National Common Mobility Card Program (NCMC)

Agenda

- ❑ **Digital Fare Collection – Key Drivers**

- ❑ **NCMC – An Overview**

- ❑ **NCMC Implementation Model**

- ❑ **Key Takeaways**

Key Drivers – Digital Fare Collection

Operational Aspects	Infrastructure	Risk & Liabilities
Multiple transport operators within states, cities	Network connectivity	Risk associated with Issuer Bank
Penetration in urban as well as rural areas; Customers across all segments	Infrastructure management	Averse to financial liability
Complex fare system with multiple products	Investment and lack of central control	Lack of customer credit data
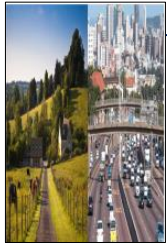
Key Factors – Independent of network connectivity and minimal financial risk to involved stakeholders

Digital Fare Collection in India

Arrangements for fare collection	Cash	Closed Loop	Open Loop
In-house fare collection management	✓	X	X
Fare collection management in association with System Integrator	✓	✓ Cash Card	X
Fare collection management in association with System Integrator and Financial Institution	✓	✓ Hybrid Card	✓ NCMC

Closed Loop System NFC Cards — Delhi Metro, Mumbai Metro

Closed Loop System NFC + EMV Debit Cards — UPSRTC (Uttar Pradesh)

NFC Contactless Open Loop Prepaid Cards — BMTC (Bangalore), Kochi Metro

Need of an easy, convenient, cost-effective, secured and interoperable fare media to enable wider penetration

NCMC Program – An Overview

- Program under **Ministry of Urban Development (MoUD)**, with a Smart **National Common Mobility Card (NCMC) model**

- Theme: **One Card usability** in all payment system (Transit Operators, Retail, ecommerce etc.) across India

- **Cater to key drivers of various use cases** including transit, toll, retail, parking etc.

  - **Customers inclusion** across entire socio-economic strata

  - **Minimal transaction time**, **Offline payments**

  - **Minimal financial risk** to involved stakeholders

- Aimed at **huge economies of scale** for the Acquirer/Operators based on standard interoperable platform

- **Mandate to NPCI** for open loop, interoperable, secured and vendor agnostic payment solution development

- **NPCI RuPay Contactless specification** to offer **EMV based Open Loop Payments** for NCMC Program

- Seamless payments experience to customers across all use cases in the country

- Payment cards based on **debit/credit/prepaid card** platform

NCMC Salient Features

NPCI
भारतीय राष्ट्रीय भुगतान निगम
NATIONAL PAYMENTS CORPORATION OF INDIA

1 Banks issued standard & Secure Payment method based on dual interface EMV+ standard

2 Vendor agnostic ecosystem and same card can be used across all operators

3 Provision of Stored Value {Money} Cards which can be accessed offline and speed up transactions

4 Service Area (Reserved space) on card for Storage of Monthly Passes, Tickets & Financial Inclusion products

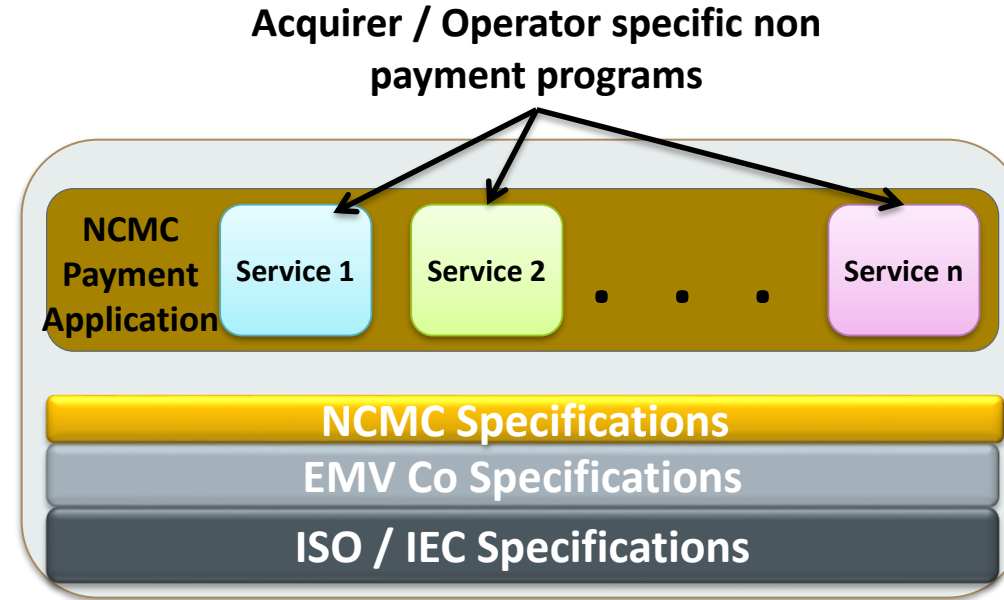**5** Based on open loop and can be used on all PoS/ATM machines in contactless/contact mode

Unique Feature

Unique Feature

NCMC – Stored Value Concept

❑ **Stored Value** for offline payments ensuring minimal transaction time and financial risk to the Merchant/Operators/Banks

❑ Supports creation of wallet in the card

❑ **Global Wallet**

- Balance at the Card Level

- Maintained by Issuer Banks

- May be utilized for offline payments across all use cases of NCMC Cards

NCMC – Service Area Concept

Acquirer / Operator specific non payment programs

| NCMC Payment Application | Service 1 | Service 2 | . . . | Service n |

NCMC Specifications

EMV Co Specifications

ISO / IEC Specifications

☐ Service area in card to be referred by a unique "**Service ID**"

☐ Service may be written on the card post issuance of card

☐ Service operators may write their own specific programs such as transit (all types of passes), loyalty programs etc.

☐ Service operator can update their respective Service area only; any other service area cannot be accessed as that will be protected by unique service key

One Card Many Benefits

Metro

Buses

Parking

ATM

Toll

Retail Shop
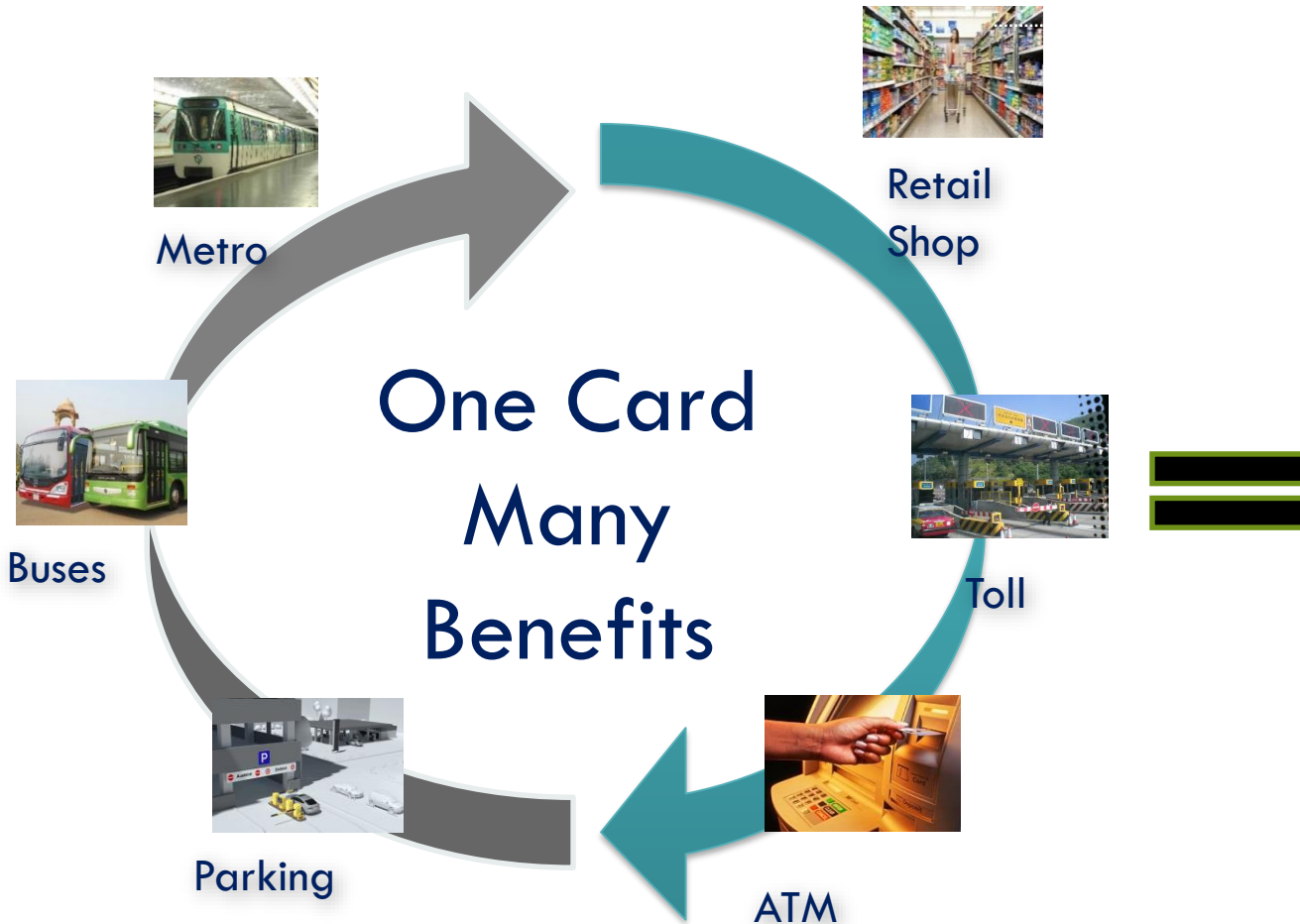
- Improved Efficiency

- Increased Accountability

- Lower cost of ticketing operation

- Interoperability for passengers

Outlines of NCMC Standards

- Card based payment model
- Stored Value for offline payments
- Debit/Prepaid/Credit card platform with Stored Value

Payment Model

- Supports online (contact & contactless) & off-line (contactless) transactions

Transaction Types

- Multiple service areas to support limited duration tickets / Season Tickets / Smart City Specific application / Loyalty points etc.

Multiple Service Areas

- To be used at ATMs, Merchant establishments & online (e-commerce) payments in addition to Transit, Toll, parking & small value merchant payments

Card Usage

- Provision of Topping up the stored value through any mode of payment viz., Online using card, Internet Banking, UPI, Cash at customer service point

Stored Value Top-up

- Since the transaction is permitted against available balance, there is no risk of any loss either to the bank or the SRTU

Transaction Risk

NCMC Deployment Models – Closed Loop Vs Open Loop

Closed Loop

- Operator runs a closed loop scheme

- The responsibility of CAPEX and card lifecycle management lies with the operator

- It may tie up with banks to launch 2 chip hybrid cards (Desfire+EMV)

Open Loop with exclusivity

- Operator ties up with a bank for payments

- The Capex for readers may be shared by the bank

- The acquirer bank is also the issuer for co-branded OTC cards and may have exclusivity for issuance

- The above exclusivity may extend to the fact that only partner bank cards are accepted

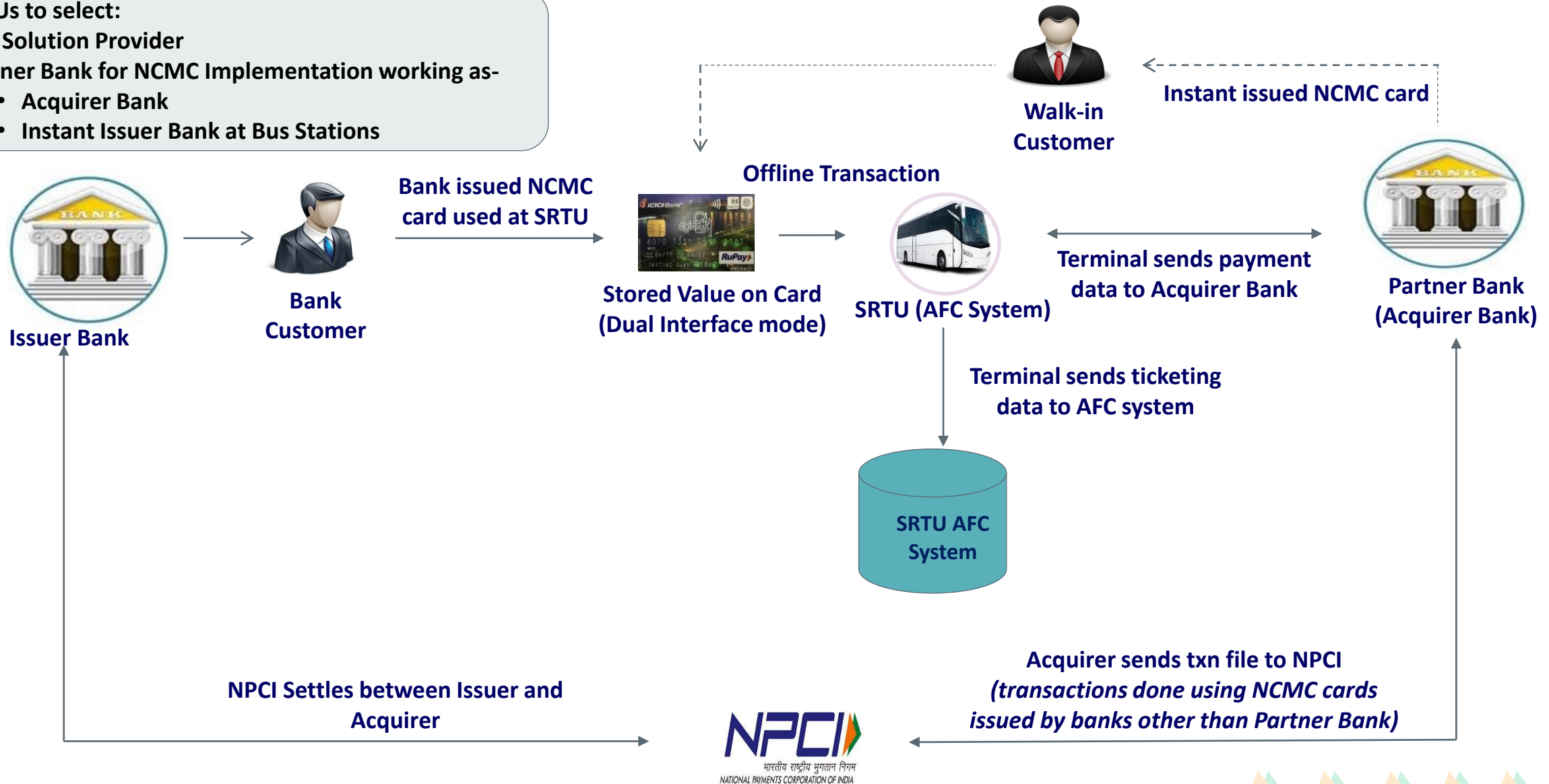## Open Loop Multiple

Recommended by RBI, MEITY and MoHUA

- Operator ties up with a bank for payments acquiring

- The acquirer bank may also be the issuer for co-branded OTC prepaid cards and may have exclusivity for issuance

- However, other banks issued cards are accepted by the operator

NCMC Implementation Model Architecture

SRTUs to select:
- AFC Solution Provider
- Partner Bank for NCMC Implementation working as-
  - Acquirer Bank
  - Instant Issuer Bank at Bus Stations

Walk-in Customer

Instant issued NCMC card

Offline Transaction

Bank issued NCMC card used at SRTU

Issuer Bank

Bank Customer

Stored Value on Card (Dual Interface mode)

SRTU (AFC System)

Terminal sends payment data to Acquirer Bank

Partner Bank (Acquirer Bank)

Terminal sends ticketing data to AFC system

SRTU AFC System

NPCI Settles between Issuer and Acquirer

Acquirer sends txn file to NPCI
(transactions done using NCMC cards issued by banks other than Partner Bank)

What do SRTUs need to do

SRTUs with in-house fare collection management

- ❑ Need to deploy the back-end system in association with System Integrator for automated fare collection system
- ❑ Procurement of EMV compliant ETIMs
- ❑ Associate with bank for acquiring of NCMC based digital transactions

SRTUs managing the fare collection in association with SI

- ❑ Need to phase-out the existing closed loop ETIMs and replace them with EMV compliant ETIMs
- ❑ Associate with banks for acquiring of NCMC based digital transactions
- ❑ Integration of NCMC based payment system with the AFC system

SRTUs managing the fare collection in association with SI and FI

- ❑ Need to open-up for multi-banks issuance so that customers may associate with bank of his own choice

Key Takeaways – NCMC Implementation

Operational

**Adoption of NCMC specifications** for open loop payments
- NCMC implementation for greenfield projects
- Phase-wise up-gradation for brownfield projects

Centralized/Zonal AFC system to ensure minimal deployment cost by small individual operators

Acceptance of all NCMC cards issued through any operator or bank

Instant issuance of NCMC cards at Service Delivery Points as a short term option

Commercial
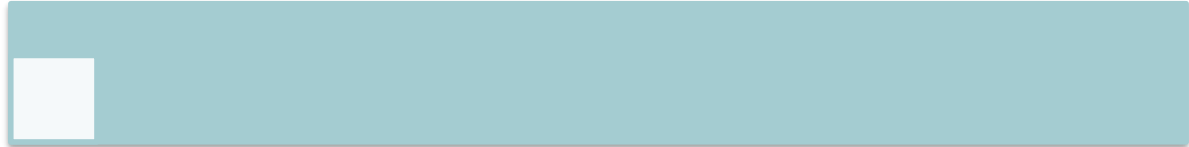
Segregating Ticketing RFP from Payment RFP
- Ensure minimum involvement of banks in AFC/Ticketing systems

Banks to be approached **only for payment acquiring and settlement**

Avoid capex investment through Acquiring Bank. Cost of the payment readers / gate validators may be
- Picked up by the operator
- Rental model with the bank

MDR not to be passed on to customer as it creates resistance in digital adoption

Thank You