



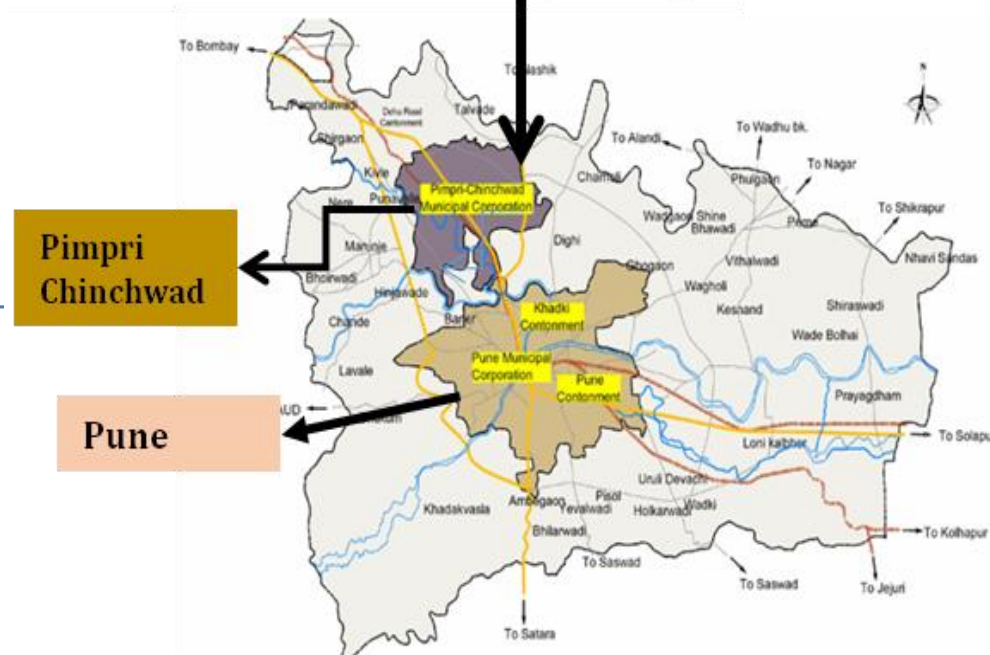
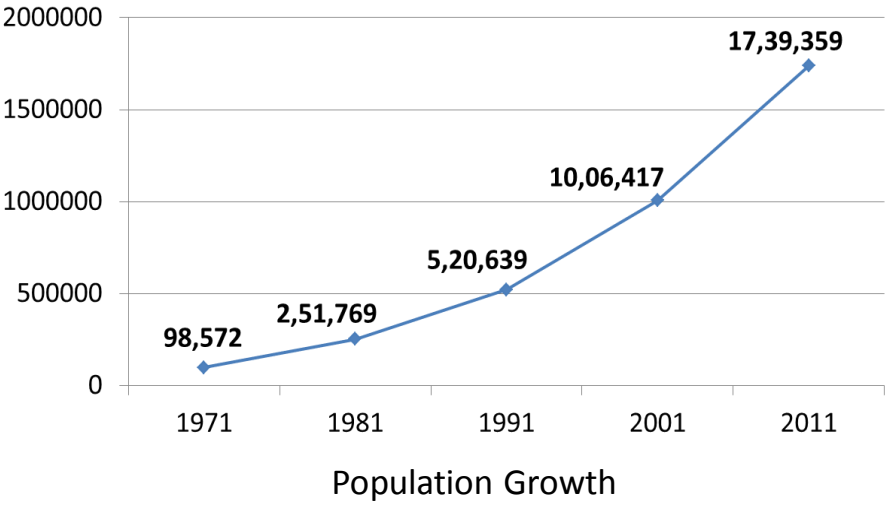
Bus Rapid Transit System

Pimpri Chinchwad Municipal Corporation



About Pimpri-Chinchwad

- Twin City Pune-Pimpri Chinchwad
- Known as Industrial Hub of Pune Region
- Spread across 177 sq.km.
- Population – 2.0 million
- 50% growth accounts to migration
- More than 6000 industrial establishments
- Received award for Best City in 2011 by Government of India
- Started bus based public transport service in 1974.
- The SPV PMPML for city bus operations was formed in 2007 by both municipal corporations.

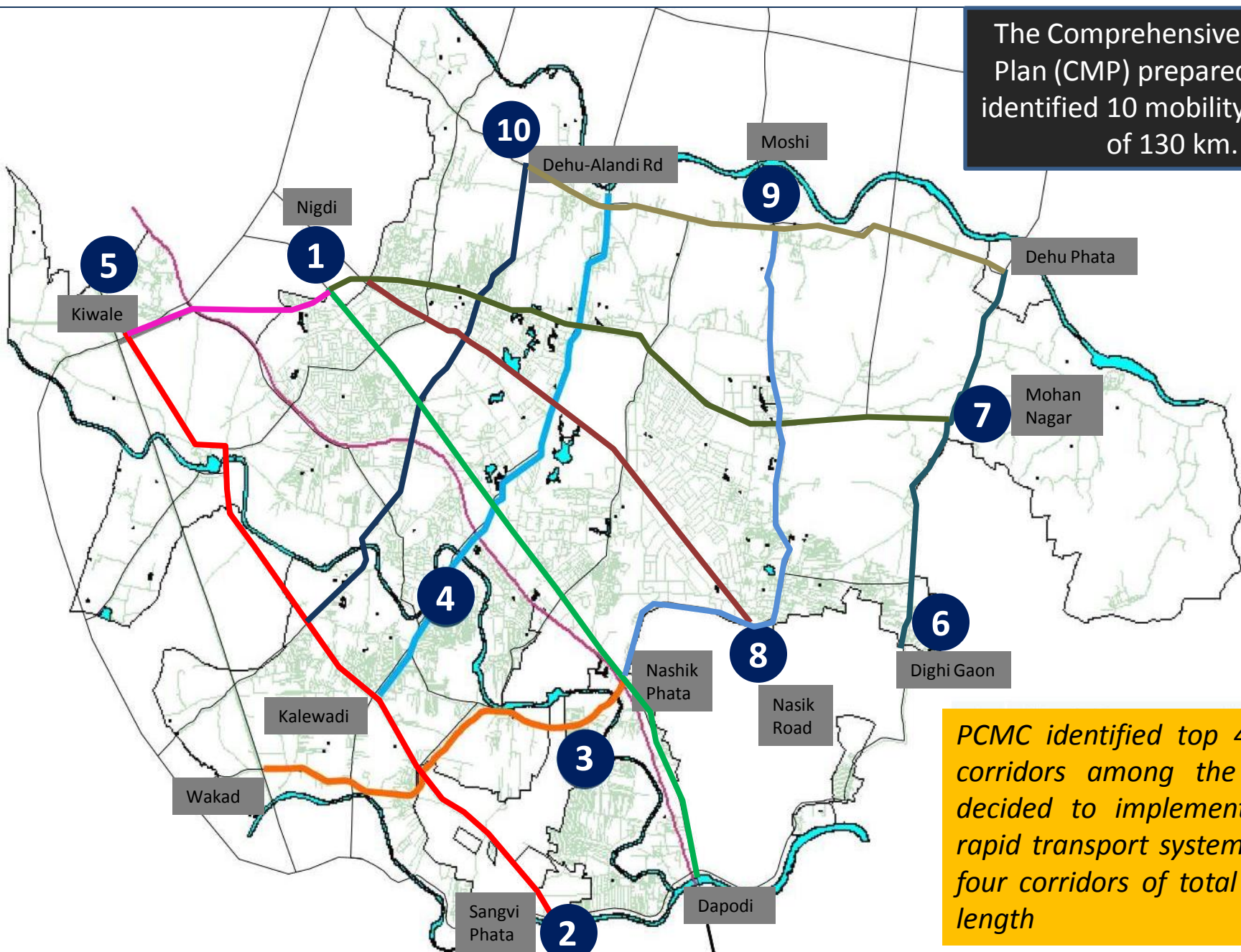


Presence of Renowned Brands



The Horrible Dream! (But...a Reality)





The Comprehensive Mobility Plan (CMP) prepared in 2006 identified 10 mobility corridors of 130 km.

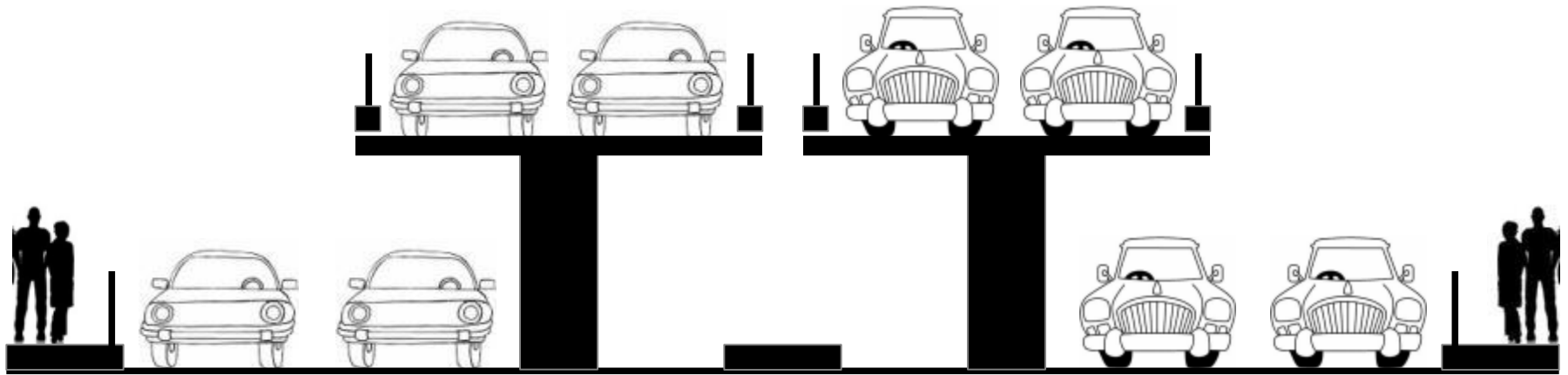
PCMC identified top 4 mobility corridors among the ten and decided to implement a mass rapid transport system on these four corridors of total 45 km in length

PCMC adapted the below 'mantra' while deciding the transport system

Urban Mobility Principle - Moving People, Not Vehicles



Capacity= 3,000 PPHPD



Elevated road

Capacity increases only **1.5**
times



BRT system

Capacity increases
5 times

By providing High Quality Mass Transport System with better frequency, capacity to move more people in less time can be achieved.

Key features of high quality transit

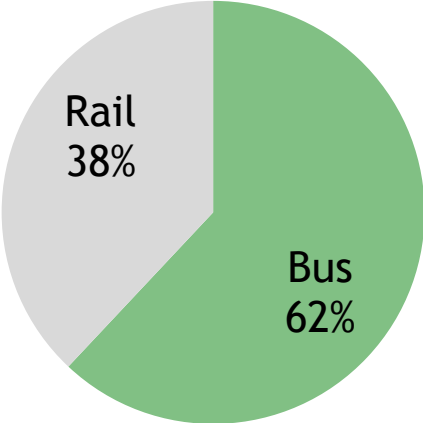
	BRT	Metro	LRT	monorail
Dedicated ROW	✓	✓	✓	✓
Safe, easy level boarding-alighting	✓	✓	✓	✓
Automatic Fare Collection	✓	✓	✓	✓
Real-time passenger information	✓	✓	✓	✓
High quality service can attract users from personal vehicles	✓	✓	✓	✓

But BRT does some things that others don't.

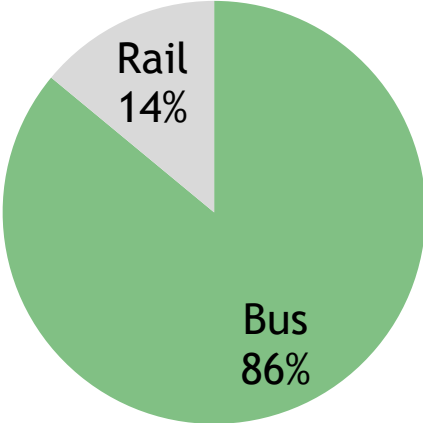
	BRT	Metro	LRT	monorail
Quick & easy access to stations	✓	✗	✓/✗	✗
Capacity over > 20,000 pphpd	✓	✓	✗	✗
Multiple routes per corridor	✓	✗	✗	✗
Express services	✓	✗	✗	✗
Affordability for customers & the city	✓	✗	✗	✗

Buses are more popular across the world

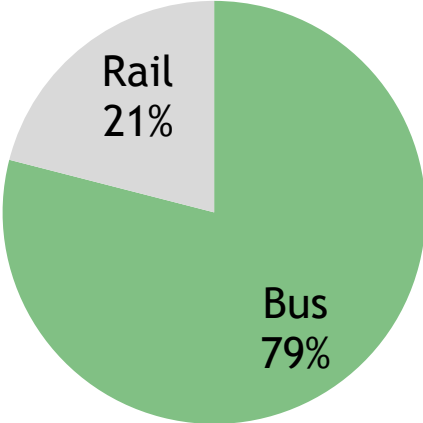
London



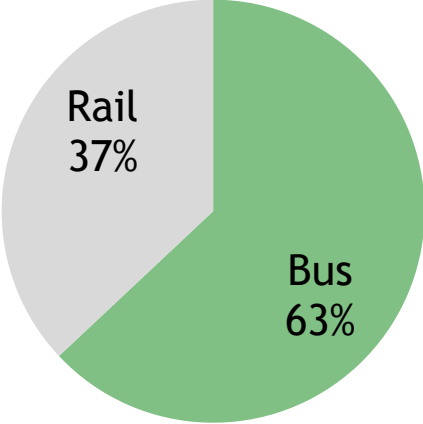
Mexico City



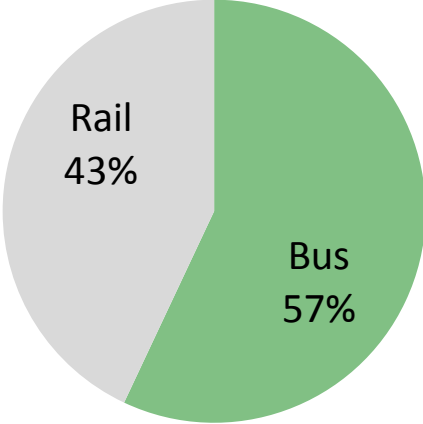
Chennai



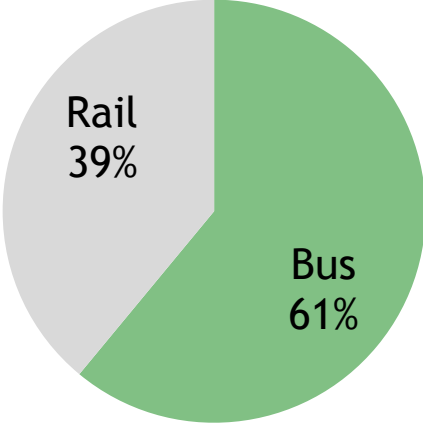
Sao Paulo



Hong Kong



Singapore



What can ₹1,800 crore accomplish?



Underground metro: **3.0 km**



Elevated metro: **6.0 km**



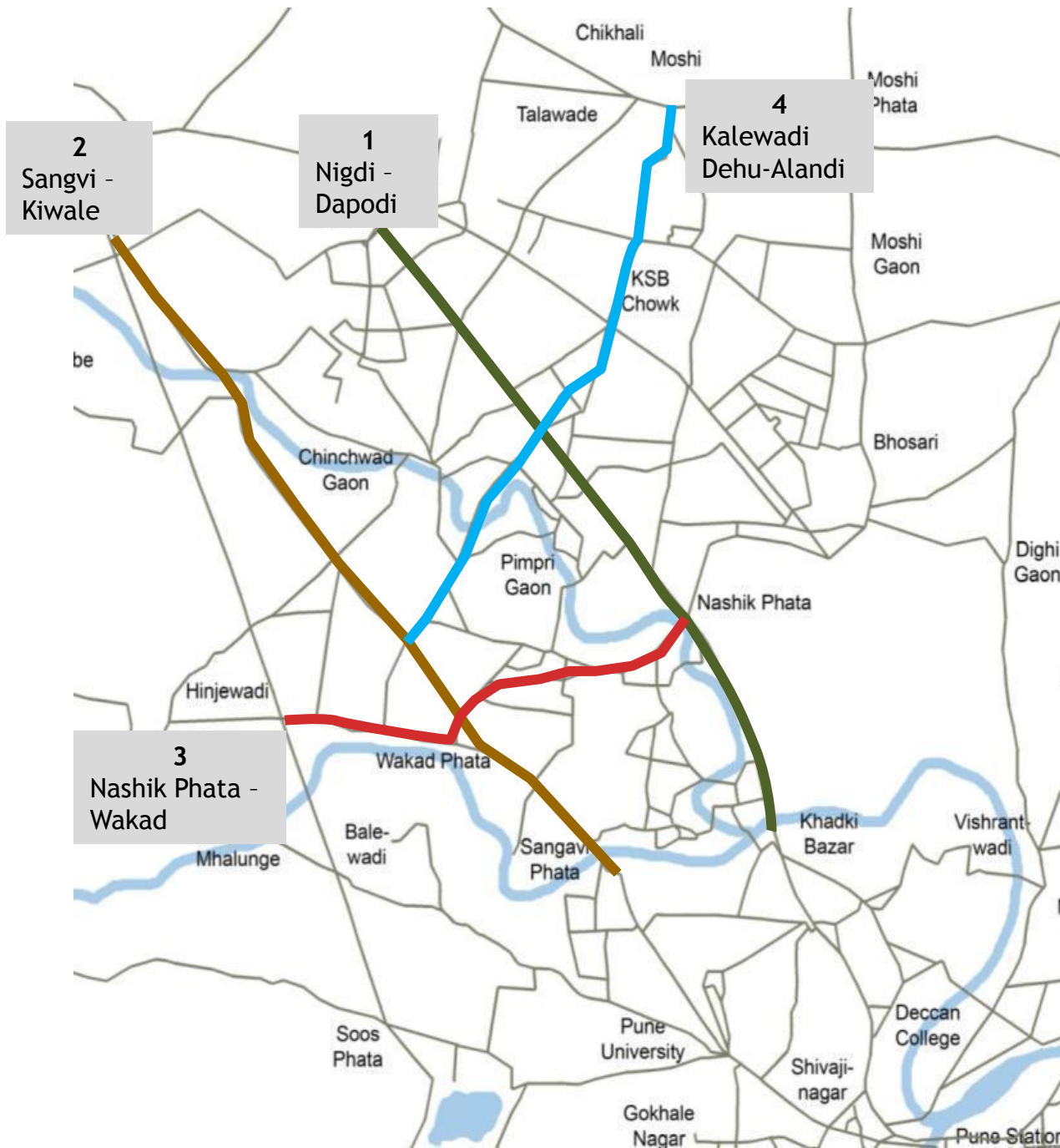
Monorail: **8.0 km**



BRT: **65 km**

And therefore, PCMC decided to choose the most attractive & economically viable option which can be implemented quickly



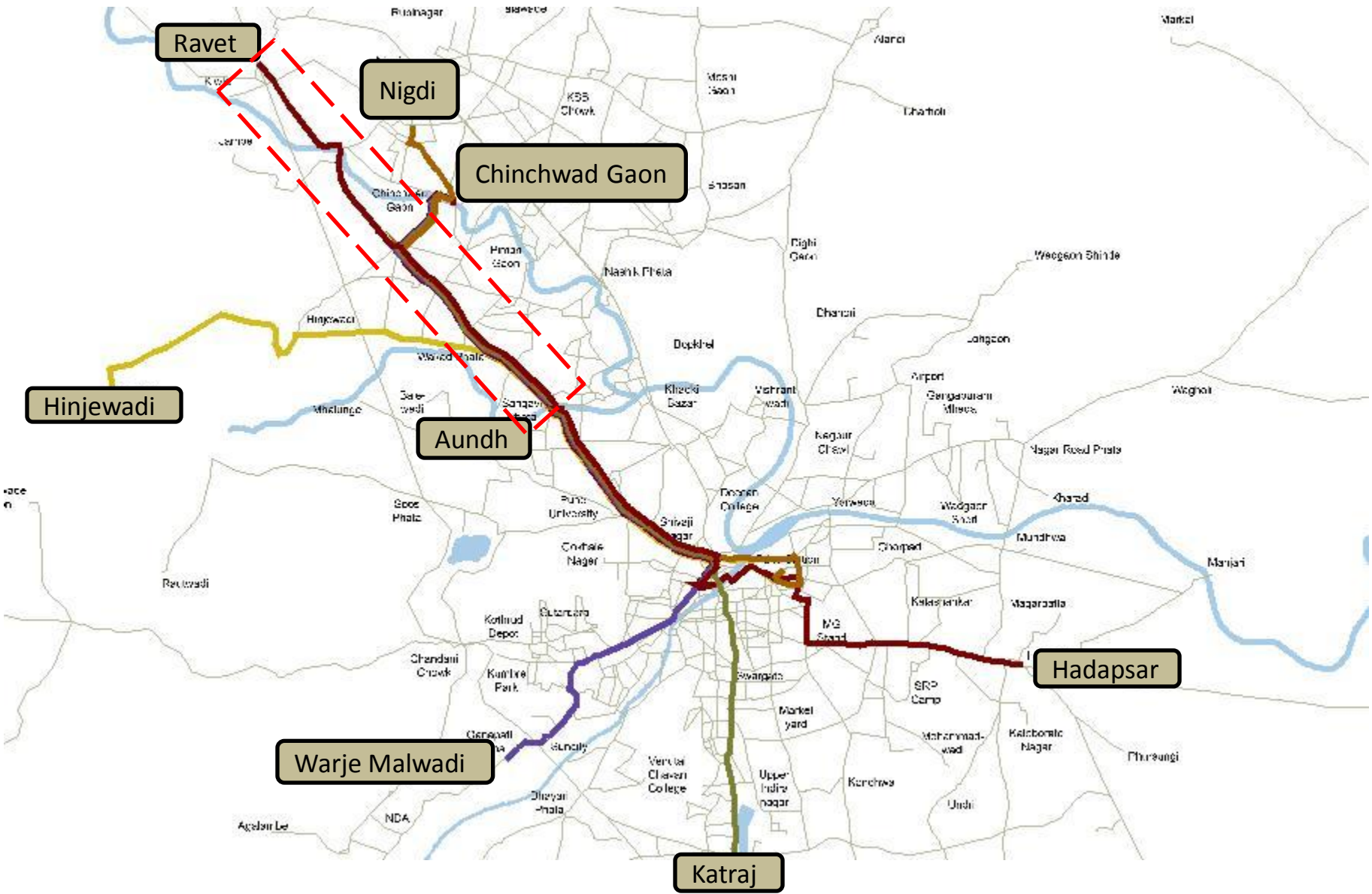


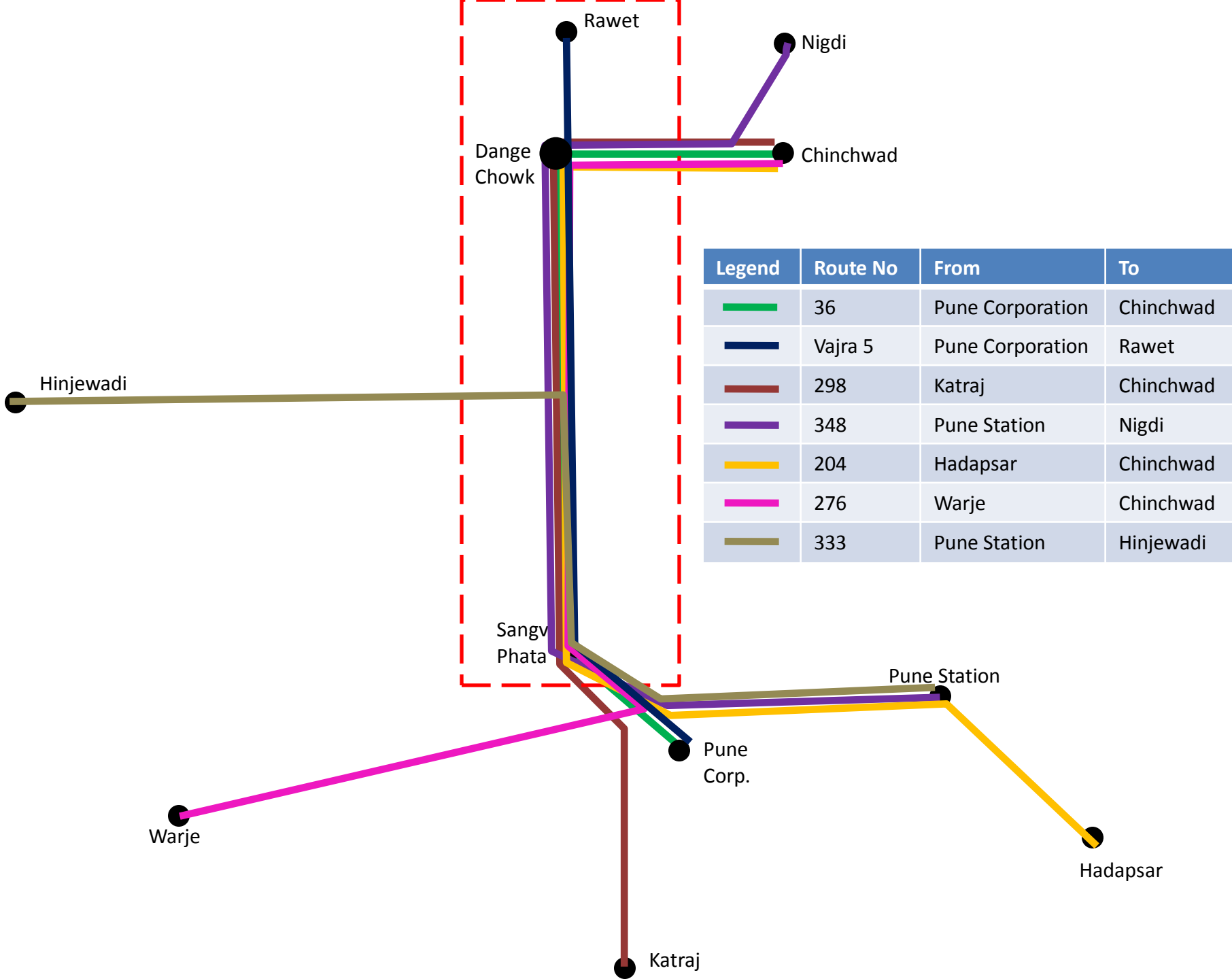
PCMC sought financial support from Govt. of India under JnNURM for development of BRTS on these 4 corridors spanning over 45 kms.

As on October 2016, BRT services have been operational on 2 corridors of 22.5 kms. length.

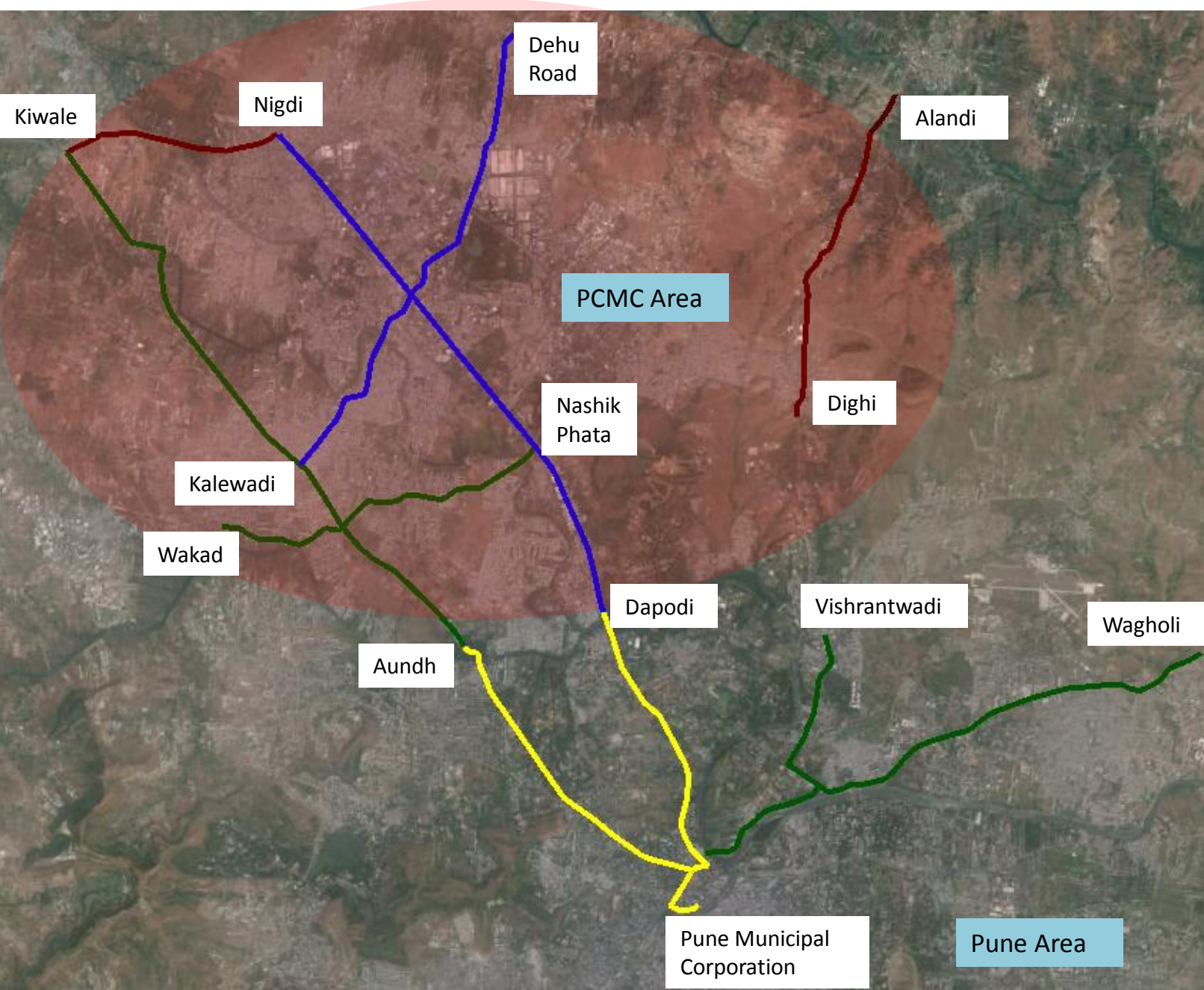
The services on the remaining 2 corridors is planned to start by mid-2017.





Hybrid BRT Route Structure





Current Situation & Future Plans (Network Expansion, Connecting Pune-PCMC)



-  Operational Corridors of Pune & PCMC
-  Corridors to be launched by mid-2017 at PCMC
-  New corridors under construction in PCMC with own budget
-  Budgetary provision 2017-18 for BRT corridors by Pune Municipal Corporation connecting with PCMC corridors

Project Financing (under JnNURM):

Spent about 1100 crores till date for infrastructure and allied components of BRT including IT system

Contribution of the Central Government	50%
Contribution of the State Government	20%
Contribution of ULB	30%



'Rainbow ' is the common name selected by the PMPML Board of Directors as a unique brand and identity for the BRTS System of Pimpri-Chinchwad & Pune

PCMC BRT Corridor Details

S. No.	Corridor	Length (Km.)	RoW (meters)	Status
Implementation with financial support from JnNURM, Govt. of Maharashtra and ULB Funds				
1	Nigdi-Dapodi (old NH4)	12.10	60	To be launched soon
2	Sangvi-Kiwale	14.50	45	Operational
3	Nashik Phata-Wakad	8.20	45	Operational
4	Kalewadi-Dehu Alandi Rd	10.20	45,24	Under construction
Implementation from Own Funds				
5	Bhakti Shakti-Kiwale	5.25	45	Under construction
6	Dighi-Alandi	6.50	60	Under construction

Sai Chowk – Crossing of two BRT corridors (Corridor 2 & 3)



BRT Corridors





BRT Stations





डेअरी पार्क
DAILY PARK

सर्वोपयोगी
DOOR
3

लक्ष्मण नगर
LAXMAN NAGAR

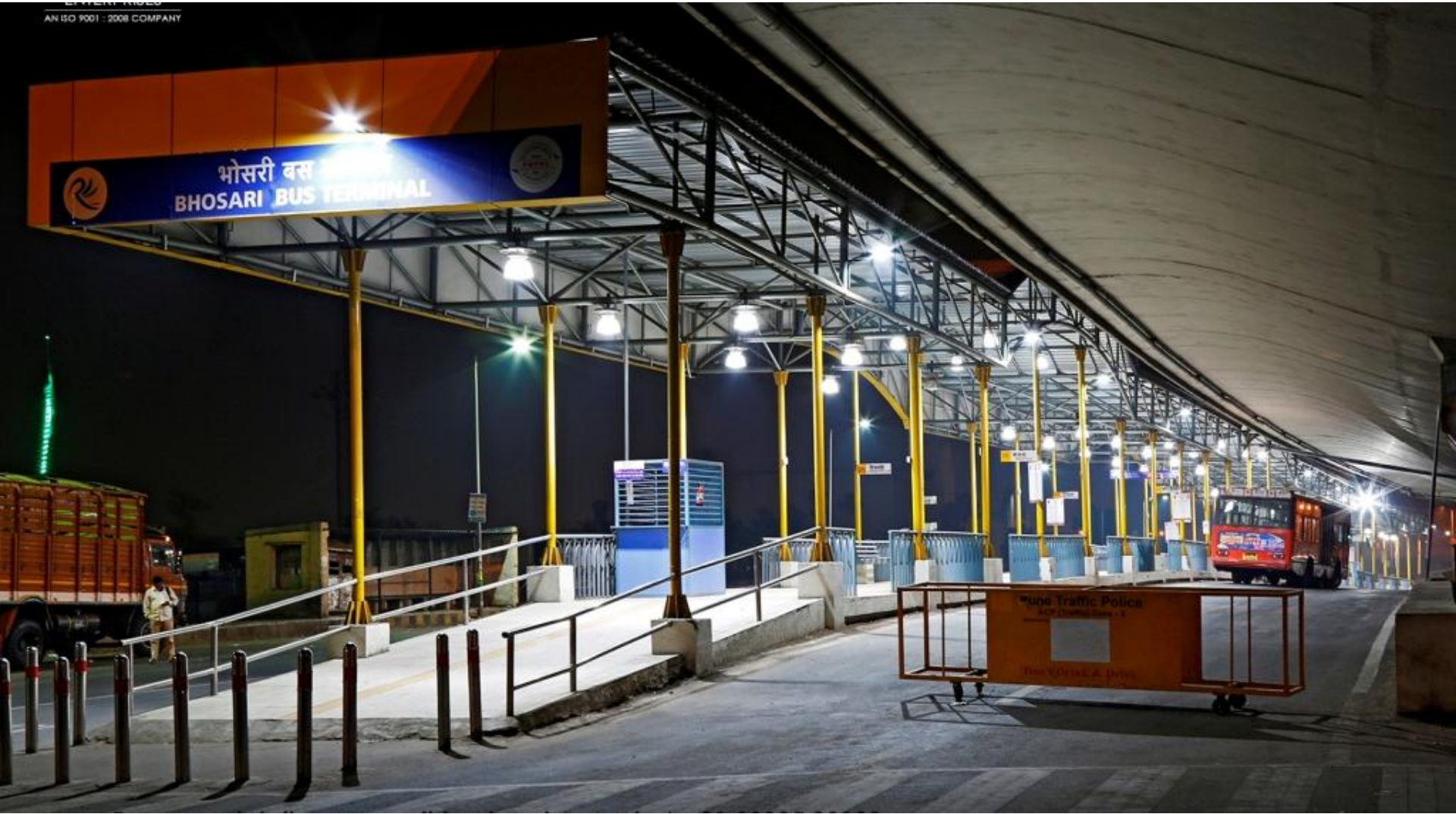
पुणे
PUNE



BRT Terminals



भोसरी बस टर्मिनल
BHOSARI BUS TERMINAL



Security & Housekeeping Services

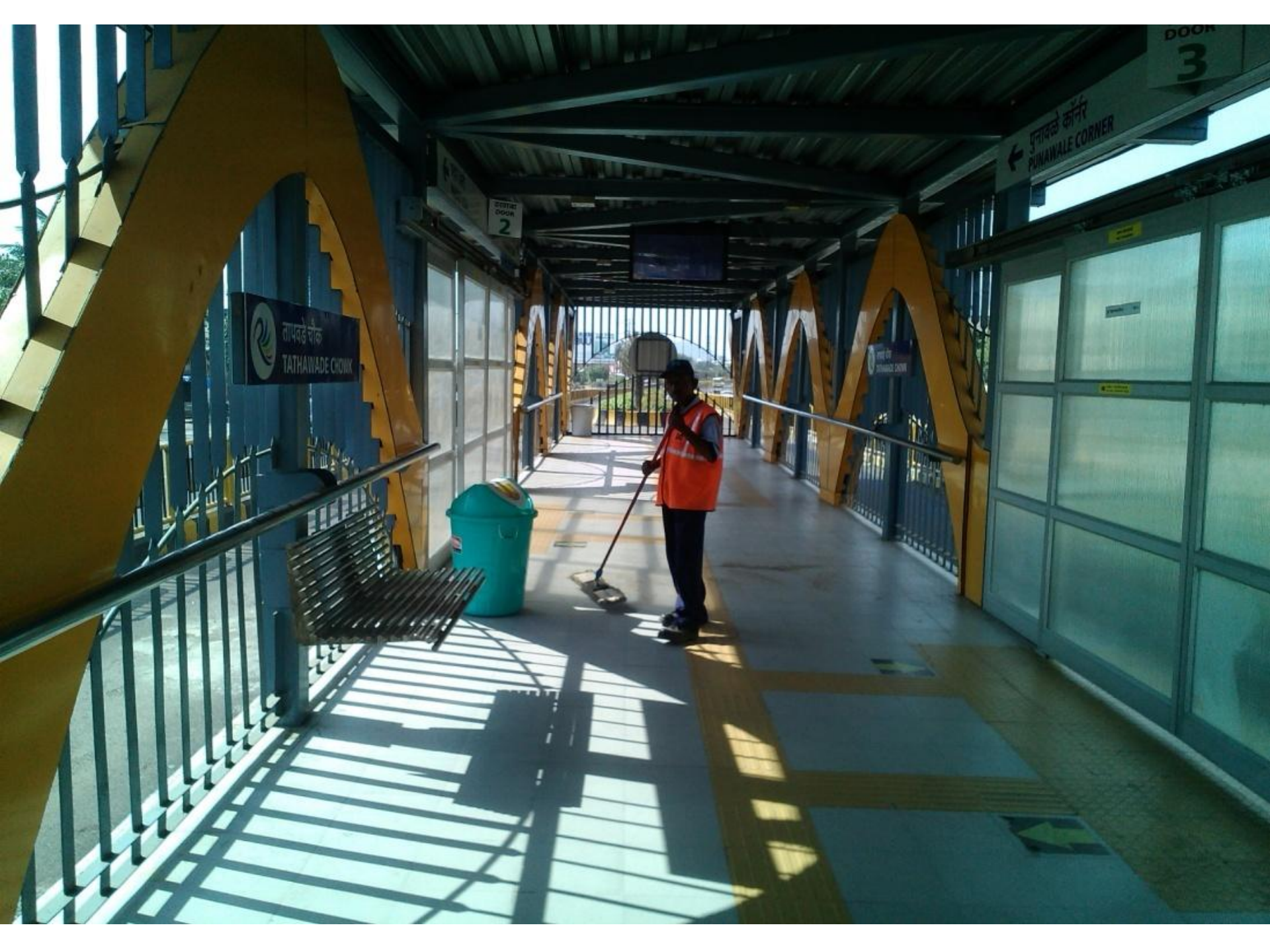


रक्षक चौक
RAKSHAK CHOWK

सांगवी फाटा
SANGVI PRATA

बाहेर
EXIT

प्रवेश बंद
NO EXIT



तापवडे चौक
TATHAWADE CHOWK

DOOR
2

← पुनावळे कॉर्नर
PUNAWALE CORNER

DOOR
3

DOOR OF
TATHAWADE CHOWK

Landscaping & Plantation along the Corridors







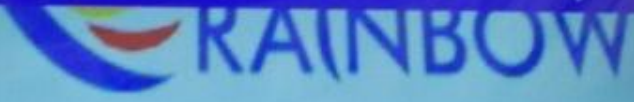
Automatic Doors and At-Level Boarding/Alighting


ITMS Systems for Real Time Passenger Information




काटे पाटील चौक KATE PATIL CHOWK 10:45 am

मार्ग क्र. ROUTE NO	अपेक्षित वेळ ETA	उपराळ DESTINATION	दरवाजा DOOR
वज्र ६ Vajra 6	1 min	भोसरी गाव Bhosari Gaon	३ 3
३२४ 324	2 min	हिंजवडी फेज-३ Hinjawadi - Maan Phase 3	१ 1

 RAINBOW

बाहेर
EXIT 

प्रवेश बंद
NO EXIT 

Central Control Center





Pre-Launch Preparations

Promotion & Outreach Activities: External agency was engaged to conduct promotion & outreach activities before launching BRT services for better awareness among citizens. Various activities included: Public & Stakeholder Consultations, School programs, Special tours, Media campaign, Passenger Information Design, Radio Jingles, Short Movies, Brochures etc. PCMC also took suggestions from The World Bank and Other Government Officials.

Driver Training: On-field training for all bus drivers for docking judgment and door operations

Training of Traffic Wardens, Housekeeping and Security Staff: Rounds of training were given to traffic wardens, housekeeping services staff and security guards for introduction to the project and their duties.

Law & Enforcement: Pune Traffic Police published notification prohibiting all personal and private motor vehicle entry and parking inside the BRT corridors of Pune & PCMC 7 days before the launch.

Free Rides: Free BRT rides were given to the passengers only within the BRT corridor for 2 days after the launch day.

Creation of dedicated BRT Cell within PMPML: PMPML created a dedicated BRT cell for looking after day to day BRT operations and recruited professionals for various activities. The staff were given training at Ahmedabad Janmarg.

World Bank gives thumbs up to bus rapid transit system in Pune

[Manish Umbrajkar](#) | TNN | Jun 26, 2014, 03.39 AM IST

PUNE: A World Bank report has pushed for wider network of bus rapid transit system (BRTS) across the country to save fuel cost, cut down on pollution and save thousands of lives lost every year in road accidents.

Projecting the benefits of the Pimpri Chinchwad BRTS in the years to come, a report on Climate-Smart development, conducted jointly by World Bank and ClimateWorks Foundation, suggested that the sustainable transport project can serve as a model for the country. "If India builds 1,000 kms of new bus rapid transit lanes in about 20 cities within 6-12 years, it can save more than 27,000 lives from reduced accidents and air pollution and create 128,000 jobs," the study says.

While the 19km BRTS on two different corridors in Pimpri Chinchwad is incomplete and may take over a year more, the report said the expected benefits would be reduction in travel time, fuel cost, emissions and accidents. In Pimpri Chinchwad, 68% people use two-wheelers as a means of transport while less than 4% population uses public transport.

Recommended By Colombia

In 2009, the World Bank approved a sustainable urban transport project for India that included BRTS in three pilot cities including Pimpri Chinchwad.

Although the BRTS corridors have not been mentioned in the report, an earlier report by the Ministry of Urban Development in 2009 lists two BRTS corridors — Nashik Phata to Wakad and Kalewadi to Dehu Alandi Road. An analysis of the project was conducted using Transportation Emissions Evaluation Models for Projects (TEEMP) framework developed by Clean Air Asia.

The short-run investment in the transport network is expected to provide a boost to domestic demand, GDP and employment, the report said. Improvement in country's infrastructure would increase India's capital stock and potential output. The report further said that the switch over to a mass transit system will also help in bringing down the overall cost of transport per passenger kilometer.

The economic benefits, the report said, will also be felt in the labour market. In the short run (2013-17), faster implementation would create about 91,000 jobs, while the more realistic implementation scenario would increase employment by around 48,000 jobs. In the long run (by early 2030), about 1,28,000 jobs would be created, the report said.

The results of Pimpri Chinchwad BRTS analysis and a study of the Ministry of Urban Development of more than 87 cities were used to estimate the length of viable BRTS routes that could realistically be developed. This was contrasted against a "no BRTS" scenario.

RELATED

The 115 kms of total BRTS network of routes planned for Pune-PCMC area, when completed and jointly operational, will become Asia's biggest and one-of-its-kind BRTS interconnected system. This announced by Ex- Officio Joint Secretary, Ministry of Urban Development, Government of India, SK Lohia, in his keynote address at a seminar organized today for Pimpri Chinchwad Municipal Corporation officials, on how to develop a sustainable and equitable transportation for the twin town.

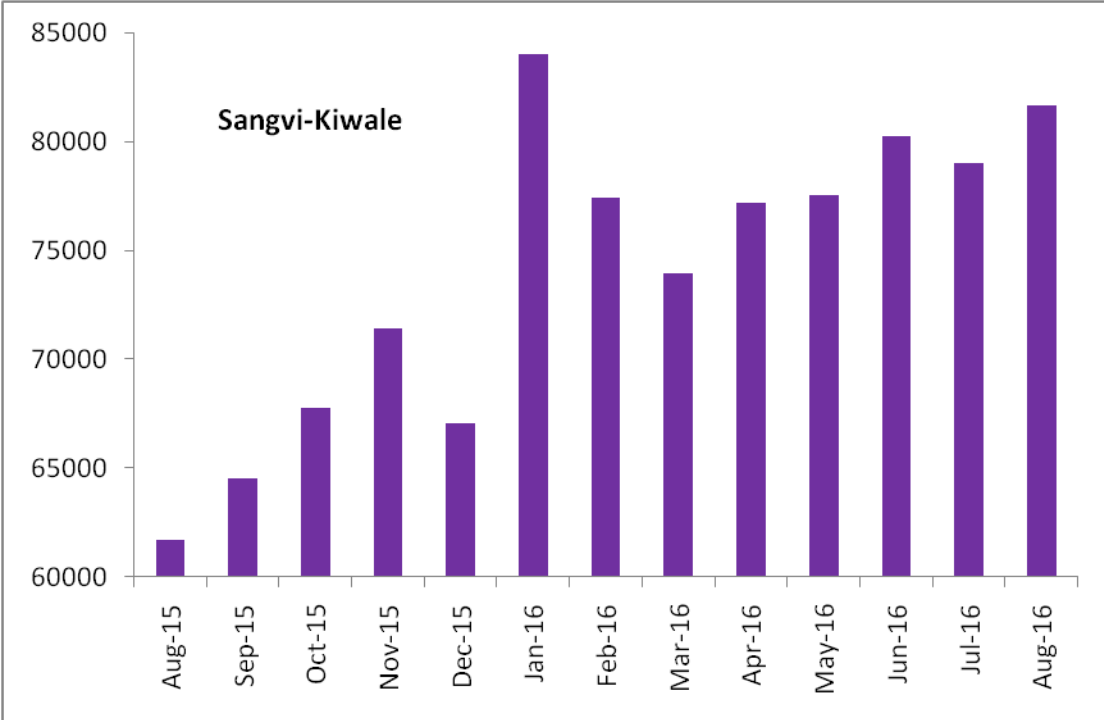
On the present situation of urban transport in India, Lohia said that it has become a constitutional and institutional orphan. "Public transport in India is not considered as public services. In our city master plans, there is no place for mobility plan. Our priority should be people and accessibility, with precedence to pedestrian movement, non-motorized transport, affective public transport and last private vehicles," he said. Giving an example, he said that in Mumbai even today, 44% of commuting happens by walking, so it becomes important that we develop neighbourhoods that promote walking.

Lohia said that the government is working on the concept of Smart City Scheme of developing 100 such cities across India and Pune is going to be one of them. "PCMC-PMC can be the best example of a city in India with the success of BRTS. It is an illusion that having big, free flow, signal free roads with flyovers will resolve the problem, instead it is encouraging that more private vehicles on road," he said.

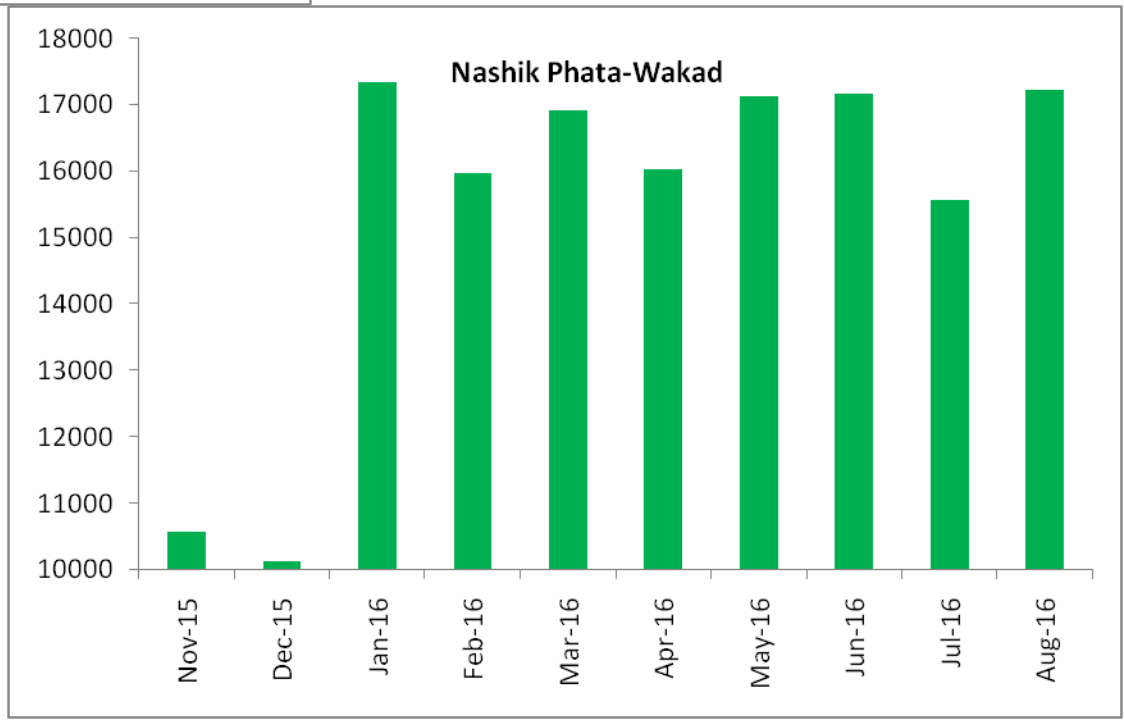
A total of 45kms of BRTS routes are being developed within PCMC limits, which include 4 routes of Nigdi-Dapodi (12kms), Sanghvi-Kiwale (14.50kms), Nashik Phata-Wakad (8kms) and Kalewadi-Dehu-Alandi (10.50kms). The BRTS projects within PCMC is funded by JNNURM and Sustainable Urban Transport Project (SUTP) programme, in partnership with Global Environment Facility (GEF), World Bank and United Nations Development Programme (UNDP).

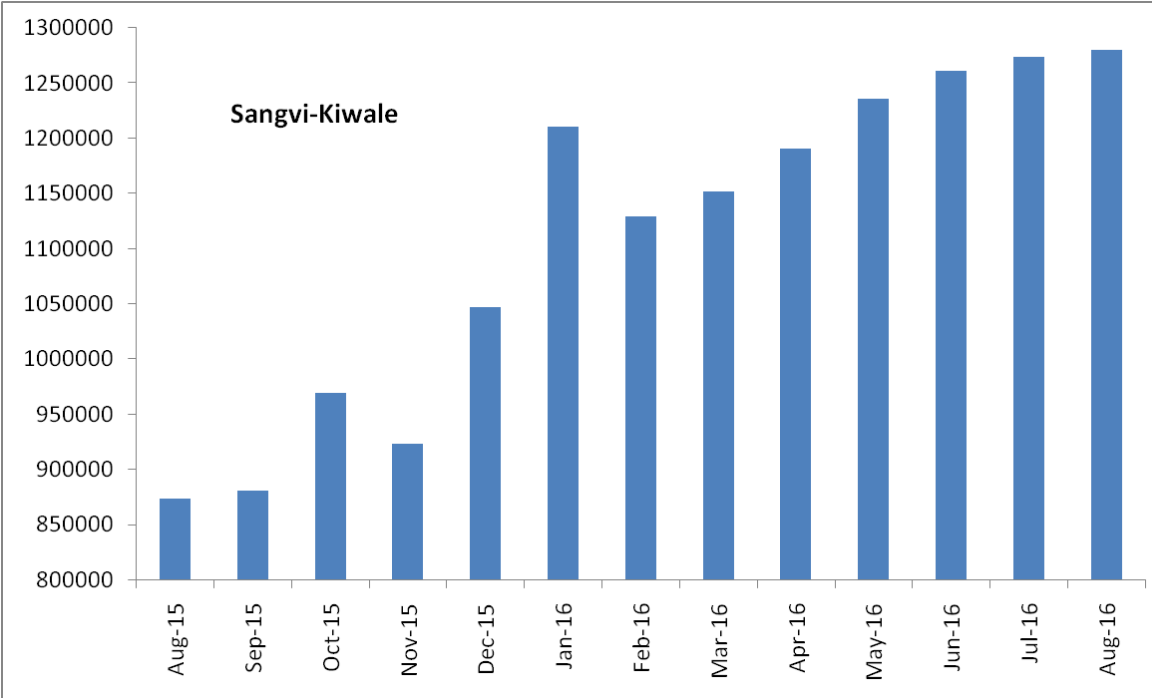
UTF - Urban Transport Fund

- PCMC has created dedicated 'Urban Transport Fund' for securing investments for transport projects.
- By allowing additional 0.4 FSI to densification on 100 m either side of BRT corridor. PCMC has managed to generate revenue from real estate development along BRT corridor is directed to UTF.
- For this effort, PCMC has received award for Commendable Emerging Initiative under Excellence in Urban Transport- UMI 2010 by Government of India.
- The land values have increased 5 to 10 times along the corridor in last 5 years.

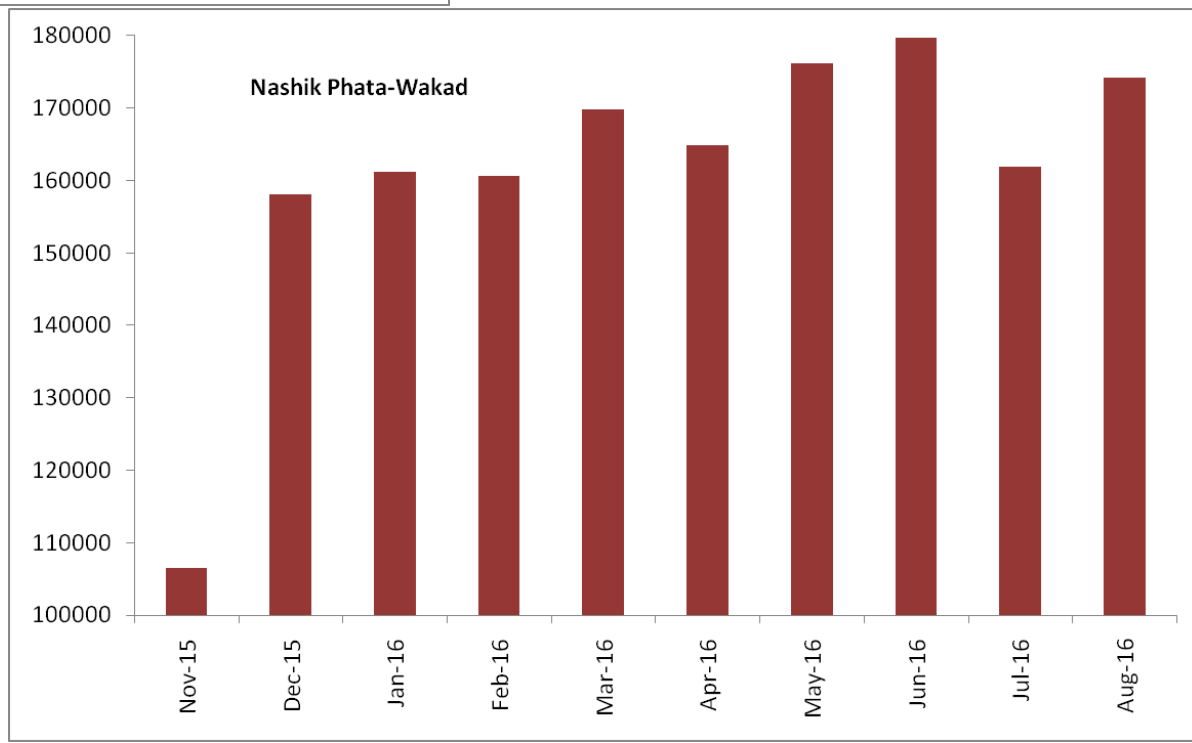


Average Daily Ridership



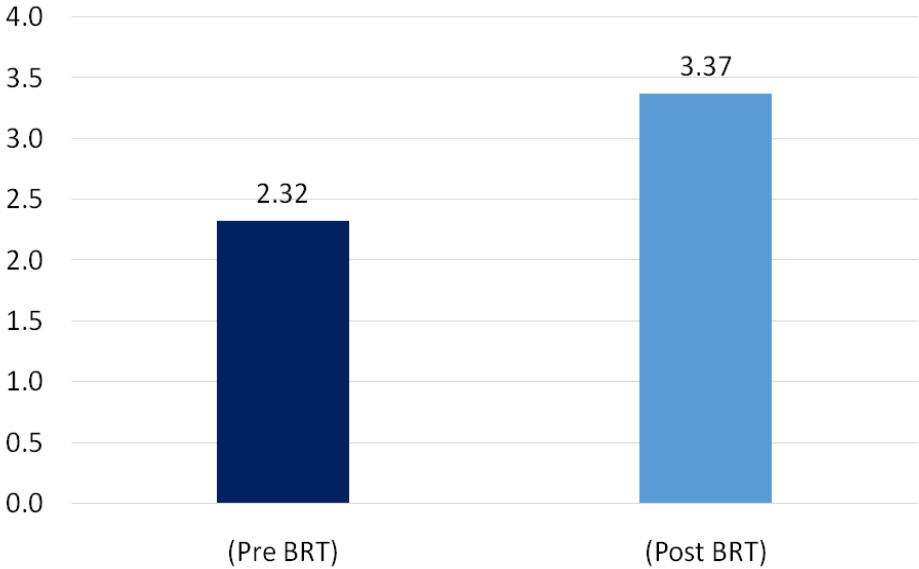


Average Daily Income (in Lakhs)

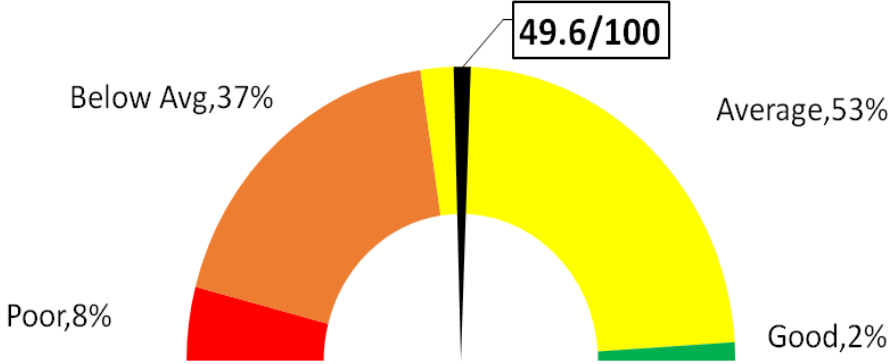


Personal Interview Opinion Survey of 500 Passengers

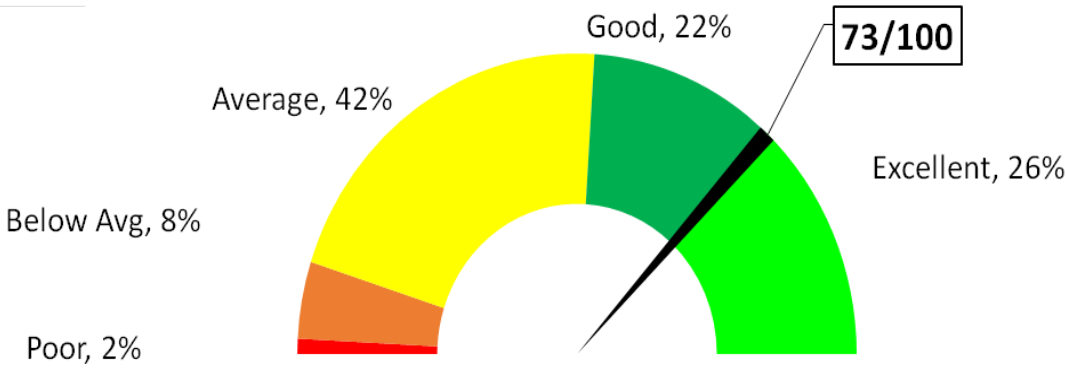
Overall Commuter Satisfaction on BRT Corridors



Pre BRT - Score

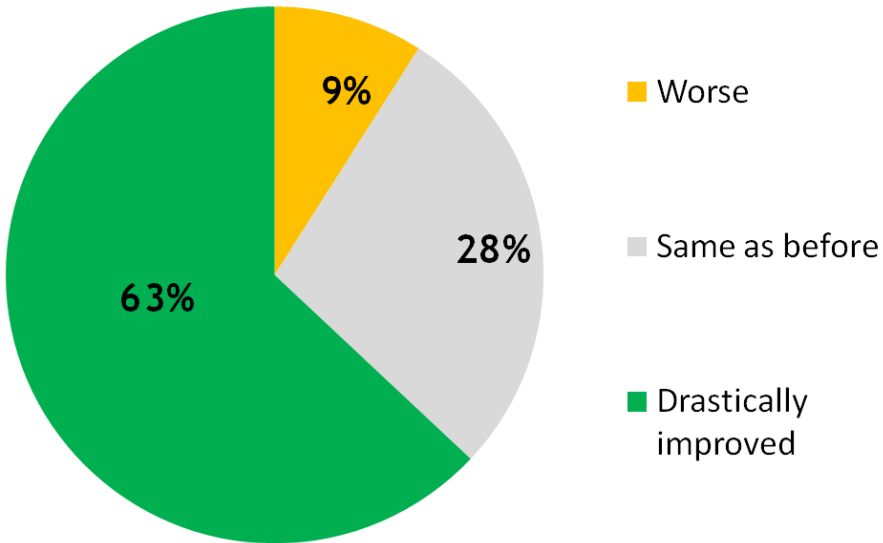


Post BRT - Score

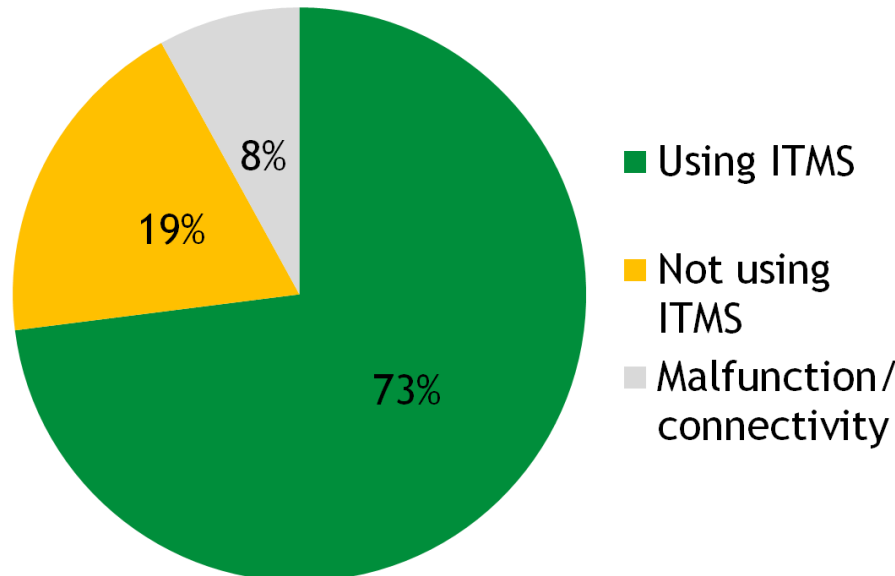
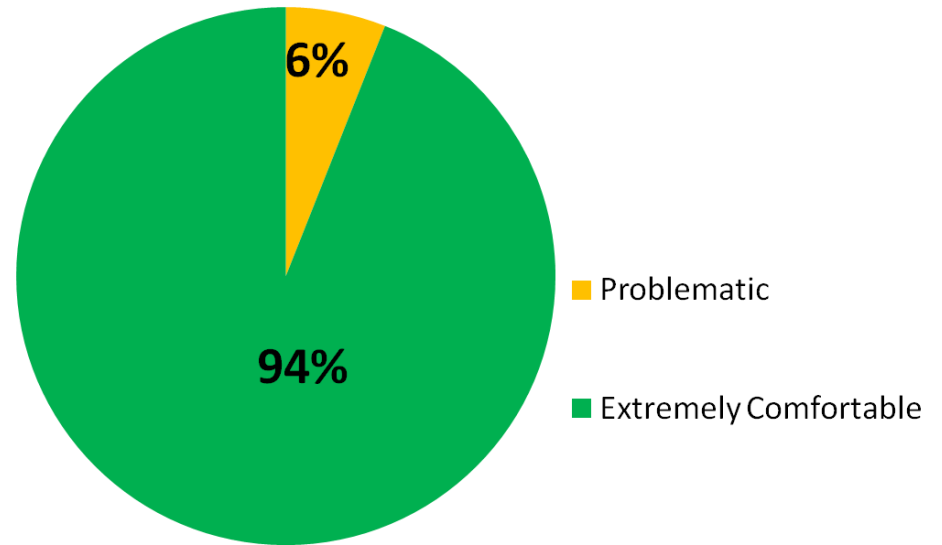


Personal Interview Opinion Survey of 250 Passengers

Waiting Time



At-Level Boarding/Alighting



Use of IT Systems

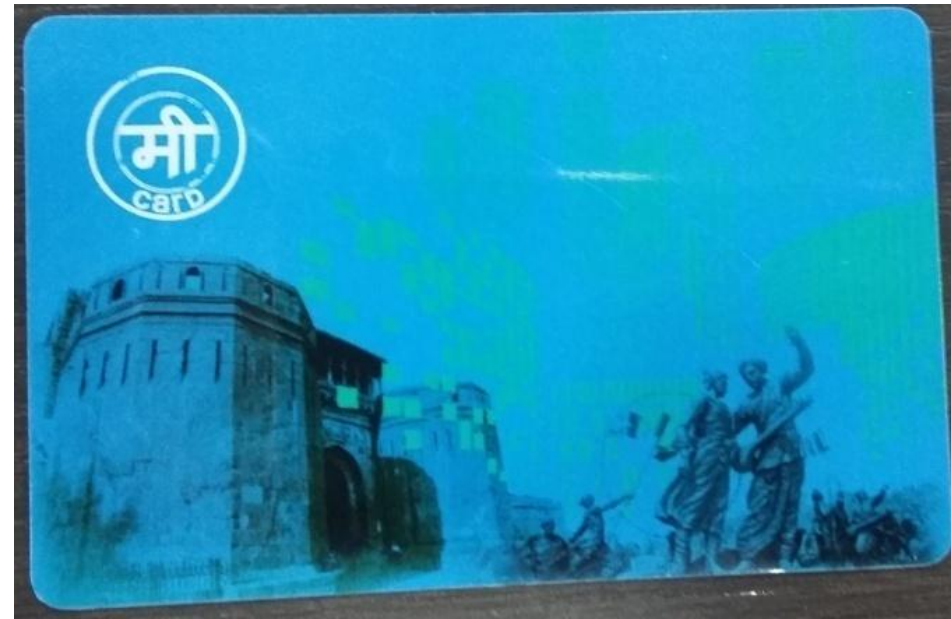
PCMC has created dedicated Parking for BRT users along the corridor



By giving additional FSI of 0.4 with premium to the new developments against providing 25% dedicated parking of the total parking for BRT users only, PCMC created such dedicated parking lots for BRT users on corridor-3 on 100 m both sides. Total of 57 cars, 365 two wheelers and 171 cycles can be parked in these 6 locations.

Future Initiatives

- Introduction of Automatic Fare Collection System
- Smart Cards
- Bus Fleet Augmentation with introduction of new 500 AC and 800 Non-AC BRT buses



**THANK
YOU!**

**Mr. Pratik Dave
Technical Advisor - BRTS
Pimpri Chinchwad Municipal Corporation
mrpratikdave@gmail.com
+91-9374075720**