ITS IMPLEMENTATION

A CASE STUDY ON HYDERABAD METRO

Anil Kumar Saini
Chief Operating Officer
L&T Metro Rail (Hyderabad) Limited

Intelligent Transport Systems

Connected Assets

Improved end-to-end customer experience

Seamless Mobility/ Multimodal Journey

Mobility as a service

Shared Mobility Options

Improved Safety

Revenue Enhancement

Optimized Opex

Flexible Service Delivery

Efficient O&M

Consumer Behaviour Intelligence

Intelligent Transport Systems- Hyderabad Metro Rail

- Communication Based Train Control
- Asset Management System
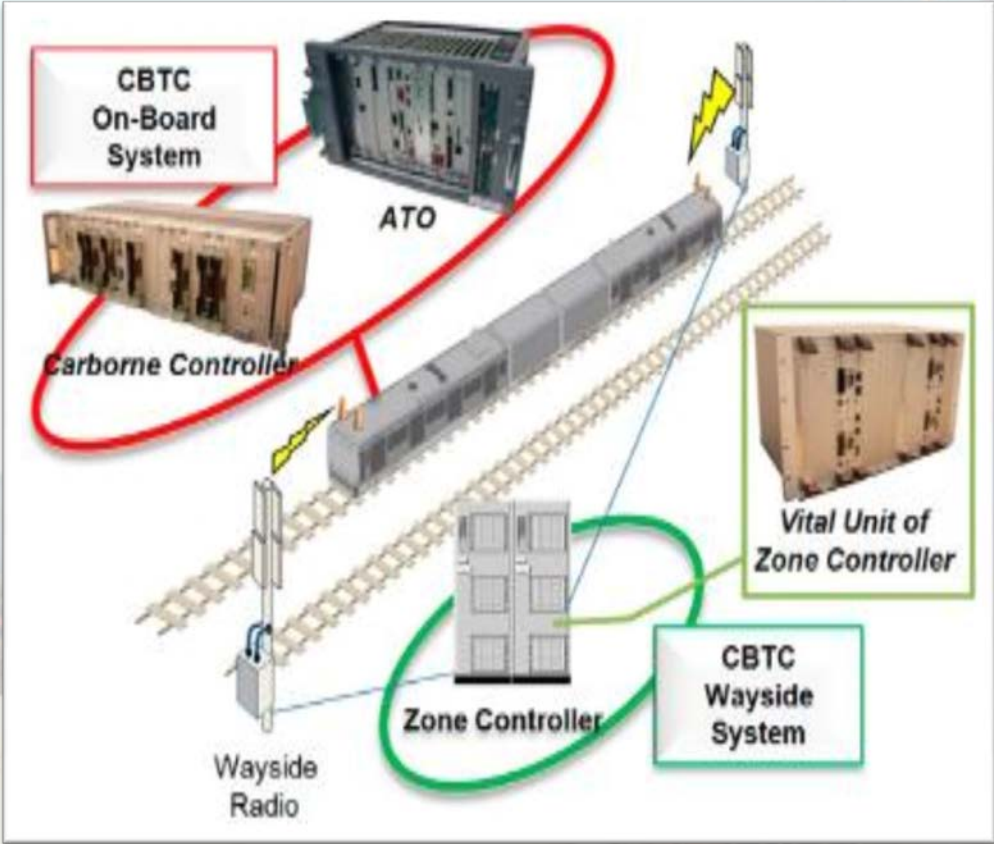- Open Loop Payment System
- Data Intelligence
- Mobile Application for User Convenience
- Integration with City Infrastructure

Intelligent Transport System

L&T Metro Rail

Communication Based Train Control

- ✓ *Real time information*
- ✓ *Better reliability*
- ✓ *Flexible schedules*
- ✓ *Better energy efficiency*
- ✓ *Reduced Headway (90secs)*
- ✓ *Improved Safety*

Asset Management System

Maximo asset management software integrated with IoT sensors for:

- *Asset Registry*

- *Real time fault data & analysis*

- *Maintenance Planning*

- *Inventory Management*

- *Crew Rostering*

- *Predictive Maintenance*

- *Optimized O&M costs*

ASSET Management

WORK Management

IBM Maximo

PROCUREMENT Management

CUSTOMER & SERVICE Management

MATERIALS Management

CONTRACT Management

L&T Metro Rail

Open Loop EMV Account Based AFC System

- ✓ *World is moving to Open Loop EMV ticketing*
- ✓ *Banks to manage the ticketing systems*
- ✓ *Low cost and efficient ticketing options like QR codes*
- ✓ *CAPEX and card management by Banks*
- ✓ *Easy integration to other modes of transport*
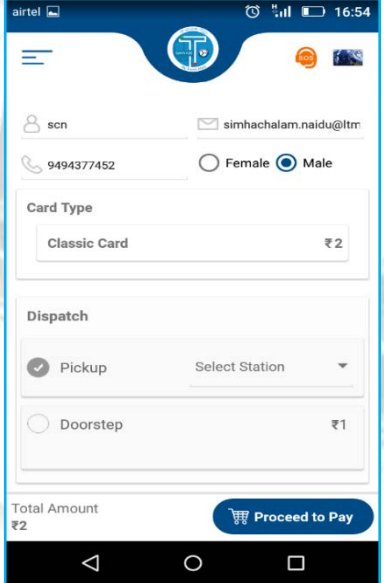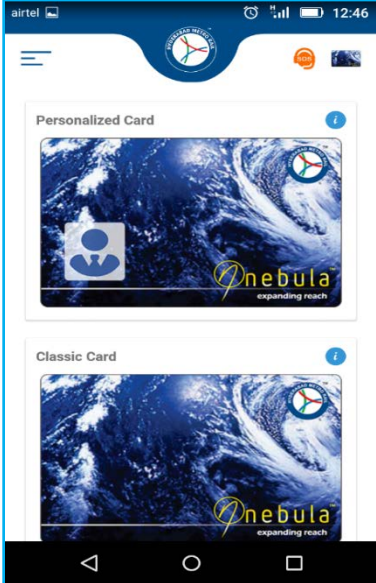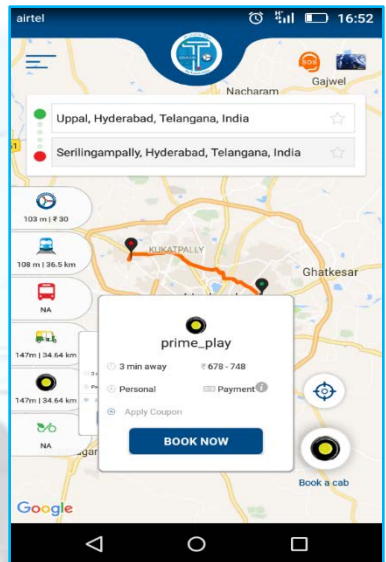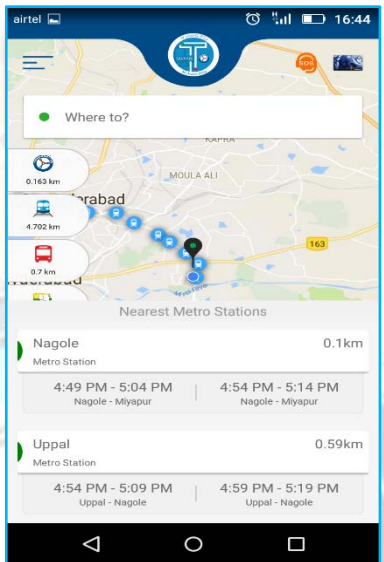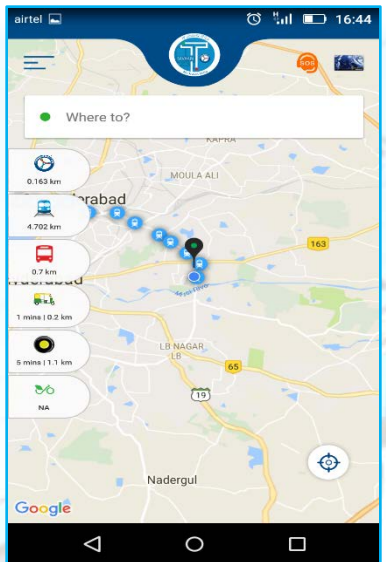- ✓ *Interoperable payment ecosystem in the city*

L&T Metro Rail

Mobile Application

- ✓ Journey Planner- Multi Modal Integration

- ✓ Buy / Recharge Smart Card

- ✓ Shared Rides

Physical

Operational

Integration

Information

Fare
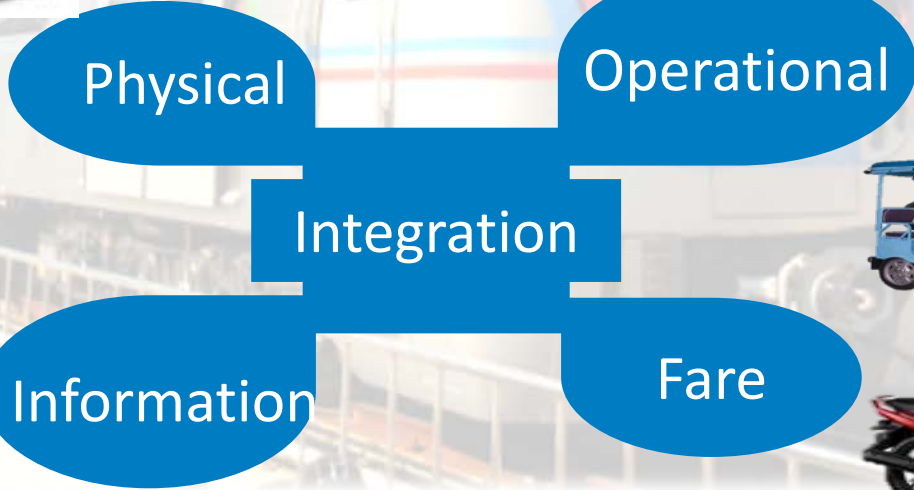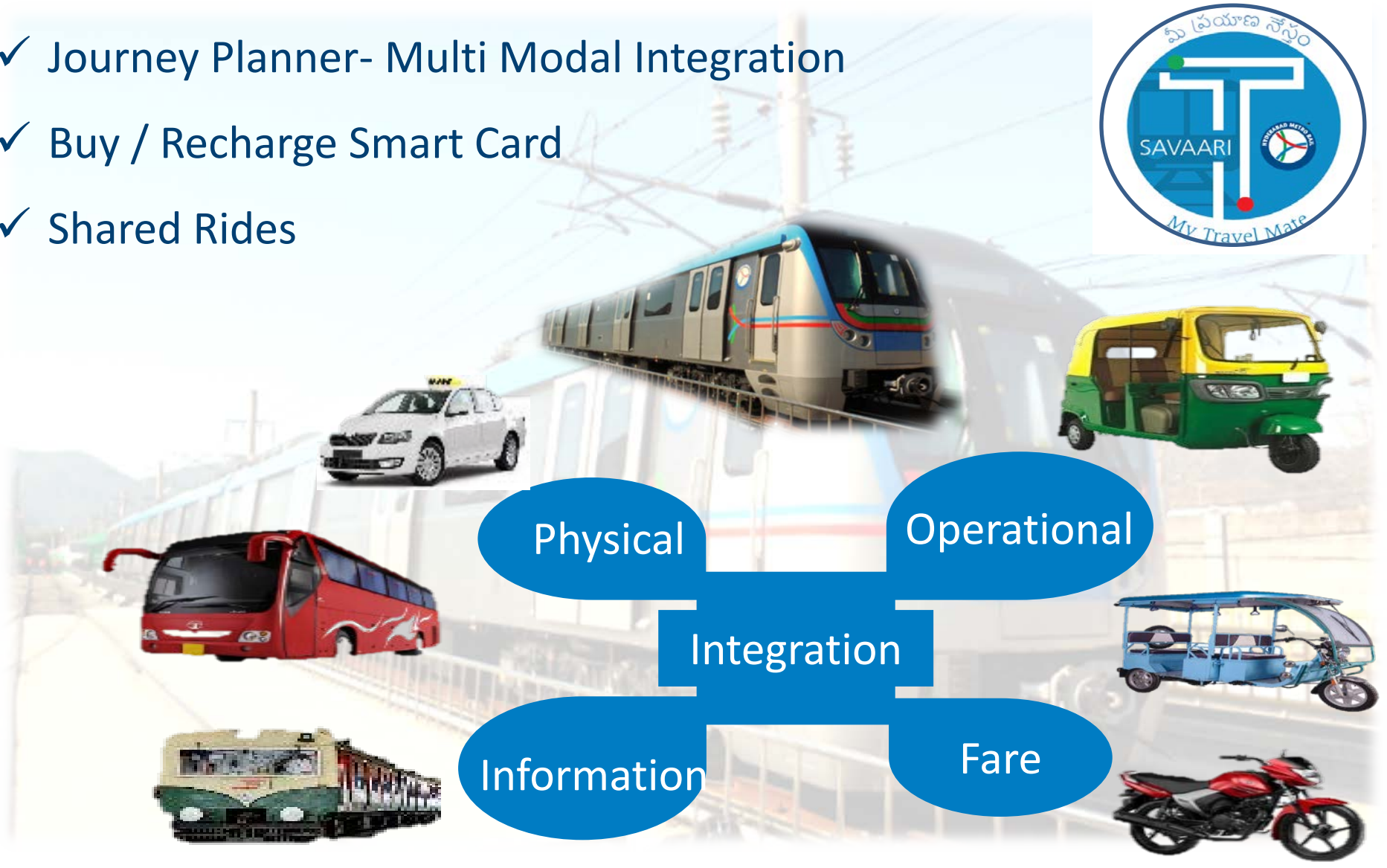
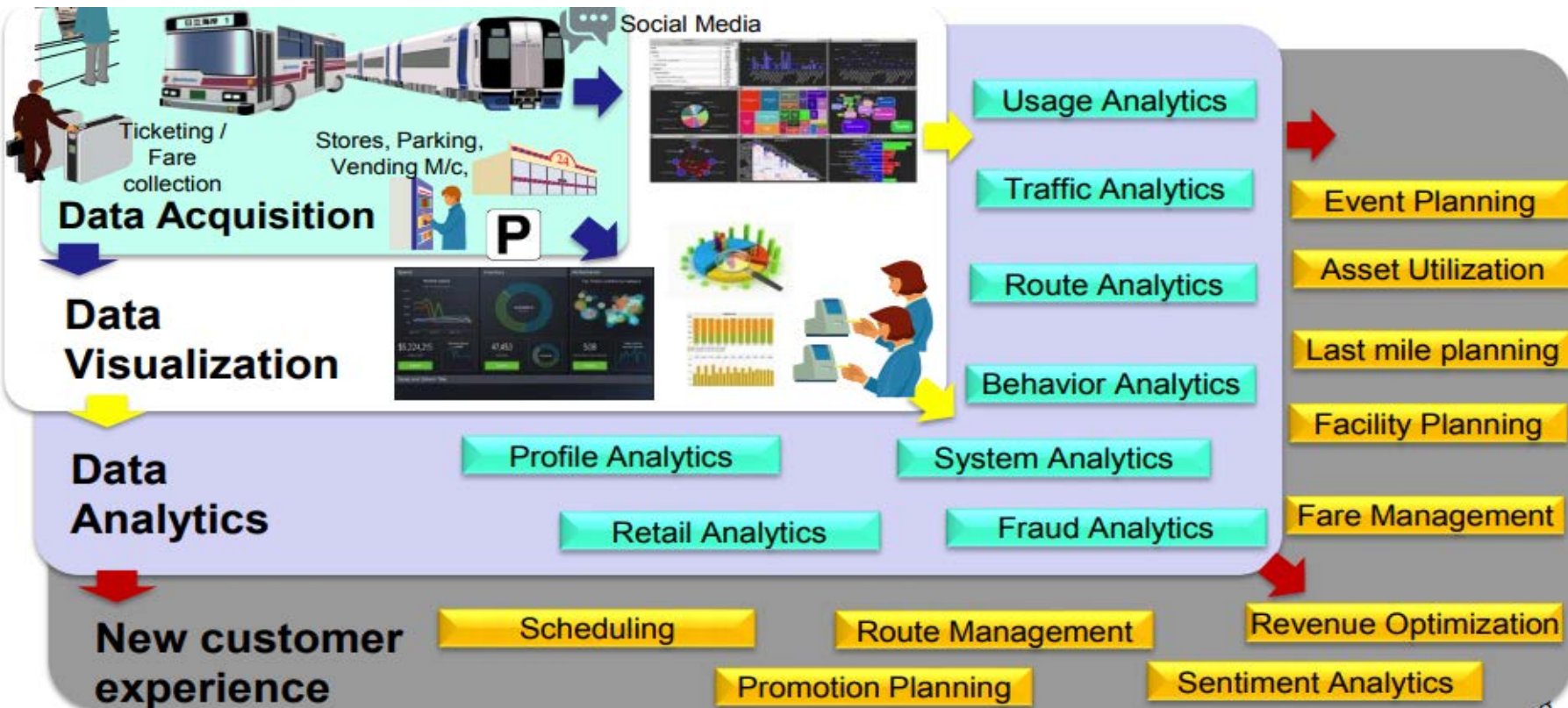# Mobile Application

Journey Planner

Buy / Recharge Card

L&T Metro Rail
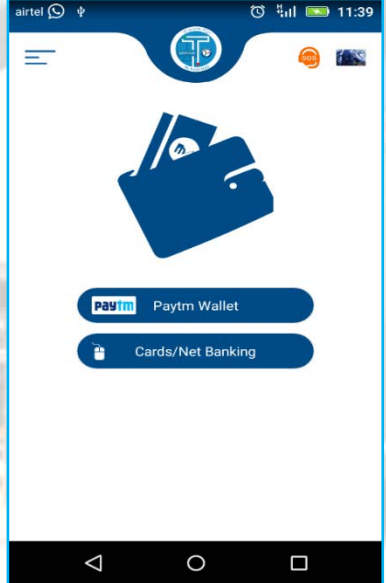
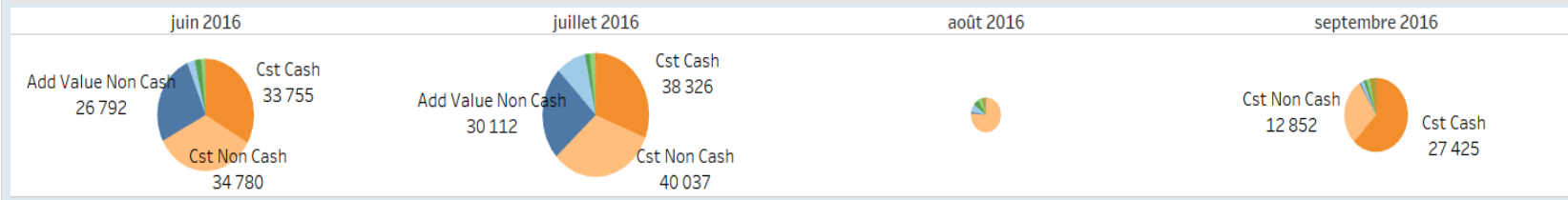# Data Intelligence & Analytics

Data Intelligence Approach => Data Driven Company
- *No more data processing time*
- *Automatized dashboards / calculations*
- *Good knowledge / quality of data*
- *Intuitive visualization / understanding of data*
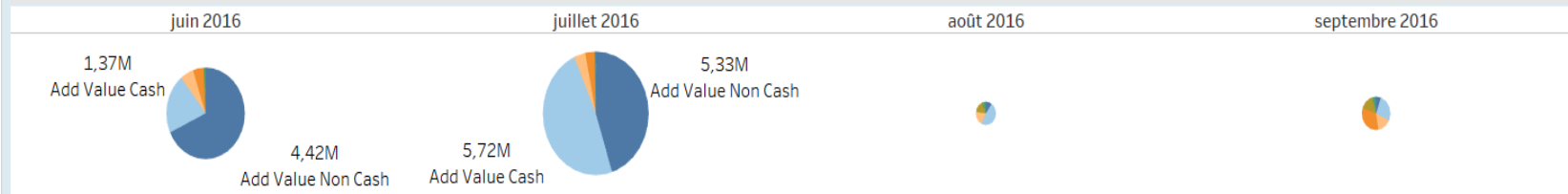
L&T Metro Rail

Data Intelligence & Performance Improvement
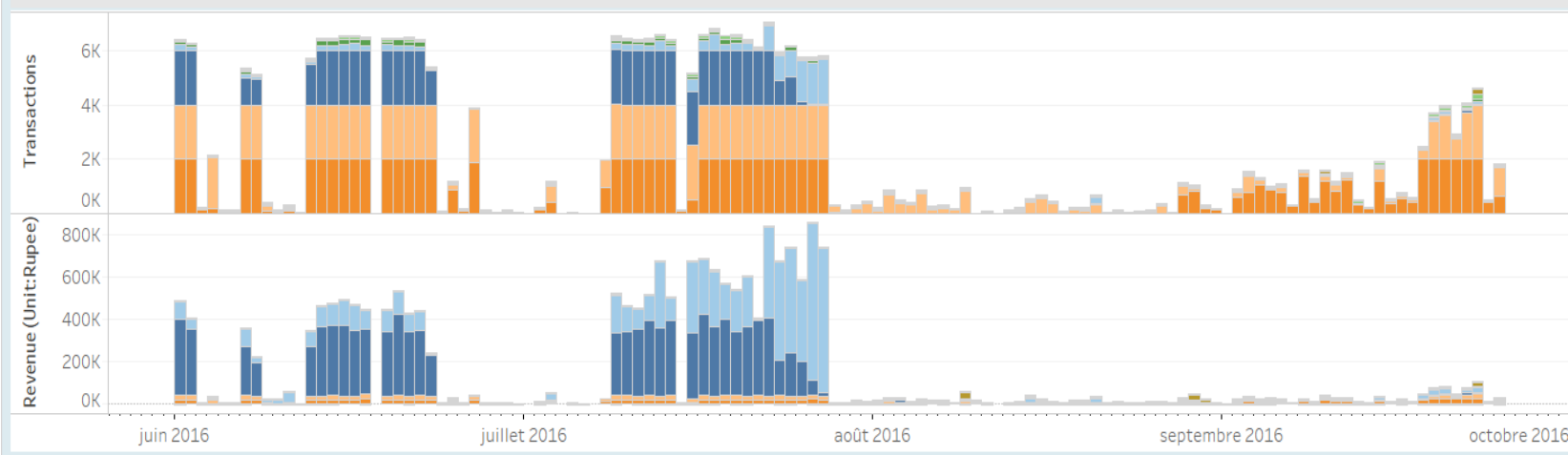
Data Intelligence & Performance Improvement

DB n°7 - Fare Evasion Analysis
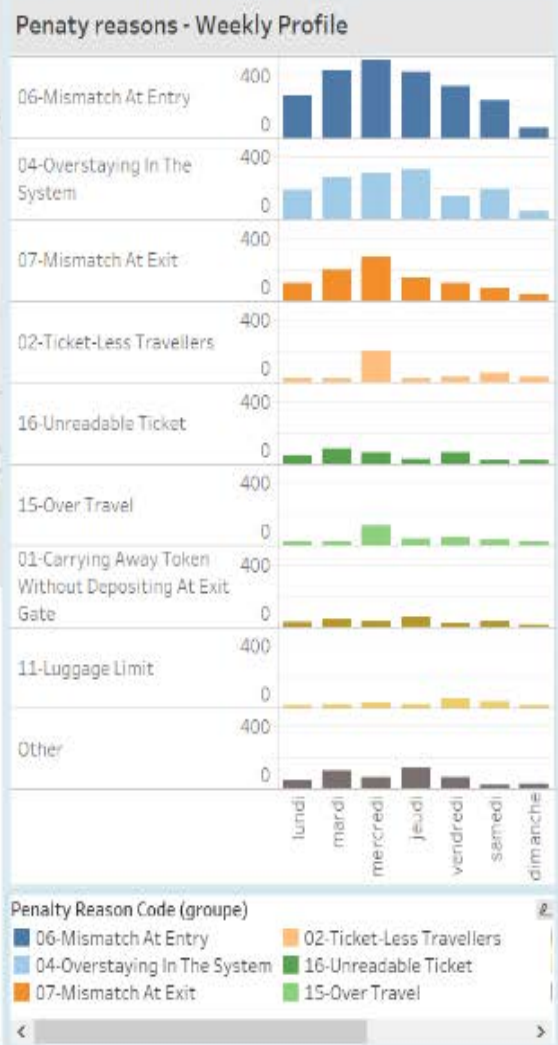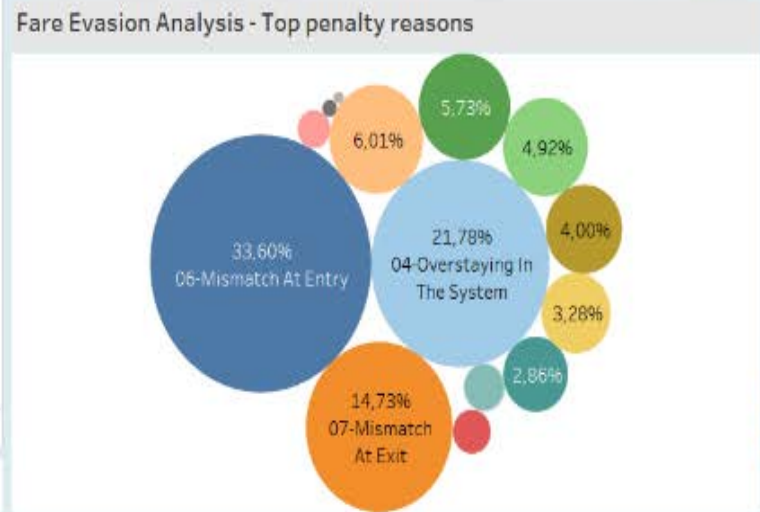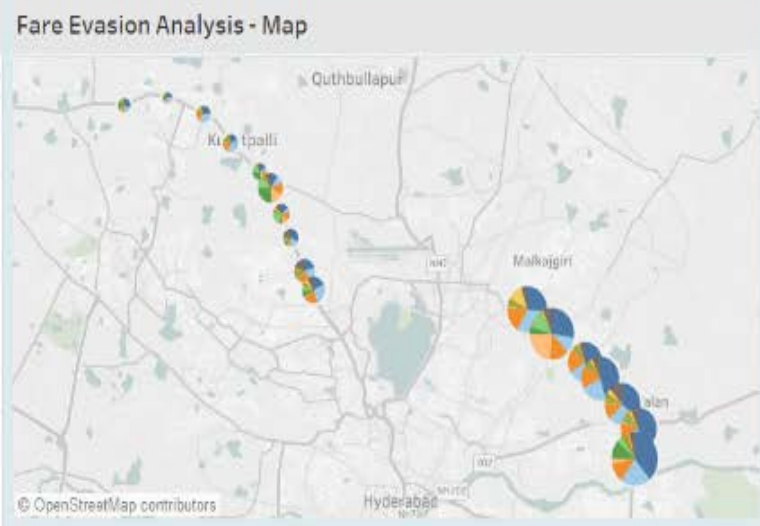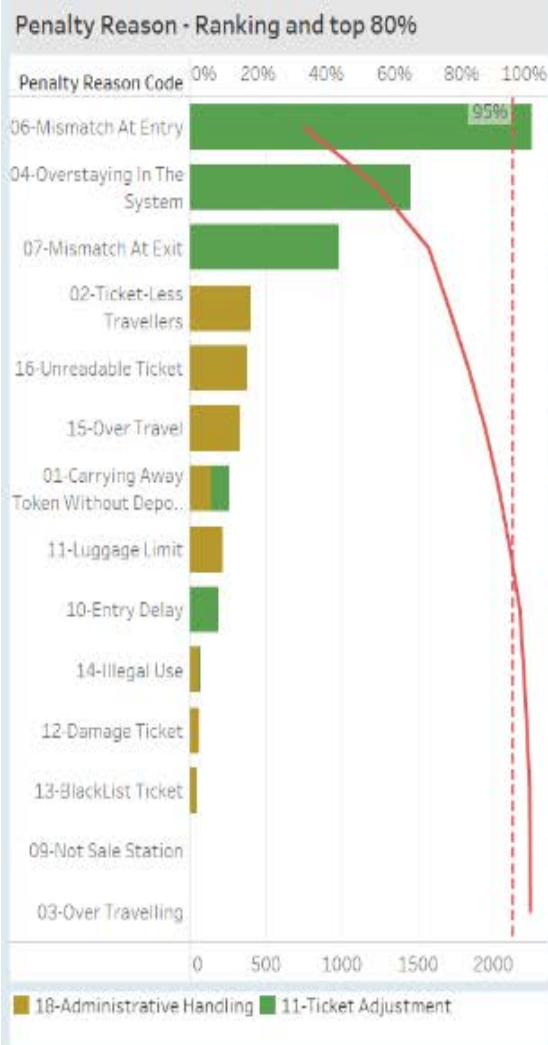
Interface to City Infrastructure

- ✓ *Hyderabad is implementing city surveillance system*
- ✓ *It is planned to integrate with metro in future*
- ✓ *Metro feedback to city surveillance and vice versa*

Advantages:

- ✓ *Complete data and information available with command & control center*
- ✓ *Real time traffic data integration*
- ✓ *Improved transport planning*
- ✓ *Better management of incidences*
- ✓ *Enhanced customer experience*

Summary & Conclusion

- ✓ *ITS implementation- Need of the hour*

- ✓ *ITS leads to efficient Asset Utilization & Improved travel*

  experience for customers

- ✓ *Integration of all modes of transport is essential*

- ✓ *All transport agencies shall work together in this direction*

L&T Metro Rail

THANK YOU