

METROLINX

- AND -

TORONTO TRANSIT COMMISSION

PROJECT MANAGEMENT AGREEMENT

**MADE PURSUANT TO
THE MASTER E-FARE COLLECTION OUTSOURCING
AGREEMENT
DATED: NOVEMBER 28, 2012**

DATED AS OF NOVEMBER 28, 2012

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PROJECT MANAGEMENT AGREEMENT

THIS PROJECT MANAGEMENT AGREEMENT is made as of the 28th day of November, 2012

B E T W E E N:

METROLINX

an agency of the Government of Ontario under the *Metrolinx Act, 2006*
 (“**Metrolinx**”)

- and -

TORONTO TRANSIT COMMISSION

a corporation existing under the *City of Toronto Act, 2006*
 (“**TTC**”)

In consideration of the mutual covenants herein contained and for other good and valuable consideration (the receipt and sufficiency of which are acknowledged by both Parties), the Parties hereby covenant and agree with each other as follows:

ARTICLE 1

BACKGROUND & INTERPRETATION

1.1 Terms of Master Agreement

- (a) This Project Management Agreement is ancillary to the Master Agreement. The terms of the Master Agreement, as amended from time to time, are incorporated herein by reference – including, for greater certainty, Sections 5.3 (Audits), Article 13 (Limitation of Liability), Article 16 (Force Majeure) and Article 17 (General Provisions) thereof. For greater certainty, Section 13.2 of the Master Agreement shall be applied without duplication.
- (b) Further to and as contemplated in the Master Agreement, this Project Management Agreement sets out additional rights and obligations of the Parties with respect to the scoping, development, testing, integration, and provision of the PRESTO Equipment and Services and other services, relating to PRESTO NG and in accordance with the TTC Business Requirements. This Project Management Agreement also provides for the phased implementation of PRESTO NG which the Parties acknowledge may include phased roll outs of PRESTO NG fare collection devices with certain agreed functionality that meets a mutually agreed portion of the TTC Business Requirements in accordance with the Project Plan. However, upon Full PRESTO Deployment, in accordance with the Project Plan, PRESTO NG will have achieved Full PRESTO NG Functionality. The foregoing services and obligations of Metrolinx are to be performed in accordance

with the terms and conditions of this Project Management Agreement, including the milestones set out in the Project Plan.

1.2 Definitions

All capitalized terms used in this Project Management Agreement, and not otherwise defined herein, have the meaning ascribed to such terms in the Master Agreement, unless the context otherwise requires. Terms that are defined for the purpose of this Project Management Agreement are set out in the definitions schedule (Schedule 1.2).

1.3 Schedules & Attachments

The following are the schedules and attachments attached to and forming part of this Project Management Agreement:

<u>Schedule</u>	<u>Description of Schedule</u>
1.2	Definitions for this Project Management Agreement
2.1(b)	RASCI for PRESTO System Development
2.1(c)	RASCI for Civil Works Requirements
4.1	Project Plan
4.7	Training
5.4	Joint Executive Committee

ARTICLE 2 IMPLEMENTATION OF ADDITIONAL FUNCTIONALITY

2.1 Implementation Service Obligations of Metrolinx

In accordance with the Project Plan and the attached RASCI, Metrolinx shall procure, design, build, test, manage and implement and deploy PRESTO NG with Full PRESTO NG Functionality to meet the TTC Business Requirements in order for Metrolinx to provide the Managed Services. As a part of such process, TTC acknowledges that Metrolinx shall modify and enhance the Provincial PRESTO Service to create PRESTO NG. Without limiting the generality of the foregoing, Metrolinx shall:

- (a) develop, with the input and approval of TTC, a detailed Project Plan in accordance with Schedule 2.1(b) (RASCI for PRESTO System Development) and Section 6.1 of the Master Agreement;
- (b) follow the PRESTO System Design Process and the PRESTO Site Civil Works Process as set out in Schedule 2.1(b) (RASCI for PRESTO System Development) and Schedule 2.1(c) (RASCI for Civil Works Requirements), as applicable, attached to this Project Management Agreement; and
- (c) ensure that any role attributable to Metrolinx, as set out in Schedule 2.1(b) (RASCI for PRESTO System Development) or Schedule 2.1(c) (RASCI for Civil Works Requirements), is complied with;

(collectively, the “**Implementation Services**”). Failures or delays on the part of Metrolinx to perform the Implementation Services shall be escalated in priority to the Joint Executive Committee (“**JEC**”, as defined in Section 5.3) and addressed in accordance with Schedule 5.4. If such failings or delays are not resolved or fully addressed pursuant to Schedule 5.4, the failure or delay shall be addressed by way of escalation in accordance with the dispute resolution provisions of Article 14 of the Master Agreement.

2.2 Obligations of the TTC

- (a) TTC agrees that it shall provide its reasonable assistance to and cooperation with, as set out in this Project Management Agreement, Metrolinx to accomplish such successful and timely Deployment and Implementation of the Managed Services in accordance with this Project Management Agreement and the Project Plan.
- (b) TTC shall ensure that any role attributable to the TTC as set out in Schedule 2.1(b) (RASCI for PRESTO System Development) and Schedule 2.1(c) (RASCI for Civil Works Requirements) is complied with.
- (c) TTC shall provide all reasonable assistance on a timely basis to aid Metrolinx in the relationship and any required agreement(s) with the City of Toronto for the provision of sufficient space and such other infrastructure and/or services as are required for the installation and operation of such on street PRESTO Equipment and Services as are required for the provision of the Managed Services in the TTC Transit System.
- (d) TTC shall follow the PRESTO System Design Process, as set out in Schedule 2.1(b) (RASCI for PRESTO System Development) attached to this Project Management Agreement with respect to the development of the Managed Services.

2.3 Failure to Meet TTC Dependencies

If TTC fails in a material respect to complete any TTC Dependency (including with regard to the TTC Premises), as identified in the Project Plan, on or prior to the applicable TTC Dependency Target Date (other than to the extent that such failure is as a result of Metrolinx failing to meet a deadline or to produce a deliverable upon which the applicable TTC Dependency is dependent), then any obligation of Metrolinx which is dependent on such TTC Dependency will be deemed to be extended by such reasonable period of time as is necessary in light of the failure of TTC to complete such TTC Dependency. Each Party shall continue to use commercially reasonable efforts to meet the original deadline set forth for such obligation. Failures on the part of the TTC to fulfil any TTC Dependency (other than to the extent that such failure is as a result of Metrolinx failing to meet a deadline or to produce a deliverable upon which the applicable TTC Dependency is dependent or resulting from a Force Majeure Event) shall be escalated in priority to the JEC and addressed in accordance with its procedures. If such failures are not resolved or fully addressed pursuant to the JEC’s procedures the failure shall be addressed by way of escalation in accordance with the dispute resolution provisions of Article 14 of the Master Agreement.

2.4 Failure to Meet Metrolinx Commitment

If Metrolinx fails in a material respect to complete any Metrolinx Commitment, as identified in the Project Plan, on or prior to the applicable Metrolinx Commitment Target Date (other than to the extent that such failure is as a result of TTC failing to meet a TTC Dependency), then any obligation of TTC which is dependent on such Metrolinx Commitment will be deemed to be extended by such reasonable period of time as is necessary in light of the failure of Metrolinx to complete such Metrolinx Commitment. Each Party shall continue to use commercially reasonable efforts to meet the original deadline set forth for such obligation. Any material failure on the part of the Metrolinx to fulfil any Metrolinx Commitment (other than to the extent that such failure is as a result of TTC failing to meet a TTC Dependency Target Date or resulting from a Force Majeure Event) shall be escalated in priority to the JEC and addressed in accordance with its procedures. If such failures are not resolved or fully addressed pursuant to the JEC's procedures the failure shall be addressed by way of escalation in accordance with the dispute resolution provisions of Article 14 of the Master Agreement.

ARTICLE 3 TESTING AND ACCEPTANCE

3.1 Development of Test Requirements

Metrolinx and the TTC have agreed to undertake testing and acceptance in accordance with 2.1(b) (RASCI for PRESTO System Development) and Schedule 2.1(c) (RASCI for Civil Works Requirements) for the deployment of all applicable version(s) of PRESTO NG to be implemented in the TTC Transit System.

3.2 Conduct of Testing

The Parties acknowledge and agree that the TTC PRESTO Testing shall be conducted in accordance with 2.1(b) (RASCI for PRESTO System Development) and Schedule 2.1(c) (RASCI for Civil Works Requirements). Unless otherwise indicated at the time, upon providing TTC with the test results, Metrolinx shall be deemed to have accepted and approved the test results. The timing of TTC approval and sign-off will be as follows, unless otherwise agreed in the Project Plan:

- (a) where TTC senior management approval or sign-off is sought, TTC must respond to such request for approval within ten (10) business days of receiving such request. TTC will have the right to an additional five (5) business days upon written notice to Metrolinx, or such other amount of time as the Parties may agree. In the event that TTC does not respond to a request for approval or sign-off within the time period specified herein, TTC approval shall be deemed to be given; and
- (b) where TTC approval is sought, TTC hereby agrees that the sole basis for denying such approval is to be an evaluation of whether the device or aspect being tested meets the criteria established in accordance with the mutually agreed Test Plan. TTC shall not have the right to deny such approval on any other basis.

- (c) If TTC approval is denied, Metrolinx shall provide a remedy in accordance with the mutually agreed Test Plan.

ARTICLE 4 COMMISSIONING SERVICES

4.1 Deployment and Implementation

The Parties shall deploy and implement the Managed Services including the PRESTO Equipment and Services in accordance with the Project Plan (collectively, the “**Deployment and Implementation**”). The Parties acknowledge and agree that:

- (a) within ninety (90) days of the execution of this Project Management Agreement, Metrolinx will, in consultation with TTC, complete the development of an initial integrated Project Plan in accordance with 2.1(b) (RASCI for PRESTO System Development) and Schedule 2.1(c) (RASCI for Civil Works Requirements), to be incorporated into this Project Management Agreement by reference and attached hereto as a new Schedule 4.1, and attached to the Master Agreement as Schedule B.
- (b) The Parties may agree to develop subsequent versions of a more detailed Project Plan, and in each case the new version will supersede all previous versions upon acceptance by the Parties; and
- (c) the execution of the Project Plan shall be monitored, reviewed and modified, as required, in accordance with the procedures of the JEC.

The Project Plan shall specify the Full PRESTO Deployment and Implementation Date.

4.2 Provision of PRESTO Equipment and Services

Subject to Section 2.1(b), if applicable, Metrolinx shall have sole discretion to procure and supply all PRESTO Equipment and Services to be used, consistent with the TTC Business Requirements, for the provision of the Managed Services to meet its Service Levels and Service Level Targets in the SLA, and to determine whether any particular item of PRESTO Equipment and Services forming part of the Managed Services will be purchased, leased or obtained by conditional sale, or any similar form of transaction, from or with a financial or contractual partner. As between the Parties, Metrolinx shall have all legal and beneficial ownership of all PRESTO Equipment and Services and TTC acknowledges that it shall only have the limited right of use thereof as set out in this Project Management Agreement and the Operational Services Agreement.

4.3 Delay in Deployment of a Release of PRESTO NG

Pursuant to the Project Plan, Metrolinx shall specify deployment date(s) for each release of PRESTO NG. Where Metrolinx is materially delayed in the deployment of such release (as set out in the Project Plan) and where: (i) such delay is not due to a Force Majeure Event or a failure of TTC to meet a TTC Dependency; and (ii) such delay results in material

adverse impact to TTC, TTC shall deliver a deficiency notice to Metrolinx together with evidence to support its calculation of the reasonable direct costs incurred. If Metrolinx agrees with such notice, Metrolinx shall pay such amount to TTC in the method and form of payment agreed to by the Parties. If Metrolinx rejects such notice, the matter shall be referred to the dispute resolution procedure in accordance with Article 14 of the Master Agreement.

4.4 Equipment

As between Metrolinx and TTC, and notwithstanding any Applicable Law to the contrary, Metrolinx shall own all PRESTO Equipment and Services whether same is Installed and/or affixed in any premises owned, leased, licensed or controlled by TTC or the City of Toronto. Metrolinx shall be responsible for the repair, which repair shall be performed promptly, at its cost, of any physical damage caused to such TTC Premises by its acts or omissions or the acts or omissions of its contractors or sub-contractors. Such repairs will restore such premises to substantially the same or better standard as existed on the date of Installation or affixment, reasonable wear and tear excepted, using materials of substantially the same or better quality as exist already at such premises, which material is to be promptly approved by TTC. TTC shall approve, in advance, all such TTC Premises where PRESTO Equipment and Services will be Installed, restored or affixed, and such TTC Premises shall be provided on an "as is" basis (subject to any unforeseen infrastructure issues pursuant to Section 4.5). Upon reasonable prior notice by TTC, except in the case of emergency repairs where such notice may be in arrears, if Metrolinx does not promptly perform such required repair to remedy such damage to the TTC Premises, TTC shall perform such repairs and provide Metrolinx with a reasonably detailed invoice setting out: (i) the details of the repair, (ii) the costs to perform such repair, and (iii) the dollar amount of the pre-approved 15% administration fee, and Metrolinx shall pay to the TTC the invoiced amount within a reasonable period after the receipt of such invoice.

4.5 Unforeseen Infrastructure Issues

If, during the Term, Metrolinx experiences one or more material infrastructure issues with respect to carrying out civil works within TTC facilities (excluding vehicles) that it has not and could not have foreseen and such issues will result in a material delay in performance or a material increase in costs, Metrolinx shall give notice of such unforeseen issue to the TTC, and the Parties hereby agree to meet and negotiate the most effective method to deal with such unforeseen infrastructure issues and, if required, shall engage in the Change Order Procedure to resolve the issue in accordance with Article 4 of the Master Agreement.

4.6 Replacement of Turnstiles

- (a) The Parties agree that the free-wheeling turnstiles adjacent to collector booths in TTC subway stations are to be replaced in accordance with the terms hereof and the TTC Business Requirements. The Parties shall, in accordance with the design process outlined in Schedule 2.1(b) (RASCI for PRESTO System Development) and Schedule 2.1(c) (RASCI for Civil Works Requirements), develop an acceptable methodology for determining (based on demand and other mutually agreed factors) the quantity and location of free-wheeling turnstiles requiring replacement.

- (b) Metrolinx shall procure such mutually agreed upon turnstiles in accordance with TTC specifications for its current turnstiles. Metrolinx and the TTC may cooperate to achieve economies of scale with respect to turnstiles that either Party wishes to procure.
- (c) Metrolinx shall arrange and pay for the civil works associated with the installation of such turnstiles (including power and communications) next to the collector booth, but the Parties agree that Metrolinx shall not be responsible for any fees, costs or civil works associated with any changes required to the collector booth or any other civil works associated with the reconfiguration of a line of turnstiles. Upon installation of such turnstiles, all responsibility for such turnstiles (including maintenance thereof) shall transfer to the TTC.

4.7 Training

Training on the Managed Services will be provided by Metrolinx in accordance with Schedule 4.7 (Training) and in accordance with the TTC Business Requirements.

ARTICLE 5 PROJECT MANAGEMENT

5.1 Dedicated Project Managers

In addition to their respective Designated Representatives, each Party hereby designates, initially, the following individuals as their respective Project Managers in respect of this Project Management Agreement: for Metrolinx, Project Director, TTC and for TTC, Project Manager - Farecard Project. The Parties each agree that their respective Project Managers:

- (a) will be made available on a dedicated basis; and
- (b) shall act as the single point of contact for the other Party and shall be responsible for co-coordinating, overseeing and ensuring the timely performance by their respective Party of its obligations set out in this Project Management Agreement.

In addition the Parties shall ensure that the Project Managers shall have suitable competence, experience, and continuity in their roles as need be to manage the provision or receipt of the Implementation Services.

5.2 Role of Project Managers

The Project Managers shall be responsible for management of their respective PRESTO and TTC project teams, as well as:

- (a) timely development and commissioning of the Managed Services in accordance with the Project Plan;
- (b) regular reporting of progress, including the establishment of weekly, face-to-face status meetings during the delivery of the Implementation Services;

- (c) have sufficient authority for the making of, and be responsible for the prompt making of, all decisions on behalf of their respective Parties, subject to the respective policies of each Party;
- (d) prompt notice to the Designated Representatives of any issues that the Project Managers are unable to resolve themselves; and
- (e) participate in the JEC and such other teams and meetings as are required to execute the respective responsibilities of the TTC and Metrolinx hereunder.

5.3 Joint Executive Committee

Nothing in this section is intended to lessen the obligations of either Party under this Project Management Agreement. Pursuant to the Parties' agreement in the Master Agreement to each establish project teams, the Parties shall establish a Joint Executive Committee ("JEC") which shall be co-chaired by the TTC Chief Customer Officer (or his or her designate), with the Metrolinx Executive Vice-President, PRESTO (or his or her designate), and will be comprised of designated executive representatives from both TTC and Metrolinx. The JEC will be the executive steering committee responsible for the oversight of the Implementation Services pursuant to the Project Plan and this Project Management Agreement, and shall have the roles and responsibilities set out in Schedule 5.4

5.4 Additional Project Governance

Subject to the Metrolinx Governance Schedule, and in addition to the above terms of this ARTICLE 5, the provisions of Schedule 5.4 (Joint Executive Committee) shall govern the relationship between Parties with respect to the provision and receipt of the Implementation Services.

ARTICLE 6 APPLICABLE POLICIES

6.1 Policies

With respect to the provision, or receipt, as applicable, of the Implementation Services and access to the premises, property and employees of the other Party, each Party shall comply with such applicable policies of the other Party as are provided to the first Party in writing and in advance. Each Party may, from time to time, amend its policies or add new policies, by providing notice to the other Party of such requirement and the JEC shall determine if such amended or new policies are applicable to the Managed Services. Each Party acknowledges that changes to the policies may constitute a Change. If the amendment or new policy does not require a Change, then the Parties shall, promptly following such determination by the JEC, comply with such amended or new policy. If the amendment or new policy does require a Change, then such Change shall be made in accordance with the applicable requirements of the Change Order Procedure set out in the Master Agreement.

**ARTICLE 7
TERM AND TERMINATION**

7.1 Term

This Project Management Agreement shall commence on the Effective Date and shall continue thereafter until the Implementation Services have been completed as herein provided (the “**Term**”).

7.2 Termination

Except for as provided for in Section 7.3, this Project Management Agreement shall terminate upon the Parties agreeing that PRESTO NG has been fully deployed and implemented. Prior to such date, termination of this Project Management Agreement will occur in accordance with Section 15.2 of the Master Agreement. Upon termination of this Project Management Agreement, Metrolinx shall continue to provide the Managed Services in accordance with the Operational Services Agreement.

7.3 Survival

The provisions of Sections 7.3, and ARTICLE 1 and ARTICLE 8, shall remain in effect after the termination of this Project Management Agreement, until such time as the Parties mutually agree to the release of the obligations contained therein. No termination of this Project Management Agreement by any Party shall affect the rights and obligations of any Party which have accrued as of the date of such termination.

**ARTICLE 8
GENERAL PROVISIONS**

8.1 Invalidity

If any of the provisions or part thereof contained in this Project Management Agreement is found to be invalid, illegal or unenforceable in any respect, the validity, legality or enforceability of the remaining provisions or parts thereof contained herein shall not be in any way affected or impaired thereby.

8.2 No Amendment

No supplement, modification or termination of this Project Management Agreement shall be binding unless executed in writing by the Party to be bound thereby.

8.3 No Waiver

No waiver of or consent to depart from the requirements of any provision of this Project Management Agreement shall be binding against either Party unless it is in writing and is signed by the Party giving it. Such waiver or consent shall be effective only in the specific instance and for the specific purpose for which it has been given and shall not be deemed or constitute a waiver of any other provisions (whether or not similar) nor shall such waiver constitute a continuing waiver unless otherwise expressly provided. No failure on the part of

either Party to exercise, and no delay in exercising, any right under this Project Management Agreement shall operate as a waiver of such right. No single or partial exercise of any such right shall preclude any other or further exercise of such right or the exercise of any other right.

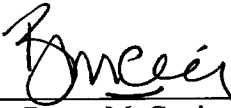
8.4 Counterparts

This Project Management Agreement may be executed in any number of counterparts. Either Party may send a copy of its executed counterpart to the other Party by facsimile transmission instead of delivering a signed original of that counterpart. Each executed counterpart (including each copy sent by facsimile transmission) shall be deemed to be an original; all executed counterparts taken together shall constitute one agreement.

[Signature Pages Follow]

IN WITNESS WHEREOF this Project Management Agreement has been executed by the Parties as of the Effective Date.

METROLINX

By: 
Name: Bruce McCuaig
Title: President and Chief Executive Officer

TORONTO TRANSIT COMMISSION


By: _____
Name: Andy Byford
Title: Chief Executive Officer

IN WITNESS WHEREOF this Project Management Agreement has been executed by the Parties as of the Effective Date.

METROLINX

By: _____
Name: Bruce McCuaig
Title: President and Chief Executive Officer

TORONTO TRANSIT COMMISSION

By:  _____
Name: Andy Byford
Title: Chief Executive Officer

SCHEDULE 1.2
DEFINITIONS FOR THIS PROJECT MANAGEMENT AGREEMENT

Note: All capitalized terms used in this Project Management Agreement, and not otherwise defined herein, have the meaning ascribed to such terms in the Master Agreement, unless the context otherwise requires.

“**Deployment and Implementation**” has the meaning ascribed thereto in Section 4.1.

“**Implementation Services**” has the meaning ascribed thereto in Section 2.1.

“**Installation**” means all activities required to be taken in order to render the Managed Services operational in accordance with the Project Plan, including all assembly, configuration, integration, interconnection and testing, and “**Install**” and “**Installed**” have corresponding meanings.

“**JEC**” means the Joint Executive Committee, as described in Section 5.3.

“**Master Agreement**” means the Master E-Fare Collection Outsourcing Agreement between Metrolinx and TTC dated November 28, 2012.

“**Metrolinx Commitment**” means an activity identified as a Metrolinx Commitment in the Project Plan or any applicable Change Order.

“**Metrolinx Commitment Target Date**” means, in respect of a Metrolinx Commitment, the target date for the completion by Metrolinx of the Metrolinx Commitment specified in the Project Plan or as otherwise agreed by the Parties.

“**Network Demarcation Point**” means a physical access location of a Bell (or other telecommunications provider) network connection on TTC premises, as more particularly set out in Schedule 2.1(c) (RASCI for Civil Works Requirements).

“**Performance Requirements**” has the meaning ascribed thereto in the Operational Services Agreement.

“**Power Demarcation Point**” means physical location of an electrical power connection on TTC premises, as more particularly set out in Schedule 2.1(c) (RASCI for Civil Works Requirements).

“**Project Governance Schedule**” means Schedule 5.4 (Joint Executive Committee), attached hereto.

“**Project Management Agreement**” means this Project Management Agreement between Metrolinx and TTC.

“**Project Plan**” has the meaning ascribed to it in the Master Agreement.

“**RASCI for PRESTO System Development**” means the matrix attached hereto at Schedule 2.1(b), setting out the roles and responsibilities of the Parties relating to the development of

PRESTO NG, where for each activity stated, both TTC and Metrolinx roles are defined on the basis of the applicable party being responsible, accountable, support, consulted, or informed.

“**RASCI for Civil Works Requirements**” means the matrix attached hereto at Schedule 2.1(c), setting out the roles and responsibilities of the Parties relating to civil works, where for each activity stated, both TTC and Metrolinx roles are defined on the basis of the applicable party being responsible, accountable, support, consulted, or informed.

“**TTC Dependency**” means an activity identified as a TTC Dependency in the Project Plan or any applicable Change Order.

“**TTC Dependency Target Date**” means, in respect of a TTC Dependency, the target date for the completion by TTC of the TTC Dependency specified in the Project Plan.

“**TTC Premises**” means the TTC owned, leased or contracted for properties where PRESTO Equipment and Services are located or to which Metrolinx otherwise requires access in order to perform the Implementation Services. TTC Premises includes transit vehicles (e.g. buses, streetcars, light rail vehicles, rapid transit vehicles and subway cars, and other vehicles performing services to TTC under contract) used by the TTC within the TTC Transit System.

SCHEDULE 2.1(B)
RASCI FOR PRESTO SYSTEM DEVELOPMENT

Roles and Responsibilities for PRESTO System Development

Definitions

For the purposes of this Schedule 2.1(b), the following definitions are used. The roles and responsibilities have been cast in a standard RASCI notation where for each activity stated, both TTC and PRESTO roles are defined. Specifically the following Role definitions are used:

Role	Description
Responsible	The Party that is identified as being responsible shall carry out the work/activity.
Accountable	The Party that is identified as being accountable shall delegate the work to the party that is identified as being Responsible but shall remain Accountable for the correct and thorough completion of the activity.
Consulted	The Party that is identified as being consulted must be consulted before a decision is taken. Consultation is a two way conversation but the consent of the Consulted Party is not required.
Informed	The Party that is identified as being informed must be updated on progress of an activity. This is a one way conversation and the consent of the Informed Party is not required.
Support	The Party that is identified as supporting the activity is to be involved, in some capacity in the activity. The degree of involvement will be mutually agreed upon by all Parties. Support includes both Consulted and Informed.
Mutual Agreement	Where an activity is said to require Mutual Agreement, the Parties involved (TTC and PRESTO) must agree on the result of the activity and agree to proceed to the next step (i.e. it represents a gate in the process). Mutual Agreement must be documented.
Sign Off	Where an activity is said to require Sign-Off, an Acceptance/Approval of a completed (end state) activity or deliverable is required from the Party having Sign Off authority. Sign Off must be documented.

In addition the following definitions are used for the purposes of this Schedule 2.1(b):

Business Transformation

The fundamental change to the way a business operates, whether that be pursuing new service and or sales channels or operating in a new way. This approach attempts to align

an organization's activities relating to people, process and technology more closely with its business strategy and vision towards achieving significant and fundamental change. This fundamental change aims to meet long-term objectives.

Commissioning Test

A pre-launch test performed at the time of delivery or installation of the product/system to ensure the related business requirements and design criteria are met (ie financial reconciliation, reporting, operation, managed service requirements, engineering and safety specifications, etc). A test to confirm operational readiness and acceptance of the product/system.

Component Testing

Component testing is a method by which individual components which represent the smallest testable units and/or Configurable Items, are tested to determine if they are fit for use and meet key integration, business needs and usability objectives.

Conceptual Design

A design step that ensures that:

- the initial design direction or Solution Option maps to the business goals and user needs;
- reviews the design for alignment with broader initiatives and possible integration with other product designs; and
- will establish the parameters for Preliminary Design.

In this design step:

- Requirements are identified and reviewed with main interfaces
- All design issues pertinent to establishing the functional baseline are resolved.
- Document design and technical approach. Demonstrate how the system design optimally satisfies the requirements and design constraints
- Design criteria for establishing limits for acceptability are identified.

Analyses shall be provided to establish that the system design is feasible and meets established design criteria:

- Design must be constructible. A concept for system assembly, installation, and testing is required.
- Operational requirements and system level requirements are documented
-
- Potential environmental and safety hazards during assembly, installation, testing, operation, and decommissioning are identified and mitigated where possible.
- Provide resource loaded schedule and cost estimate.
- Provide estimates of contingency required
- Identify areas of significant risk and develop mitigation plan

Conceptual Design Review

The review of all aspects of the Conceptual Design.

Conceptual Design Solution

Has the same meaning as Conceptual Design.

Configurable Item

A structural unit of Hardware or Software component(s) or an aggregate of both.

Defect Management

The process of recognizing, investigating, taking action and disposing of defects (resulting from poor design or manufacture hindering its usability for the purpose it was intended). This process involves recording defects, classifying and correcting them and identifying their impact.

Deficiency List

A detailed list, with descriptions, of categorized (type, severity) deficiencies, whereby the solution does not satisfy intended business requirement(s).

Design Baseline

The aggregate of all Preliminary Design Solutions.

Detailed Design

Has the same meaning as Final Design.

Detailed Design Solution

Has the same meaning as Detailed Design.

Device Commissioning / Installation Tests

Verification of the installation of the PRESTO devices and infrastructure is properly installed, correctly interfaced with other facilities and is in conformity to the specifications.

Device Qualification Testing

DQT

Validation that the prototype device hardware meets or exceeds the device requirements. DQT validates the design of the prototype for CSA compliance, ODA compliance, mechanical, electromagnetic and environmental compliance, Man Machine Interface (MMI), usability and audit of the physical configuration.

Early Integration Tests

Initial testing of all integration points in the end-to-end system and the main functional areas for early detection of defects and deficiencies versus specifications and requirements.

End User Experience

All aspects of the Customers interaction and experience with the Hardware, Software, service or process.

Field Trial

Means the testing of the PRESTO NG System for functionality, reliability, availability, maintainability, and accuracy, in order to evaluate the performance of all maintenance, revenue servicing, operating and Customer support operations to which it was intended to be used. The Field Trial is conducted on the live, production PRESTO NG System for TTC using a limited number of participants, vehicles or facilities.

Final Design

A design step conducted after Preliminary Design Review acceptance. Final Design is the final step in the design process ahead of procurement, installation and construction. This step will:

- Verify of manufacturing and production processes.
- Schedule for product acquisition
- Produce documentation (specifications and drawings) required for product acquisition is complete.
- Develop product specifications which define requirements and required verifications. Product specifications are ready for approval
- Produce documentation (specifications and drawings) required for product acquisition is complete
- Resolve all design issues from previous reviews

Final Design Review

The review of the Final Design.

First Article Configuration Inspection

FACI

Testing of a pre-production sample to determine if the product meets acceptance and quality control requirements in order to ensure all engineering, design and specification requirements are verified and recorded. FACI defects are identified, recorded and resolved.

Hardware First Article Test

HW FAT

Tests that validate that the first manufactured production hardware meets or exceeds the device requirements (mechanical, Electromagnetic Compatibility (EMC) and environment tests), appropriate certifications have been granted (CSA, cUL) and that FACI defects have been resolved.

Integration and Interface Test

I&IT

Testing involving the combination if individual components or system elements and testing as a combined group. Verifies that each element (devices, central system functionality, internal and external interfaces, devices, web components) of the PRESTO NG system work together as defined in the design.

Key Performance Indicator KPI

A measurable business objective or value that is used to assess the performance of a System/service. This may be measured in terms of making progress towards a strategic goals, the repeated achievement of some level of an operational goal.

Operational Readiness Tests

ORT

Tests on production PRESTO NG System Hardware, Software, Systems/services that verify the functionality of the operational procedures, business processes, PRESTO/TTC interconnections, tools, etc before live Field Trials or operational use.

Performance Level

The measured performance of a System/service based on a Key Performance Indicator. The Performance Level gives the percentage to which a KPI is achieved.

Performance Management Process

Process to ensure performance (System/service) levels are identified, managed, monitored, maintained, reported, tracked, adjusted and rectified.

Performance Tests

Tests on the production PRESTO NG System (i.e. all Hardware, Software, processes, services) to validate Performance Levels and stability of the system is achieved.

Physical Configuration Audit

Formal examination that the as built Configurable Item matches the design of the Configurable Item. Specifically, mechanical, electronic, Man-Machine-Interface (MMI) and other technology related aspects are verified.

Pre-Integration Testing

Initial testing of the system interfaces for early detection of defects and deficiencies measured against specifications and requirements.

Preliminary Design

PD

A design step conducted after Conceptual Design Review acceptance. Preliminary Design will focus on:

- the evaluation of the progress, consistency, and technical adequacy of the selected top-level design and test approach;
- compatibility between software requirements and preliminary design;
- the preliminary version of the operation and support documents; and,
- will establish the parameters for Final Design.

In this step:

- Interfaces are completely defined.
- All design issues from previous reviews resolved
- Document design approach. Demonstrate how the design optimally satisfies the requirements and design constraints
- Design must be manufacturable. Evidence (if necessary) from manufacturing R&D activities or relevant experience must be provided to establish that the design is manufacturable.
- Design must be constructible. A documented plan for subsystem assembly, installation, and testing is required.
- Design should be optimized for reliability and maintainability through systematic evaluation of design options and application of sound engineering design principles
- Potential environmental and safety hazards during assembly, installation, testing, operation, and decommissioning need to be identified and mitigated where possible.

Preliminary Design Review

PDR

The review of all aspects of the Preliminary Design.

Preliminary Design Solution

Has the same meaning as Preliminary Design.

Production Inspection Tests

PIT

For each stage of the manufacturing process PIT validates:

- devices meet their intended purpose,
- devices that are produced contain the correct materials,
- devices are assembled and function in accordance with the specifications
- The required level of quality is reached at each stage of the manufacturing process, reflecting the methods and the techniques used to produce each part of the device
- each device is produced with the same level of quality as the first articles produced

Prototype Test

The testing of PRESTO NG System Hardware and Software on a single vehicle model or subway turnstile model before installation on additional vehicles or turnstiles of the same type.

Quality Assurance

QA

A structural, systematic plan of activities that, upon completion, will provide a level of confidence and assurance that the product or work being performed conforms to TTC Business Requirements and other applicable standards, codes, laws, and guidelines.

Quality Control

QC

The activities required by a Quality Assurance plan that are intended to confirm the status of a deliverable compared to TTC Business Requirements.

Request For Proposal

RFP

A solicitation made through a bidding process by an organization interested in procurement of Hardware, Software, services or Systems.

Service and Repair Testing

SRT

The testing of a Test Component for servicing and repair.

Software First Article Test

Tests that validate that device software and MMI meet functional, performance, cycling, maintainability and human factors objectives.

Solution Option

A high level design solution developed before Conceptual Design that is intended to satisfy business requirements and includes sufficient functional and technical detail in order to make an informed decision on whether or not to proceed with additional design of the option.

System Factory Acceptance Tests

Tests that validate PRESTO System services and processes. This testing is conducted before the product is shipped or delivered from the supplier.

Test Component

Has the same meaning as Configurable Item.

Traceability

The process of correlating a Business Requirement to PRESTO NG System design solution. Traceability is normally captured and represented in a Traceability matrix document.

TTC Acceptance

Acceptance, agreement and Sign Off by the TTC that the PRESTO NG System or part thereof satisfies the applicable Business Requirements.

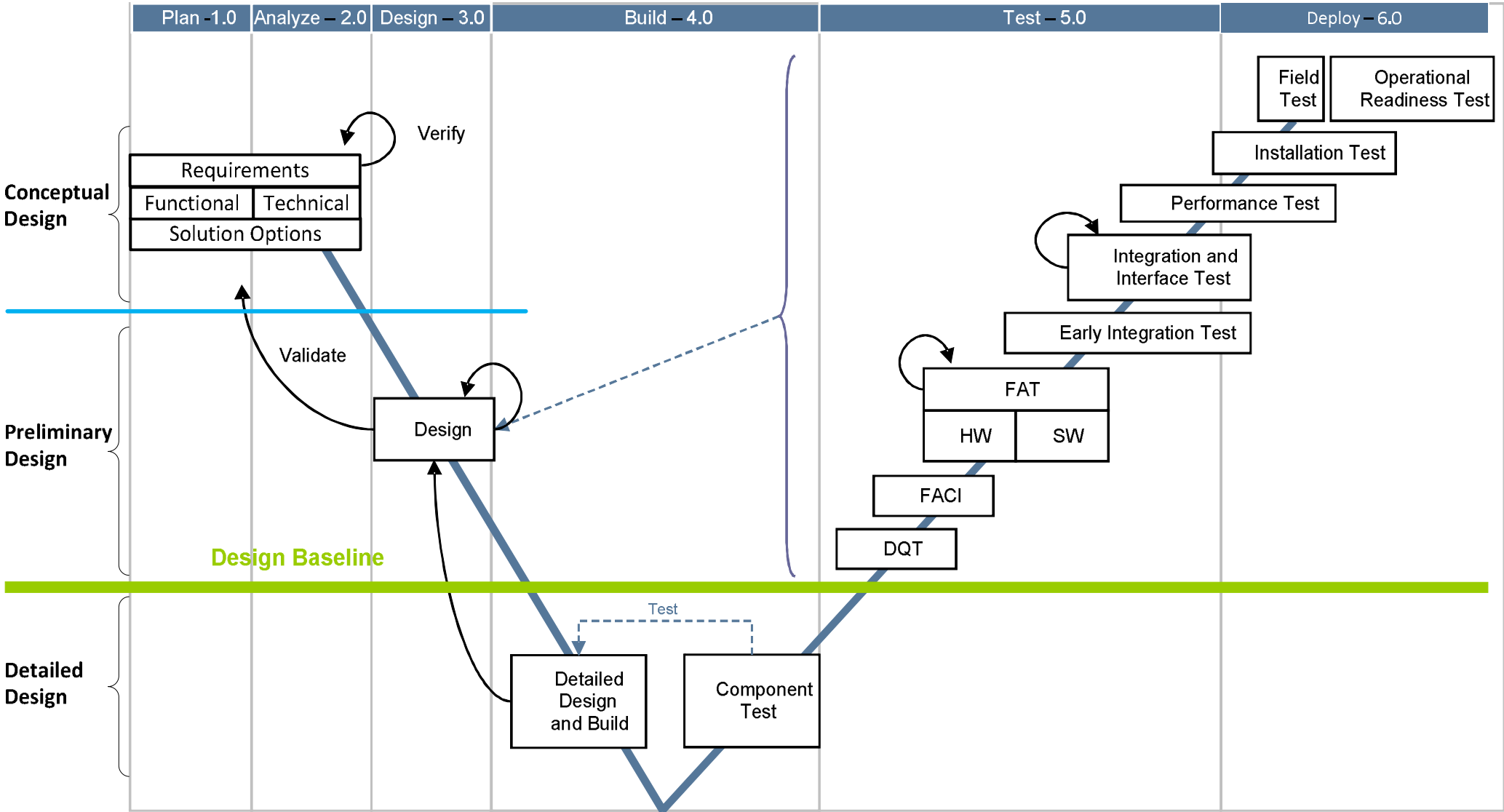
User Acceptance Tests

Formal testing with respect to Customer needs, requirements and business processes conducted to determine whether or not a System satisfies the acceptance criteria and to enable the user, customers or authorized entity to determine whether or not to accept the system.

V-Design

A PRESTO NG System development process comprising of a sequence of steps to plan, analyze, design, build, test and deploy the PRESTO NG System. In particular, the V-Design process specifies various design phases followed by a build, test and deployment phases

PRESTO System Design Process



RASCI for the PRESTO System Design Process

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
PLAN - 1.0					
Program Planⁱ					
1.1	Development of Project Plan	Responsible, Accountable	Consulted, Informed		Timing for the Development and Acceptance of this plan to be outlined in the Master Agreement.
1.2	Project Plan Acceptance			✓	
1.3	Execution of Project Plan	Responsible, Accountable	Support		
1.4	Project Plan Deliverables (installations, deployment etc. as per plan with TTC to support Plan / PRESTO requirements) ⁱⁱ .	Responsible, Accountable	Support		
1.5	Definition and setting of Project Milestones and Deliverables			✓	
1.6	Develop Release Management Plan ⁱⁱⁱ	Responsible, Accountable	Consulted, Informed		Each Release of the PRESTO System subject to the PRESTO System Design process as outlined in this document (i.e. Design, Test, Build, Deploy) ^{iv} .
1.7	TTC Acceptance of Release Management Plan			✓	Release Management Plan, timing etc. will have impact on TTC operations and Customers.
1.8	Develop Test Plan	Responsible, Accountable	Support		
1.9	Test Plan Acceptance			✓	
1.10	Develop Deployment Plan	Responsible, Accountable	Consulted, Informed		
1.11	Deployment Plan Acceptance			✓	
Procurement^v					
1.12	Development and execution of a fair and equitable procurement	Responsible, Accountable	Informed		PRESTO is responsible for the development of an open and auditable procurement process for all <i>equipment /networks /systems</i> and <i>services</i> required for the PRESTO System at TTC. Note that multiple procurement processes may be undertaken.
1.13	Establishment of procurement evaluation criteria, weighting,	Responsible,	Consulted,		PRESTO is fully responsible and accountable for all RFP responses.

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
	and evaluation	Accountable	Informed		TTC is a member of the procurement evaluation team.
1.14	Development of all procurement documents (e.g. RFP package, requirements, specifications etc.)	Responsible, Accountable	Support		PRESTO is fully responsible for all procurement documents. TTC will verify system design, performance etc. against TTC Business Requirements.
1.15	Burden of proof , and the ability to withstand scrutiny, against Public Sector procurement practices (e.g. fair, open, auditable).	Responsible, Accountable	Informed		
1.16	Costs and risks associated with managing supply arrangements.	Responsible, Accountable	Informed		
1.17	Financial and legal liabilities associated with operating the supply arrangement and with any service disruptions caused by suppliers.	Responsible, Accountable	Informed, Consulted		TTC informed of potential service interrupts and in general when any potential impact to operations is expected. TTC to assist in developing KPI's and SLA`s associated with the supply arrangement.
1.18	PRESTO bears the schedule risk associated with deliveries tasked to suppliers.	Responsible, Accountable	Informed		
1.19	Changes to TTC Business Requirements as a result of conducting the procurement process.	Consulted, Informed	Responsible, Accountable		
1.20	Mutual Agreement of changes to TTC Business Requirements as a result of conducting the procurement process.			✓	
1.21	RFP Evaluation	Responsible, Accountable	Informed, Consulted		
1.22	Acceptance of RFP Evaluation			✓	
1.23	Contract Award	Responsible, Accountable	Informed		
ANALYZE - 2.0					
2.1	Develop TTC Business Requirements	Informed	Responsible, Accountable		TTC is fully responsible for developing TTC Business Requirements and concept of operations
2.2	Review/Understand TTC Business Requirements including Concept of Operations	Responsible, Accountable	Informed, Consulted		PRESTO is responsible for reviewing and understanding all TTC Business Requirements and TTC Concept of Operations
2.3	Clarification of TTC Business Requirements	Consulted,	Responsible,		TTC is responsible for clarification of TTC Business Requirements

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
		Support	Accountable		
2.4	Produce 'Clarified' TTC Business Requirements	Informed, Consulted	Responsible, Accountable		TTC is responsible for producing all 'clarified' TTC Business Requirements.
2.5	Categorize TTC Business Requirements into PRESTO Logical Areas (PLA)	Responsible, Accountable	Informed, Consulted		PRESTO is responsible for classification of TTC Business Requirements into PLAs for inclusion into the PRESTO Design Process.
2.6	Sign-Off of TTC Business Requirements	Informed	Responsible, Accountable		TTC has sign-off on all TTC Business Requirements
2.7	Inclusion of TTC Business Requirements into the PRESTO Design Process	Responsible, Accountable	Informed, Consulted		PRESTO is responsible for inclusion of TTC Business Requirements into the PRESTO Design Process (e.g. requirements for hardware, software, performance, user acceptance etc.).
2.8	Business Transformation Process	Support	Accountable, Responsible		PRESTO supports TTC Business Transformation to the PRESTO System
2.9	Agreement on Business Transformation Process			✓	
2.10	Development of a Performance Management Process	Responsible, Accountable	Support	✓	Process to ensure performance (service) levels are managed, monitored, maintained, reported, tracked, calculated, adjusted and rectified.
2.11	Agreement of Performance Management Process			✓	
2.12	Agreement on Performance Levels			✓	Defined Key Performance Indicators for the PRESTO System.
2.13	PRESTO System review	Responsible, Accountable	Consulted, Informed		PRESTO conducts a review of the TTC Business Requirements with respect to: <ul style="list-style-type: none"> - Impacts to the current PRESTO System and its participants; - Service introduction impacts; - Civil works dependencies; - System Architecture; - Procurement of devices / services / systems
2.14	Solution Option Planning to meet TTC Business Requirements <ul style="list-style-type: none"> - Identification of Solutions; 	Responsible, Accountable	Consulted, Informed		TTC to be Consulted and Informed during PRESTO Solution Planning to ensure that Solution Options continue to address TTC

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
	<ul style="list-style-type: none"> - Options; - Constraints; - Operating Impacts; and - Customer Usage Impacts 				operational, policy, customer, and financial needs.
2.15	Develop Solution Options	Responsible, Accountable	Support		Solution Options are designs that include a Concept of Operation (for the solution) that comply to TTC Business Requirements.
2.16	Solution Options Validation and Traceability	Responsible, Accountable	Consulted, Informed		PRESTO to Validate the Solution Options against TTC Business Requirements. Note that the Solution Option selected will need to meet TTC Business needs.
2.17	Selection of Solution Option			✓	PRESTO and TTC to mutually agree on a Solution Option.
2.18	Develop Conceptual Design of selected Solution	Responsible, Accountable	Consulted, Informed		The selected Solution Option is developed as a Conceptual Design.
2.19	Prototyping – determination of the hardware installation (location, wiring, setup).	Responsible, Accountable	Support		Determination of the hardware installation (location, wiring, setup, etc.) is part of the design process.
2.20	Conceptual Design Validation and Traceability	Responsible, Accountable	Consulted, Informed		PRESTO develops and maintains overall Traceability Matrix which includes the Traceability Matrices developed for the selected Solution Option and Conceptual Solutions.
2.21	Conceptual Design End User Experience/Feedback	Responsible, Accountable	Responsible		Conceptual Design End User Experience/Feedback allows internal and external customer groups to weigh in on the specification and design of the system ahead of development and testing.
2.22	Acceptance of Conceptual Design End User Experience/Feedback			✓	PRESTO and TTC agree on Conceptual Design End User Experience and Feedback and that the knowledge gained is reflected in the system specifications and design.

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
2.23	Acceptance of Conceptual Design (CDR)			✓	The process of accepting the Conceptual Design is the Conceptual Design Review. Acceptance of the Conceptual Design allows Preliminary Design to proceed.
DESIGN – 3.0					
3.1	Develop Preliminary Design Solution	Responsible, Accountable	Consulted, Informed		TTC is to participate with PRESTO in developing Preliminary Design Solution.
3.2	Preliminary Design Validation and Traceability	Responsible, Accountable	Consulted, Informed		PRESTO to Validate the Preliminary Design against TTC Business Requirements. Traceability Matrix maintained and Updated.
3.3	Acceptance of Preliminary Solution Design (PDR)			✓	PRESTO and TTC to mutually agree on Preliminary Design Solution
3.4	Acceptance of Overall Preliminary Traceability Matrix			✓	PRESTO develops and maintains overall Traceability Matrix which includes the Traceability Matrices developed for the Conceptual and Preliminary Solutions
3.5	Early End User Experience/Feedback	Responsible, Accountable	Responsible		TTC to support early end user experience and feedback on interfaces, components, devices.
3.6	Acceptance of Early End User Experience/Feedback			✓	PRESTO and TTC agree on Early End User Experience and Feedback and that the knowledge gained is reflected in the system design and build.
3.7	Establishment of a Design Baseline	Responsible, Accountable	Consulted, Informed		PRESTO is responsible for providing all the necessary designs, documents, deliverables etc. for establishing Design Baseline.
3.8	Acceptance of Design Baseline			✓	Design Baseline is the aggregate of all Preliminary Design Solutions. This constitutes the overall (preliminary) PRESTO System for TTC Design Baseline. Acceptance of the Design Baseline initiates Detailed Design.
BUILD – 4.0					
4.1	Develop of Detailed Design Solution ^{vi}	Responsible, Accountable	Support		Note that this includes software, hardware, systems, processes etc. required for meeting TTC Business Requirements which includes system software
4.2	Prototyping – determination of the hardware installation (location, wiring, setup).	Responsible, Accountable	Support		Finalization of the hardware installation (location, wiring, setup etc.)
4.3	Detailed Design and Build Issue Resolution			✓	Resolutions to issues impacting TTC will be mutually agreed.
4.4	Detailed Design Validation and Traceability	Responsible,	Consulted,		PRESTO to Validate the Detailed Design against TTC Business

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
		Accountable	Informed		Requirements
4.5	Acceptance of Detailed Design Solution (FDR)			✓	PRESTO and TTC to mutually agree on Detailed Design Solution
4.6	Confirmation and Acceptance of Overall Traceability Matrix			✓	PRESTO updates / maintains Traceability Matrix which includes the Traceability Matrices developed for the Conceptual and Preliminary Solutions
4.7	Acceptance of Detailed Design			✓	Detailed Design Baseline is the aggregate of all Detailed Design Solutions. This constitutes the overall detailed design for the PRESTO System at TTC
4.8	Software Development	Responsible, Accountable	Informed		PRESTO is fully responsible for software development
4.9	Component Testing	Responsible, Accountable	Informed, Consulted		Undertaking “Component Testing” to ensure both hardware and software meet key integration, business needs and usability objectives.
4.10	End User Experience/Feedback	Responsible, Accountable	Responsible		Feedback on end user interfaces, components etc. must be mutually agreed on during design.
4.11	Acceptance of End User Experience/Feedback			✓	PRESTO and TTC agree on End User Experience and Feedback and that the knowledge gained is reflected in the system design and build.
4.12	Component Testing Issue Resolution			✓	Any issues found will be reviewed with TTC and a Mutual Agreement will be reached on the course of action.
TEST – 5.0^{vii} ^{viii} ^{ix}					
Device Testing					
5.1	Device Qualification Testing (DQT)	Responsible, Accountable	Support		
5.2	Accessibility Tests	Responsible, Accountable	Support		assesses usability of devices for people with disabilities
5.3	Ergonomic Tests	Responsible, Accountable	Support		tests the use of devices from an employee perspective
5.4	Usability Tests	Responsible, Accountable	Support		tests usability of the devices by the general public
5.5	Physical Configuration Audit (PCA)	Responsible, Accountable	Support		verifying the mechanical and electronic characteristics as well as hardware Man to Machine Interface
5.6	Standards	Responsible, Accountable	Support		verifies that the devices are compliant with CSA and/or cUL principles

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
5.7	Environmental Tests	Responsible, Accountable	Support		includes testing of energy consumption, electromagnetic compatibility, climatic environment (temperature, humidity), mechanical environment (shock, vibration)
5.8	Device Design Baseline Acceptance			✓	Device Design Baseline Acceptance allows testing to proceed to both FAT (Software) and FACI
5.9	First Article Configuration Inspection (FACI)	Responsible, Accountable	Support		
5.10	Physical Configuration Audit (PCA)	Responsible, Accountable	Support		Physical Configuration Audit (PCA) previously run during DQT will be re-executed on the First Article Device (from the manufacturing line) to ensure it meets defined quality objectives (each test will be performed on one device only once if passed): <ul style="list-style-type: none"> - Mechanical characteristics - Electronic characteristics - Hardware MMI
5.11	FACI Approval			✓	FACI Approval allows First Article Test to proceed.
5.12	Hardware First Article Test (HW FAT)	Responsible, Accountable	Support		Tests that the industrialization process has not degraded the hardware characteristics of the device design measured during DQT.
5.13	Environmental Tests	Responsible, Accountable	Support		environmental tests previously run during DQT will be re-executed on the First Article to ensure it meets defined quality objectives (each test will be performed on one device only once if passed): <ul style="list-style-type: none"> - Environmental - Electromagnetic Compatibility - Climatic Environment
5.14	CSA and or cUL Standards	Responsible, Accountable	Support		CSA and/or cUL “plant” or “factory” certification shall be granted
5.15	HW FAT Acceptance - Production GO			✓	HW-FAT Acceptance allows Hardware production to start
5.16	Software First Article Test (SW FAT)	Responsible, Accountable	Support		Tests the device software and MMI to ensure functionality, performance, cycling, maintainability and human factors quality objectives are achieved.
5.17	Functional	Responsible, Accountable	Support		Tests the functionality of the devices based on use cases designed
5.18	Performance	Responsible, Accountable	Support		Test the devices with regard to transaction times, throughput and performance measures as specified by TTC BR.

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
5.19	Cycling	Responsible, Accountable	Support		Test the robustness and the reliability of the devices
5.20	Maintainability	Responsible, Accountable	Support		Tests the devices against their defined maintenance procedures
5.21	Human Factors	Responsible, Accountable	Support		Test the customer-operated devices from an Accessibility and Usability perspective
5.22	SW FAT Acceptance			✓	SW FAT Acceptance signifies that the device software is complete; however allows for regression testing.
5.23	Production Inspection Tests (PIT)	Responsible, Accountable	Support		PIT verifies that the: <ul style="list-style-type: none"> - devices that are produced contain the correct materials, - are assembled and function in accordance with the specifications - The required level of quality is reached at each stage of the manufacturing process, reflecting the methods and the techniques used to produce each part of the device - Each unit is produced with the same level of level of quality as the first articles produced
System Testing					
5.24	Product Testing of PRESTO System Central Services	Responsible, Accountable	Support		PRESTO Central System services (e.g. reporting, monitoring, reconciliation etc.) constitute an important part of the PRESTO System at TTC
5.25	Acceptance of PRESTO System Central Service Testing			✓	TTC and PRESTO agree that the PRESTO System Central Services have passed testing.
5.26	Pre-Integration Testing	Responsible, Accountable	Support		Unit testing of all interfaces
5.27	Early Integration Test (EIT)	Responsible, Accountable	Support		Test all system integration points as well as the main functional areas to uncover critical errors early prior to Integration and Interface Testing. This is the first time new components are integrated into the system.
5.28	System Factory Acceptance Test (SFAT) on a predefined scope	Responsible, Accountable	Support		SFAT for the PRESTO System Central Services is conducted on a predefined scope.
5.29	Acceptance of SFAT			✓	TTC and PRESTO agree that SFAT has passed testing.

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
5.30	Integration and Interface Test (I&IT)	Responsible, Accountable	Support		End to end test of the integrated PRESTO system for TTC. Note that this includes all end to end components, services, devices as well as any third part service/device/interface required by the system.
5.31	I&IT Acceptance			✓	
5.32	Develop, Plan and Prepare UAT Test Cases	Support	Responsible, Accountable		TTC is responsible and accountable for UAT Test Cases. PRESTO will provide support
5.33	Conducting/ Execute User Acceptance Testing (UAT)	Accountable	Responsible		
5.34	Defect Management of UAT	Responsible, Accountable	Support		
5.35	Acceptance of UAT results			✓	The test acceptance includes the mutual agreement to proceed given a set of outstanding deficiencies and that these deficiencies will be fixed in a subsequent release.
DEPLOY – 6.0					
Pre-Go Live					
6.1	Installation of PRESTO Equipment within TTC transit network	Responsible, Accountable	Support		As per Deployment Plan
6.2	Performance Test of Integrated PRESTO System	Responsible, Accountable	Support		Performed in production environment.
6.3	Acceptance of Performance Test results			✓	
6.4	Prototype Test by mode of transit (LRV, Subway, Bus)	Responsible, Accountable	Support		Testing of the PRESTO System hardware and software on each vehicle type ^x and subway is required before field trials are initiated.
6.5	Acceptance of Prototype Test			✓	
6.6	Device Commissioning / Installation Testing	Responsible, Accountable	Support		Verify that the equipment is properly installed, correctly interfaced with other facilities and is in conformity to the specifications.
6.7	Acceptance of Device Commissioning / Installation Testing			✓	
6.8	Operational Readiness Testing	Responsible, Accountable	Support		Performed in production environment. Operational procedures, business processes, PRESTO/TTC interactions(e.g. reconciliation, backup, monitoring etc.)
6.9	Acceptance of Operational Readiness			✓	
6.10	Design of Field Trials ^{xi}	Responsible, Accountable	Support		
6.11	Acceptance of Field Trials Design			✓	

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
6.12	Field Trials	Responsible, Accountable	Support		PRESTO is responsible for conducting field trials after all installation tests have been completed and accepted. This includes addressing any and all defects found during previous tests.
6.13	Address any deficiencies found from Field Trials	Responsible, Accountable	Support		
6.14	Acceptance of Field Trial Success			✓	Final Acceptance of the end to end production system before Go Live
6.15	Design of Commissioning Test	Responsible, Accountable	Support		
6.16	Acceptance of Commission Test Design			✓	
6.17	Commission Testing	Responsible, Accountable	Support		Post-public launch design to ensure financial reconciliation, reporting, operation and managed service requirements are met
6.18	Address any deficiencies found from Commission Testing	Responsible, Accountable	Support		
6.19	Acceptance of Commissioning Test			✓	
6.20	TTC Acceptance	Informed	TTC Sign-Off		Final Acceptance of the system TTC “signoff” on services provided by PRESTO within a “mutually agreed” timeframe

ⁱ Program Plan and all the deliverables are iterative plans.

ⁱⁱ Determination that project milestones and deliverables have been met will be Mutually Agreed during the design process.

ⁱⁱⁱ For all major release /changes to the PRESTO System, PRESTO will include a Training Plan as part of the Release.

^{iv} The System Design process is followed for the first release as well as all subsequent releases. It is understood that PRESTO will develop a thorough and comprehensive conceptual design for the PRESTO System at TTC during the first release design cycle.

^v Feedback to TTC from the PRESTO procurement process can also take place during the design process (i.e. conceptual, preliminary and detailed design). It is the responsibility of PRESTO to provide this feedback to TTC in a timely manner. As per PRESTO’s current Procurement Process (as communicated to TTC), the initial phase will select a vendor only. Subsequent procurement phases will occur during system design and will involve detailed vendor negotiations and confirmation.

^{vi} Detailed (Final Design) occurs after Design Baseline.

^{vii} As per the V- Design, process, issues, defects, errors, etc. found during testing may require re-design, and will require re-testing. Re-design and testing will follow the steps outlined in this document.

^{viii} TTC to provide resources for Testing. TTC and PRESTO to Mutually Agree on number of resources, time and effort required from TTC.

^{ix} Each Test phase follows the RASCI for Test Phase.

^x For example, each bus type used by TTC.

^{xi} Field trial testing will take into consideration the various modes of transportation and customer flows between those modes.

RASCI for each Test Phase^{xii}

ID	Test Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
A.	Develop Test Approach	Responsible, Accountable	Support		<input type="checkbox"/> Outline test scope and objectives <input type="checkbox"/> Confirm test risks <input type="checkbox"/> Confirm test metrics <input type="checkbox"/> Establish and confirm entry/exit criteria
B.	Plan Test	Responsible, Accountable	Support		<input type="checkbox"/> Identify test scenarios and expected results <input type="checkbox"/> Confirm mapping of test cases to design <input type="checkbox"/> Confirm mapping of test scenarios to test procedures and components
C.	Prepare Test	Responsible, Accountable	Support		<input type="checkbox"/> Develop detailed test procedures <input type="checkbox"/> Define and Create Test Data <input type="checkbox"/> Define expected results <input type="checkbox"/> Track metrics
D.	Execute Test	Responsible, Accountable	Support		<input type="checkbox"/> Determine Actual Test Results <input type="checkbox"/> Log Defects <input type="checkbox"/> Track Metrics
E.	Defect Management	Responsible, Accountable	Support		<input type="checkbox"/> Defect Triage <input type="checkbox"/> Defect Resolution <input type="checkbox"/> Retesting for Defect Closure
F.	Mutual Agreement to proceed given a set of outstanding deficiencies and that these deficiencies will be fixed in a subsequent release.			✓	

^{xii}User Acceptance Testing (UAT) is not covered by the RASCI for each Test Phase. UAT roles and responsibilities are outlined in the RASCI for PRESTO Design.

**SCHEDULE 2.1(C)
CIVIL WORKS REQUIREMENTS**

Roles and Responsibilities for PRESTO Site Civil Works

Definitions

For the purposes of this Schedule 2.1(c), the following definitions are used. The roles and responsibilities have been cast in a standard RASCI notation where for each activity stated, both TTC and PRESTO roles are defined. Specifically the following Role definitions are used:

Role	Description
Responsible	The Party that is identified as being responsible shall carry out the work/activity.
Accountable	The Party that is identified as being accountable shall delegate the work to the party that is identified as being Responsible but shall remain Accountable for the correct and thorough completion of the activity.
Consulted	The Party that is identified as being consulted must be consulted before a decision is taken. Consultation is a two way conversation but the consent of the Consulted Party is not required.
Informed	The Party that is identified as being informed must be updated on progress of an activity. This is a one way conversation and the consent of the Informed Party is not required.
Support	The Party that is identified as supporting the activity is to be involved, in some capacity in the activity. The degree of involvement will be mutually agreed upon by all Parties. Support includes both Consulted and Informed.
Mutual Agreement	Where an activity is said to require Mutual Agreement, the Parties involved (TTC and PRESTO) must agree on the result of the activity and agree to proceed to the next step (i.e. it represents a gate in the process). Mutual Agreement must be documented.
Sign Off	Where an activity is said to require Sign-Off, an Acceptance/Approval of a completed (end state) activity or deliverable is required from the Party having Sign Off authority. Sign Off must be documented.

RASCI for the PRESTO Site Civil Works Process

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
Planning and Design					
1.1	Civil Works Template Development	Responsible, Accountable	Support		Development of common document format
1.2	Acceptance of Civil Works Template			✓	
1.3	Project Plan Development	Responsible, Accountable	Support		
1.4	Acceptance of Project Plan			✓	
1.5	Integrated Project Plan Updates	Responsible, Accountable	Support		
1.6	Site Layout Drawings (subway stations, garages and carhouses)	Informed	Responsible, Accountable		Farecard Team to request TTC Site Layout Drawings as currently available (NOT As-Built Drawings) from Engineering and forward these drawings to PRESTO.
1.7	Develop Master Safety Plan	Responsible, Accountable	Support		One document for subway stations, one for bus garages, one for carhouses, one for on-street sites.
1.8	Acceptance of Final Master Safety Plan		Sign-off		
1.9	Develop Master Design Documents	Responsible, Accountable	Support		One document for subway stations, one for bus garages, one for carhouses, one for on-street sites.
1.10	Acceptance of Final Master Design Documents		Sign-off		
Site Assessment					
1.11	Co-ordinate Preliminary Site Visits (subway, garages, carhouses, on-street sites) for devices and concentrator complex locations.	Support, Accountable	Responsible		
1.12	Create Device Location Package (subway stations, garages and carhouses)	Responsible, Accountable	Support		One document for each location specifying the location of PRESTO equipment
1.13	Acceptance of Final Device Location Package (subway		Sign-off		

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
	stations, garages and carhouses)				
1.14	Co-ordinate Electrical and Communications Site Visits for subway, garages, and carhouses for network and power conduit locations	Support, Accountable	Responsible		
1.15	Documentation of constraints and assumptions of Electrical & Communications site visits at subways, garages, and carhouses.	Responsible Accountable	Support		
1.16	Acceptance of documentation & assumptions of Electrical & Communications site visits at subways, garages, and carhouses.			✓	Email confirmation
1.17	Co-ordinate Electrical and Device Location Site Visits for on-street sites.	Support, Accountable	Responsible		
1.18	Create Design drawing for on street device locations.	Support	Responsible , Accountable		Includes location of electrical placement
1.19	Acceptance of Final Design drawings for on-street device locations.			✓	One drawing for each on-street site specifying the location of device and electrical demarks at the base
Pre-Installation					
1.20	Arrange appropriate city work permits	Responsible, Accountable	Support		Could be required on TTC sites for certain types of work.
1.21	Provide PRESTO contractors (e.g. Telus, Bell etc.) access to site / communications rooms	Accountable	Responsible		
1.22	Provide required TTC personnel to support the civil work activity	Informed	Responsible , Accountable		Supervisors, Safety Inspector, Mechanic
1.23	Provide required PRESTO/contractor personnel to support the civil work activity	Responsible, Accountable	Informed		Supervisory, design, installation personnel
1.24	Provide access to TTC building infrastructure	Informed	Responsible ,		

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
			Accountable		
1.25	Obtain City of Toronto approvals for device location and electrical placement at on-street sites	Informed, Accountable	Responsible		
1.26	Obtain City of Toronto approvals as necessary (e.g. on-street) for site design documents	Responsible Accountable	Support		
1.27	PRESTO Contractor Training	Accountable	Responsible		TTC to ensure timely enrolment of all PRESTO resources into the required training courses. PRESTO resources will attend required training courses.
1.28	Site Design Documents	Responsible, Accountable	Support		One document for subways, garages, carhouses and on-street sites. Contains details for installation and equipment certification
1.29	Acceptance of Final Site Design Documents		Sign-off		
1.30	TTC to provide notice to proceed with construction	Informed, Accountable	Responsible		
Installation and Construction					
1.31	Provide electrical power source for PRESTO device/network infrastructure within subway stations, carhouses and garages.	Consulted	Responsible , Accountable		TTC to ensure that sufficient electrical power supply is provided for PRESTO devices/network infrastructure at each location. A single demarcation point (usually in electrical service utility room) will be provided for each subway station, garage and carhouse.
1.32	Provide electrical power source to location of on-street SRVM.	Consulted	Responsible , Accountable		
1.33	Drilling and modifying surfaces (e.g. walls/ground/sidewalks) for installation of on-street PRESTO equipment as required	Responsible, Accountable	Support		
1.34	Drilling and modifying surfaces (walls/floors) for installation in subway stations, garages and carhouses as required	Responsible, Accountable	Support		
1.35	Install conduit for a clear point-to-point cabling path in subway stations, garages and carhouses.	Responsible,	Support		Applies to power and data cable (fibre or CAT5e/Cat6)

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
		Accountable			
1.36	Install conduit for a clear point-to-point cabling path for on-street sites electrical power.	Support	Responsible , Accountable		
1.37	Installation of Cabinets (Racks and/or NEMA enclosures) for bus garages, carhouses, subway stations.	Responsible, Accountable	Support		
1.38	Designated Substance Survey (DSS)	Support	Responsible , Accountable		Accenture subcontractor will work in conjunction with TTC “Hygiene” group on DSS
1.39	Concrete scanning and testing in subway stations, garages and carhouses.	Responsible, Accountable	Support		Utility locates and scans are performed before construction can take place.
1.40	Ceiling tile removal and reinstallation	Consulted	Responsible , Accountable		Minimum of 3 weeks’ notice is required.
1.41	Removal/Relocation of TTC equipment including legacy fare equipment	Support, Accountable	Responsible		e.g. TVMs, PVMs, garbage, signs etc.
Pulling Cables					
1.42	Power (acceptable power panel to devices) at subway stations, garages and carhouses.	Responsible, Accountable	Support		Procure and install (note: as per requirements: PRESTO will use power from turnstiles for Reader Devices)
1.43	Power (acceptable power supply to devices) at on-street sites.	Support	Responsible , Accountable		Procure and install
1.44	Network (RJ11, RJ45 or Fibre) at subway stations, garages and carhouses.	Responsible, Accountable	Support		Procure and install
1.45	Network at on-street sites.	Responsible, Accountable	Support		Procure and install. Assume that network will be wireless.

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
1.46	Patch Cables (including network and fibre patch cables) at subway stations, garages and carhouses.	Responsible, Accountable	Support		Required where a patch panel exists (fibre & network) as well as where fibre transceivers are located.
Cable Termination					
1.47	Termination of network cable (both ends, rack to rack)	Responsible, Accountable	Support		
1.48	Termination of network RJ11 and RJ45 cable (device end)	Responsible, Accountable	Support		
1.49	Termination of network RJ11 and RJ45 cable (network device end)	Responsible, Accountable	Support		
1.50	Termination of fibre cables between Concentrators and fibre transceiver locations.	Responsible, Accountable	Support		
1.51	Termination of power cables to fare devices and supporting equipment	Responsible, Accountable	Support		Performed by certified electrician: termination of power cables to the fare devices
1.52	Termination of power cables to circuit breaker	Consulted	Responsible, Accountable		Performed by certified electrician: termination of power cables to circuit breaker. TTC is also responsible for scheduling and shutting off Power when circuit breaker modifications are required.
Site Readiness Verification					
1.53	Inspection and certification	Responsible, Accountable	Support		
1.54	Validate/Verify that civil works adheres to TTC specifications	Responsible, Accountable	Support		Deficiency list and walkthrough
1.55	Confirm that civil works adheres to TTC specifications		Sign-off		
Infrastructure Equipment Installation					
1.56	Installation of supporting equipment	Responsible, Accountable	Support		
1.57	Infrastructure Commissioning	Responsible, Accountable	Support		Done prior to turning on power to PRESTO supporting equipment
1.58	Testing of network infrastructure	Responsible,			e.g. ping test

ID	Activity	PRESTO Role	TTC Role	Mutual Agreement	Details
		Accountable	Support		
1.59	Provision of As Built Drawings and Documentation	Responsible Accountable	Support		In Microstation and PDF formats
Fare Equipment Installation					
1.60	Installation of PRESTO fare equipment	Responsible, Accountable	Support		
1.61	Installation verification and acceptance testing	Responsible, Accountable	Support		
1.62	Acceptance of Installation and Verification testing		Sign-off		
1.63	Declare ready for revenue service	Responsible, Accountable	Support		

**SCHEDULE 4.1
PROJECT PLAN**

To be developed and inserted pursuant to Section 6.1(b) of this Master Agreement.

SCHEDULE 4.7 TRAINING

Training will be developed and implemented in accordance with the TTC Business Requirements. This Schedule provides an overview of these training requirements and is designed supplement, but not restrict, the TTC Business Requirements.

1. Training Approach

- (a) The delivery of training to TTC, will be based on training a maximum of 5% of TTC employees. All training of TTC and operations support staff required for the PRESTO System will be mutually agreed and as completed in accordance to the Project Plan.
- (b) The delivery of training to the TTC will be based on the following approach:
 - (i) Plan - Metrolinx will provide a mutually agreed upon comprehensive and complete training plan for TTC personnel. This training plan will coincide with the Project Plan.
 - (ii) Analysis – Metrolinx is responsible for the confirmation and consultation with TTC with respect to the training requirements, the assessment of TTC training needs for PRESTO NG, and definition of the training modules to be delivered to TTC.
 - (iii) Design & Build – Metrolinx will be responsible for the design and development of PRESTO training materials. Metrolinx will be responsible for all documentation and PRESTO Equipment and Services required to perform its training activities.
 - (iv) Test & Dry Runs – Metrolinx will be responsible for the execution of testing the training material through quality reviews, pilots of training curriculum material and dry runs prior to the training of TTC personnel.
 - (v) Delivery – Metrolinx is responsible to train TTC personnel as outlined in the Project Plan.
 - (vi) End-user Training (“EUT”) Delivery – At TTC’s request, Metrolinx will conduct training for TTC staff on a train the trainer basis, which will count toward the 5% commitment.

2. Training Scope

- (a) Metrolinx will provide training on all aspects of the PRESTO system including but not limited to:
 - (i) Operation of all field devices;

- (ii) Maintenance of all field devices, as necessary;
 - (iii) Customer use of all field devices; and
 - (iv) Services relating to PRESTO NG such as Financial Reconciliation and Settlement, Customer Web Site, Card Ordering, Device Management/Monitoring, Reporting, Business Intelligence, Work Order system, IVR, Help Desk, Operations Web Site, and Data Mart.
- (b) PRESTO training will not address the TTC's internal operational processes, but will address integration points between TTC and Metrolinx, such as the PRESTO Helpdesk, PRESTO Call Centre and PRESTO Operations.
- (c) TTC customer education and marketing information will not be included in PRESTO training materials.

3. **PRESTO Training Curriculum**

- (a) Metrolinx will develop a training curriculum and materials which targets various TTC end-user audience groups. This approach is designed to provide trainees with the information and skills required to interact with PRESTO NG based upon the agreed to roles and responsibilities between Metrolinx and TTC.
- (b) TTC will have the discretion to choose which modules to include, remove or tailor to address their specific needs (customization)

4. **PRESTO Training Materials**

- (a) Metrolinx will provide TTC with training materials on mutually agreed aspects of PRESTO NG. Training material will include but not be limited to:
- (i) Instructions;
 - (ii) Manuals;
 - (iii) Drawings;
 - (iv) Notes, charts and other information used in connection with the instruction and training of individuals in the use;
 - (v) EOD configuration;
 - (vi) Operation;
 - (vii) Updating; and
 - (viii) Maintenance or support of PRESTO NG or any part thereof.
- (b) All PRESTO training materials will be provided in English.

- (c) All PRESTO training materials will remain the property of PRESTO. Manuals supplied by Metrolinx can be passed on, reproduced and/ or circulated within the TTC without restriction.
- (d) Metrolinx will have the right to review, approve and accept all of the training materials and course work prior to their use in execution of TTC end-user training.
- (e) TTC will be responsible for ensuring that TTC end user trainees will have received communication on any role changes that would impact how they would be using PRESTO NG prior to end user training.
- (f) At TTC's request, PRESTO will conduct training for TTC staff on a train the trainer basis which will count toward the 5% commitment

5. Training Facilities and Devices

- (a) In respect of delivery of training to TTC end-users, such training will take place at a location determined by the TTC and the TTC will be responsible for providing adequate training facilities for such training.
- (b) Metrolinx will establish, operate, support and maintain a non-production environment on a site, agreed to by TTC and Metrolinx, that mirrors the then-current production environment for PRESTO and that meets the requirements set forth in the TTC Business Requirements. In those circumstances when TTC is training TTC personnel regarding PRESTO NG, Metrolinx, acting reasonably, will provide access to the PRESTO non-production environment.
- (c) Metrolinx will install and support devices for PRESTO NG training. Metrolinx will ensure that fully operational equipment is used for training.

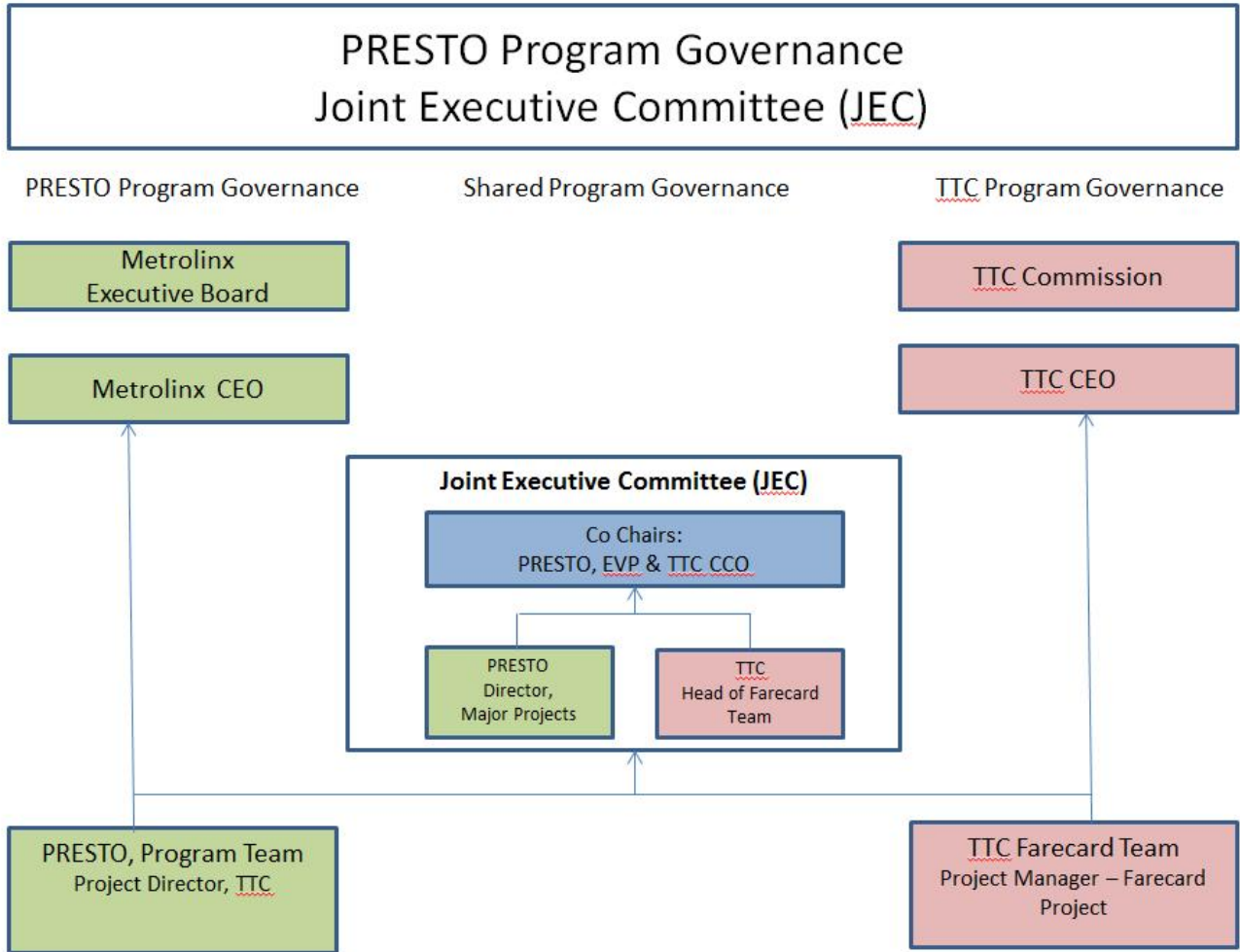
6. Training Delivery

- (a) TTC will be responsible for determining audience attendees for each course during EUT.

7. Training Support and Maintenance

- (a) Metrolinx will be responsible for maintaining and updating all training materials based on PRESTO NG.
- (b) If Metrolinx has undertaken a modification/updating to PRESTO NG, Metrolinx will conduct training due to the modification/update for all affected personnel (up to 5% of TTC employees).

SCHEDULE 5.4 PROJECT GOVERNANCE



Note: Representation to be defined at first Joint Executive Committee (JEC)

PRESTO/TTC JOINT EXECUTIVE COMMITTEE (JEC)

Mandate

The mandate of the PRESTO/TTC Joint Executive Committee (JEC) is to advise and provide counsel on the strategic and project direction for PRESTO/TTC project. The JEC will provide resolutions for escalated issues and business problems (business/strategy, operations, and finance) and indicate concurrence to key decisions. The JEC will also serve as a forum for the parties to discuss significant issues and proposed changes regarding operations, finance, and risk management.

Role

- Have a complete understanding of the scope and objectives of the Implementation Services;
- Provide strategic direction for PRESTO/TTC project and assess performance in the achievement of the project strategy;
- Provide input and monitor the integrated project plan;
- Provide strategic decisions or commitments on the business issues and strategies;
- Ensure the scope of the Implementation Services aligns with the requirements of the Parties and the TTC Business Requirements;
- Ensure effort and expenditure are appropriate to the Parties' expectation;
- Make decisions on strategies to address project-wide deviations that will have an impact outside of the project's critical path, scope, procurement, fiscal or resource allocations;
- Manage emerging and on-going political issues that impact the project;
- Identify public communications pieces related to the project;
- Responsible for disseminating key information regarding the project throughout their respective organizations, acting as a conduit for relevant communications including senior management;
- Review all change requests that impact the project, understand costs and timelines, and play an active role in ensuring that scope, budget and timeline are controlled (e.g. Approval of Requests for Change to any of the three constraints);
- Be aware of issues that affect all stakeholder groups, and the manner that stakeholder groups are affected;
- Collaborate across organizations to resolve all pending issues quickly and in the best interest of the Parties;
- Provide resolutions for escalated issues and business problems (e.g., business rule changes, incidents, finance);
- Address any issue that has major implications for the delivery of the Implementation Services; and
- Take on responsibility for any government issues associated with the project.

Composition

- Co - Chair – Chief Customer Officer, TTC
- Co - Chair – Executive Vice President, PRESTO
- Head of Farecard Team, TTC
- Director, Major Projects, PRESTO
- Project Manager – Farecard Project, TTC
- Project Director – TTC, PRESTO
- Other participants as designated by the Co-Chairs

Meeting Guidelines

Frequency

- The JEC will meet on a monthly basis, or as required.

Meeting Format

- Open forum, facilitated discussion by Co-Chairs
- Meetings will be scheduled face-to-face or via conference call.

Inputs

- New presentations and updated materials as per the agenda.
- All written materials need to be distributed to all JEC members 48 hours prior to the next meeting.
- All JEC members, including key partners, need to be active participants by providing inputs to agenda and discussion items, and coming prepared to discuss all relevant items.

Outputs

- PRESTO Co-Chair is accountable to ensure that detailed meeting minutes and action items are distributed within five business days post meeting.

Agenda Items

- Agenda items and respective guests or representatives will be identified to Co-Chairs as needed and as issues arise.
- Co-Chairs will publish the agenda five business days prior to next meeting.

Additional Guidelines

- A quorum for the JEC will consist of 50% of the Committee membership with at least 2 representatives of each Party.
- Decisions will be made by consensus of meeting attendees.
- If there is an urgent matter at hand and the Committee cannot be convened in time to resolve the Co-Chairs will consult with other applicable members, all decisions will be documented and shared with the Committee.
- If consensus is not reached, the issue will be escalated to Metrolinx CEO and TTC CEO who will make the decision. If a consensus is still not achieved Arbitration Rules and Procedures will be followed as set out in the Master Agreement Schedule E.
- Non-members attending on behalf of JEC members will be allowed to participate fully in discussions and decision-making processes.

- JEC members are bound to the decisions made by the JEC regardless of whether they or their proxies or substitutes were in attendance.
- Members are permitted to include key senior project members or subject matter experts in JEC meetings as required and according to agenda items, advanced notification to the Co-Chairs no less than 48 hours prior to the meeting is required.
- The PRESTO EVP Co-Chair will provide a written and verbal report to the PRESTO ECC on a quarterly basis.