



सत्यमेव जयते

Government of Gujarat



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GOVERNMENT OF INDIA
MINISTRY OF HOUSING AND URBAN AFFAIRS



एक कदम स्वच्छता की ओर



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Mobility Solutions for small and medium cities in India

17th Urban Mobility India
Conference & Expo 2024
Standardization and Optimization
of Urban Transport Solutions

CLEANER **AIR** &
BETTER **HEALTH**
PROJECT

Impacting sustainable development at scale with data, integrated analysis, and strategic outreach

TRANSFORMATIONS

Low-carbon Economy

Energy Transitions

Power Markets

Industrial Sustainability

Sustainable Livelihoods

QUALITY OF LIFE

Clean Air

Sustainable Water

Sustainable Food Systems

Sustainable Cooling

Sustainable Mobility

ENABLERS

Sustainable Finance

Technology Futures

Circular Economy

Climate Resilience

International Cooperation

SPECIAL INITIATIVES

CEEW Centre for
Energy Finance

Powering
Livelihoods

Emerging Economies

UP State Office

200+

Multidisciplinary team

320+

Peer-reviewed publications

160+

Instances of increased data transparency

460+

Roundtables & conferences

22

Indian states engaged

110+

Bilateral & multilateral initiatives promoted

17

th Urban Mobility India
Conference & Expo 2024

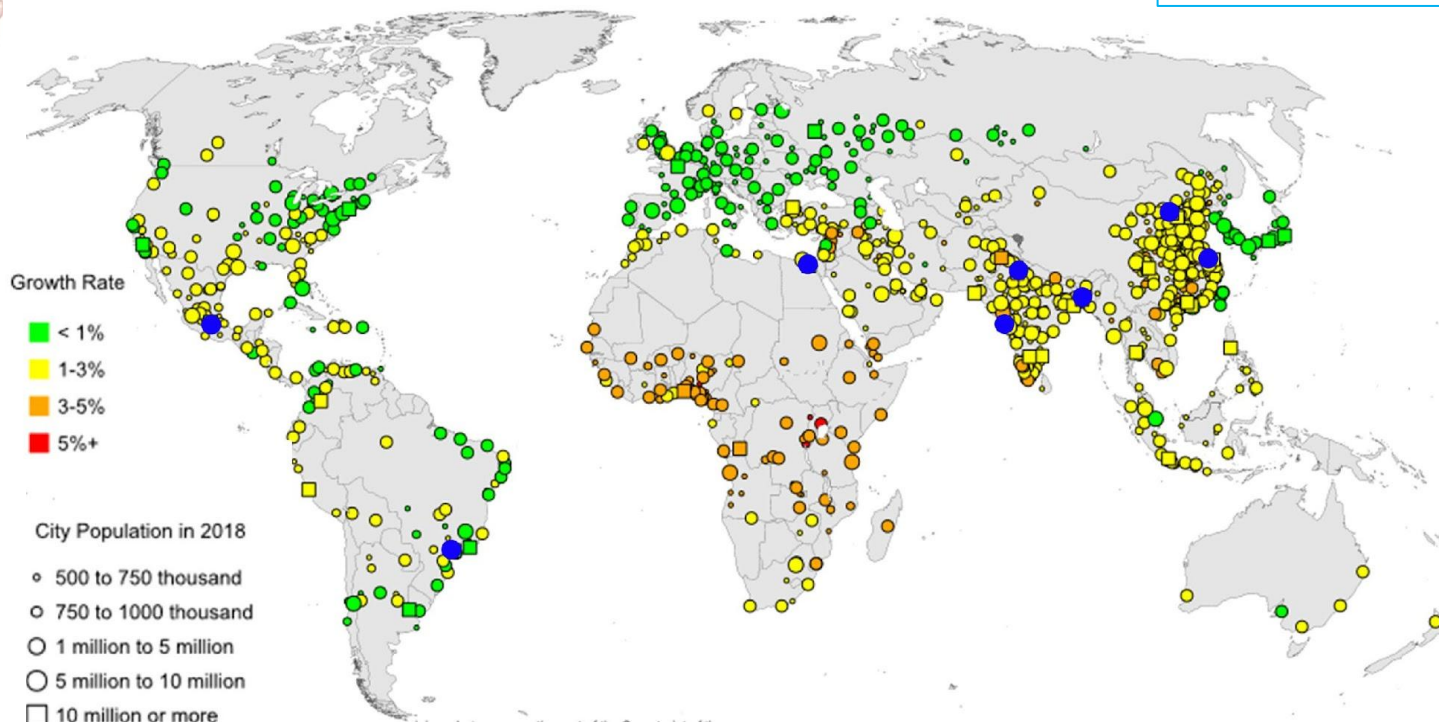
70% of urban population will reside in **Global South** by 2050

8 of 10 largest Urban agglomeration in **Developing Economies** ¹

Developing economies urban population increased to **54%** (2024) ¹

2018-2030

32% of the Global urban population resides in **India and China** ²

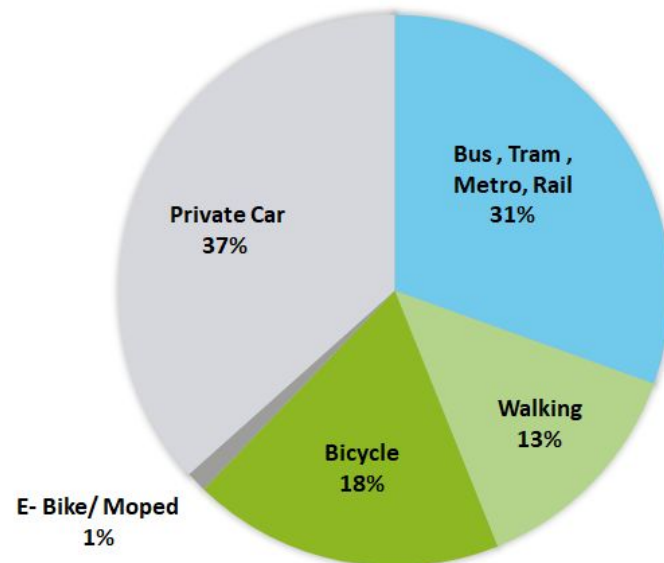
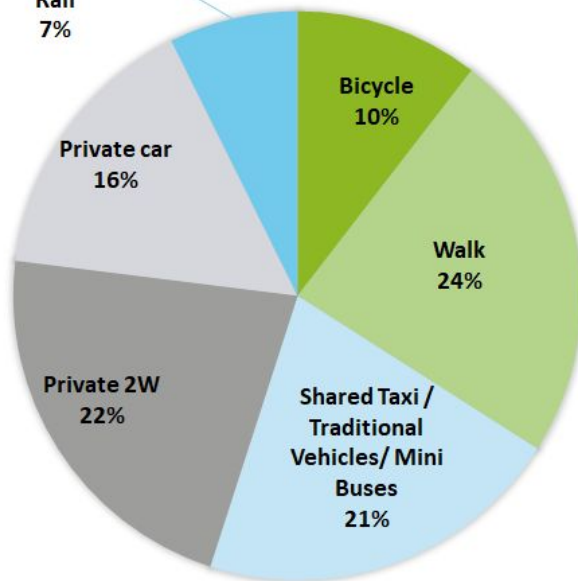


Developed Economies - **Est. urban growth rate below 1%** ¹

Developing Economies - Est. growth rate decreased from >5% to **1% - 3%** ¹

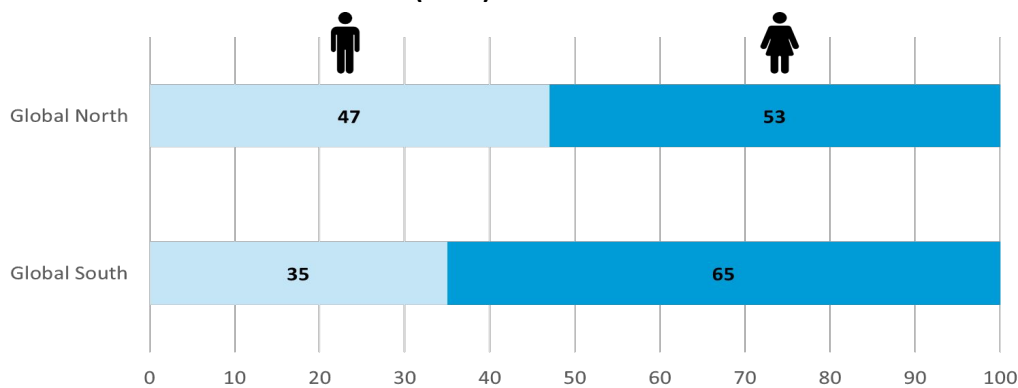
One third trips by NMT in Small and Medium Cities

Bus , Tram , Metro,
Rail
7%



Modal share in Global south (2020)

Modal share in Global North (2020)



Percentage share in Ridership

In the Global South, **women** are more dependent on **public transport , IPT and NMT**
1

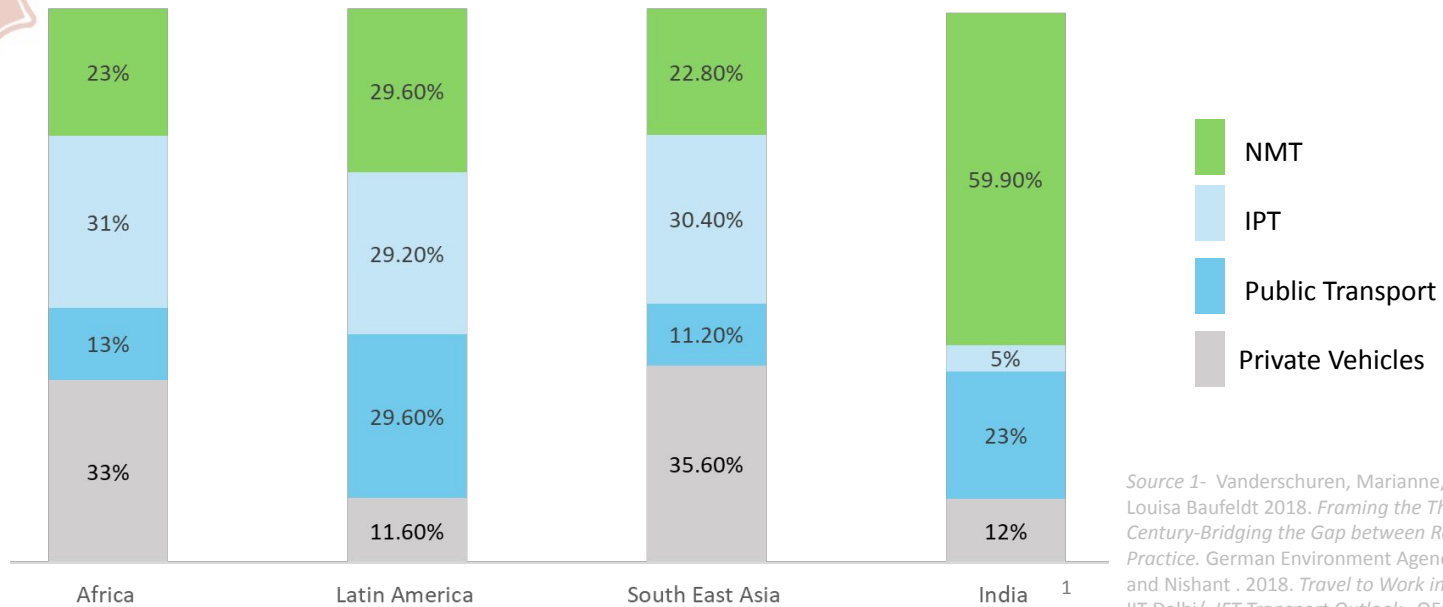
Over 90% cities across global south are less than 100 sq km

Parameters	Africa	South East Asia	Latin America	India
Cities below 0.3M ¹	97%	93%	91%	97%
Avg Population (million/city)	0.15	0.11	0.18	0.11
Typical city area (sqkm)	143	103	123	99
Road Fatality/lakh inhabitant ²	27.2	15.8	18.1	15.6
Income per capita (INR in million) ³	0.12	0.35	0.74	0.16

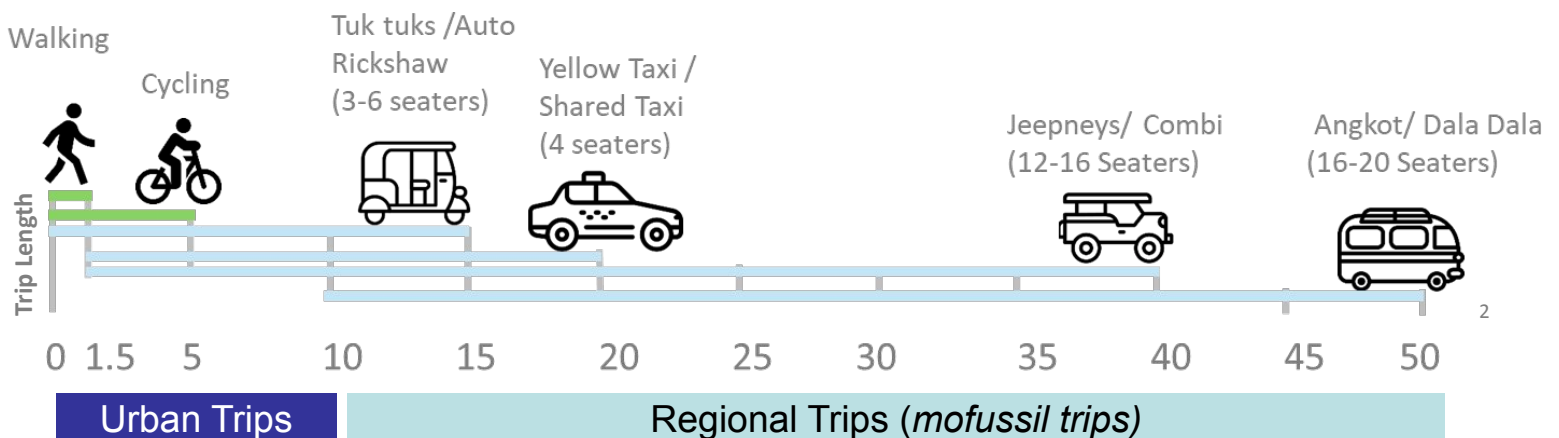
WHO says, Road infrastructure, Socio-economic background and user protection policy (NMT) are key reasons for higher fatality in low and medium economies

Source - 1 UNDESA,
2-International Transport Forum. 2023. *IRTAD Road Safety Annual Report 2023*. OECD Publishing. Accessed October 19, 2024.
<https://www.itf-oecd.org/sites/default/files/docs/irtad-road-safety-annual-report-2023.pdf>
3- IMF, 2021 and author's compilation,

~ 1 in 3 trips are on shared modes with substantial regional trips



Source 1- Vanderschuren, Marianne, and Jennifer Louisa Baufeldt 2018. *Framing the Third Cycling Century-Bridging the Gap between Research and Practice*. German Environment Agency /Tiwari, Geetam, and Nishant . 2018. *Travel to Work in India*. India: TRIPP, IIT Delhi/ IFT Transport Outlook . OECD. 2015



NMT a pre-requisite to meet majority demand and for enhancing PT



Case- E-Pedicab, Indonesia

Source- ADB 2018

Innovative design for weight and aerodynamics
Less fatigue in driving; Providing USB points, LCD screens to users ¹



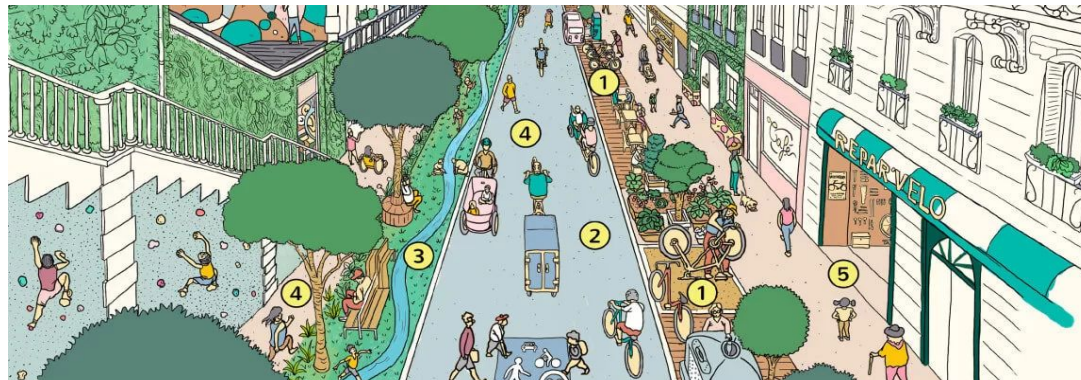
Join hands with
ULB



Financial
Inclusion



Dedicated Cycle tracks and world-class walking infra
integrating hawkers and bus stops require priority
investments ¹



Micromobility: shared mode alternative in India



40 million plus E-bikes were sold in 2021, China



Indian Micromobility market to surpass ₹15.4 trillion by 2030¹



First and Last-mile PT trips and gig economy trips are catered in India¹



Gig economy sector - shared mode alternative to assist new green jobs



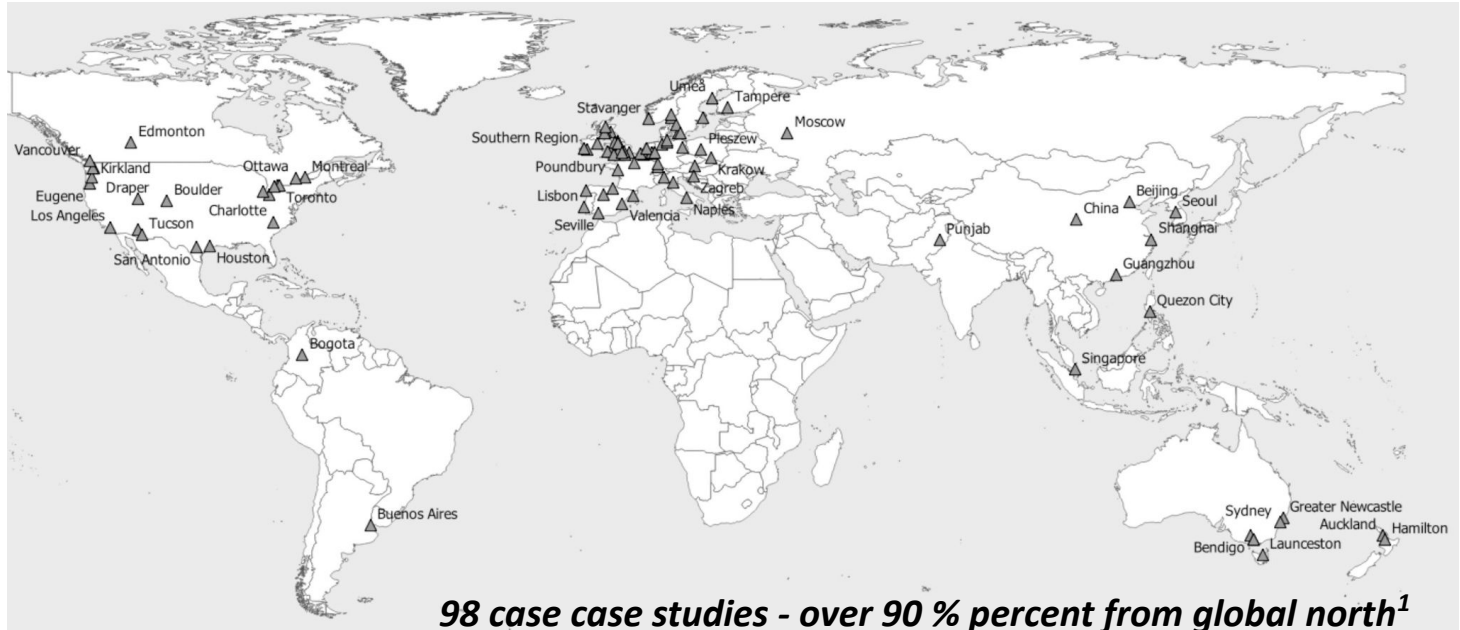
E-scooter in European countries for short trips (0.9 miles)



Gig economy and micro-mobility in India

Integrated approach to sustain compact cities

*Average area of 10 small and medium cities across India is 100 sq km - **distance between city core and outskirts ~ 5 km : majority are 15 min cities!***



KA1: Improving NMT and PT infrastructure and services



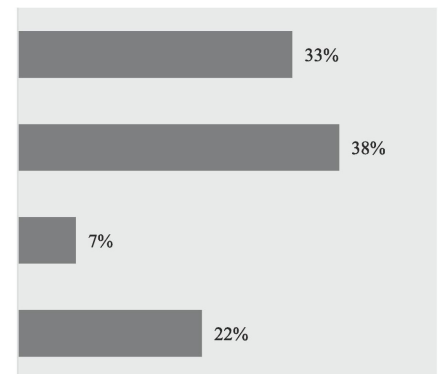
KA2: Developing people centric mixed use plans



KA3: Promoting local business and neighbourhoods



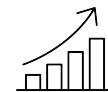
KA4: Participatory planning, tactical urbanism pilots



Large share of trips catered by IPT: fast electrifying segment



e-Rickshaws, Maxi Cabs, Jugaad and Bhoond: different IPT modes popular for commute and education trips



E-rickshaw, India : Total estimated market of **2.36 million vehicles** ¹



e-Auto - % in total registrations
One of the largest EV fleet segment uptake



Source: 1. Projected number of electric three-wheelers and auto rickshaws across India from 2020 to 2030 <https://www.statista.com/> Accessed October 24th 2024

2. India Electric Rickshaw Market Report by Motor Power 2024 / <https://www.imarcgroup.com/> Accessed October 24th 2024

2. Introduction of electric vehicles to Sri Lanka by the Lanka Electric Vehicle Association 2023. / <https://unfccc.int/> Accessed October 24th 2024

Limited efforts in formalizing the IPT sector



Source- Thailand TV. (2021)

Case- Tuk Tuks, Chang Mai



Offers dense service network with smaller access/egress distances and 2-5 minutes waiting time



Limited efforts in formalizing the routes and auto-stands



E-Tempo - No suitable EV model available as replacement in market



Source: 2 - Taking Alwar for a Ride- TERI -2018

Case- Alwar vahini



2200 new vehicle replacing diesel fleet



Connected via helpline for users



Innovative finance approach ²

Source: Grab electric tuk tuks launch in Chiang Mai (2019)

Micro and minibuses are required to cater the larger volumes and regional demand



- 16-seater *Kombi taxis* of South Africa - approximately 70 per cent of households (DBSA,2023), going up to route lengths of 50 kms.
- Introduced in 2019, *e-Jeepneys* of Philippines have the potential reduce up to 35 percent CO2 emissions.
- *Trotro* are popular in Ghana, catering to 86 per cent of daily trips within 5 kms radius - fixed routes and dedicated stops



Travel demand

Intra city :
High frequency - Short route (< 5km)

Regional connectivity:
Dispersed Mofussil demand

Source: 1- Reforming the (semi-)informal minibus system in the Philippines The 'Public Utility Vehicle Modernization Program' Early Route Evaluation, GIZ, 2019

Source-2 - The case of Paratransit - 'Trotro' service data as a credible location addressing of road networks in Ghana (2020)- Journal of Transport Geography

Major challenges observed

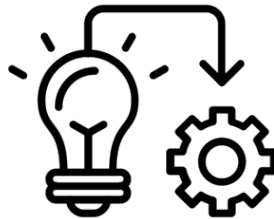
Data



Planning



Implementation



Regulation



Panel discussion

Group 1: Govt Practitioners

Mobility challenges in small and medium towns

Successful / impactful practices/pilots planned or implemented

Group 2: Academia, CSOs

Data and insights for Mobility in small and medium cities

Models and tools for mobility planning in these cities

Road infra management in SM cities

Group 3 : Industry and mobility service providers

Products and Service models for small and medium towns

Challenges or barriers in business





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