International Fare Collection Conference
Italian National Association of Public Transport (ASSTRA)
July 7, 2016

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San Diego Metropolitan Transit System
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- 10 Cities and Rural County
- 8392 square km
- 797 Buses
- 130 Light Rail Vehicles
- 325,000+ daily passengers; 97 million annually
- Regional fare collection administrator
  - Commuter Rail
  - Other services with dissimilar fare pricing
- Paratransit
- Taxicab
- Ferry
History: Fare Collection in the United States

Fare collection for United States transit agencies developed over time to achieve a number of shared goals

- On board collection
- Reduced dwell time
- Reduced cash handling
- Reduced fraud
- Customer convenience
- Reduced costs
- Regional applications for seamless connections

MTS implemented contactless card based Cubic NextFare System in 2004 – 3rd operator in the United States, after Washington and Chicago.
Electronic System
Advantages

- More secure than flash passes, less fraud
- Reduced paper as we eliminated transfers
- Allowed implementation of day passes
- Significant increase in fare revenue
- State of the art ticket vending machines, fareboxes, and other hardware
- Better data for service planning and reporting
- Electronic validation versus visual inspection
Disadvantages

- Took 10+ years to implement, and still not done
- Hardware is extremely costly and near end-of-life
- Difficult to expand retail distribution
- On-line product loading delays
- Upgrading the system software is cumbersome and expensive
- Costly and difficult to customize
- Proprietary system – at the vendor’s mercy
Challenges

- Significant unbanked population in the United States
  - 70% of MTS riders are considered low income/transit dependent
  - 28% of MTS riders are unbanked or underbanked (compared to 18% nationally)

- Many customers want to use cash
  - 12 to 16% of MTS customers use cash
  - Border population is cash-oriented

- Large number of fare products
  - Various rider classes, university passes, visitors

- “All things to all people”

- High cost when U.S. agencies struggle to pay for competing needs
System of the Future?

- Account based system
- Capable of open loop
- Closed loop realities
- Real time communication on all vehicles
  - Many already have 4G, but not all
- Open payment system
  - Credit card use for visitors and infrequent riders
  - A challenge: no bank-issued contactless credit cards in the U.S.
  - Greater mobile ticketing penetrations
Future System

- Stored value cards at retail outlets
- Simplified fare policy
  - 256 distinct fare products in San Diego (ticket type plus rider class)
- Fare capping or “best fare” capability
- Robust revenue management tools
- Non-proprietary hardware
- Better security
  - Encryption, tokenization and other layers of defense
  - PCI compliance
- Parallel use of old and new systems during transition
Mobile Ticketing

- Catching on in the U.S.
- Promising technology...
  - Uses customer’s smart phone
  - PCI Compliant
  - Mobile Ticketing may be more likely future than contactless bank cards
- However, only about 15% market penetration at best
- Mostly visual verification, but new products are being developed rapidly
  - Eg. WALTZ (New York)
Fare System Upgrade

- Many US systems currently upgrading to next generation
- Complicated for multi-system regions
  - Los Angeles Metro: 26 transit agencies
  - San Francisco Bay Area: 23 transit agencies
- MTS Process
  - Fare collection vision
  - Available technology
  - Specs for Procurement
Need Transition Solutions

- Parallel systems present challenges
  - Customer confusion
  - Limited on-board real-estate for dual hardware
  - Operator training to use both

- Coordinated transitions require legacy system support

- High level of customer education required
  - Systems may look the same, but will operate very differently

- Need reporting continuity for:
  - Financial reconciliation
  - Regulatory data reporting requirements
Conclusion

- US transit agencies are cautious but moving forward with next generation fare collection.

- Much like San Diego, they’re using the lessons learned from their first generation electronic payment systems.

- And collectively, moving the technology forward.
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