PUNE, INDIA

URBAN TRANSPORT PROFILE

December 2024

Asian Transport Observatory

Summary

Pune, a city of 6.5 million people in western India, has seen substantial growth in recent decades, with its population density increasing from 9,000 to 10,000 persons per sq km between 2000 and 2020. This growth has been coupled with a significant rise in GDP per capita, from $4,000 to $11,000 during the same period. Despite having limited road infrastructure compared to the national average (1 kilometer per thousand capita versus 5), Pune has prioritized the development of its rapid transit system. By 2023, the city boasted 86 kilometers of Bus Rapid Transit (BRT) lines, providing an efficient and high-capacity public transport option for its residents. This commitment to BRT has placed Pune amongst the leaders in India for rapid transit coverage, with 10 kilometers of BRT per million people, significantly higher than the national average of 2.

While Pune has significantly invested in public transport infrastructure, private vehicle usage remains high. Close to 85% of trips are made using private modes of transport, contributing to Pune's ranking as the 8th most congested city out of 387. This highlights the ongoing challenge of shifting travel behavior towards more sustainable modes. Despite this challenge, Pune has demonstrated a strong commitment to sustainable urban transport planning. The city has consistently allocated over half of its annual transport budget to improve walking, cycling, and public transport infrastructure.

Pune's 2008 Comprehensive Mobility Plan (CMP) set an ambitious target of achieving 90% of all trips by non-motorized and public transport by 2031. This plan, along with the Comprehensive Bicycle Plan, guides the city's efforts in expanding cycling infrastructure, improving street design, and integrating various modes of transport. Through these initiatives, Pune is actively working to create a more sustainable and livable urban environment for its residents.

About the Urban Transport Profiles

The Asian Transport Observatory (ATO) Urban Transport Profiles provide a comprehensive snapshot of urban transport dynamics for 40 cities in the Asia-Pacific region. These profiles compile data from official city reports, relevant sources from reputable research organizations, multilateral development institutions, international experts' reports, secondary studies, and all other research endorsed or guided by city governments. Featured cities are benchmarked against other cities, where data is available, in the region, subregional averages — and in some cases, global cities — offering valuable comparative insights. In cases where data is not available, placeholders for the graphs are retained. Each profile also includes a curated list of relevant urban transport policies and documents, presenting a concise overview of the city's policy framework. By covering a wide range of transport-related indicators, these profiles serve as a critical resource for understanding and improving urban transport systems.

Disclaimer

General

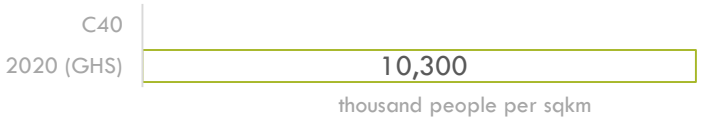
Population 6.5 million
(2020) (GHS)

Land area 634 sqkm
(2015) (GHS)

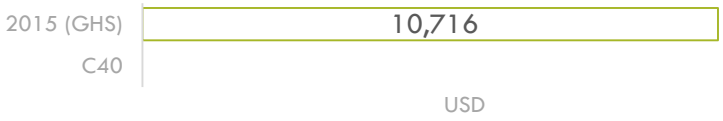
Population density 10 thousand per sqkm
(2020) (GHS)

GDP per capita 11 thousand USD
(2015) (GHS)

Population density

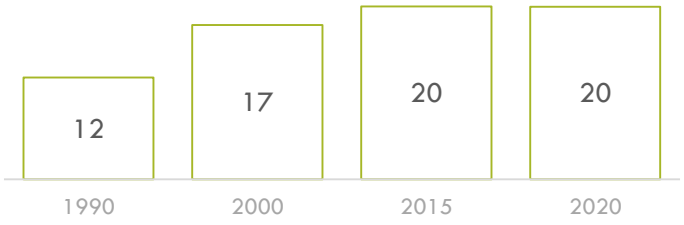


GDP per capita

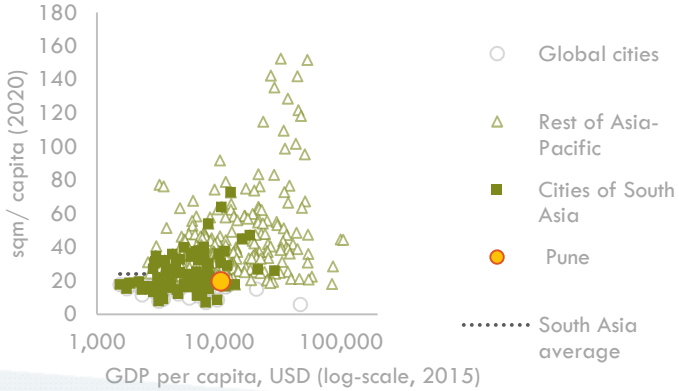


Urban Form and Structure

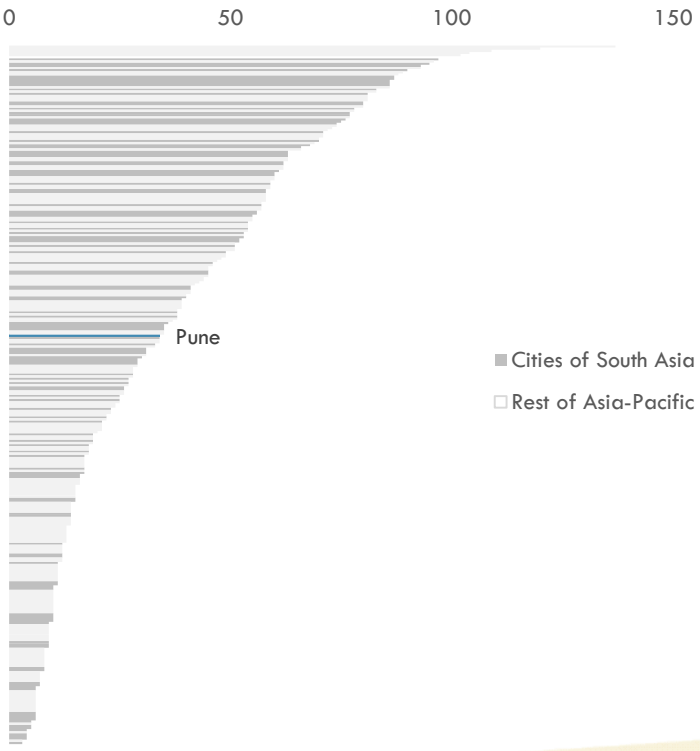
Builtup area per capita
sqm per capita (GHS)



Builtup area per capita
(GHS)

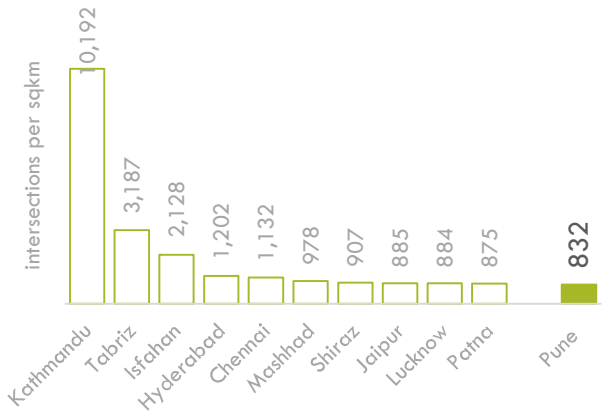


Mean block density
blocks per sqkm (2020) (ITDP)



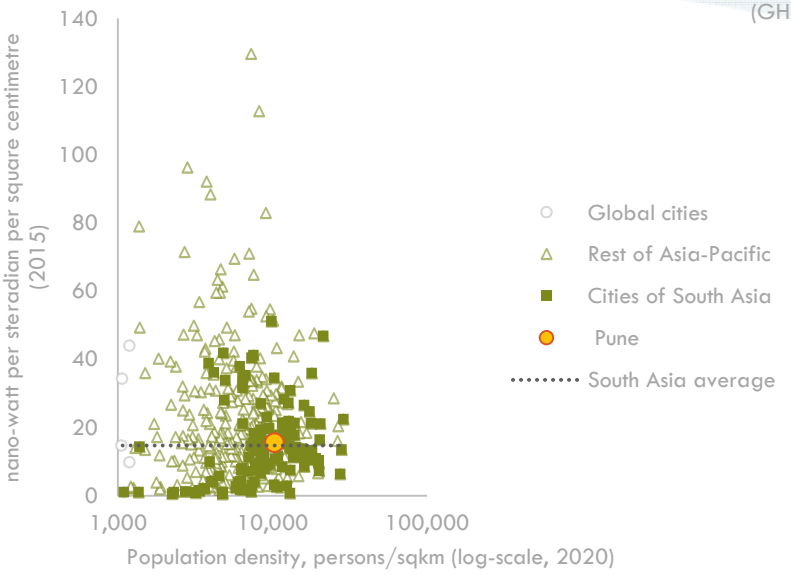
Intersection density

(Oke et.al. (2019) (OSM))



Night time light intensity (a)

(GHS)

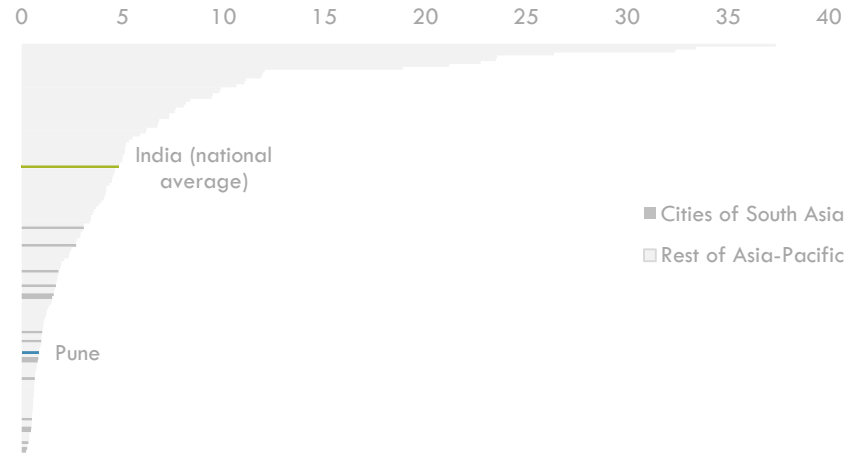


(a) Night time light intensity studies illustrate urban forms and patterns by mapping human activity, infrastructure, and connectivity, offering insights into urban sprawl, density variations, and transport network

Urban Transport Infrastructure

Road availability

kilometers per thousand population (2019) (Oke et.al. (OSM) and GHS)

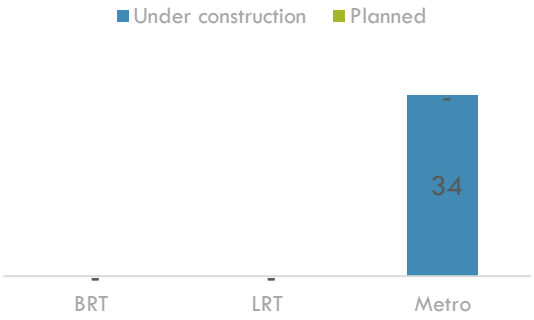


Road kilometers 1,922 kilometers

(2017) (Primary data)

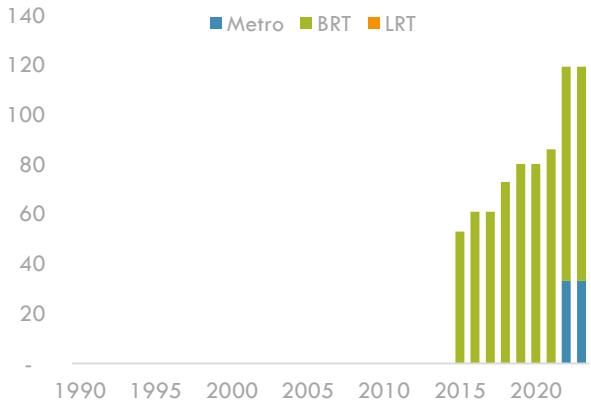
Rapid transit infrastructure

(2024) (TE)



Rapid transit infrastructure

kilometers (ITDP, Primary data)



BRT 86 kilometers

LRT none

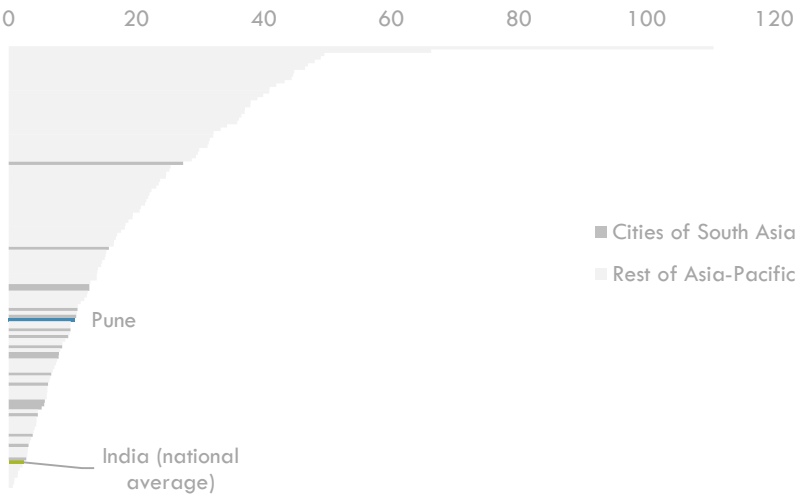
Metro 33 kilometers

Total 119 kilometers

(2023) (ITDP)

Rapid transit availability

kilometers per million urban population (2021) (ITDP, Primary data)



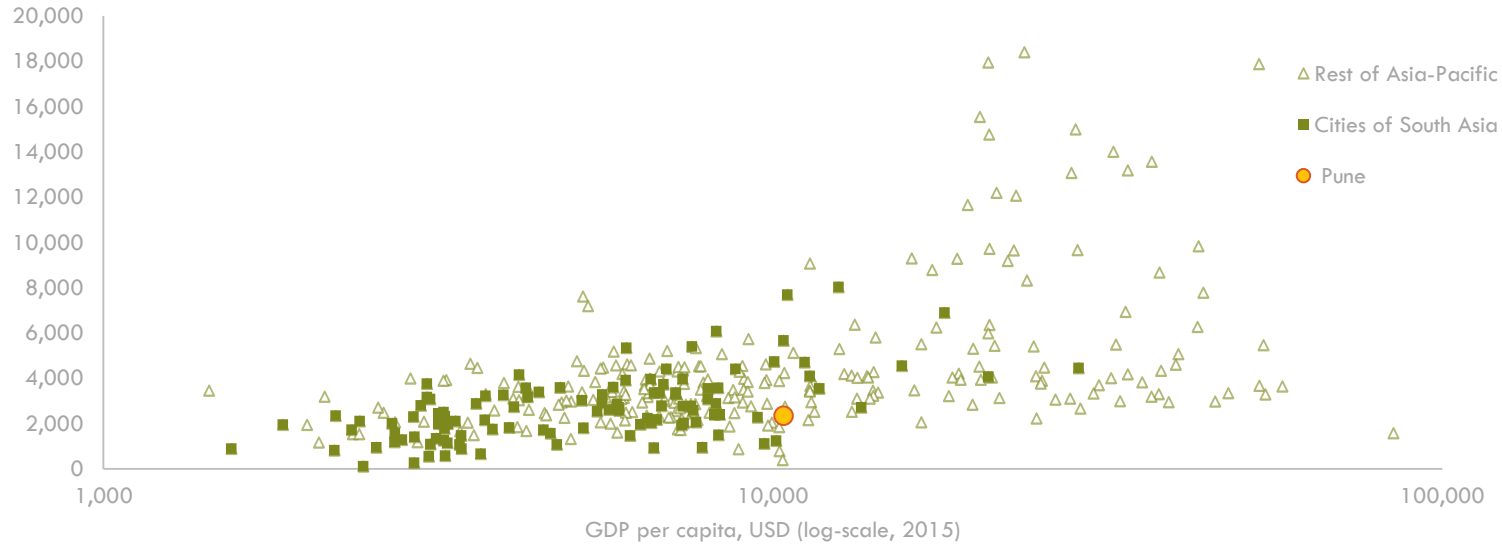
Approximate transit coverage 17% of land area

(2015) (ITDP and GHS)

Transport Activity and Services

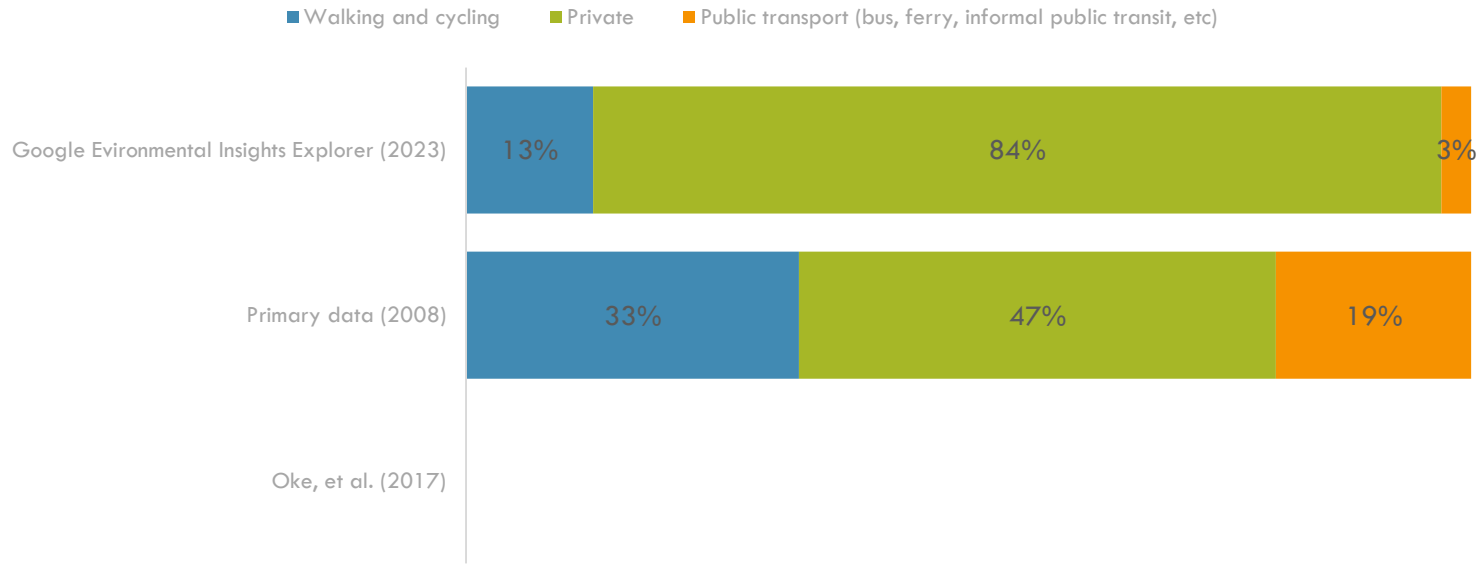
VKT per capita

Vehicle-kilometer per capita (2022) (ClimateTrace)



Trips Mode share (b)

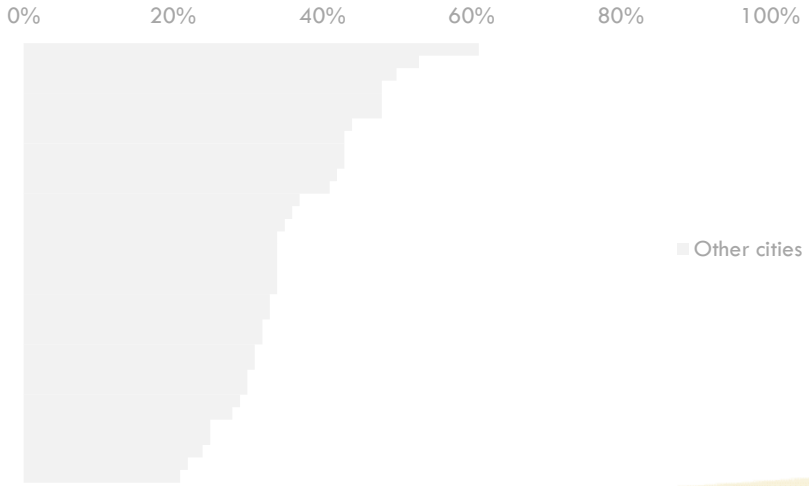
Share, %



(b) The methodologies used for mode share assessments vary across different studies, making direct comparison of results inadvisable. Specifically, the Google Environmental Insights Explorer derives its assessments from mobile data analysis, while primary data studies typically rely on survey-based approaches. In contrast, the study by Oke et al. utilizes a combination of secondary data sources.

Congestion level

Percent increased travel time vs. uncongested conditions (2021) (TomTom)

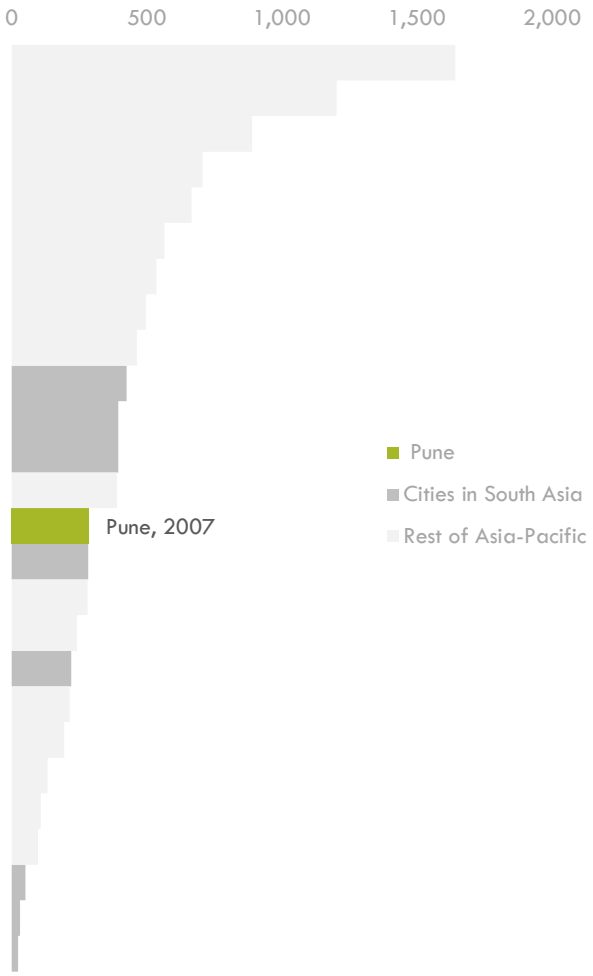


Metro ridership n.d.

Congestion ranking 8th out of 387 cities

Vehicle motorization

Vehicles per thousand population (Primary data)



Vehicles registered (c)

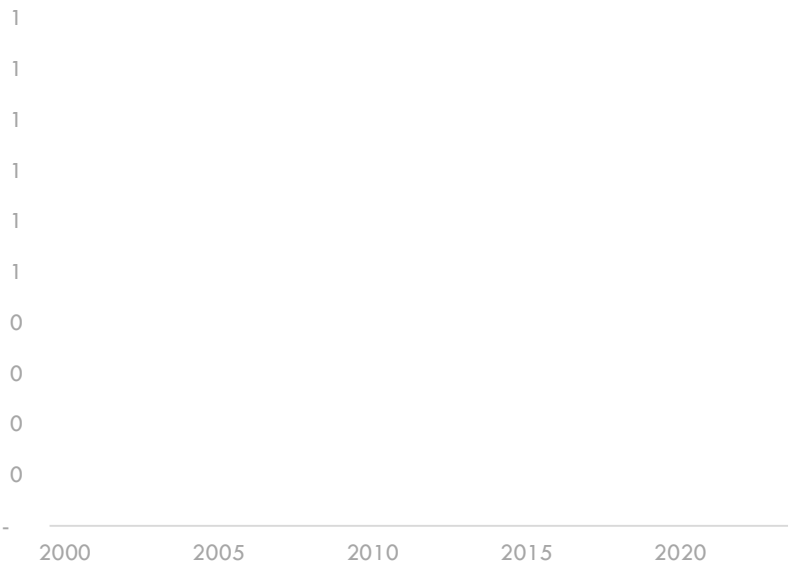
Thousand vehicles (Primary data)

Vehicles considered: no further information

(c) It should be noted that, in most cases, scrapped vehicles are not de-registered, which may result in slightly inflated numbers.

Bus fleet (operational)

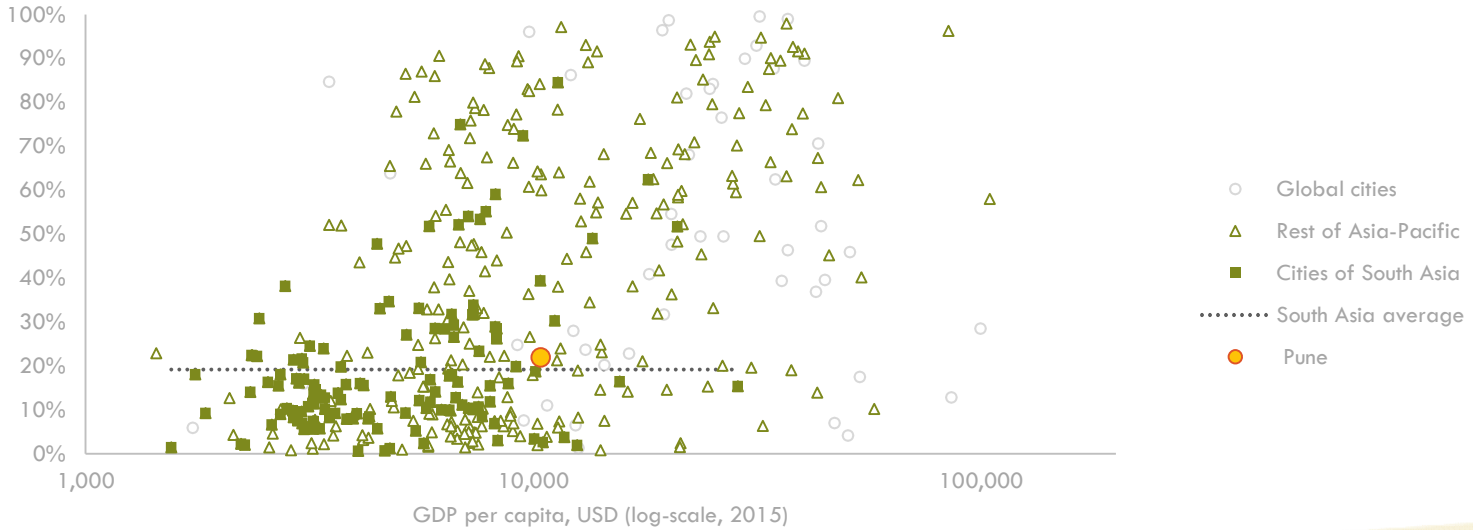
Bus (and other public transport) fleet (Primary data)



Urban Access

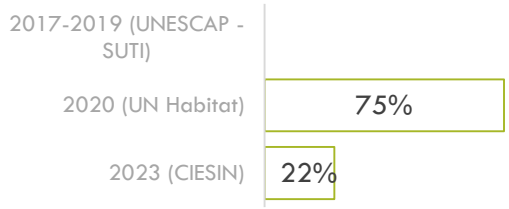
Access to urban public transport

Share of population with convenient access to public transport (2023) (CIESIN)



Access to urban public transport (d) - by source

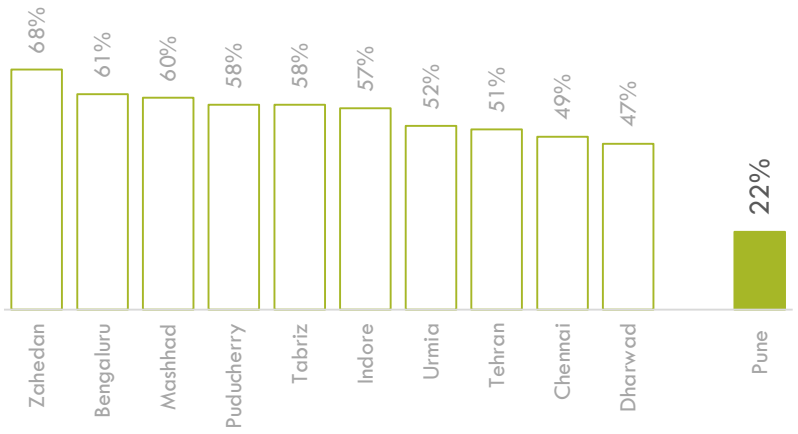
Share of population with convenient access to public transport



(d) "Access to urban public transport" is computed as share of population who live within a walking distance (along a street network) of 500m to a low capacity public transport system (eg bus, tram) and 1000m to a high capacity public transport system (eg trains, ferries, etc). Only public transport stops which are mapped are included in the analysis which may include both formal and informal stops. Many cities (mostly in the developing countries) have informal public transport systems which are not fully mapped - meaning that they may record higher levels of access to public transport than reported in this dataset.

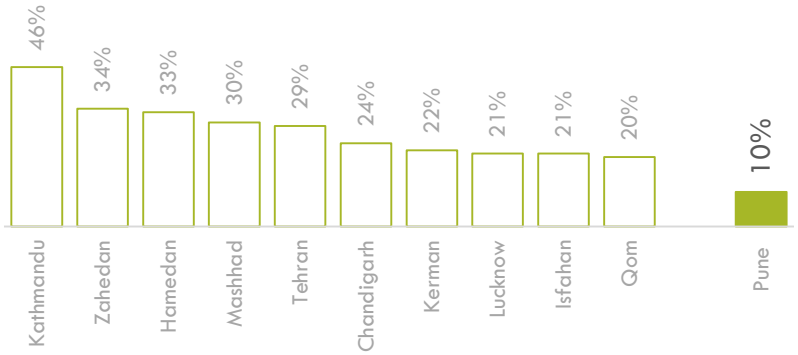
People near services (both healthcare and schools) (e)

(Share of population) vs. highest 10 cities in South Asia (2020) (ITDP)



People near car-free places (f)

(Share of population) vs. highest 10 cities in South Asia (2020) (ITDP)

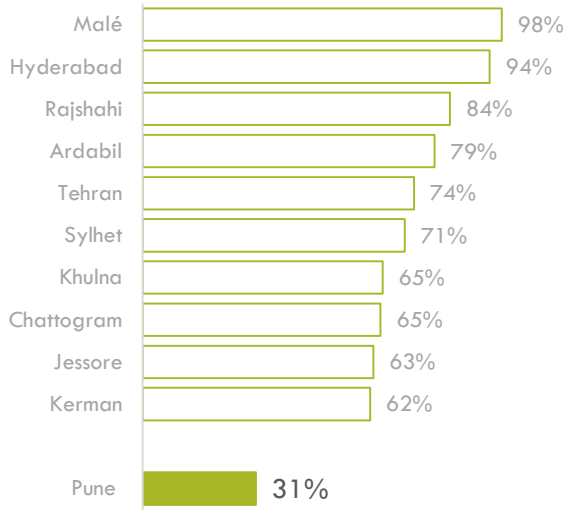


(e) People Near Services measures the percentage of the city's population living within a 1km walk of both healthcare and education. These services are especially vital for babies, toddlers, and their caregivers, who should be able to reach them on foot.

(f) Percentage of the city's population that lives within 100m of a car-free place. These car-free places include pedestrian-only alleyways, nature trails, playgrounds, pedestrianized squares, and anywhere else that is not used by cars and trucks (except, in some cases, emergency vehicles).

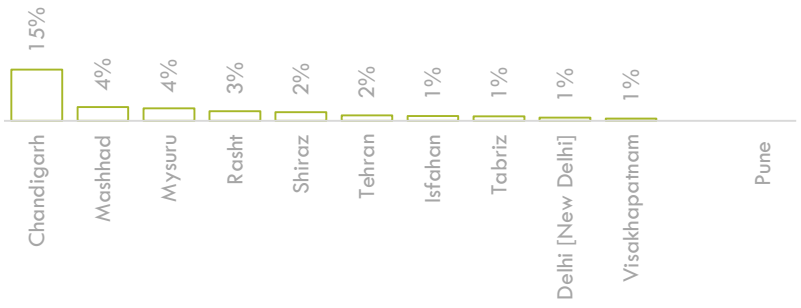
People near open public space

(Share of population) vs. highest 10 cities in South Asia (2020) (UN Habitat)



People near protected bikelanes

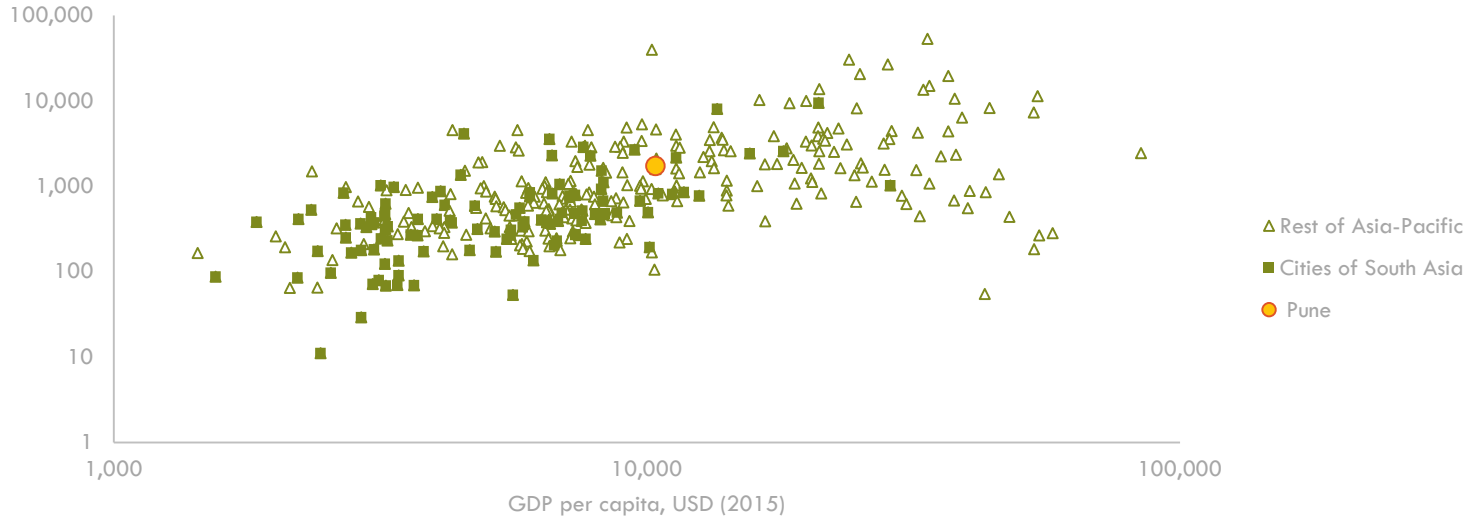
(Share of population) vs. highest 10 cities in South Asia (2020) (ITDP)



Transport externalities

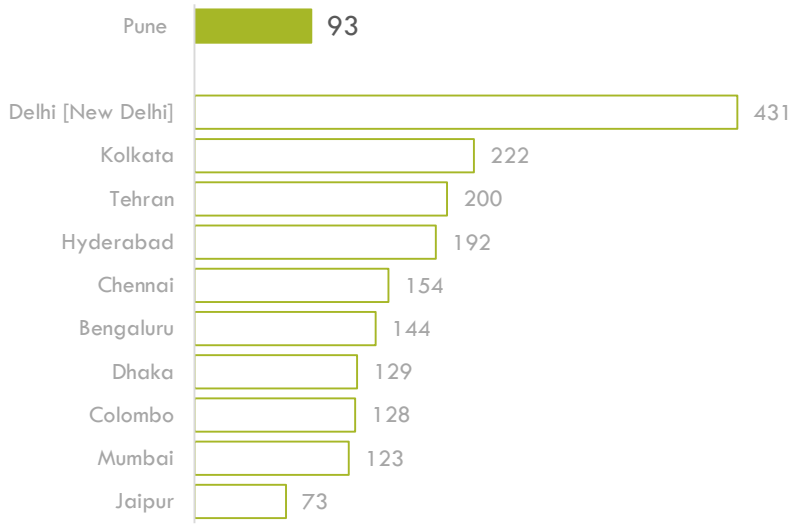
Road transport - CO2 emissions

Thousand tonnes (2022) (ClimateTrace)



Road transport - N2O emissions

Tonnes (2022) vs. highest 10 cities in South Asia (ClimateTrace)

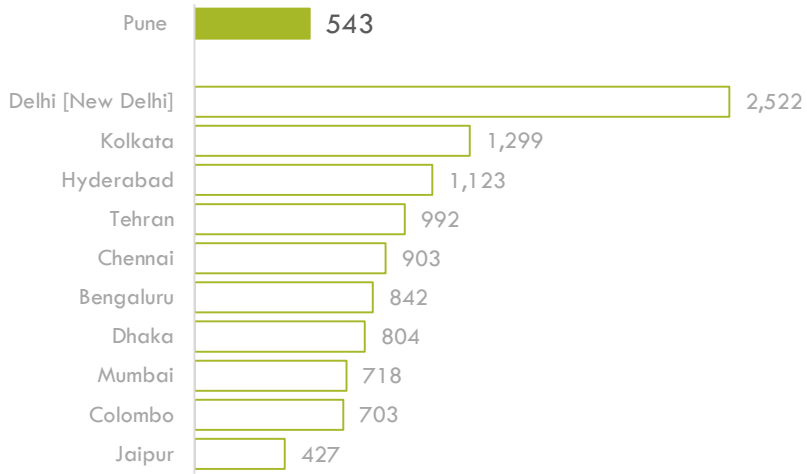


Population exposure to disasters

Share of population (2015) (GHS)

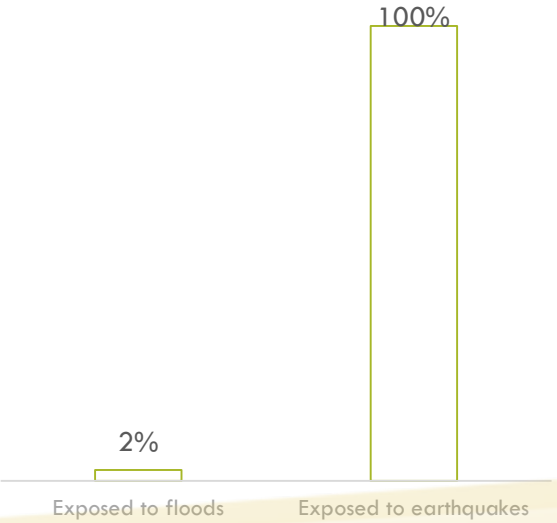
Road transport - CH4 emissions

Tonnes (2022) vs. highest 10 cities in South Asia (ClimateTrace)



Urban built-up area exposure to disasters

Share of urban area (2020) (GHS)

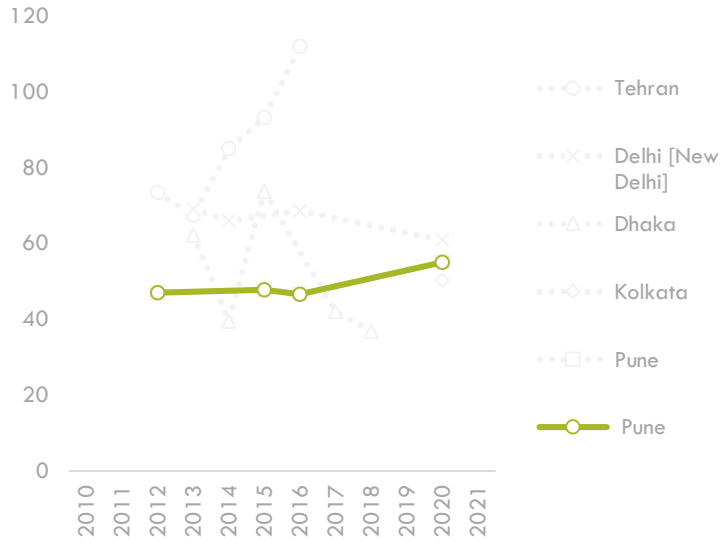


Transport PM 2.5 emissions

(GHS)

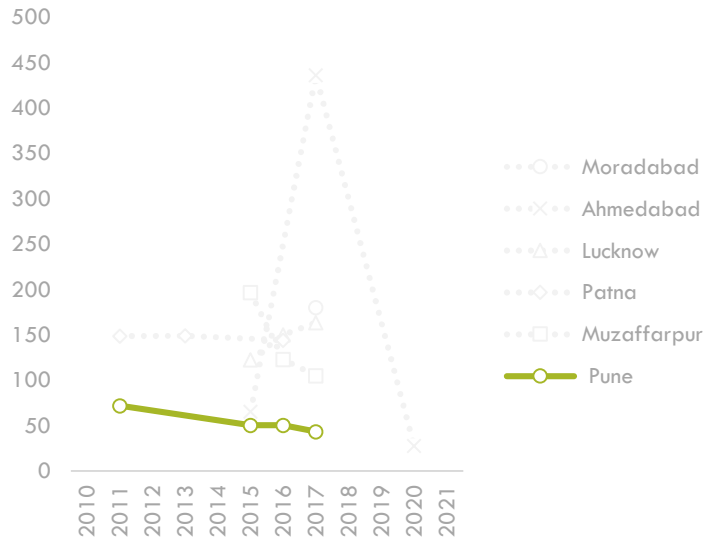
NO2 concentration

ug/m3 (vs. highest 5 cities in South Asia) (WHO)



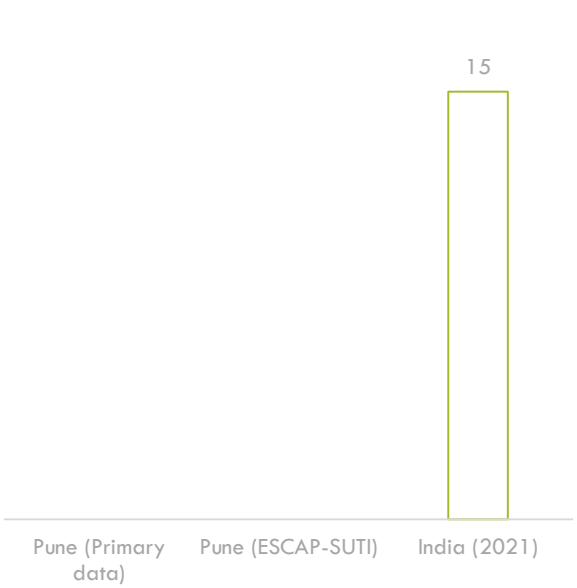
PM 2.5 concentration

ug/m3 (vs. highest 5 cities in South Asia) (WHO)



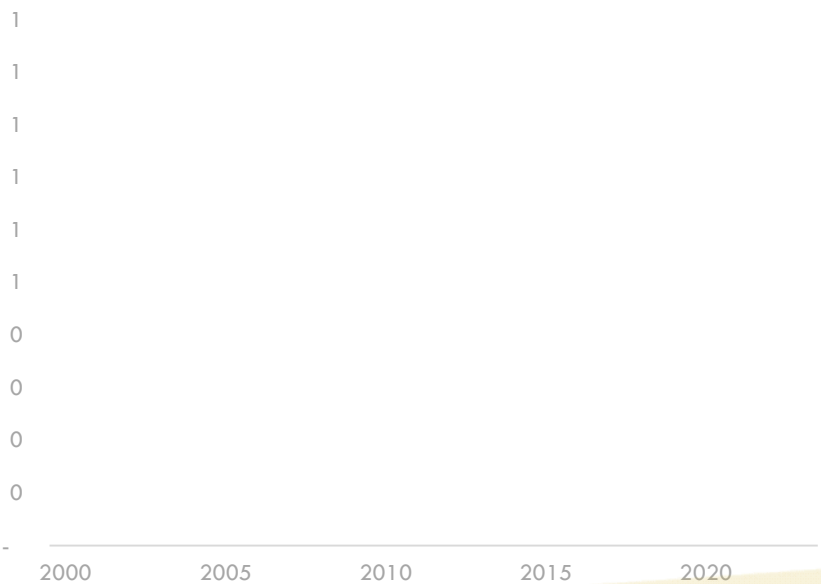
Road crash fatality rate

Deaths per 100,000 population



Road crash fatality rate

Deaths per 100,000 population (Primary data)



Transport related Indices

Container port performance index

Index is resultant of the sum of a weighted average of indices for each of the five vessel sizes: feeders (<1,500 TEUs), intra-regional (1,500–5,000 TEUs), intermediate (5,000–8,500 TEUs), neo-Panamax (8,500–13,500 TEUs), and ultra-large container carriers (>13,500 TEU)

Pune n.d.

Cities in Motion index ranking

The Cities in Motion Index (CIMI) is a composite indicator evaluating cities across nine dimensions—governance, urban planning, technology, environment, international profile, social cohesion, human capital, mobility, and economy—focusing on sustainability and quality of life. It uses a weighted aggregation model to combine sub-indicators for a holistic assessment of urban performance

Pune n.d.

Critical Infrastructures Spatial Index for the transportation sector

CISI is an index that spatially explicit indicates the coverage or lack of transport infrastructure. The CISI is expressed in a dimensionless value ranging between 0 (no CI intensity) and 1 (highest CI intensity). The index aggregates high resolution geospatial information on multiple CI assets per CI system

Pune 0.06/1.00
(2020) (GHS)

SUTI Geometric Mean

The geometric mean in the Sustainable Urban Transport Index (SUTI) by UNESCAP is a mathematical approach to aggregate scores across its 10 sub-indicators, including public transport ridership, safety, affordability, air quality, and access to transport

Pune n.d.

Cities in Motion index ranking by subcomponent

Ranking (vs. other Cities of South Asia) (2024) (IESE)

Transport relevant policy documents

Year published	Document name
2008	Comprehensive Mobility Plan for Pune City
2012	Pune Draft City Development Plan - 2041
2016	Policy for Pedestrian Facilities and Safety in Pune City
2016	Public Parking policy
2020	Pune Air Information and Response (AIR) Plan
2023	Pune Climate Action Plan
n.d.	Revised Action Plan For Control Of Air
n.d.	Revised Action Plan For Control Of Air Pollution In Pune Part-I
n.d.	Metro Plan DP

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Oke et al. — Oke et al. (2019). A novel global urban typology framework for sustainable mobility futures. https://iopscience.iop.org/article/10.1088/1748-9326/ab22c7#erlab22c7s3

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Primary data — This includes city official reports or MDB/ Research organisation/ Third party report endorced/ accepted/ guided by the city government

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