



Appendix A

Automated Fare Collection
Solution: Background, Objectives
& Scope

Request for Supplier Qualification

2022 Procurement Program

Tender Reference # SQ-2021-PVMD-109

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1 Introduction

Metrolinx is embarking on an ambitious Payments modernization approach that will deliver a more frictionless, modern and flexible PRESTO payment network into the future. This transformation will meet the needs of our customers and transit agency partners and aligns with fare payment systems in other jurisdictions globally.

Central to this approach is PRESTO's 2022 Procurement Program, that will replace parts of the services and systems currently run by Metrolinx's incumbent supplier with new contracts segmented into various capabilities and responsibilities. Metrolinx sees this as a hugely exciting opportunity to partner with suppliers to transition the PRESTO System from its current monolithic and heavily customised platform, originally designed during PRESTO's inception in 2006, to a multi-vendor and modern operating model that encourages competition across our eco-system. The result will enable Metrolinx to realize its Procurement Program objectives of a reduced total cost of ownership, improved outcomes for customers and clients, and enhanced future agility.

Informed by the Request for Information (RFI) that took place earlier this year, the release of the Request for Supplier Qualification (RFSQ) for the Automated Fare Collection Solution (AFCS) and the RFSQ for Systems Integration Services (SIS) (separately posted as SQ-2021-PVMD-110), marks the beginning of the "go to market" phase in PRESTO's 2022 Procurement Program. The AFCS is the core of our new ecosystem which seeks to deliver on our fare collection strategy by accepting customer payment and performing reconciliation activities by selling to clients. The SI is a technical advisor that supports End-to-End (E2E) effectiveness across the ecosystem.

The intent of the RFSQ is to prequalify suppliers who would best meet the needs of Metrolinx. In the response to the RFSQ, the Respondent will provide its past and present experience to demonstrate its technical capabilities, capacity, competence, consistency and financial capabilities. Respondents who prequalify in this phase may continue into the RFP phase.

2 Background of the PRESTO 2022 Procurement Program

October 2022 marks the end of term of Metrolinx's master agreement with its primary incumbent supplier for PRESTO's Fare Collection System, supporting services, and customer channels. Metrolinx is exploring an exciting opportunity to achieve improved value for money from the market, as well as to fundamentally shift PRESTO's technology and operational model, positioning it to become a leader in fare payment collection.

The Procurement Program is separated into distinct capabilities and responsibilities of PRESTO's new ecosystem. As the first step in a phased procurement, on February 2, 2021, Metrolinx issued a RFI to seek market input. The extensive market interest generated from that process has helped to solidify the strategy of PRESTO's 2022 Procurement Program.

Metrolinx has now reached the execution phase of this ambitious program, with Metrolinx going to market to establish a series of new contracts that will achieve PRESTO's 2022 Procurement Program objectives of a reduced total cost of ownership, improved outcomes for customers and clients, and enhanced future agility. In this next phase, two RFSQs are being issued, one for the AFCS and one for SIS. Feedback received through the RFI suggested that there is an opportunity to enable "super-bids" across both the AFCS and SIS capabilities and responsibilities, and this opportunity may be further explored in any future RFP.

2.1 The Future Metrolinx Transit Rider Customer Proposition

Metrolinx and its transit agency partners aim to deliver products and services that result in high customer satisfaction. PRESTO tracks the level of customer satisfaction via monthly Customer Satisfaction (CSAT) Surveys. Twice per year the CSAT is a 10-15 minute “deep dive” survey, while in the intervening months, the CSAT is a 3-5 minute “pulse” survey. The corporate key performance indicator (KPI) for CSAT is currently 81%, measured as the top-4 boxes on a 10-point scale. From a low of 70% on the Fall 2019 CSAT Deep Dive, PRESTO has taken a continuous improvement approach, delivering numerous customer improvement actions, both large and small. The result of this effort was a score of 84% on the most recent Deep Dive (Spring 2021).

The customer-facing changes are driven by our 4-pronged Customer Strategy:

1. Deliver modern payment methods

This activity has seen the recent launch of both the PRESTO E-Tickets and PRESTO Contactless products. The PRESTO E-Tickets app allows customers to pre-purchase barcoded tickets to display on their smartphone as they ride. The PRESTO Contactless functionality (currently piloting on UP Express) allows customers to pay their fare by tapping their credit or Interac debit card directly on to a PRESTO fare payment device without any need for pre-purchase or loading. A much-anticipated future product will be the PRESTO card in Mobile Wallet (for iPhone and Android), which will allow customers to dispense with a plastic card completely while maintaining their eligibility for special fare types (e.g., senior, student) and their ability to buy monthly transit passes.

2. Simplify and improve our channels

This activity involves identifying and addressing pain points throughout the PRESTO customer journey from card acquisition, to loading and riding, to re-loading, card management and problem resolution. Customer pain points are identified via a variety of channels including the CSAT surveys, call centre feedback, and in-field observation. The pain points are then analyzed, prioritized and addressed in collaboration with PRESTO product owner teams. Recent improvements have included measures to reduce user-error during mobile app NFC loading, aligning the TTC fare payment displays with the other transit agencies (by providing fare and balance), and empowering call centre agents to solve more issues at “first contact”. Unfortunately, some problems are more intrinsic to the current card-based architecture, including delays in downstream flows (e.g., fund loads to devices) and upstream transaction flows (to the website, app and call centre agents). The transition to account-based must solve these pain points, while not sacrificing the aspects of the PRESTO system that customers appreciate, such as confirmation of fare paid and balance remaining, certainty that an accepted tap will also be accepted by fare inspectors, and fast throughput.

3. Improve access & equity for all of our customers

As a public service responsible for facilitating payment for some of the largest public transit agencies in Ontario, it is vital that all PRESTO products and services be designed and delivered in a way that prioritizes equity and accessibility for customers experiencing poverty and/or disabilities. PRESTO already provides important benefits to these customers, including: the ability to separate and manage transit spending, multiple remote and in-person accessible loading options, time-based transfers, lost card balance protection, free 1-ride overdraft and capping for frequent riders on some transit agencies. Furthermore, PRESTO continues to work on access

and equity challenges that remain including: geographic gaps in the 3rd-party retail network, the \$6 new card fee, and the bulk MiFare Limited Use Media (LUM) ordering process for social agencies.

4. Support Return-to-Ride in light of the Pandemic

The COVID-19 pandemic has presented our customers and transit agencies with immense challenges from job losses and safety concerns, to ridership drops and labour challenges. PRESTO is tracking and responding to these challenges through a cross-functional Return to Ride activity. The twin goals of this activity are to encourage customers to self-serve as they return to transit, while maintaining high customer satisfaction. Actions have included web and app improvements, as well as web posts and videos explaining key steps for returning riders, especially those who have lost cards or forgotten user credentials.

The chart on the following page demonstrates the envisioned Metrolinx transit rider user experience that will be met by PRESTO's 2022 Procurement Program, ensuring customer centricity.

Discover, Plan, Evaluate	Fare Purchase	Fare Payment	Journey To/From Transit & Traveling	Fare Management	
I want to learn about PRESTO options, purchase and use.	I want to be able to obtain a PRESTO Credential to travel	I want to pay my fare using cash.	I want to see my journeys and charges as I travel.	I do not want to share my personal information and need an option to check my balance when not at a station	I want to opt-in to receive notifications through the channels of my choice.
I want to plan and receive support for one-off and ongoing journeys according to my needs and preferences.	I want to be able to start registration of my PRESTO fare media from the point of purchase.	I want to pay my fare with PRESTO using my mobile device.	I want to know who to contact if I encounter problems with my PRESTO fare media, including while travelling.	I want to view my PRESTO Card or Virtual PRESTO card e-purse balance.	I want to be refunded automatically if my journeys are affected by disruptions or infrastructure problem
I want to see the benefits of registering and what information I need to provide.	I want to control my spend (and how and when funds are loaded).	I want to travel simply by tapping my fare media.	I want to prove to a revenue inspector that I have paid for my travel.	I want to be able to clear debt balances that prevent me from traveling.	I want the ability to unregister a PRESTO card so I can remove unneeded cards from my account.
I want to understand the benefit of using the different ticketing types.	I want to benefit from savings by paying for a transit pass in advance.	I want to pay for my fare directly with a debit card, credit card or mobile wallet.	I want to receive notifications of important events affecting travel.	I want to be able to view all charges I have incurred and the journeys they cover.	I want PRESTO to follow up with me to ensure my issue has been resolved and/or allow me to initiate follow up communications.
I want PRESTO to proactively communicate service changes and support my transit use.	I want to benefit from savings if I travel regularly.	I want to be able to change my mind and not travel after having tapped.	I want to notify PRESTO/a transit agency of an issues I encounter while traveling without having to call in.	I want customer service tools to be accessible to people with disabilities.	I want fare payment issues like missed tap to be resolved automatically based on system logic.
I want to be prompted with travel options when I purchase admission to cultural events, sporting events, etc.	I want to automatically benefit from discounts for which I'm eligible.	I want to know when I've tapped my travel media that I'm authorized to travel.	I want to be notified of nearby PRESTO perks.	I want to be able to seek assistance from a person if I have an issue.	I want to transfer my balance to another card or person.
I want to receive targeted offers for transit that make sense based on my personal needs and behaviours.	I want to load funds/passes to pay for the travel of my dependents.	I want to know whether I have to tap in and out or just in.	I want to be notified of relevant first or last mile options.	I want to challenge an inspection charge.	I want PRESTO to provide me with status updates of ongoing processes, emerging issues or changes related to my account.
I want to know how PRESTO will use my information, and protect my privacy.	I want the option to pay individually for specific journeys, with cash as an option.	I want to see my PRESTO credential balance as I travel.	I want to find wayfinding information in my app based on where I'm located.	I want to manage my compromised (possibly lost, stolen) credential	I want PRESTO to gather my feedback after specific interactions.
I want to know what proof of concession/discount eligibility I'll need to provide.	I want to travel with my AODA support person.	I don't want to re-pay full fare if I have to transfer.	I want real-time in-app vehicle crowding information while I await transit.	I want to manage the customer accounts of my dependants.	I want to be able to resolve an inspection fare or missed tap off if there has been an error.
I want to see/know how PRESTO is changing, access stories, studies and reports that showcase their work and impacts.	I want to automatically load my PRESTO pre-paid balance so I don't run out of funds.	I want to see my transfer window when I pay my fare and tap for transfer.	I want to be able to manage my parking from my phone/account.	I want to view the details of any transit passes I have purchased.	I want to challenge charges that I do not recognise.
I want to know what's happening in my community, my frequent destinations and with the transit agencies I use.	I want to automatically renew and pay for my period pass(es).	I want to purchase fare to pay for the travel of a group		I want to view the details of any discount I have added to my account.	
	I want to purchase fare or load my funds balance using cash, credit/debit or mobile.	(For fare by distance) I want to be able to tap on any fare payment device and the correct TA be charged based on where I tap off.		I want to be able to seek assistance via self serve channels as much as possible	
	I want to choose which travel media my transit passes are associated with.	I want the ability to set a default trip I take frequently so I don't have to tap off		I want to create an account so that I can access tools to make it easier to use PRESTO services and protect my balance/information.	
	I want different fare type options available at initial purchase.			I want to be refunded my PRESTO e-purse balance.	
	I want reminders to load my e-purse or purchase a period pass as directed by my behaviours, account status and the date.				
	I want to be prompted to load if my PRESTO card balance is low and I'm in a loading location.	In stations with more than one TA I want to be able to purchase my fare from any device by selecting the TA I want.			

2.2 Transit Agency Business Models

The Metrolinx Payments Division provides our transit agency partners with fare collection services, currently including eleven transit agencies (TA): Toronto Transit Commission (TTC), OC Transpo (OCT), Hamilton Street Railway (HSR), Burlington Transit (BUR), Oakville Transit, MiWay, Brampton Transit (BRT), York Regional Transit (YRT), Durham Regional Transit (DRT), GO Transit (GO) and Union Pearson Express (UPE).

In order to offer ever improving, innovative and relevant services that deliver on our transit agency partner's expectations, Metrolinx Payments requires a new model that enables greater speed to market with proficient and innovative suppliers at our side. Metrolinx must support various business arrangements with its TA clients, retailers, and other institutions and to implement configurable commissions and fees by business-entity, transaction type and other parameters such as fare line based on services offered. Metrolinx also wishes to be able to support different models for individual transit agencies and continuously expand its transit agency partnerships.

Currently Metrolinx Payments supports the following business models:

- **Device Managed-Service:** Metrolinx provides equipment and services to manage front-office devices for TAs (currently TTC and the GTHA).
- **Device Acquirer-Model:** The transit agency provides the fare-equipment, and Metrolinx provides the back-office processing, contact centres, and digital channels (currently used by OC Transpo in Ottawa).
- **Retail:** A 3rd-party retailer (Currently Shoppers Drug Mart and Loblaw banner locations) sell fare media, pass products and sets concessions as well as facilitating the load of those products and balances on behalf of Metrolinx and its agencies. The retailer also provides payment acquirer services (cash and card) for card loads. There is a need for support from the AFCS to support the retail channel activities and customer service capabilities.
- **Transit Agency Retailer:** Metrolinx pays a commission to Transit Agencies for e-purse loads, sold by the Transit Agency, but not pass products sold by the Transit Agency.
- **B2B Programs:** PRESTO facilitates B2B activities alongside our Transit Agencies for distribution of fare media and fare products and value to our customers.
- **PRESTO's B2B stored value program** supports the bulk ordering of fare cards and the remote distribution of e-purse loads, pass products and concessions for discounted fares by transit agencies and approved third parties
- **The B2B E-Ticketing platform,** PRESTO supports the bulk distribution of single and multiple tickets or passes by approved third parties as well to generate and/or distribute discount codes and product redemption codes that customers can enter on their own registered account.
- **PRESTO B2B** will also act as the sales agent for ready-to-ride (fully encoded) Bulk PRESTO LUM NFC Tickets.

3 Metrolinx Business Objectives

The following objectives and measures of success have been set out for PRESTO's 2022 Procurement Program. Ultimately, Metrolinx and the agencies served by the PRESTO system will consider the 2022 Procurement a success when it meets these objectives:

Key Program Objectives	Measures of Success
<p>Significantly reduce total cost of ownership.</p> <p>Obtain value for Money - procurement, transition and the long-term business case.</p>	<ul style="list-style-type: none"> ✓ Reduction in cost of current capabilities ✓ Avoidance of future costs if Metrolinx had done nothing ✓ Total cost of ownership is minimized ✓ Ability to benchmark and leverage the market
<p>Deliver a solution that enables agency fare policies and is flexible for future change, ensuring TTC specific business needs are met alongside other PRESTO member agencies.</p> <p>Deliver an experience that meets and exceeds expectations of PRESTO's member agencies and customers, driving adoption and ridership and enabling agency business objectives.</p>	<ul style="list-style-type: none"> ✓ Customer and client satisfaction scores are maintained or improved ✓ Ensure client contractual terms can be met by the new eco-system ✓ Policy drives technology and not the reverse ✓ Reduce customer and client complaints that drive dissatisfaction ✓ System is on par with global leaders in transit payment
<p>Ensure the solution ensures access and equity for our customers and drives a seamless, modern payment experience for customers across the region.</p> <p>Drive the ongoing modernization of PRESTO through account-based ticketing, digital excellence, cloud first, open architecture and integration, and contract for ongoing evolution in keeping with industry trends.</p>	<ul style="list-style-type: none"> ✓ The system and contracts adapt to changes in technology, strategy or policy (i.e., is future proof) ✓ Account based back office support ✓ Enable open architecture, connecting to PRESTO through its Integration Hub ✓ Move to serviced based (i.e. cloud) systems ✓ Customers can 'Tap to pay' using modern fare media (evolving over time) ✓ All transit riders have full and equitable access to PRESTO's services
<p>Significantly reduce total cost of ownership.</p> <p>Obtain value for Money - procurement, transition and the long-term business case.</p>	<ul style="list-style-type: none"> ✓ Reduction in cost of current capabilities ✓ Avoidance of future costs if Metrolinx had done nothing ✓ Total cost of ownership is minimized ✓ Ability to benchmark and leverage the market
<p>Deliver a solution that enables agency fare policies and is flexible for future change, ensuring TTC specific</p>	<ul style="list-style-type: none"> ✓ Customer and client satisfaction scores are maintained or improved ✓ Ensure client contractual terms can be met by the new eco-system

Key Program Objectives	Measures of Success
<p>business needs are met alongside other PRESTO member agencies.</p> <p>Deliver experience that meets and exceeds expectations of PRESTO's member agencies and customers, driving adoption and ridership and enabling agency business objectives.</p>	<ul style="list-style-type: none"> ✓ Policy drives technology and not the reverse ✓ Reduce customer and client complaints that drive dissatisfaction ✓ System is on par with global leaders in transit payment
<p>Support PRESTO's BI strategy, ensuring all data is made available in our eco-system, and available to our agencies and business for analysis and planning purposes.</p>	<ul style="list-style-type: none"> ✓ Real time availability of data ✓ Ability to access, manage, and analyse data through our BI architecture ✓ No restriction to data access whether directly or integrated to our BI system ✓ Access across (but not limited to) customer master and transactional, trip, financial, and operational data ✓ Performance optimized to enable real time data access across all data categories and any restrictions clearly identified ✓ Raw source data available which has not been pre-aggregated or manipulated
<p>Ensure all PRESTO systems and processes meet or exceed industry accepted standards for (but not limited to): (1) information security, (2) cyber security, (3) data security, and (4) financial crime compliance thereby reducing PRESTO's liability.</p>	<ul style="list-style-type: none"> ✓ Reduce number of total incidents related to fraud investigations ✓ Reduce financial loss to PRESTO due to fraud ✓ Ensure compliance to industry standards (PCI DSS 3.2, NIST CSF 1.1, FIPPA, ISO 127001, CIS, GO-ITS, PRESTO Policies, Standards and process directives) ✓ Ensure no data and/or security breaches occur ✓ Monitor and provide evidence of financial integrity, charging customers the correct fares and settling with clients through an auditable and well managed process ✓ Comply with EMV standards for MTT and other standards set by the payment industry ✓ Manage liability of fraud across the enterprise including flow through to suppliers

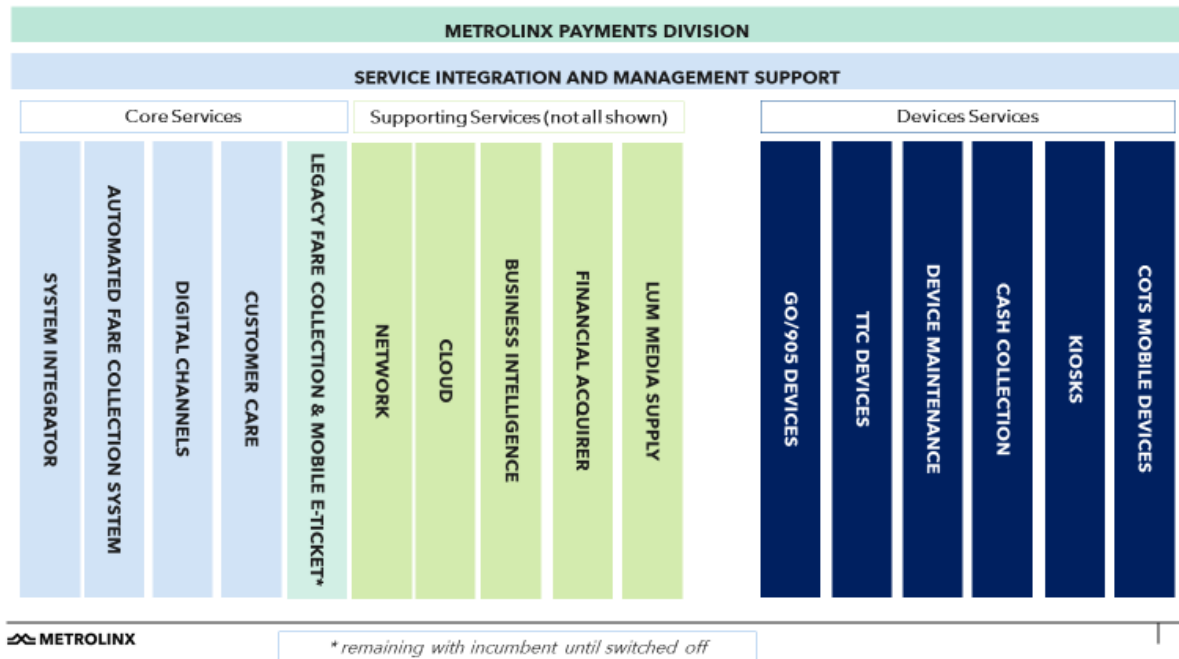
3.1 Metrolinx's Procurement Approach and Operating Model

Through the 2022 Procurement, Metrolinx will transition from the current consolidated vendor operating model and transition to a multi-vendor ecosystem with system and service integration.

The current service provider delivers the following core services to Metrolinx:

- Application Maintenance
- Infrastructure Outsourcing
- Field Operations
- Service Management
- Help Desk
- Contact Centre – Front Office
- Contact Centre – Back Office
- Application Development (covering back-office systems, digital customer channels, and fare payment equipment)

Through the 2022 Procurement, Metrolinx will split those capabilities into multiple lots. The procurement process for two of these will commence with the recently issued RFSQs for Automated Fare Collection Solution and System Integration Services. The multiple third-parties that make up the remaining vendors in the new ecosystem will be managed by PRESTO with support from a Service Integrator & Management Service Provider ("SIAM"). The SIAM will provide support to manage the overall Operating Level Agreements ensuring that all contracts are working together to meet PRESTO's service level agreements (SLAs). Further information on procurements related to the remaining lots will be provided to the marketplace in due course.



The PRESTO system's Future Supplier Ecosystem Landscape including existing contracts with other vendors

3.2 Transition

Key outcomes of PRESTO's Procurement Program are a seamless transition for our customers and clients, as measured by our Customer and Client Satisfaction KPIs, and a smooth transition for our TAs in a way that minimizes total cost of ownership (including one-time transition and ongoing operation costs) for PRESTO and the agencies.

Registered PRESTO customers will have the benefit of maintaining their account profiles including authentication details, contact information, saved payment methods (PRESTO cards and/or Open Payment cards), and other user preferences. However, all of the outstanding value and transaction history for PRESTO cards, Open Payment cards, and E-Tickets will need to transition to the new AFCS and be accessed by the customer in the same way. This also applies to non-registered (anonymous) customers who view their accounts by card numbers.

Since the transition of all the payment methods may not occur at once, the AFCS will need to support all digital channels (web, app, and Interactive Voice Response (IVR)) in a way that provides a seamless transition for PRESTO customers.

Furthermore, MiFare Limited Use Media (LUMs) sold prior to the transition to the new PRESTO system, will need to also be accepted and tracked by the AFCS after the legacy system is retired. In addition, new LUMs may be introduced to meet PRESTO outcomes and will need to be supported simultaneously.

Additionally, the integration with TA's financial systems will need to be assessed to carefully balance transition costs while modernizing and minimizing agency operational costs. Currently TA systems consume transaction extracts and summary reports into their own accounting and business intelligence systems.

Lastly, existing fare equipment (validators, inspection, point of sale) will need to integrate with the AFCS via the PRESTO Integration Hub and support new MiFare media and data formats for account-based PRESTO cards and LUMs, and new Quick Response (QR) code formats for the new E-Ticket solution.

Metrolinx expects to plan the transition in detail with selected suppliers.

3.3 Total Cost of Ownership: Key Commercial Considerations

As part of the PRESTO 2022 Procurement process, Metrolinx will move away from its existing Master Services & Supply Agreement structure to a multi-contract and multi-vendor framework. Future contracts will include the goal of encompassing its key objectives to lower the Total Cost of Ownership and improve customer experience for PRESTO. Metrolinx will structure the PRESTO 2022 Procurement and associated requirements to look for proven solutions and transition capability, not custom developed solutions, with a view to lowering costs and minimizing transition and operational risks. Flexibility in marketplace solutions, innovation and supplier investments in technology will allow Metrolinx to continually improve its business while driving down costs on behalf of its shareholder and transit partners across the Province. PRESTO key commercial considerations include:

- Commitment that new features have minimal / no increase to PRESTO operating costs. Where an increase is unavoidable, full breakdown of labour/infrastructure costs must be provided;
- Limited capital expenditures for custom built solutions (IT infrastructure hardware/software) where possible; and
- Suppliers to invest in Artificial Intelligence / Automation to reduce costs, improve quality and increase efficiencies related to financial operations. AI should be directed at improving fraud and potential revenue leakage.

4 Automated Fare Collection Solution: Scope

The AFCS vendor is expected to be responsible for providing a Fare Collection Back Office, which is expected to support the following core functions of the PRESTO system:

- Process fare sales, payment, validation and enforcement (e.g., inspection) transactions for all supported fare media.
- Provide secure storage of and access to customer data, and associated customer activity, in support of all PRESTO-managed and self-service customer service channels.
- Provide end-to-end financial processes including collection, recognition, apportionment, and settlement of all revenue generated through the fare collection system.
- Securely process payments for open payments and fare sales in a Payment Card Industry Data Security Standard (PCI-DSS) compliant manner.

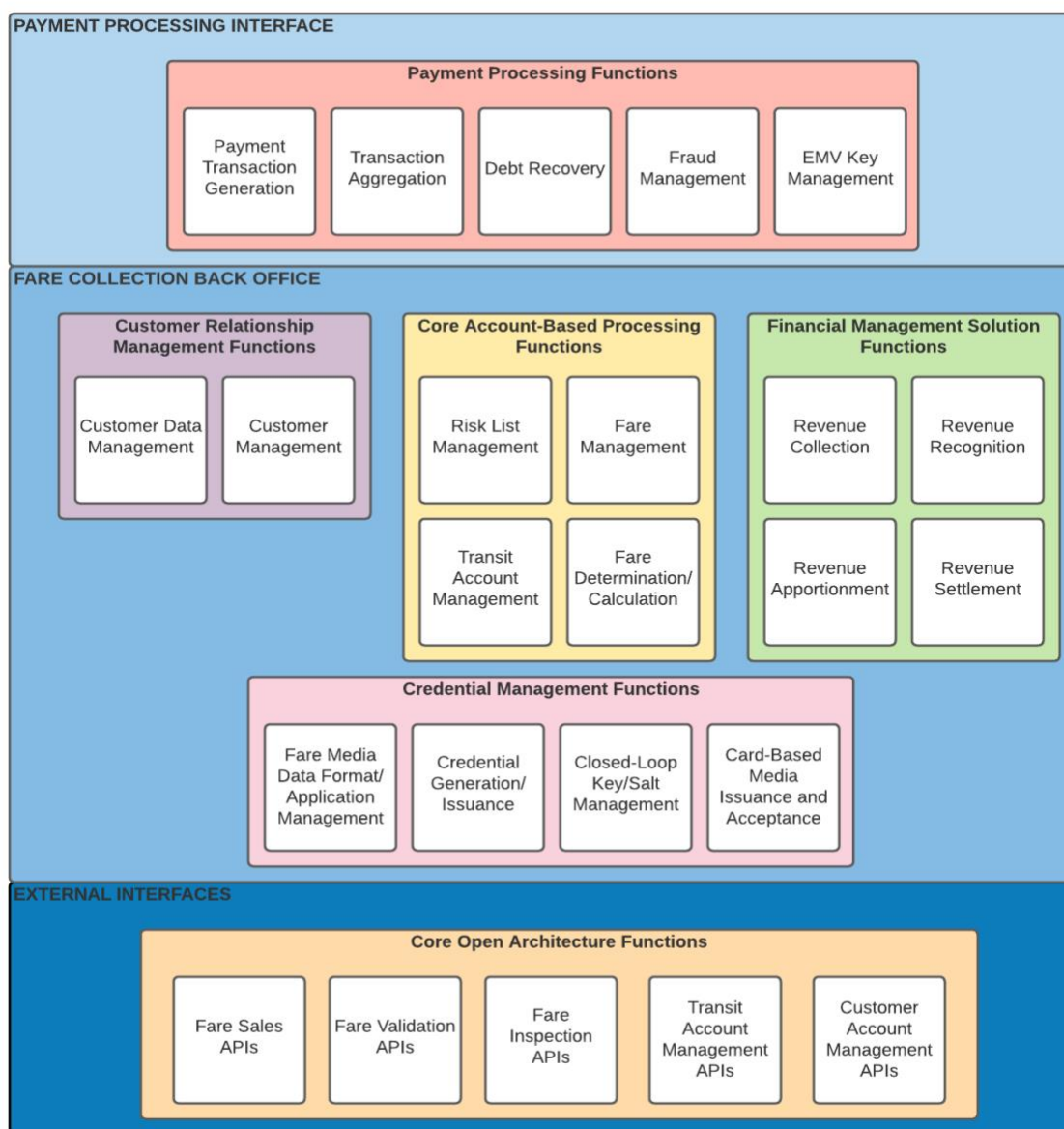
The Fare Collection Back Office is expected to support the issuance, management, and acceptance of all expected fare media, including closed-loop PRESTO cards (both physical and virtual), contactless bank cards (i.e., physical and virtual), QR code-based paper and mobile tickets (i.e., E-Tickets), and MiFare DESfire limited-use tickets/transfers. The Fare Collection Back Office is expected to maintain system-held accounts (“Transit Accounts”) for all account-based fare media, support the central management of available fare products (i.e., product tariff) and fare processing rules (i.e., business rules), and facilitate the loading of value through all PRESTO sales channels. The Fare Collection Back Office is expected to perform fare determination/calculation for all account-based fare validations (based on configured business rules) and serve as a primary system supporting the validation (i.e., acceptance or denial) and verification of fare payments initiated through PRESTO fare validation and inspection devices.

The Fare Collection Back Office is expected to support the creation and management of Customer Accounts, including the linking (i.e., registration) of back office-maintained Transit Accounts, through all PRESTO customer service channels. Customer Accounts are expected to store customer data, and enable the customer that owns the account, as well as authorized PRESTO customer service staff, to find, view, and manage associated Transit Accounts. As part of the Fare Collection Back Office, the AFC solution vendor is expected to deliver system components to securely store customer data and provide a frontend user interface for PRESTO call center and customer service staff to access and manage Customer Account and Transit Account data (i.e., Customer Relationship Management system). The AFC solution vendor is also expected to support integration with existing Metrolinx CRM solutions via the PRESTO Integration Hub.

The Fare Collection Back Office is expected to include a Financial Management Solution that brings strong financial controls to the collection and reporting of revenue generated by the system. The Financial Management Solution is expected to apply Generally Accepted Accounting Principles (GAAP) in the recording of financial entries associated with each transaction captured and processed by the system, and is expected to produce standard financial statements and data exports (as necessary) to support the transfer of data to other enterprise financial systems, including those operated by client transit agencies. The Financial Management Solution is expected to enable revenue collection (e.g., Accounts Receivable and Accounts Payable), recognition, and apportionment of PRESTO commission and client revenue settlement, and be the source of truth for financial reporting and reconciliation. The AFC solution vendor is expected to commit to a high-level of transaction accuracy to enable timely and complete settlement and provide mechanisms to detect, prevent and recover exception transactions such as missing, duplicate or incomplete transactions. The financial management solution is expected to be maintained in an audit ready state (i.e., supporting 3416 control audits) on an ongoing basis.

The AFC solution is expected to be based on an Open Architecture, with all core functions performed by the Fare Collection Back Office, including but not limited to those described here, accessible via Application Programming Interfaces (APIs) provided by the AFC solution vendor. API access is expected to be controlled by the System Integrator-managed PRESTO Hub, but the AFC solution vendor is expected to be responsible for ongoing maintenance and support of the provided APIs, including providing support for internal and third-party integrations that make use of the APIs as needed.

The following diagram provides an overview of the key components and services required of the AFC solution vendor:



Further details of the functions that are expected to be provided by the AFC solution are in the table below:

Feature	Feature Details
TRANSIT ACCOUNT MANAGEMENT	Generation and management of Transit Accounts associated with all issued and/or accepted account-based fare media. Support storage and maintenance of value loaded to accounts and used for fare payment, detailed account transaction history, and account parameters used in the calculation of fares (e.g., fare category).

Feature	Feature Details
	Transit Account Management also requires the export of all transaction data to PRESTO data lake.
FARE MANAGEMENT	Configuration and management of fare that defines business rules to be enforced by the fare system in the sale and usage of accepted fare media and products, including open payments. Support for full range of fare policies currently supported and planned by the participating PRESTO agencies.
CREDENTIAL MANAGEMENT	Design and management of data formats/applications (and cryptographic keys) used by all closed-loop fare media, including physical and virtual PRESTO cards, paper and mobile E-Tickets, and limited-use media. Credential (i.e., token) generation/issuance to support manufacture and sales of all closed-loop media. Continued support for issuance and acceptance of card-based media, as required.
KEY MANAGEMENT	Secure generation, storage, and sharing of cryptographic keys supporting EMV payment processing and the securing of data stored on closed-loop fare media. May also include salt values used in the hashing of card data. Typically managed in an offline environment.
FARE CALCULATION AND VALIDATION	Processing of fare validation requests sent from all PRESTO fare validation devices, using AFCS vendor-provided APIs. Perform real-time transaction processing, including determination (i.e., calculation) of fare due, evaluation against transit account being used for payment (e.g., status and available balance), update of account balance, and generation of validation (i.e., acceptance or denial) response, which includes validation result, fare paid/fare product used, balance remaining, transfer time remaining, and other transaction details, as relevant to the validation result and/or payment performed and/or fare media used. Activities not required to generate a real-time validation response (e.g., account balance update) may be performed asynchronously.
RISK LIST MANAGEMENT	Generation of risk lists based on transit account activity and status, which are distributed to all fare validation devices to support offline validation decisions in instances where a real-time (i.e., online) validation response is not received within a defined timeout period. May also be used by the Fare Collection Back Office and fare validation devices to optimize validation response times in cases where an account is in a known invalid state.
FARE PRODUCT SALES	Processing of fare sales transactions generated through all PRESTO sales channels, using AFCS vendor-provided APIs. Includes the loading of value to Transit Accounts, and may require the processing of electronic (e.g., bank card or ACH) payments, depending on the sales channel generating the transaction. Sales

Feature	Feature Details
	functions also include full and partial refunds of prior sales and manual adjustments to Transit Account value.
FARE MEDIA SUPPLY	Facilitate the Fare Media lifecycle of manufacturing / personalizing / distributing of PRESTO fare media. This may consist of accepting and fulfilling customer and client orders of PRESTO extended-use and limited-use media, to individual customers ordered through service channels, and in bulk for Transit Agencies, vending device suppliers and 3rd party agencies (B2B). Supports the pre-encoding of value and concessions, and product configurations.
PARTNERSHIP / BUSINESS TO BUSINESS INTERFACE	Supports B2B clients and partnerships for fare media and fare product distribution across both physical and digital media types. This serves third parties such as community agencies, businesses, institutions and Mobility-as-a-Service (MaaS) providers to distribute value and media to their customers. This function needs to support the end-to-end processes of order entry / payment capture / fulfillment of media orders to both bulk and individual fare media customers.
FARE INSPECTION	Processing of fare inspection requests sent from all PRESTO fare inspection devices, using AFCS vendor-provided APIs. Perform real-time transaction processing, including evaluation of fare payment status, and generation of inspection (i.e., valid or invalid) response that includes inspection result, and other transaction details, as relevant to the inspection result and/or payment performed and/or fare media used.
PAYMENT PROCESSING	Processing of bank card (i.e., credit, debit, and Interac) payment transactions related to the acceptance of open payments is expected to be performed through an interface with the PRESTO Payment Service Provider (PSP). AFCS vendor is expected to perform all functions related to the creation of payment transactions, including pricing and Mass Transit Transaction (MTT) model functions, such as transaction aggregation and debt recovery. The PSP is expected to perform payment authorization and settlement and may be used to support functions such as End-to-End Encryption (E2EE), payment tokenization, and Payment Account Reference (PAR) retrieval. AFCS vendor responsibilities may also include processing of electronic payments (e.g., bank card and ACH) for fare sales, depending on the sales channel generating the transaction.
PCI COMPLIANCE	AFCS vendor responsibility for compliance with the latest version of the Payment Card Industry Data Security Standard (PCI-DSS) for all systems and components delivered which are involved in the capture, transmission, or storage of payment card data.

Feature	Feature Details
FRAUD MANAGEMENT	Implementation of strong measures to protect against fraud in the purchase or use of fare value. Must include electronic payment fraud detection and prevention measures, which supplement those provided by the PRESTO Payment Service Provider (PSP), as well as system usage fraud prevention and detection measures (e.g., preventing use of cloned/copied fare media, validating customer accounts).
CUSTOMER DATA MANAGEMENT	Secure storage of customer data, especially Personally Identifiable Information (PII), which is captured as part of Customer Account creation. Also includes the storage of payment tokens generated for stored funding sources. Data is expected to be stored in a protected format (i.e., using strong encryption) and only accessible and viewable by authorized individuals. Customer Data Management may require the export of customer data to PRESTO data lake and support synchronization with the Metrolinx CRM.
CUSTOMER MANAGEMENT	Provide a full range of customer service functions for both registered and anonymous customers including fare sales, Customer and Transit Account management, the ability to create refunds and adjustments, and optionally send transactional and services messages according to customers' preferred communication method and frequency. Additionally, integrate with a Metrolinx enterprise Custom Relationship Management (CRM) tool used for case management, and customer insights for targeted marketing and personalized content using customer APIs.
REVENUE COLLECTION	Automated Financial Management Solution function to record, track, and reconcile funds to be collected (i.e., receivables) as part of fare sales performed across all sales channels and using all accepted types of payment. Revenue collection must include detection, prevention and recovery of exception transactions such as missing, duplicate, incomplete (e.g., expired and invalid payment methods). Financial Management must ensure financial integrity and traceability of transactions and may also require the export of all financial data to the PRESTO data lake.
REVENUE RECOGNITION	Automated Financial Management Solution function supporting accrual-based accounting, where sales revenue is initially recorded as deferred, and then recognized by the system using configured revenue recognition policies. Policies must be configurable by fare product type, Transit Agency and support event-based (e.g., sales or expiry), usage-based, and time-based (e.g., daily, or monthly) recognition triggers.
REVENUE APPORTIONMENT	Automated Financial Management Solution function supporting the allocation of revenue among participating PRESTO agencies, based on configurable apportionment rules. Rules must be flexible

Feature	Feature Details
	to enable accurate and complete apportionment based on fare product usage, formula, or other operational factors.
REVENUE SETTLEMENT	Financial Management Solution function supporting the transfer of funds to and from participating PRESTO agencies. All financial settlements must be automated with PRESTO Transit Agencies, account load and fare distribution partners and customers based on Financial Management Solution-generated reports. Support end-to-end reconciliation and auditing of settled revenue.
API DELIVERY AND SUPPORT	Delivery and support of Application Programming Interfaces (APIs) enabling access to all core functions performed by the Fare Collection Back Office. Provide ongoing maintenance and support of the delivered APIs, including support for internal and third-party integrations that make use of the APIs as needed.
TECHNICAL PROJECT MANAGEMENT AND DELIVERY	Provide technical project management, AFCS consulting, and delivery services during the design, development, and implementation of the AFCS. Work with Metrolinx to facilitate a seamless transition for transit riders and the participating transit agencies.

5 Out of Scope

The following fare collection system components and activities shall be **out of scope** for the AFCS vendor:

- Metrolinx is still considering a variety of commercial models. For clarity, under a SaaS model, Metrolinx expects the SaaS vendor would provide system hosting. In the case of a non-SaaS solution, system hosting will be the responsibility of Metrolinx;
- Any changes or modifications to the communication networks and infrastructure will be the responsibility of Metrolinx;
- Operation of legacy PRESTO solution will be performed by the incumbent provider;
- Any purchase, changes or maintenance as it relates to the front-line fare collection equipment and devices; and,
- Customer-facing channels (e.g., website, mobile app, and IVR) will be procured under a separate contract.