



पुणे  
स्मार्ट सिटी  
डेव्हलपमेंट  
कॉर्पोरेशन लिमिटेड



PUNE  
SMART CITY  
DEVELOPMENT  
CORPORATION LTD.



# SMART MOBILITY

"WE ARE HERE TO SERVE"



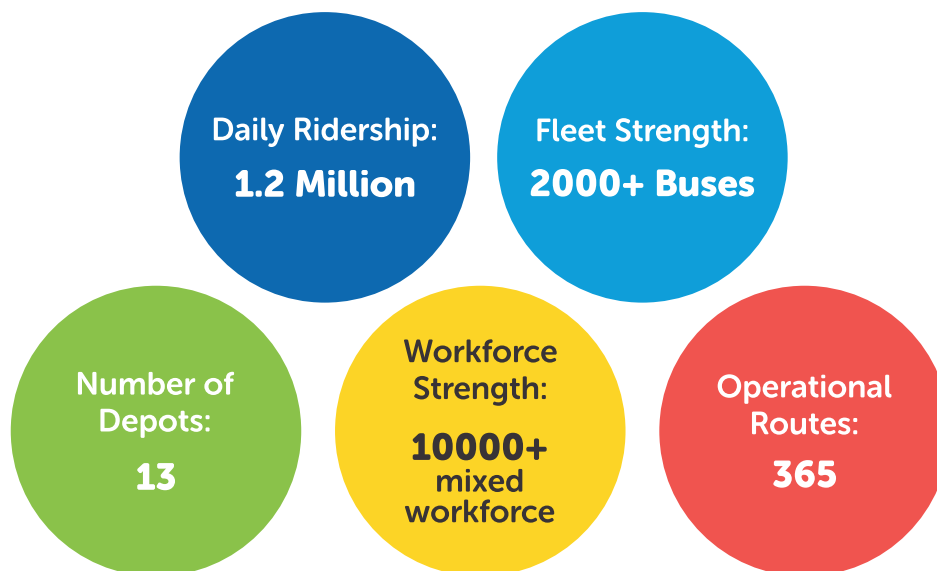
# Introduction



“Beautiful paths in any city can't be discovered without getting lost and are usually found by using Public Transport.”

Pune being a historical place, and was called as Punewadi, Kasba Pune, Poona, Pune, Pune Nagar Palika, Pune Municipal Corporation, etc. in the past and surrounded by forts, rivers, gardens, etc. It is well known for education, as a military hub, famous for religious functions, cultural activity, dramas, cinemas and as one of India's biggest IT hubs.

The company Pune Mahanagar Parivahan Mahamandal Limited (PMPML) came into existence on 19th October 2007 when two transport undertakings, PMT and PCMT merged. Some important statistics of PMPML are:



As one of the fastest growing destinations for education, global manufacturing and IT in the Country, Pune was the second city chosen by the Ministry of Urban Development (MoUD) to become a Smart City under the Smart Cities Mission.

PMPML recently operationalised India's longest BRT of 45 km. in the last 10 months, as part of the comprehensive smart mobility plan. In a short period of the BRT being launched, it has become the first BRT in India to carry the largest number of passengers.

# Smart Payments

PMPML, that operates public transportation in Pune metropolitan region - India's biggest IT & education destination, is introducing 'Smart Payments'- a global concept of providing passengers alternative options of buying tickets and paying fare while using the buses in their region.

In partnership with Central Bank of India, PMPML is launching India's first Interoperable Open Standard Contactless Smart Card "MI" for the citizens of Pune. "MI" in Marathi means "I" and "Me" in English. "MI" also means "Mobility Integration", where it can be used in all modes of transit and para-transit agencies in the city.



The MI Card will be available to everyday commuters for simplified payments to pay single journey fare, monthly passes, concession passes as electronic cash through its e-purse on Handheld Terminals (HHT) and Validators for easy use of public transport.



**The MI Card is designed to be the single payment card across Pune city and in the future for Trains, Metros, Taxis, Parking, Tolls, Retail with an inbuilt loyalty program to benefit the local citizens and the Agencies.**

## Citizen Benefits

- Single Card For All Modes of Transport
- Low Cost for all walks of life
- Multi Channel – Reload/ Refund
- Complete Transparency
- Environment Friendly

## Transit Agency and Merchant Benefits

- Transparency of Fares & Pricing
- Saving on Cash handling & Insurance
- Secure Online System
- Easy Accountability and Auditability
- Low Cost / Flat Transaction fees

# Smart Control Command & Control Center

The PMPML Command and Control Center is designed by NEC, Japan to provide PMPML the ability to control, monitor and maintain its bus operations and assets through a rapid customised graphical user interface. An open, non-proprietary architecture helps to increase situational awareness, through integration of existing PMPML infrastructure, assets, operations, safety and customer satisfaction.



This control center enables PMPML to manage its entire fleet of **2000+ buses** across **365 routes**.

- OPERATIONAL EFFICIENCY
- PUBLIC SAFETY
- ROUTE OPTIMISATION
- AUTOMATIC VEHICLE LOCATION
- ACCURATE PASSENGER INFORMATION
- TIMELY ARRIVAL & DEPARTURE OF BUSES
- CUSTOMER SATISFACTION FOR 1.2 MILLION PASSENGERS THROUGH CALL CENTRE





- Easy access to public transport info
- Journey Planner and Route Search
- Fare Structure and Online Pass Booking
- Live update about ETA of public buses



The redesigned website of PMPML, provides the corporate look like the city itself making it one of the best bus transport websites in public transport in India. The website is easy to maneuver, accessible, and provides simple and direct information.

The main page provides direct access to all key features of public transport in Pune. For e.g. Airport Services, Tourists can access information about 'Pune Darshan', a sightseeing bus service with a single click. Similarly Journey Planner, Route search, Fare Structure, etc. can be accessed without hassle in less than two to three clicks on this website.

The investment into a world-class IT system now will help Pune commuters know Expected Time of Arrival (ETA) of buses at the nearest bus stop with accuracy. This will save a lot of time for commuters. This is the first city in India providing live ETA information from the bus stops, to its passengers helping them spend more time with their families thus improving quality of life!

**Other features include complete details of PMPML as an organization from**

**History**

- Milestones
- Rainbow BRT
- Board of Directors
- Organization Structure
- Passenger Information (ETA)
- Annual Passenger Information

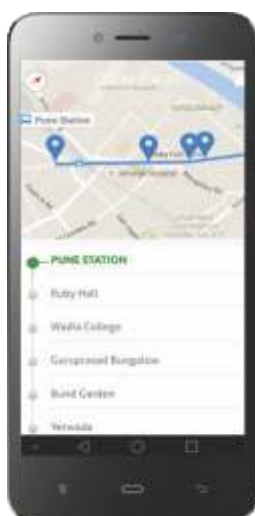
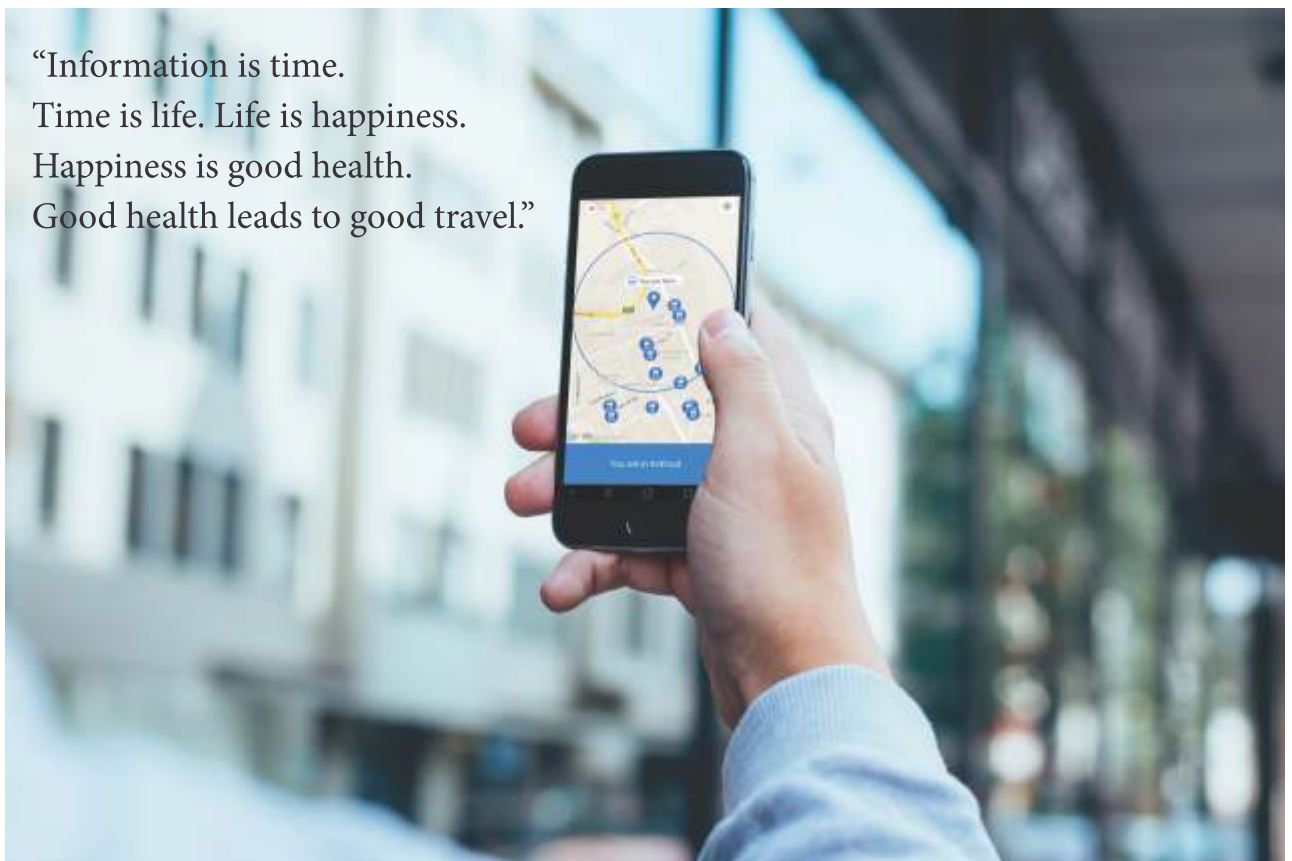
**Tenders**

- Photo Gallery
- Public Grievance
- Types of Services
- Tracking of Buses
- Bus Stop Locations
- Actual Operational Information

# Smart Passenger Information Mobile App

PMPML has developed a citizen-centric mobile app that will enable commuters to track the entire fleet of its buses at their fingertips. This app will provide all the information regarding PMPML buses required by the passenger on a daily basis .

“Information is time.  
Time is life. Life is happiness.  
Happiness is good health.  
Good health leads to good travel.”



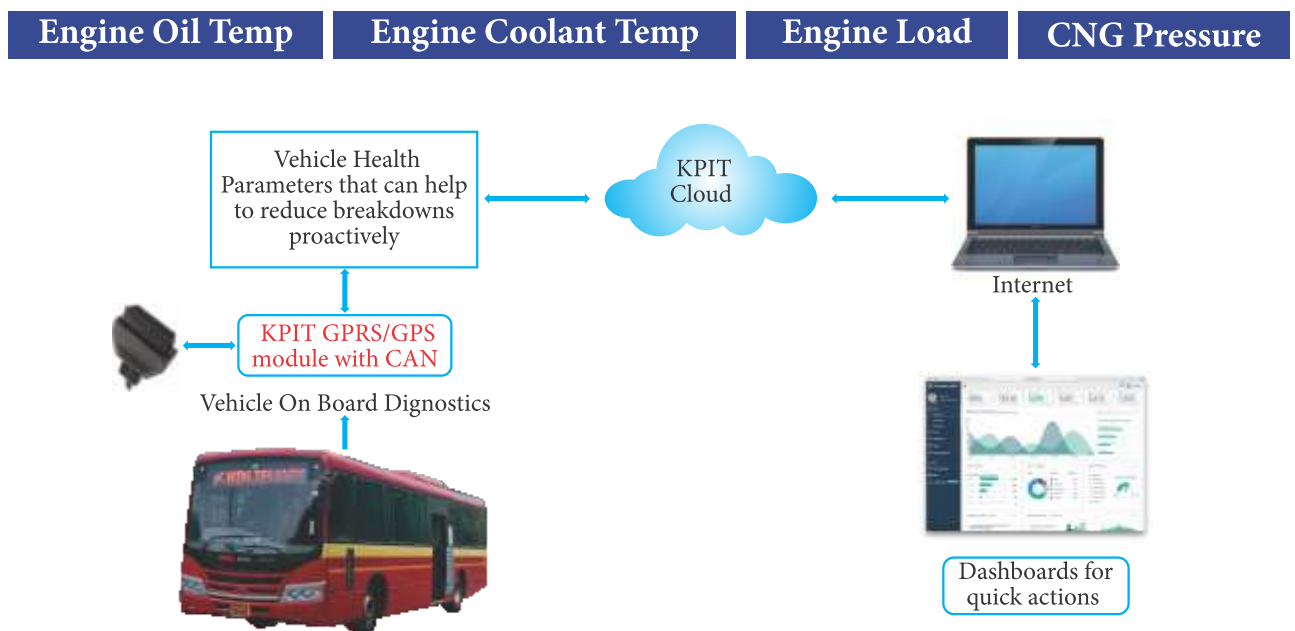
- Journey Planner
- Fare Matrix
- Fare Calculator
- Accurate Estimated Time of Arrival (ETA)
- Pass Centres
- Types of Services
- Tracking of Buses
- Identification of Bus Stops

# Smart Vehicle Health Monitoring (VHMD)

Public transport buses require planned maintenance to ensure reliability of operations. Buses that do not go through proper maintenance face breakdown risk. Most breakdowns of buses are caused by engine heating up due to:

- Excessive load
- Maintenance schedule missed due to lack of infrastructure
- Driving in 1st/2nd gear continuously due to traffic conditions

Vehicle Health Monitoring and Diagnostics (VHMD) technology helps in tracking some of the parameters that gives early warning before a vehicle breaks down. Some parameters that, if tracked, can help to reduce breakdowns are:



PMPML and KPIT Technologies has deployed VHMD technology on 20 select buses to monitor if buses can be prioritised for maintenance, based on criticality of certain tracked parameters.

Pune Mahanagar Parivahan Mahamandal Limited				
Tuesday, June 21, 2016 19:50:13				
Vehicle Health				
Bus No.	Engine Load Value (%)	Engine Coolant Temperature (°C)	Ruel-Rail Pressure (PSI)	Engine Oil Temperature (°C)
R-392	59.0	83.0	820.0	52.0
R-396	60.0	88.0	800.0	0.0
R-397				
R-404	92.0	94.0	790.0	52.0
R-405				
R-406	93.0	83.0	800.0	57.0
R-408				
R-409	36.0	79.0	820.0	51.0
R-410	10.0	78.0	810.0	0.0

The success of this project will help roll out this technology to all buses, and ensure reliable operations and save huge infrastructure costs to put up maintenance facilities.

TECHNOLOGY & KNOWLEDGE PARTNERS



Pune Mahanagar Parivahan Mahamandal Limited, Shankar Sheth Road,  
Swargate, Pune 411 037 | Tel.: +91 20 2444 7983 | Fax: +91 20 2444 7900

Pune Municipal Corporation, Shivajinagar, Pune 411005, Maharashtra, India.  
Tel.: +91 20 2550 1000 | [www.punecorporation.org](http://www.punecorporation.org) | [info@punecorporation.org](mailto:info@punecorporation.org)

