

**NCMC Roll out & Proof of Concept
Pilot Implementation
by
CDAC-BEL @ DMRC**

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National Common Mobility Card (NCCMC)

The National common mobility card was envisaged by the Ministry of Housing & Urban Affairs (MoHUA) to provide a single card interoperable across all the Public Transport Systems in India. National Payments Corporation of India (NPCI) has been entrusted to prepare the standards & specifications of the National Common Mobility Card (NCCMC).

Salient Features



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



Interoperable eWallet feature, and dedicated space to store local fare products e.g. Passes/Season Tickets/ Loyalty points etc.



Multi-modal applications on transport, toll, parking etc. To be used at ATMs, Merchants & online transactions



Can be issued by any member of RBI on Debit, Credit and Prepaid cards



Wallets : Issuer controlled global wallet

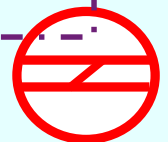


Topping up of stored value through any of the method of payment viz. Online using Card, Internet Banking, IVR, ATM, Cash



Offline transactions against stored value or upto Rs 2000 for contactless payments

Can be adopted by all global networks



NCCM - Guidelines

- NCCM Concept Note was released by NPCI (National Payments Corporation of India).
- The concept emphasized on Rupay Based Bank Cards to be used across all Public Transport Operators.
- Technical Specifications of Card was released as qSparc (currently implemented in Kochi, Noida-Greater Noida Metro, Maha metro) lead by banks/financial institutions.



Status of Pilot Project

- ❑ Agencies Involved :
 - CDAC : preparation of detailed AFC system specifications and Development of Complete Application Software.
 - BEL : Development of Reader and AFC Gate
 - SBI : Acquirer Bank

- ❑ The Pilot project was started at 3 DMRC stations i.e. Shastri Park, Dwarka & Barakhamba Metro Stations in Feb 19 .

- ❑ Equipment Installed at station
 - One Bi-Directional Gate at each station
 - One Customer Care (EFO)
 - Add value machine at Shastri park only (by SC soft)

- ❑ NMRC cards issued by SBI for NGN metro were also successfully validated on Pilot AFC system at DMRC.



Challenges in Pilot Project

- ❑ Currently CDAC-BEL is entrusted to prepare system specification as well as to develop the product.
- ❑ Due to non availability of requisite trained resources, project is moving at slow pace and will take long time to complete.
- ❑ It is proposed that development of System Specification and Product Development is segregated.
- ❑ System specification to be issued by MoHUA early and, Transit operators allowed to implement NCMC through open bidding from multiple sources including CDAC-BEL. This will help in faster roll out of NCMC compliant system.



Challenges in Pilot Project

- ❑ Hardware developed in POC require major changes:
 - For one passage, 2 cabinets are required. Gate can not be deployed in arrays
 - No Middle cabinet is designed
 - Not meeting the throughput requirement specified
- ❑ Application software requires major changes to meet Transit operator requirement:
 - Transactions (Revenue) mismatch between AFC Dashboard and Bank Portal.
 - Missing/torn transactions at Equipment level, Central level and bank level.
- ❑ Other critical AFC equipment like Ticket Vending Machine, Recharge Card terminal , Add Value Machine etc are not yet developed.
- ❑ No update is received by DMRC till date for mismatch & action taken



NCMC Roll Out- Challenges for DMRC

- ❑ DMRC is committed to move to NCMC platform.
- ❑ AFC system to be procured for DMRC Phase-IV is to be suitable for both NCMC as well as the existing DMRC cards.
- ❑ Existing AFC system covering 250 stations (approx. 4000 equipments supplied by different OEM's) need to be upgraded parallelly with Phase IV system so that seamless integration between station can be ensured.
- ❑ Co-Existence of NCMC & DMRC semi closed loop Card are required as more than 16 million cards are in circulation.
- ❑ Existing Readers of AFC system do not support NCMC. Hence, roll out of the NCMC on existing network being explored on retro fitment basis to utilize the existing hardware & infrastructure.



Strategy to Roll Out NCMC in DMRC

NCMC implementation in DMRC would be in Stages (Stage 1 and Stage 2 will be in parallel):

- ❑ Stage-0: DMRC Airport Line (an independent line) will be taken as pilot for rollout of NCMC card along with upcoming Sec 25 (ECC), Dwarka station . This will help DMRC to prepare their strategy based on challenges faced for rollout in existing system as well as for Ph IV system.
- ❑ Stage-1: AFC System Upgrade of Phase I, II and III Stations to support the NCMC through Open Tender.
- ❑ Stage-2: Phase-IV stations in DMRC would have NCMC based AFC system through Open Tender.
- ❑ Selection of Issuer's Bank(s)/ Acquirer Bank(s)



Challenges in NCMC Implementation

- ❑ NCMC issuance requires minimum KYC documents. The process should be simplified considering the large number of users .
- ❑ NCMC sale- third party outlet
- ❑ Current pilot implementation at DMRC as well as implementation at Kochi, Noida and Nagpur is based on specific operator area (individual service area) of NCMC, which restrict the number of operators on card – issue addressed and specification finalized for Common Service area where same card can be used by any operator without creating operator specific service area.
- ❑ Proliferation of NCMC- incentives required
- ❑ Net connectivity required for top up at metro premises



Suggestions for early NCMC Roll Out

- MoHUA is requested to release the following for all operators
 - Card Layout (including Common Service area) and other system specification
 - Blacklisting, Arbitration & dispute settlement policy
 - Key management and Terminal certification process and agencies
 - MDR, Interchange fee & switching fee for credit & debit operations
 - Specification for QR code for single Journey (Paper/ Mobile)



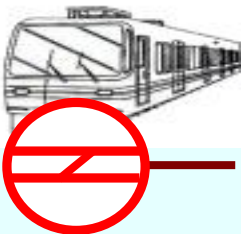


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