BRTS@BHOPAL

28th Nov 2014

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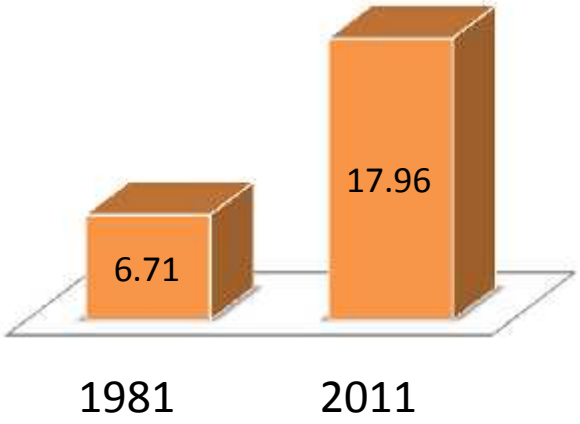
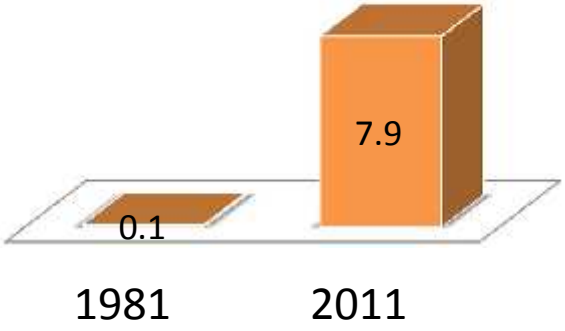
CEO, BCLL, Bhopal

Vehicular growth & Modal Share

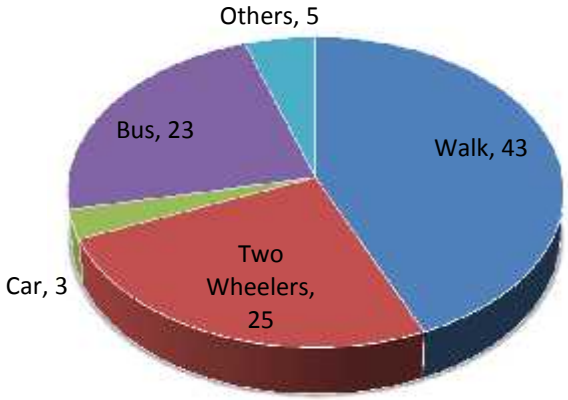


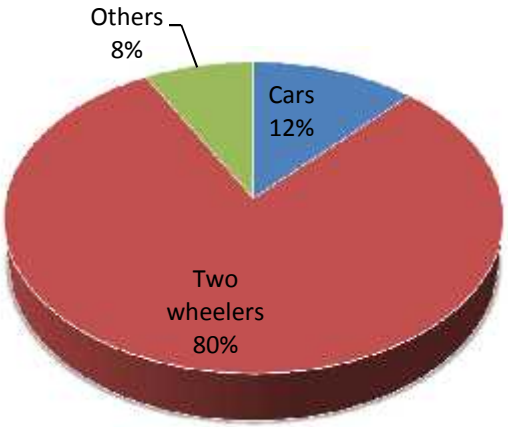
Population growth



Vehicular growth

Since 1981, the population of Bhopal has multiplied about 2.5 times and number of registered vehicles has increased 85 times. Of the 7.9 lakh registered vehicles in 2011, 92% are cars and two wheelers which accounts for only 28% of modal share.





The Obvious consequence

1. Congestion
2. Increased energy consumption
3. Pollution

Reduce	Shift	Improve
Travel Demand	Environment friendly Modes	Vehicle Technology
TOD	Public Transport	Alternative fuels

For a city like Bhopal which is the youngest (65 years) and the fastest sprawling city (850 Sq Km, 2.5 times the Singapore) BRTS is the best possible and sustainable solution

Why BRTS ?

- Auto first city concept is not working.
- We must invest innovatively and wisely in our public transit systems.
- BRTS is one such solution and its as good as Metro.

BRT…. Beyond latitude and Culture

More then 100 cities across the world have adopted BRT as their main public transport mode

Guangzhou, China

Metz, France

Seattle, Washington

New Jersey

Nagoya , Japan

Bangkok

Ottawa, Canada

New York

BRT…. planning flexibility

Wider road is not a necessary condition for BRT operations.
Quito run its BRT even in 3 mts wide road

Quito, Ecuador

Istanbul

Santiago, chile

VIVA, Toronto

Miami

Lima , Peru

BRT…. Size and density no barrier

Bogotá, BRTS is carrying nearly 40,000 pphpd at an average speed of 32km/h better then most of the Metro systems in the world

Brisbane, Australia

Metrobus , Mexico City

Beijing, China

Bogota, Colombia

Curitiba, Brazil

Jakarta, Indonesia

Route Rationalization

- UMTC conducted the route rationalization study and developed a service plan
- Brainstorming & Consultations for Route Development.
- Notification of New Routes by State Transport Authority (Jan 2009)
- Implementation of Route & Service plan Developed under Route rationalization Study
- Relocation of Minibus/Tata magic to Complementary/IPT Routes
- Limiting Intercity Buses till Regional Bus Stands
- Cancelling the permits of illegal mini buses

Consultation with Minibus and Tata magic operators on 25th Sep 2009 .

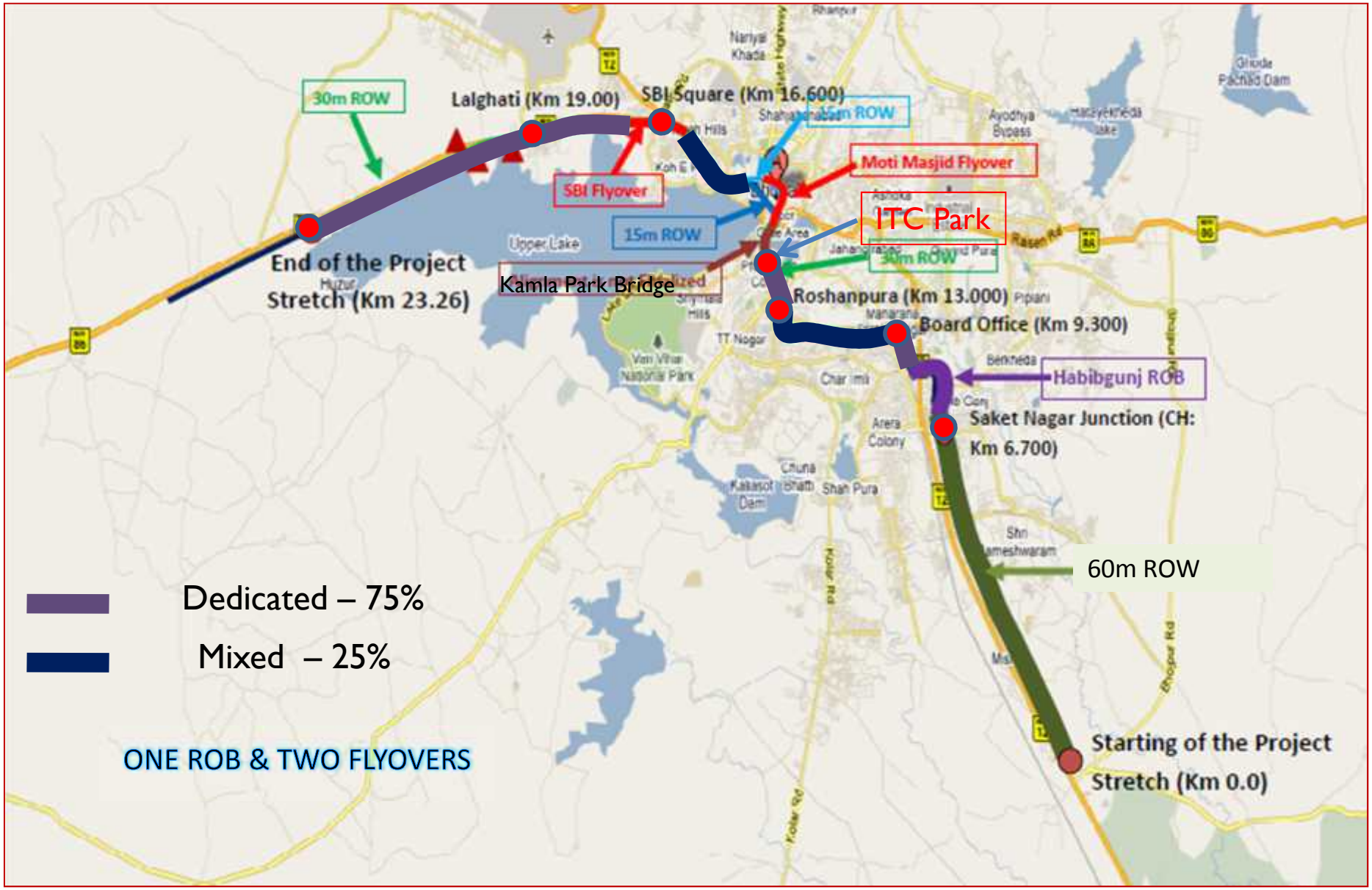
Consultation with Public Representatives and eminent persons on 23 July 2009

Consultation meeting with Transport and Traffic Police official on 21st Aug. 2009 / 25-26 Feb.2010.

Notified Public Transport Routes

S No	Routes	Description	Number of Routes	Route length (in KM)
1	Trunk Routes (TR)	Connecting major activity centers of city by Bus Rapid Transit System.	3	67.64
2	Standard Routes	Connecting major origin & destination points of the city.	8	123.60
3	Complimentary /IPT Routes	Complementary to Trunk and standard routes. IPT/CR works as feeder routes	20	250.24

The BRTS Corridor



The BRTS Corridor Details

Length Of Corridor	23.95 Km
Width of the Corridor	30 m and 60 m
BRTS Bus Lane	3.35m each c/w
FMV (Fast Moving Vehicles) Lane or Motorised Vehicles Lane	7.85m each c/w
SMV (Slow Moving Vehicles) Lane and Non Motorised Vehicles Lane	3.00m each c/w

The BRTS Corridor Details

Bus Stop/ Platform	2.5m wide and 15 m long at Bus stop locations
Pedestrian Guard rail	Between Bus lane and FMV lane
Utility Ducts across the carriage way	500 m interval
No of Bus Shelters	82
Railway Over Bridge at Habibganj Crossing	Length of – 720 M 6 lane 24 M wide.
Fly Over at GAD Square	Total length 560 M 4 Lane divided Carriage way 17 M Wide
Cable Stay Bridge at Upper Lake	Total Length 640 M

Bus Shelters

- Median bus shelters
- Half the total numbers

- Staggered bus shelters
- PPP model
- Rs. 5000 per bus shelter per month
- Maintenance and security, concessionaire responsibility

Operational Model

- Gross cost
- Rs.56 per km

- Net Cost
- Average premium of Rs. 6000 per bus per month

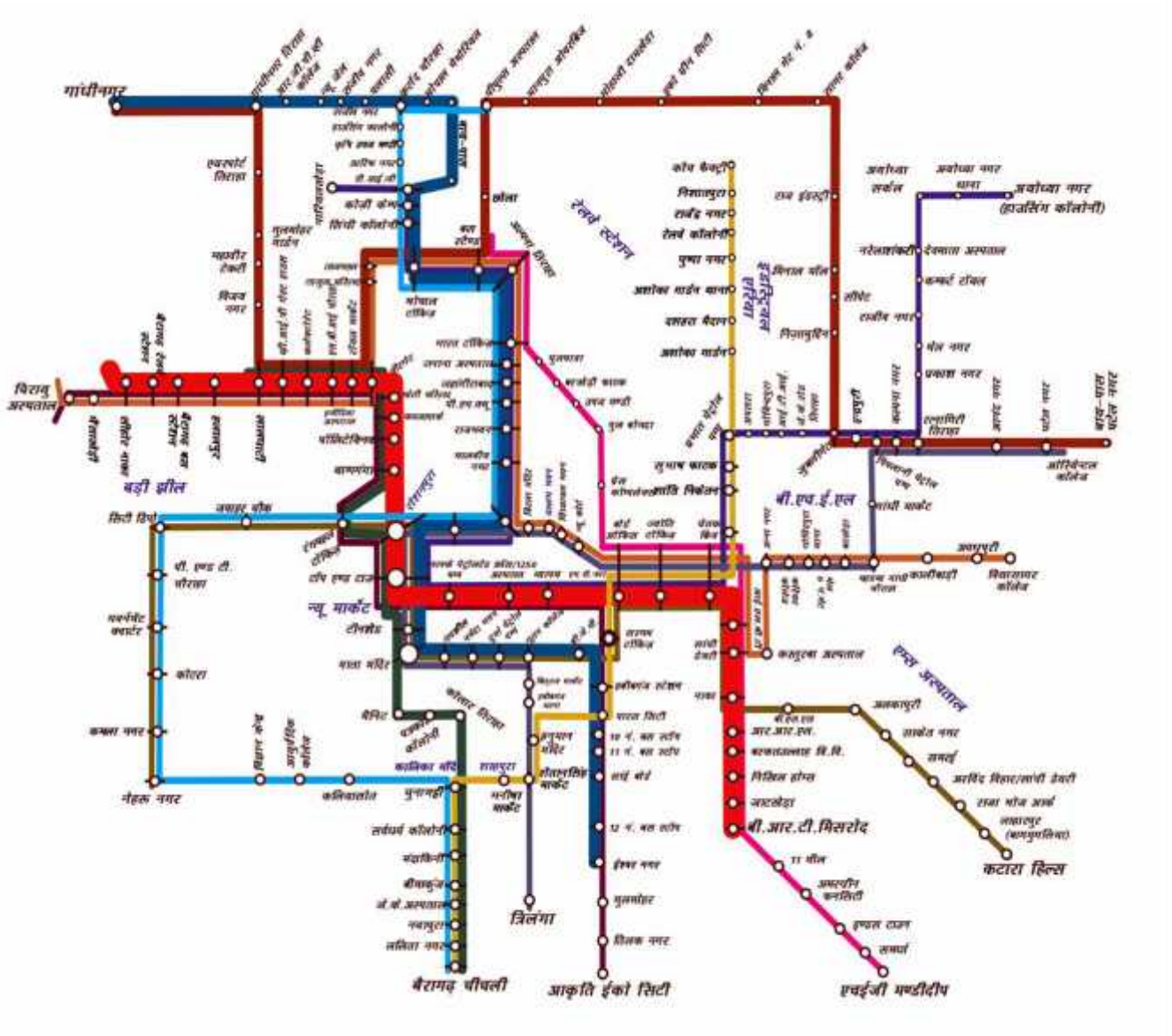
Bhopal is the only city in the country to operate its BRTS on Net Cost Model

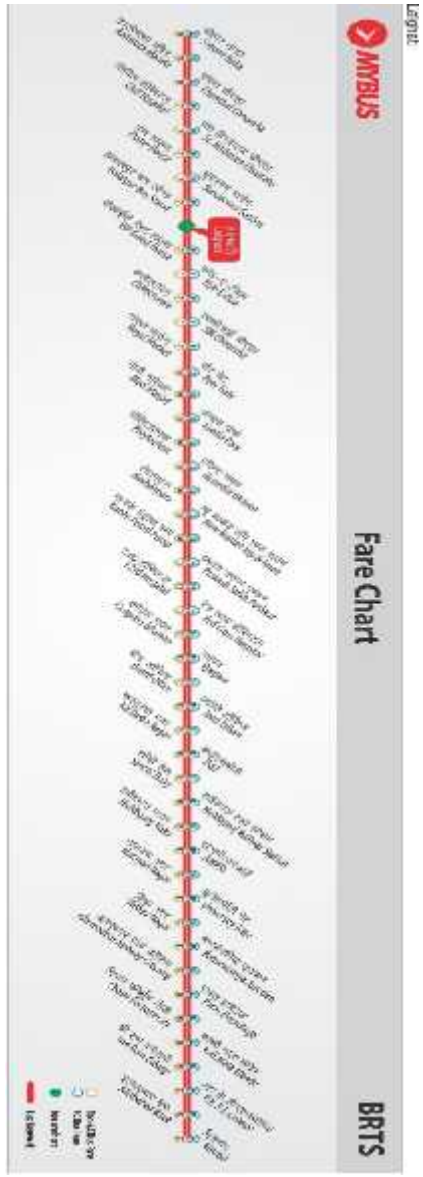
Buses

- Custom made
- High floor
- Doors on opposite side

- Standard design
- Low floor
- Flexibility to operate
- Liberty of integration with existing system

Integration





BRTS is Bridge to old and new city

Improved Urbanscape

Space for all (Moving people)

Streets are brighter & safe

Transformation

Bhopal before BRTS

Bhopal after BRTS

Improved road width

Before

After

Automatic Fare Collection

On the Bus Stop

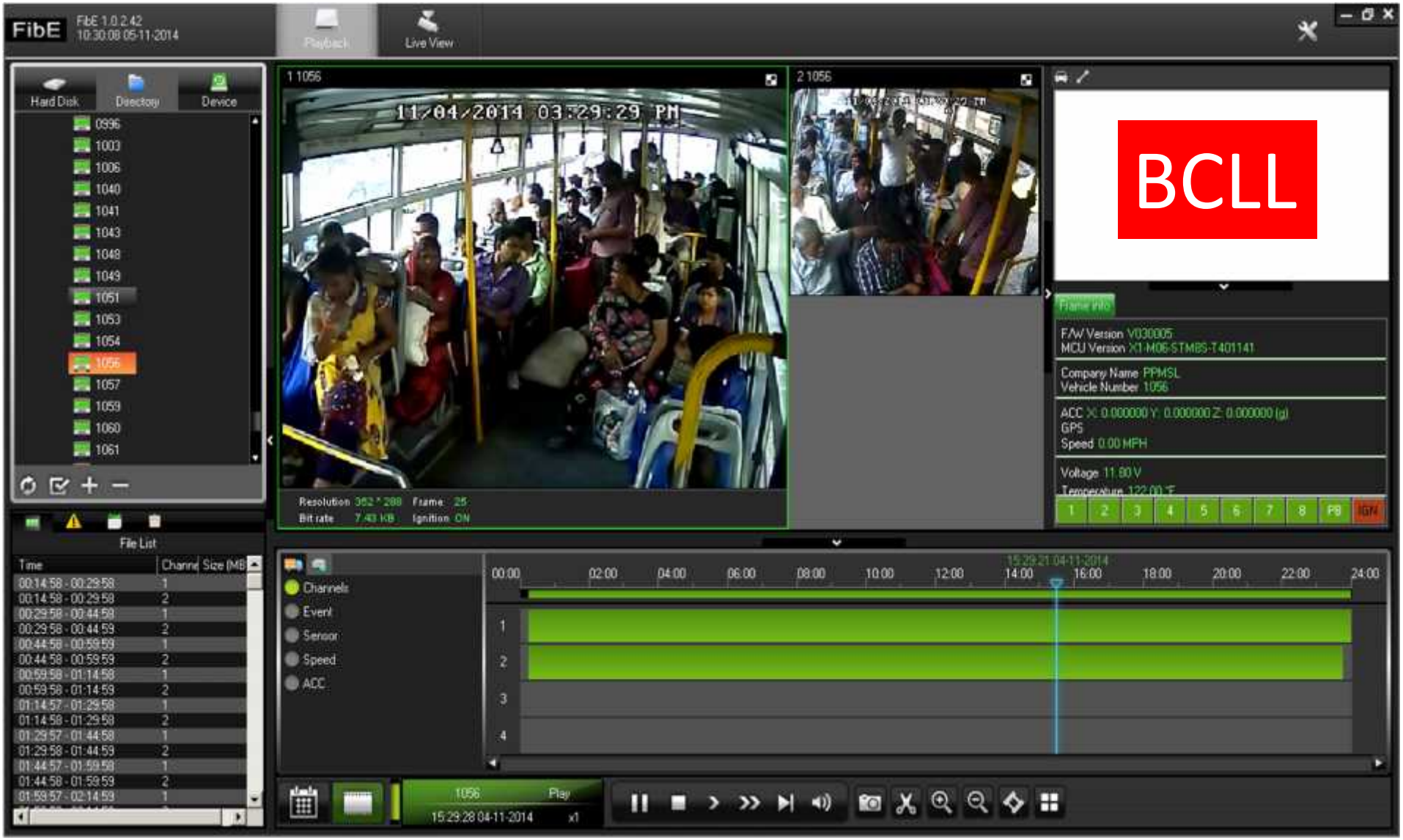
- Automated Ticket Vending Machine with capability to issue and recharge smart cards as well as issue bar coded tickets.
- Passenger Information System
- Fare Gates

On the Bus

- Validator supporting bar coded tickets and smart cards
- Handheld Ticketing Machine
- Surveillance system
- Passenger Announcement System

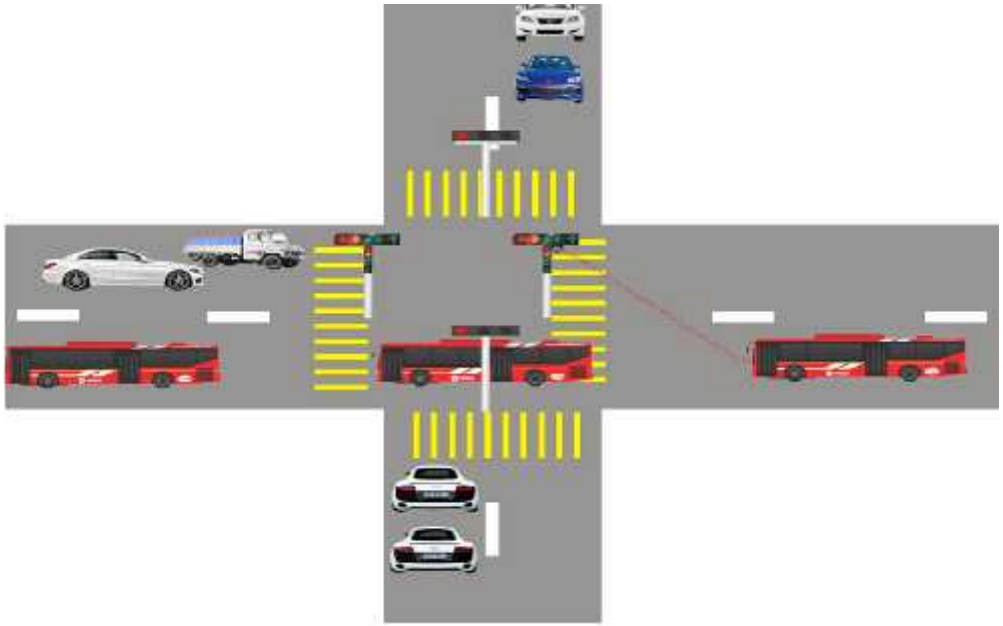
Point of Sales

Bus Video Surveillance

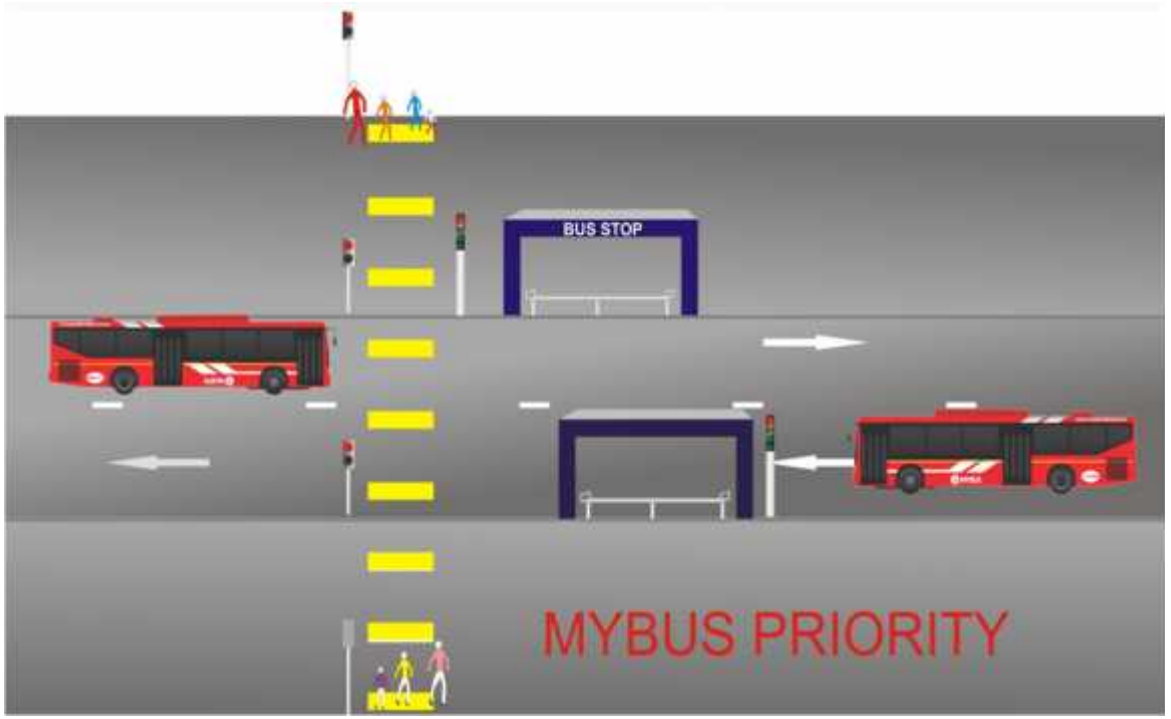


Traffic Signal and Bus Priority

Location	No
At the Bus Stop for pedestrian Crossing	57
Minor Junctions	16
Major Junctions	2



Bus and Pedestrian Priority



- Intelligent wireless technology which transmits the command of the master controller to the slave controllers fitted on the poles
- All signals carry receivers and Mybus is detected 50 meters before the junction
- On arrival at the primary pole Mybus is given priority
- Pedestrian poles are fitted with push buttons

Enforcement

BRT Police
Supervision Squad
BRT Wardens
Efforts to change the travel behaviour

Training & Support Infrastructure

Depot

Maintenance

Mobile Squad

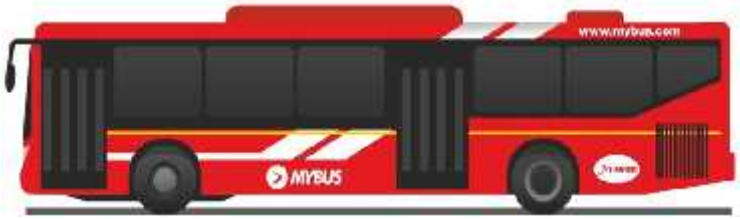
BRTS Police

Traffic Wardens

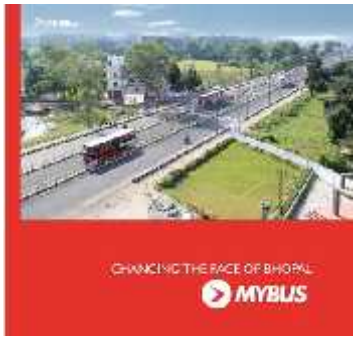
Regular Training

Branding & Outreach

- Open Competition for System name.
- Social Media Marketing
- Print and electronic Media
- Outdoor media and outreach
- AV and TV spots
- Trial runs
- Brochures, route map booklet etc
- Radio
- System branding



MYBUS



Drivers Training Programme

Class Room Training Program

Drivers Training under ESMAP undertaken by Mileage Expert Md. Hanif

Practical (On Road) Training Program

THANKS

www.mybusbhopal.in