



Mysore – Intelligent Transport System

Dr. K. Rama Murthy
CME(M) and Head-Project



Karnataka State Road Transport Corporation



Background

- KSRTC implemented Intelligent Transport System (ITS) Project at Mysore City under SUTP
- Project Partners – MoUD, World Bank and GoK
- Started in 2009-10, inaugurated on 17-11-2012
- Faced all the practical challenges both external and internal
- Tested for stabilisation and operational acceptance was issued on 01-10-2015.
- M/s TCS was the System Integrator

Project Components

- Real Time Passenger Information System- SMS/IVRS/Boards/Commuter Portal
- In-Vehicle display System
- Automated Voice Announcement System
- Central Control Station
- Automatic Vehicle Location System
- Enterprise Management System
- MIS Reports
- Training

SMS- 161 IVRS-18004255220
Commuter Portal – mitra.ksrtc.in

PROJECT SCOPE

- 500 buses
 - 105 bus shelters
 - 2400 bus stops
 - 45 platforms
 - 6 bus terminus
- 193 boards @ 111 locations

Data can also be accessed through “Open Data” Platform integrated with Commuter Portal

Benefits

Commuters	Management	Society
<ul style="list-style-type: none"> ✓ Real Time Information on bus arrival and departure ✓ Real time tracking ✓ Next stop bus announcement and display within the bus ✓ Reduced waiting time at bus shelters ✓ Comfortable Trip planning ✓ Value added SMS and IVRS Services ✓ Exclusive Commuter Portal – mitra.ksrtc.in/ ✓ Mobil app 	<ul style="list-style-type: none"> ✓ Real time Tracking of Buses ✓ Control room monitoring ✓ Dynamic scheduling of Buses ✓ Schedule rationalization and Overtime reduction ✓ Digitalization of operations ✓ Driving behavior analysis ✓ Tool to defend Motor Vehicle Claim Cases ✓ Cost reduction benefits 	<ul style="list-style-type: none"> ✓ Promotes Public Transport usage ✓ Reduction in carbon foot prints ✓ Immediate access to accident/incident information ✓ Brings down traffic congestion ✓ Safety of commuters & pedestrians ✓ Involvement of all stakeholders

Benefits

- Average waiting time for commuters at bus stops reduced by 8 minutes (20 minutes in 2012 to 12 minutes in 2018]
- Surveys indicated higher user satisfaction levels (95%) over benchmarks (65%)
- Bus operations purely as per ITS requirements ensuring disciplined, controlled and systematic traffic operations.
- Notable improvements in late or early arrival and departure timings of buses. Significant reduction in bunching of buses at bus stops; no. of bus stops skipped; speed violations, improper stoppages, driving attributes etc.
- KSRTC has been effectively using the ITS data to reap the full benefits that has helped in reducing the staff ratio (5.5 in 2011-12 to 5.0 in 2017-18) and crew ratio per schedule (4.07 to 3.76).

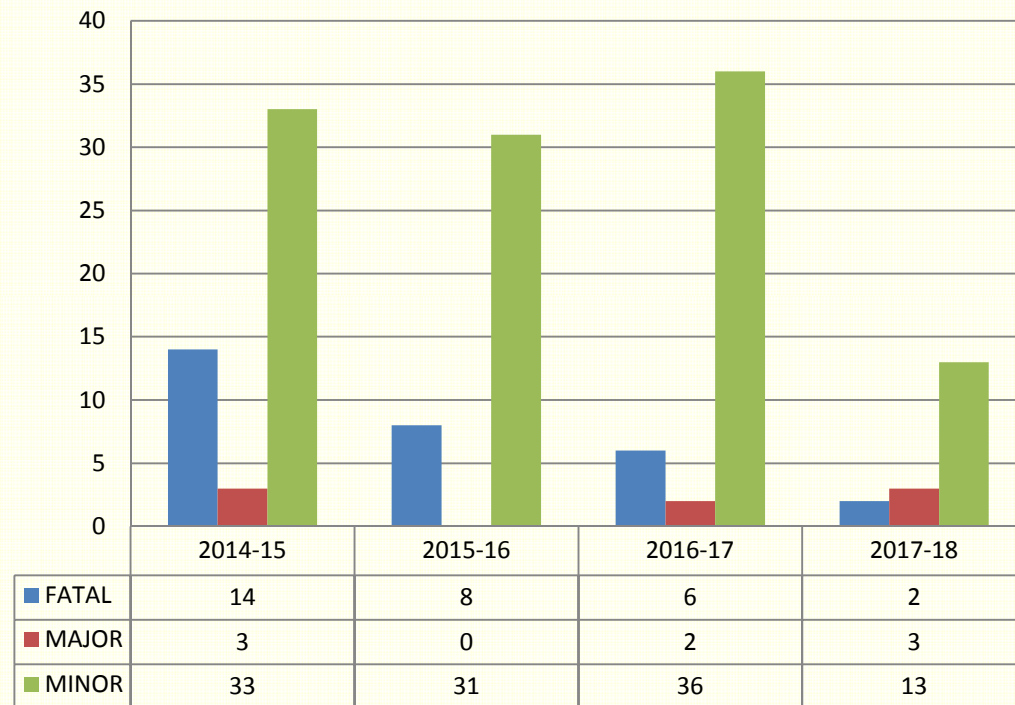
	2014-15	2015-16	2017-18
Staff Ratio	5.2	5.1	5.0
Crew Ratio/Schedule	3.88	3.83	3.76

Benefits

MIS REPORTS

- BUNCHING OF BUSES
- SCHEDULE ADHERENCE
- BUS BREAK DOWN
- ROUTE DEVIATION
- MISSED TRIPS
- SCHEDULE DEPARTURE
- SCHEDULE ARRIVAL
- DEPARTURE PUNCTUALITY
- ARRIVAL PUNCTUALITY
- SCHEDULE PERFORMANCE
- OPERATIONAL SUMMARY
- CONTROL CHART

ACCIDENT DATA



Positional Lat-Long data used for each accident analysis

**In-house designed and
deployed reports**

Dead kms (percentage) reduced to 5% in 2017-18 from 6.9%

Load factor improved to 85.4 % to 80.6

Higher usage of SMS, IVRS, Commuter Portal

Impact

- Significant improvements observed in Driving Behaviour in terms of Sudden Acceleration, Speed Violations, etc.
- Significant improvements in Operational Discipline; Public Grievances and rate of accidents reduced significantly
- **Annual ridership increased by 11.9% in 2017-18 compared to baseline year's annual ridership in 2012-13 (Modal Split Share decreased from 39.8% to 36.1%)**
- 16% of Non - KSRTC commuters have shifted to KSRTC due to ITS implementation
- 1.7% of annual ridership accounts purely due to ITS implementation
- About 95% commuters are satisfied with overall ITS implementation based on the results of January 2018 survey.
- Open Data was launched on May 06, 2018.

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Project Challenges

Phase	Challenges
Planning	<p>First time implementation, Requirements study and analysis, Conceptualization of ITS & control room driven bus operations</p> <p>Utility analysis of each component,</p> <p>RFP Preparation with Technology & Solutions,</p> <p>Budget Estimates and financial viability, Multi-Agency Co-ordination</p>
Procurement	<p>International Competitive Bidding (WB Guidelines)</p> <p>Manual Tendering v/s e-tendering</p> <p>Finalizing the Contract Terms and Special Conditions of Contract</p> <p>Setting up Minimum Qualification Criteria – Financial & Technical</p> <p>Setting up Bid Evaluation Methodology</p> <p>Evaluation of the documents supporting bidders qualifications</p>
Deployment	<p>Non-availability of best practices & guidelines</p> <p>Time to map / adapt technologies vs. existing business processes</p> <p>Field challenges-connectivity, bus, power, stabilization, crew acceptance</p>
Operations	<p>Control Room monitored and ITS enabled operations</p> <p>Ensuring security & maintenance of in-bus equipments and PIS boards</p> <p>Ensuring uninterrupted power supply at bus shelters</p> <p>Effective usage of ITS by all categories of staff</p> <p>Integrating ITS system within KSRTC existing IT solutions</p>

Project Learnings

Project Planning

- Project Plan & Stakeholder Responsibilities
- Project Phasing
- Implementation Plan
- Site Surveys
- Documentation

Project Procurement

- RFP Preparation & SLAs
- Selection Process
- Placement of PMC & Vendor on time

Implementation

- Frequent site visits and reviews
- Installation
- Software & Hardware Deployment
- Training
- STU Operational Changes

Benchmarking and documentation





CCS Books/MPG
Type: PPT File
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