ROLE OF ITS IN URBAN MOBILITY

An illustration of Intelligent Transport System (ITS) in Mysore City by KSRTC



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Bus Related ITS - Components

- Vehicle Tracking System
- Real Time Passenger Information System
- Control Room enabled Bus Operations
- Bus Station Management
- Advanced Software Applications

MIS Reports

Bus Related ITS - Objectives

- To improve quality & convenience of public transport
- To promote use of sustainable transport modes
- To enable commuters to make informed choices on travel modes
- To reduce passenger wait times

• To optimize operations, improve fleet utilization, schedules, and vehicle availability with accurate information

Benefits of ITS

Management Society Commuters ✓ Real time Tracking of Buses ✓ Real Time Information on ✓ Promotes Public bus arrival and departure Transport usage ✓ Control room monitoring ✓ Reduction in carbon ✓ Real time tracking ✓ Dynamic scheduling of foot prints ✓ Next stop bus Buses ✓ Immediate access to announcement and display ✓ Schedule rationalization accident/incident within the bus and Overtime reduction information ✓ Reduced waiting time at ✓ Brings down traffic ✓ Digitalization of bus shelters congestion operations ✓ Safety of commuters ✓ Comfortable Trip planning ✓ Driving behavior analysis ✓ Value added SMS and IVRS & pedestrians ✓ Tool to defend Motor ✓ Involvement of all Services Vehicle Claim Cases stakeholders ✓ Exclusive Commuter Portal ✓ Cost reduction benefits - mitra.ksrtc.in/

✓ Mobil app

Role of ITS and Urban Mobility – Availability of data and MIS Reports

SI.	Report Name	SI.	Report Name
1	BUNCHING OF BUSES	8	DAILY DEPARTURE PUNCTUALITY
2	SCHEDULE ADHERENCE REPORT	9	DAILY ARRIVAL PUNCTUALITY
3	BUS BREAKDOWN REPORT	10	SCHEDULE PERFORMANCE REPORT
4	ROUTE DEVIATION REPORT	11	DAILY OPERATIONAL SUMMARY
5	MISSED TRIPS REPORT	12	CONTROL CHART
6	SCHEDULE DEPARTURE DAILY	13	ARRIVAL DEPARTURE
7	SCHEDULE ARRIVAL DAILY		

Data and Reports can effectively be used by depot managers and traffic operations team for analysis and continuous improvements.

Route Optimisation

• Based on the actual time required for trip operation, the time tables can be re-organized. (Reduction 8 buses, 2314 kms daily, 1.6 Cr savings)

Aug-17

9

 Reduction in Incidents of bunching 	Apr-13	Apr-14	Apr-15	Apr-16	Apr-17
	346	135	46	10	9

Reduction in number of unscheduled stoppages



Control Room Enabled Bus Operations



- Real Time Bus Tracking
- Real Time Incident Management
- Two-way Communication
- Helpline Assistance
- Operational MIS Data
- Trip Planner Option
- IT based Traffic Monitoring
- Real Time Alerts
- Crew Management
- Monitoring Bunching, Schedule adherence, Punctuality
- Driving Behaviour Monitoring
- Public Grievance Management
- Working closely with Traffic Police for effecting one way/two way traffic, defending Motor Vehicle Cases, Dasara operations etc.

Improvements in Operations

COUNTS PER BUS PER TRIP

SI.	ATTRIBUTE	Oct ` 1 5	Nov '15	Dec'15	Jan'16	Feb' 16	Feb'17	Aug'17
1	NO OF BUS STOPS SKIPPED	5	3	2	1	2	1	1
2	NO OF SPEED VIOLATIONS	6	3	3	1	2	2	2
3	NO OF SUDDEN ACCELERATION	15	9	8	3	3	3	2
4	NO OF HARSH BRAKES	7	4	3	1	2	1	2

ACCIDENTS	2014-15	2015-16	2016-17	2017-18 (Till Sep-2018)
FATAL	14	08	06	02
MAJOR	03	00	02	02
MINOR	33	31	36	05
TOTAL	50	39	44	09
INJURIES	40	33	45	06
DEATHS	15	08	07	02

		SMS		IVRS	COMMUTER PORTAL		
YEAR	No of People Queried	No of SMS received	SMS Sent	IVRS calls	USERS	PAGE VIEWS	
2013-14	5969	29209	44241	12272	43328	140662	
2014-15	5871	16791	33064	16491	65809	199731	
2015-16	5340	24197	29027	28691	65070	187074	
2016 -17	6712	205214	19141	36931	89722	214128	

KSRTC will shortly implement Open Data Policy

Improvements in Operations

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Load factor	80.6	81.5	74.2	81.3	84.9	85.2
Dead km percentage	6.9	6.2	6.2	6.5	6.4	5.0
Cancellation due to late departure (km)	26662	59067	55329	24331	12436	11456
Cancellation due to early departure (km)	31725	87764	76246	42288	18195	4877

• Reduction of Staff in Central Bus Station

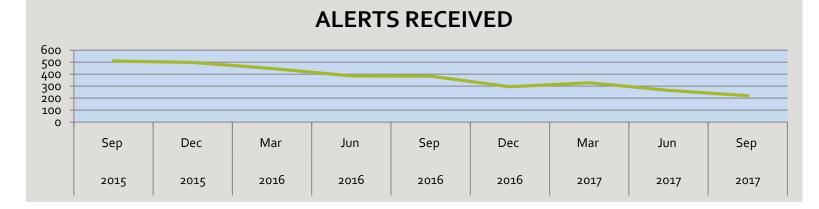
• Savings on lubricants & filters

[•] Benefitted Rs 6 Cr Savings in 2015-16

	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Schedules	400	400	438	430	422	422
Per day eff.kms	94842	92209	93301	94027	94202	90285
Earning per bus	6210	6676	7166	7665	7625	7293
Crew on roll	1629	1589	1691	1670	1615	1654
Staff ratio	5.5	5.3	5.1	5.2	5.1	5.1
Crew Ratio /schedule	4.07	3.97	3.86	3.88	3.83	3.92

Improvements in Operations

SL NO	YEAR	MONTH	ALERTS RECEIVED
1	2015	Sep	510
2	2015	Dec	498
3	2016	Mar	447
4	2016	Jun	386
5	2016	Sep	383
6	2016	Dec	295
7	2017	Mar	328
8	2017	Jun	265
9	2017	Sep	220



- Reduction in average Passenger Wait Times from 20 minutes in 2012 to 12 minutes in 2016
- Higher number of users in Mobile APP, SMS, Portal...
- Higher Fleet and Crew Utilisation
- Improved modal share to KSRTC buses from 39.8 in 2012 to 46.3 in 2016 (est.)
- Winner of National e-Governance Gold Award

Mysore ITS project featured in "What Makes a Sustainable City?" – A sampling of Global Case Studies Highlighting Innovative Approaches to Sustainability in Urban Areas published by World Bank Group. Gol showcased Mysore Intelligent Transport System through video during Hon'ble Prime Minister of India visit in UN Climate Change Conference, COP 21 in Paris held from 30th Nov to 11th December, 2015.

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Mysore, India Mysore's intelligent transport system enhancing bu service, Helping avoid traffic congestion and costs

lytore, india uses an intelligent bronsport system to ease the strain for smaruters, allowing it to provide sofer and more reliable bus service.

louthern India's Heatoric city of Mysore is trying to increase public transport use a socid the traffic congestion common to Indian cities.

horities in the tourst distillation, educational center and developing (I had intent one million in Karatakaka tate are trying to dave with gowing unifigetion using an intelligent transport system to improve the chy's public buture. The instative with encode of Mysom's participation in indus's estional an strategy and Wards Bank support.

Ayoon is generally well planned, without larger indian object traffic congestion ut it wanted to head off hance problems, particularly given the spend of population and economic activity from larger to smaller (objec, which is omnore in india.

Without action on public transport, the city leaved more clogged traffic, and higher fuel coroumption and pollution. Furthermore, the city's public transport ridmship was be compared to private transport use.

It Hot's Burk's autointable urban transcort program in India promotes origint Comport systems, bus tigele transit systems and public bile sharing, the with India's Urban Gewelpower Mixery and the Armanala-Salar In Transcort Cosposation, the Burk India's work to Increase public transport in Transcort Cosposation, the Burk India's work to Increase public transport Increase Handreas and effective monitoring cospolations in place to wear knowledge on instrigent transport grant Mixers Mixer Mixers

https://openknowledge.worldbank.org/handle

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Thank You

National e-Governance Gold Award 2016-17

National Media Meet organized in Feb-2017

भारत सरकर सारत सरकर दाष्ट्रीय ई-गवर्जेस पुरस्कार, 2016 – 2017 मेकहर पंजिकोग्रत ने राग राष्ट्र की प्राप्त संदेश्तिंग परिवल प्रणानी मैस्ट्र शहर, कर्नाटक को राज्य सरकर के सार्वजीक क्षेत्र के उपकर्मांसहकारी संतिनिर्वायांसंयोग्रतांसायटियो दारा आईसीटी का असिक के लिप स्वर्या पुरस्कार प्रदान किया जाता है Government of India National Award for e-Governance, 2016 - 2017 Gold Award presented to Nations First Intelligent Transport System with Mobile app at Mysore City, Karnataka for Innovative Use of ICT by State Government PSUs/Cooperatives/Federations/Societies

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