
Move
inSync

DECONGESTING
BENGALURU

MOBILITY SYMPOSIUM 2024

Executive Summary

Bengaluru, ranked the 3rd most congested city in the world, has seen vehicle numbers grow much faster than its population. Commuters lose about 2 hours daily in traffic, costing the city ₹20,000 crore annually in economic losses from congestion and delays.

MoveInSync in collaboration with ORRCA hosted the first Mobility Symposium on October 3, 2024, at The Leela Palace, Bengaluru. The event, with the theme 'Unlocking Urban Growth by Decongesting Indian Cities' was held to create a forum that brings together multiple stakeholders to address the pressing challenges of urban congestion. The symposium aimed to find innovative solutions for better mobility in Indian cities.

Key Recommendations from the Mobility Symposium:

1. **Increasing Buses for Public Transport:** From 2014 to 2024, Bengaluru's population grew 1.5 times while bus numbers stayed at ~6,000. The city needs 16,800 buses but faces a 10,000-bus deficit. This causes overcrowding and poor coverage, forcing residents to use private vehicles, worsening traffic. BMTC fleet expansion is crucial.

2. **Legislative Amendments in the Karnataka Motor Vehicle Act:** The lack of public buses can be filled by private players, but BMTC's monopoly on stage permits (for picking up and dropping passengers along fixed routes) prevents private operators from filling the public bus shortage with shared bus/shuttle services. Providing stage carriage permits to private operators would legalize shuttle services and ride-sharing for cabs and autos, thus promoting shared mobility and reducing private vehicles.

3. **Improvement of First and Last Mile Connectivity:** 60-65% of metro riders use personal vehicles, autos, or ride-hailing for the last 3-4 kilometers to stations, revealing a major connectivity gap. To bridge this, feeder buses can be deployed to connect transit stations with key areas. Private shuttle operators can be permitted through amendments to the Karnataka Motor Vehicle Act. It is also necessary to implement walking and cycling infrastructure and parking facilities near transit stations.

4. **Operationalize the Central Body for Urban Mobility Planning - Bangalore Metropolitan Land Transport Authority (BMLTA):** Urban mobility in Bengaluru is managed by multiple agencies (BDA, BMRDA, Traffic Police, BMTC, BBMP, BMRCL, Transport Department) each operating under separate laws. Lack of coordination among these institutions hampers transport development. Karnataka established the BMLTA in 2007 to integrate all transport agencies, but remains non-functional after 18 years. An active BMLTA is needed to prepare a Comprehensive Mobility Plan and oversee the City Mobility Investment Program.

5. **Establishment of Nodal Agency for Private Investments in mobility:** Bengaluru lacks a streamlined process for private sector participation in mobility. Businesses investing in local infrastructure must navigate multiple agencies, delaying development. A nodal agency with a single-window system should coordinate investments across BBMP, BMTC, Metro, and Traffic Police. Clear frameworks for infrastructure investment, CSR funding, and maintenance partnerships will drive development.

6. **Formulate a Data Sharing Framework for Integrated Multi Modal Journeys:** Urban mobility in Bengaluru is now a digital service, with public and private operators generating valuable data. An integrated, open digital infrastructure can enable seamless multi-modal travel, giving commuters better choices in time, cost, safety, and comfort. BMLTA should enable real-time data sharing, protect user privacy, and integrate digital payments across different modes of transport.

7. **Improving accessibility for pedestrians and cyclists - Pass the Karnataka Active Mobility Bill, 2022:** The Karnataka Active Mobility Bill, 2022, should be passed to ensure safe, accessible pedestrian and cycling networks for all. It promotes sustainable urban mobility and healthier communities.

8. **Collaboration and Partnerships with GCC:** Bengaluru hosts over 30% of India's GCCs, but poor public transport, road conditions, and street lighting make commuting difficult, reducing productivity and increasing costs. A collaborative public-private effort is needed to improve infrastructure and promote shared transport to sustain investments. GCCs should incentivize eco-friendly commuting, encourage public transport, provide cycle parking and promote car-free alternatives.

Introduction

Bengaluru's population has experienced a dramatic surge, doubling from 71 lakhs in 2006 to 1.4 crore in 2024[1]. However, vehicle numbers have grown at an even faster pace, **doubling in just a decade**—from 55.26 lakhs in 2011-12 to 1.04 crore in 2022[2]. The city's commuters now spend an average of 8% of their daily time traveling to and from work, with one-way commute times increasing by 15% in five years, rising from 51 minutes in 2019 to 59 minutes in 2024[3].

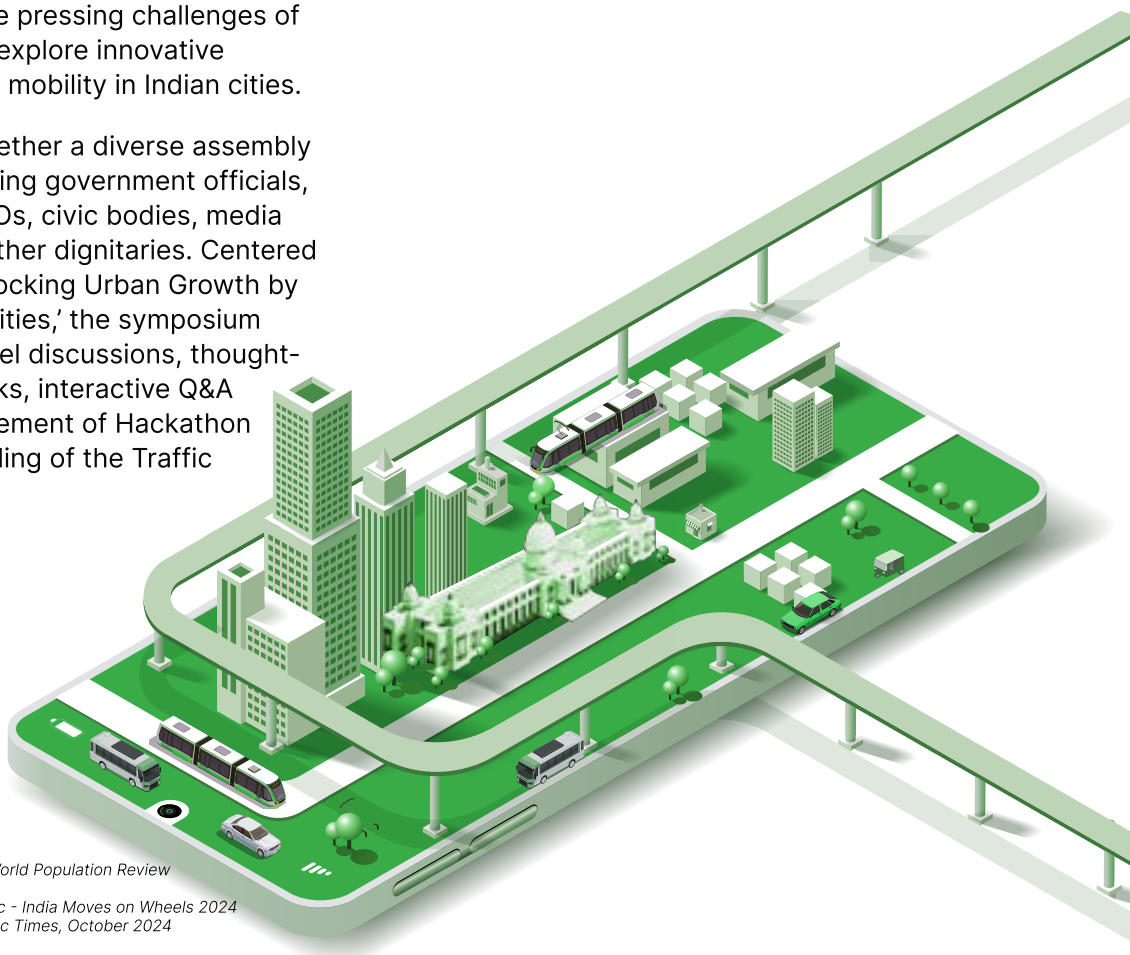
The economic and personal costs of this congestion are staggering. Bengaluru loses ₹20,000[4] crore annually to delays, stoppages, and traffic congestion. On average, individuals spend 257 hours each year stuck in traffic—time in which you can cover over half the Earth's circumference[5]. Bengaluru was ranked the 3rd most congested city in the world in 2024, underscoring the urgent need for comprehensive solutions.

Mobility Symposium

On October 3, 2024, MoveInSync, world's largest employee commute platform, in collaboration with the Outer Ring Road Companies Association (ORRCA), hosted the inaugural Mobility Symposium 2024 at The Leela Palace, Bengaluru. The Mobility Symposium was established as a dynamic platform to address the pressing challenges of urban congestion and explore innovative solutions for improving mobility in Indian cities.

The event brought together a diverse assembly of stakeholders, including government officials, corporate leaders, NGOs, civic bodies, media representatives, and other dignitaries. Centered around the theme 'Unlocking Urban Growth by Decongesting Indian Cities,' the symposium featured engaging panel discussions, thought-provoking spotlight talks, interactive Q&A sessions, the announcement of Hackathon winners, and the unveiling of the Traffic Quality Index (TQI).

This report outlines recommendations proposed by BPAC, Urban Morph, WRI, BangaloreWALKS, ORRCA and other stakeholders during the Mobility Symposium to address Bengaluru's traffic challenges.



[1] *Bangalore, India Population 2024 - World Population Review*
[2] *The Hindu, August 2022*
[3] *The New Indian Express, MoveInSync - India Moves on Wheels 2024*
[4] *IT Minister Priyank Kharge - Economic Times, October 2024*
[5] *Caltech - Cool Cosmos*

Key Recommendations

Increasing Buses for Public Transport and Legislative Amendments in the Karnataka Motor Vehicle Act

Improvement of First and Last Mile Connectivity

Operationalize the Central Body for Urban Mobility Planning - Bangalore Metropolitan Land Transport Authority (BMLTA)

Establishment of Nodal Agency for Private Investments in mobility

Formulate a Data Sharing Framework for Integrated Multi Modal Journeys

Improving accessibility for pedestrians and cyclists - Pass the Karnataka Active Mobility Bill, 2022

Collaboration and Partnerships with GCC

Increasing Buses for Public Transport and Legislative Amendments in the Karnataka Motor Vehicle Act:

Bengaluru currently operates with just 6,747 BMTC buses (out of which only 5,817 schedules are operational)[6], while studies indicate a requirement of 16,800[7] buses to adequately serve the city. This massive deficit of over 10,000 buses has led to overcrowded buses, long wait times, and inadequate coverage of many areas, forcing citizens to rely on private vehicles and contributing to the city's notorious traffic congestion.

This can be approached through:

Direct expansion of the BMTC fleet through government investment to procure the additional 9,000+ buses needed.

Allow private players to enter the market and supplement BMTC's services, bringing in both additional capacity and innovative service models.

[6] BPAC and BMTC, as of 7th January 2025
[7] World Bank Report; World Bank suggests the presence of 1.2 buses per 1000 population in an urban environment

Proposed Changes:

Increase the fleet size: of BMTC buses to 16,800 from 5,817 operational BMTC buses at present. Further, bus route optimisation can improve utilisation, reduce duplication and release capacity to cover areas hitherto unconnected.

Given the significant capital investment required for fleet expansion and the government's financial constraints, **private sector participation presents a viable and potentially faster solution.**

The primary obstacle to private sector participation lies in the **Motor Vehicles Act's distinction between Stage Carriage and Contract Carriage permits.** Stage carriage permits allow vehicles to pick up and drop passengers along a fixed route at predetermined stops - essentially the standard bus service model. Currently, these permits are monopolized by BMTC in Bengaluru. Contract carriage permits, which most private operators hold, only allow point-to-point travel without intermediate stops, severely limiting their ability to provide efficient public transportation services.

The 2019 Amendment to the Motor Vehicles Act has created a pathway for change by explicitly granting state governments the authority to issue licenses to aggregators and modify permit regulations. The Act empowers states to frame guidelines for digital intermediaries and marketplaces in transportation services. This authority extends to regulating various aspects of transportation services, including permit issuance, pricing models, and service standards.

While **Karnataka currently restricts stage carriage permits exclusively to public operators,** several other states have already exercised this authority to modernize their transportation systems. **Delhi, Haryana, Tamil Nadu, and Kerala have implemented provisions allowing private stage carriage permits for shared mobility operators,** demonstrating the feasibility and potential benefits of such regulatory reforms. Karnataka has the opportunity to learn from these examples and implement similar progressive policies to address its transportation challenges.

Proposed amendments to the Karnataka Motor Vehicles Act, 1988:

Provide Stage Carriage Permits to private players to legalise private bus services and ride-sharing for existing cabs and autos. This will enhance connectivity to metro stations, bus terminuses, bus stops, and suburban rail stations.

Introduce clear definitions for ridesharing, carpooling, and vanpooling to establish a regulatory framework.

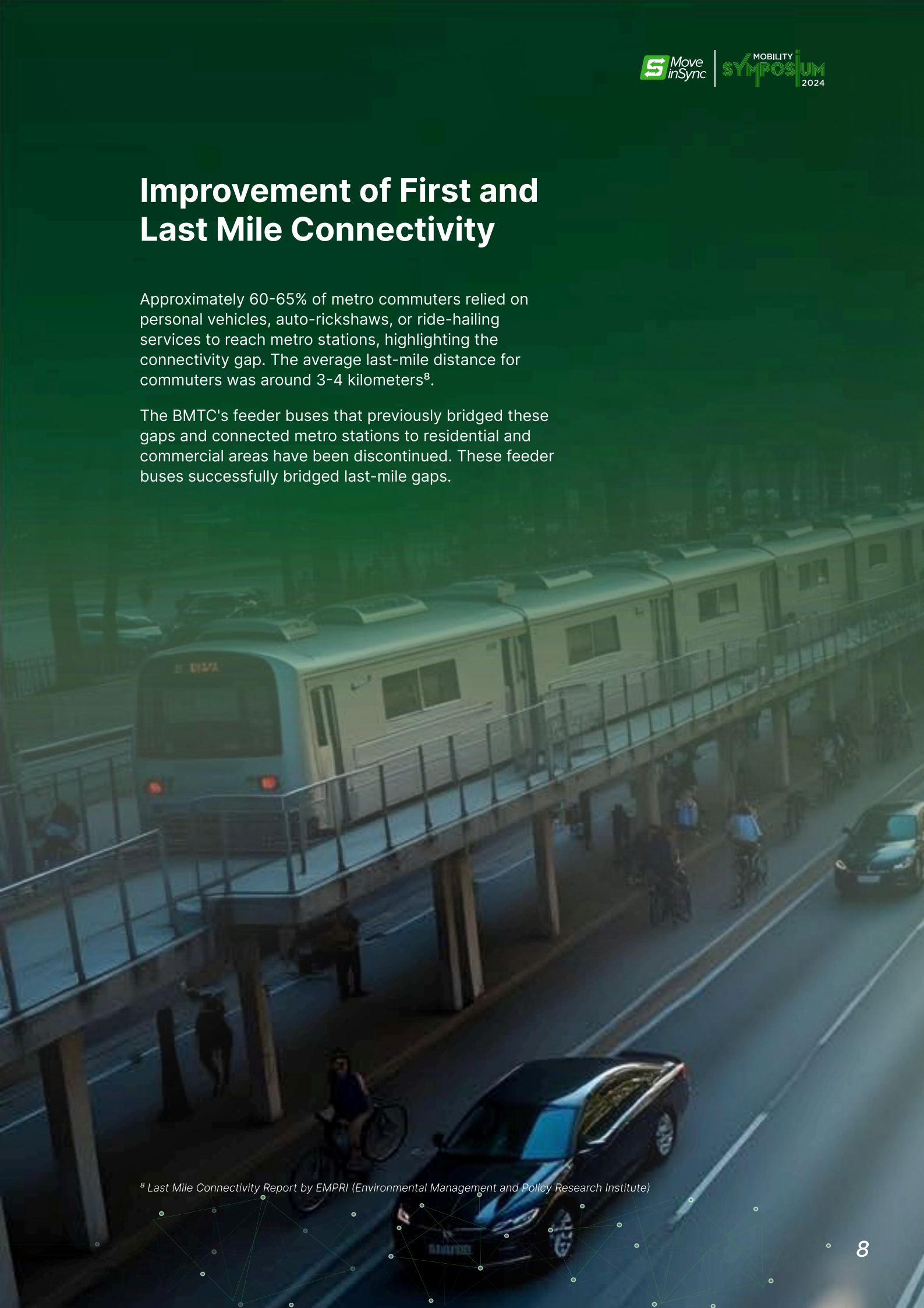
Allow carriage licenses for non-commercial vehicles
to promote shared mobility services like bike pooling and carpooling.

Develop separate regulatory regimes for shared cabs and autos, private shuttle services, and car and bike pooling, considering their distinct business models.

Improvement of First and Last Mile Connectivity

Approximately 60-65% of metro commuters relied on personal vehicles, auto-rickshaws, or ride-hailing services to reach metro stations, highlighting the connectivity gap. The average last-mile distance for commuters was around 3-4 kilometers[8].

The BMTC's feeder buses that previously bridged these gaps and connected metro stations to residential and commercial areas have been discontinued. These feeder buses successfully bridged last-mile gaps.



[8] *Last Mile Connectivity Report by EMPRI (Environmental Management and Policy Research Institute)*

Proposed Changes:

1. **Transit Station to Industrial Corridors/ Company Campuses:** Connecting transit stations to IT and business parks via mass transit can significantly reduce private vehicle use for first and last-mile connectivity.

   Example: 37 feeder buses introduced from KR Puram station to tech parks in ORR under the #Personal2Public campaign successfully bridged the gap between metro stations and industrial corridors. Expanding such feeder bus services with improved frequency and reliability will further enhance connectivity.

2. **Transit Station to Public Places (e.g., Shopping Malls or Large Hospitals):** Extending connectivity from transit stations to high-footfall public places is essential.

   Areas like Commercial Street in Bengaluru could benefit from shuttle or e-auto services linking them to nearby metro stations, making last-mile connectivity easier for shoppers and visitors.

3. **Residential Areas to Transit Stations:** Introducing shuttle or feeder bus services on fixed routes between residential localities and transit stations can close the first and last-mile gaps.

   Example: HSR Feeder Bus service is a model that can be replicated for other area

4. **Identified location for Feeder Bus Pilots (trial focused on high-density traffic areas with limited parking availability):**

   MG Road – Commercial Street

   Byappanahalli – Whitefield

   ORR – Indiranagar Metro Station

5. The Transport Department should **permit private operators to run shuttle services** from transit stations in line with the proposed amendments to the Karnataka Motor Vehicle Act.

6. Ensure budget allocation and time-bound implementation of **walking and cycling infrastructure** outlined in the UDD/DULT Comprehensive Mobility Plan of 2020. Safe Tendersure quality footpaths/cycle tracks within 1km of all public stations along with camera surveillance.

7. **Parking infrastructure**, including bicycle parking, for first and last mile mobility providers around the transport terminals like BMRCL stations, Bus stations and Suburban railway stations.

Operationalize the Central Body for Urban Mobility Planning - Bangalore Metropolitan Land Transport Authority (BMLTA)

Urban mobility in Bengaluru is currently managed by multiple agencies including BDA, BMRDA, Traffic Police, BMTC, BBMP, BMRCL, and the Transport Department - each operating under separate legislations with distinct frameworks.

The lack of coordination among various institutions and their different regulatory frameworks is hindering efficient urban transport development. A recent example is the Indiranagar infrastructure project, where BBMP's white-topping and footpath works damaged electrical infrastructure. The repair now requires a ₹1 Crore tender approval from the DCM, but interdepartmental delays are stalling the process. This situation highlights how fragmented governance impedes essential urban development projects.

Following the National Urban Transport Policy (2006) recommendation of establishing a Unified Metropolitan Transport Authority (UMTA), Karnataka pioneered the establishment of Bangalore Metropolitan Land Transport Authority (BMLTA) in 2007 to integrate all land transport agencies, enabling more efficient coordination and streamlined action in areas such as vision, funding, and operations. **Despite the BMLTA Act 2023 mandating its formation within six months, the authority remains non-functional after 17 years.**

Chennai has benefitted from a similar organisation called the Unified Metropolitan Transport Authority (CUMTA), plans to launch a common mobility app with unified ticketing for MTC buses and Chennai Metro Rail while also taking over the Mass Rapid Transit System (MRTS). Their Comprehensive Mobility Plan spans 5,904 sq. km and prioritizes multi-modal connectivity to encourage public transport usage over private vehicles.[9]

[9] *Official CUMTA Website*

Proposed Changes:

Enactment of the BMLTA Act: Creating an active authority responsible for preparation of Comprehensive Mobility Plan, review, and approval of the City Mobility Investment Program prepared in accordance with the Comprehensive Mobility Plan.

As per the Act passed, the BMLTA body should consist of 33 members chaired by the Chief Minister of Karnataka. 16 members from the body will be part of the Executive Committee which will be chaired by the Chief Secretary to the State Government.

Establishment of Nodal Agency for Private Investments in mobility

Currently, there is no formalized process for private sector participation in Bengaluru's mobility solutions, leading to fragmented initiatives across different agencies. If a Global Capability Center (GCC) wants to invest in improving infrastructure directly outside their premises, they have to coordinate with 5-6 different stakeholders to do so. This lack of framework is holding back infrastructure development, as we're unable to effectively leverage private capital for public good.

The Bangalore Metro Rail Corporation Limited (BMRCL) demonstrates how successful public-private partnerships can be. Companies like Embassy[10] and Intel[11] have each invested ₹100 crores, while Biocon[12] has contributed ₹65 crores for metro station development. BMRCL also has a formalised model for Median Greening and Maintenance under corporate CSR initiatives.

Different agencies have found isolated success: BMRCL with station adoption, Bangalore Traffic Police with corporate-sponsored traffic wardens, and BBMP with some CSR partnerships. However, this fragmented approach means companies wanting to contribute must navigate multiple stakeholders independently. A model worth emulating is the Bangalore Climate Action Plan (B-CAP), which acts as a single nodal agency coordinating between various departments for climate-related initiatives.

[10] Hindustan Times, September 2024
[11] Franchise India, February 2018
[12] Deccan Herald, October 2020

Proposed Changes:

1. Establish a nodal agency specifically for coordinating private investments in mobility initiatives across departments (BBMP, BMTC, Metro, Traffic Police). Develop a single-window system for private sector participation in mobility solutions
2. Align with existing initiatives like the Bangalore Climate Action Plan (B-CAP) to ensure coordinated efforts

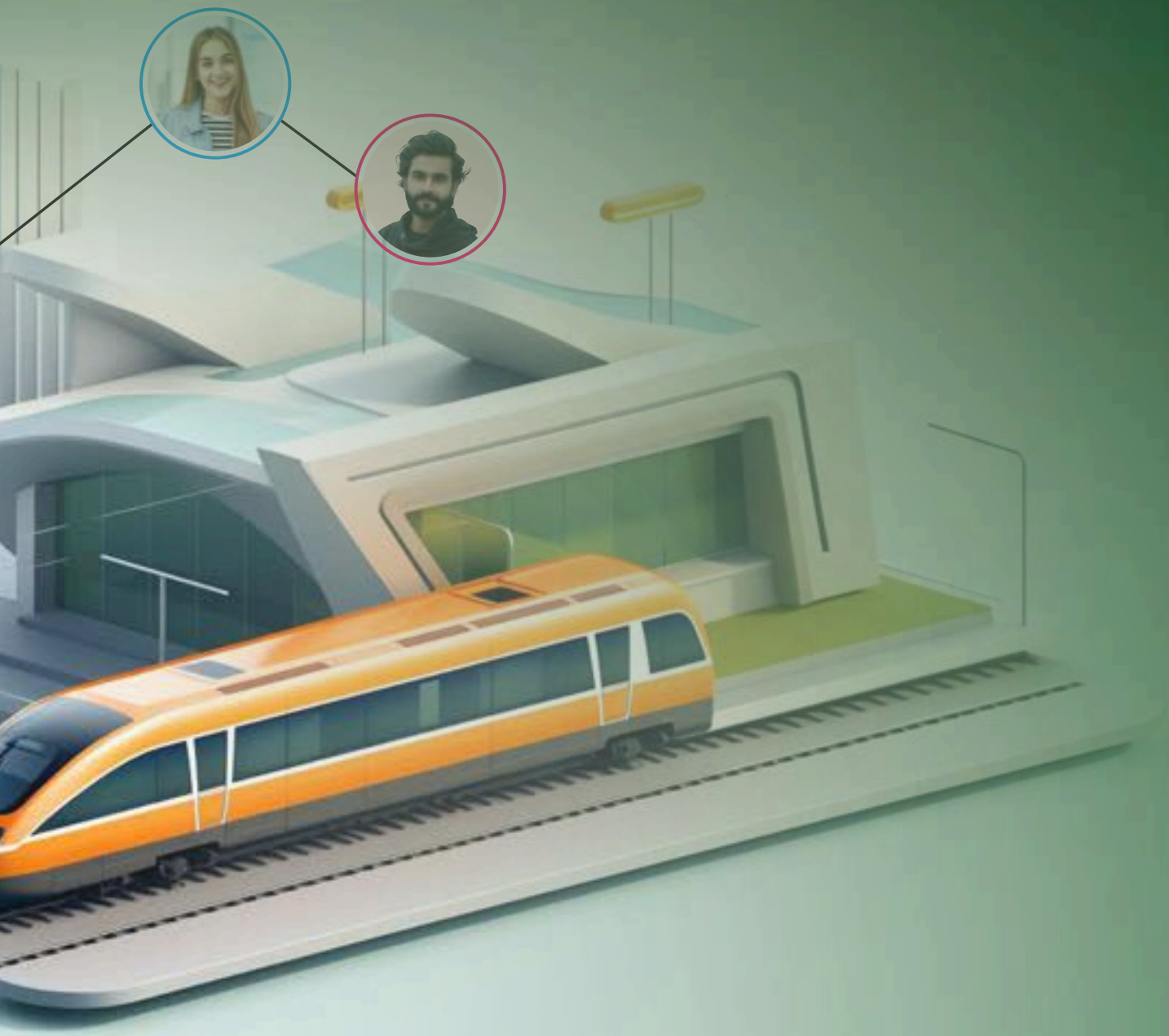
a. Focus on both new infrastructure development and maintenance of existing facilities

3. Create clear frameworks for three types of private sector engagement:

a. Direct infrastructure investment (like BMRCL's station adoption model)

b. CSR funding for infrastructure improvements (following the model of India Rising Trust's walkability and under-flyover area improvement initiatives)

c. Maintenance partnerships (similar to corporate-sponsored traffic wardens)



Formulate a Data Sharing Framework for Integrated Multi Modal Journeys

Urban mobility in Bengaluru has evolved into a digital service, with numerous operators (BMTC, BMRCL, BTP, and private players such as Namma Yatri, Uber, Ola, Rapido) generating valuable data through every journey. Integrated, open digital infrastructure that enables multi-modal journeys (both public and private) would allow seamless integration of different transport modes, offering commuters choices in terms of time, cost, safety, and comfort.

For example, in Delhi, the Delhi Integrated Multi-Modal Transit System (DIMTS), a 2006 PPP between Government of the National Capital Territory of Delhi (GNCTD) and the Infrastructure Development Finance Company (IDFC), coordinates and manages integrated transport systems across the capital[13]. It streamlines planning and implementation of transit projects while focusing on technology integration and improved commuter services.

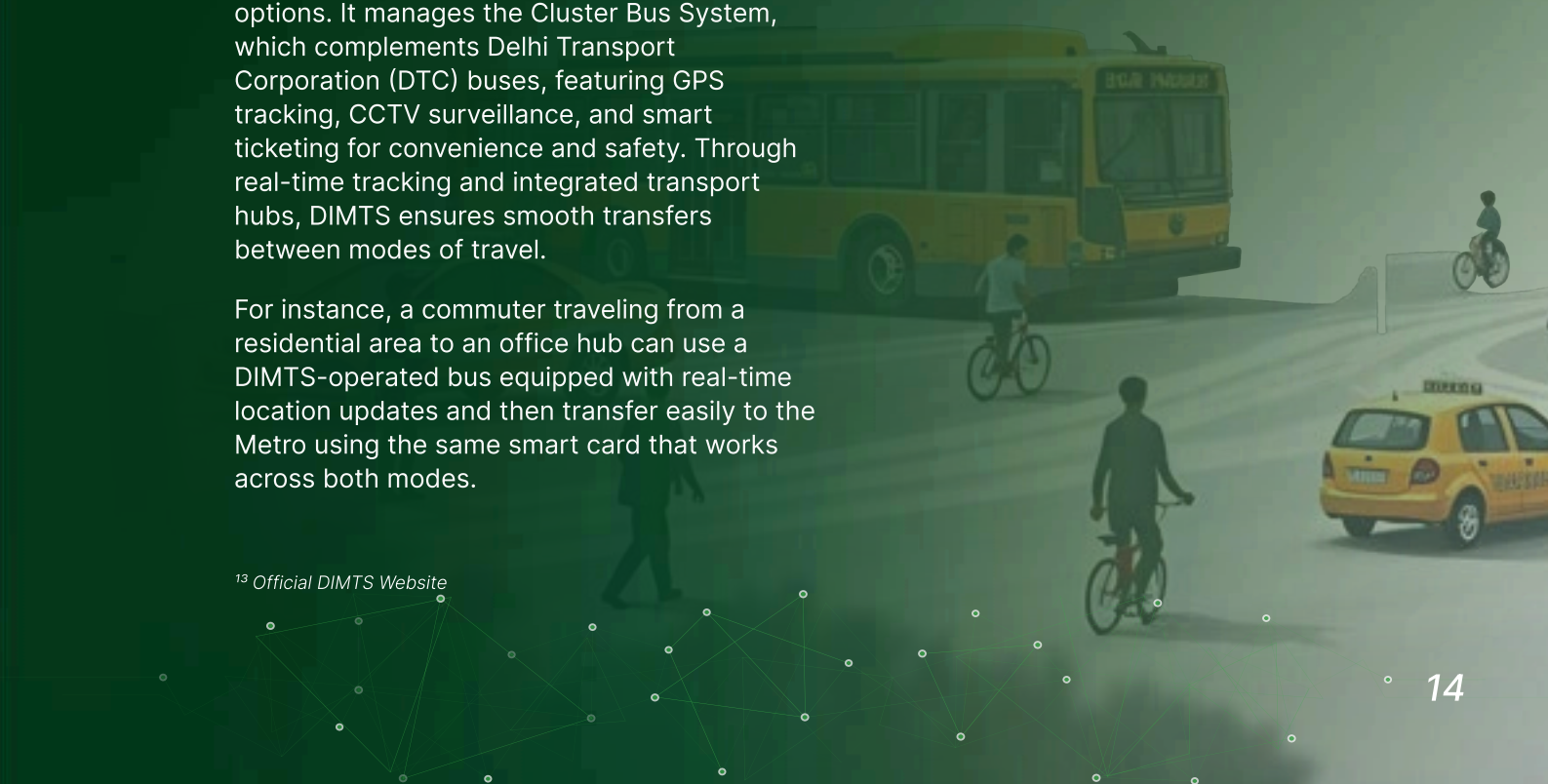
DIMTS facilitates seamless multi-modal transportation by connecting various transit systems like buses, metro, and non-motorized options. It manages the Cluster Bus System, which complements Delhi Transport Corporation (DTC) buses, featuring GPS tracking, CCTV surveillance, and smart ticketing for convenience and safety. Through real-time tracking and integrated transport hubs, DIMTS ensures smooth transfers between modes of travel.

For instance, a commuter traveling from a residential area to an office hub can use a DIMTS-operated bus equipped with real-time location updates and then transfer easily to the Metro using the same smart card that works across both modes.

In Bengaluru, currently, critical mobility data remains scattered across multiple departments: transport licenses and permits with the Transport Department, road network and land-use data with BBMP and BDA, traffic violations data with BTP, and bus operations data with BMTC. This dispersed data management hinders evidence-based planning and prevents the development of integrated mobility solutions for the city's transportation challenges.

Past attempts at data sharing have encountered several significant challenges:

1. Fundamental lack of trust among mobility operators, who view their data as a competitive advantage. Without clear incentives, operators have been reluctant to participate in voluntary data sharing initiatives.
2. Shared or collected data often lacks authenticity and traceability to real journey transactions, making it less reliable for planning and decision-making.



[13] *Official DIMTS Website*

Proposed Changes:

To establish an effective open digital infrastructure, the Government of Karnataka, under BMLTA, should implement the following framework:

1. Develop an infrastructure that recognizes and builds upon operators' primary incentive: generating more rides. The system should enable users to discover additional ride opportunities beyond their individual capacity, particularly in first and last-mile connectivity.
2. Shift to real-time data generation through an open transaction platform, replacing the current post-journey data collection approach.
3. Implement comprehensive data protection measures, ensuring anonymized, aggregate-level public access while safeguarding traveler and operator information.
4. Form a dedicated Mobility Data Council with public-private representation to develop frameworks and oversee pilot implementations of the digital infrastructure.
5. Consider adoption of established solutions like the Beckn protocol from Open Shared Mobility Foundation as the technical backbone for data sharing initiatives.
6. Implement digital payment systems across state RTC transport modes to improve user experience and revenue collection efficiency.

Improving accessibility for pedestrians and cyclists - Pass the Karnataka Active Mobility Bill, 2022

The Karnataka Active Mobility Bill, 2022 needs to be passed. The Bill was drafted to provide for the rights of pedestrians and cyclists of all ages, abilities, and genders to safe, accessible, and connected pedestrian and cycling networks in urban areas of the State. It aims to promote sustainable urban mobility and build healthy communities. The Bill holds Urban Local Bodies accountable for ensuring:

1. Complete and connected urban streets with pedestrian and cycling networks.
2. Slow Zones and Pedestrianised Streets/Zones and removal of obstructions.
3. Redevelopment and new development of streets.
4. First and last mile connectivity to Public Stations through sustainable modes of transport.
5. Standards and Guidelines around the responsibilities of motor vehicle drivers towards Pedestrians and Cyclists
6. Regulation of Shared Micro-mobility and Public Bicycle Sharing systems, and facilitation of Public Bicycle Sharing systems.
7. Education, Awareness generation, Monitoring and Enforcement of Code of Conduct on the expected behaviour of pedestrians, cyclists, and drivers.
8. Promoting Research and Innovation.
9. Offences and Penalties.

When enacted, the Active Mobility Bill is expected to transform urban landscapes in Karnataka by prioritizing pedestrian and cyclist safety, thereby fostering a more sustainable and health-conscious community.

Collaboration and Partnerships with GCC

Bengaluru has cemented its status as India's premier destination for Global Capability Centers (GCCs), hosting over 30% of the country's GCCs with more than 500 centers[14]. The city currently employs 35%[14] of India's total GCC workforce, supported by its best-in-class GCC ecosystem and highest expat friendliness. Building on this strong foundation, Karnataka has set an ambitious target to double its GCC presence, aiming to host 1,000 centers by the end of 2029[11].

Bengaluru's rapid urbanization has critically outpaced its basic infrastructure, creating significant challenges for workplace accessibility. The inadequate public transport facilities, deteriorating road quality, and poor street lighting severely impact employees commuting.

Employees face grueling daily commutes characterized by extended travel times, unsafe transportation conditions, and unpredictable transit schedules. These challenges not only reduce workforce productivity but also increase operational costs for companies, potentially discouraging future GCC investments.

Addressing these challenges requires a collaborative effort between the public and private sectors. Alongside infrastructure improvements, private companies should actively promote public and shared transport, while the government must enable and support such initiatives.

[14] Karnataka GCC Policy 2024-2029 Draft

Proposed Changes:

Motivate GCCs to promote sustainable transportation by offering incentives for eco-friendly behaviors, such as the #Personal2Public initiative, encouraging employees to use public transport twice a week.

Incorporate into the GCC policy a requirement for companies with more than 20 employees to provide cycle parking facilities and offer incentives to employees who opt for alternatives to car usage.

Promote partnerships between tech parks, companies, and BMRCL to enhance urban mobility in Bengaluru.

Consider adoption of established solutions like the Beckn protocol from Open Shared Mobility Foundation as the technical backbone for data sharing initiatives.