सत्यमेव जयते
GOVERNMENT OF INDIA
MINISTRY OF HOUSING AND URBAN AFFAIRS

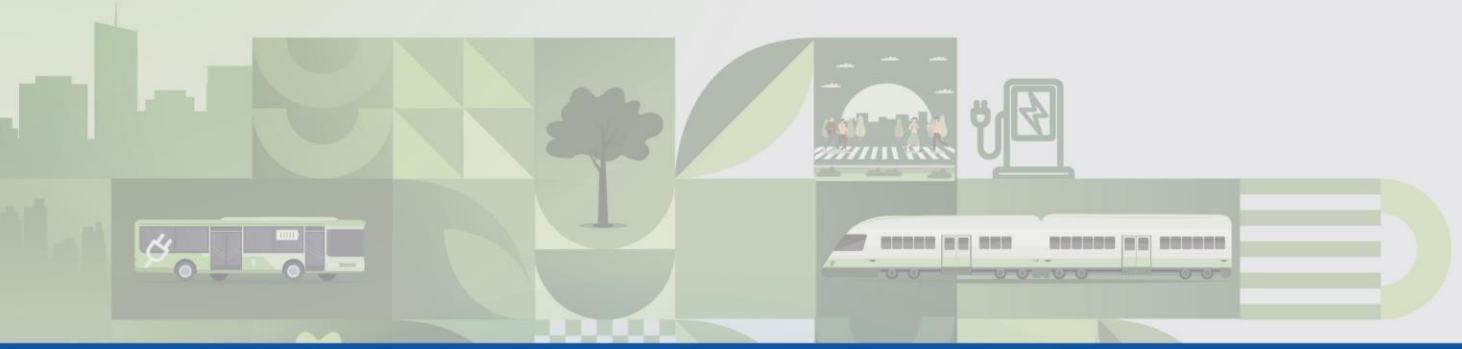
18TH URBAN MOBILITY INDIA

CONFERENCE & EXPO 2025

URBAN DEVELOPMENT & MOBILITY NEXUS

GURUGRAM, HARYANA | 7TH–9TH NOV 2025

FUTURE CITIES AND INNOVATIVE MOBILITY SOLUTIONS



www.urbanmobilityindia.in

Future Cities

- Cities that integrate mobility, environment, digital governance and climate resilience into one unified planning framework.
- Designed to be compact, resource-efficient, human-centric and capable of sustaining high density without compromising livability.

Urbanisation and Growth Trends

17% In 1951

36% In 2021

50% By 2047

India's Urbanisation Trends

53 cities

>1mil. Population

10-12% annually

Motorisation in India

45% decadal sprawl

Urban Sprawl in Indian cities

42 cities

0.5-1mil. Population

Rapid urbanisation is reshaping India's population and cities.

Rising Demand, Limited Capacity in Bengaluru

Bengaluru's Decadal Population Growth	Growth of Road Infrastructure		Growth of Private vehicles
40%	**<3%**	**vs**	**10%**
2011-2021	annually		annually

Sl no.	Description	Existing Situation in the city	URDPFI Guideline Value
1.	Road Density	8.2 km/sq.km	12-18 km/sq.km
2.	Area under Transportation (RMP 2015)	7.3% of total area	20% of total area

Bengaluru's mobility demand far exceeds available road capacity.

Global Case Studies

Parameters	Seoul	Paris	Berlin	Tokyo
Population (approx. in 2011)	9.7million	2.2million	3.4million	13million
City Structure	Satellite towns linked by metro and express BRT	Suburbs linked with Grand Paris Express (rail based)	Polycentric city connected by S Bahn, U Bahn and Tram	Multiple Employment centres integrated through private-public rail.
Road Density (in km/sqkm)	18.5	25	20	18
Key Reforms	2004 Bus Reform + median BRT + smart card	Plan Vélo: 1,000 km protected cycle network	Berlin Mobility Act prioritising sustainable modes	Rail + LVC based metro expansion.
Impact/Result	+14% bus ridership (first year)	Cycling doubled (2022–2023)	Private vehicle share: dropped from 26% to 22% (2018–2023)	Daily ridership of 6.8million.

Strengthening transit and governance alignment is key for developing future cities.

Key Takeaways from Global Studies

- Public Transport systems like MRT and BRT are what make cities future ready.
- Regional transport systems are necessary to connect people moving in from the satellite towns and city suburbs.
- Mass Transit Systems integrated with sustainable modes (bus and NMT) improve efficiency.

Indian cities are investing heavily into public transport systems and infrastructure to be future ready.

Evolution of MRTS in India

Year	Milestone	System	Operational Systems
1925	First Electrified Suburban Rail (Mumbai) begins	Suburban Rail	6 cities
1984	Kolkata Metro Phase 1 commissioned (India's 1st Metro)	Metro Rail	17 cities
2002	Delhi Metro Phase 1 opens → modern metro era begins	Metro Rail	
2011	**Bengaluru Metro Reach 1 opens – MG Road to Bayyapanahalli**	Metro Rail	
2023	India's first RRTS (Delhi–Ghaziabad–Meerut) priority stretch operationalised	RRTS	1 system across 2 states
2024–2030	MetroLite / MetroNeo / Ropeways	National Integrated MRTS Ecosystem	Proposed Systems.

MRT Systems in Bengaluru

To achieve a PT mode share of 70% by 2035, Bengaluru has invested in different MRT systems

Metro Network

Current Ridership – 8.5 Lakhs

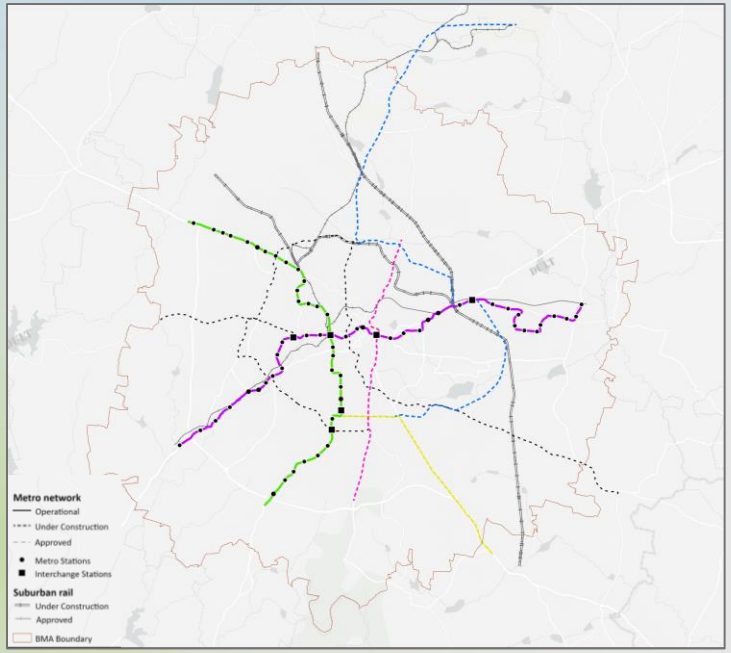
Sl. No.	Status of Metro Network	Network Length	Number of Stations
1.	Operational	96 km	84
2.	Under Construction	77 km	48
3.	Approved	82 km	59

Suburban Rail Network

Sl. No.	Status of Suburban Rail Network	Network Length	Number of Stations
1.	Under Construction	71 km	21
2.	Approved	77 km	29

Feasibility Studies are being undertaken for determining the mode for regional connectivity.

First and Last Mile in Bengaluru



Daily Ridership

31.5 Lakhs

DPR Estimated (2021)

8.5 Lakhs

Current Ridership (2025)

FMLM Mode Share

8%

Public Transport (feeder services)

FMLM Plans underway

84 op. + 30 up.

Metro stations

6

Suburban Rail stations

62 op. + 29 up.

Feeder Services

Lack of reliable feeder services forces 30% of commuters to use private vehicles to access metro stations

Land Use Integration with Transport

Expected to unlock more than 3.5 million sqm of TOD potential over the next five years

TOD

- Core Planning Strategy
- Compact, Mixed use development
- Walkability, Multi modal first-last mile access

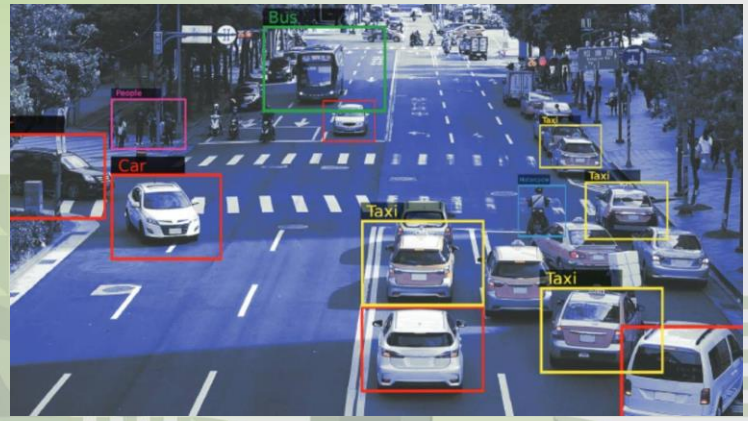
MRTS

- Metro Phase Expansion, Suburban Rail, Bus Priority Lanes
- Capital Outlay of **₹1.5 Lakh Crores**

Future RRTS

- Regional Rapid Transit System (RRTS) Linkages.
- Ensure fast, reliable inter-city and suburban connectivity

Emerging Technologies and EV Transition



100%
EV Public Transport by 2030

7000+
Total No.of Fleet (BMTC)

1425
No.of Electric Fleet (~22.4%)

4500
Additional buses have been sanctioned

46 Lakh
Daily Ridership

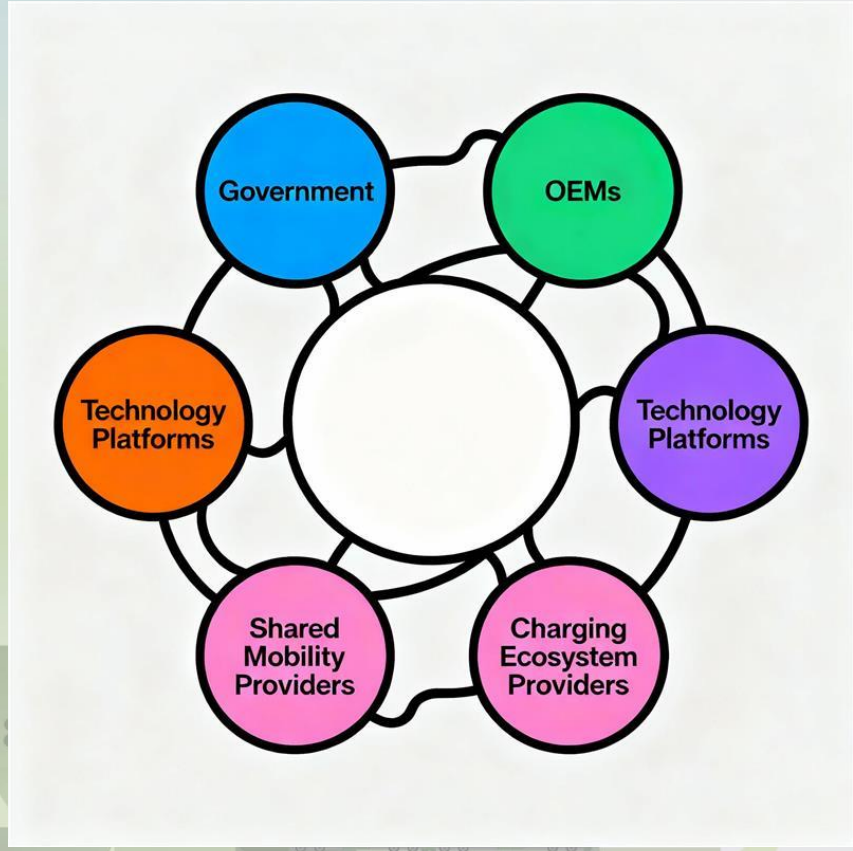
- Deployment of adaptive traffic signal systems and ITS for real-time management
- AVLS-based tracking, digital ticketing, and NCMC-enabled fare integration

- **Metro systems** in Bengaluru are already **NCMC compliant**
- It is being extended **BMTC to enable** interoperable mobility accounts across modes.

The future of Public Transport System is MaaS (Mobility as a Service), which integrates all modes of transport services under one platform.

18TH URBAN MOBILITY INDIA | CONFERENCE & EXPO 2025
URBAN DEVELOPMENT & MOBILITY NEXUS
GURUGRAM, HARYANA | 7TH–9TH NOV 2025

Urban Transformation Through Collaboration



Spatial Restructuring Initiatives

GBDA
6500 acres

KWIN City
5800 acres

KHIR City
2000 acres

North Bengaluru Aero City

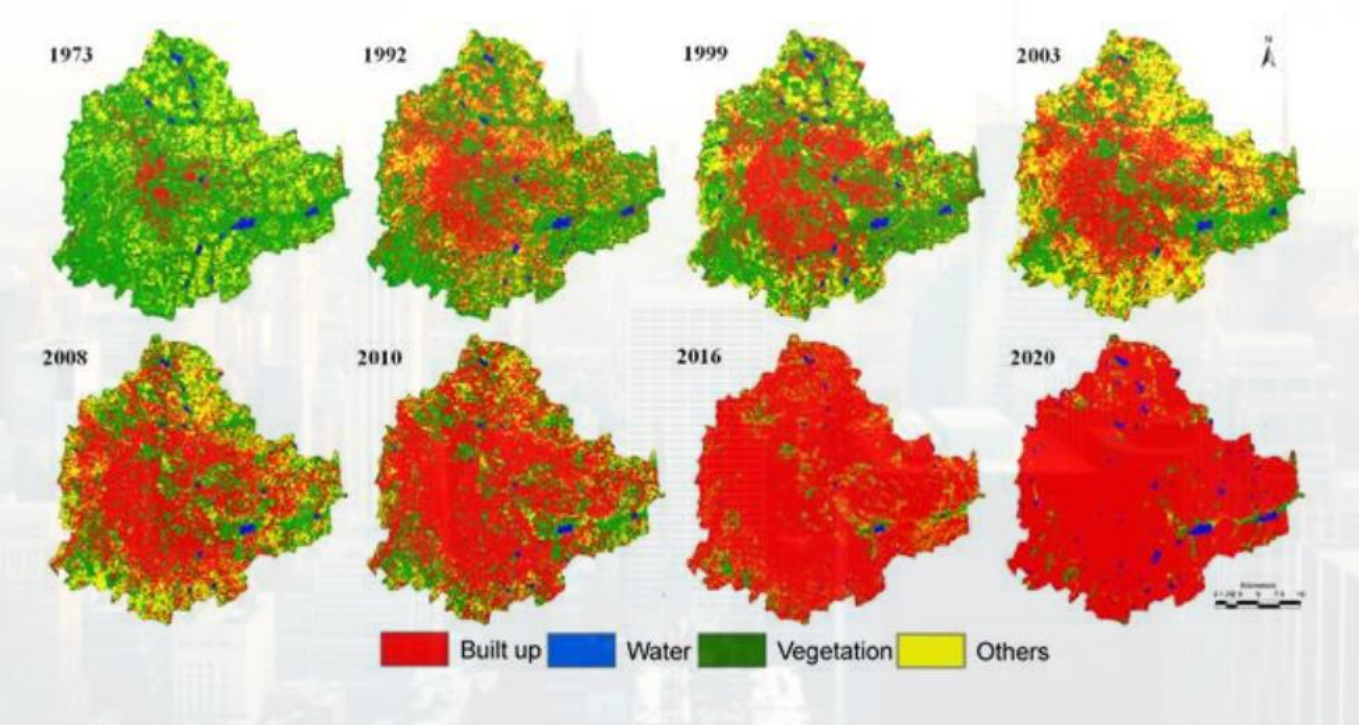
Coordinated efforts towards a polycentric metropolitan development model supported by multimodal mobility corridors and climate responsive urban infrastructure.

Way Forward

- Shift towards **integrated metropolitan scale planning**, aligning land use + mobility + climate investments.
- Prioritize **high-capacity public transport expansion** (Metro + Suburban) along major growth corridors before private vehicle capacity additions.
- Accelerate **citywide multimodal integration through NCMC**, unified mobility accounts and interoperable digital data platforms.
- Implement **TOD-based zoning reforms and station area development** to consolidate growth within compact, mixed-use and low-carbon catchments.
- Scale shared, electric, and demand responsive mobility services to **bridge issues pertaining to first and last mile connectivity** and reduce dependency on private vehicles.
- **Shifting to cleaner technologies** like electric, hydrogen, etc. for reduction in emissions and better air quality.
- Reform institutional coordination mechanisms across transport, land development, environment and industry departments to enable **unified metropolitan governance**.

ADDITIONAL CASE STUDIES OF CITIES WITH EXTENSIVE TRANSIT SERVICES

Scale of Bengaluru Spatial Growth

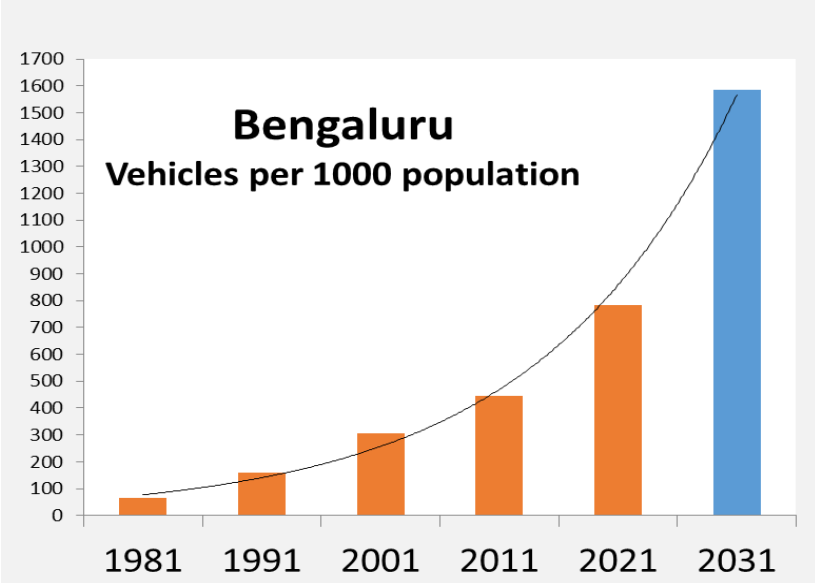


Source: Prof. TV Ramachandran, IISc

BMRDA spans- 138 KM (N-S)
98 KM (E-W)
~ 8000 Sq. Km

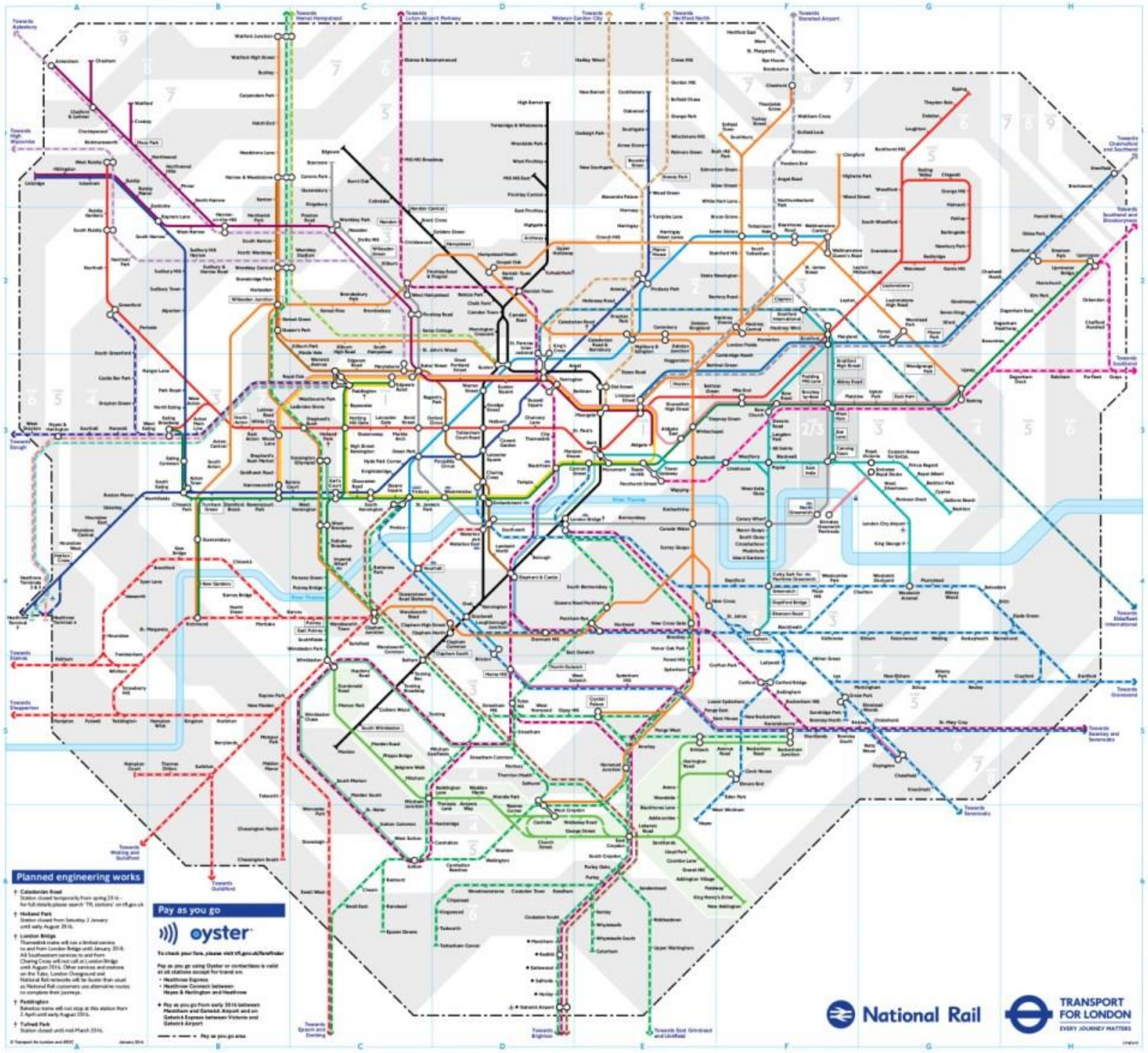
BDA region spans – 45 KM (N-S)
40 KM (E-W)
~1300 Sq. Km

BBMP region spans – 33 KM (NW & E-W)
~741 Sq. Km



Typical public transport systems recommended based on demand

System	Typical Capacities (in PHPDT - Peak Hour Peak Direction Traffic)
City buses	6,000 – 12,000 PHPDT
Bus Rapid Transit	12,000 – 30,000 PHPDT
Metro	20,000 – 60,000 PHPDT
Heavy Rail (Commuter Rail)	Upto 80,000 PHPDT

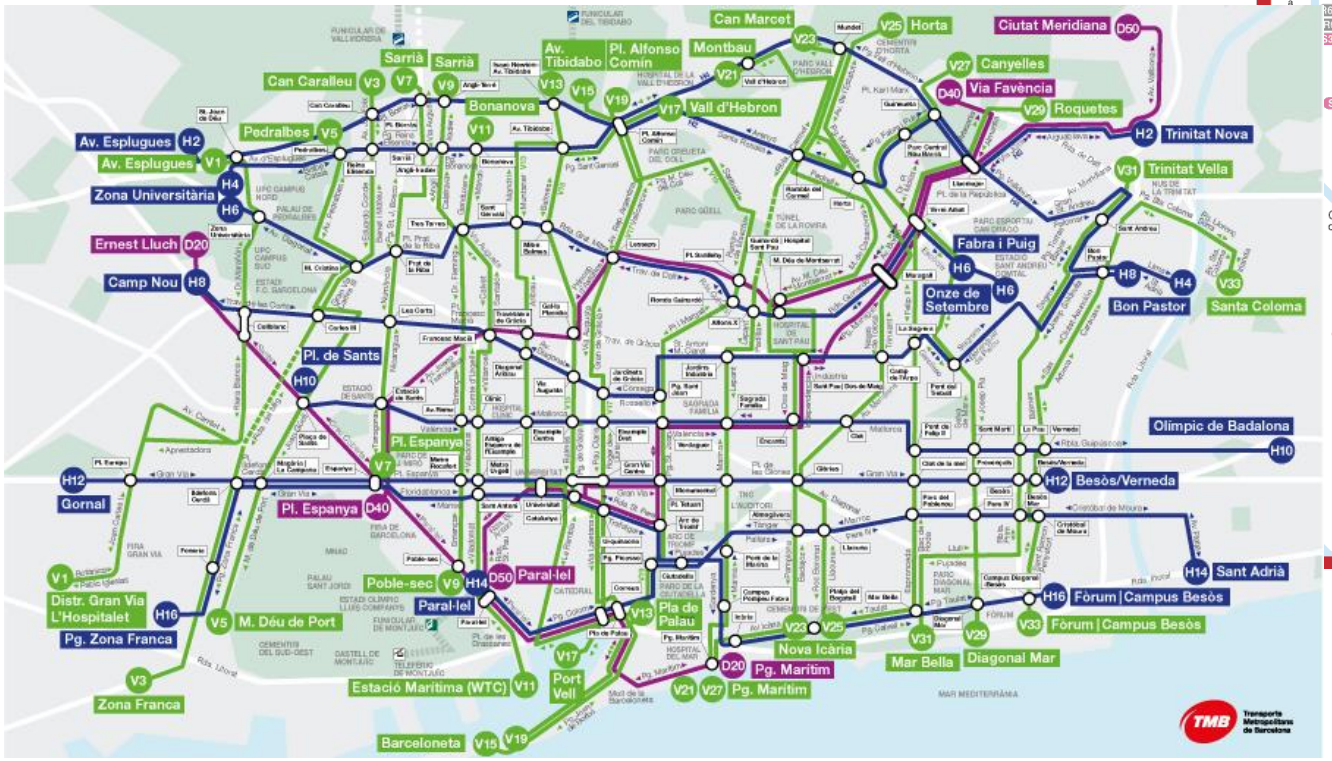


LONDON (1572 Sq. Km)

- Buses - **700 bus routes**, operated with 8700 buses.
- Underground tube – **470 KM** with 272 stations.
- Suburban rail – **167 KM** with 113 stations
- High speed rail – **108 KM**
- All together caters to **110 lakh trips daily**

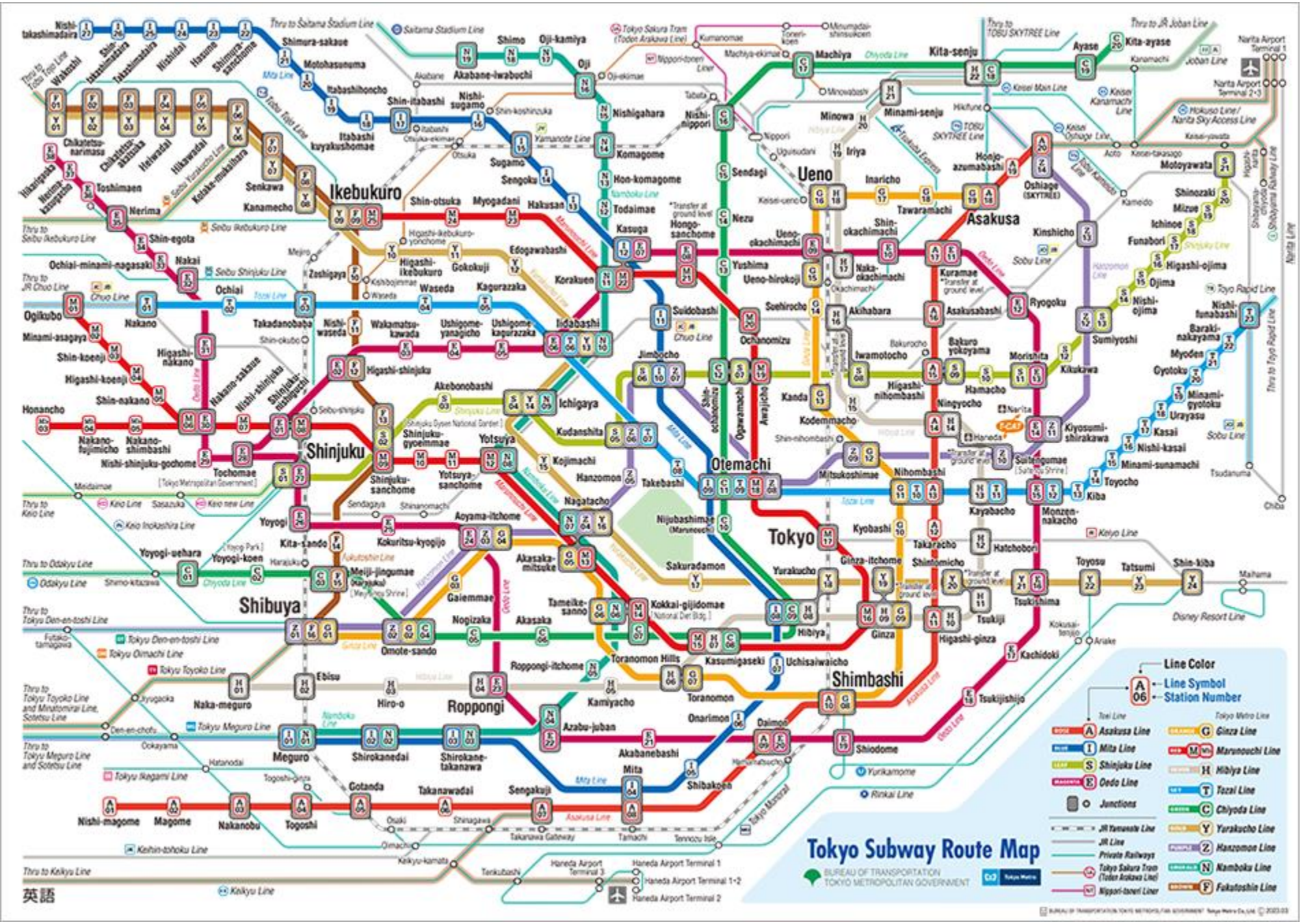
NEW YORK (1213 Sq. Km)

- ❑ Subway rail– **400 KM** with 473 stations.
- ❑ 470 stations operate 24x7, 365 days a year
- ❑ Caters to **57 lakh trips daily**



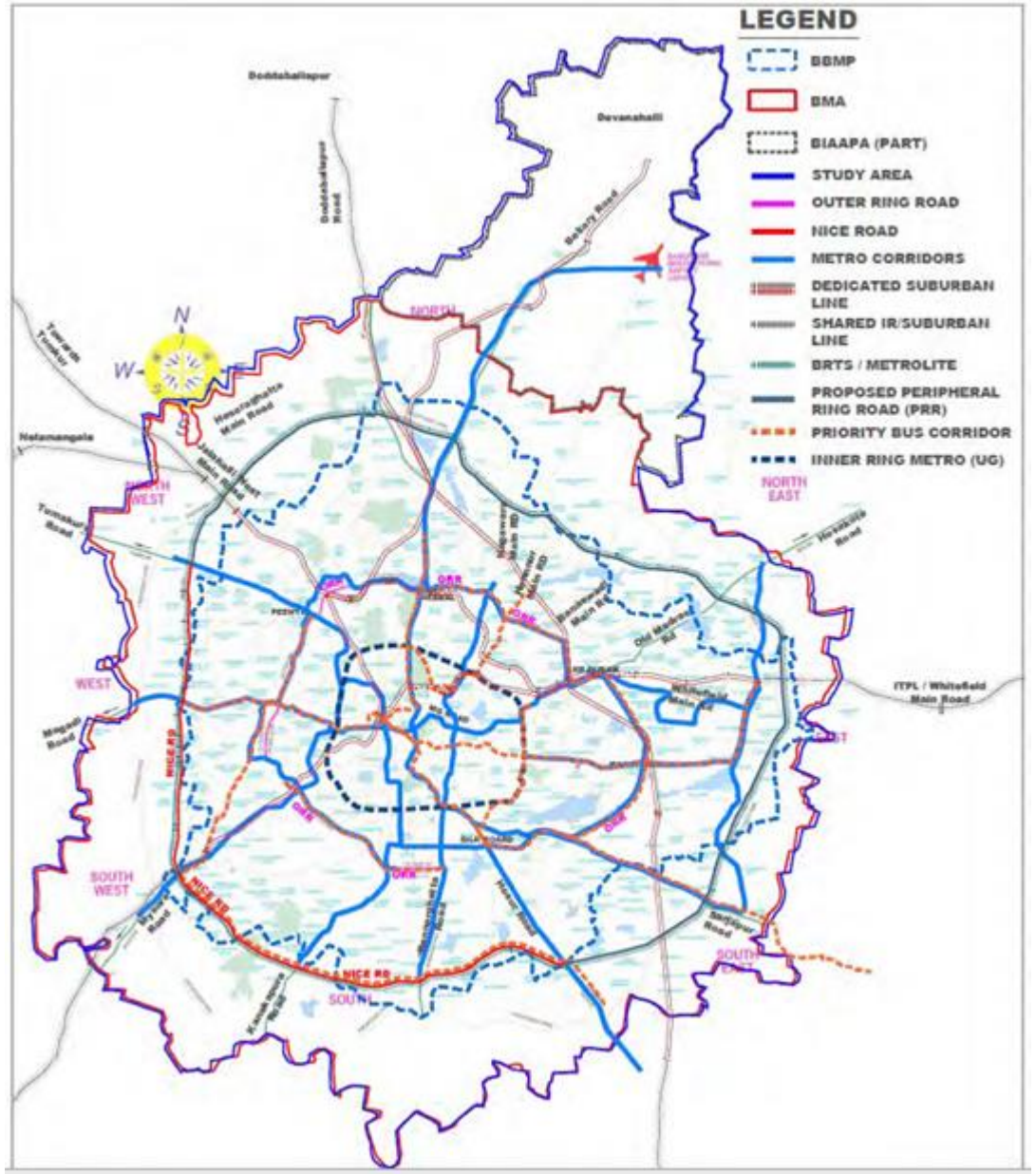
BARCELONA (102 Sq. Km)

- Bus network– **100 routes** operated with 1000 buses.
- Metro network **– 166 KM** with 189 stations
- Bus + Metro caters to ~ **30 lakh trips daily**



TOKYO (2194 Sq.Km)

- Metro network – **195 KM** with 180 stations
- Subway caters to ~ **65 lakh trips daily**



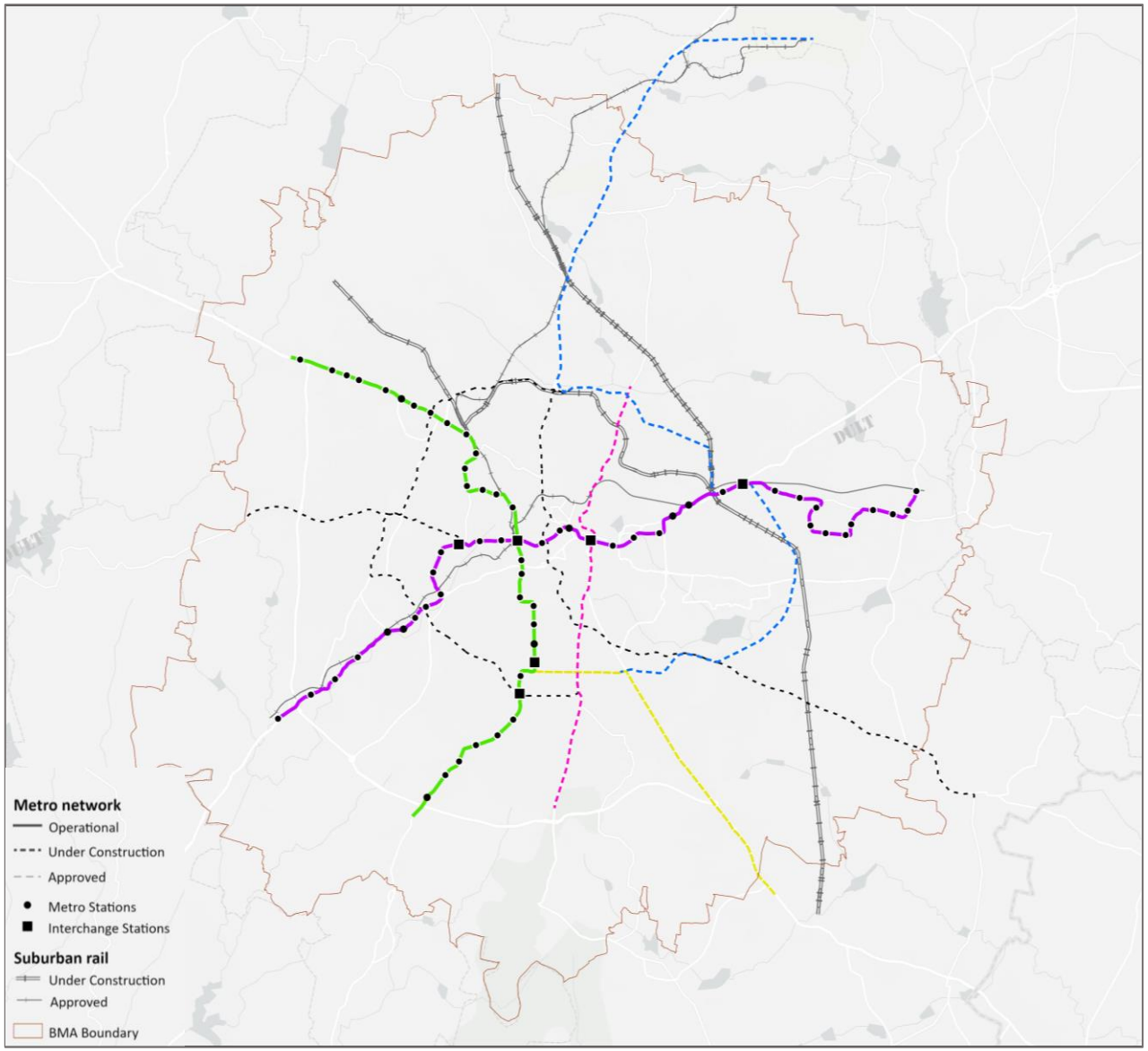
CMP Bengaluru target →

PT mode share to be **70% by 2035**

High Capacity Transit Envisioned for Bengaluru by 2035 in the Comprehensive Mobility Plan

- 317 km of Metro
- 314 km of Suburban Rail
- 107 km of BRTS/Metrolite
- 202 km of Bus Priority Corridors

BENGALURU's PRESENT TRANSIT NETWORK



Metro Network

Status of Metro Network	Network Length	Stations
Operational	96 km	83
Under Construction	77 km	49
Approved	82 km	59
~ 8.5 lakh trips catered daily		

Suburban Rail Network

Status of Suburban Rail Network	Network Length	Stations
Under Construction	71 km	21
Approved	77 km	29

City Bus Service

- 7007 buses (including 1568 EV buses)
- 61,264 bus trips made daily
- 34 lakh people trips catered daily

Daily Ridership by Metro

30 Lakhs/day

DPR Estimate (2021)

8.5 Lakhs/day

Actual (2024)

"Only **28%** of the projected ridership has been achieved."

Potential reasons:

- ✓ Inadequate spatial coverage (network connections)
- ✓ **Lack of first-mile/ last-mile access**
- ✓ **Lack of integration of modes**

Current FMLM Access Modes to Metro

(source: IISc)