



**BANGALORE METROPOLITAN TRANSPORT CORPORATION**



# **BUS REFORMS IN BMTTC**

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**BMTTC: Bringing Bangalore To Your Doorstep**



## BMTCC- *An Overview*

Came into existence from 15-8-1997  
after bifurcating from Karnataka State  
Road Transport Corporation (KSRTC)

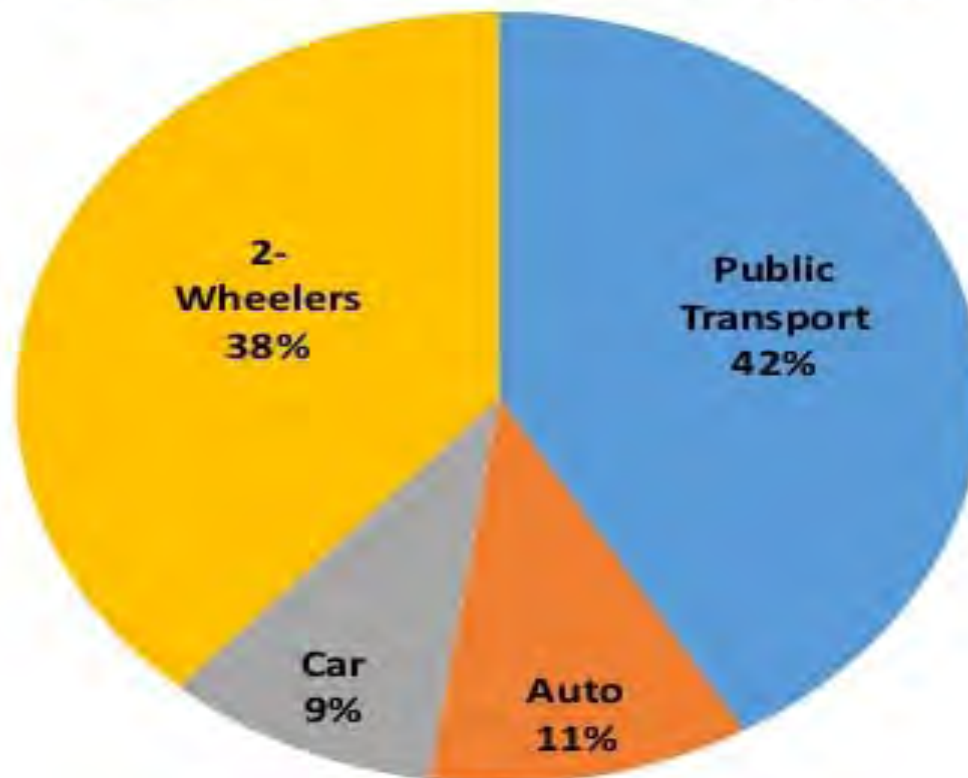
As on SEP 2014

- Own 6691 buses
- Operate 6305 bus schedules
- Perform 13.14 lakh service kms per day
- Make 79,798 bus trips
- Earn Rs 61.14mn
- Carry 4.9 mn passengers
- Bus Depots 40 Divn 05
- Bus Stations 50
- Manpower 36,146
- Bus Staff Ratio 5.4



# Transport in Bangalore

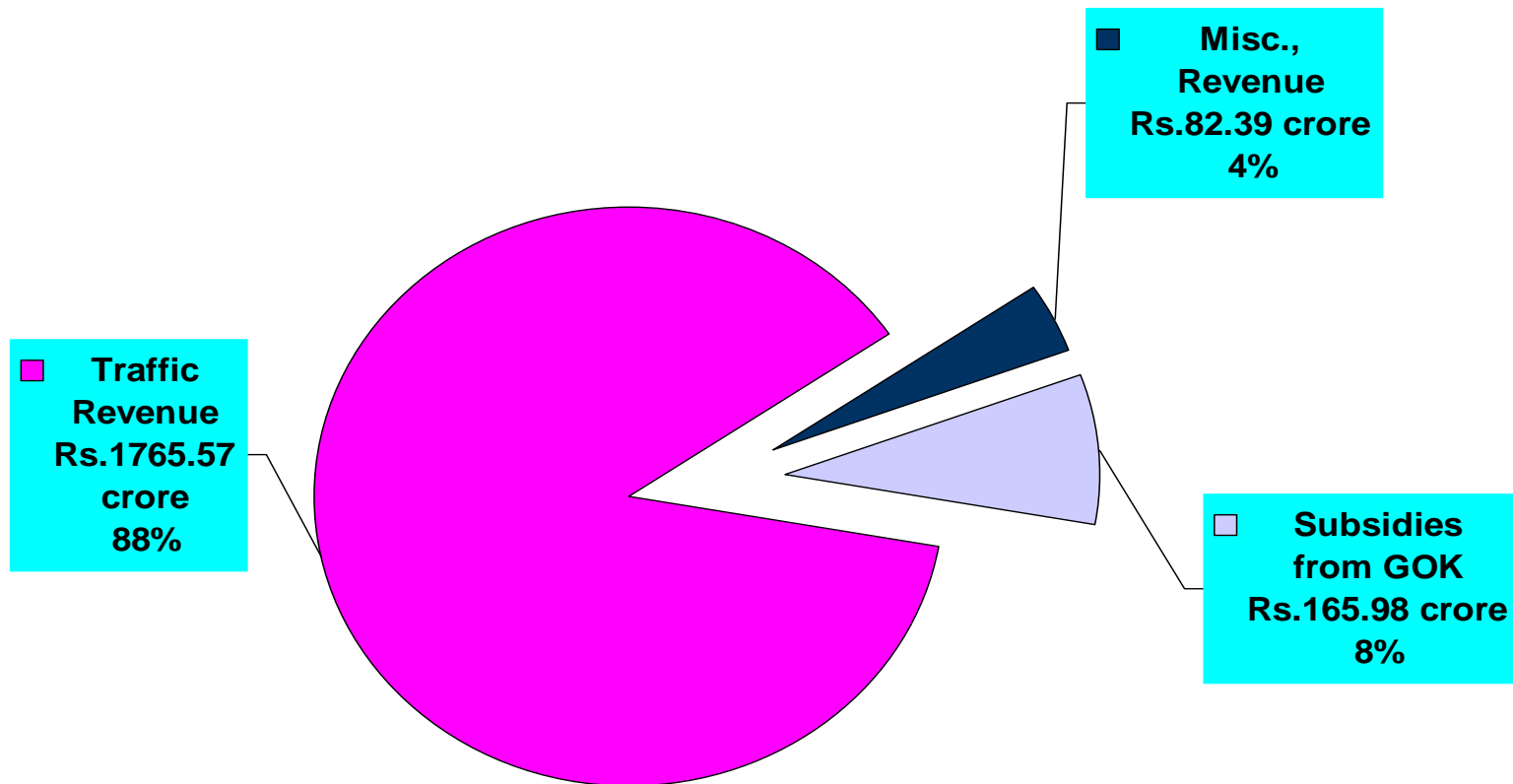
Motorised Trips - Modal Split (2011)



Sources: Bangalore Mobility Indicators 2011



**Composition of Total Revenue-2013-14**  
**Total Revenue -Rs.2013.94 cr**





## KEY INITIATIVES FOR IMPROVING OPERATIONS

- Range of services to cater to all kinds of requirements – ranging from AC buses to regular buses and Atal Sarige
- Introduction of daily/monthly passes
- Dedicated services for schools and companies
- Construction of Traffic and Transit Management Centre
- Park and Ride facilities at all TTMCs
- Modernizing and branding of fleet
- Operation of direction oriented and ring road services
- Introduction of Intelligent Transport System

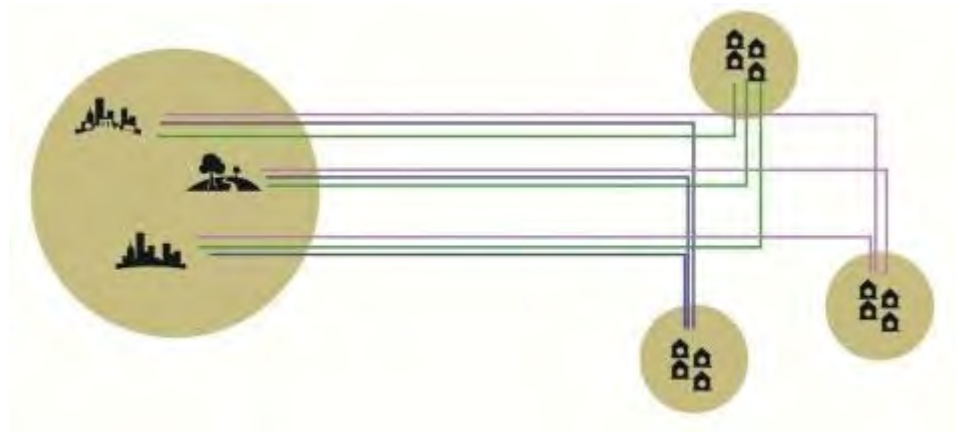


# HUB AND SPOKE MODEL

## - DIRECTION ORIENTED SERVICES



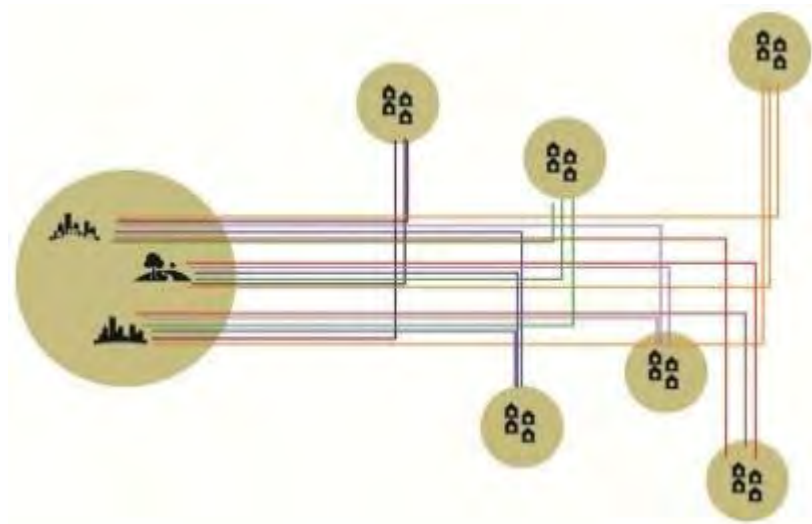
## EXISTING MODEL



3 HUBS – 3 DESTINATIONS = 9 ROUTES



# GROWTH IN ROUTES

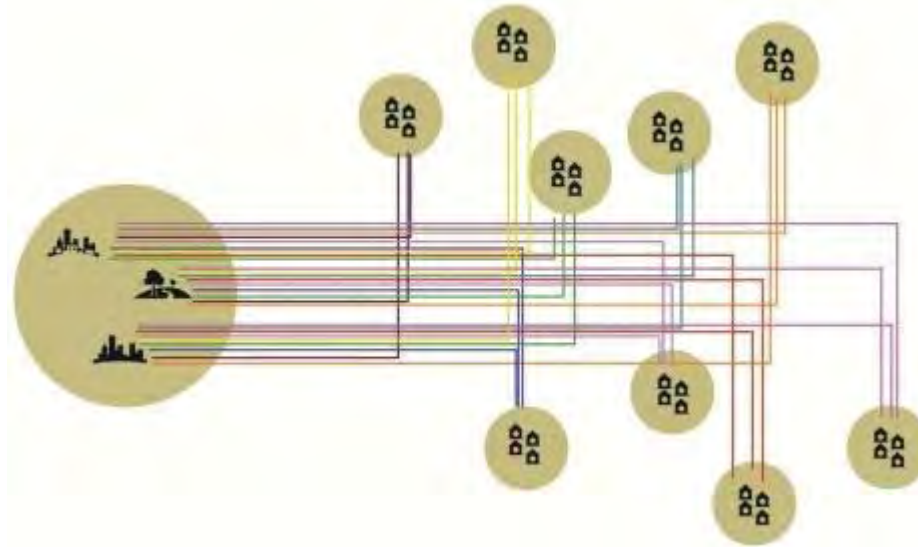


3 HUBS – 6 DESTINATIONS = 18 ROUTES





# GROWTH IN ROUTES



3 HUBS – 9 DESTINATIONS = 27 ROUTES



Because of financial constraints, usually fleet size cannot keep up with the exponential increase in number of routes

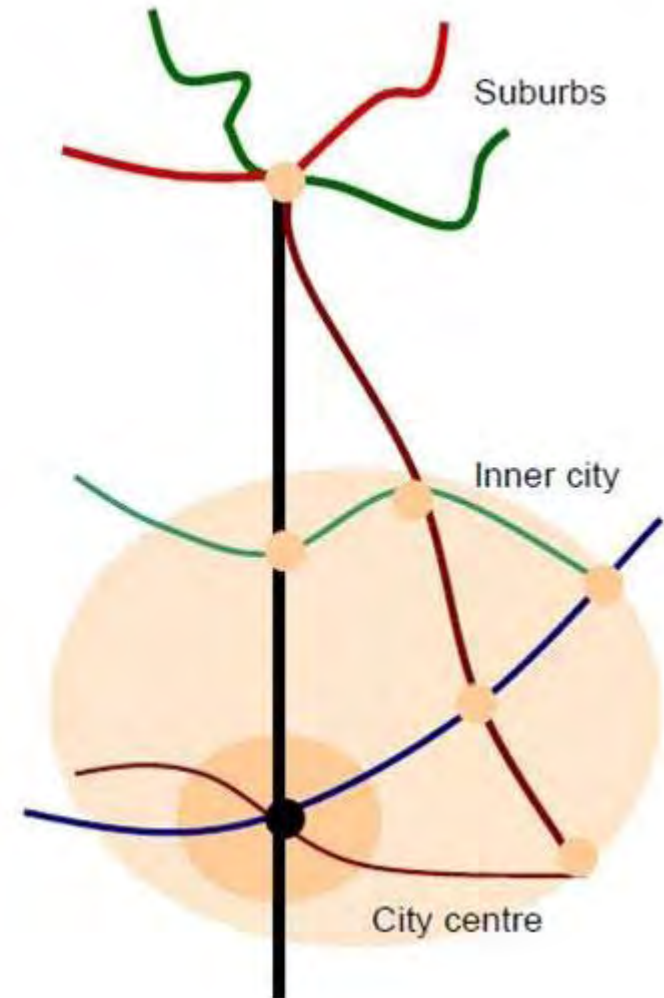
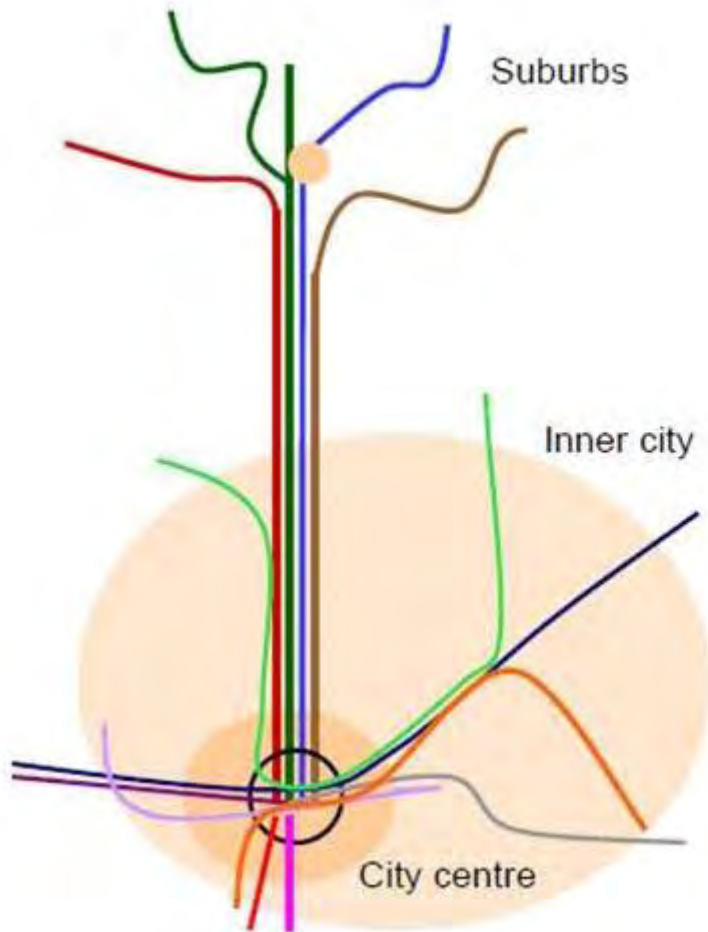
This finally results in a situation where there are large number of routes with only 1 or 2 buses

If these routes are long – as routes serving the city periphery tend to be – this results in long wait times on individual routes



## FREQUENT BUS NETWORK

- Individual Routes along Major Roads are rationalised into a small number of Very High Frequency Routes
- Routes that require moving beyond the major road are served by routes connecting to the Frequent Bus Network at interchange points (Feeder Routes)
- Specific Travel Patterns are served not by direct routes, but by a collection of 'direction-oriented' services connected by transfers (Connecting Routes)





## SIMPLICITY IN SYSTEM

- FEWER ROUTES
- EASIER TO NAVIGATE

## QUALITY OF SERVICE

- MORE BUSES PER ROUTE
- HIGHER FREQUENCY

## ENHANCED SYSTEM CAPACITY

- HIGHER FREQUENCY ON SPECIFIC ROUTES
- EASIER TO MATCH DEMAND AND SUPPLY



## SURVEY RESULTS

### INCREASE IN NUMBER OF PAX

- 38% shifted from other buses
- 27% shifted from 2-wheelers and cars

### OVERALL DECLINE IN TRAVEL TIME

### COST EFFICIENCY – WITH FEWER BUSES REQUIRED

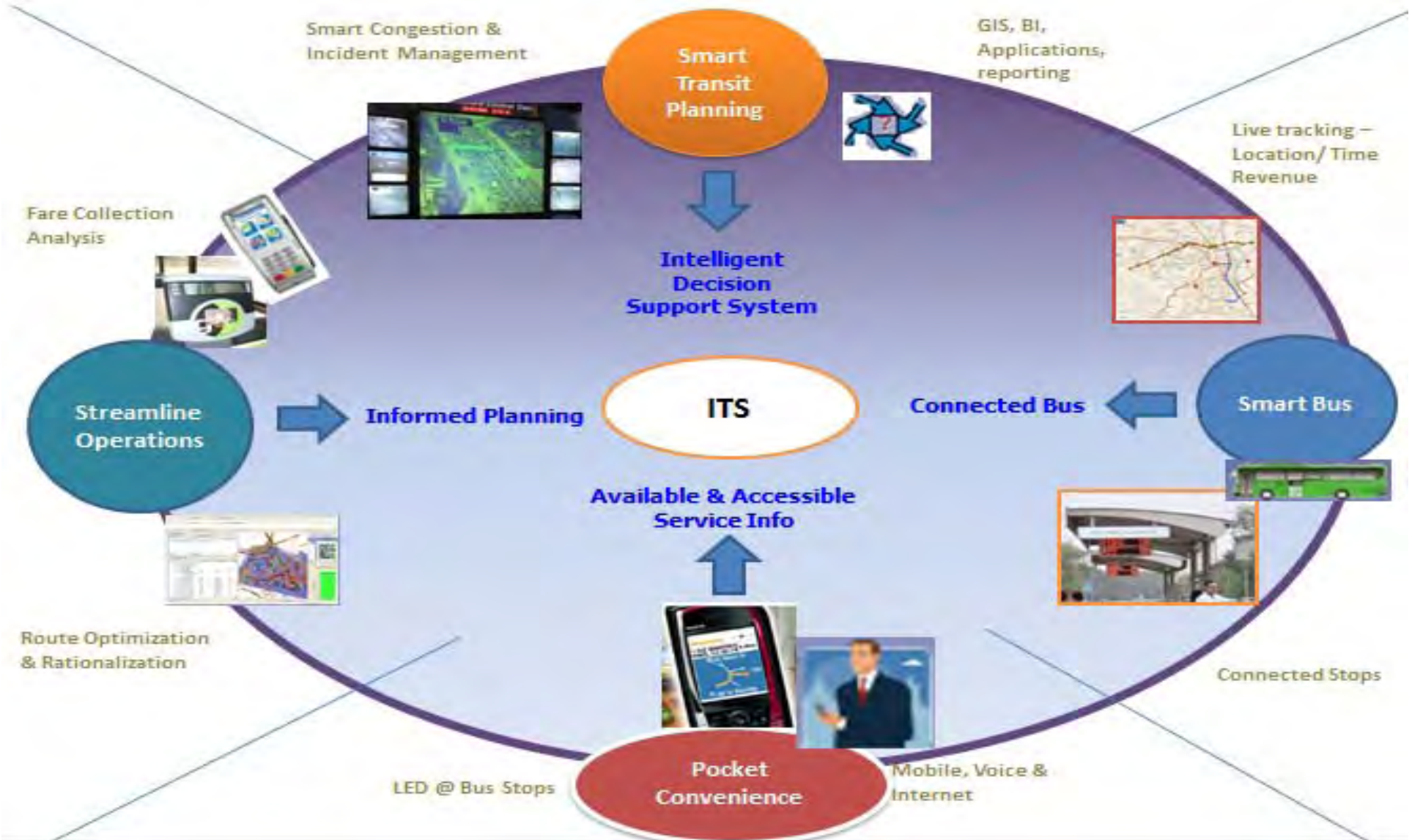


**BANGALORE METROPOLITAN TRANSPORT CORPORATION**

# **INTELLIGENT TRANSPORT SYSTEM**



# BANGALORE METROPOLITAN TRANSPORT CORPORATION



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## Vehicle Tracking System

- Location, Time & Speed Monitoring
- Based on above Driver Appraisal Card
- Incident management through two way communication system
- Tracking on GIS maps @ 1:2500 scale
- Various graphical, tabular and spatial reports on important parameters
- Alerts on exceptions (reporting) – missing targets

The screenshot displays the 'Current Locations of Buses' interface. It includes a search criteria section with a 'Search By' dropdown set to 'Depot' and a 'Depot Name' dropdown set to 'Ambedkar Nagar'. Below this is a table with the following columns: Depot Name, Bus No, Route, Location, Date-Time, Speed (km/h), Direction, Ignition, GPS, and GPRS. The table lists several buses with their respective details.

Depot Name	Bus No	Route	Location	Date-Time	Speed (km/h)	Direction	Ignition	GPS	GPRS
Ambedkar Nagar	DLIPC7116	34DOWN	Mehrauli Gurgaon Road, Mehrauli, New Delhi, Delhi	05/07/2011 15:28:07	21	↖	🟢	🟢	🟢
Ambedkar Nagar	DLIPC7100	34DOWN*	Sector 19, Noida, Uttar Pradesh	05/07/2011 15:28:06	34	↘	🟢	🟢	🟢
Ambedkar Nagar	DLIPC7023	34UP	Dadri Road, Sector 38 A, Noida, Uttar Pradesh	05/07/2011 15:28:11	30	←	🟢	🟢	🟢
Ambedkar Nagar	DLIPC7115	34UP	Mehrauli Badarpur Road, Dalkhimpun, New Delhi, Delhi	05/07/2011 15:28:09	20	→	🟢	🟢	🟢
Ambedkar Nagar	DLIPC7059	34UP	Mehrauli Badarpur Road, Tughlakabad, New Delhi, Delhi	05/07/2011 15:28:05	39	→	🟢	🟢	🟢
Ambedkar Nagar	DLIPC7025	34UP	Mathura Road, Pulpehlpur, New Delhi, Delhi	05/07/2011 15:28:04	7	←	🟢	🟢	🟢
Ambedkar Nagar	DLIPC7016	423DOWN	ISBT Road, Kashmere Gate, New Delhi, Delhi	05/07/2011 15:28:00	14	✓	🟢	🟢	🟢
Ambedkar Nagar	DLIPC7468	423DOWN	Mahatma Gandhi Marg, Daryaganj, New Delhi, Delhi	05/07/2011 15:27:44	40	↖	🟢	🟢	🟢
			Max Mueller Marg, Lodi						

Below the table is a 'Tracking System' section with date range filters (From Date: 24-03-2010, To Date: 26-03-2010) and a search button. The main part of the screenshot is a GIS map showing a blue route line across a city area. A legend on the right side of the map includes 'Basic Layer', 'Google Map', 'DMTS Map', 'Overlay', 'Marker Layer', and 'Marker Layer'.





## Depot Management System

- Vehicle Scheduling & Dispatch
- Crew Roster/ Allocation
- Ticket and Inventory Management
- Smart Card Identification for Crew
- IT Infrastructure & Connectivity
- Work Flow Improvement & Automation

**Conductor Wise Earning**

From Date:  To Date:   
Example 25/03/2010

Cluster:  Region:

Depot:  Conductor:

Category:

Web :  Excel :

A : Top 20 % B : Middle 70 %  
C : Bottom 10 %

Total No of Records : 955  
Total No OF Records(A Category) : 71  
Total No OF Records(B Category) : 248  
Total No OF Records(C Category) : 35

Sr No.	Conductor ID	CONDUCTOR NAME	Revenue	TRIPS	Duty	Avg_Cash
1	01301	Anil Kumar	5698	6	1	5698
2	01158	Shiv Kumar Singh	5675	4	1	5675
3	01277	Naveen	5485	4	1	5485
4	01094	KAMALKANT KAUSHIK	5366	6	1	5366
5	01048	ANIT KUMAR	5310	4	1	5310
6	01071	JAI PARKASH	5268	4	1	5268
7	01206	Amit kr. Goel	5239	4	1	5239
8	01094	DURGESH KUMAR SHAKYA	5150	4	1	5150
9	01197	Nitesh	5130	4	1	5130
10	01744	RAJU SINGH RATHOR	5128	6	1	5128
11	01224	Manoj Kumar	5070	4	1	5070



## Passenger Information System

- Real-time information on ETA/ ETD
- Service and other alerts for commuters
- Access: USSD, SMS, IVRS, LED, LCD
- Web-based query services
- Bi-Lingual Display (Kannada & English)
- Streaming advertisements and multimedia content at Bus Stations





## Commuter Perspective



When is the bus coming???

When should I reach the bus stop to take my bus??

Which bus should I take to reach my destination???



What is the bus route between my origin & destination?

Is the next stop my destination?





## Management Perspective

Revenue earned,  
Targets Met &  
Exceptions Reported  
Per Bus, Per Route,  
Conductor, Depot

- Duty/ Depot management
- Scheduling

- ✓ Providing facilities for commuters
- ✓ Providing facilities to Users/ Crew
- ✓ Driver and Conductor Appraisal

MIS Reports on

- Fleet Usage, Exceptions, Incidents

Supported by Graphs and Chart





# Operations Manager Perspective

Is any of the bus over-speeding?  
 Has there been any accident?

What is revenue collection status?  
 Are ETM's online?

Where are the buses??  
 Are they on time? OTP Status



Are there any breakdowns/ Idling/ Bunching?

Have any of the buses missed any scheduled stops/trips?



## **Crew Perspective**

✓ Control Centre  
Support for  
incident  
management

✓ Ease of issuing  
and accounting  
of tickets



✓ Easy  
reconciliation  
and end of duty  
process

Driver  
appraisal,  
performance  
based  
incentives





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*Thank You*

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