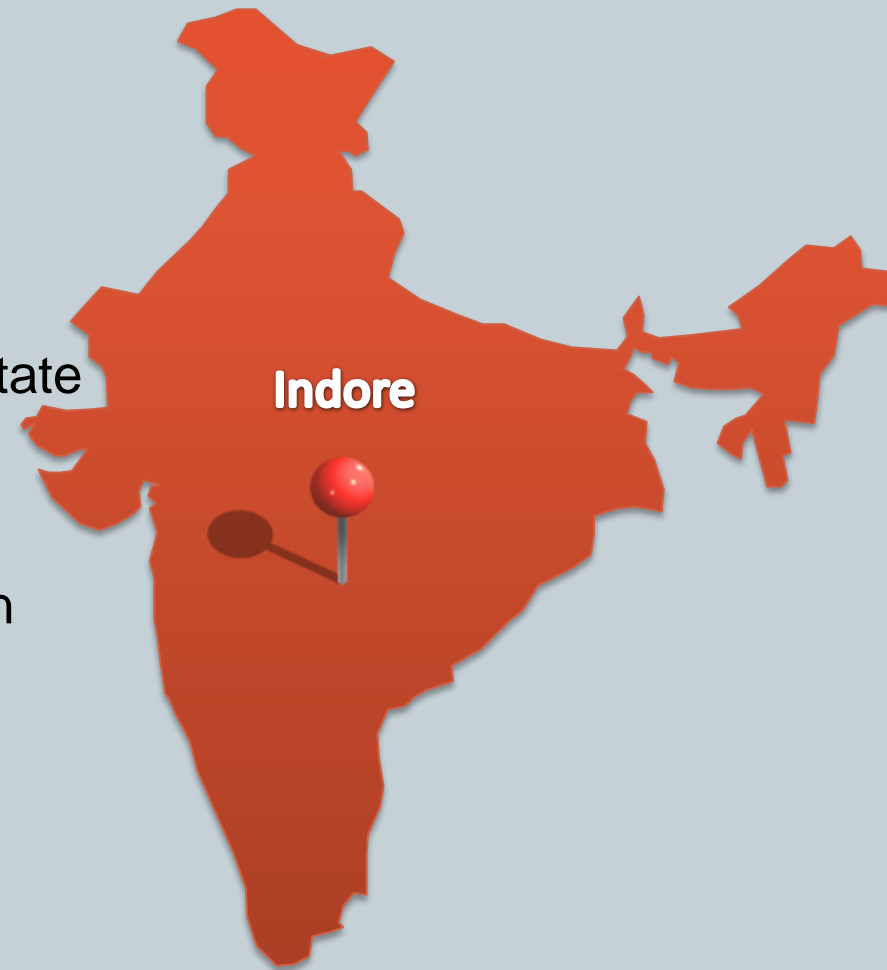


# SMART MOBILITY PLAN OF INDORE

Sandeep Soni,  
Joint Collector & CEO, Atal Indore City Transport Services Ltd.

# About Indore

- Tier-2 city in central India
- Financial capital of Madhya Pradesh State
- Population: 2.3 Million
- Rapidly growing urban area
- Growing traffic congestion and pollution
- Growing road accident fatalities



# WHAT IS AICTSL

- ATAL INDORE CITY TRANSPORT SERVICES LIMITED is a special purpose vehicle registered in the 1956 companies act.
- The bus operations was started in January 2006.
- AICTSL has six board members with Mayor as a Chairman of the company.
- Board consists of Collector as Director, Commissioner Municipal Corporation as MD and SDM as CEO.

# Objectives of AICTSL

- Integrated multi modal public transport which is
  - Fast,
  - Comfortable,
  - Safe,
  - Reliable, and
  - Affordable
  - Environment friendly
- To create specialized and effective agency to monitor the city public transport system.
- To establish and maintain modern high capacity means of sustainable public transport.
- To develop support system for improving transport infrastructure.

# AICTSL SERVICES

- City Bus Operation.
- BRTS Operation.
- Intercity and Inter State AC bus Operation.
- Metro Taxi
- I-Bike Public Bicycles.
- I-Ride Rental Bike Service (Two-Wheeler)
- Tele Rickshaw On Call Taxi.

# AICTSL SERVICES

# AICTSL Operations

- City Bus
- BRTS iBus
- Sky Bus (Intercity luxury bus services)
- Metro Taxi
- iBike (PBS-Public Bicycles Sharing)
- iRide (2W- Rental Bike Service)
- Tele-Rickshaw

# CITY BUS



# City Buses

- More than 16 routes in operation;
- More than 110 buses in operation;
- No of bus stops 120
- Covering 80 % of the area;
- Carrying 60,000 pax per day
- Operating frequency 8 to 10 min



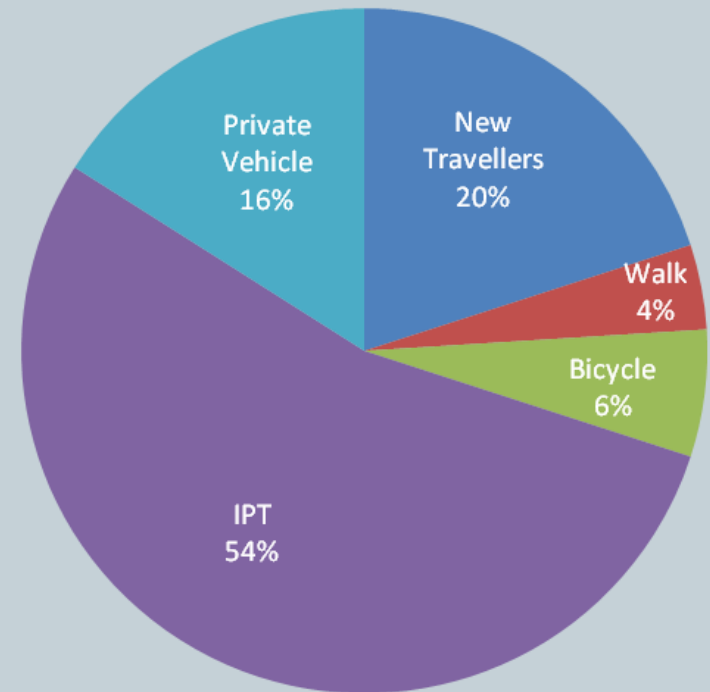


# Features

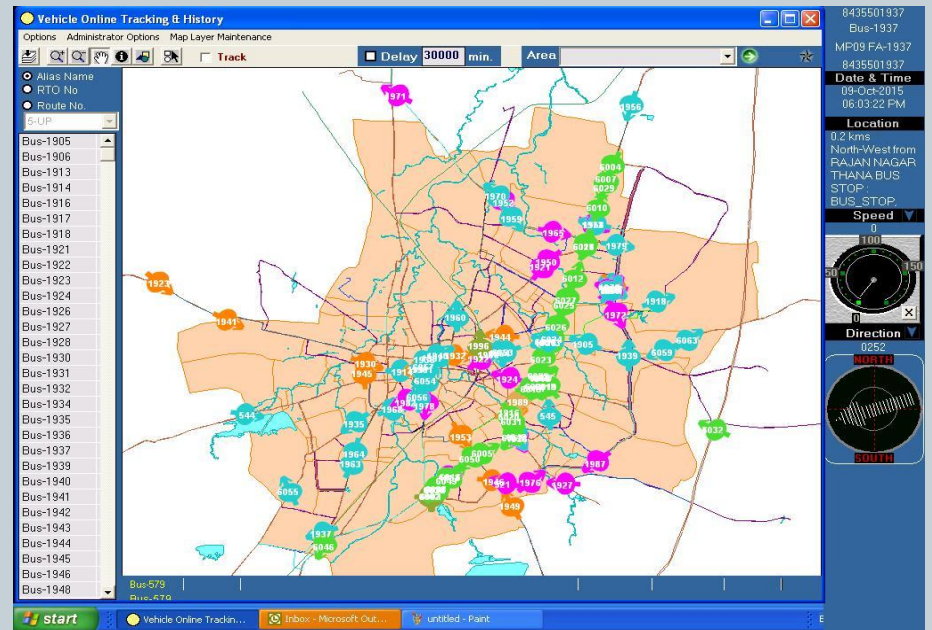
- GPS Control system;
- Public Announcement and display system;
- Seats reserved for Females, senior citizen & physically challenged;
- Equipped with the CCTV camera surveillance;
- 24X7 Helpline/Call center facility;
- App based tracking

# Indore City Bus

- Life saved due to Indore City Bus : 6.25 /year
- Hundreds of accidents avoided
- Emission of CO<sub>2</sub> Reduced : ~5.5 ton/day
- A shift of 16% passengers from private vehicles



- GPS control system for the entire fleet with speed and other information.



- PIS with real time display in the city bus stops.



# MIDI BUS

# Midi buses



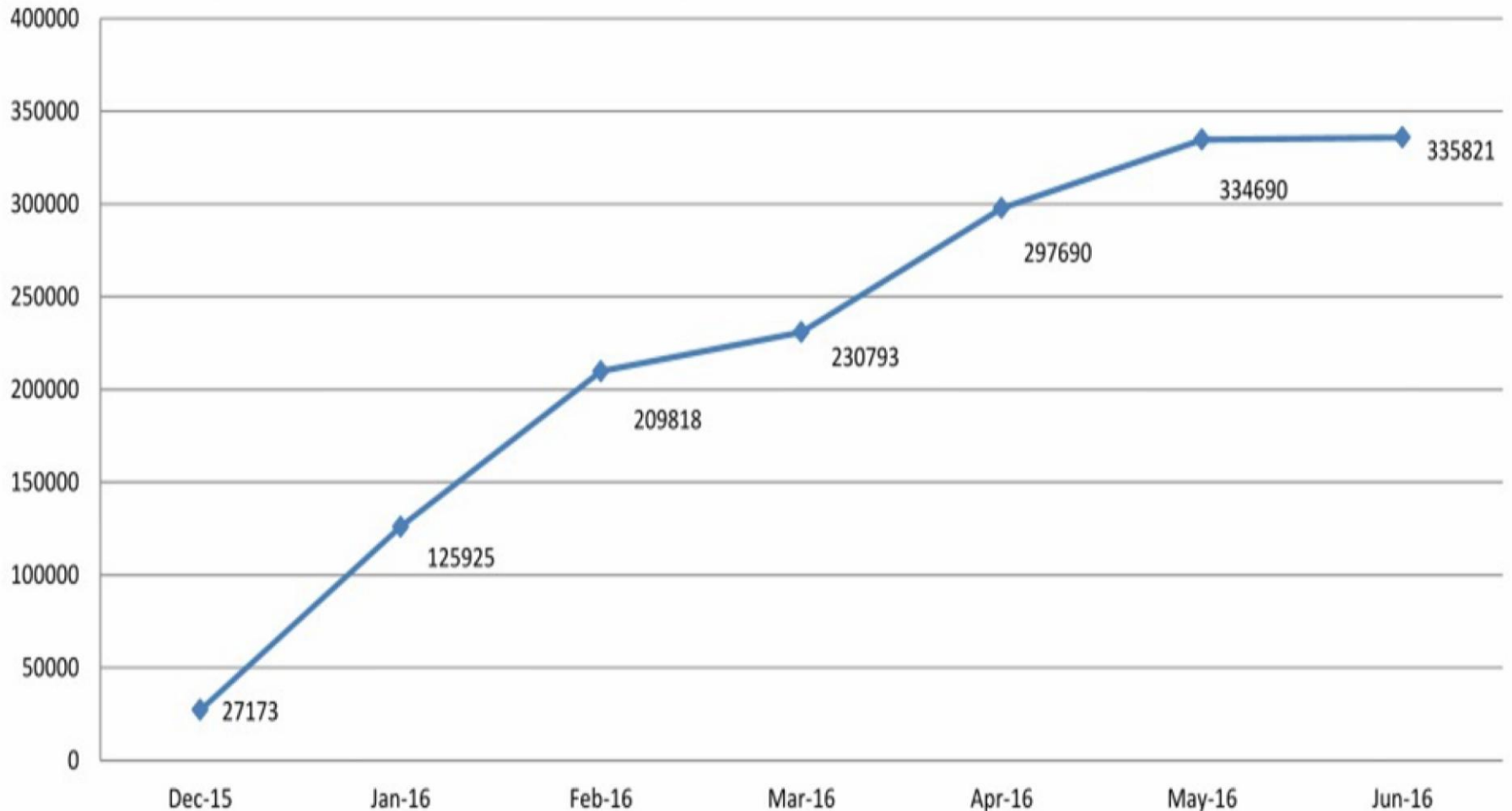
## Midi Buses – 65 No. s

- Midi buses are equipped with advanced, comfortable seats.
- Passenger announcement system.
- Passenger information system.
- CCTV surveillance system.
- Fire separation unit for safety in case of fire.
- Automatic gates for more safety.
- Air suspension for more comfort.
- These buses are plying on 15 new routes.
- *Operating Model - VGF*





## Atal City Bus (Midi Bus) Ridership Graph (Dec-2015 to June-2016)



	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16
Series1	27173	125925	209818	230793	297690	334690	335821

इंदौर . रविवार  
17.07.2016

sunday

सिटीजन

3 पत्रिका  
patrika.com

# शहरवासियों को पसंद आ रहीं मिडी बसें

बढ़ता जा रहा लोक परिवहन : नगर में चलने वाली बसों में हर दिन एक लाख से ज्यादा लोग कर रहे सफर

पत्रिका न्यूज़ नेटवर्क

patrika.com

इंदौर प्रमुख बाजार व छोटी सड़कों पर आसानी से चलने वाली मिडी बसों के जरिये लोक परिवहन का दायरा बढ़ता जा रहा है। पहले महीने में जहां करीब 27 हजार लोगों ने मिडी बसों में सफर किया, वहीं सात महीने में यह बढ़कर सवा तीन लाख से ज्यादा हो गया है। शहर की संकरी सड़कों पर सिटी बसों से ट्रैफिक जाम की स्थिति घटती है। कलेक्टर पी. नरहरि के द्वारा इसी समस्या को देखते हुए

मिडी बसों को चलाने की योजना बनाई गई। जेएनएनयूआरएम के तहत प्रशासन को 60 मिडी बसें मिली, जिनमें से 7 रूट पर 40 बसें सड़क पर चल रही हैं।

एआईसीटीएसएल के सीईओ संदीप सोनी ने बताया कि मिडी बसों का संचालन देश के अन्य हिस्सों में सफल साबित नहीं हुआ, लेकिन इंदौर में ये बसें लोगों को पसंद आ रही हैं। सर्वे में यात्रियों ने माना कि मिडी बसें आसान लोक परिवहन हैं। जल्द ही चार रूटों पर 20 मिडी बसें चलाने लगेगी।

चार रूट पर 20 और बसें चलाने की तैयारी



आई बस

प्रतिदिन

50

हजार यात्री

सिटी बस

प्रतिदिन

40

हजार यात्री

मिडी बस

प्रतिदिन

50

हजार यात्री

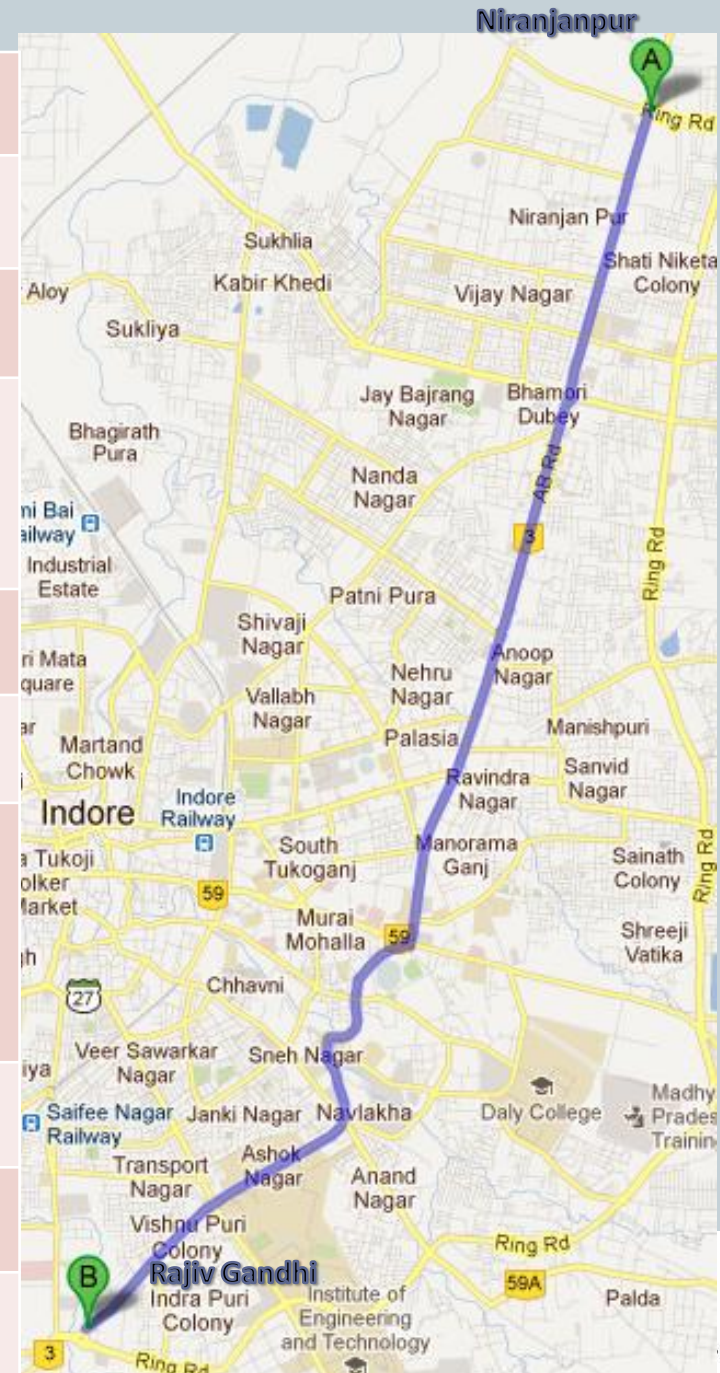
इस तरह बढ़ रहे यात्री

माह	यात्री
दिसंबर 2015	27173
जनवरी 2016	125925
फरवरी 2016	209818
मार्च 2016	230793
अप्रैल 2016	297690
मई 2016	334690
जून 2016	335827

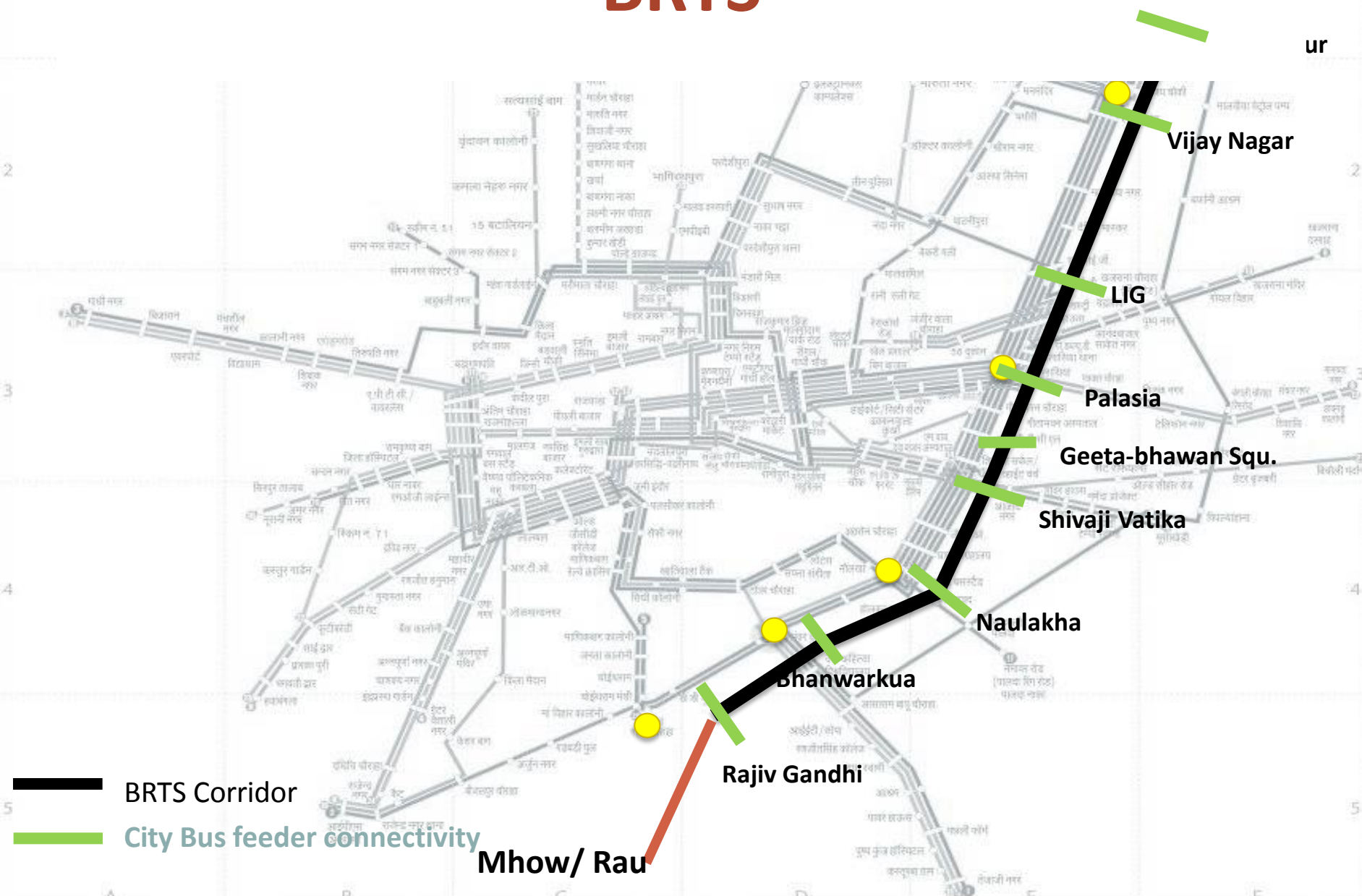
# BRTS

# BRTS PROJECT

Initiated	<ul style="list-style-type: none"><li>• 2007</li></ul>
Route Length	<ul style="list-style-type: none"><li>• 11.46 km</li></ul>
Road section	<ul style="list-style-type: none"><li>• 31.6 / 60 metres</li></ul>
System type	<ul style="list-style-type: none"><li>• Closed</li><li>• Median stations</li><li>• Open for feeder buses.</li></ul>
Stations	<ul style="list-style-type: none"><li>• 21</li></ul>
Buses	<ul style="list-style-type: none"><li>• 40</li></ul>
Type of bus	<ul style="list-style-type: none"><li>• 12 m long with AC</li><li>• 900 mm Floor</li><li>• 245 hp, BS III engine</li></ul>
Completion	<ul style="list-style-type: none"><li>• 31<sup>st</sup> March 2013</li></ul>
Operations	<ul style="list-style-type: none"><li>• 10<sup>th</sup> May 2013</li></ul>
Ridership	<ul style="list-style-type: none"><li>• &gt;52,000 pax/day (avg)</li></ul>



# Integration of city bus Services with BRTS



# Bus Rapid Transit (BRT) Features

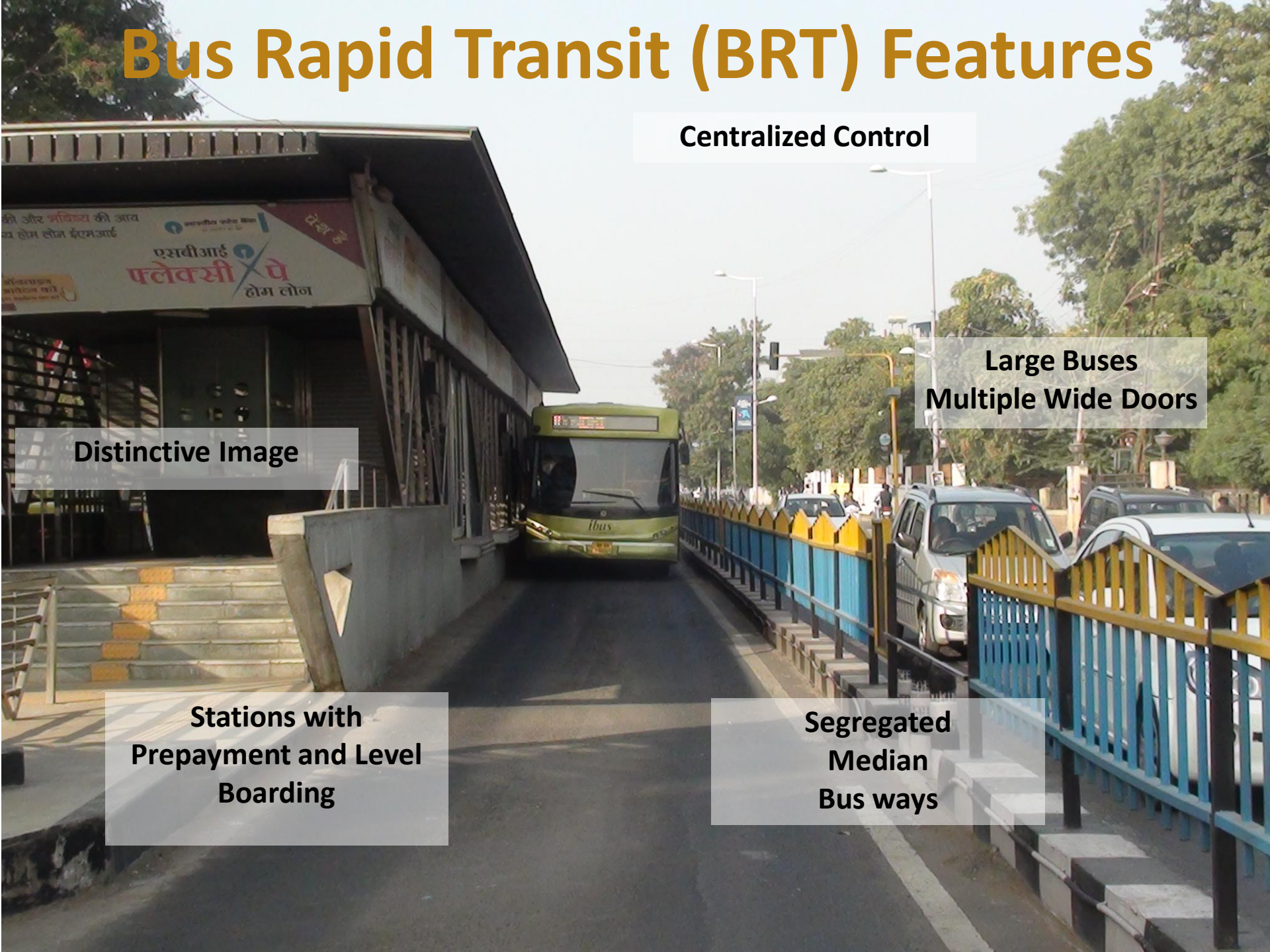
Centralized Control

Large Buses  
Multiple Wide Doors

Distinctive Image

Stations with  
Prepayment and Level  
Boarding

Segregated  
Median  
Bus ways



# iBus corridor Day View



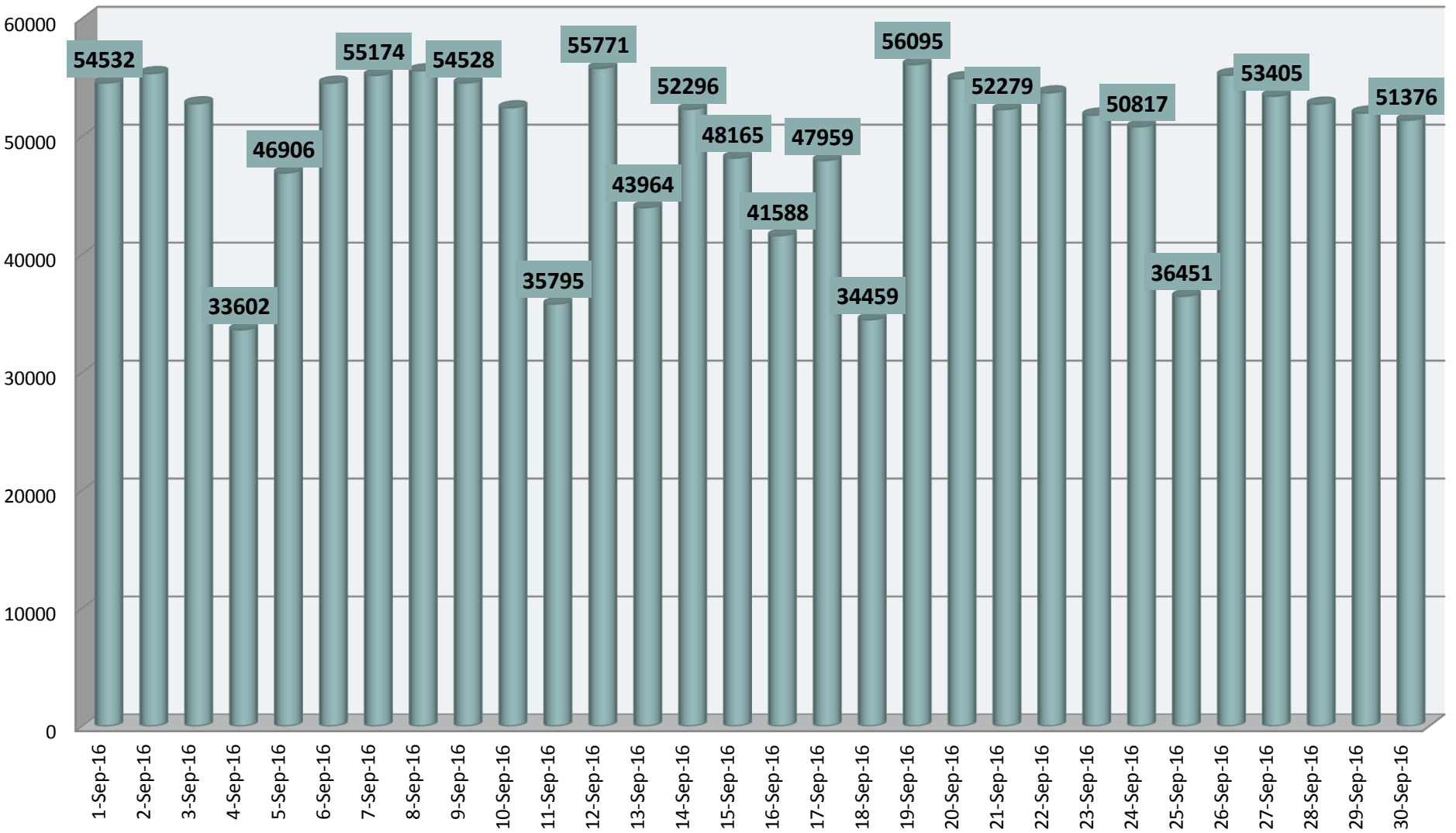


# Safety in the buses

- CCTV Surveillance.
- Seats reserved for females and specially abled.
- Three emergency exits.
- PIS and PAS systems.

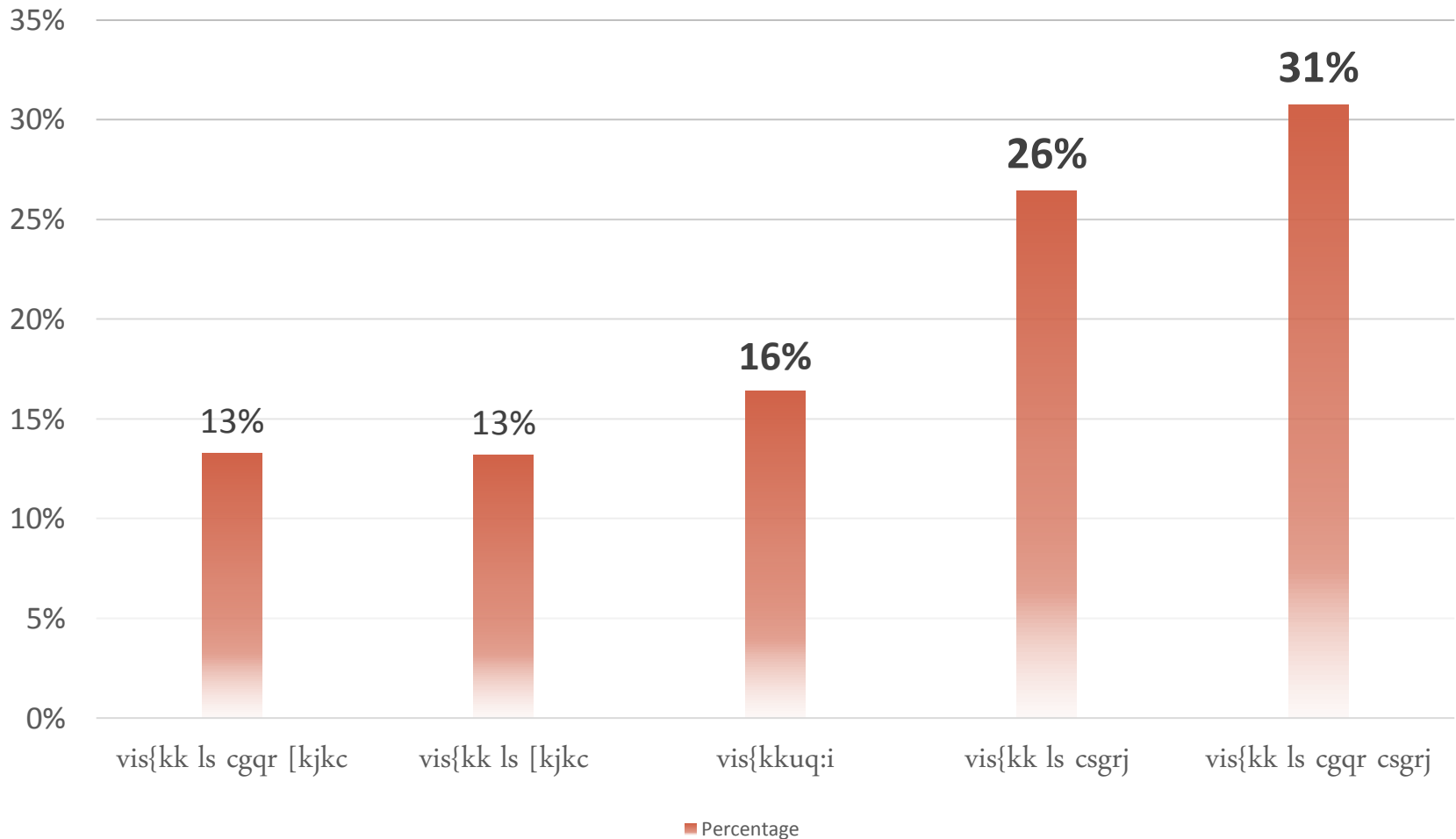


# Rirdership of month Sep-2016

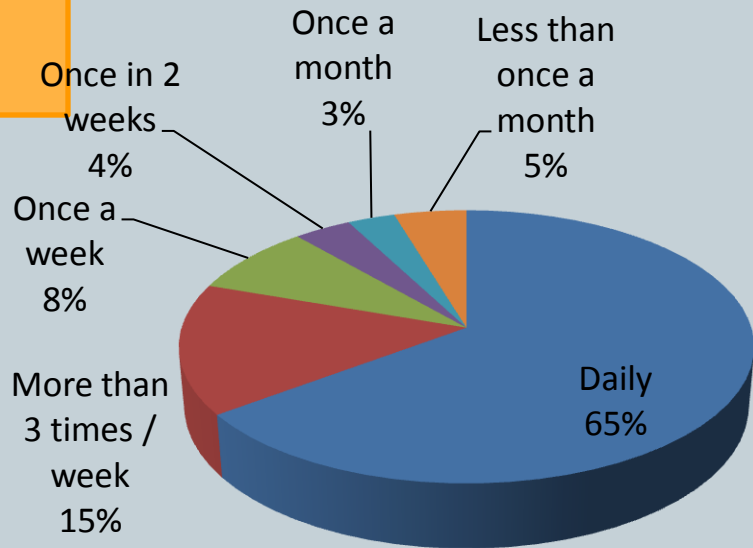


# Passenger Survey

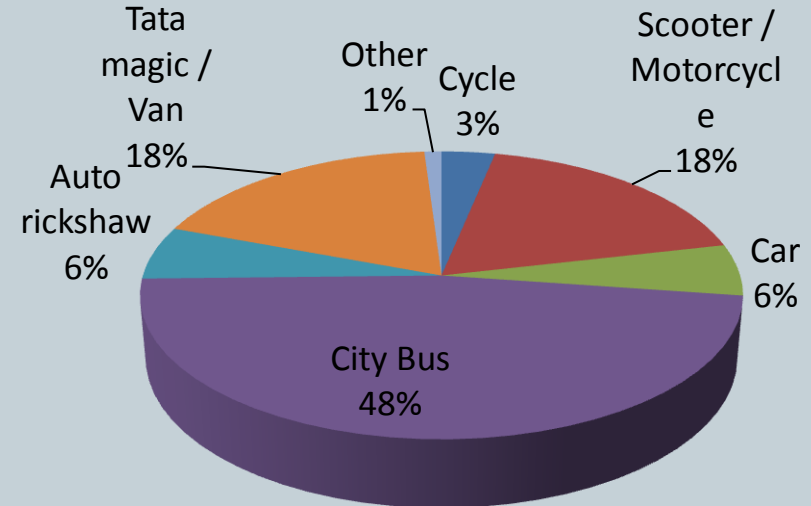
## OVERALL SATISFACTION LEVEL



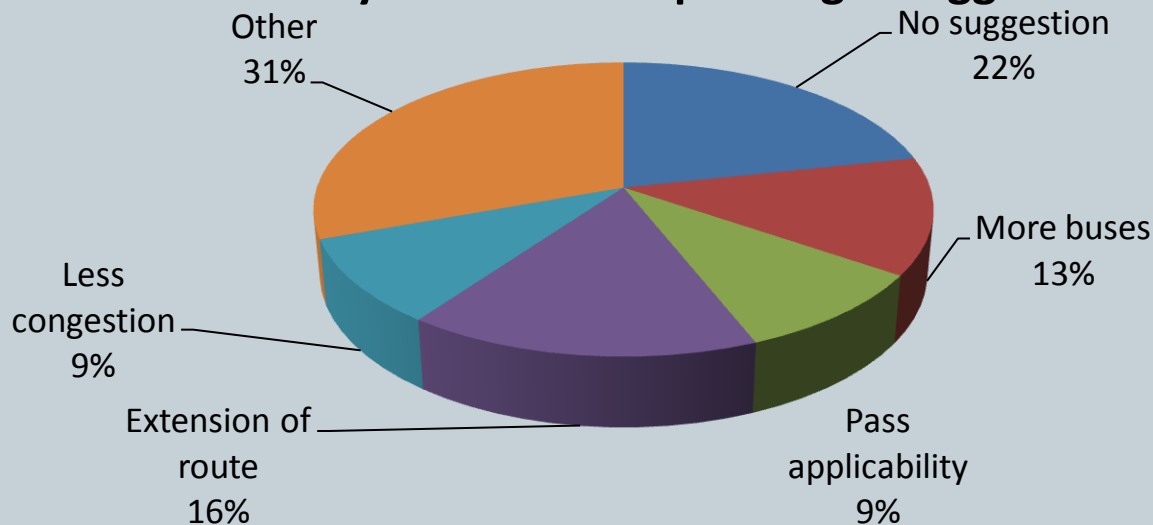
# User Satisfaction survey



## Mode shift Analysis



## Key themes from passenger suggestions



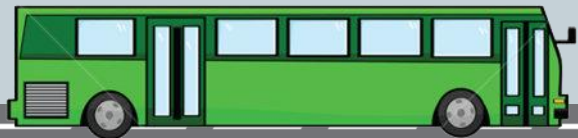
# SKY BUS

# Intercity And Inter State Ac Bus Operation



# Smart Mobility-Skybus Service

- What is SKYBUS?
  - Skybus is the interstate and intercity luxury bus services.
- Why Skybus ?
  - This is an initiative to enhance the safety in Urban Transport for long route buses.

A graphic for the Skybus service featuring a road leading to a bright horizon under a blue sky, framed by red curtains. The text includes the Skybus logo, a quote from the Chief Minister of Madhya Pradesh, and the service provider's name and location.

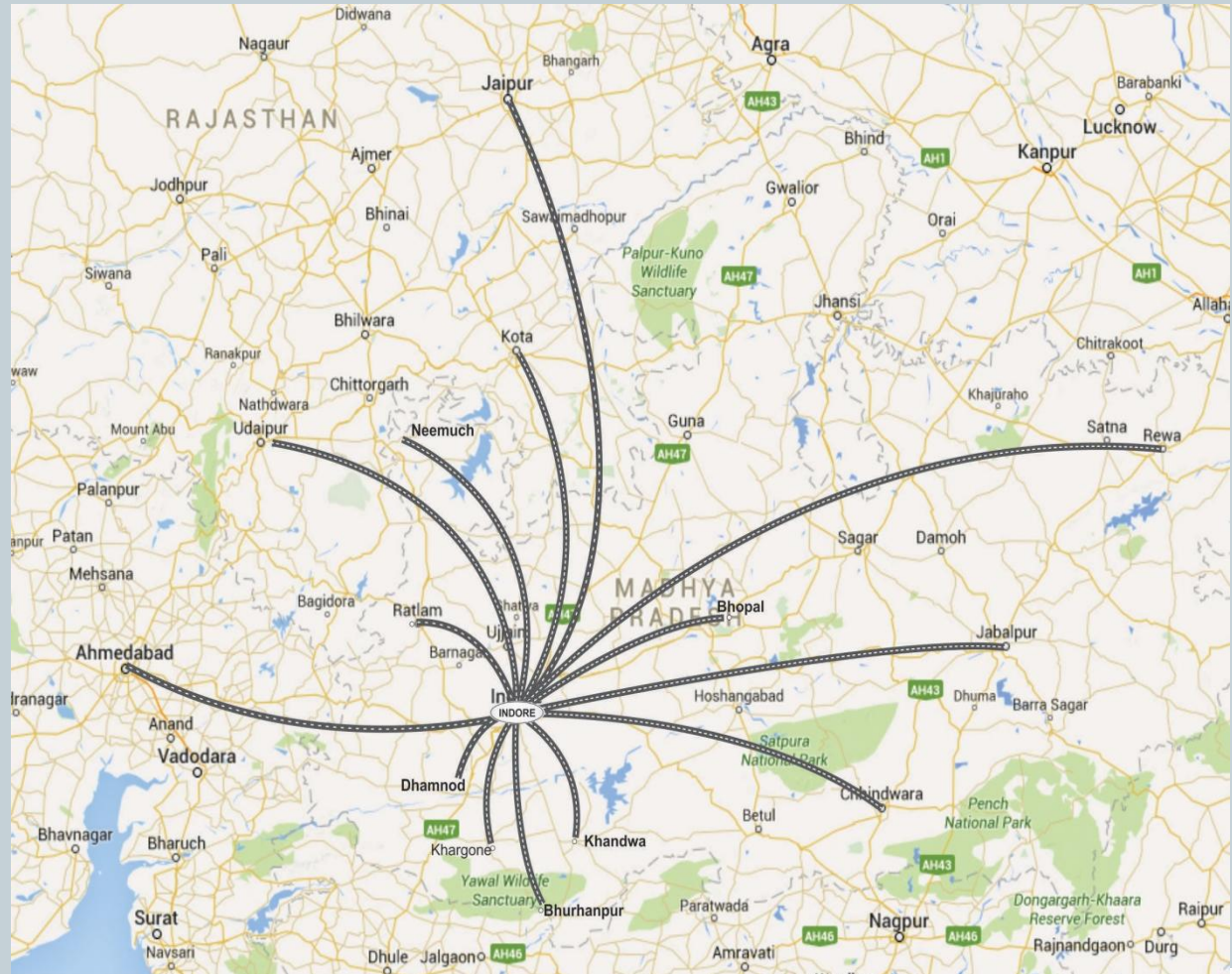
**Skybus**»  
सतत विकास, अटल विश्वास...

By: Hon. Chief Minister,  
**Shri Shivraj Singhji Chouhan**  
Madhya Pradesh

Inter-State & Inter-City AC luxury bus  
Services by  
**AICTSL**»  
Atal Indore City Transport Services Limited,  
Indore (M.P).

# SKYBUS ROUTES

- Indore to Bhopal.
- Indore to Neemuch.
- Indore to Mandsaur.
- Indore to Sagar.
- Indore to Rewa.
- Indore to Jabalpur.
- Indore to Ahmedabad.
- Indore to Khandwa.
- Indore to Burhanpur.
- Indore to Chindawara.
- Indore to Ratlam.
- Indore to Khargone.
- Indore to Ujjain.
- Indore to Kota.
- Indore to Udaipur.
- Indore to Pune.
- Indore to Nagpur.
- Indore to Surat.
- Indore to Sedhwa.
- Indore to Jaipur









# Features in SKYBUS

- 24 \* 7 call center.
- GPRS control system.
- CCTV Surveillance.
- Emergency doors.
- Online booking.
- Mobile Application.
- Female reservation.



**PBS**

# i bike

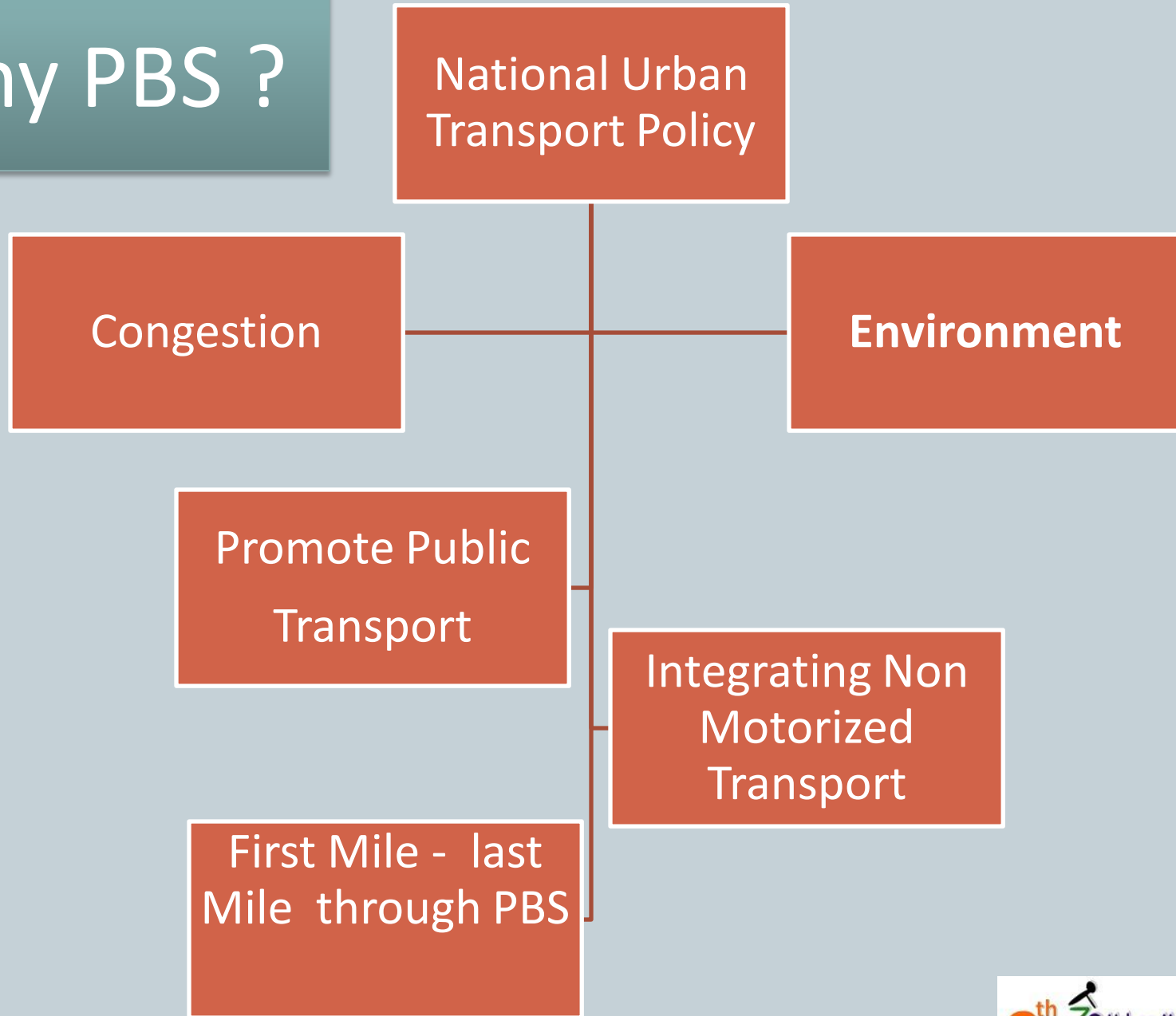


Powered By

*AICTSL*»

PBS

# Why PBS ?





## What is PBS ?

PBS is an integrated approach to Public Transport. PBS give the first and last mile connectivity. **Public Bicycle System (PBS)** is a service in which bicycles are made available for shared use to individuals on a very short term basis. Bike share schemes allow people to borrow a bike from point "A" and return it at point "B". The central concept of these systems is to provide free or affordable access to bicycles for short-distance trips in an urban area as an alternative to motorized public transport or private vehicles, thereby reducing traffic congestion, noise, and air pollution. Bicycle sharing systems have also been cited as a way to solve the "last mile" problem and connect users to public transit networks

First and last mile commuter activity

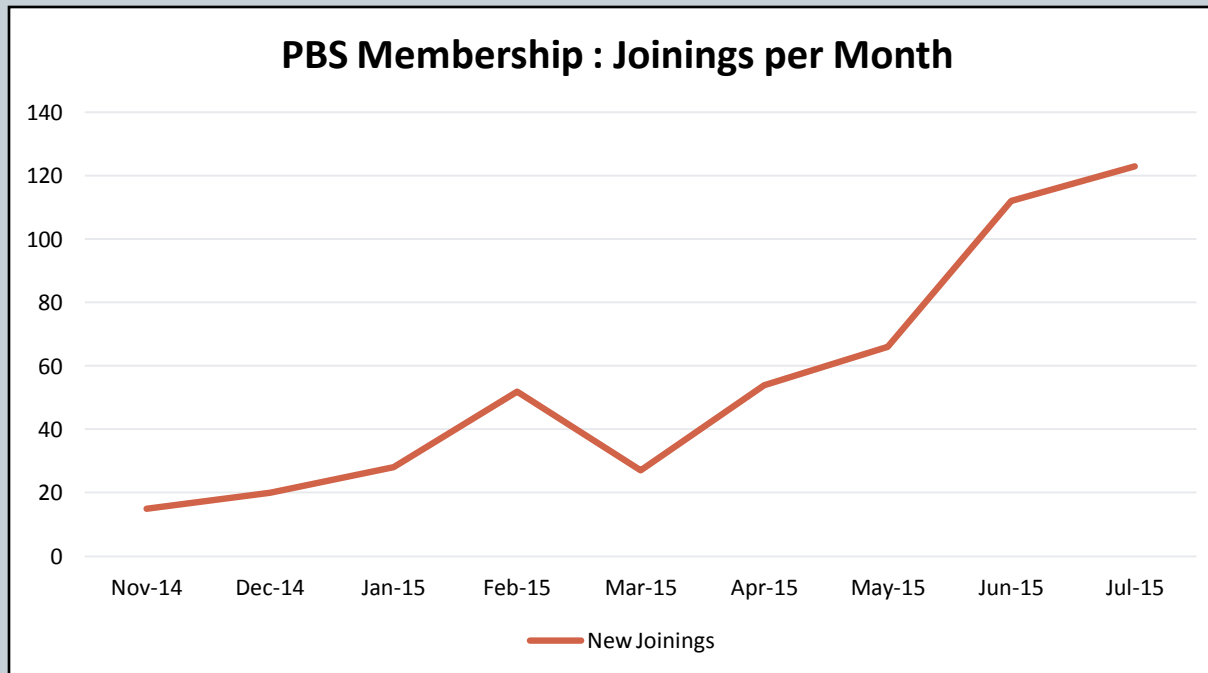
# ibike Docking Station





# Progress Report

- Since the inaugural of PBS service, memberships have grown constantly. As of July 2015, i-Bike has a membership count of 497. shows the membership growth per month.





# TELE RICKSHAW

# Smart Mobility- Tele-Rickshaw

- What is Tele-Rickshaw ?
  - Organizing an unorganized sector of Urban Transport.
  - Tele Rickshaw is an [Auto Rickshaw Aggregator](#) (ARA).
  - Use of modern technology to enhance the safety.



# Innovative Safety measures



GPS in Auto-Rickshaws

Panic buttons

Route Deviation Alerts

GPS Antenna Cut Alarm

Power backup

Monitor GSM/GPS Signal Strength

# Call center operation

- Call center operation with more than 800 call per day.
- Call center facility is equipped with the latest technology and data base management system.



# IRIDE

# “iRide” Bike on rent in Indore, MADHYA PRADESH



NO.	TYPE OF TWO WHEELER		FARE (PER DAY)
1	Honda Activa		Rs. 500/-
2	Honda Dream Neo		Rs. 500/-
3	Bajaj Avenger		Rs. 800/- <b>AICTSL</b>



# I Ride – Rent a bike service

**GPS/ GPRS controlled:**  
 The 2 wheelers are incorporated with the advanced GPS/GPRS based feature which enables the location tracking of the vehicle. Controlling with an mobile application

**Last 24Hrs Activity** LOGOUT

**Asset number-DEMO IRIDE**

- SPEED: 46.0Kmph** **Status:RUNNING**  
**20-06-2015 10:54 AM**  
 At FAIRSKY TRAVEL HOUSE, Basement, B-6, Alanlkar Chamber, A-2 Ratlam Kothi, A B Road, A
- SPEED: 0.0Kmph** **Status:IDLE**  
**19-06-2015 08:55 PM**  
 At Palasia Square, Manorama Ganj, Palasia, Indore, Madhya Pradesh, India
- SPEED: 19.0Kmph** **Status:RUNNING**  
**19-06-2015 08:24 PM**  
 At Nutrition Club, 95, Ravindra Nagar, Old Palasia, Indore, Madhya Pradesh, India
- SPEED: 0.0Kmph** **Status:IDLE**  
**19-06-2015 08:22 PM**  
 At Palasia Police Station, AB Rd, Madhya Pradesh, India
- SPEED: 33.0Kmph** **Status:RUNNING**  
**19-06-2015 08:20 PM**  
 At Sikkim Manipal University, Leading Edge Informatics(SSi) A.B road, Palasia Square,
- SPEED: 39.0Kmph** **Status:RUNNING**

**SITE NAME** Real Time • Utilities • Management • Reports • Administrator

Dashboard / Live Device Status

Status: download completed.

25 records per page

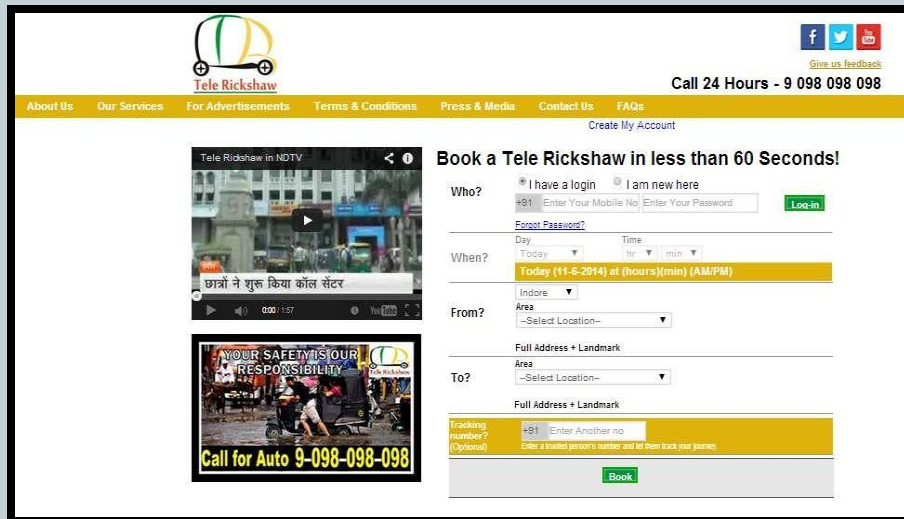
Name	Location	Odometer(Km)	PS	IG	GPS	Speed	Time
8501 Activa	Old Palasia, Indore, Indore, Madhya Pradesh, India (0 m)	0	●	●	●	0	07/08/15 17:22:30 IST
Dream Neo-8504	my hospital backside Road, Manorama Ganj, Indore, Indore, Madhya	0	●	●	●	0	07/08/15 17:22:10 IST
8505 Dream	Navlakha Road, Radio Station, Navlakha, Indore, Indore, Madhya	0	●	●	●	0	06/08/15 19:28:55 IST
Activa-8510	Indore-icchapur Road, Bairathi Colony Number 2, Navlakha, Indor	0	●	●	●	0	06/08/15 17:22:14 IST
Activa-8508	my hospital backside Road, Manorama Ganj, Indore, Indore, Madhy	0	●	●	●	0	06/08/15 17:22:14 IST
8503 Avenger	my hospital backside Road, Manorama Ganj, Indore, Indore, Madhy	0	●	●	●	0	06/08/15 13:28:23 IST
Avenger-8507	my hospital backside Road, Manorama Ganj, Indore, Indore, Madhy	0	●	●	●	0	06/08/15 13:27:43 IST
8505 Activa	my hospital backside Road, Manorama Ganj, Indore, Indore, Madhy	0	●	●	●	0	05/08/15 15:40:38 IST
Dream Neo-8506	my hospital backside Road, Tukoganj, Indore, Indore, Madhya Pra	0	●	●	●	0	03/08/15 21:29:33 IST
8502 Neo	my hospital backside Road, Manorama Ganj, Indore, Indore, Madhy	0	●	●	●	0	15/07/15 20:11:25 IST

Showing 1 to 10 of 10 entries

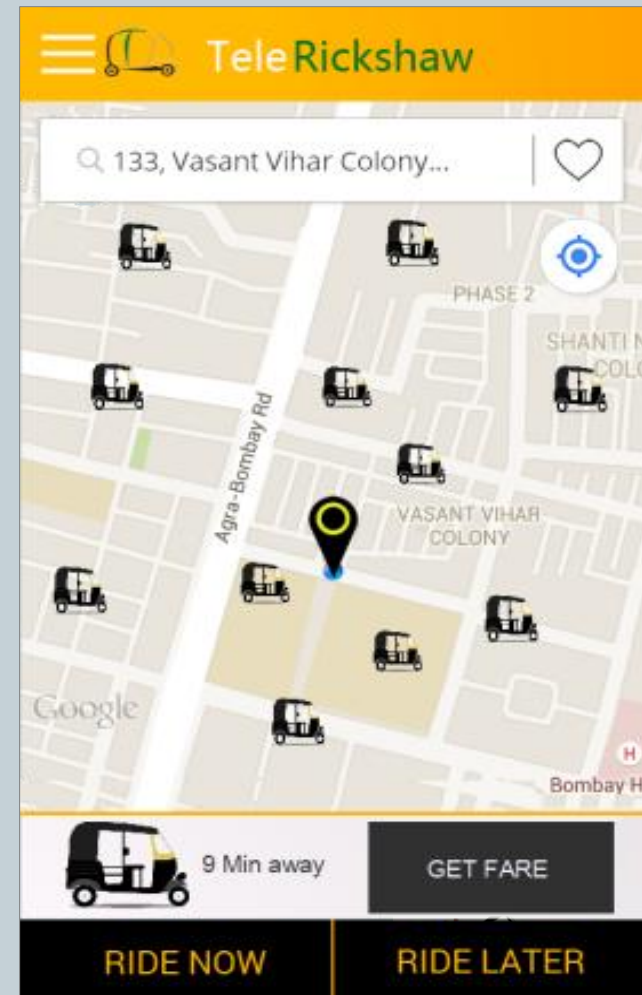
SITE FOOTER

# Control with the Mobile Application

- Mobile Application for booking and Rickshaw tracking.



- The pre-booking of the Auto is possible online



# SUSTAINABLE MOBILITY PLAN

# Sustainable Mobility Plan - WBCSD

MULTI-SECTORIAL  
BUSINESSES

CITY  
DEPARTMENTS

## 1 UNDERSTAND THE MOBILITY SITUATION AND PROJECTS



1

## 2 ANALYZE MOBILITY PERFORMANCE AND IDENTIFY CITY PRIORITIES

DATA COLLECTION & SURVEY



SPIDER CHART

CONGESTION



2

## 3 SELECT MOBILITY SOLUTIONS

Workshop with locals companies & partners

PRIORITY INDICATORS



DRAFT SOLUTION PORTFOLIO



3

## 4 CROSS-CHECK SOLUTIONS THROUGH STAKEHOLDER DIALOGUES & TRIALS IDENTIFY ENABLERS



4



Testing a mobility solution on a small scale

5

## 5 ROADMAP TOWARDS MOBILITY PLAN



Timeframe

Area of deployment

Infrastructure, Policy, Behavior enablers

Financing Mechanisms

IMPLEMENT

# Priority Indicators

Travel Time

Congestion

Intermodal  
Connectivity

Safety

Access to  
Mobility Services

Inclusive Access

Quality of Public  
Area

# Indore Prioritized Solutions

Bicycle Mobility Solutions	<ul style="list-style-type: none"><li>• Bike Sharing</li><li>• Dedicated Bicycle Lanes</li><li>• Integrated cycling, with Public Transport</li></ul>
Pedestrian Mobility Solutions	<ul style="list-style-type: none"><li>• Pedestrian Mobility Strategy</li><li>• Visual Display at Pedestrian Crossings</li></ul>
Congestion Solutions	<ul style="list-style-type: none"><li>• Park and Ride scheme</li><li>• Right turn filtering lanes</li></ul>
Improve Public Transport	<ul style="list-style-type: none"><li>• Passenger Friendly Bus Stops</li><li>• Intermodal Travel Information</li><li>• On-board Bus Travel Information</li><li>• Multi-modal Real time Information Apps</li><li>• 100% accessibility of public transport</li></ul>
Technology Solutions	<ul style="list-style-type: none"><li>• Parking fee enforcement strategy</li><li>• Smart Ticketing systems</li><li>• Smart Parking</li></ul>

# Indore Solution Roadmap

## Priority Solutions

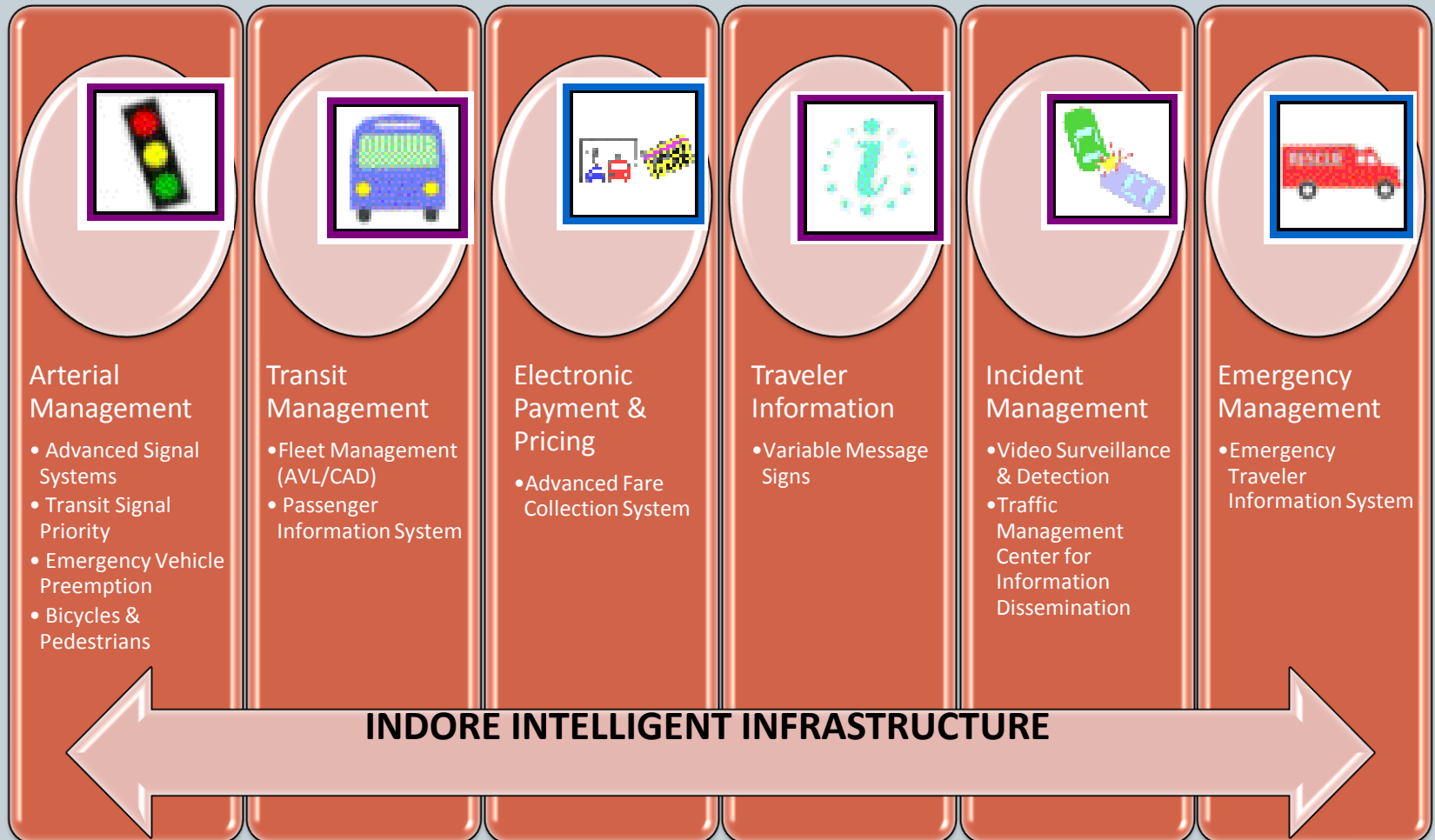
Walking, bicycling and motorcycling (2 wheelers) are the predominant mobility modes and priority solutions provide for better safety and comfort of these modes while also increasing connectivity to public transportation.

Solution Work Plan	2015					2016				2017				2018			
	Aug	Sep	Oct	Nov	Dec	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>Pedestrian Mobility Strategy:</b>																	
No vehicle zones (2 Zones)																	
Dedicated Pedestrian Sidewalks																	
Pedestrian Signals & Crosswalk Expansion Strategy																	
Smart Signaling																	
<b>Bicycle Strategy</b>																	
iBike implemented for multi modal connectivity																	
Dedicated bicycle lanes Implementation Strategy																	
Address Encroachment / Hacker Issues																	
<b>Congestion Solutions</b>																	
Park & Ride Scheme																	
Right hand filtering lanes Implementation Strategy																	
<b>Improve Public Transport</b>																	
increase bus transport capacity																	
Passenger Friendly Bus Stops																	
100% Accessibility of Public Transport																	
Multi-Modal Real Time Travel Information Signs and Apps																	
<b>Technology Solutions</b>																	
Smart Ticketing System																	
Smart Parking Strategy																	
Parking Fee Enforcement Strategy																	

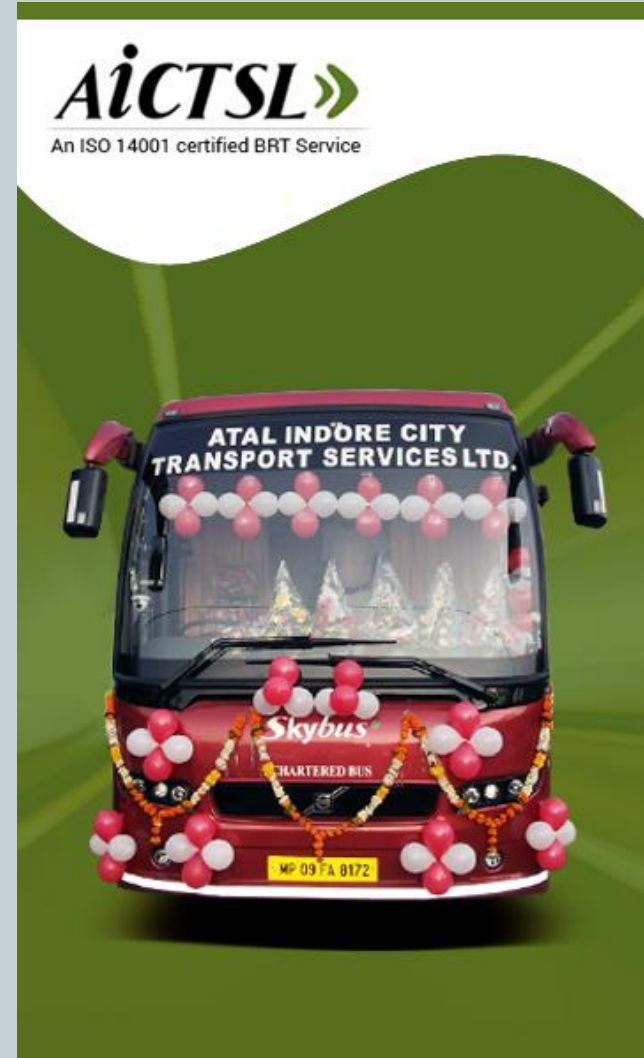
# ITS



# Indore Intelligent Infrastructure under GEF Project



# Smart Mobility- Mobile App



# Selection of Boarding city


**AICTSL**»  
An ISO 14001 certified BRT Service

From  
Ahemadabd

To  
Indore

**SEARCH**

**AICTSL**»  
An ISO 14001 certified BRT Service



MADHYA PRADESH

MAHARASHTRA

Ahmedabad, Gujarat

Indore, Madhya Pradesh

Started Time:  
04:20 PM

Ending Time:  
12:50 AM

Price: INR 800

# Development of Integrated Website

- The website shall be designed to integrated all the AICTSL services.
- Smart E purse / Card shall be recharged via website.
- All the features of Mobile Application shall be provided in the Website for the users.



**Chartered Bus**

**04:20**  
Ahmedabad

**06:40**  
Mumbai

**2h 15m**  
Non Stop

Bus change at Mumbai | Backlog Time: 3h 05m



**Raj Mandir Travels**

**09:45**  
Mumbai

**12:50**  
Indore

**2h 15m**  
Non Stop



**Chartered Bus**

**04:20**  
Ahmedabad

**06:40**  
Mumbai

**2h 15m**  
Non Stop

Bus change at Mumbai | Backlog Time: 3h 05m



**Raj Mandir Travels**

**09:45**  
Mumbai

**12:50**  
Indore

**2h 15m**  
Non Stop

# FREE WI-FI FACILITY



- Indore is the first city to provide free Wifi network.
- Planning to give seamless Wifi facility throughout the city.



# Smart Mobility- ITMS (Integrated transit Management System)

- SUTP- GEF ITS project.
- Automatic Fare Collection system.
- Passenger Information system (CAD/AVL).
- Transit Management control center.





# UPCOMING SMART MOBILITY SOLUTIONS

# Smart Mobility –Green City Bus

- **Smart Electric Buses:-  
DPR Submitted of Rs.  
53 Cr. to Government  
of India**



# Street transformation (no vehicle zone)



Sarafa Street

transformation



Rajwada Street



# Smart City -IT SOLUTIONS IN PAN CITY

## TRAFFIC SYSTEMS



## CITIZENS MUNICIPAL SERVICES



## SYSTEM



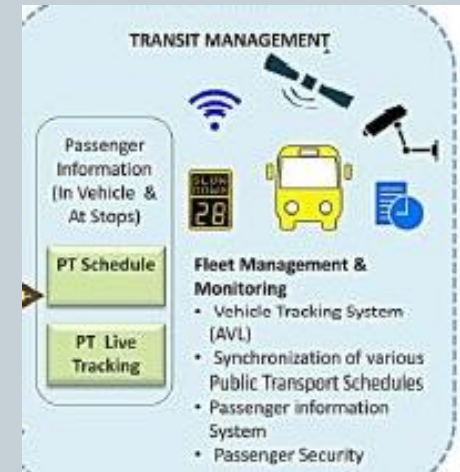
### ONLINE MONITORING OF WASTE PROCESSING

Track and Monitor the waste collected in decentralized waste processing units

### MOBILE APP. SYSTEM

- Track the Safai Mitra (SM)
- Register complaint of Absenteeism
- Coordination time with SM
- Register complaints for Litter
- Toll free helpline for 24x7 support
- Transparent billing of user charges

## PUBLIC TRANSPORT



## CITIZENS FACILITIES

### ELECTRONIC PAYMENT

- Common Mode of Payment**
- Transit Fee Payment
  - Parking Fee Payment
  - Toll Collection

### GIS BASED ROUTE MAPPING AND VEHICLE TRACKING SYSTEM (VTS)

- Track Speed, Location, Route, Total Running Distance etc of Vehicles
- Locate the secondary collection points and waste bins locations
- Optimized Route Mapping and Planning based upon above data.

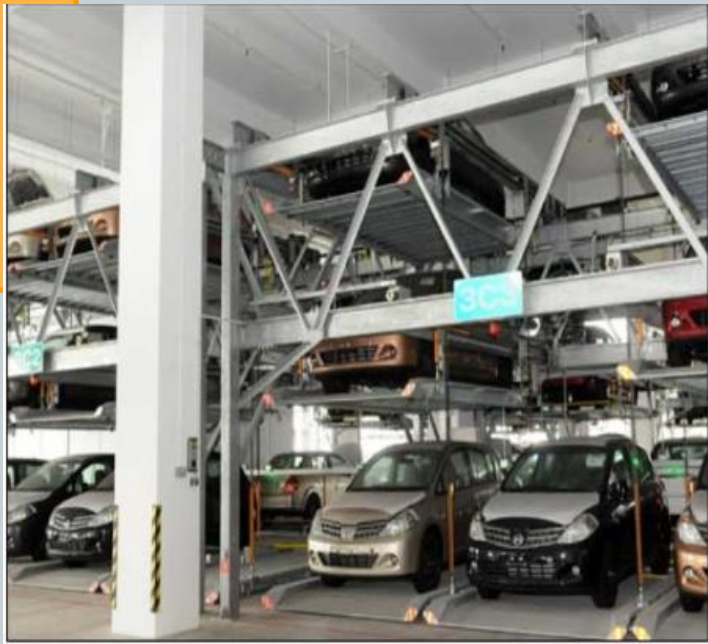
# Bus Shelter



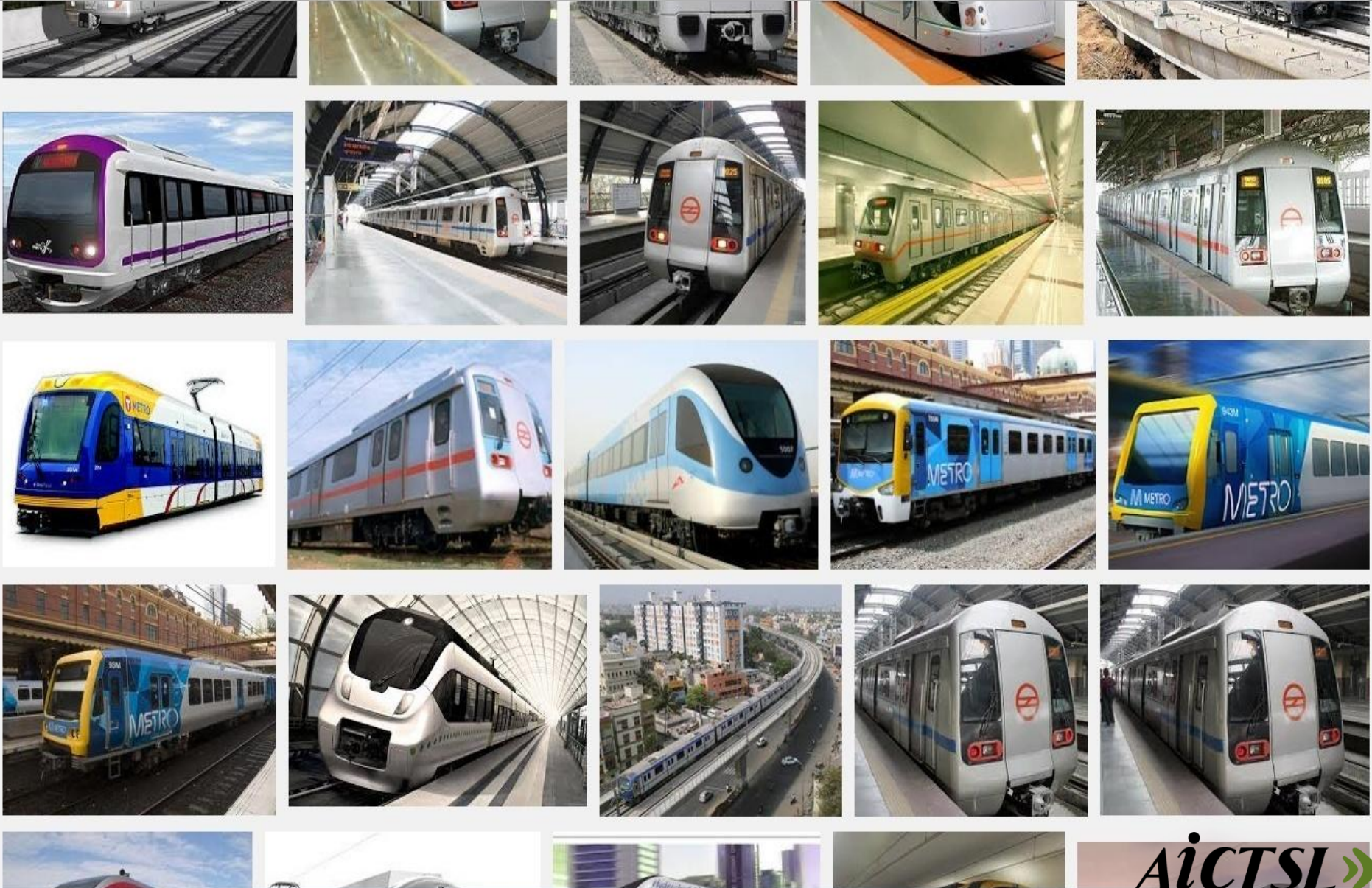
- Meteorological Sensor
- Remote Terminal Unit
- Video Image



Check Traffic Card Balance



# INDORE-METRO



# AWARDS AND RECOGNITION



# UMI 2015 PBS Award



# World Wide Recognition



**MoUD 2014**



**STA Award 2014**



**Capam Award – 2014**



**Quality Mark Award 2015**

# UITP – 2015 Award





 **WRI INDIA** | SUSTAINABLE CITIES  
**CONNECT Karo**  
Awards 2016

**INNOVATION IN SUSTAINABLE TRANSPORT**

**Atal Indore City Transport Services Limited**  
Honorable Mention  
Promoting Sustainable Urban Transport

# VOLVO SUSTAINABLE MOBILITY AWARDS 2015

Volvo Buses  
honours

Atal Indore City Transport Services Ltd.  
for

Outstanding Contribution to  
Sustainable Mobility

for the project

Ibus BRTS Project, Indore

Volvo Sustainable Mobility Awards acknowledges the progressive and  
practical steps to deliver sustainable mobility solutions.



Akash Fanny

By Vice President - Business Region International,  
Volvo Bus Corporation and  
Chairman of the Board of Volvo Buses India



VKV Sengupta  
Managing Director  
Volvo Buses India Pvt. Ltd.

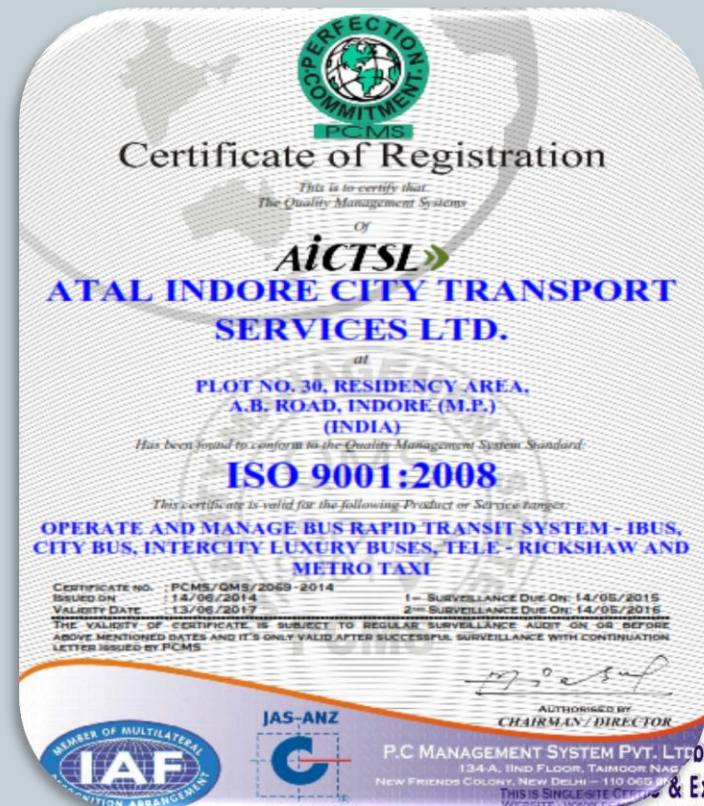
23 November 2015

Volvo Buses. Defining quality of life.



# Focus on Safety, Quality & Environmental Benefits

- AICTSL has received the ISO 9001:2008 & ISO 14001:2004 for giving Quality, Safe & Environmental benefits.



**THANK YOU**