National Common Mobility Card (NCMC)
Integrated Multi-modal Ticketing
Budget 2017-18 Announcements

- Mission to be set up to target 2,500 crore digital transactions in FY 2017-18 through UPI, USSD, Aadhaar Pay, IMPS and debit cards

- To promote petrol pumps, fertilizer depots, municipalities, Block offices, road transport offices, universities, colleges, hospitals and other institutions to have facilities for digital payments, including BHIM App
Government of India, Allocation of Business rules amended vide notification dated 13\textsuperscript{th} February, 2017 to include “\textit{Promotion of Digital Transactions Including Digital Payments}” for Ministry of Electronics and Information Technology (MeitY)
DigiDhan Mission

Established under MeitY for ‘Promotion of Digital Payments’

- Coordination with relevant stakeholders for
- Regulatory changes (RBI)
- Infrastructure Expansion (Banks)
- New Technologies Adoption (Fin Tech, Banks)

- Promotion & Awareness Campaign

- Cyber Security Measures

- Monitoring & Reporting
Trend of digital payments

Growth in Digital Transactions (in crore)

<table>
<thead>
<tr>
<th>Year</th>
<th>Digital Transactions of all modes</th>
<th>Digital Transactions of 5 modes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-14</td>
<td>255</td>
<td>62</td>
</tr>
<tr>
<td>2014-15</td>
<td>369</td>
<td>81</td>
</tr>
<tr>
<td>2015-16</td>
<td>552</td>
<td>119</td>
</tr>
<tr>
<td>2016-17</td>
<td>983</td>
<td>328</td>
</tr>
<tr>
<td>2017-18</td>
<td>2500</td>
<td></td>
</tr>
</tbody>
</table>

Target FY 2017-18: 2500 crore
Key NCMC Highlights

- The National Common Mobility Card is a **contactless smart cards**
  - Standard interoperable ePurse feature, and dedicated space allocated for AFC Systems to store local fare products.
  - Multi-modal applications on transport, toll, parking etc.

- Described by **standardized specifications** which detail all things necessary to issue, add value to and consume value from a CMC.

- Includes a complete set of standards ranging from **security key management through to system interfaces**.

- A **Certification Process of AFC system to ensure NCMC acceptance** and comply with the NCMC standards.
National Common Mobility Card – Advantages

The NCMC provides several advantages over traditional ticketing means to all participants

01 Interoperability for passengers
A single card for different modes of transport provides a high degree of convenience for passengers. They no longer have to stand in multiple lines for purchasing tickets.

02 Lower cost of ticketing operation
The NCMC Card in tandem with FC reduces the cost of ticketing operations. Further, the recurring cost of paper tickets is eliminated.

03 Improved efficiency
With the NCMC public transport organizations can efficiently implement complex tariff structures. The card also makes it very simple for the automation of the daily reconciliation of fare collection across different modes.

04 Increased Accountability
The NCMC card plays a big role in reducing fraud, and reducing cash handling and paper ticket cost. Further, it enables timely MIS/feedback for better planning and fleet utilization.

The NCMC also ties in with the ‘Digital India’ initiative and helps the country move towards a less-cash economy.
Use Case – Customer avails multi-modal transport services

1. User avails of bus service

2. Bus Fare charged in NCMC according to STU rules via Certified FE Device

3. Fare charging request is sent to Acquiring System which approves and updates systems and user card

4. User disembarks and boards sub-urban rail

5. Before boarding user taps NCMC on certified NFC device

6. Fare charging request is sent to Acquiring System which approves and updates systems

Fare charging from previous mode has already been updated NCMC

Issuer Host

STU AFCS System

NPCI
**NCMC – Process Flow**

1. **User** approaches **multiple** transport systems.

2. **Acquirer Platform** accepts NCMC payment through devices driven by **certified software**.

3. **AFCS engine** enabling multi-modal fare collection through NCMC.

4. **AFCS engine** transmits and receives transactions from **Financial Institution (FI) issuer host**.

---

**Regulations & Standards**

- Fare Rules
- Regulations & Standards
- Account Management
- Analytics & BI Reports
- Transaction Management
- Grievance Redressal

**Clearing and Settlement**

- NPCI

---

**Issuing System**

- Prepaid A/c
- Credit Card
- m-Wallet

---

**ACFS Engine**

- Acquiring System
- Issuing System

---

**PTO E-ticketing system**
The National Payments Corporation of India have made several recommendations for the implementation of the National Common Mobility Card across transit systems in a city.

The National Common Mobility Card – Ecosystem Players

1. Project Management Consultant
   The project management consultant is responsible for managing the overall project, liaising with the different stakeholders to ensure that scope, cost and time goals are adhered to.

2. Financial Institution
   The Financial institution is required to provide an issuing platform for the cards, along with acquiring infrastructure. Clearing & settlement is also another responsibility of the FI.

3. AFC Solution Provider
   The AFC solution provider is to draw up a suitable system architecture for the AFC system encompassing all requirements. Further, they will also be responsible for systems integration and data synchronization.
Ecosystem Players – Roles (1/2)

**Project Management Consultant**

- The PMC will advise the authority on open source technology and various aspects of the project implementation as per NCMC specification.
- The PMC will liaise with all stakeholders and act as the single point of contact between the transport authority and the FI led consortium.
- The PMC will also help to track the progress of the project and advise to take necessary actions/steps to get the project implemented within the stipulated timeline.

**AFC System**

- AFC vendor shall undertake integration responsibilities with required systems of FI such as Card Management System, Central Clearing House and Smart Cards to ensure the acceptance of NCMC cards.
- AFC vendor shall undertake responsibility to provide EMV certified terminals/gate validators as per NCMC specification.
- AFC vendor shall strive to provide a cloud based system to support synchronization of data.
Ecosystem Players – Roles (2/2)

**Issuing Platform**

- Procurement, Personalization and Issuance of contactless EMV smart cards
- Design, develop and maintain interoperable Smart Card Application and Card Data format
- Physical top up avenues and setup of web enabled online card money top-up
- Provide card customer support over Phone, Call center, Internet and at bank branch level

**Acquiring Platform**

- FI should have the integrated platform to process the NCMC card transactions from the AFC transit
- FI to ensure NCMC certified application to be installed in the OS/Terminal/Metro gates/validators.
- The FI Contractor shall design, develop and maintain the smart card top-up channels
- FI should ensure the solution is capable to accept NCMC cards issued by any other Banks.

**Clearance and Settlement**

- Providing transaction clearing, reconciliation of accounts and money settlement functions for all parties participating in the common mobility smart card program.
- FI should have the integrated platform with NPCI for clearance and settlement of transactions.
Thank You