



PUNE'S SUSTAINABLE TRANSPORT JOURNEY



FEBRUARY
2021



PUNE
SMART CITY
DEVELOPMENT
CORPORATION LTD.





MESSAGE FROM THE MAYOR

Pune is a rapidly developing city with an ambitious plan to improve sustainable mobility for its people. For years, the city has embraced radical approaches and initiatives that prioritise efficient and sustainable forms of transport. Pune has made several path-breaking interventions to develop walking, cycling, and public transport facilities across the city.

The massive success of the sustainable transport projects in Pune is an ode to the efforts of the Pune Municipal Corporation, Pune Smart City Development Corporation Ltd., and Pune Mahanagar Parivahan Mahamandal Ltd, and their collaboration with various civil society organisations, academic institutions, and experts among others.

Pune's transition to a people-friendly city would not have been possible without the support of its citizens. We would like to thank the people of Pune for their relentless encouragement and assistance in making these initiatives a success.

Through this document, we would like to present a glimpse of the multiple efforts undertaken by the city over the years. We are confident that these changes will give a boost to many more similar initiatives that are in the pipeline.

Murlidhar Mohol

Mayor, Pune



MESSAGE FROM THE COMMISSIONER

It gives me great pleasure to introduce 'Pune's Sustainable Transport Journey' document which highlights the city's extraordinary commitment to improving sustainable mobility for its people. This document focuses on steps taken by the Pune Municipal Corporation (PMC) over the years to achieve the vision adopted in the Comprehensive Mobility Plan (2008).

These steps include the adoption of progressive policies like the 'Walk Smart' policy and the Parking Policy, and the development of guidelines such as the 'Urban Street Design Guidelines' and 'Comprehensive Bicycle Plan' among others. Pune has also worked on creating world-class street infrastructure and providing better connectivity to the citizens through Bus Rapid Transit system, E-buses, and other special services.

This transformation has only been possible through Pune's relentless efforts to expand sustainable transport infrastructure by allocating adequate resources, implementing institutional reforms, and building capacity. Over the years, the city has forged partnerships with technical experts, civil society groups, and educational institutions to transform Pune into a lighthouse for other cities.

Pune will continue to strive on this transformative journey, expand these initiatives in the future, and inspire other cities in the years to come as well.

Vikram Kumar, IAS

Municipal Commissioner, Pune














ACKNOWLEDGEMENT

The Pune Municipal Corporation (PMC) would like to acknowledge the support of the city officials and engineers who have transformed Pune into a haven for walking and cycling. Similarly, the city's public transport achievements would not have been possible without the relentless and consistent efforts of the Pune Mahanagar Parivahan Mahamandal Limited (PMPML). We are deeply grateful to all the city officials who have pioneered and contributed to the city's sustainable transport momentum over the years.

We would like to highlight the important role of all the civil society organisations, academic institutions, experts, and many others who have worked tirelessly to support the city in its transformation over the last two decades.

Most importantly, we thank the people of Pune who have acknowledged, appreciated, and advanced the city's efforts to become a sustainable transport pioneer in the country.

CONTENTS

 Pune's Journey of Sus-Trans	5
 Pune Leads the NMT Bandwagon	9
 Pune's Journey of Walking and Cycling A Timeline	11
 Policies and Plans	13
 Guidelines	19
 Street Design Programmes	23
 Institutional Reforms	31
 Pune, a Public Transport Pioneer	33
 Pune's Public Transport A Timeline	35
 Improving Infrastructure	37
 Shifting to Green Buses	43
 Improving Accessibility	47
 Stepping into a Sustainable Future	53

PUNE'S JOURNEY OF SUS-TRANS

Pune, home to over three million people, has been a pioneer in the country in taking initiatives to shift people away from personal motor vehicles and towards sustainable modes of transport. These initiatives have also improved the city's air quality.

Pune is transforming itself into a sustainable city of the future. The city has consistently demonstrated its commitment to this vision by **allocating over half of its annual transport budget** for the last five years towards improving walking, cycling, and public transport infrastructure. In 2008, Pune's Comprehensive Mobility Plan (CMP) **set the ambitious goal of ensuring that by 2031, over 90 per cent of all trips happen by non-motorised transport (NMT) and public transport.**

This transformation has only been possible through Pune's relentless efforts in consistently expanding sustainable transport infrastructure by **allocating resources, implementing institutional reforms, and building capacity.** Over the years, the city has forged partnerships with technical experts, civil society groups, and educational institutions to transform Pune into a lighthouse for other cities.

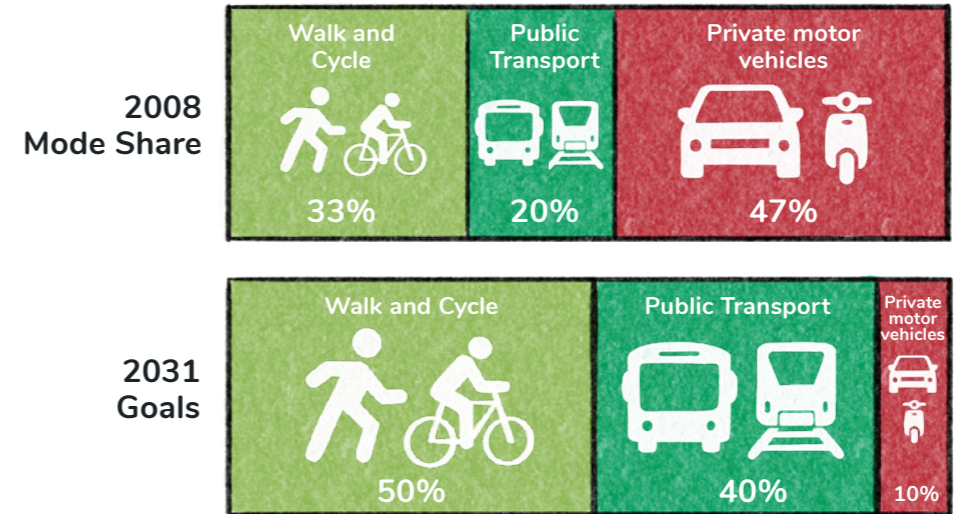




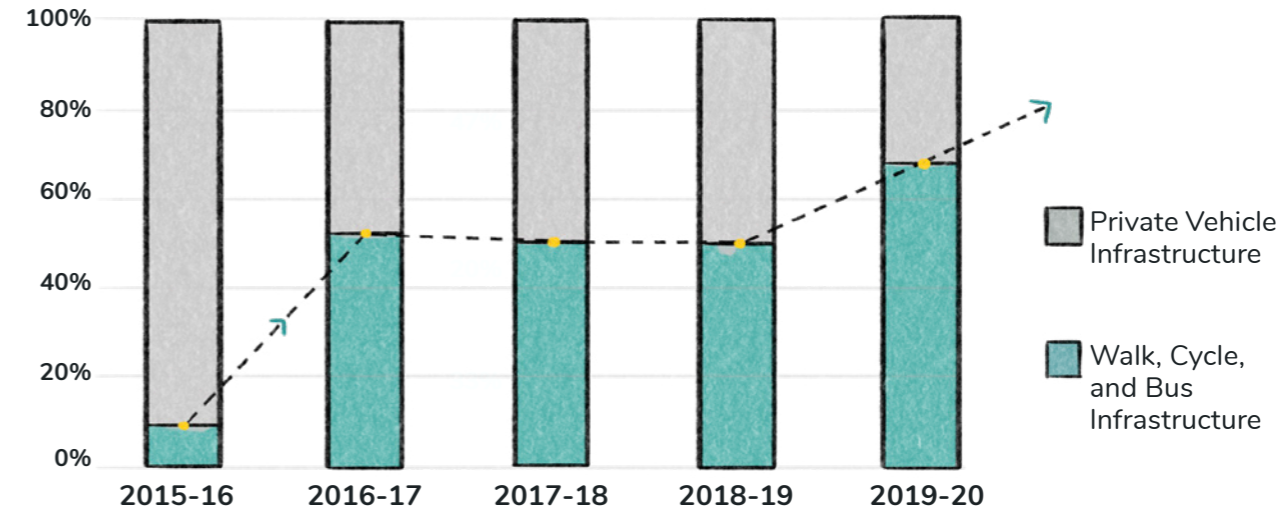
DP Road | Before



DP Road | After



The 2008 Comprehensive Mobility Plan aimed to improve the modal share of walk, cycle, and public transport from 53% to 90% by 2031



Dedicated budgetary allocation for sustainable transport over the years
Total annual budget ranges from USD 86 million - USD 114 million

PUNE LEADS THE NMT BANDWAGON

One of Pune's most important achievements is the improvement of the city's walking and cycling environment. The city is redesigning arterial roads as Complete Streets: with **high-quality footpaths, segregated cycle tracks, safe pedestrian crossings, conveniently placed bus stops, and regulated on-street parking.**

Pune has set the benchmark for a walking-and-cycling-friendly city. To ensure transformation on ground, the city has **adopted policies, plans, and guidelines, implemented street design programmes, and embedded institutional reforms.**



PUNE'S JOURNEY OF WALKING AND CYCLING

A TIMELINE

1 **COMPREHENSIVE MOBILITY PLAN (CMP)**
Envisioned increasing the modal share of non-motorised transport and public transport from 53% to 90% by 2031

2008



2 **WALK SMART PEDESTRIAN POLICY**
Drafted with the vision of making Pune a pedestrian-friendly city by prioritising pedestrians and cyclists over vehicles

2016



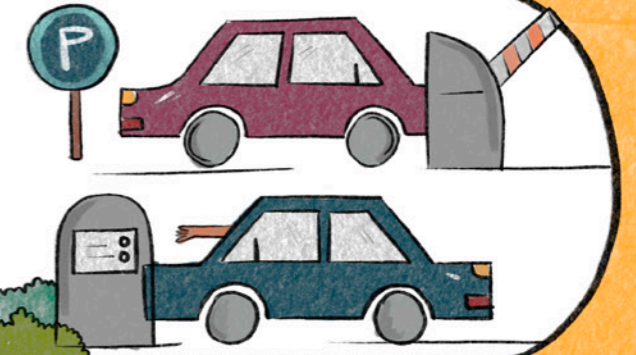
5 **PUNE STREETS PROGRAMME (PSP)**
Initiated a holistic approach to the design of streets as per the Urban Street Design Guidelines, with over 100km of streets to be redesigned with wide, safe, and continuous footpaths in the coming years



4 **URBAN STREET DESIGN GUIDELINES (USDG)**
Defined the process for street design, providing design templates for streets of different right-of-way, and setting standards for street elements

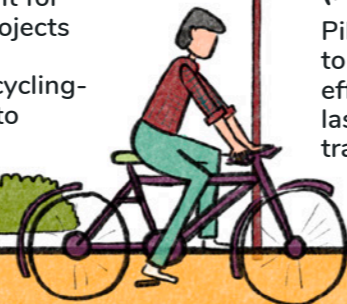


3 **PARKING POLICY**
Emphasised efficient parking management as a way to discourage private vehicle use and encourage public transport use, making Pune the first Indian city to adopt a progressive Parking Policy

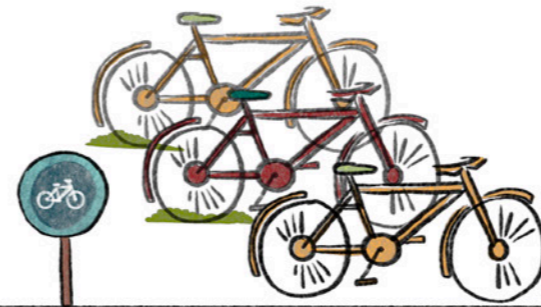


6 **COMPREHENSIVE BICYCLE PLAN**
Intended as the primary guidance document for the city to allocate resources, undertake projects and evaluate outcomes to improve cycling, proposing the creation of over 400kms of cycling-friendly streets, making Pune the first city to adopt such a plan

2017

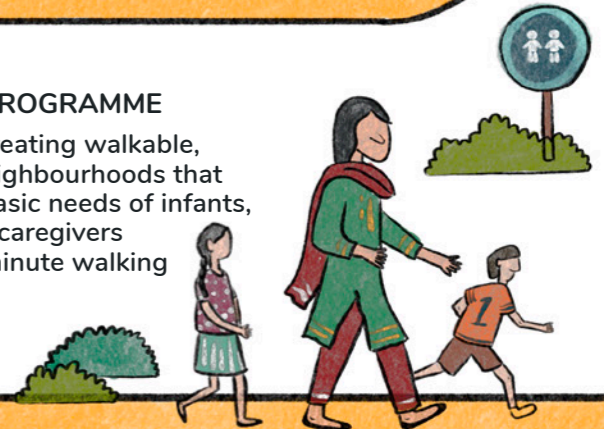


7 **PUBLIC BICYCLE SHARING (PBS) SYSTEM**
Piloted with four PBS operators to provide bicycles on rent as an efficient mode of commute and last-mile connectivity for public transport users



8 **URBAN 95 PROGRAMME**
Focused on creating walkable, mixed-use neighbourhoods that cater to the basic needs of infants, toddlers, and caregivers within a 15-minute walking distance

2018





POLICIES AND PLANS

The city has adopted a **Pedestrian Policy** to ensure priority for walking and cycling, and a progressive **Parking Policy** to streamline parking. Pune also became the first Indian city to create an ambitious **Comprehensive Bicycle Plan** to promote cycling.

Pune has set a benchmark for a walking- and cycling-friendly city. To ensure a holistic approach towards creating efficient and liveable streets, the city has adopted various progressive policies and plans guiding the transformation on ground.

V.G. Kulkarni

Chief Engineer - Road Department

Pedestrian Policy

Walk Smart

2016

The Walk Smart Policy was drafted with the vision of making Pune a pedestrian-friendly city. It provides recommendations to create footpaths, safe crossings, and pedestrian-only areas, streamline carriageways, and restrict vehicle speeds.

The policy covers mandatory features for pedestrian infrastructure and a standardised procedure for deciding types of crossing to be planned based on the local context.

The policy prioritises pedestrians and cyclists over vehicles.



Ghole Road
Source : ITDP India

Parking Policy

2016

Pune is India's first city to have a progressive Parking Policy. The policy aims to improve street management and equitably allocate road space for all modes and uses.

The Pune Municipal Corporation adopted the policy with the goal of discouraging the use of private vehicles. It emphasises and provides recommendations for efficient parking management, including maintenance, integration with other modes, traffic safety, and enforcement.

The policy highlights that parking is not a right but a commodity.



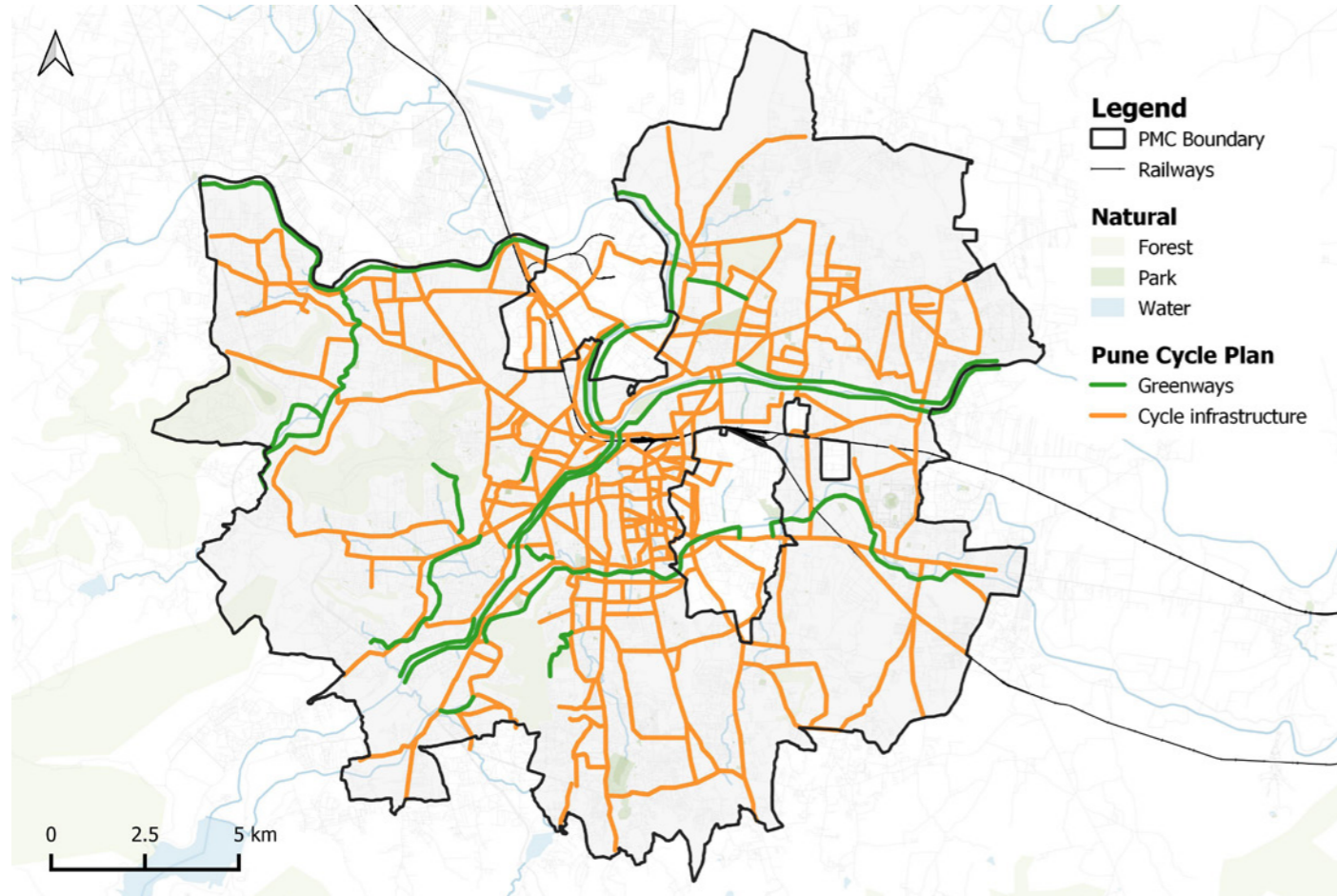
JM Road
Source : ITDP India

Comprehensive Bicycle Plan

2016

The Comprehensive Bicycle Plan was intended as the primary guidance document for the city to allocate resources, undertake projects, and evaluate the outcomes towards achieving the goals set for improving cycling in Pune.

It envisages the creation of over 400 kilometres of city-wide cycling infrastructure. It provides recommendations for planning of cycle parking, integration with transit, enforcement, public bicycle sharing system, and monitoring & evaluation (M&E).





GUIDELINES

Pune has adopted guidelines for walking- and cycling-friendly street design. These guidelines help define and initiate a process to ensure that appropriate street types and street design elements are used to **create better streets for pedestrians and cyclists.**

The guidelines have empowered engineers, planners, and designers at PMC to design and execute a people-friendly street network with infrastructure focused on improving the quality of life of citizens.

Vijay Kumar Shinde

Superintendent Engineer - Road Department

Urban Street Design Guidelines

2016

The guidelines define the process for designing streets, provides design templates for streets of different widths, and sets the standards for street elements. The document illustrates how good design can transform Pune's streets into safer, healthier, and more liveable public spaces. The guidelines are based on the **key principles of safety, equitable allocation of road space, convenience, and ecological sustainability.**

Pune is the first Indian city to adopt Urban Street Design Guidelines.

Urban Cycling Design Guidelines

2017

This document supports the Urban Street Design Guidelines with specific focus on improving cycling infrastructure to create a city-wide cycling ecosystem.

The guidelines provide detailed recommendations for cycling-friendly street design. Additionally, the document also recommends awareness and outreach programmes to rejuvenate the culture of cycling in the city.



JM Road

Source : ITDP India



FC Road

Source : ITDP India



STREET DESIGN PROGRAMME

Pune is implementing street design programmes to create walking- and cycling-friendly streets. In 2016, the city initiated the Pune Streets Programme to transform over **100 kilometres of streets**. This is in addition to over **50 kilometres** being redesigned under the Smart Cities Mission.

Pune's commitment to sustainable transport is evident from its on-ground street transformation. Through the Pune Streets Programme, Pune is not just creating safe walking and cycling infrastructure but also developing the city's streets as public spaces where citizens can spend quality time with their friends and families.

Dinkar Gojare

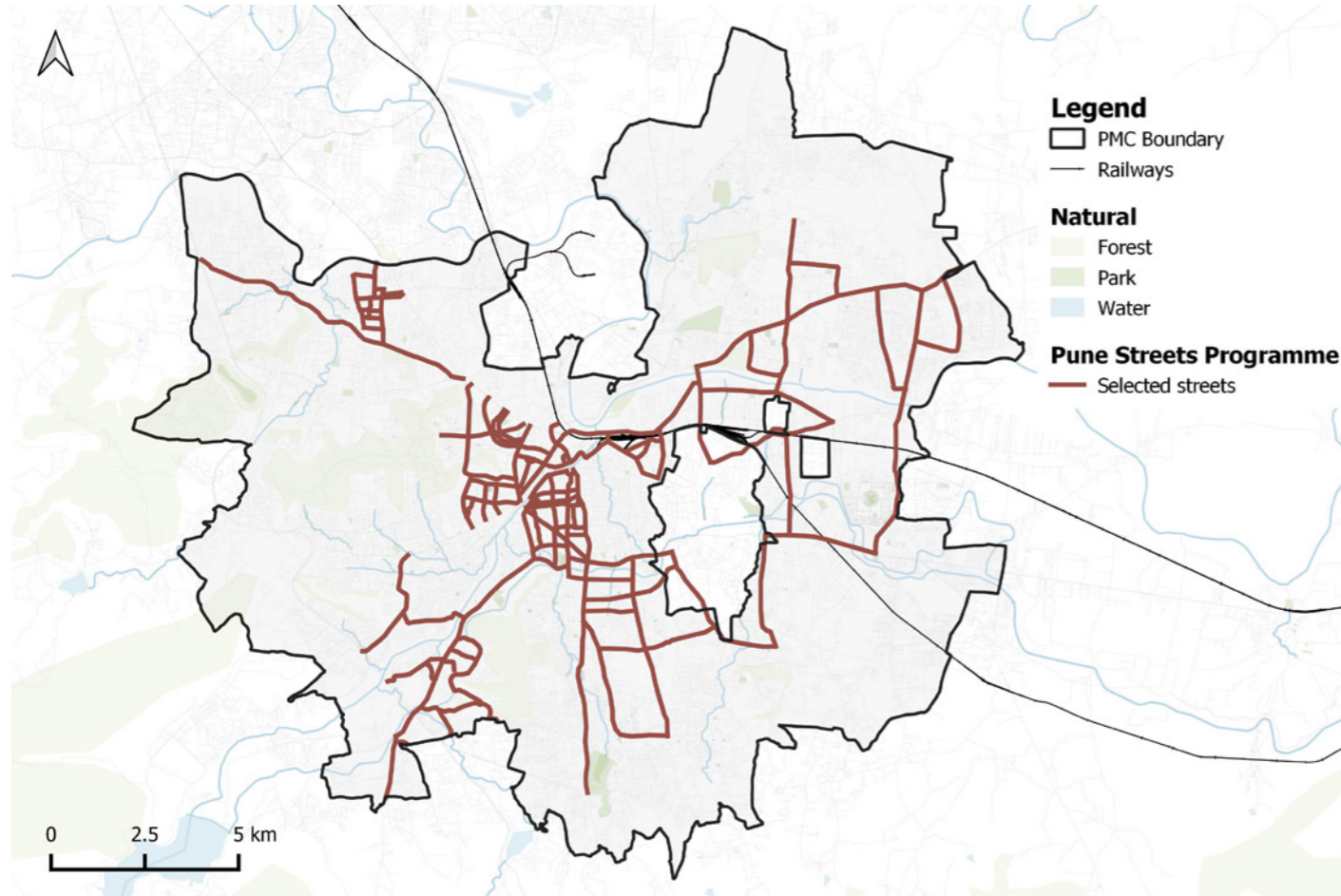
Executive Engineer - Road Department

Pune Streets Programme

2016

Taking a holistic approach to the design of streets under the Urban Street Design Guidelines, the city is redesigning over 100 kilometres of streets across the city with wide, safe, and continuous footpaths and cycle tracks.

The city hired national-level urban design consultants, planners, contractors, and experts to deliver high quality streets under the supervision of PMC engineers.



Street Design under Smart Cities Mission 2016

As part of the Area-Based Development (ABD) of the Smart City proposal, Pune identified over 50 kilometres of streets for redesign.

The design focuses on developing Complete Streets with safe and compact junctions, continuous footpaths and cycle tracks, better street lighting, with placemaking elements such as landscaping, seaters, play equipment, and outdoor gyms.

Other Street Design Work

Pune has also developed over 1000 kilometres of other major and minor streets as per the Urban Street Design Guidelines with a focus on pedestrians and cyclists. Pune Municipal Corporation is also developing various intersections in the city to make them safer.

An in-house team of urban designers and architects at the Pune Municipal Corporation have designed these streets.



Urban95

2018

Urban95 focuses on urban development that caters to the basic needs of Infants, Toddlers, and their Caregivers.

Inspired by traffic plazas found in Copenhagen, the Pune Municipal Corporation created a children's traffic park at Bremen Chowk, Aundh to raise awareness on road safety from an early age.



Children's traffic park at Bremen Chowk

Source : ITDP India

Public Bicycle Sharing System

2017

Pune piloted a dockless Public Bicycle Sharing system with 4000 cycles. As part of this system, four operators made bicycles available for hire and launched bicycle-sharing apps. About 800 cycle parking locations were marked across the city.

The city is currently revamping its Public Bicycle Sharing system.



JM Road

Source : ITDP India



INSTITUTIONAL REFORMS

Pune has implemented institutional reforms to support the transformation of streets across the city. This includes the creation of task forces and cells with experts to oversee planning, implementation, and maintenance of various non-motorised transport (NMT) initiatives.

The city has established an **NMT and Urban Design Cell**, a **Planning Cell**, a **Bicycle Department**, and a **Parking Management Cell**. The city also set up road maintenance vans in 2018 to expedite maintenance and repair of roads.

Road Maintenance Van

Source : ITDP India

PUNE, A PUBLIC TRANSPORT PIONEER

Pune has led the country in public transport innovation. The city operates the fifth largest urban bus fleet and the largest electric bus fleet in India.

To ensure safe, accessible, and reliable public transport services, Pune has made efforts in **improving infrastructure, shifting to green buses, and improving accessibility.**

PMPML is committed to providing safe, affordable, and reliable public transport services to the region. We want to provide a reliable alternative to private motor vehicles and promote sustainable development of the city.

Dr. Rajendra Jagtap, IDES

Chairman & Managing Director, PMPML



Sangvi Phata - Kiwale BRT Corridor

Source : ITDP India

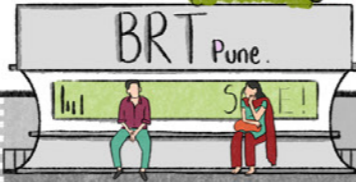
PUNE'S PUBLIC TRANSPORT

A TIMELINE

2006

1 PILOT BRT

Pune became the first city to pilot a Bus Rapid Transit (BRT) system in India.



2007

2 FORMATION OF PMPML

Transport bodies of Pune and Pimpri-Chinchwad were merged to form the Pune Mahanagar Parivahan Mahamandal Limited (PMPML) to provide efficient and seamless services to the two interdependent cities.



2009

3 SHIFT TO CNG BUSES

PMPML decided to permanently shift to CNG buses and stopped procuring large diesel buses.



2015

4 RAINBOW BRT

Pune launched the Rainbow Bus Rapid Transit (BRT) system, one of the largest and most used in the country.

RAINBOW BRT.



2019

5 ROLLOUT OF ELECTRIC BUSES

With the largest e-bus fleet, Pune became the first Indian city to have a dedicated e-bus depot.

E-BUS DEPOT
PMPML





IMPROVING INFRASTRUCTURE

Not only was Pune the **first Indian city to test a Bus Rapid Transit (BRT) system in 2006**, it also used the learnings from the pilot to **launch the Rainbow BRT system in 2015**.

The city has focused on institutional efficacy with the formation of the **Pune Mahanagar Parivahan Mahamandal Limited (PMPML)**. PMPML controls, monitors, and maintains the bus operations in the city. It leverages data to enhance the performance of the bus services and experience of the passengers.

Sangamwadi - Vishrantwadi BRT Corridor

Source : ITDP India

Pune Pilot BRT

2006

Pune became the first Indian city to pilot a Bus Rapid Transit (BRT) system in December 2006. The pilot was launched with 10 new air-conditioned buses on a 16.2 kilometres-corridor stretching from Hadapsar to Katraj via Swargate.

The pilot BRT in Pune served as a milestone in the evolution of BRT in India. The pilot provided important lessons in design, infrastructure, and operations, and led to the city implementing a completely revamped Rainbow BRT system in 2015.

Formation of PMPML

2007

In 2007, the Pune Mahanagar Parivahan Mahamandal Limited (PMPML) was formed with the merger of the Pune Municipal Transport (PMT) and the Pimpri-Chinchwad Municipal Transport (PCMT) into a single entity. Ever since, the PMPML has served as a dedicated institution providing safe, affordable, and efficient bus services to commuters in both cities.

PMPML operates over 2100 buses, making it the fifth largest bus fleet in the country.



Pilot BRT

Source : Nitin Warriar



Dange Chowk BRT Station

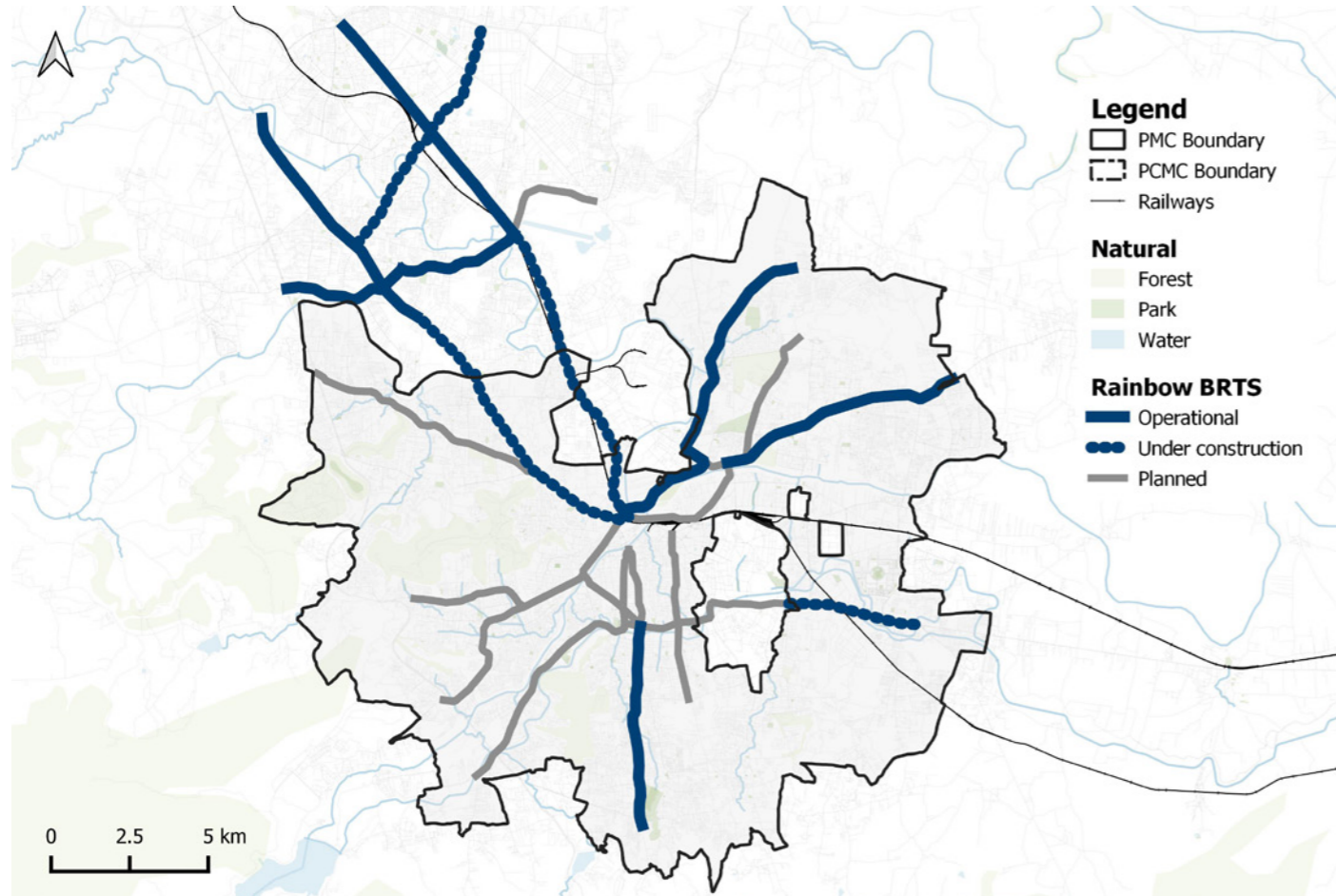
Source : ITDP India

Rainbow BRT

2015

In 2015, the city launched the Rainbow BRT system, building on learnings from the pilot in 2006. The Rainbow BRT comprises high-quality, best-practice design features.

Currently, the Rainbow BRT has over 60 kilometres of dedicated corridors and over 1700 BRT-compliant buses.



Features of Rainbow BRT include:

- Dedicated corridors with median stations;
- Universally accessible ramps to the stations, level boarding with sliding doors;
- Passenger information system at the BRT stations with real-time service information, informative displays, and route maps;
- Intelligent Transit Management System (ITMS) for real-time bus tracking.
- Automated Fare Collection System (AFCS)

A state of the art transport command and control centre was also set up to monitor performance and service levels, which includes:

- Vehicle health monitoring system across 1,080 buses with intelligent kits and back-end maintenance management system;
- CCTV surveillance and panic buttons on 1000 buses to improve security.

Since its launch, millions of commuters have enjoyed high-quality bus rides in the city. For passengers, the biggest incentive has been the savings in travel time. With dedicated bus lanes that allow the Rainbow buses to move faster, commuters can reach their destinations sooner.





SHIFTING TO GREEN BUSES

Pune has been a forerunner in initiating environment-friendly innovations in urban mobility. From diesel buses, the city decided to **shift permanently to CNG buses** and has also made the **leap to electric buses**, with the **largest electric bus fleet** in the country.

Swargate-Hadapsar Pilot BRT Corridor

Source : ITDP India

Shift to CNG Buses

2009

PMPML received its first fleet of CNG buses under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) scheme in 2009. Currently, PMPML has over 1500 CNG buses as part of its fleet.

The CNG buses are more efficient in performance, cheaper to operate, and have received positive feedback from commuters. Therefore, PMPML decided to permanently shift to CNG buses and stopped procuring large diesel buses.



Sangamwadi - Vishrantwadi BRT Corridor

Source : ITDP India

Rollout of Electric Buses

2019

Pune procured 150 electric buses through the Smart City project funding. Consequently, the city assembled the largest electric bus fleet in the country. Pune also became the first city to initiate procurement of BRT-compliant electric buses and to allocate two exclusive depots for the electric buses. Pune has plans to expand the electric bus fleet to 650.

The Bhekrai Nagar bus depot is India's first and largest e-bus depot. The city has also identified new locations for depots and plans to build a network of charging infrastructure.



Bhekrai Nagar E-bus Depot

Source : ITDP India



IMPROVING ACCESSIBILITY

Pune has made several strides in making transport safe and accessible for all. With **digital innovations** and **inclusive transport options**, the city has prioritised its citizens to improve urban mobility.

Rainbow BRT
Source : ITDP India

Tejaswini Bus Service

2018

Tejaswini buses were launched on the International Women's Day in 2018 as an **exclusive service for women with specially branded yellow buses and women conductors.**

The service aims to ensure safe and comfortable travel for women. PMPML also offers free rides for women on the eighth day of every month.



Woman Conductor in Tejaswini Service
Source: ITDP India

ATAL Bus Service

2020

PMPML launched a new bus service, ATAL (Aligning Transit on All Lanes) to decongest the core city and provide frequent feeder service to terminal points at an affordable rate. The buses are available every 5 minutes and citizens can travel up to 5 kilometres at ₹5.

While public transport is losing ridership all over the country, the ATAL scheme seeks to increase bus ridership and encourage the use of public transport post lockdown.



ATAL service
Source: PMPML

Raatrani Night Bus Service

2019

PMPML started a night bus service for commuters travelling from the **Pune railway station to major parts of the city**, giving them a safe and affordable alternative to rickshaws and taxis.



Sangamwadi Vishrantwadi BRT Corridor
Source: ITDP India

ABHI Bus Service

2020

PMPML launched a new bus service, ABHI (Airport Bus for Business Home and Hotel Interconnectivity) in October 2020. The service runs from the Lohegaon airport to five major locations in Pune and Pimpri-Chinchwad, which include Swargate, Hadapsar, Kothrud, Nigdi, and Hinjewadi.

The bus service aims to benefit more than 9 million passengers alighting at the Pune Airport and decongest the immediate vicinity.



ABHI buses at airport
Source: PMPML

Bus Day 2012 & 2020

Pune organised its first Bus Day in 2012 to encourage commuters to take the bus instead of their private vehicles. To that effect, PMPML operated about twice the number of buses. **The day saw a huge reduction in traffic and resulted in an improved travel experience for users.**

The Pune Bus Day made a comeback in 2020. The revenue collection that day increased by over 30 per cent. As commuters enjoyed less crowded and more frequent buses, PMPML has decided to organise more bus days.

CARISMA 2020

CARISMA (Color Coding All Routes to Identify Simplify Maps and App) is an innovative colour coding scheme to help commuters to differentiate between more than 140 routes operated by PMPML. The colour-coded route maps and buses make identification of the direction and destination easier for the commuters.

The route information will be available at the bus stops, inside and outside the buses, and on the mobile app. Commuters can also scan QR codes to view detailed route information.



Yerawada-Wagholi BRT Corridor
Source : ITDP India



Deccan Gymkhana bus station
Source : ITDP India



STEPPING INTO A SUSTAINABLE FUTURE

Pune has shown the way in embracing a holistic approach to sustainable transport. Over the last two decades, Pune has consistently taken steps to improve walking, cycling, and public transport across the city.

The city has created safe, healthy, and happy streets for its people by improving walking and cycling infrastructure. The city's foresight in launching CNG and electric buses to accelerate a shift to cleaner and greener transport has made Pune a role model for cities across the country. Lastly, Pune's focus on putting people first by improving accessibility and inclusivity through its revamped streets, and introduction of services like the Tejaswini women-only bus service and the Raatrani night bus service shows a citizen-centric approach to decision making.

Despite some challenges along the way, Pune remains committed to expand these initiatives and build on their success. Undoubtedly, the city's transformation will serve as an inspiration for other Indian cities to follow Pune's lead and take a leap towards sustainable urban mobility.



Prepared for Pune Municipal Corporation by

