

American Express Transit Implementation Guide Version 2.0

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This guide details only the American Express specific requirements and configurable options for implementing American Express acceptance. There may be additional country specific or (insert relevant Issuer/Acquirer) Acquirer specific requirements which apply at your local level.

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## **Version Control**

Version	Date	Changes
1.0	March 2019	First version of the guide
2.0	May 2019	Minor Edits

## 1 Introduction

### 1.1 Intended Audience

This guide is intended for Acquirers and Transit integrators implementing or considering the implementation of an Open-loop Transit system involving American Express Contactless NFC acceptance at the Faregate.

Wherever the term 'Merchant' is used, it also refers to their Transit Integrators and Processors, unless otherwise stated.

Wherever the term 'Acquirer' is used, it also refers to their Processors, unless otherwise stated.

This guide is not a technical specification; it provides guidance to allow the reader a more thorough understanding of an American Express Transit Solution implementation. You will find additional support in the technical reference documents cited in 1.3 References for your convenience, also included is a "Glossary and Acronyms" Appendix at the end of the document that you can refer to as you encounter unfamiliar terms, acronyms, or phrases. Words that are defined in the glossary have their first letter capitalized when used in this guide.

This guide is not intended for Issuers.

### 1.2 Document Structure

This document is made up of the following Chapters:

- 1. Introduction: This section.
- 2. What is the American Express Transit Solution? A brief overview of the context for using American Express contactless payment Cards in Transit, and the roles and the responsibilities involved therein.
- 3. Transit Transaction Models: A summary of the different types of models that are emerging in the industry for performing contactless payments in a Transit system.
- 4. Pre-implementation Considerations: Merchant and Acquirer considerations before commencing a Transit project.
- 5. Getting Started: Guidance on starting a Transit project once the scope has been defined.
- 6. Certification and Testing: A summary of the certification and testing required to use the American Express Transit solution.
- 7. Implementation Process: A brief outline of the timelines and tasks required to implement the American Express Transit solution.
- 8. Contact Information: Who to contact at American Express for more information.

Appendix A: Detailed glossary and acronyms

Appendix B: Additional information to help identify the right Transit model based on the requirements

Appendix C: FAQs

## 1.3 References

#### Table 1 - Universal Reference Documents

Abbreviations	Full Document Name
American Express Specificat	tions
XP-TERM GUIDE	Expresspay Contactless NFC Implementation Guide
XP-TERM 3.0	Expresspay Terminal Specification, Release 3.0 and associated Bulletins
XP-TERM 3.1	Expresspay Terminal Specification, Release 3.1 and associated Bulletins
XP-TERM 4.0	Expresspay Terminal Specification, Release 4.x
XP-L2 TERM	Expresspay Level 2 Terminal Approval Process*
NETWORK	Network Specifications <sup>+</sup>
GCAG	Global Credit Authorization Guide+
GFSG	Global Financial Submission Guide+
CODES	Codes Reference Guide+
BOP	Business and Operational Policies <sup>+</sup>
XP-PARAM TERM	Expresspay Terminal Parameters Document*
Other Relevant Specifications	
EMV-i	EMV ICC Specifications for Payment Systems, Book 1 – Application Independent ICC to Terminal Interface Requirements*
EMV-ii	EMV ICC Specifications for Payment Systems, Book 2 – Security and Key Management*

EMV-iii	EMV ICC Specifications for Payment Systems, Book 3 – Application Specification*
EMV-CL A	EMV Contactless Specifications for Payment Systems – Book A, Architecture and General Requirements*
EMV-CL B	EMV Contactless Specifications for Payment Systems – Book B, Entry Point Specification*
EMV-CL C4	EMV Contactless Specifications for Payment Systems – Book C-4, Kernel 4 Specification, version 2.7

EMV-CL D	EMV Contactless Specifications for Payment Systems – Book D, EMV Contactless Communication Protocol*
ISO-7813	Identification Cards - Financial Transaction Cards+

<sup>+</sup> Refer to the latest version of the document

\* Refer to the version referenced within XP-TERM 3.x or EMV-CL C4

There may be other local market specifications to consider, please contact your local American Express Representative for more information.

### 1.4 Use of Terms

In this document, the following terms are used in the specified contexts. Other defined terms are listed in Appendix A Glossary and Acronyms.

Token / DPAN	A surrogate value of PAN (Primary Account Number) used to mitigate fraud by removing sensitive data from a cardholder data environment.
Back Office	The collection of components that may receive tap data from a TAT and, after suitable processing, communicate with the merchant Acquirer. A Back Office may also be used to implement any of the optional components of the American Express Transit solution.
Card	"Card" refers to an American Express Contactless NFC product, which can be any of the following
	Standard Contactless plastic card.
	<ul> <li>Mobile device with Near Field Communication (NFC) such as phone, Wallet, tablet, etc.</li> </ul>
	• Other, e.g., key fob, ring, wristband, etc.
	Where a distinction needs to be made for a plastic card and Mobile NFC handset, these are referred to as:
	<ul> <li>Contactless Plastic Card, meaning functionality applicable to transactions using only a plastic card.</li> </ul>
	<ul> <li>Contactless NFC Mobile, meaning functionality applicable to transactions using only a Mobile Proximity Payment Device (MPPD).</li> </ul>
Card number	Refers to the identifying Primary Account Number, or PAN, of a Card account. This phrase may refer to a DPAN, Token or the FPAN. The FPAN is used to emboss the front of a plastic card.
CPC	Contactless Payment Card. The common industry name for any Card or other payment- enabled device issued under any brand that is used for open-loop payments.
Deny List	A file created and maintained by the Merchant using authorization response, for the purposes of financial risk management. Potentially used alongside, or merged with, the American Express Negative File.
Faregate / Validator	A turnstile, gate or other facility in a Transit system, equipped with a contactless reader and Transit Access Terminal and (in the case of a turnstile or gate) a physical barrier to enter or exit the Transit system.
Fare Management	Refers to a generic component that may be present in a Merchant Back Office. It is assumed to be responsible for any of; maintaining fares tables, the construction of logical customer journeys from individual taps, calculation of fares due from travellers or identification of valid pre-purchased products.
Front Office	The acceptance infrastructure involved when a traveller taps their CPC on a TAT. As a result, a payment cryptogram is generated, and this, and other tap data is collected and delivered either to the Merchant Back Office or directly to the American Express network for processing.
Merchant	A person or organization, such as a retailer or a Transit Authority/Transit Integrator, who has entered into a contract with an Acquirer for card acceptance services.

MPPD	Mobile Proximity Payment Device. An NFC-based mobile phone device capable of performing Contactless American Express Contactless NFC transactions and running a user payment application.
Open-loop	A reference to a ticketing model that makes use of non-merchant-specific payment media at Transit Access Terminals. Payment media is also able to be used widely elsewhere for retail payments. Contactless EMV cards are a prime example of Open-loop payment media.
Passback	A Transit Authority typically has rules which control the permitted frequency / time interval within which any CPC can be tapped at Faregate. A Tap that does not comply with these rules is referred to as a Passback (e.g. when a CPC is passed back from one customer to another at the Faregate). Passback may also include velocity rules with regard to the time, distance and range of travel.
Processor	A party that processes American Express transactions on behalf of Merchants or Acquirers and is required to be able to pass authorization and submission messages (which may include Transit indicators).
Reader	The term "Reader" is used to refer to the device which communicates with the Card, contains the visual status indicators (e.g. LEDs) and/or user display. It may also contain the software Kernel which processes the transactions.
Risk Management	Refers to a generic component that may be present in a Merchant Back Office. It is assumed to be responsible for implementation of a Merchant risk policy which may or may not comply with the American Express Transit Policy. In the latter case, it will determine the timing of account status checks, Authorizations and Settlements to be submitted via the Acquirer. It is also assumed to handle debt recovery for declined Authorizations.
Тар	Refers either to:
	The act of presentation of a Card at a Reader
	or
	The resultant transaction information which is collected for onward transmission either to the Merchant Back Office or direct to the American Express network for processing.
ТАТ	Transit Access Terminal. This refers to a modified terminal for Transit, including a Reader, that provides contactless card ticketing and fare collection at or within a Faregate hosting a display, and any online communications. It also provides merchant functionality. Note that, unlike a standard retail terminal, a TAT has no PIN pad; no dip, swipe or signature capability and does not produce receipts.
Transit Authority	A body responsible for providing public transportation within a distinct area or region.
Transit Integrator	A body responsible for ensuring that the components of a Transit system function together to provide the desired service.
Transit Transaction Model	Describes the operating model under which Merchants accept CPCs for Transit. The model may incorporate standard retail acceptance, or may incorporate specific Transit operating procedures agreed with the payment scheme and governed by scheme rules and policies that are incorporated in the Acquirer contract.

## 1.5 Highlighting Applicable Content

The document provides helpful hints, in the form of "BEST PRACTICE TIPs", to aid you in understanding how best to implement American Express Contactless acceptance for Transit. Each BEST PRACTICE TIP is marked with a blue box as follows:

#### **PRACTICE TIP:** Example

Additionally, icons are included in the document margins to indicate the relevance of a particular sub-chapter to the Implementer. The icons used appear as follows:



This icon is used to indicate behavior that is specific to the plastic Contactless Card.

This icon is used to indicate behavior that is specific to Contactless NFC Mobile and Wearables.



This icon is used to indicate content that is relevant to a Merchant.



This icon is used to indicate content that is relevant to an Acquirer.

If an icon is placed next to a chapter heading, then it applies to the entire chapter and all subchapters. If an icon is only applicable to a few paragraphs within a chapter, then the paragraphs to which it applies are boxed.

### 1.6 Notation

Throughout this document, attention is drawn to specific Terminal and Acquirer systems requirements within the text through the use of bold and italics on key words as follows:

- Mandatory requirements are highlighted through the use of the words *must*, *shall, mandatory*, or *mandate(s).*
- Optional recommendations are highlighted through the use of the words **should** or **recommend**(s).

## 2 What is the American Express Transit Solution?

### 2.1 Overview

American Express Transit solution provides key capabilities to enable Open-loop contactless acceptance in Transit. The solution includes core Transit capabilities in authorization and settlements. In addition to the core solution, AXP also offers optional Transit capabilities which give added convenience and risk mitigation.

Open-loop Transit system with American Express Transit solution can be represented at a high level as shown in the diagram below:



Figure 1 – Overview of American Express Transit Solution

## 2.2 Roles and Responsibilities within an Open-loop Transit System

#### 2.2.1 Transit Authority

The body responsible for organising public transport. In an Open-loop Transit system this role may include some or all of the following:

- Overseeing a Transit Merchant contract with an Acquirer that allows for Contactless Payment Card (CPC) acceptance on the Transit system for which the Transit Authority is responsible
- Procuring the infrastructure that includes:
  - The Faregate, including the TAT and Reader, which permits CPC acceptance at entry to and exit from the Transit system
  - o The communications which links this infrastructure to the Merchant Back Office
  - The BackOffice components necessary to support the Transit Authority fares policy and the risk model agreed with the Acquirer
- Management of Transit Integrators and Processors with whom the Transit Authority contracts to run some or all of the services on their behalf.

#### 2.2.2 Merchant

The Merchant is the body which contracts with an Acquirer for American Express payment services. The Transit Authority may make this contract directly or choose to ask a third party (such as an integrator or Processor) to contract on their behalf.

The Merchant will be assigned one or more Service Establishment number(s) and Merchant Category Code (MCC) by their Acquirer in accordance with standard American Express procedures.

The Merchant is responsible for compliance with the relevant American Express technical specifications as detailed in this and related documents. A Merchant wishing to take advantage of the favorable risk and chargeback management available to applicable MCCs must comply with the American Express Transit Policy, as detailed in the BOP.

#### 2.2.3 Acquirer

The role of the Acquirer is to provide payment services to their contracted Merchants. This includes assigning Service Establishment numbers and MCCs to a particular Merchant.

Merchants may contract to have their transactions acquired directly through American Express or through an American Express partner Acquirer. A partner Acquirer will process Authorizations, Settlements, and Chargebacks on behalf of the Merchant through the American Express Global Network Service.

The Acquirer is specifically responsible for obtaining certification from American Express Global Network Services (AEGNS) to process transactions originating at a TAT, and for ensuring Merchant compliance for the same.

#### 2.2.4 American Express

American Express can assume any or all of the following roles:

- As an Acquirer to proprietary Merchants
- As the payment network for proprietary and partner Acquirers
- As an Issuer of Cards

## 2.3 Benefits of the American Express Transit Solution

American Express' experience in digital commerce innovation can help capitalize on the security and business potential of open payments in Transit through:

Improved Payments

- Reduce cost of handling cash, issuing fare media, and maintaining proprietary fare systems
- Improve ticketing and boarding experience while maintaining speed through Faregate
- Drive customers to travel more often, increasing ridership and revenue
- Enhance payment security at the point of sale
- Improve cash flow by attracting American Express Card Members who travel frequently and may be more likely to purchase Pay-in-advance tickets and passes

An Enhanced Customer Experience

- Create a fast, convenient, easy-to-use and rewarding Transit experience for customers
- Enable consumer-preferred forms of payment
- Ensure a secure, protected Transit experience to gain customer trust and confidence
- Understand ridership **behaviour** in order to provide relevant follow-up offers, solidifying customer satisfaction beyond the point of sale

### 2.4 Scope of American Express Transit Solution

The scope of the American Express Transit solution includes:

- 1. Transit fare gate identification
- 2. Enhanced Contactless Authorization and Settlements
- 3. American Express Transit Policy
- 4. Transit Negative File
- 5. Cardrefresher / Card status updates

The following diagram shows the scope of the Transit solution within the open contactless Transit end to end components:



Figure 2 - American Express Transit Solution Scope

#### 2.4.1 Core Components

The American Express Transit Solution consists of three 'core' components and two optional components, as described in the following sub-sections.

#### 2.4.1.1 Transit Contactless Enablement (1)

Implementation of the American Express Transit Solution is part of an Expresspay implementation. Therefore the Merchant and Acquirer, as appropriate, must comply with the relevant Expresspay specifications and policies, including:

#### **Expresspay Terminal Specifications**

XP-TERM 3.x XP-TERM 4.0 XP-PARAM TERM XP-TERM GUIDE **Expresspay Network Specifications** NETWORK CODES

GCAG

GFSG

#### **Business and Operational Policies (BOP)**

Please contact your American Express representative for further information regarding the specifications and Transitrelated documentation relevant to your situation.

Expresspay enablement for Transit will result in the following being in place:

- One or more certified TATs<sup>1</sup>. The Merchant will have TATs certified (including L1 and L2 certification of terminals) to accept Expresspay transactions and submission as payment transactions via their Acquirer.
- A certified Acquirer. The Acquirer will have been host certified to process Expresspay transactions originating at a TAT.
- The Acquirer will have completed L3 end-to-end (that is, Merchant to Issuer) for submitting Expresspay transactions from a TAT.

Consult Section 6 Certification and Testing for more details of the certification required.

<sup>&</sup>lt;sup>1</sup> This may include revenue protection devices, as well as fare collection.

#### 2.4.1.2 Enhanced Authorization and Settlement Messaging (2)

The Transit Solution includes enhancements to indicators within the Authorization and Settlement messages to identify Expresspay transactions originating at TATs. This allows Issuers to implement a fraud and risk policy appropriate to such transactions and add servicing capabilities.

The key features in authorization messages for Transit are:

- A Merchant operating under American Express Global Transit policy, submitting Transit transactions *must* be assigned to, and use, one of the supported Transit Merchant Category Codes (MCCs, as defined in the BOP).
- A Merchant allocated one of the Transit MCCs can make use of a number of 1100 message authorization function codes of particular relevance to Transit Merchants. These are defined in GCAG and Network Specifications.
  - An ATC Synchronization message can be used to inform an Issuer of the current ATC value for a card in order to keep the Issuer up-to-date. Issuers may track the ATC and decline transactions if they see large variations in ATC values compared to their set thresholds. Sending this message minimizes the likelihood of unnecessary declines due to ATC variations and protects the card member experience.
  - A PAN translation message may be used to request the Card funding PAN (FPAN) and expiry date in the authorization response where the device PAN (DPAN) available over the contactless interface is different. This can be used to aid Merchant customer service and to initiate automated debt recovery.

In addition, if the Merchant uses the TAT indicator as defined in the Codes Reference Guide, the following is available:

• A nominal authorization account status check message is supported to allow Merchants to check if the Card account is active and in good standing, and submit later for a higher amount (as defined in the BOP). This may be combined with a request for a PAN Translation.

#### 2.4.1.3 American Express Transit Policy (3)

The American Express Transit Policy as stated in the BOP provides the following:

- Enhanced Merchant and Acquirer Liability and Chargeback protection for MCCs covered by the policy.
- Specific acceptance rights for Pay-In-Advance Fares

The policy requires Merchants to adhere to specific requirements for:

- Card acceptance, such as declining expired Cards
- Population of Transit access terminal message indicator and Transit MCC code
- Risk-based Authorizations (where the Transit model requires it)
- The processing and functions allowable for Pay-In-Advance fares
- Deny List management

For full details of the policy, please refer to the BOP.

#### 2.4.2 Optional Components

The American Express Transit Solution offers additional capabilities to help Merchants and their Acquirers manage the risk of Expresspay acceptance in a Transit environment.

Please contact your American Express representative for additional information.

For more detail on these optional components, see below

#### 2.4.2.1 Negative File (4)

The Negative File is a facility to enable Merchants and Acquirers to enhance acceptance risk management and gate controls and adds a further, proactive defense by notifying the Merchant via their Acquirer, of Cards American Express knows to be lost or stolen and therefore not authorized for use.

A Merchant is able to use this file to identify lost/stolen cards at the TAT without the need to go for authorization.

A Merchant may choose to combine this file with their own Deny List.

#### 2.4.2.2 Cardrefresher (5)

Cardrefresher enables Acquirers and their Merchants to be provided with updated Card information – for example, replacement cards and renewed cards with new expiry dates, which the Merchant can use to:

• Automatically update Card details registered with the Transit operator for pay as you go travel or linked to Pay in Advance travel rights that are still valid after the original Card /device has expired.

## 3 Transit Transaction Models

When commencing on the delivery of a Contactless Open-loop payment Transit project, it is important for the Merchant and their Acquirer to implement a transaction model that is appropriate to the customer journeys they wish to support and their risk appetite. This section guides Merchants and Acquirers through the process of choosing the transaction model that is right for them, the below table shows what features are available on the AXP Transit Solution:

	Expresspay Transit Policy		Others	
	(Transit merchants using AXP Transit policy)		(Transit merchants not using AXP Transit policy)	
	Pay as you go	Pay In Advance	Pay as you go	
	(delayed authorization)		(delayed authorization)	
Dedicated Transit MCC values	$\checkmark$	Х	$\checkmark$	
Population of Transit Access Terminal Indicator	$\checkmark$	X	X	
Decline expired cards	$\checkmark$	√	$\checkmark$	
Deny List capability	✓	√	$\checkmark$	
Transaction aggregation	$\checkmark$	X	X	
Account Status Check	$\checkmark$	X	$\checkmark$	
Enhanced Risk Mitigation	$\checkmark$	X	X	
ATC Synchronization	$\checkmark$	$\checkmark$	$\checkmark$	
PAN translation	$\checkmark$	√	$\checkmark$	
Negative File	$\checkmark$	√	$\checkmark$	
Cardrefresher	$\checkmark$	$\checkmark$	$\checkmark$	

Table 2 - Transit Features

- Section 3.1 Transit Solutions the key Transit project requirements that impact the choice of Transit transaction model.
- Section 3.2 Choosing the Right Approach guides Merchants and Acquirers through a process to consider those requirements and identify the model(s) most suitable to them.
- Section 3.3 Transaction Model Features and Options defines each of the possible models in more detail; introducing the features and options that are available within it.
- Section 3.4 Optional Features summarizes the features and options of each model to provide a side-by-side comparison.

## 3.1 Transit Solutions

Key Merchant Question	Transit Solution
Should I only support Pay-as-you-go (PAYG), or are pre- purchased 'season' tickets required in addition/instead?	Expresspay Transit Policy with delayed authorization solution supports both Pay-as-you-go (PAYG) and season tickets.
Do my customers require immediate access to the Transit system such that I cannot perform the financial authorisation for PAYG customers before access is granted?	If the answer to this question is "Yes", then the <b>recommended</b> model is Expresspay Transit policy with delayed authorization.
How do I ensure all form factors are accepted?	Some form factors like Mobile cannot support offline transactions. Hence, ensure terminals can support delayed authorization or online modes.
Is my planned fare structure such that one customer journey always equates to one customer charge?	If the answer to this question is "yes", then the <b>recommended</b> solution is delayed authorization, or online authorization models.
Does my risk policy require usage of the enhanced authorization protection provided for Expresspay Transactions at TATs, as defined in the BOP	If the answer to this question is "yes", then the <i>recommended</i> model is Expresspay Transit Policy, with delayed authorization solution.

## 3.2 Choosing the Right Approach

The following Figure shows how the choices made regarding the Transit transaction models open to a Merchant are influenced by the requirements outlined in Table 2. Each of the model options is then described in more detail in Section 3.3 Transaction Model Features and Options



#### Figure 3 - Choosing The Right Transit Transaction Model

By taking time up front to consider Transit Transaction Model requirements, Merchants and their Acquirers can ensure that they are working together towards the delivery of the most appropriate solution. For more information on the features and options relating to the models shown in Figure 3, please refer to Section 3.3 Transaction Model Features and Options

Note that there are some scenarios where it is **recommended** that you consult your American Express Local Representative before continuing, specifically:

- If the Merchant wishes to offer pay in advance products linked to contactless cards as an access token beyond simple season tickets
- If the Merchant plans to await online approval responses before allowing Card Members access to their Transit network
- If the Merchant has not yet defined a risk approach that incorporates Open-loop contactless payments.
- If the Merchant is considering any approach other than "delayed online authorization mode".

### **3.3 Transaction Model Features and Options**

#### 3.3.1 Delayed Authorization Transit Policy Compliant Transaction Model

The following table defines the mandatory and optional features available to a Transit Merchant adopting Transit Policy in order to take advantage of the Open-loop risk mitigation capabilities

Feature	Optionality	Description
Dedicated Transit MCC values	Mandatory	Expresspay Transactions at TATs <i>must</i> be classified under one of the MCCs defined for use with TATs in the BOP
Population of Transit Access Terminal Indicator	Mandatory	All applicable transactions <i>must</i> have the TAT indicator populated in the Point of Service Data Code field, as defined in the BOP
Decline expired cards	Mandatory	A Transit reader compliant with American Express Transit policy <i>must</i> always decline cards where card expiry date is before travel date
Deny List capability	Mandatory	The Merchant <i>must</i> operate a deny list and populate it as per the BOP
Transaction aggregation	Optional	The Merchant can aggregate multiple journeys into single transactions, within the requirements for authorization and submission for Expresspay Transactions at TATs, as defined in the BOP (including performing account status checks when necessary).
Account Status Checks with Nominal Authorisation	Mandatory	Under the rules defined in the BOP, the Merchant <b>must</b> perform periodic account status checks with an agreed nominal value, whether or not they are aggregating transactions.
Enhanced Risk Mitigation	Optional	Risk mitigation and chargeback protection is provided under the American Express Transit Policy, as defined in the BOP, should Merchants wish to use it.
ATC Synchronisation	Optional	See Section 2.4.1.2 Enhanced Authorization and Settlement
PAN translation	Optional	<ul> <li>Messaging</li> <li>Note: - Acquirers are required to host certify both these</li> <li>Transit features.</li> </ul>
Negative File	Optional	See section 2.4.2 Optional Components
Cardrefresher	Optional	_

Table 4 - Features of Transit Policy Compliant Transaction Model

Note that a consequence of choosing this approach is that a full Merchant Back Office is required, including risk management, fare management components and the ability to populate the TAT indicator in messages.



**PRACTICE TIP:** If the requirement is to aggregate multiple journeys into a single charge (e.g. to implement capping or deliver on a "best fare" promise) then the *recommendation* is to use Transit policy compliant transaction model.



Figure 4 - Example transaction flow, Transit Policy Compliant

**PRACTICE TIP:** Whilst Pay In Advance (PIA) is described here as a stand-alone model, it can be viewed as complimentary to PAYG. For example, a Merchant may choose to use it alongside one of the other models, collecting taps, checking for travel rights in a back office, and then charging under the PAYG model if no travel rights have been purchased under PIA.

18/03/2019



Figure 5 - Example transaction flow, PIA transaction model

#### 3.3.2 Delayed Authorization (non-Transit policy compliant)

The following table defines the features of a delayed online authorisation transaction model where the merchant is complying with the regular Expresspay No Signature No Pin policy, and is not using the enhanced risk and chargeback capabilities available under the Transit Policy. Under this model, the submission of the authorisation is delayed for a time by the Merchant, at the Merchant's own risk. Some American Express Transit solution servicing features are available to the Merchant, but this is limited due to their lack of compliance with the American Express Transit Policy.

Feature	Optionality	Description
Dedicated Transit MCC values	Strongly <b>Recommended</b>	Expresspay Transactions at TATs should be classified under the appropriate Transit industry MCC for the merchant. <b>Recommended</b> MCCs for use with TATs are listed in the Transit Policy section of the BOP. Merchants who currently use a different value should talk to the local American Express representative.
Population of Transit Access Terminal Indicator	Not Allowed	The TAT indicator must only be populated for solutions that are compliant with the American Express Transit Policy
Decline expired cards	Optional	
Deny List capability	Optional ( <i>recommended</i> )	The Merchant may operate a deny list to protect themselves from repeated fraud.
Transaction aggregation	Not Allowed	As this approach falls outside of the American Express Transit Policy, aggregation is not allowed in this scenario.
Account Status Checks	Optional	Note: - As TAT indicator is not present, the enhanced risk and chargeback protection available under Transit policy are not applicable here.
Enhanced Risk Mitigation	Not Allowed	Merchant takes full liability for delayed authorization transactions; standard Expresspay chargeback rules apply.
ATC Synchronisation	Optional	See Section 2.4.1.2 Enhanced Authorization and
PAN translation	Optional	Settlement Messaging
Negative File	Optional	See section 2.4.2 Optional Components
Cardrefresher	Optional	

Table 5 - Features of a delayed authorization transaction model (non-Transit policy compliant)

Note that consequences of choosing this approach include:

- A basic Back Office for fare and risk management is required if the supported optional features (such as PAN translation and ATC Synchronisation) are used.
- Delaying authorization means that transactions are at the Merchant's own risk, and Merchants are not permitted to process declined authorisation transactions for settlement.



**PRACTICE TIP:** If the requirement is for a customer to tap in and tap out before knowing the journey fare this model could be used. This model could be implemented to operate a simple Back Office without requiring full American Express Transit Policy compliance. However, the aggregation of multiple journeys into a single fare is not supported under this model and would require full Transit Policy compliance.



Figure 6 - Example transaction flow, delayed authorization with Back Office transaction model

**PRACTICE TIP:** Even though it is not *mandatory* under this model, the decision to use this model should be carefully made before proceeding without adequate Deny List capability.

## **3.4 Optional Features**

#### 3.4.1 Negative File

Merchants can opt-in to receive a Negative File, which contains a list of Amex proprietary and non-proprietary contactless Card numbers in negative status (e.g. lost or stolen) that should not be accepted at the Faregate. Merchants can use this list to enhance their own internally created and managed Deny Lists.

The negative Card Account file contains only Expresspay accounts. This customized file can be made available to Acquirers and their Transit S/Es.

The Negative File contains only Card Numbers (including DPANs/tokens), and add/delete status.

This is an optional feature available to all Acquirers, but certification is required. Frequency of updates to the Transit merchant is negotiable and established during scoping phase. A typical implementation of this feature takes 6-8 weeks.

For more information contact your American Express Representative.

#### 3.4.2 Cardrefresher

Cardrefresher securely delivers Acquirers and their Merchants updated Card information on a regular basis, regardless of whether they process through a ThirdParty Processor, or directly to American Express. The process is as follows:

- 1. The Merchant provides an initial registry file containing the Card information of the American Express Card Members with whom they have established recurring billing or card-on-file relationships.
- 2. Cardrefresher will monitor this list for any changes that occur to Card information.
- 3. On a daily basis, Cardrefresher securely sends an electronic file including any updated Card information.
- 4. Whenever the Merchant has new accounts to add to their list, they simply send American Express a new registry file with the Card information of those new accounts.

From a Transit perspective, Cardrefresher can provide Merchants with updated card information to:

- Automatically update Cards registered with the Transit operator for customer servicing (such as reporting on PAYG usage) or Cards that may expire during an active pass period for PIA
- Support recurring billing features such as topping-up fare accounts and/or monthly passes

### 3.5 Transit Models Summary

The following table summarizes the features and options of the models described in Table 4 - Features of Transit Policy Compliant Transaction Model and Table 5 with M indicating mandatory for that model, O optional and X not applicable or not supported.

	Expresspay Transit Policy (Transit merchants using AXP Transit policy)		<b>Others</b> (Transit merchants not using AXP Transit policy)
	Pay as you go (delayed authorization	Pay In Advance )	Pay as you go (delayed authorization)
Dedicated Transit MCC values	Μ	Х	(Recommended)
Population of Transit Access Terminal Indicator	Μ	Х	Х
Decline expired cards	Μ	0	0
Deny List capability	Μ	0	0
Transaction aggregation	0	Х	Х
Account Status Check	Μ	0	0
Enhanced Risk Mitigation	0	Х	Х
ATC Synchronization	0	(Recommended)	0
PAN translation	0	0	0
Negative File*	0	0	0
Cardrefresher*	0	0	0

Table 6 - Transit Models Feature Summary

#### (M - Mandatory, O - Optional, X - Not applicable)

\*These features are recommended by American Express. Please contact your American Express representative for more information.

**PRACTICE TIP:** Acquirers should actively engage with Merchants during Transit model selection to ensure that all relevant messaging features and certifications are in place to support Merchant requirements. For example, the Acquirer:

- Must be certified for the necessary Transit specific field values (e.g. the TAT indicator, the Transit authorization function codes, the Transit MCCs etc.)
- is responsible for TAT Level 3 certification (see Section 6.1.2.1 Level 3(L3) End to End Certification)
- Should be aware of the risk impact (i.e. Expresspay chargeback rules or Transit Policy chargeback rules.)

18/03/2019

## 4 Pre-Implementation Considerations

It is important to ensure that all parties involved in a Contactless Open-loop payment Transit project are aligned prior to commencing the project. This involves:

- Understanding American Express contactless payments
- Understanding the American Express Transit solution
- Choosing the right Transit transaction model
- Defining how the key players work together to construct a Transit solution

### 4.1 Understanding American Express Contactless Payments

The American Express Transit Solution provides additional capabilities for contactless payments in Transit. The Transit Policy provides some enhanced authorization and risk mitigation capabilities, but the Merchant *must* still comply with standard Expresspay rules except or unless the Transit policy rules take priority.

Please refer to section 1.3, for list of all Expresspay and EMV Specifications.

### 4.2 Understanding the American Express Transit Solution

To ensure that American Express payments are accepted in the most advantageous way for all parties, a solution should be designed with a full understanding of the options available as part of the American Express Transit Solution.

An overview of the American Express Transit Solution, together with references to more detailed documentation is provided in Section 2.

### 4.3 Choosing a Transit Transaction Model

At the heart of any solution is the Merchant's Transit transaction model. This is developed by applying Expresspay and the BOP requirements to a transaction model that meets the business and risk requirements of the Merchant. The merchant may develop this model in-house, or work with delivery partners such as consultants, an integrator, back office provider, or an Acquirer.

American Express strongly *recommends* that Merchants or their delivery partners engage with American Express as early as possible in the development process.

Some examples of different Transit transaction models are given in Section 5 Getting Started

## **5 Getting Started**

Once a solution has been defined, it is important to consider the readiness of existing systems to support contactless acceptance, and identify the changes that will be required to the existing infrastructure.

## 5.1 Identifying Changes to Support Contactless Transit

The following subsections outline areas for consideration when looking to identify the systems changes required to support a Contactless Open-loop payment Transit project.

#### 5.1.1 Merchant Systems

An impact analysis needs to be performed to identify changes to existing systems and the new systems and components required. Considerations will include:

- Specification and procurement of new Readers, TATs and/or Faregates, or upgrades to existing installed versions. This should include consideration as to compatibility with existing travel tokens, such as closed loop cards and other forms of ticketing.
- Required functionality within the Fare Management and Risk Management components, along with payment
  processing capability.

In more complex cases, the need for Fare Management to perform tap aggregation and journey aggregation and for Risk Management to implement the American Express Transit policy.

- Volume and timeliness of requirements for connectivity between Front Office, Middle Office (if used) and Back Office.
- Deny List management, if required, including Negative File support, if the option is taken up.
- Merchant Back Office connectivity with the Acquirer for processing contactless payments needs to be established, including
  - Support for Transit related functions, such as account status check, PAN translation and ATC synchronization, if applicable to the solution
  - o Connectivity to the American Express Acquirer Certification test system
- TAT and Back Office support for the use of a CPC as an Access Token if Pay in Advance is supported.
- Debt recovery approach and implementation.
- Extensions to, or development of customer service systems to maximize customer self-service and minimize the support load on Merchants and other parties.
- PCI-DSS implications across the Merchant systems.

#### 5.1.2 Acquirer systems

Acquirer systems need to be Transit ready, meaning they *must* be capable of supporting:

- American Express Transit MCCs
- The TAT indicator in the relevant POS Data Code field in CODES
- Transit function codes for account status check, PAN translation and ATC Synchronisation.
- Debt recovery transactions

#### 5.1.3 Network Messaging

The following table summarises the enhanced network processing to support the American Express Transit Solution:

Transit Access Terminal (TAT)	A unique POS Data Code sent in the 1100 authorization request to indicate that the transaction took place at a Transit Access Terminal and is eligible for enhanced
Indicator	authorisation and chargeback protections via the American Express Transit Policy.
Account Status Check	A unique Transit Function Code that allows Merchants to send a nominal value amount to check that a Card is active and in good standing, and submit later for a higher amount. This enhanced authorisation capability is available when the TAT indicator is used, i.e. the Merchant complies with the American Express Transit Policy. American Express also allows the account status Check to be used without the TAT indicator, in which case there is an account check but no enhanced authorisation capability.
Expresspay Translation (PAN Request)	Unique Function Codes that allow Merchants to obtain the underlying Card Number and Expiry date where a DPAN or token was presented at the TAT, to enable merchants to provide post tap customer servicing, including customer servicing and some forms of debt recovery. PAN translation requests could be used whether a DPAN or FPAN is presented at the TAT. For Merchants using enhanced Transit capabilities identified by using the TAT
	indicator, the account status check and PAN translation functions can be combined. Merchants with a Transit MCC who are not compliant with the American Express Transit Policy, may still use this function code specifically for PAN translation only (as outlined in section 2.4.1.2 Enhanced Authorization and Settlement Messaging)
ATC Synchronization	ATC is short for "Application Transaction Counter" which increments every time a contactless tap is done. If the value of the ATC count on the CPC varies from the ATC recorded at the issuer host, privileges may be suspended when the count is outside of issuer ATC thresholds. Periodically sending the current counter value with this function code to the issuer may prevent disruption to Card members e.g. when used as an access device for Pay in Advance or Season tickets. This function code can be used by any Merchant with a Transit MCC, regardless of compliance with the American Express Transit Policy.

Table 7 - Enhanced Network Processing to support the American Express Transit Solution



#### 5.1.4 Customer Servicing

In order to drive usage, the customer experience of using their Expresspay Card in Transit should be as close as possible to Contactless transactions when used elsewhere. In addition, these measures should aim to minimize the volume of queries to both Transit Agencies and Issuers, for example, by encouraging customers to self-service where appropriate. Due to the characteristics of the Transit models, this may require some particular support measures to be in place:

- A clear route and escalation process to handle payment-related queries arising from use in Transit, such as:
  - o When it is appropriate for the customer to contact their card Issuer
  - o When it is appropriate for the customer to contact the Transit Authority
  - Any 'handover' liaison between Issuers and Transit Authority to ensure smooth handling of customer queries
  - o Customer statements
- Clear, succinct messages to indicate payments to a particular Transit Authority and where to get further information (this may require liaison with the Acquirer to ensure that the appropriate statement message is passed through in the Settlement messages)
  - o Customer travel history

- Availability of sufficiently detailed information to the customer to justify entries on the customer statements without the need for a customer to invoke a customer service call
- Pre-emptive customer information

Ensuring customers are educated across the Transit system on the correct use of contactless devices, avoidance of 'card clash' and so on. Examples of pre-emptive communications can include in-station or in-transport posters, leaflets, announcements, information booths, merchant website, employee "ambassadors" etc.

Informative messages (e.g. via SMS or email) to inform customers of acceptance issues (e.g. Card is not approved for use) as well as the action the customer should take (e.g. contact your issuer).

#### 5.1.5 Customer Lifecycle Management

Many Transit solutions require some form of customer account and account lifecycle management. This will need to be implemented as part of the Merchant Back Office.

Any use of registered Card account details for recurring top-up payments, or to identify the usage of a Card as an access token for travel passes need to be developed and managed, with appropriate data management channels available. This may include integration of the American Express Cardrefresher service, as described in Section 2.4.2.2 Cardrefresher (5)

### 5.2 Launch Planning

The rollout of new acceptance media on a Transit system needs to be carefully thought out, as customer acceptance is key to realizing the benefits of Open-loop Transit. Transit agencies should consider the advantages of phased rollouts, typically through successive modes of transport (e.g. bus before rail) and phasing the addition of Transit specific Back Office capability, e.g. starting with a simple known fare approach and moving to more complex variable fare calculation if required.

Some of the advantages are:

- The rollout can match the phasing of the design and build stages
  - E.g. new Readers or TATs can be rolled out before Back Office development is scheduled for completion (this allows earlier acceptance of the new payment media than would otherwise happen)
- Rollout may be phased across different modes of Transit, making staff familiarization and any customer acceptance issues more manageable
- Earlier rollouts by any method allows 'quick wins' to be demonstrated to commissioning Transit Authorities or the government departments to which they report
- Exposure to risk can be monitored and controlled more easily.
- Pre-launch and launch communications (e.g. marketing material, customer messaging etc.) also need to be considered.

## 6 Certification and Testing

## 6.1 Terminal Certification

To enable any Card to work with any Terminal, including Open-loop Transit, to minimize interoperability issues and ensure that products conform to American Express' specifications, American Express has defined a series of certifications processes that *must* be completed. In practice, Cards and Terminals *must* interact on the following three levels of certification:

- Level 1 EMVCo L1 Contactless Terminal Type Approval
- Level 2 Expresspay L2 or EMVCo L2 Terminal Type Approval
- Level 3 End to End Terminal Certification (L3)

An overview of how the components of the Transit architecture are involved in each certification level is illustrated below:





Figure 7 - Certification Components

#### 6.1.1 Reader Certification

#### 6.1.1.1 Level 1(L1) Terminal Type Approval

American Express mandates that all Terminals not intended for use as Transit Access Terminal have received Contactless L1 approval from EMVCo. Terminals pending L1 approval may be submitted for L2 certification. However, approval will not be granted on a Terminal which fails EMVCo L1 approval. Vendors will need to provide their L1 approval number, or confirm their L1 test date, when requesting certification.

Transit Access Terminals may not be able to pass all of the EMVCo L1 approval requirements. Proprietary, merchantspecific Transit Card processing prior to Payment Card processing may prevent EMVCo tests completing successfully. In these cases, Merchants *must* contact their American Express representative before submitting for EMVCo L2 or American Express certification.

#### 6.1.1.2 Level 2(L2) Terminal Type Approval

"American Express mandates that all Terminals not intended for use as Transit Access Terminal have received Contactless L1 approval from EMVCo. Terminals pending L1 approval may be submitted for L2 certification. However, approval will not be granted on a Terminal which fails EMVCo L1 approval. Vendors will need to provide their L1 approval number, or confirm their L1 test date, when requesting certification."

American Express *mandates* that all Terminals receive L2 certification. The aim of L2 Terminal Certification is to ensure that the Terminal complies with XP-TERM 3.x or EMV CL-C4.

Further detailed information on the approach and process to acquire Expresspay Level 2 Terminal Certification can be found in XP-L2 TERM.

#### 6.1.2 End to End Certification

#### 6.1.2.1 Level 3(L3) End to End Certification

The aim of L3 Terminal Certification is to ensure complete End-to-End (E2E) operation of the Terminal and that a Terminal:

- Has had its components (Kernel, Terminal Application and hardware) successfully integrated
- Can be configured according to local requirements
- Correctly formats authorization and settlement messages
- Correctly handles the User Interface

American Express mandates that all Terminals require L3 approval. Prior to submitting a request for L3 certification, the Terminal *must* have been approved for EMVCo Contactless L1 and EMVCo or American Express Contactless L2. L3 Certification is the final level of testing that needs to be completed prior to a Terminal being deployed.

**Note:** American Express and banking industry associations in certain countries may also set local requirements. These tend to be related to national rollouts in order to ensure there is a consistent approach in a country. Your American Express representative can help you with any applicable local requirements.

#### 6.1.3 Approach to Certification

As previously discussed, the Reader and/or TAT Vendor is normally responsible for passing the L1 and L2 Certification. L3 Certification is normally the responsibility of either the Acquirer or the Merchant

L3 Certification is conducted directly between American Express, the Acquirer and the Merchant.

Note: If a Transit Merchant uses any level of Back Office functionality in the calculation of fares or generation of authorisation and submission messaging, American Express expect L3 Certification responsibility to sit with the Merchant / Acquirer and American Express.

### Î

### 6.2 Acquirer Certification

For American Express compliance, the Acquirer needs to be certified to:

- Send and receive American Express Global Network Services (AEGNS)-compliant, online authorization messages as specified in NETWORK.
- Submit and receive AEGNS-compliant, batch clearing and settlement files containing financial transactions as specified in NETWORK.
- Submit AEGNS-compliant, batch data collection files as specified in NETWORK.

The Acquirer needs to contact their AEGNS Representative to start a certification procedure. There are two Certification phases:

- Phase I- Unattended Testing
- Phase II- Connectivity Testing

An overview of the Acquirer certification is illustrated in Figure 8.



#### Figure 8 - Acquirer Certification Overview

#### 6.2.1 Phase I – Unattended Testing

Phase I is unattended testing with the Network Test Simulator (NTS). The Network Test Simulator (NTS) is a web-based testing tool that simulates the Network processing of authorization, financial, and data collection messages. In this phase, Acquirers send and receive a sample of messages with no Network connection. AEGNS supplies the test scripts for this phase.

Fees associated with the GNS web Test Simulator can be found in the Business and Operational Policies (BOP) manual

#### 6.2.2 Phase II – Connectivity Testing

During Phase II, the telecommunication connectivity between the Acquirer and the AEGNS host is validated. A Global Online Business Exchange (GLOBE) is installed on the Acquirer's site to connect to the Amex Network. Testing verifies

the file formats and complete connectivity between the Acquirer, the GLOBE and telecommunications lines through the Network.

#### **Clearing and Settlement**

The Acquirer *must* successfully send and receive multiple batch Clearing and Settlement files utilizing the Network Test Simulator (NTS).

#### **Data Collection**

The Acquirer **must** successfully send and receive Data Collection files.

**Note:** Before the Acquirers can start Beta Testing, they *must* complete Phase III testing for Authorizations, Clearing and Settlement, and Data Collection as applicable for the installation.

#### 6.2.3 Feature Certification

Feature certification lets Acquirers stay current with the Network file and record formats and/or select functionality that is necessary for their business.

AEGNS releases functionality 2 times each year. The functionality has changes that can be mandatory or optional as outlined below:

- Mandatory feature All Acquirers are required to certify in AEGNS timeframes.
- Optional feature Certification can be necessary for Acquirer who use the functionality.
  - E.g. Cardrefresher and Negative File

After Feature certification is complete for Authorization-related features, the Acquirer has thirty (30) calendar days to implement. If the feature(s) are not implemented within thirty (30) days of certification completion, Acquirers **must** complete regression testing for that feature.

**Note:** Contact your AEGNS Representative to schedule feature certification.

### 6.3 Test Tools & Certification Laboratories

American Express holds a list of accredited laboratories that can be contacted for L2 testing that can be found on: <a href="https://network.americanexpress.com/globalnetwork/amex-enabled/">https://network.americanexpress.com/globalnetwork/amex-enabled/</a>

A list of accredited test tools can be found as well on the website.

Vendors and Merchants should note that these lists are updated regularly and need to ensure they are still using latest accredited resources before contracting any certification process.

## 7 Implementation Process

This Chapter provides indicative timelines and activities for the implementation of a Contactless Open-loop payment Transit project.

## 7.1 Typical Implementation Timelines

The example below outlines a possible implementation timeline for Transit Authority and American Express activity. Additional Merchant technical development steps may extend this timeline.

	Stage	Timing	
(0	Commercial negotiation/contract (Merchant Agreement if needed)	6 months	
scussions	Transit risk model review (AXP/Transit Agency/Transit Integrator information sessions)	3 months	Typical
ons/Dis	Standard ertifications (Auth/Submission/Telco) and Direct Connectivity (optional)	3-4 months	lly 8-1
ti	Host or E2E Certification	2 months	
tig	*Terminal Certifications	1-3 months	
Nego	Transit – Optional Certifications (if opting-in for Negative File or Cardrefresher	3-6 months	nonth
	Integration Testing (i.e., Beta Testing or Controlled/Phased Launch)	1-2 months	ר E
	Rollout	1 month	N
Launch	Post-implementation monitoring and tracking	3 months	m

#### Figure 9 - Implementation Timeline

\* Phase 1 of 'Acquirer Certification' should be completed before initiating 'Terminal Certification'

## 7.2 Pre-implementation Checklist

#### 7.2.1 Merchant (Processor/Integrator)

#### 7.2.1.1 Kick off and Solution Assessment

The Transit Authority *must* reach a decision about the Transit models, fare models and optional features that they wish to implement, having agreed with the Acquirer and American Express that the solution is an acceptable implementation for the given market. This will include choosing a Transit transaction model (see section 4.3 Choosing a Transit Transaction Model).

#### 7.2.1.2 Design and Build

During the design and build stage, the Merchant / Integrator will either procure, or oversee the implementation of a solution that meets their requirements (see section 5.1.1 Merchant Systems). As part of this process, a Merchant may wish to consider the following:

- Are applicable new and upgraded front office components available?
  - o Readers
  - o TATs
  - o Faregates
  - Revenue Inspection devices
- Are the required Back Office components in place?
  - o Fare management
  - o Risk management
  - o Account management
  - Customer service
- Is there a test program in place prior to certification activity, and has American Express been engaged to provide support during the design and build phase?
- Has a QSA been engaged to consider PCI-DSS implications across the Merchant systems?
- Is there sufficient connectivity between the Front Office, Middle Office (if used) and Back Office, and on to the Acquirer?
- Is an arrangement in place with American Express for Negative File and/ or Cardrefresher provision if required?

#### 7.2.1.3 Deployment and Post-Launch

The rollout of new acceptance media on a Transit system needs to be carefully thought out, as customer acceptance is key to realizing the benefits of Open-loop Transit. The launch planning in section 5.2 Launch Planning identifies the need for a plan showing:

- The order of deployment across different Transit modes
- The choice and order of deployment of Transit models
- Deployment of customer self-service and/or other servicing capabilities
- Pre-launch communications
- Staff training

• Launch communications (e.g. marketing material, customer messaging etc.)

#### 7.2.2 Acquirer

The following contains a *recommended* checklist and key considerations for deployment.

#### 7.2.2.1 Kick-Off and Solution Assessment

The first step for an Acquirer when getting involved in a Merchant Transit Solution is to familiarise themselves with the solution and ensure that they are fully prepared to process American Express Contactless Transit Transactions.

Assess Transit Solution

- What is the strategy of the Merchant and any delivery partners and does it impact my systems?
- Do I need to engage with the American Express Network Deployment team?
- Review Amex Transit Policy (section 4.2.7 of BOP)
  - Understand the policy requirements for Transit & provisions in place to mitigate risk
- Review Expresspay messaging features for Transit in the Network Specifications
- Assess build requirements (e.g. coding to Network Specifications, connectivity)
- Determine if Transit merchant wishes to benefit from opt-in of Negative File and Cardrefresher option
- Platform Readiness

Are there any Acquirer build requirements to support coding to specifications and/or connectivity to the Network?

- Is the Merchant Back Office readied to support transaction processing?
- Alignment across Network Participants

Remain engaged and aligned with the Merchant on their implementation plans for contactless open payments.

#### 7.2.2.2 Test and Certification

All stakeholders *must* be certified for Transit Transactions:

- Acquirer *must* be host certified for Expresspay and relevant Transit indicators
  - o Acquirer must L3 e2e certify merchant Transit terminals
  - Acquirer host and L3 e2e test plans for Expresspay and Transit are provided by American Express.

7.2.2.3 Deployment and Post-Launch

Acquirers should consider the following activities for solution deployment:

- Launch and BAU Readiness
- Internal and External Market Communication
- Contingency Plan for unplanned or unexpected impacts
- Reporting (e.g. post monitoring of adoption, disputes)
- Maintaining relationship with Merchant

## Appendix A: Glossary and Acronyms

Term	Meaning
AAC	Application Authentication Cryptogram. A type of cryptogram indicating that the Chip Card declined to approve the transaction
AC	A secure data element generated by the Card across a defined set of transaction data to enable the Issuer to verify the authenticity of an authorization or settlement request
Acquirer	An American Express Entity which has, or any other Person authorized by an American Express Entity which has, a contract with an S/E pursuant to which: A Card Member is entitled to charge purchases of goods or services at such S/E by means of a Card, and the S/E agrees to transfer such charges to the Acquirer.
AEGN	American Express Global Network. The aggregate of S/Es that accept Cards and the operational service delivery, systems and marketing infrastructure that supports them and the American Express Brand.
AEGN	American Express Global Network Services.
AEIPS	American Express ICC Payment Specifications
AFCS	Automated Fare Collection System
Agent	A body responsible for deploying the American Express Contactless NFC solution to the Merchant live environment.
AID	Application Identifier. A value defined by ISO 7816-5 and used to identify the application to the Terminal.
AIP	Application Interchange Profile
American Express Blue Box	The American Express registered trade mark.
API	Application Programming Interface
Application Selection	The first stage of an EMV transaction in which the Card and Terminal agree the application which will process the transaction.
ARPC	A type of Cryptogram returned from the Acquirer as the result of an EMV authorization request.
ARQC	A type of Cryptogram indicating that the Chip Card wishes the transaction to go Online.
ATC	Application Transaction Counter. A counter maintained by a Chip Card that is incremented by one every time that card performs a transaction
ATC Synchronization	A specific function used in Transit environments to ensure that the Card ATC and Issuer ATC do not lose synchronization.
Authorized Processor	A third party company that has been certified by AEGNS to perform processing services on an Acquirer's or Issuer's behalf.

Term	Meaning
BIN	Bank Identification Number. A six (6) digit number identifying the Issuer Institution. It is also used as the first six (6) digits of a Card Account number issued by the Issuer.
Bit 55	The field in ISO 8583 authorization request and response message that holds Chip Card data
САРК	Certificate Authority Public Key
Card	In this document, a generic term for all American Express Contactless compliant Form Factors and proximity payment devices.
Card Action Analysis	A stage in an EMV transaction where the Card carries out its risk management processing.
"Card Clash"	A term to indicate when a contactless Reader has simultaneously detected more than one contactless card in its operating field. Expresspay – certified Readers, in common with other payment and Transit Readers, will not proceed with a transaction in these circumstances
Cardholder Name	An EMV defined term. Refers to the data element stored within a Chip Card indicating the name of the Cardholder.
Cardholder Verification	An EMV defined term. The process by which AEIPS compliant Chip Cards and Terminals verify the Card Member.
Card Member	A person who has entered into an agreement and established a card account with any Issuer, or whose name is embossed on a card.
CDA	Combined Dynamic Data Authentication/Application Cryptogram Generation. A means by which a Terminal can authenticate a Chip Card, defined by EMV.
Certification	Refers to the Certification of any device or interface that involves data transfer, including terminals (levels 1, 2 & 3), Transit specific interfaces, and other Merchant interfaces.
Certification Contact	The party responsible for carrying out L3 certification
Chip Card	A Card with an embedded chip containing AEIPS and/or American Express Contactless NFC applications that, when used at a Chip Card-enabled POS device, interacts with the POS device to initiate AEIPS or American Express Contactless NFC Transactions.
Contact Chip	Describes a device or specification that uses a Contact Chip interface as defined in ISO 7816
Contactless	A term used to describe a Transaction environment in which the Card is enabled with a Radio Frequency chip to communicate with a Radio Frequency-enabled POS device to initiate a Transaction.
Contactless Floor Limit	For transaction amounts above this limit, Online Issuer Authorization is required.
Contactless NFC Card	A Card with an embedded chip containing a Contactless NFC application that, when used at a Chip Card-enabled POS device, interacts with the POS device to initiate Contactless NFC Transactions.
Contactless NFC Mobile	A mobile phone / device which contains specific NFC hardware which allows it to operate as a Contactless NFC Card.

Term	Meaning
Contactless Plastic Card	A plastic card conforming to American Express specifications which has Contactless technology embedded within it. The Card may be Contactless only, or have Dual Interface capability.
Contactless Transaction Limit	For transaction amounts at or above this limit, a Contactless NFC transaction is prohibited.
Cryptogram	Security data created by the Chip Card or Issuer systems and used to validate a transaction or authorization response.
CRF	Certification Request Form
CSC	Card Security Code. A security code (stored on a Magnetic Stripe or Chip) that is sent to the Issuer during transactions.
CVM	Cardholder Verification Method
CVM Required Limit	For transaction amounts at or above this limit, Cardholder Verification is required.
CVR	Card Verification Results
Deny List	A file created and maintained by a Transit Authority / Integrator for the purposes of financial Risk Management for the Merchant. Potentially used alongside, or be supplemented by the American Express Negative List.
Domestic Use Only	A Chip Card that is only able to be used within the market in which it was issued.
DPAN	Digital Primary Account Number (Sometimes also referred as Device PAN), provisioned on media such as Mobile, Tablet, watch etc instead of FPAN, for enhanced security.
Dual Interface	A Chip Card that is capable of communicating with a Terminal using both Contact Chip and Contactless technology.
E2E	End to End. Encompassing the complete operation of the Payment System from Card to Issuer systems.
EFT	Electronic Funds Transfer
EFTPOS	Electronic Funds Transfer Payment System
EMV	EMV originally stood for "Europay, Mastercard, and Visa", the three companies that created the standard. The standard is now managed by EMVCo, a consortium of financial companies , including American Express
EMV Mode	An American Express Contactless NFC transaction mode that uses EMV compliant processes both between the Card and Terminal and between the Terminal and the Acquirer.
EMVCo	EMVCo LLC, the organization that manages the EMV specifications and the approval process for cards and Terminals. See https://www.emvco.com.
EPOS	Electronic Point Of Sales
ESD	Electrostatic Sensitive Device

Term	Meaning
Expresspay	The American Express Contactless Payment Specifications. Expresspay has a legacy definition to mean the program within American Express for facilitating Contactless Transactions between a Chip Card containing an American Express Contactless application and a suitable POS device, using the Expresspay specifications. However, the term Expresspay should only be used to mean the American Express Contactless Payment Specifications.
Fall Forward	When a Contactless transaction cannot be completed, the transaction may be performed using the Contact Chip interface, if the payment product supports both.
Fallback	When an AEIPS Transaction cannot be completed in a Chip Enabled Device utilizing chip technology, the Chip Enabled Device then reads the card Magnetic Stripe.
Faregate	A turnstile, gate or other facility in a Transit system equipped with a Contactless reader and Transit Access Terminal that provides contactless ticketing and fare collection, and in the case of a turnstile or gate, a physical barrier to enter / exit the Transit system.
Floor Limit	A maximum monetary amount for a single transaction, at or above which Authorization <i>must</i> be obtained before completing the transaction.
Form Factor	The physical characteristics of a device, including its size and shape. The most typical form factor is the plastic card, however a mobile phone is an example of a non-traditional Form Factor.
FPAN	Funding PAN
GLOBE	Global Online Business Exchange
GNSAS	Global Network Services Authorization System
IAD	Issuer Authentication Data. The data field within Bit 55 in an authorization response message that contains the ARPC and the ARC for use in Issuer authentication.
ICC	Integrated Circuit Card, alternative term for Chip Card.
ICS	Implementation Conformance Statement. A form completed by a Terminal's application provider listing all optional functions supported by the Terminal.
IIN	Issuer Identification Number. Also referred to as BIN.
Implementers	The collective term for: Terminal Vendors; Merchants; Acquirers or Authorized Processors charged with Implementing American Express Contactless NFC acceptance at the POS.
Issuer	An entity licensed by the American Express network to issue American Express branded Cards and maintain the Card Member relationship.
Issuer Script	A collection of card commands constructed and sent by the Issuer for the purpose of updating and managing their cards.
Kernel	A dedicated software component which fully encapsulates the Card processing requirements of a Payment System.
L1	Level 1 certification – EMVCo Level 1 Terminal Type Approval
L2	Level 2 certification - Expresspay Level 2 or EMVCo Level 2 Terminal Type Approval

Term	Meaning
L3	Level 3 certification - End to End Terminal Certification
LoA	Letter of Approval
LED	Light Emitting Diode
Magnetic Stripe	A stripe located on the rear of a plastic Card which contains magnetically encoded information.
Magstripe Mode	An American Express Contactless NFC transaction mode that uses EMV compliant processes both between the Card and Terminal but uses traditional Magnetic Stripe message formats between the Terminal and the Acquirer.
MCC	Merchant Category Code
Mobile CVM	Mobile Cardholder Verification Method
Merchant	A person or organization, such as a retailer or a Transit Authority/Transit Integrator (TA/TI), who has entered into a contract with an Acquirer for card acceptance services.
МІ	Management Information
MPPD	Mobile Proximity Payment Device. An NFC-based mobile phone device capable of performing Contactless American Express Contactless NFC transactions and running a user payment application.
NFC	Near Field Communications. This is a technology that supports communications between two supporting devices only when they are in close proximity (less than 10cm).
Negative List	An American Express supplied file of country or regional Contactless account numbers, which would be denied authorization. Typically used in Transit of Offline acceptance Terminals.
ODA	Offline Data Authentication
Offline	When a transaction is performed without the Terminal connecting to the Acquirer.
Online	A transaction that is sent to the Acquirer prior to transaction completion.
Online PIN	A CVM where the Cardholder PIN is encrypted and sent to the Issuer host for verification.
Operating System	A collection of software components which manage hardware resources and provide common services for applications to function.
Operating Volume	The space in front of an American Express Contactless NFC Reader where the RF field is present.
PAN	Primary Account Number. A series of digits used to identify a Card Member Account or relationship. The assigned number identifies the Issuer and Card Member Account. The PAN is embossed onto the Card plastic (or, for Prepaid Cards, may be printed), encoded into the Magnetic Stripe, and printed on the back of a Card.

Term	Meaning	
Partial Online	A Partial Online transaction is an American Express Contactless NFC transaction that is submitted to the Issuer for authorization prior to transaction completion, but for which the Card is removed from the Terminal field before the authorization result is returned.	
Passback Rules	TA rules which control the permitted frequency / time interval within which any Contactless Card can be tapped at a Faregate. Pass-back may also include velocity rules with regard to the time, distance and range of travel.	
Payment Kernel	See Kernel.	
Payment System	A party operating a payment card network.	
PDOL	Processing Options Data Object List	
PIN	Personal Identification Number	
PIN Pad	The component of a Terminal that is used by the Card Member to enter the PIN for Cardholder Verification.	
POS	Point Of Sale	
POS Application	Software residing in the Terminal or POS to which the Reader is attached which implements the business requirements and functionality beyond the scope of the Payment System specifications. This will include local market requirements and host communications protocols.	
PPSE	Proximity Payment Systems Environment	
Processor	A party that processes American Express transactions on behalf of Merchants, Acquirers, or Issuers.	
Public Key	A cryptographic key used in asymmetric cryptography. In order to verify the authenticity of a communication that one party has generated with a Private Key, the second party need only have the first party's Public Key. Public Keys may be freely distributed.	
Reader	The component of a Terminal that communicates with Chip Cards.	
RF	Radio Frequency. The medium over which Contactless Cards and Readers communicate.	
Risk Management	The process by which AEIPS compliant Chip Cards and Terminals assess whether a transaction should be approved, declined or sent Online.	
SDA	Static Data Authentication. A means by which a Terminal can authenticate a Chip Card, defined by EMV.	
S/E	Service Establishment	
SLA	Service Level Agreement	
TAC	Terminal Action Code	

Term	Meaning	
тс	Transaction Certificate. A digital signature comprised of Issuer selected data objects. The Transaction Certificate is generated by the Chip Card at the end of an approved Transaction and enables the Issuer to verify that critical chip data was not changed prior to card validation.	
Terminal	A device capable of accepting American Express Card products for payment for goods or services.	
Terminal Exception File	A file of account numbers to be used by the Terminal, for which the Merchant or AEGN has predetermined an authorization decision of denial.	
Terminal Floor Limit	A maximum monetary amount for a single transaction, loaded into the Terminal, at or above which the Terminal <i>must</i> obtain an Authorization before completing the transaction.	
Terminal Management System (TMS)	A system which provides an estate owner with the ability to remotely manage and update the software and parameters of the Terminals in their estate.	
Terminal Vendor	A party that manufactures and sells Terminals.	
Test Laboratory/Test Lab	A facility accredited by a body to carry out testing / certification on their behalf.	
TMS	Terminal Management System	
Track 1	An ISO/IEC defined data area on the Cards Magnetic Stripe	
Track 2	An ISO/IEC defined data area on the Cards Magnetic Stripe	
Transit	A specific Merchant category relating to public transportation.	
Transit Access Terminal	A Terminal (accompanied by a Contactless Card reader) that provides Contactless Card ticketing and fare collection, located at or within a Transit system Faregate.	
Transit Authority	A body responsible for providing public transportation within a distinct area or region.	
Transit Integrator	A body responsible for ensuring that the components of a Transit system function together to provide the desired service.	
TVR	Terminal Verification Results	
Unpredictable Number	A number generated by the Terminal and used by the card in AC generation.	
USB	Universal Serial Bus	

# Appendix B – Identify Transit model based on the requirements

### **Transit Model Requirements**

The following table summarizes some of the key requirements of Transit projects which influence the decision regarding the most appropriate Transit transaction model.

Model-impacting requirement	Key Merchant Question
Customers can just turn up and tap to travel, without requiring registration or pre-purchase. <i>This is about traveler convenience versus any merchant desire to take</i> <i>payment in advance.</i>	Should I only support Pay-as-you-go (PAYG), or are pre-purchased 'season' tickets required in addition/instead?
Customers <i>must</i> be given immediate access to the Transit system, regardless of whether or not the financial authorisation has completed. <i>There are two reasons why it might not be possible to wait for the</i> <i>financial authorisation to complete before granting access to a Transit</i> <i>network:</i> Rapid access (<500ms) is required Reader connectivity is intermittent, for example, due to being on a moving vehicle.	Do my customers require immediate access to the Transit system such that I cannot perform the financial authorisation for PAYG customers before access is granted?
The Transit system <i>must</i> support acceptance of all Expresspay products, including Cards and mobile devices. Some Expresspay devices (particularly non-Card form factors) cannot be accepted at offline-only terminals.	How do I ensure all form factors are accepted?
The Transit model <i>must</i> support complex fare structures (such as fare aggregation or multiple journey capping) If the Transit system requires support for journey calculation beyond simple point to point journeys, then this has implications for the Merchant Back Office.	Is my planned fare structure such that one customer journey always equates to one customer charge?
The Merchant wants to operate under the enhanced authorisation protection provided under the American Express Transit Policy as defined in the BOP <i>American Express have special rules for Transit that provide Merchants</i> <i>with the opportunity to aggregate financial transactions and for the</i> <i>Merchant, and/or their acquirer to receive some liability protection.</i>	Does my risk policy require usage of the enhanced authorization protection provided for Expresspay Transactions at TATs, as defined in the BOP

Table 8 - Transit Model Requirements

An individual Merchant may wish to meet none, some, or all of these requirements. The impact that decision has on their transaction model options is shown in Section 3.2 Choosing the Right Approach.

It is important to note that these requirements are only those that directly impact the choice of transaction model. There are many more requirements that Merchants and Acquirers need to consider, such as customer servicing, PCI compliance considerations, terminal and network certification and marketing plans. These wider requirements are considered in more detail in Sections 4 Pre-Implementation Considerations 5 Getting Started and 6 Certification and Testing.



## **Defining a Transit Solution**

Once the approach has been identified, and a team is established to implement a Contactless Open-loop payment Transit project, the team need to answer a number of key questions to assist in completing their solution definition. These include the questions outlined below:

#### Merchant Set Up

- Is the Transit Authority or Transit Integrator currently an American Express Merchant?
- Should different S/E merchant numbers be used to differentiate payment at Faregate, versus Kiosk and online (as *recommended* by American Express)?

#### **General Launch Plans**

- What modes of transportation will be enabled with an open payments solution?
- Is there a phased approach to the launch?
- If phased, what are the phase definitions and timelines? E.g. does the phasing reflect a rollout across different Transit modes, or a progression from one Transit model to another, or both?
- What type of testing is required?

#### **Fare Types and Payments**

- What are the different fare types (single (Pay as you go), daily, weekly, monthly, value-based, distanced based, senior, student, etc.)? Does the Merchant have a table or matrix that documents fare types?
- What Payment forms will be accepted (e.g. credit, pre-paid, etc.)? Mobile wallet? Magstripe (MSD), EMV, or both?
- Will there be any payment forms which will be blocked?

#### Merchant Back Office

- How often will authorizations be done? Will it be real time, near real time, etc.?
- How often will payment card scheme settlements be done?
- Will there be aggregation on Pay-As-You-Go transactions? If yes how will aggregation work?
- When is fare calculated? Entry, exit, end of the day?

#### List Management

- Is the Merchant planning to use a Deny List?
- How will the card status / Deny List be managed?
- Will the Merchant opt-in to receive a Negative File from American Express?

#### Servicing the Customer

• How will customer disputes be handled and serviced for the Transit solution?

- How will a customer be removed from the Merchant managed Deny List?
- How will Transit payments appear on customer statements? The use of Aggregation prior to Settlement may impact the understandability of the traveler bank statement and the wording should be carefully considered.
- How will a customer access journey history and billing data?

### Appendix C - FAQs

## **Certification FAQs**

#### How can a Transit Authority begin accepting American Express contactless and mobile NFC transactions?

In order to accept American Express contactless and mobile NFC payments, the Transit Authority is required to deploy contactless Transit Access Terminals at the entry to and/or exit from the Transit system as required by route or mode of transport. Merchants may also deploy fixed or mobile (hand held) terminals to support intra journey taps (e.g. where a specific route is charged at a lower fare) and revenue inspection.

Additional steps may be required. Check with your Processor and your American Express representative to identify additional set-up requirements to accept American Express Cards in the Transit environment

#### Which is the latest American Express specification to support contactless and mobile NFC payments?

The latest Expresspay specifications for Mobile NFC and contactless Card payments can be accessed via your Processor or your American Express representative.

#### How long does it take to get the technology up and running?

It depends on the Transit Authority's current point-of-sale environment. Transit Authorities should contact their Acquirer and POS provider to find out the readiness level to support contactless and mobile NFC payments.

#### If a Transit Authority has a contactless reader that accepts another network solution, will it be able to accept American Express mobile NFC transactions?

Yes, providing the Transit Authority deploys American Express L2 certified Transit Access Terminals, and any Back Office capabilities have successfully completed full L3 end to end testing. This may require some configuration work to ensure the end to end messaging meets American Express specifications.

#### What is the cost for implementing contactless and mobile NFC payments?

The cost of implementing contactless and mobile NFC payments depends on the work required to deploy contactless readers at the Faregate and the development work required to prepare internal systems to process contactless payments.

#### What are the American Express certification requirements for contactless?

American Express requires Transit authorities and Processors to comply with the American Express specifications for authorization and settlement.

In addition, Transit Authorities and Processors implementing Expresspay-enabled devices *must* comply with an end to end certification with American Express. For more detailed certification requirements, contact your American Express representative.

## Are there specifications that POS manufacturers or IPOS vendors *must* use in order to enable POS systems to accept American Express contactless transactions?

Transit authorities adopting contactless and mobile NFC technology should look for devices that support Expresspay. Expresspay will provide the Transit Authority with the ability to support contactless transactions, both for magnetic stripe and EMV technologies.

#### Are other major Processors certified to accept contactless and Mobile NFC payments?

Most Processors support American Express contactless and Mobile NFC payments. Transit authorities should contact their Processor/Acquirer to find out more.

#### Are other major Processors certified to process the enhanced authorization messaging for Transit?

The enhanced authorization messaging may be available through the Processor if they have enabled a Transit Authority previously. Check with your Processor to determine their readiness and contact your American Express representative to support Processor certification for enhanced Transit features

#### Will contactless transactions be PCI compliant?

All entities processing, storing or transmitting Card data are required to do so in accordance with the PCI DSS, regardless of how the transactions are processed. Check with your Qualifies Security Assessor (QSA) or visit the PCI Security Standards Council website for more information.

#### How do Transit Authorities promote contactless card and mobile NFC acceptance to customers?

Transit authorities may use of number of methods to market and promote contactless American Express Card and mobile NFC acceptance. It is important to post point of purchase (POP) displays at the Faregate to inform Card Members about using contactless American Express Cards. The message can be reinforced through online and web-based communications along with in-market advertising.

#### Can Transit Authorities work with American Express to promote payments through Mobile NFC?

American Express is interested in opportunities for working with Transit Authorities to design programs to promote American Express mobile NFC transactions in Transit, leveraging mobile NFC communications channels. To find out more, contact your American Express representative for more information

## **General FAQs**

### American Express Contactless and Mobile NFC Payments in Transit

#### What is an American Express contactless or mobile NFC transaction?

An American Express contactless or mobile NFC transaction is a payment transaction initiated through a mobile NFCenabled device such as a smart phone or contactless Card with a contactless-enabled terminal. These devices enable American Express Card Members to touch or tap their Card or NFC-enabled device to the contactless reader and go.

#### How are contactless cards, NFC-enabled mobile devices and contactless-enabled terminals identified?

The universal contactless symbol and indicator <sup>(1)</sup> identifies contactless terminals and payment devices. These icons are now used worldwide to signal contactless payments and are easily recognized by cons Taken from 'Transit Product Playbook - Final 3-28-2014.pdfumers in regions where contactless payments have become common.

The Universal Contactless Symbol should only appear on terminals with contactless capability.



The Universal Contactless Indicator appears on the back or front of an American Express® Card to indicate contactless technology.



Figure 10 - EMVCo Contactless Indicator on an American Express Contactless NFC Card

## Benefits of Contactless and Mobile NFC Transit Payments

#### How do contactless and mobile NFC technology help optimize payments in the Transit industry?

Makes it easier for customers to pay for travel, increasing ridership and revenue:

- Creates a more convenient, seamless and rewarding experience for customers
- Reduces costs of handling cash and maintaining proprietary fare systems
- Improves the ticketing and boarding experience while maintaining speed
- Introduces enhanced EMV payment security at the point of sale (POS)

#### How do contactless and mobile NFC payments benefit Card issuers?

- Helps establish top-of-wallet preference as Card becomes "Transit pass"
- Drives everyday spend away from cash as Card Members become comfortable with contactless and mobile NFC
- Helps ensure a secure Card experience to gain customer confidence
- Capitalizes on American Express' Card expertise to ensure a seamless Transition to contactless and mobile NFC
- Offer innovative Card capabilities to appeal to American Express Card Members interested in new technology

### Payments, Interactions and Transaction Security

#### Is there a signature or PIN required at the point of sale (POS)?

Transit Faregate readers do not have PIN or signature capture capabilities. The American Express Transit Solution offers specially-designed capabilities to help minimize risk and limit exposure in the Transit environment.

#### Do contactless and mobile NFC transactions require the consumer to do anything additional?

Once the terminals are in place at the point of sale, and they are certified to process contactless Expresspay Transit transactions, then the processing is as simple as the Card Member tapping the contactless American Express Card or mobile NFC device and going on their way.

#### How will contactless transactions impact speed at the Faregate?

The American Express Transit Solution was designed to support Transit industry speed of entry requirements. The enhanced authorization processes and risk controls specially designed for the Transit industry require a back office and do not impact on speed of entry at the Faregate.

#### Are American Express contactless and mobile NFC transactions secure?

All transactions, whether they be contact or contactless or mobile-NFC, benefit from multiple layers of security implemented throughout the credit payment system to protect all parties involved in the payment transaction. For chip based products, this includes the use of cryptographic mechanisms. However, many of the protective measures are

independent of the technology used in the physical transaction between the Card and the terminal. These include online authorization, risk management and real-time fraud detection systems along with the existing protections against fraudulent transactions in place for traditional transactions through American Express payment Cards

## What if an American Express contactless or mobile NFC transaction doesn't work at the Transit Access Terminal?

All American Express contactless products certified to Expresspay specifications are designed to work with the American Express Transit Solution (check for the contactless symbol on the front or back of the Card). If there is any issue with using a Card at the TAT, the customer is usually able to seek assistance from the Transit operator's staff, but may need to use an alternative method of payment until the issue can be resolved...

## Customer Experience and Marketing

## How does American Express contactless and mobile NFC technology help optimize the Transit customer experience?

- Makes it easier for customers to pay for travel, increasing ridership and revenue no queues, no top ups
- Creates a more convenient, seamless and rewarding point of sale experience for customers
- Improves the ticketing and boarding experience while maintaining speed
- Introduces enhanced EMV payment security at the point of sale (POS)

## How can American Express help Transit Authorities use Contactless and Mobile NFC technology to help optimize marketing opportunities?

American Express can provide:

- Business insight reports about traveller behaviour
- Access to new marketing channels as well as opportunities to work with leaders in the digital space to capitalize on digital commerce
- Ability to bring frequent travelling American Express Card Members to Transit Authority's business
- Opportunity to increase ridership by using digital marketing to promote non-peak times, e.g. weekend travel

#### What do customers need to do in order to pay with Mobile NFC?

Before Card Members can use their American Express Card with their mobile NFC device, they *must* have first loaded their Card in to their mobile wallet based on the wallet and the issuing Card requirements.

## Where does the Card Member call for more information about using their contactless Card or mobile-NFC device in Transit?

The Card Member should call the toll-free number on the back of their American Express Card for more information about contactless and mobile NFC functionality.