



For Action with Confidential Attachment

Fare Collection Modernization

Date: February 10, 2022
To: TTC Board
From: Chief Strategy and Customer Officer (Acting)

Reason for Confidential Information

This report contains information about a trade secret or scientific, technical, commercial, financial or labour relations information, supplied in confidence to the City or local board, which, if disclosed, could reasonably be expected to prejudice significantly the competitive position or interfere significantly with the contractual or other negotiations of a person, group of persons or organization.

Summary

The purpose of this report is to provide an update on Fare Collection Modernization initiatives, including the 10-Year Fare Collection Outlook (Fare Collection Outlook), which is currently underway. The Fare Collection Outlook is looking to modernize the fare collection system and ensure the final outcome is driven by the 5-year Fare Policy, outlined in a separate report. The seven fare policy goals were approved by the Board in May 2021 and will help to guide the vision for the TTC's fare collection system.

We are seeking the Board's endorsement on the proposed direction of the fare collection technology and operations options with the final 10-Year Fare Collection Outlook recommendations and implementation plan to be brought to the May 2022 Board meeting. This report will outline the findings of the Full System Integrator vendor demonstrations and insights on current gaps and opportunities for improvement in the current fare collection practices. The confidential attachment provides a response to the Board-adopted motion put forward at the September 2021 meeting, to provide peer agency feedback on their fare collection vendor experience.

This report will also provide details on the Metrolinx revised proposal for implementation of Open Payments on the TTC in 2022.

Recommendations

It is recommended that the TTC Board:

1. Endorse in principle the technology and operations fare collection options, including Open Payments and account-based architecture detailed in the Comments section

of this report to develop and inform the implementation plan that will be presented to the Board for approval in May 2022; and

2. Authorize a sole source contract with Scheidt & Bachmann GmbH for the purchase and installation of the required hardware to enable Open Payments on the fare gates to an upset limit of \$4.3 million, inclusive of applicable taxes.

Financial Summary

The total approved capital project cost for the Farecard project is \$79.8 million comprising costs to the end of 2020 of \$60.1 million, projected year-end spending of \$2.9 million for 2021, and funding of \$16.8 million cash flowed between 2022 and 2024 under Program 5.4 – Fare System, as approved by the Board on December 20, 2021 and will be reviewed by City Council on February 17, 2022. PRESTO costs to implement Open Payments are within the existing PRESTO agreement and commission rate. The TTC, however, is responsible for costs to upgrade the Fare Gate Card Readers. The total cost for hardware purchase and installation is \$4.0 million, net of HST rebate, and is included in Fare System Project’s funding within the 2022-2031 Capital Budget and Plan.

The 2022 Operating Budget, approved by the TTC Board on December 20, 2021, and which will be considered by City Council on February 17, 2022, includes incremental funding of \$0.6 million to support the development of the fare collection strategy and business case for the modernization of the fare collection system. This includes the detailed Request for Information (RFI), which will determine future business requirements and ensure comprehensive business terms are established for any Automated Fare Collection agreements.

A fare collection implementation plan will be developed, which will include project phasing, schedule and resources; a cost of fare collection analysis; capital cost estimate; and risk and mitigation planning. The report detailing this as part of the final collection outlook will be brought to the Board for approval in May 2022.

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

Equity/Accessibility Matters

A cornerstone of the TTC’s Corporate Plan 2018-2022 is accessibility, and as a proud leader in providing accessible public transit in the city of Toronto, we are committed to ensuring reliable, safe and inclusive transit services for all our customers. This is supported through continued research, engagement with the City of Toronto’s Poverty Reduction Strategy Office (PRSO) and the TTC’s Advisory Committee on Accessible Transit (ACAT).

As work to deliver Open Payments proceeds, the TTC must be mindful that, while leveraging credit/debit payment channels and mobile technology can improve the

customer experience for many customers, reliance on these capabilities may pose some equity and access impacts for marginalized and equity-seeking customers. The TTC and PRESTO have been working to proactively identify potential barriers to transit equity and access in joint modernization efforts by virtue of TTC and PRESTO customer research; comprehensive online research; and engagement with the City of Toronto's PRSO. The intent of identifying barriers is to avoid or mitigate these potential barriers, ensuring that no customer segments are left behind.

A key component of continued service to customers will be the ongoing availability of the physical PRESTO card and limited-use PRESTO Tickets. These options provide the greatest control and the most protection from banking fees associated with debit and credit transactions, which may particularly impact those who are unbanked or under-banked and with low or volatile income. The availability of PRESTO Tickets will ensure continued access for social and community agencies that distribute fares to numerous groups, such as newcomers, those experiencing homelessness and clients with low incomes. These products will be improved by the introduction of account-based functionality and will be supported by an expanded cash-accepting network of retail locations and in-station self-serve devices.

For more tech-comfortable customers, virtual cards will provide a smartphone-based experience with many similarities to the physical PRESTO card, including the ability to maintain a transit funds account that is separate from other spending. Importantly, PRESTO in Mobile Wallet does not require an internet connection to travel, and even enables travel for a few hours with a drained battery. PRESTO conducted underserved research and when tested, they found a moderate-to-high degree of interest in the concept alone or in conjunction with a physical PRESTO card. There is also clear demand for the product expressed in the PRESTO Customer Satisfaction survey in fall 2020. 12% of respondents answering how they would improve the PRESTO mobile app requested some sort of virtual card unprompted. Of the respondents asking for a virtual card who primarily ride the TTC, 22% have an income below \$25,000.

For customers who are able and willing to tap their credit or debit card to travel, Open Payments present minimal obstacles in paying a transit fare. With this new capability, there is nothing to buy or load. To pay their fare, customers simply tap their physical credit or debit card or use the same cards on their mobile device.

Finally, as the future of cash collection in the context of modernization is considered, careful evaluation of the impacts to equity-seeking groups will need to be examined given that they are generally more reliant on cash.

Decision History

At its meeting on January 25, 2018, the TTC Board considered and adopted, with amendments, the TTC Corporate Plan. This plan highlights the need to develop a fare strategy and connect the region by achieving broader fare integration. The TTC will also

need to ensure that it keeps up with the changing technologies and strides in modernization as outlined by Critical Path 5 in the Plan.

https://ttc-cdn.azureedge.net/-/media/Project/TTC/DevProto/Documents/Home/Public-Meetings/Board/2018/January-25/1_Corporate_Plan_2018-2022.pdf?rev=63202363aa374a8582225fbfa77c4e4b&hash=4DF212FA11F33564142524333B75223A

At its meeting on October 24, 2019, the Board moved a motion to complete a Fare Collection Request for Information (RFI). The RFI will help the TTC determine new service providers and technologies, including Open Payment being used by transit properties worldwide. The intent is to provide customers with a modern, efficient and customer-focused fare collection system.

https://ttc-cdn.azureedge.net/-/media/Project/TTC/DevProto/Documents/Home/Public-Meetings/Board/2019/October_24/Reports/Decisions/5_TTC_Revenue_Operations_Phase_Two_PRESTO_TTC_Fare_Equipment.pdf?rev=a6ed3b03fe214767a15bab3dd46e6351&hash=EE8E309FF487146C06829000F268DFA9

At its meeting on December 12, 2019, the TTC Board considered a report entitled the 5-Year Service Plan & 10-Year Outlook, which identified service-related improvements to public transit in the city of Toronto between 2020-2024 and beyond.

https://ttc-cdn.azureedge.net/-/media/Project/TTC/DevProto/Documents/Home/Public-Meetings/Board/2019/December_12/Reports/16_5_Year_Service_Plan_and_10_Year_Outlook.pdf?rev=4d086939de0a4f00801b42b7f1eb4872&hash=BEC5AA8D57EFBB6E2EA3B835318FB15A

At its meeting on May 13, 2020, the TTC Board considered a report detailing the proposed scope of work for two TTC policy documents: the 5-Year Fare Policy and the 10-Year Collection Outlook.

https://ttc-cdn.azureedge.net/-/media/Project/TTC/DevProto/Documents/Home/Public-Meetings/Board/2020/May_13/Reports/11_Development_of_the_5_Year_Fare_Policy_and_10_Year_Fare_Co.pdf?rev=dd38def05f324dbeafd6fdbcb28a7fdf5&hash=ADAC7CC1781D68F46F5ED260F4D2875C

At its meeting on September 24, 2020, the TTC Board received an update on the PRESTO implementation achievements, the progress on the negotiations with Metrolinx on further improvements to the PRESTO system, how to achieve the remaining key milestones, and resetting the TTC's ongoing relationship with PRESTO.

https://ttc-cdn.azureedge.net/-/media/Project/TTC/DevProto/Documents/Home/Public-Meetings/Board/2020/September_24/Reports/4_PRESTO_Annual_Update.pdf?rev=c4cab57b5a3541f38d1f96809aa2d9b9&hash=2D2182EC8A8CC233C95217870355C94C

At its meeting on February 10, 2021, the TTC Board received an update on the PRESTO implementation achievements, progress made since the last update in September 2020, and ongoing negotiations with Metrolinx on achieving the key

remaining milestones. This report also provided a progress update on the development of the 5-Year Fare Policy & 10-Year Fare Collection Outlook.

https://ttc-cdn.azureedge.net/-/media/Project/TTC/DevProto/Documents/Home/Public-Meetings/Board/2021/February_10/Reports/5_PRESTO_Fare_Policy_and_Collection_Strategy_Update.pdf?rev=3e8738cdd1bf4e5d97aa112e98a7d13e&hash=95A41B65039F8AA6178758CA15C48273

At its meeting on May 12, 2021, the TTC Board received an update the 5-Year Fare Policy & 10-Year Fare Collection Outlook. An analysis of the existing TTC fare policies and the findings from the fare collection RFI were presented. Seven strategic fare policy goals were approved, which have informed the technical analysis of several fare options. Staff were also directed to move forward with vendor demonstrations of Full System Integrators.

https://ttc-cdn.azureedge.net/-/media/Project/TTC/DevProto/Documents/Home/Public-Meetings/Board/2021/May-12/3_Update_5_Year_Fare_Policy_10_Year_Collection_Outlook.pdf?sc_lang=en&rev=2c2b0f1c97064ff3b22c6491fcbce51b&hash=F779667F13971F3C7D11FEAFEA42318B

Issue Background

The 10-Year Fare Collection Outlook project examines the future of our fare collection system with and without PRESTO.

The current PRESTO system was implemented based on existing fare structures and limitations of the PRESTO technology. As part of the 10-Year Fare Collection Outlook, an important element is to ensure that the fare collection system can accommodate existing and potential new fare policies. An industry-wide RFI was completed to understand the variety of fare collection technologies, system operations and business models available. A series of peer agency reviews were also conducted to understand the technologies and options proposed in the RFI in practice and real-time.

Results of the fare collection RFI and peer agency reviews were received at the Board meeting in May 2021.

In addition to receiving the results of the RFI and peer agency reviews, the Board agreed with the next step to proceed with demonstrations from Full System Integrator vendors from the RFI respondents. Since then, work has progressed to incorporate previous findings and continue narrowing down the options for the future to inform the final implementation plan and collection outlook. Further expansion of the peer reviews, supplier evaluation and information can be found in the confidential attachment incorporating findings from the vendor demonstrations and comprehensive supplier research.

A motion was passed at the Board's September 2021 meeting, to provide peer agency feedback on their fare collection vendor experience.

The insights obtained were done in a combination of publically available information and in confidence with agencies. As such, the feedback and insights will be received through the confidential attachment.

Open Payments has been a priority deliverable of the Master E-Fare Agreement¹ (“the Agreement”) since its signing in 2012.

The TTC and Metrolinx have discussed the modernization of PRESTO for several years to bring Open Payments to TTC customers. Through negotiations, Open Payments was made a priority deliverable and was slated to be implemented at the end of 2024. In late 2021, Metrolinx approached the TTC with a plan to deliver of Open Payments in 2022.

Comments

The 10-Year Fare Collection Outlook project continues to inform the TTC’s risk mitigation program underway in preparation for 2027’s PRESTO contract expiry. In the near term, we continue to work in good faith with Metrolinx on PRESTO’s 2022 re-procurement, and delivery plans under the draft TTC- Metrolinx PRESTO settlement Agreement. Longer term, this project will ensure any future system and/or vendor will be right for the TTC and our customers as fare collection matures and modernizes.

A future needs assessment and internal stakeholder consultations were completed to determine where gaps exist in the current fare collection system and determine future recommendations.

Gaps in the current fare collection system were identified through a needs assessment that identified the technology options and operational considerations for a future fare collection system, recognizing that some needs and subsequent gaps may require prioritization. They include:

1. Core System Design: Fare Collection System Key Components

The system should:

- Have an open architecture that is flexible and robust; and
- Be capable of integrating new technologies at a reasonable investment of time and money to meet the evolving needs of transit agencies and customers.

The technology should:

- Ensure that the correct, valid fare is always paid/provided;
- Be highly reliable and minimize downtime;
- Be easy to trouble-shoot and return to service with minimal staff interaction; and

2. Payment and Fare Media: Transit Fare Payment Methods

¹Metrolinx and TTC Master E-Fare Agreement – <https://www.ttc.ca/transparency-and-accountability/PRESTO-TTC-Agreements>

- The system should be capable of fully supporting Open Payments.

Payments and fare media should:

- Meet all customer segment needs;
- Be easy to use and administer for third parties; and
- Should be available on board TTC surface vehicles and Wheel-Trans.

3. Fare Distribution

- Media distribution coverage should be extensive and serve all communities.

Equipment that supports fare card querying and management should:

- Be accessible and cost effective; and
- Easy to procure and for third parties to obtain.

Vending machines should:

- Include full-feature and devices to support all fare products and media; and
- Include the option for smaller format devices, where appropriate.

Fare media should:

- Be accessible to all who are hoping to acquire it on behalf of their client; and
- Be a simple process and easy to use, requiring minimal resources.

4. Customer Service

- Point-of-sale devices should be full-featured to allow frontline staff to support customers in more advanced account management activities.

5. Fare Inspection

- Fare media inspection should be as quick as a card is presented (e.g. card proximity verification rather than tapping the card on the device).

Fare inspection devices should:

- Have ability to sell and register a new card, load and set concessions and add value; and
- Have the ability to create reports and collect data.

As directed by the Board in May 2021, vendor demonstrations of Full System Integrators were completed. These provided key takeaways for consideration when working towards modernizing fare collection at the TTC and meeting the needs identified through the 10-Year Fare Collection Outlook project assessment.

The TTC and YRT received presentations from six shortlisted vendors from July 20 through July 29, 2021. Three key takeaways emerged from these demonstrations:

- 1. The vendors' presentations varied based on their past experience and success in delivering large-scale fare collection projects.**

All of the participating vendors offer systems built on a similar technology roadmap and set of features, including account-based solutions, an open architecture design, and support for open and mobile-based payments. However, where some have worked on many large-scale international and North American projects, some vendors have only one regional fare collection project.

All of the vendors have strengths and weaknesses apparent in the systems they've deployed (e.g., hardware, software, user interface (UI)/user experience design (UX)), nonetheless, given strong technical requirements and a well-structured procurement process, all participating vendors have the potential to be competitive in a bid to provide a future system.

Any future decision on fare collection technology will need to take into account the risks, benefits and impacts of each vendor's experience and project implementations, including past performance at other transit agencies.

2. Clear and deliberate contract requirements will help to mitigate technical shortcomings, which exist with nearly all vendors.

As expected, vendors made no mention of their shortcomings, but no vendor has a complete product that will meet all agency needs, nor can the vendor's engineers implement a project without active dialogue, a well-documented scope and design, and decision-making from the transit authority. No matter the vendor, there will still be a need for the TTC's intimate involvement in its fare collection system.

3. Any transit agency will need to intentionally create a unique tender process and contract structure in order to result in a successful project.

Given the current state and challenges to date of fare collection at the TTC, the prospect of a new vendor may be seen as an attractive option, where project schedules and budgets operate as clockwork. On the other hand, vendor project management is universally poor and has major impacts on project schedule, system design and project budget.

Even capable vendors are stretched very thin due to being awarded multiple simultaneous projects, and therefore provide scant project and engineering resources onsite, irrespective of the size or visibility of the project. Most fare system projects end up one or more years behind schedule and over budget. Some agencies ask for an "off-the-shelf" solution, while others focus on pushing financial risk to the vendor, but all usually realize later that the lack of clear contract requirements is a primary driver of schedule and cost overruns.

Further comprehensive vendor details can be found in the confidential attachment.

Through the analysis completed to date and findings from the RFI and vendor demonstrations, a set of technological and fare collection options have been identified to inform the 10-Year Fare Collection implementation plan.

The following business objectives were used to inform the evaluation criteria that all of the technology and fare collection options were scored and evaluated against:

- Revenue focus
- Open architecture
- Account-based, real-time fare calculation
- Simple and easy to use
- Accessible and equitable
- Flexibility to include fare policies
- Improved customer service
- Data and reporting
- Efficient maintenance and operation

Following a robust evaluation, including the analysis, research, consultations and relevance to the above business objectives, technological and fare collection options that have emerged as potentially best meeting the needs of the TTC have been outlined in **Table 1**.

Table 1: Emerging Technology Recommendations

| Category | Recommended Options | Outcomes |
|---------------------------|---|--|
| Payment/Fare Media | <p>Open Payments</p> <p><i>Allow customers to pay with contactless credit/debit cards, including bank cards in mobile wallets</i></p> | <ul style="list-style-type: none"> • Most seamless and convenient way to pay |
| | <p>Virtual Card</p> <p><i>A virtual closed-loop card would be like a fare card virtualized into a smart phone wallet allowing customers to tap and pay using a smart phone</i></p> | <ul style="list-style-type: none"> • Convenient way to pay without the hassle of obtaining a physical fare card • Maintain all the benefits of a physical card |
| | <p>Limited-Use Tickets/Transfers</p> <p><i>Contactless smart tickets (LUMs) to issue paper transfers onboard vehicles and in bulk for institutions, including concession fares</i></p> | <p>LUMs:</p> <ul style="list-style-type: none"> • Will improve efficiency for institutional and agency partners • A robust and fraud-resistant solution for single-fare distribution |

| | | |
|---------------------------|--|--|
| | <p>Cash Acceptance</p> <p><i>Potential to explore interim policy changes that encourage less cash usage.</i></p> <p><i>If cash is retained, consider ways of improving the verification of cash receipt.</i></p> | <ul style="list-style-type: none"> • Eliminating cash could reduce the cost to collect and simplify operations • Current cash acceptance provides better customer experience while customers adopt new ways to pay |
| Core System Design | <p>Account-Based Back Office</p> | <ul style="list-style-type: none"> • On-demand loading via web and mobile, easier fare table management, easier access to transaction data, and real-time fare information |
| | <p>Open Architecture Support</p> | <ul style="list-style-type: none"> • Enables integrations with third-party solutions that improve the customer experience and agency operations |
| | <p>Mobility as a Service (Maas) Platform Support</p> <p><i>While a vision for MaaS needs to be developed, long-term support for integration of third-party mobility service providers is seen as essential</i></p> | <ul style="list-style-type: none"> • Ability to plan, book and pay for multiple types of mobility services (e.g. bike share, ferries, etc.) |
| Fare Distribution | <p>"Gift Card" Retail Distribution</p> <p><i>Utilizing the established gift card model at retail stores to enable the seamless sale of transit cards and loading of stored value with service managed by a third-party vendor</i></p> | <ul style="list-style-type: none"> • Increases the number of stores that can sell and load cards • Increases equity and access to fares as locations to access fares are broadened • Increases equity and access to fares |
| | <p>Ticketing Vending Machines (TVM)</p> <p><i>Implementing both full-feature and limited-feature (small format) TVMs</i></p> | <ul style="list-style-type: none"> • Full-feature TVMs: maximum features, generally more expensive to purchase and maintain • Limited-feature (small footprint) TVMs: less costly to purchase and maintain, but with limited features, need to be strategically located to ensure equity and accessibility needs are met |

| | | |
|-------------------------|--|---|
| | <p>Institutional/Bulk Sales</p> <p><i>Self-service web portal and back-office sales</i></p> | <ul style="list-style-type: none"> • Allows institutions to manage their own accounts, making purchases and card orders online • Gives agencies the ability to facilitate bulk purchases and card order fulfillment for institutions without the resources to use the self-service web portal |
| Customer Service | <p>Customer Service Channels</p> <p><i>In-Person Customer Service, call centre and third-party locations will continue to be included as customer service channels for the future fare system</i></p> | <ul style="list-style-type: none"> • Ability to provide customer service at the highest level, catering to numerous customer segments |
| | <p>Customer Service Devices/Systems</p> <p><i>In-person Point of Sale (POS); Call centre Interactive Voice Response (IVR) system; A full-featured Customer Relationship Management (CRM) tool</i></p> | <ul style="list-style-type: none"> • POS: supports agency-managed in person sales • IVR: provides a low-cost option for automated telephone customer service • CRM: allows the agency to “own the customer experience” providing a better understanding of customer needs |
| Fare Inspection | <p>Fare Inspection Devices</p> <p><i>Both standalone mobile phone and all-in-one device options are acceptable to the agencies</i></p> | <ul style="list-style-type: none"> • Inspectors carry only one device as opposed to two devices or more • Increased occupational health and safety, reducing the number of tools required • Increased inspection efficiency |
| | <p>Fare Inspection Device Features</p> <p><i>All fare inspection devices should support:</i></p> <ul style="list-style-type: none"> • <i>The efficient inspection of smart cards and tickets, virtual cards and open payments</i> • <i>Fare validation</i> • <i>Point-of-Sale functionality</i> • <i>Built-in citation issuance</i> | <ul style="list-style-type: none"> • Fare validation support enables customers to validate their fare using the same device (tap the device to board a vehicle) • Point-of-Sale functionality enables the device to accept payment for the sale of stored value and fare • Built-in citation issuance enables staff to issue a citation without using an additional device |

A combination of operational approaches has been identified to help guide the development of future requirements for the fare collection system.

Based on the stakeholder engagement, needs assessment and understanding of current operations, the following are three potential approaches for managing the operations, activities and processes of a fare collection system:

1. In house – all operations handled by the agency.
2. Outsourced – all operations handled by the vendor.
3. Hybrid – operations handled by both the agency and vendor.

An outsourced approach has been recommended for the TTC for a majority of activities, which is the same model we currently have with Metrolinx. However, for those that directly affect customers, such as in-person customer service and communications, it is recommended to use either an in-house or hybrid approach. This reflects the desire to ensure customers are at the forefront, and achieves the improved customer service business objective. An overview of which approaches are potentially most appropriate for various activities can be found in **Table 2**.

Table 2: Operational Activity Approaches

| Activity | In-House | Outsourced | Hybrid |
|---|----------|------------|--------|
| Back Office Operations | | X | |
| Fare Table Management | | X | |
| Device Monitoring | | X | |
| Device Maintenance | | X | |
| TVM Revenue Servicing | | X | |
| Additional Cash Collection/Processing | | X | |
| Call Centre Operations | | | X |
| In-Person Customer Service | X | | |
| Institutional Partner Management | | | X |
| Retail Partner Management | | X | |
| Financial Clearing and Settlement | | | X |
| Marketing and Communications | | | X |
| Third-Party Customer Service (all card sales, loads and concession setting) | | X | |

Based on customer research conducted in September and October 2021, there is demonstrated customer alignment with the emerging technology and fare collection options.

Members of market research panels were contacted to complete an online survey to understand their sentiments and interactions with the current fare collection system and potential impacts of any future fare media and system implementations. The participants included both TTC and YRT customers and the survey rendered more than 1,400 responses, including Wheel-Trans customers, those with low-incomes, with ages spanning from <25 to 55+, and a range of education levels and employment status.

The following is an overview of the results:

- Majority of TTC customers travel with the PRESTO card, find it easy to navigate and are happy with the PRESTO system. For those who do not use a PRESTO card, they are occasional TTC customers, find its fees are too high, or have a surplus of legacy fares to spend.
- Future technologies may not just be tools for convenience, but can help mitigate issues related to accessibility:
 - Currently, customers with accessibility issues are more likely to load their PRESTO cards online and are less likely to pay with cash fares.
- Improvements could be made to the third-party retailer experience as customers found this the least satisfactory and least popular location to buy or load a PRESTO card.
- Most customers are already familiar with fare collection technology, such as PRESTO's mobile app.
- Age is likely a factor in fare collection technology uptake:
 - Customers under the age 25 are most likely to have downloaded the app and are less supportive of legacy fare media.
 - Customers 54 and younger have a bigger preference towards virtual cards than customers who are 55-plus.
- TTC customers would prefer a virtual card over a physical or virtual debit/credit card when comparing possible Open Payment methods.
- Popular reasons for not wanting to use Open Payment options include cyber protection and preference towards transit-specific payments.

The development of the 10-Year Fare Collection Outlook continues to ensure that the capability of the proposed fare collection technologies have the ability to support existing and changing fare policies.

The development of the Fare Collection Outlook includes a key business objective that focuses on aligning the technology and fare collection options with their capability for implementing flexible fare policies and supporting the seven strategic fare policy goals. The preferred options identified in this report ensure there is flexibility and ability to adapt to changing circumstances and fare policies. New and updated technologies, which include open architecture, account-based, etc. will be included on the implementation roadmap. These technologies are inherently flexible, adaptable, and have the ability to accommodate existing fare policies, as well as any future fare options.

Modernizing the fare collection system at the TTC also requires special consideration of the existing Cash fare.

The current fare policy allows for cash to be accepted across the system and it is important to consider this element when working towards modernizing the fare

collection system. There are many new opportunities and fare options that will become available in the coming years, and could lower customer reliance on Cash fares. These potential opportunities are expected to meet various levels of customer needs and accessibility, appealing to different customer groups for numerous reasons, and may require adjustments to the fare collection system.

With new opportunities and fare options:

- The gaps currently experienced by customers (limited access to physical load locations, load delays, card fees, etc.) will be reduced as more universally accessible options are introduced, such as debit/credit cards, which a majority of customers are using and already have.
- Increased customer choice will be a contributing factor to allow the TTC to consider rethinking how we collect cash in the future and the opportunity to decrease the cost of fare collection.
- Careful consideration will need to be given on any future cash-related decisions given that those in equity-seeking groups are generally more reliant on cash.

The TTC has agreed in principle with Metrolinx to proceed with a revised plan to deliver Open Payments with a target implementation as early as the end of 2022.

As established through the 10-Year Fare Collection Outlook work, we have confirmed the needs of a future fare system, including the reinforcement of previously identified needs, including Open Payments. We have the opportunity to continue delivery of Open Payments with PRESTO as we concurrently move forward with project implementation planning.

Metrolinx's Open Payment Proposal includes the delivery of:

- **Open Payments (Debit and Credit)**
 - Credit/debit card payment (tap to pay – physical and digital cards)
 - Adult single fare
 - Equivalent price to Adult PRESTO fare
 - Monthly Passes not supported
- **PRESTO on Mobile: Virtual Card**
 - Enables the use of a virtual version of the PRESTO card on a Mobile Device (Phone/ Watch)
 - All Concession fares and products available
- **Device Refresh: New and updated PRESTO devices to enable Open Payments**
 - Bus and streetcar PRESTO validators
 - Inspection devices
 - Mobile Fare Payment Application (MFPA) installed on tablets for accessible sedan taxis to enable fare payments and Mobile Fare validators (MFTP) installed on Wheel-Trans vehicles

- TTC Fare Gate modifications

Device updates are required for enablement due to the current hardware’s and software’s inability to accept these forms of payment, and the need to comply with all ensuing updated accessibility, security and compliance standards.

It is important to note that delivery of these items will not replace the current physical PRESTO card, rather augment the available fare media options. A comparison of the different capabilities, benefits and barriers of PRESTO fare options is provided in **Attachment 2**. Product types and fare type availability are outlined in **Table 3**.

Table 3: Modernized Fare Product Availability by Fare Type

| | Customers* | Current | | Post-Launch | |
|-----------------------|------------|---------------|-------------|--------------|------------------------------|
| | | PRESTO Ticket | PRESTO Card | Virtual Card | Open Payments (Debit/Credit) |
| Adult | 71.7% | available | available | available | available |
| Senior | 8.4% | not available | available | available | not available |
| Youth | 6.5% | not available | available | available | not available |
| Fair Pass | 2.3% | not available | available | available | not available |
| Post Secondary | 5.7% | not available | available | available | not available |

 available  not available

**2021 full year ridership*

***Child (5.2%) and other ridership (0.2%) not included*

The TTC is eager to move forward, as we have long stated our desire to implement Open Payments as part of the modernization of the fare collection system and as part of our existing contract. As one of the largest transit agencies in North America, it is important that we increase accessibility and reduce barriers for our customers. We have agreed in principal to the Metrolinx Open Payments Proposal and have shared a set of conditions to proceed based on early reviews of the proposed solution.

Key highlights of the conditions include:

- Maintenance of the TTC's commission rate of 5.25% for all new payment products and ensure that no additional fees will be incurred by the TTC or passed onto TTC customers;
- Devices should meet the TTC's business specifications and customer needs;
- Real-time inspection must be in place as the inspection model to ensure equity at the time of inspection. Post-processing inspection fares will not be accepted as a model for the TTC;
- Pre-authorization fees if required to implement the two-hour transfer, cannot exceed the total cost of the trip and cannot cause undue burden to the customer; and
- Service Level Agreements (SLAs) are required prior to equipment installations, Open Payments and virtual card implementation which includes cost reimbursement resulting from delays.

Final reporting on the 10-Year Fare Collection Outlook will be brought to the Board in May 2022 with an Open Payments update in July 2022.

A fare collection implementation plan will be developed, which will include project phasing, schedule and resources; a cost of fare collection analysis; capital cost estimate; and risk and mitigation planning. The report detailing this as part of the final Fare Collection Outlook will be brought to the Board for approval in May 2022.

Contact

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Signature



Scott Haskill
Chief Strategy and Customer Officer (Acting)

Attachments

Attachment 1: Confidential Attachment – Fare Collection Modernization
Attachment 2: Future PRESTO fare payment options, benefits and barriers

Attachment 2: Future PRESTO fare payment options, benefits and barriers

| | Current | | End of 2022 | |
|-----------------------|---|--|--|---|
| | PRESTO Tickets | PRESTO Card | Virtual Card | Open Payment (Debit/ Credit) |
| Pay/load by | Cash, Credit or Debit | Cash, Credit or Debit | Credit or Debit (Cash limited to retail) | Credit or Debit |
| Fare Types | Adult only | All fare types | All fare types | Adult only |
| Monthly Passes | No | Yes | Yes | No |
| Benefits | <ul style="list-style-type: none"> • Purchase in person without data • Only costs exact fare • Share tickets | <ul style="list-style-type: none"> • Load in person, by web or mobile app • Seamless fare payment between transit agencies • Provide fare for others in your account • No need to purchase fare for each trip • Keeps transit funds separate • Easy transferability enabling household sharing | <ul style="list-style-type: none"> • Load by wallet, app, web, or in-person (limited) • Seamless fare payment between transit agencies • Provide fare for others in your account • No need to purchase fare for each trip • Keeps transit funds separate • No need to carry a card | <ul style="list-style-type: none"> • No loading or pre-purchase necessary • No need to carry any additional fare media etc. |

| | | | | |
|------------------------|---|---|---|--|
| <p>Barriers</p> | <ul style="list-style-type: none"> • No special fare type tickets • Must purchase ahead of each ride • Expire 90 days from purchase • No indicator on the ticket when it is used up • Not reloadable | <ul style="list-style-type: none"> • Must pay \$6 to purchase/replace • Limited Debit online • Ties up funds on fare media • Cash loading network constraints | <ul style="list-style-type: none"> • Requires smartphone • Requires some Internet access • Ties up funds on fare media • Cash loading network constraints | <ul style="list-style-type: none"> • Perceived risk to available funds • Perceived fraud/security risks • Pre-authorization is a risk to fund availability • (Debit) Risk of transaction limit fees • No Fare types or monthly passes |
|------------------------|---|---|---|--|