking’ Farelines

Barriers installed between farelines and collector booths to decrease opportunity for station access without payment

Fare Evasion Deterrence
Proof of Concept

Improvements to faregate function and first line maintenance
Improving Visibility and Security in Stations

Pilot 360 degree view camera and new video management system

Sample View 1 Yonge/Bloor

Sample View 2 Yonge/Bloor
Customer Communication and ‘Tap Every Time’ Culture

Tap every time
You must tap your PRESTO card or PRESTO Ticket every time, even if you pay your fare as-you-go, or have a monthly pass loaded on your card.

Learn more at ttc.ca/presto
Ensuring Fare Payment Equipment is Available and Reliable
Reliable Fare Payment Equipment - PRESTO

Three Phase Approach

1) Incident Management:
   - Unplanned interruption to a service or reduction in the quality of a service
   - Restore normal service operation as quickly as possible

2) Problem Management:
   - Address recurrence of incidents

3) Continuous Improvement:
   - On going program with Metrolinx
   - Q4 2019 activities focused on process enhancements and stabilization
Reliable Fare Payment Equipment

Q4 2019 Improvements

- Equipment performance is based on:
  - Device functionality
  - Device maintenance/cash collection service

- Changes implemented in Q4 2019
  - Ongoing improvement program
  - Address specific AG recommendations

- Improvements to daily operations/services
- Increased remote and real-time monitoring
- Availability reporting using real-time data
- Improvements to device functionality (hardware/software)
PRESTO in Streetcars

- Fare and Transfer Machines (FTM) and card readers
- Add cash collection and maintenance at third designated location
- Remote monitoring and remote device recovery
- Daily device audits by Staff prior to start of service
- Improved process to make vehicles available for PRESTO maintenance and cash collection
- Enhanced reporting/analytics
- Cash Collection
  - Trigger alerts for cash vault collection set at 75% volume
  - Increased cash collection locations in designated facilities
  - Ad hoc cash collection services
PRESTO on Bus

- Remote monitoring and remote device recovery
- Daily audits of PRESTO card readers prior to start of service
- Enhanced reporting/analytics

PRESTO card readers
PRESTO in Stations

- Fare Vending Machines (FVM) and Self Serve Reload Machines (SSRM)
- New bank note acceptor hardware
- New SSRM software to address screen freezing
- Remote monitoring and remote device recovery
- Improve escalation process
- Use of device statistics for coordinating cash collection & maintenance
- Ad-hoc cash collection
- Enhanced reporting/analytics
Revenue Control & Data Analytics Insights
Key Revenue Control and Data Analytics Activities

Revenue Control

- Budgeting & Forecasting
- Revenue Accounting
- Financial Controls
- PRESTO Liaison

Data Analytics

- Ridership Forecasting
- System Usage Reporting
- Organization-Wide Analytics Support
- Business Intelligence Solutions
TTC 2019 Ridership & Revenue Results

Ridership

525.5 M
System Wide

Revenue

$1.184 B*
Earned
(1% below budget)

*2019 revenue and actual vs budget is preliminary

PRESTO

86.8%
Revenue from PRESTO
(Up from 45% Dec 2018)

2019 Ridership Trend

525 M
530 M
520 M
525 M
530 M
515 M
510 M
505 M
500 M

January February March April May June July August September October November December

Forecast
Budget
PRESTO Adoption Has Doubled

PRESTO Adoption
2018 DEC 45.5%
2019 JAN 77.1%
2019 JUL 81.1%
2019 NOV 85.1%
2020 JAN 90.0%

Policy Changes

2018 DEC Metropass Discontinued
2019 JAN PRESTO Tickets available at all Subway Stations
2019 JUL Legacy Media Stop Sell at all Subway Stations
2020 JAN Station Transformation

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January 2020 adoption rate is preliminary
PRESTO Adoption Enhances Analytics Capabilities

2018
- Lack historical data
- ~ 0.5 M daily taps

2019
- Build-up of data
- > 1.2 M daily taps
- More granular, timely and varied data

2020
- More robust benchmarking and budgeting
- Enhance analytical relevance
- More evidence-based decision making
PRESTO Data Analytics Building Blocks

- **Event**: Determine the impact of policy changes and/or events.
- **Mode**: Accurately measure ridership and revenue by mode.
- **Route**: Evaluate ridership to inform service improvement along and among routes.
- **Concession**: Understand our customers to make more informed policy decisions.
- **Time**: Monitor system usage by time to improve service deployment.
- **Location**: Leverage improved location data to inform revenue protection deployment.
Concession Profile: Legacy Media vs PRESTO

Legacy Media

- 80% Adult
- Post Secondary
- 15% Senior/Student
- 4% Child
- Others 1%

PRESTO Data

- 368 M Adult
- 11% Post Secondary
- 57 M

Move from sampled Legacy Media data to more accessible and precise PRESTO data allows for more detailed analysis.
# Event Analysis: Legacy Media Stop Sell Impact

<table>
<thead>
<tr>
<th></th>
<th>Cash</th>
<th>Token</th>
<th>Legacy Ticket</th>
<th>PRESTO Ticket</th>
</tr>
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<tbody>
<tr>
<td>Before</td>
<td>$576,548</td>
<td>97,117</td>
<td>114,355</td>
<td>64,085</td>
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<tr>
<td>After</td>
<td>$542,457</td>
<td>57,361</td>
<td>79,292</td>
<td>76,837</td>
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<tr>
<td></td>
<td>-5.9%</td>
<td>-50.1%</td>
<td>-40.9%</td>
<td>+19.9%</td>
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**Revenue Protection**

Support deployment strategy of fare inspectors and special constables

**Service Enhancement**

Provide insights on customers’ usages on 504 KING (day, time, location)
### Time: Concession Breakdown by Door

#### 504 KING

<table>
<thead>
<tr>
<th>Category</th>
<th>Adult</th>
<th>Post Secondary</th>
<th>Senior</th>
<th>Student</th>
<th>Child</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage</td>
<td>18%</td>
<td>40%</td>
<td>8%</td>
<td>100%</td>
<td>50%</td>
</tr>
<tr>
<td>Revenue</td>
<td>36%</td>
<td>20%</td>
<td>33%</td>
<td>0%</td>
<td>50%</td>
</tr>
<tr>
<td>Passengers</td>
<td>601</td>
<td>15</td>
<td>12</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Percentage of Revenue</td>
<td>30%</td>
<td>27%</td>
<td>42%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Percentage of Passengers</td>
<td>16%</td>
<td>13%</td>
<td>17%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

- **Dec 9 - 13, 2019**
- **6AM – 10AM**
- **KING ST W AT BAY ST W SIDE**
Child Concession Analysis & Insights
Child Concession Overview

2019 Ridership - Total 525.5M
2019 Ridership – Adult, Post Secondary, Senior, Youth 503.8M (96%)
2019 Ridership – Child Non-Presto 15.5M (3%)
2019 Ridership – Child PRESTO 6.2M (1%)

2019 Child Ridership PRESTO Taps

- Bus 403K
- Streetcar 166K
- Subway 109K

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Child PRESTO: Higher Growth in 2019

<table>
<thead>
<tr>
<th>All Concessions</th>
<th>Child Concession</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.7 M Users</td>
<td>24 K Users</td>
</tr>
<tr>
<td>+25%</td>
<td>+75%</td>
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</table>

Child card growth is faster than overall growth
Child PRESTO: Top 10 Locations in 2019

All top 10 locations for child card usage are Subway Stations.

#1 Dundas Station
Child PRESTO: Top 10 Locations (Jan 5 – 25)

- First 3 work/school weeks in 2020
- Selected for analysis to include
  - 1 PA Day (Jan 17)
  - 2 Strike Days (Jan 20, 21)
- Similarly, all top 10 locations for child card usage in 2019 are Subway Stations.

#1 Dundas Station
Child PRESTO: Dundas Station Usage by Hour (Jan 5 – 25)

- Dundas station not likely used by children ages 0 – 12 who attend nearby schools.

- Higher usage on school closure days.

- Similar time of day usage patterns between regular school days and school closure days.

- Travel during late hours and school hours are not expected for child ages 0 – 12.

- Data shows potential misuse of child cards at Dundas Station.
Child PRESTO: York University Station Usage by Hour (Jan 5 – 25)

• York University station not likely used by children ages 0 – 12 who attend nearby schools.

• Similar time of day usage patterns between regular school days and school closure days.

• Travel during late hours and school hours are not expected for children ages 0 – 12.

• Data shows potential misuse of child card at York University Station.
Travel during late hours and school hours were observed across the network. These trips are considered abnormal for children ages 0 – 12.

- 17,000 child card were used during abnormal hours. These cards generated 89% of the total taps.
- 6,000 child cards have expected (normal) usage.
Child PRESTO: 2019 Potential Revenue Loss

Potential Misuse

89%

- 89% Misused
- 89% x 6.2M PRESTO child ride
- 5.5M misused child rides in 2019
- Average fare $2.25
- Potential Loss $12.4M