



To be people's chosen brand universally, in mobility solutions, by serving beyond their expectations for every journey whilst adding value to all stakeholders and society at large

## **Prasanna Purple : Complete Surface Mobility Solution**

# PPP in Urban Transport : A Perspective

## About Purple



- A complete Mobility Solutions provider company, specialized in Human Logistics
- In the market since 1988
- Our business vertical includes – City Bus, Intercity, Staff Mobility, School Buses, Hop On Hop Off Buses (Tourism) and Holidays.
- Fleet of more than 1000+ buses operated on daily basis across national geography
- City Bus Operations in Delhi, Bhopal, Indore, Pune & Surat (BRTS)

# National Awards



**2011**  
Best PPP  
Initiative in  
Urban Transport



**2013**  
Private Sector Bus  
Fleet Operator of  
the Year



**2015**  
Excellence in Bus  
Transport (West)



**2012**  
India Road  
Transportation  
Award by CEAT



**2014**  
WINNER of the  
top 100 SME's of  
INDIA



## 2017

1. Private Bus Operator - India
2. Private Bus Operator – West
3. Corporate Mobility Solutions
4. Marketing Initiative

**2016**  
India's Small Giants



**2016**  
Excellence in  
Bus Transport in India.



## 2018

1. Private Bus Operator – West
2. Best Marketing Initiative
3. Best Technology in use
4. Safety Award in Private Bus
5. Safety award in Corporate Transport
6. Leadership In Bus Transport





Bhopal  
Purple Public Transportation



Indore  
Purple Public Transportation



Delhi  
Purple Public Transportation



## Surat BRT Service



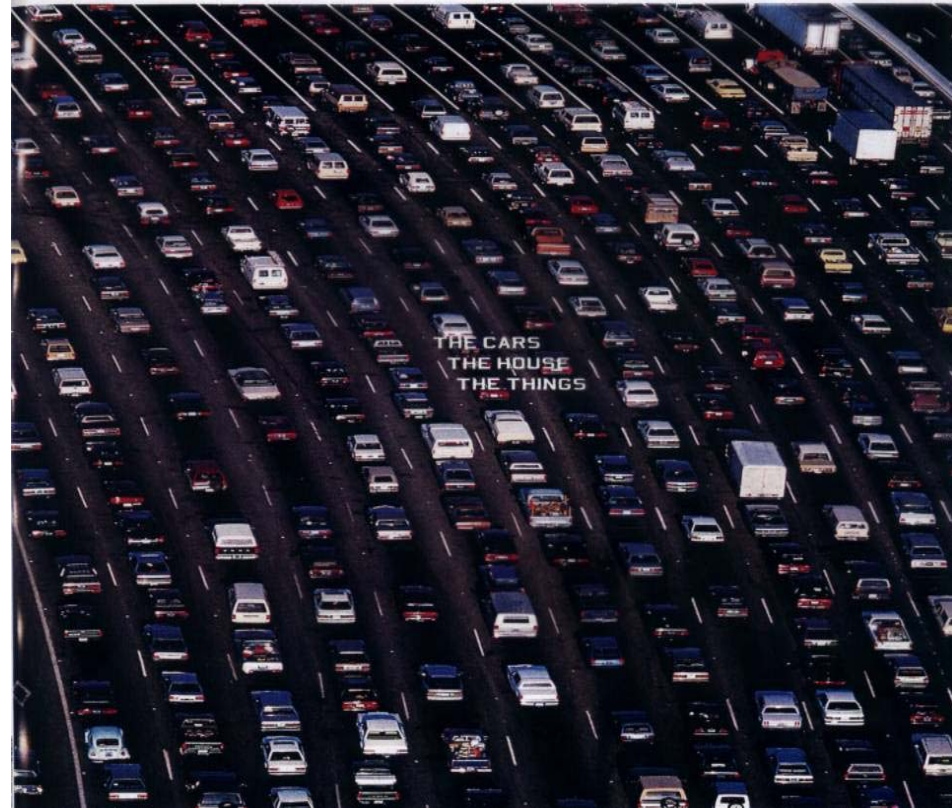
1939 Theory

Wider roads better people mobility

This is what expert  
believed and taught us

**Magic Motorways (freeways)  
will make congestion a thing  
of the past**

Designer - GM Futurama





1960 Theory

## Facilitate Movement of Automobiles to Manage People Mobility

**This is what they  
believed and  
continued teaching  
us till recently.**

**“If we build enough  
highways, we can  
lick congestion”  
Robert Moses**

▪

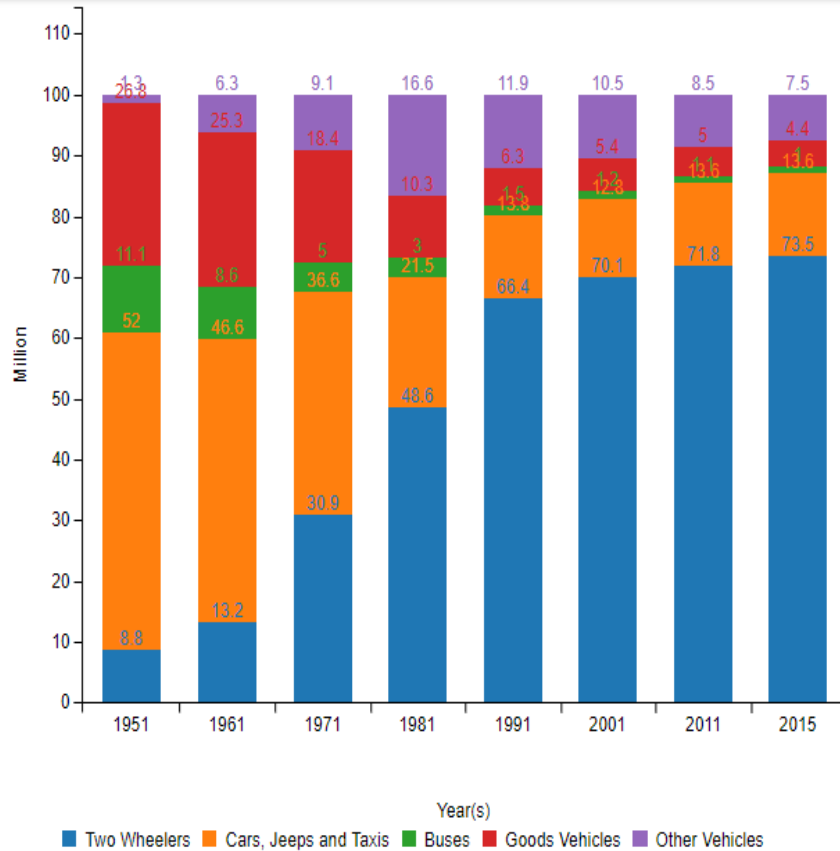


RFP

# Effects of Facilitating Automobile Movement



visualize.data.gov.in | LOGIN/REGISTER | An Initiative of data.gov.in | Open Government Data (OGD) Platform India



As On 31st March	Two Wheelers - As % Age Of Total Vehicle Population	Cars, Jeeps & Taxis - As % Age Of Total Vehicle Population	Buses - As % Age Of Total Vehicle Population	Goods Vehicle - As % Age Of Total Vehicle Population	Other Vehicles - As % Age Of Total Vehicle Population	Total - Million
1951	8.8	52	11.1	26.8	1.3	0.3
1961	13.2	46.6	8.6	25.3	6.3	0.7
1971	30.9	36.6	5	18.4	9.1	1.9
1981	48.6	21.5	3	10.3	16.6	5.4
1991	66.4	13.8	1.5	6.3	11.9	21.4
2001	70.1	12.8	1.2	5.4	10.5	55
2011	71.8	13.6	1.1	5	8.5	141.8
2015	73.5	13.6	1	4.4	7.5	210

Showing 1 to 8 of 8 entries

Previous 1 Next

**Share of Public transport has come down from 15% to less than 1% in last 25 years**

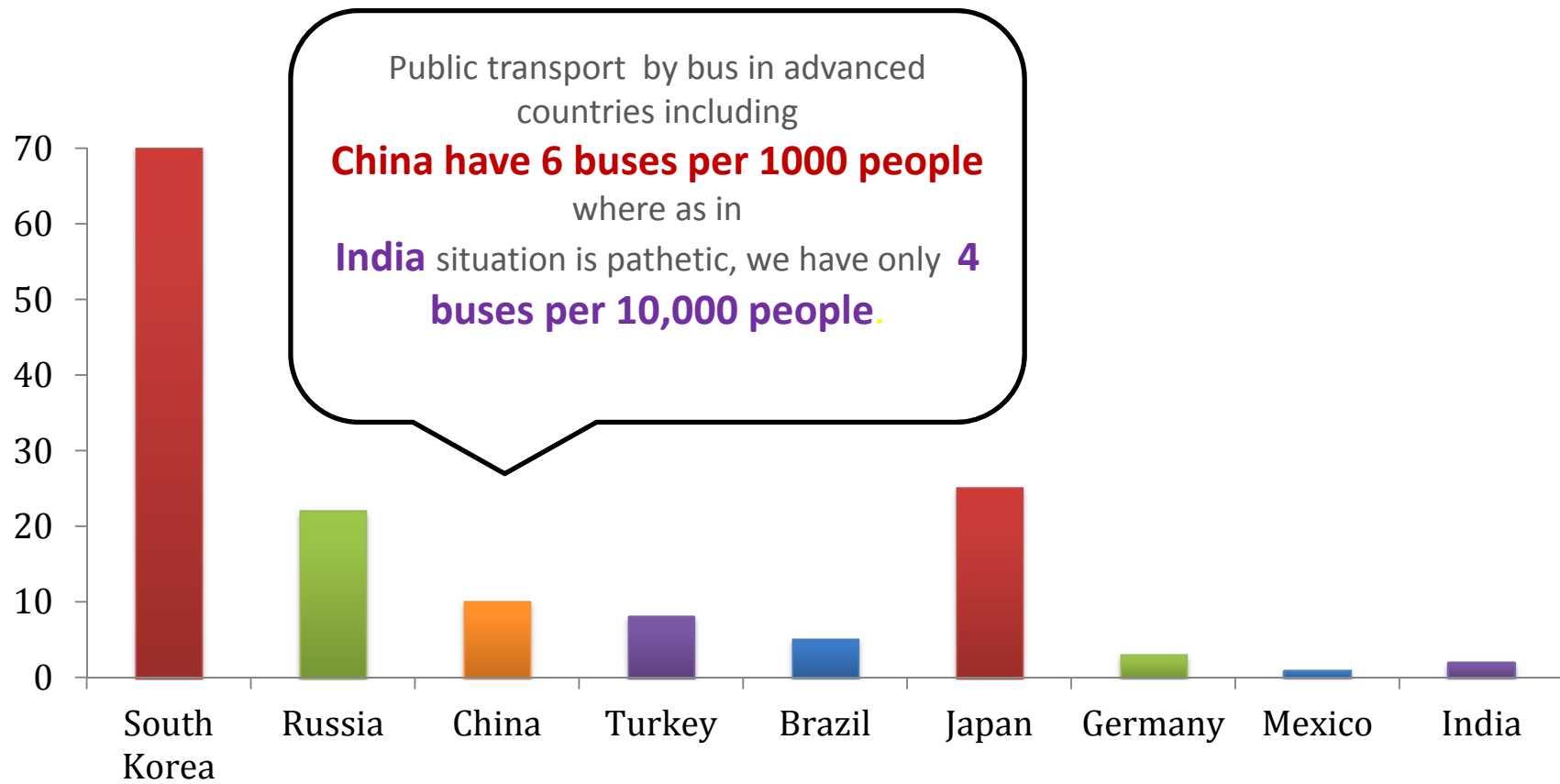
## Absence of good Public Transport forcing People find their ways

- How much money is spent on roads vis a vis on Public Transport Infrastructure.
- Around 100 lac, cr. are spent on building roads which serve people having own vehicles which is 15% population and not even 1% money is spent on Public Transport which serves 85% of population.



## Still by International standard we are far

### No. of Buses per 1000 people

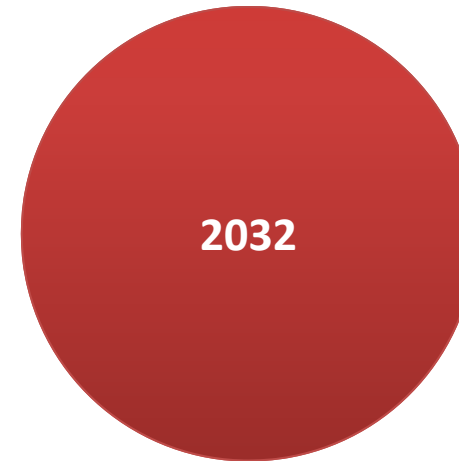


## India is Growing so will Public Transport!

Public Transport Demand is expected to grow at 15.4% PA over the next 20 years



**16x**



**10,375**  
Billion pkm

**168,875**  
Billion pkm



# We need to change, the way we think !



	Car	Bus
<b>Road space Person/sq.ft</b>	50	5
<b>Pollution in PPM/KM</b>	40	1
<b>Parking</b>	All over	Limited
<b>Taxes</b>	Low	High
<b>Finance Interest</b>	Low	High
<b>Road entry</b>	Free	Limited

1. Invest more in Public Transport
2. Do not facilitate movement of Personal vehicles by building overbridged, widening of roads.
3. Provide integrated Transport solution

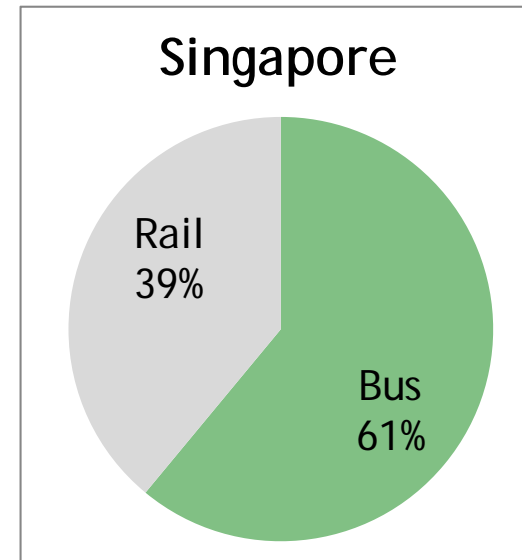
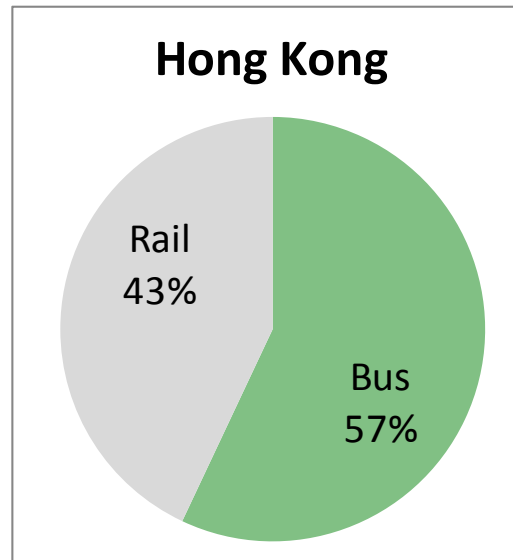
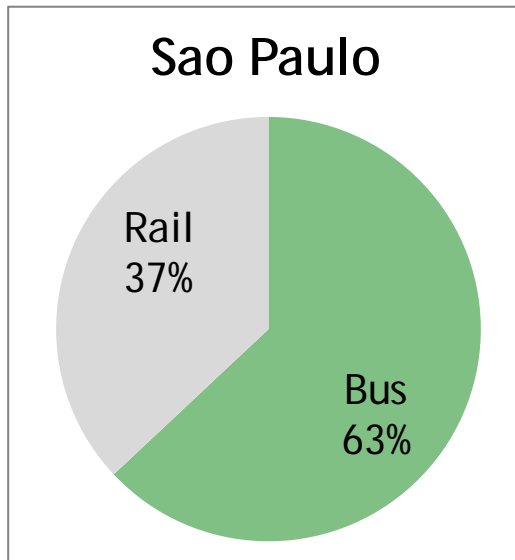
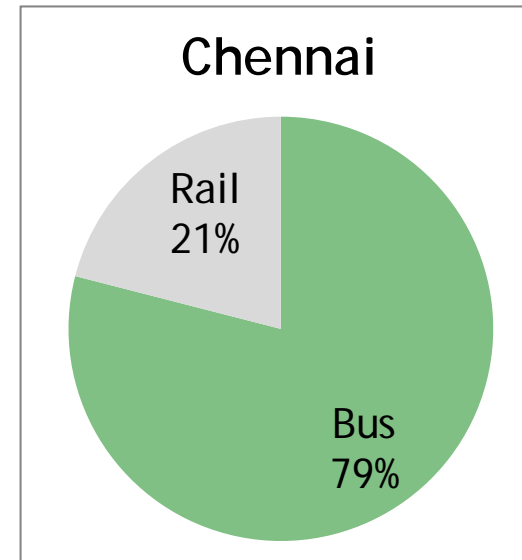
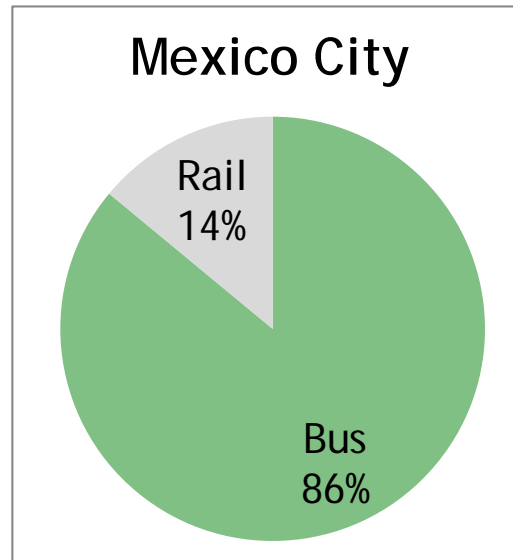
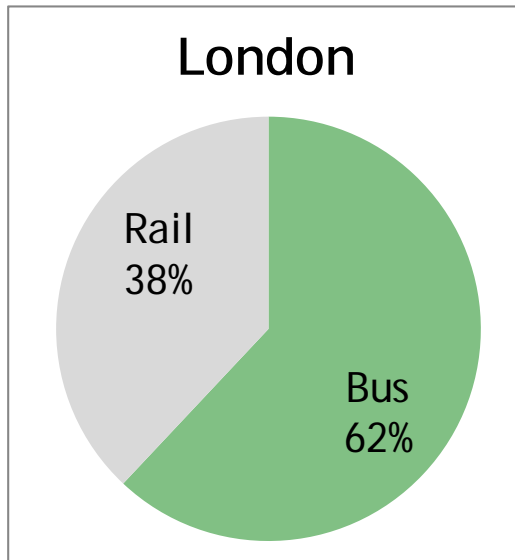


# Status of City buses in Maharashtra



Sr.	Names	Population as of 2011 Rs.in lakh	Public Transport	No. of Buses Available	No. of Buses Req'd per lac population	Total No. of Buses Req'd
1	Mumbai	124.78	BEST	4332	50	6,239
2	Thane	18.18	TMT	313	50	909
3	Navi Mumbai	11.21	NMMT	395	50	561
4	Kalyan-Dombivali	12.46	KDMT	0	50	623
5	Vasai-Virar	12.21	MSRTC	10	50	611
6	Bhiwandi	7.11	-	0	40	284
7	Pune (PMC/PCMC)	48.44	PMPML	1798	50	2,422
8	Kolhapur	5.49	Kolhapur Mun Corp	138	40	220
9	Sangli	5.13	MSRTC	45	40	205
10	Solapur	9.51	Solapur Mun Trans	48	40	380
11	Ahmednagar	3.50	-	0	25	88
12	Aurangabad	11.71	MSRTC	40	50	586
13	Latur	4.10	-	0	25	103
14	Nanded	5.50	MSRTC	30	40	220
15	Nasik	18.86	MSRTC	192	50	943
16	Dhule	3.80	-	0	25	95
17	Jalgaon	4.60	-	0	25	115
18	Akola	4.27	-	0	25	107
19	Amravati	6.46	-	0	40	258
20	Nagpur	24.05	ITNL	350	50	1,203
21	Chandrapur	3.25	MSRTC	6	25	81
<b>TOTAL</b>		<b>344.63</b>		<b>7,697.00</b>		<b>16,251.45</b>

## Bus will always serve large population





## Evolution of PPP in Urban Transport in India

Pre Independence to 1950 : Transit systems owned by and operated by private entities

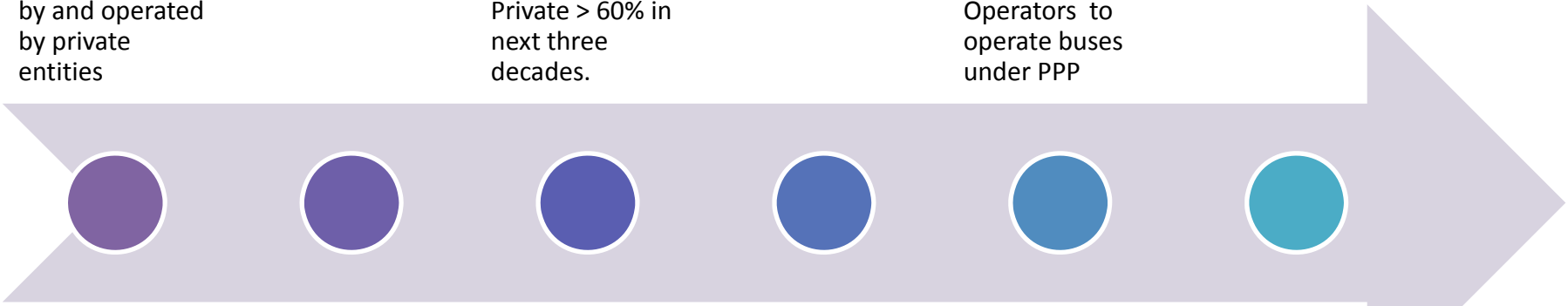
1951-1981: STUs granted exclusivity for operation. Market share of Private > 60% in next three decades.

2009 Onwards : Market share of Private sector > 80 %. GOI introduced JnNURM Scheme. Private Operators to operate buses under PPP

Post 1950 : STUs formed and took over responsibility of service delivery from private under nationalisation. RTC Act 1950

1981 – 2008  
Passenger demand surpassed supply by STUs. Loss making trend . Some STUs close down. STUs told to engage Private sector to meet demand

Currently :  
PPP on GROSS and NET models for urban transit- > 60 cities purchased buses under JnNURM and > 24 SPVs formed. Various models of PPP experimented



## Why PPP?

### Leveraging Strengths

- Public – Infrastructure support
- Private – Operational efficiency (profit making nature), skills , technology use

### Lack of Capital with STU/ SPV

- Public sector – unable to generate capital
- Private – Can bring capital to invest.

### No investment by State Governments

State Government is not willing to invest in STUs.

### Monitoring Quality of Service

Public authorities suited to monitor and regulate service conditions, quality

### Which Services can be Outsourced

- Managing fleet with crew
- Revenue collection ,Sale of tickets, passes .
- Development & Management of bus stops , Terminals.
- Various ways of generating additional revenue by Advertising

## Types of PPP

### What is it?

Gross Income is collected by STU / SPV and concessioner gets paid a fixed sum on Per Km basis irrespective of income.

GROSS BASIS  
(GCC)

### Where is it used?

STU / SPV having strong administrative and financial strengths outsource fleet procurement, operation and maintenance to increase operating efficiency

Gross income is collected by the concessioner and City gets fixed income either on per bus / per month or operated Km basis.

NET  
BASIS (NCC)

Ideal when there is a single concessioner in a city. Requires very effective implementation of concession agreement

# Gross Vs Net Contract Model : Features



<b>Factor/ Activity/ Feature</b>	<b>Gross Contract</b>	<b>Net Contract</b>
Most likely bidding factor for contract	Per km revenue to be paid by city authorities	Per bus monthly fees/VGF to be paid/ received to/from PTA by/to operator
Revenue to operator	Based on per Km charge contracted in the agreement	Based on direct ticketing revenue on daily operations
Revenue to PTA	Direct ticketing on daily operations	Per bus monthly/yearly fees paid by operator
Employment of crew by operator	Only driver	Driver and conductor
Responsibility of operator	Entire O & M Cost	Revenue Collection and Entire O & M Cost
Ownership of buses	PTA / operator	PTA / operator
Additional revenue thru advertising on buses	PTA / operator	PTA / operator
Planning and implementation of daily bus schedules	PTA	PTA
Infrastructure	PTA	PTA
Safety & Quality Assurance	Joint Responsibility	Joint Responsibility
ITMS	PTA	PTA

*PTA- Public Transport Authority*

# Trends Seen in Net (NCC) & Gross (GCC) Models



## Net Contract

Low fares, inadequate and untimely fare revision

Lack of effective monitoring of routes, schedules

Revenue risk entirely with Operator

Unviable routes surrendered, further reduction in revenue

Loss of revenue affects maintenance, low demand by public

Growth of illegal/ unorganised Para transit modes

Inadequate govt support, lack of infrastructure

**Trend – Most Operators unwilling for Net Model**

## Gross Contract

Operator protected from revenue risk

City to be financially strong, else operational risk for Operator

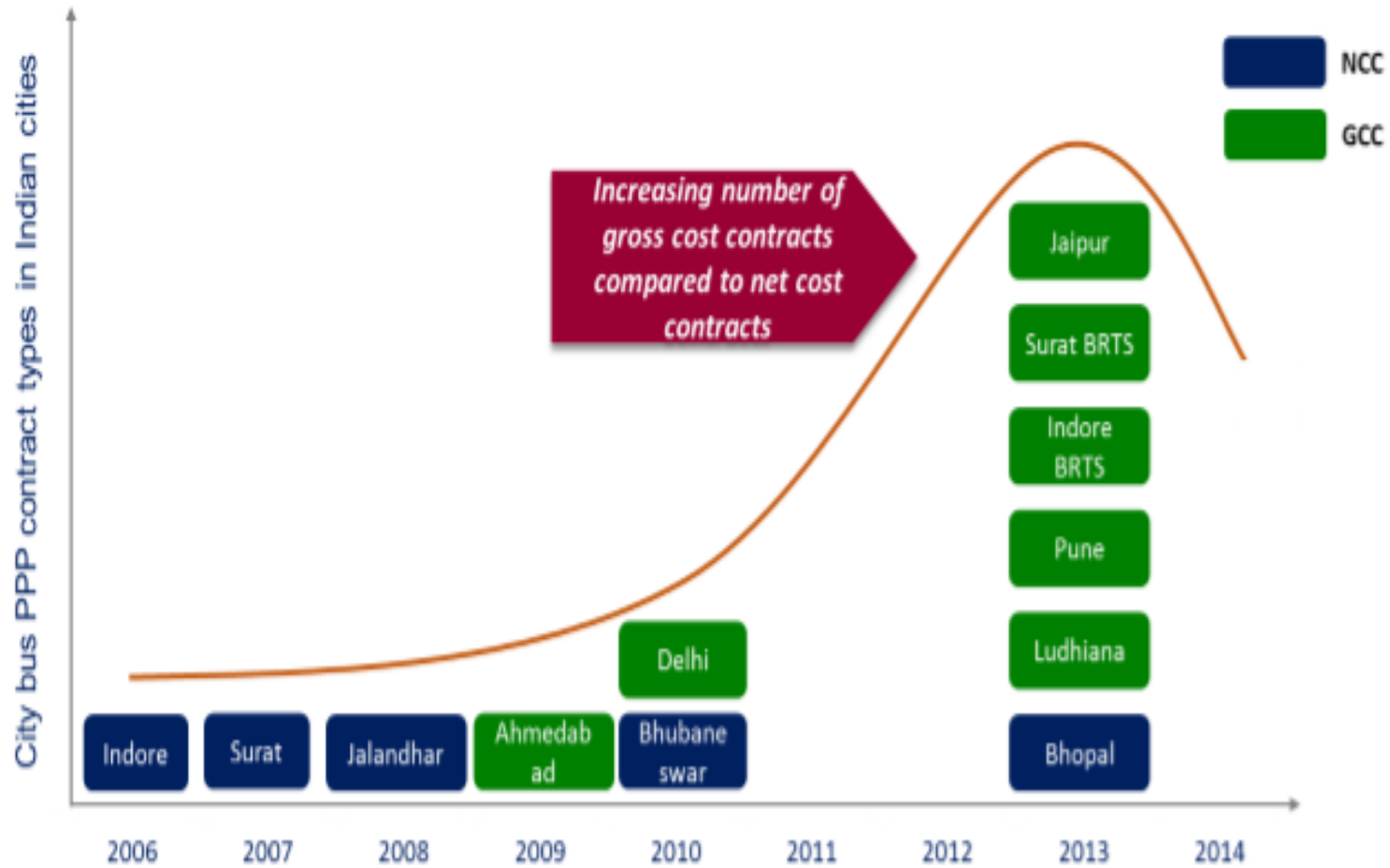
Better expertise / monitoring by authority needed

Infrastructure, IT support – crucial

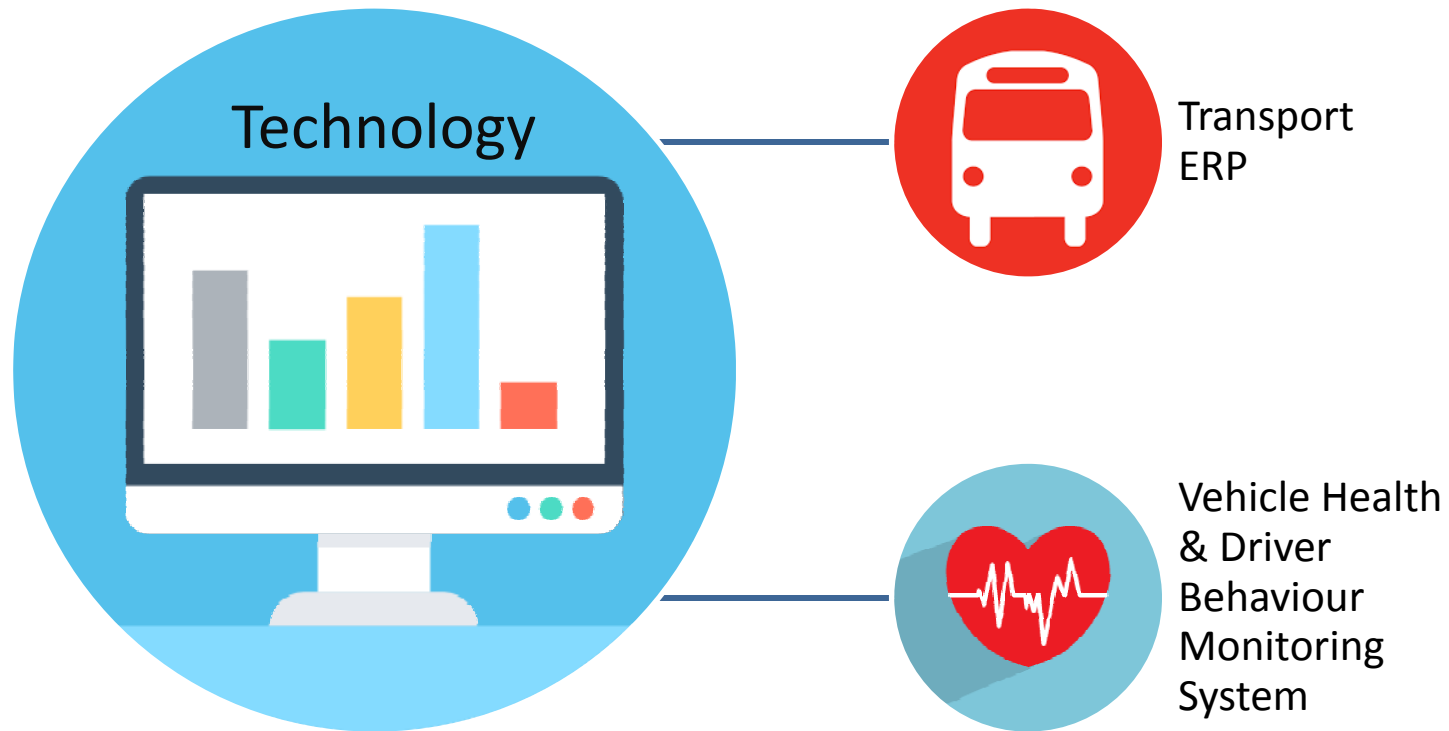
SLAs/ Penalties- need to be realistic

**Trend - Preferred Model, if conducted efficiently**

## Increasing Trend Towards Gross Contract Model



# Use of Technology Tools to Enhance Operational Efficiency



# ABCD Trip Analysis

- Purpose- To study revenue generated by each trip (EPKM) and classify as per profitability benchmarks in order to optimise and reschedule operations



### Trip A

Trips which generate revenue crossing all expenses or profit making trips.



### Trip B

Trips which generate revenue upto all expenses like monthly contract payment (royalty) to city authorities and overheads, but excluding finance/bank EMI , or meeting breakeven costs.



### Trip C

Trips which generate revenue above the direct/ operating cost .



### Trip D

Trips which are loss making, or generating revenue below direct cost.

Example (all figures in Rs Per Km):

- Direct Cost- 35.0
- Indirect Cost- 5.0
- EMI, Others- 4.0
- Total CPKM – 44.0

### Earning Per Km (EPKM) Trip Wise

Trip A	Trip B	Trip C	Trip D
> 44	> 40 <=44	> 35 <=40	< 35



## Increase Per Km earning - ABCD Trip Analysis

Purpose- To study revenue generated by each trip (EPKM) and classify as per profitability benchmarks in order to optimise and reschedule operations

**Calculate  
various costs**  
CPKM

Make  
**ABCD Benchmarks**  
EPKM

**Classify trips**  
into ABCD  
categories route wise

**Identify C & D**  
trips for removal  
day wise

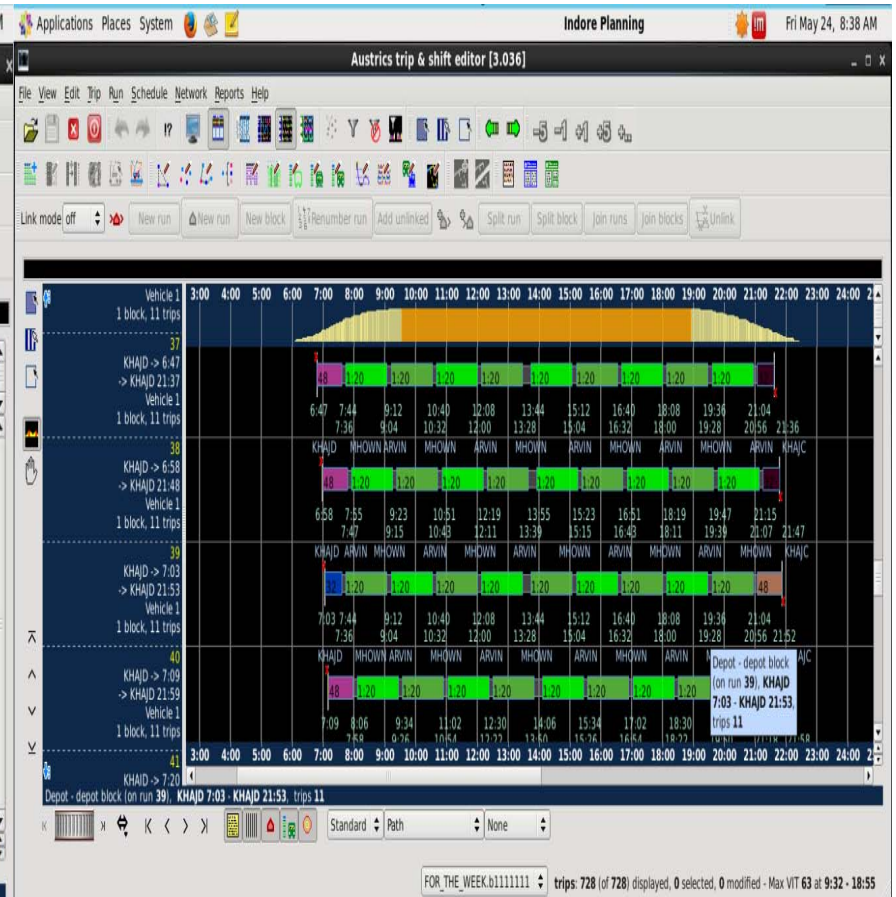
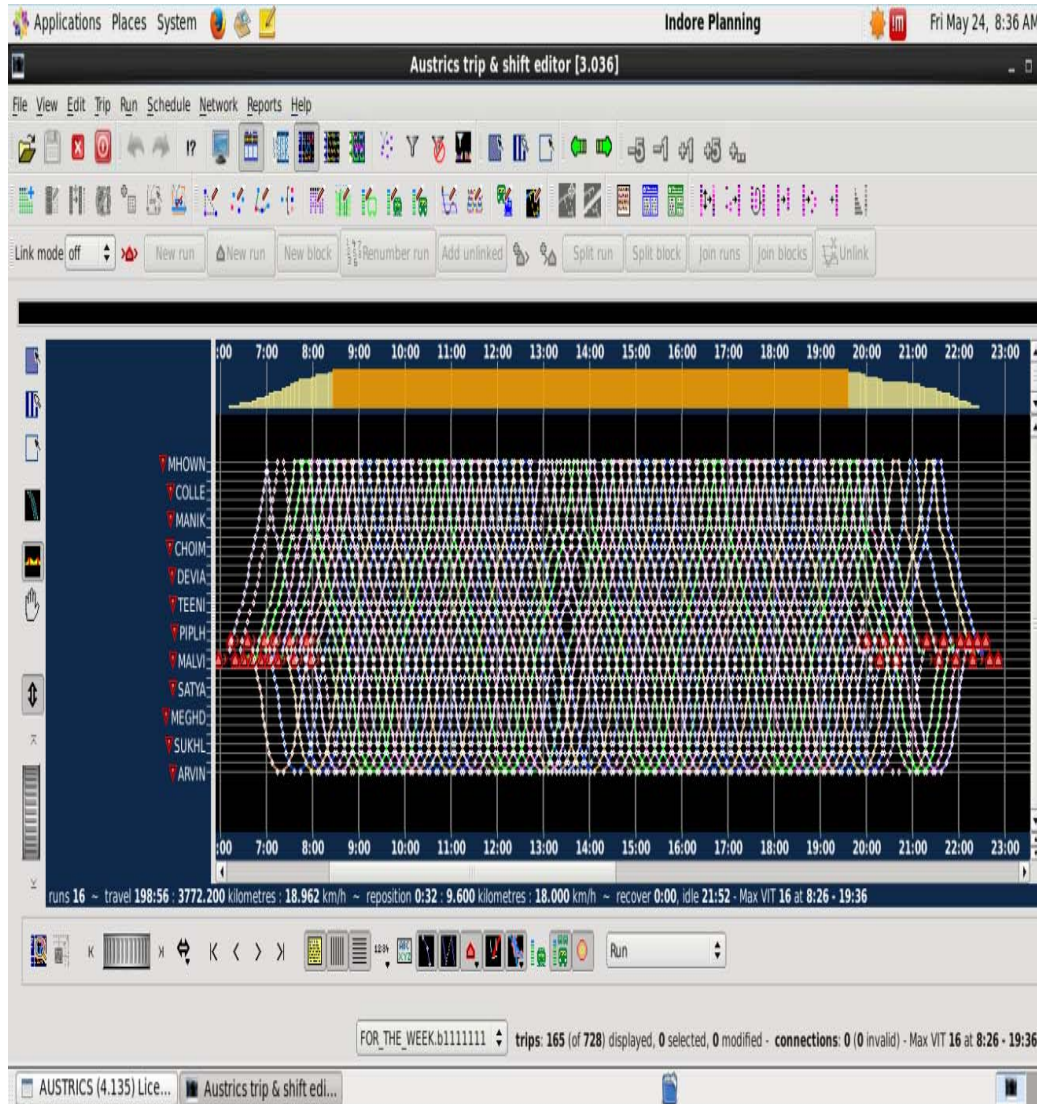
Carry out  
**rescheduling**  
of routes

**Monitor EPKM**  
of revised trips

**Evaluate results**  
make changes

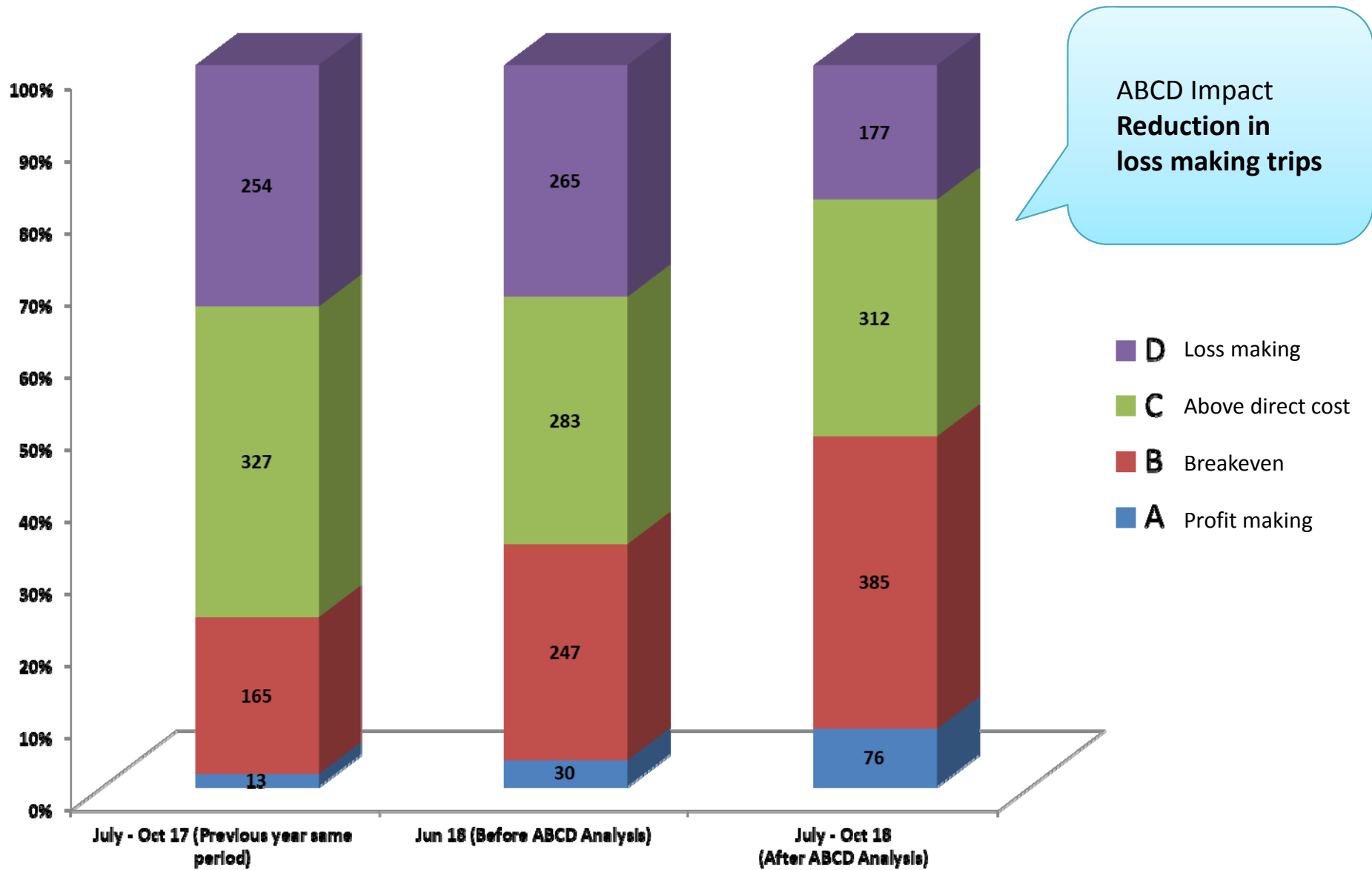


# ERP : Route Scheduling & Optimization



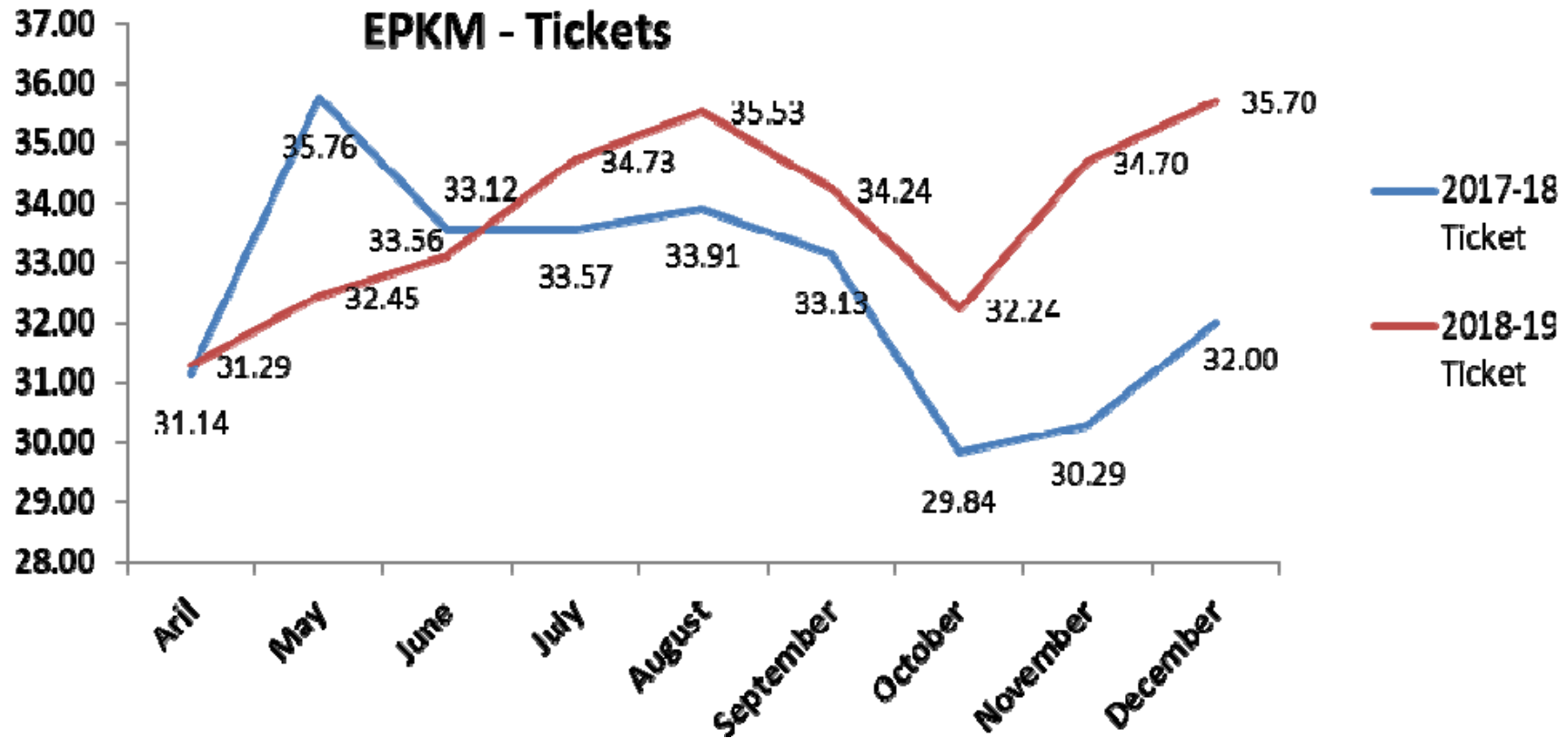
ERP for bus scheduling used to rework route timings, frequencies and trips

**Result of :** Increased A, B Trips | Reduction of C,D Trips | Different Frequencies



**Result of :** Increased A, B Trips | Reduction of C,D Trips | Different Frequencies

ABCD Impact  
Increased Earning  
Per KM ( EPKM )  
by Average - 12%



## Vehicle Health & Driver Performance Monitoring System



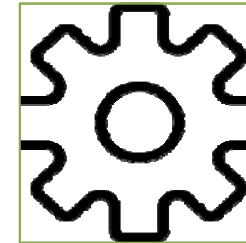
**Vehicle Health Monitoring :** Historic and real-time data for warnings/alerts of possible failures – Engine overheating, Electrical failures etc.



**Driver Behaviour Monitoring :** Track hours of service, distance covered by a particular driver, total idling instances, free-running, speeding, hard-brake, mileage, gear usage etc.



**Fuel Monitoring**  
To ascertain quantity of fuel filled, consumed, remaining, stolen etc supplemented by location data.



**Operations Automation :** Automation platform that helps fleet supervisors with their maintenance scheduling and operations, real time.



**Location Tracking :** Real-time and historic data of vehicles' trips and tracking in case of emergencies.

# Driver Performance



Driver Performance

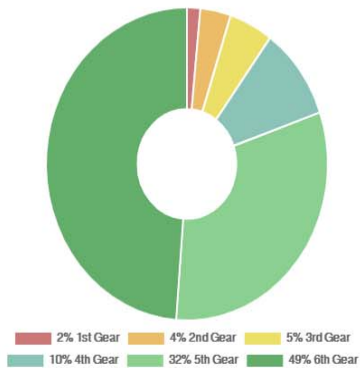
Export						
Search Vehicle	Clear	From	From Time	To	To Time	Search
MH 14 GD 6090	Clear	2019-05-23	06:19	2019-05-23	10:19	Search
<b>Total Distance Covered</b>	<b>Fuel Consumed</b>	<b>Mileage</b>	<b>Idling Count</b>			
170.03 Km	45.42 Litres	3.74 km/litres	1			
<b>Total idling time</b>	<b>Fuel Consumed while idling</b>	<b>Total Loss in □ (□70/L)</b>	<b>Freerunning Counts</b>			
24 Mins	0.38 Litres	□26.60	0			
<b>Total free running time</b>	<b>Overspeeding Count</b>	<b>Hard Brake Count</b>				
-	1	1				

Gear Utilization Distribution

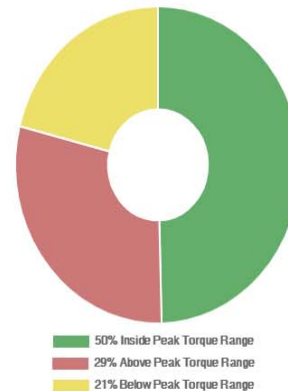
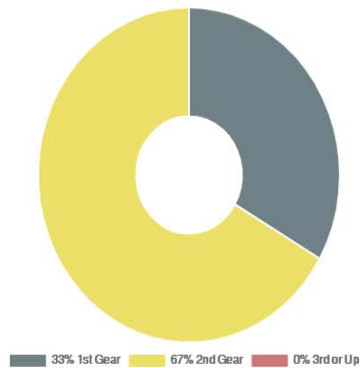
Distribution of gears used during motion from standstill

Engine Speed Distribution

Ratio based on time spent in each gear



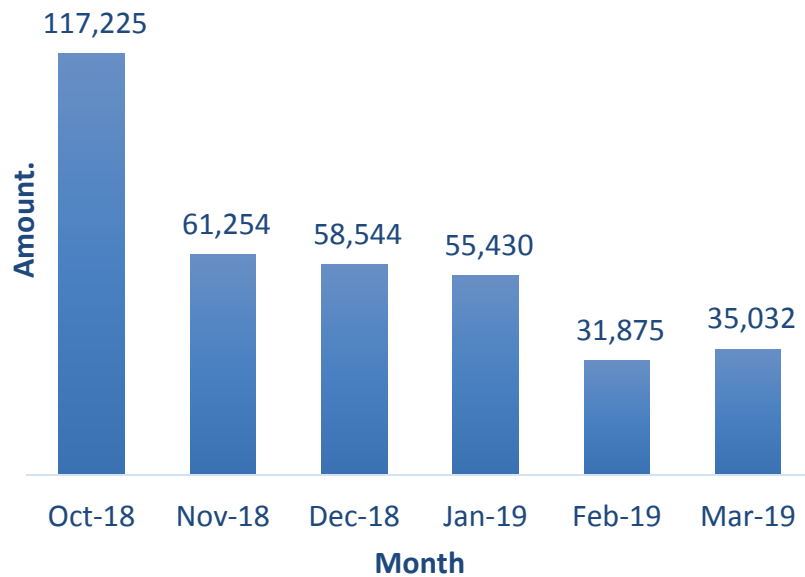
Ratio for Gears during Motion from standstill



Trip Data : Fleet mileage, fuel consumed while idling, over-speeding counts, hard-brake counts, gear utilisation.

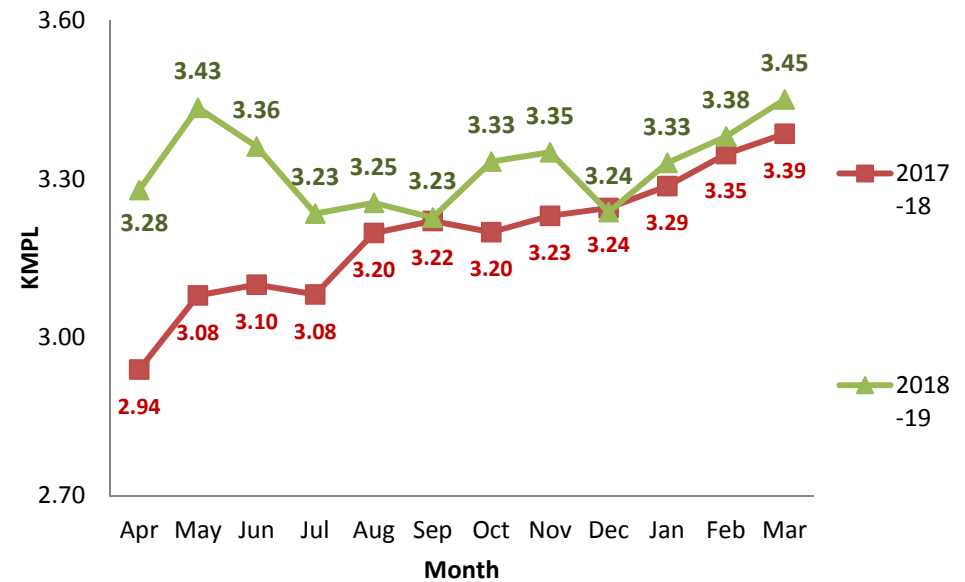
# Result : Substantial Savings in Fuel

### Drop in Loss due to Idling (in Rs.)



Savings : 70% Saving in fuel cost.

### Month wise Mileage (KMPL) Trend



Savings : 8 % Improvement in mileage (KMPL) over the period.

## Case Study of Fuel Savings

Particular	INDORE			EM-Pune		
	Kms	Ltrs. / Kgs.	KMPL/KMPKG	Kms	Ltrs. / Kgs.	KMPL/KMPKG
Before Per Month	4.95 lacs.	1.38 lacs.	3.59	0.70 lacs.	0.13 lacs.	5.54
After Per Month	5.15 lacs.	1.33 lacs.	3.87	0.73 lacs.	0.11 lacs.	6.70
Improvement in Mileage			8%			28%
Monthly Fuel Saved	10576 ltrs.			3026 ltrs.		
Monthly Savings (Rs. In lacs)	6.80 lacs.			1.99 lacs.		

### Actions Taken

- Driver training/ counseling basis results of vehicle health monitoring system.
- Problems with vehicle parts and sensors fixed through timely maintenance.
- Performance based ranking/ incentive schemes for drivers – healthy



## Score Card/प्रगती पुस्तक

Mar/ मार्च -2019

Driver Name/ चालकाचे नाव: NANEKAR RAJU POPATRAO

Vertical/वाहतूक शाखा: InterCity

### Driving Skill Evaluation चालन कौशल्याचे मूल्यमापन



Total Duty Days:	Model: -AL - 4/157 Bs3	Behaviour: Good
Kms Covered During the Month: <b>11108</b>	Routes: <b>Pune-Nagpur-Pune</b>	Discipline: Good
Total Steering Hours: <b>29.1Hrs.</b>	Safety Score: -	Uniform: Good
		Passenger Complaints:

Parameters परिमाणे	Benchmark बेंचमार्क	Actual value वास्तविक मूल्य	Marks गुणांक
1. Idling Time आयडलिंग कालावधी (per 100Kms)	5	3.63	100%
2. Free Run फ्रीरन- (per 100Kms)	0	0.00	100%
3. Hard Braking हार्ड ब्रेकिंग. (per 100Kms)	1	1.62	74%
4. Over Speeding ओव्हर स्पीडिंग. (per 100Kms)	0	0.18	93%
5. 1 <sup>st</sup> Gear Pickup प्रथम गियर पिकअप .	100%	42.50%	43%
6. Top Gear Utilization टॉप गियर वापर प्रमाण. (%)	60%	61.82%	100%
7. Higher and Second Higher gear use ratio. निम्न व टॉप गियर यांच्या वापरातील अनुपात.	70%	74.16%	100%
8. Above Pick torque range (%).	20%	48.48%	42.70%
Total Marks एकूण गुणवत्ता -		81.59	
KMPL किलोमीटर प्रति लिटर -		3.68	

Grade- **A+**

## Issues affecting success of PPP model

- Poor understanding of ( PPP) Partnership concept
- No Model concession agreement.
- Fare fixation and timely revision
- Reimbursement of Concession amounts, timely payments
- Weak SPV (no dedicated staff) responsible for poor Planning & control
- Poor support by local Administration , Police & RTO
- Lack of commitment to build necessary infrastructure .
- No provision of Viability Gap Funding to Private Operator .
- Expectation of High Royalty & Taxes (double standards Vs STUs)
- Inability of Operators to sustain service levels



## What is required

- Priority sector – Infrastructure status

Availability of low cost long term funds for entire project  
Method to provide viability gap funding or fuel and tax subsidy  
Real estate avenues to earn additional revenue  
Multimodal terminals, Other associated Passenger & Depot Infrastructure.

- Successful Implementation of NUTP and JnNURM guidelines
- UMTA to be made statutory body with legislative support by CMV Act.
- Capacity building of SPV / STU
- Auto fare revision formula
- Adoption of ITS
- Education to all stake holders- Citizens, Politician , Bureaucrats & Operators
- To bring City bus under essential services
- Third party quality audit mechanism.
- Proof of concept - build one city as a role model.



## By Government

- Build political consensus & will to improve Public Transport
- Include all stake holders in the process and educate citizens
- Allocate Depot land at strategic location for better and efficient service
- Build modern bus terminals with better passenger amenities.
- Effective Insurance scheme ( cash less)
- Scheme of Project finance for Public Transport Operators.
- Give Industry Status to Public Transport by road, like rail.

## By Operator

- Modernize bus depots
- Upgrade house keeping and maintenance systems to improve on road bus ratio and image of bus.
- Adopt ITS, new technology and establish centralized control rooms.
- Rationalize routes, plan schedule, manage frequency as per customers requirement.
- Bring in more staff training, incentive schemes and motivational programs.
- Introduce attractive passenger schemes to attract more commuters.
- Work towards road safety program.
- Improve image of Public Transport

Provide end to end better experience like Metro to bus users

## Way Forward.....Summary



### Planning

Give priority to mobility of people not vehicles

Create conditions for PPP to succeed

### Implementation

Institutionalise UMTA structure

Impartial contract enforcement

### Sustaining

SPV- Regulate, monitor, support for long term

Operator- Improve internal efficiency, training, use technology

# Let us build Smart State for “People” not for Automobiles



- State which is sustainable and makes citizens efficient & effective
- Where technology is used for betterment of Peoples life
- Where Mobility is a pleasure and not a torture
- Where People have more respect than Vehicles.
- Where children can freely go to school, cycling or walking
- Where people have many opportunities to make friends.
- State with lot of greenery, play grounds and public places to keep citizens happy & healthy.



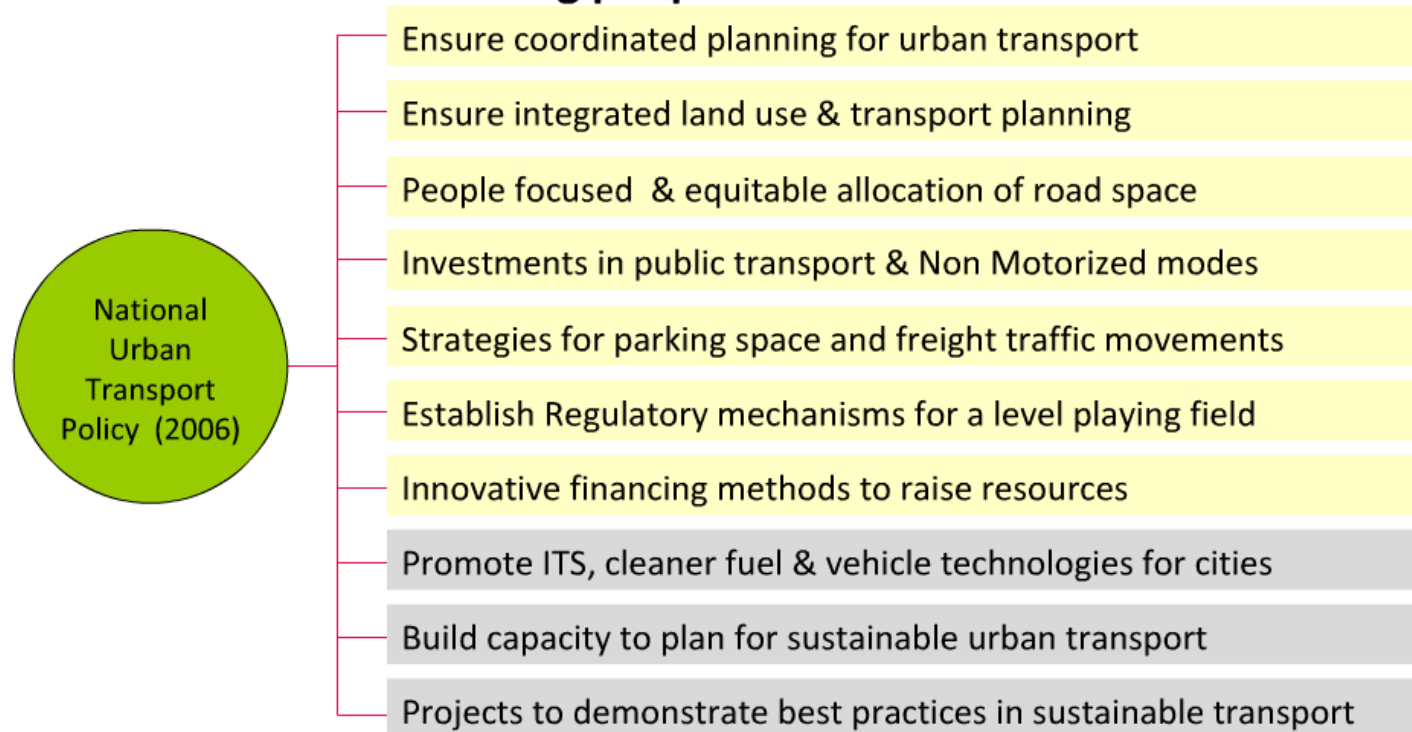


**Thank You**

Yet to be implemented !

## National Urban Transport Policy (NUTP) 2006

India launched its first transportation policy in 2006, which focuses on moving people and not vehicles.



Source: "NUTP and JnNURM- Government of India Initiatives to Strengthen Public Transport", S.K. Lohia, OSD (MRTS), MoUD, GOI



# To bring in Changes STU & Private must work together!



BOARD OF PRIVATE COMPANIES OF INDIA

Type of service	Planning	Operations	Aggregation	Quality control	Regulating
Urban	ULB	STU / SPV/PVT	STU/UMTA	UMTA	Local Government
Rural	STA	STU / SPV/ PVT Controlled competition	STU/SPV	STA	State Government
Intercity Ordinary	STA	STU / SPV/PVT limited competition	STU/SPV	STA	State Government
Intercity Luxury	STA	STU & PVT Open competition	PVT	STA	State Government
Inter State	Central	STU & PVT Open Competition	PVT	NTA	Central Government



# Risks to PPP becoming successful

- **Selection of an Operator and type and model offered**

Introduction of concept of qualified operator should be introduced in MV act which would avoid process of RFQ , technical bidding process which is very time consuming and requires some expertise which most of the Indian cities do not have. Depending on his qualification type and model can be offered to him.

- **Involvement of multiple authorities –**

Lack of coordination between City administration, Corporation, RTO, Traffic police etc.

- **Ever changing Prices of Fuel –**

40 to 50% of expenses are directly affected by fuel prices

- **Changing environmental norms –**

Vehicles to be changed or upgraded to conform to the norms makes it impossible to predict project cost for longer period.

- **Tariff increase –**

Populism leading to tariff increase not being approved by the local authorities’.

- **Double standard policy –**

For STU ,Government is ready to provide land for depots, Invest in to infrastructure and even fund the losses but under PPP scheme expects royalty on top of taxes being paid without providing much of an infrastructural support.

## Issues affecting growth of Public Transport

- **No special status ( Industry or Infrastructure )** - No Tax benefits, Fuel subsidy , Priority lending or low interest long term funding like Metro.
- **No Central Monitoring Agency like TRAI** - No Central agency having statutory powers to monitor progress and implementation of NUTP
- **Provisions in Motor Vehicle Act** – Sec 117 related to infrastructure , Sec 178 to levy fine for passenger fault, fare revision method , monitoring of STA, RTA , various permit conditions
- **Transport is a State subject** - No uniformity in rules and taxation.
- **No mandatory provisions in Regional Town Planning Act and City development control rules** - Availability of land for Passenger and Depot Infrastructure resulting in to inefficient poor city bus services
- **Essential services** - City administration does not consider Public Transport as essential service