



# COLOMBO, SRI LANKA

## URBAN TRANSPORT PROFILE

December 2024

## Summary

Colombo, the largest city in Sri Lanka, faces significant urban transport challenges stemming from rapid population growth and a surge in private vehicle ownership. With a population density of 4,000 persons per sqkm, higher than many South Asian cities, Colombo's urban form is characterized by a sprawling built-up area that has expanded significantly between 2000 and 2020. This growth has put a strain on the city's transport infrastructure, leading to increased traffic congestion and a reliance on private vehicles. While data on road infrastructure per capita is limited, the existing network appears inadequate to handle the growing demand, especially given the low prevalence of rapid transit systems.

The dominance of private transport in Colombo is evident in the modal split, with 77% of trips made by private modes. This reliance on private vehicles contributes to traffic congestion, air pollution, and reduced accessibility for those who cannot afford personal transportation. Although historical data suggests some use of public transport, recent trends indicate a shift towards private modes, especially among wealthier households. This trend will likely continue given the projected increase in person trips and the lack of investment in efficient and convenient public transport options.

To address these challenges, Colombo is trying to prioritize sustainable urban transport solutions. This includes investing in high-capacity public transport systems, such as bus rapid transit (BRT) and light rail transit (LRT), to provide viable alternatives to private vehicles. Furthermore, promoting non-motorized transport, like walking and cycling, through infrastructure improvements and public awareness campaigns, can enhance accessibility and reduce reliance on motorized transport. Addressing these issues is crucial not only for improving the quality of life in Colombo but also for achieving its environmental and economic goals.

## 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

The Asian Transport Observatory (ATO) project collects, collates, and organizes data from publicly available official, as well as reputable and peer-reviewed secondary sources, which may contain incomplete or inconsistent data. It is important to note that the ATO does not generate data. Moreover, while the ATO carries out quality control and assurance of whether the data are truthfully reflected in the ATO, the ATO does not make any warranties or representations as to the appropriateness, quality, accuracy, or completeness of the data in the ATO databases, and in the knowledge products that are produced from such. Users are encouraged to scrutinize, verify, interpret, and judge the data before utilizing them.

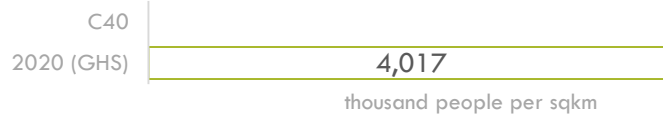


General

**Population** 4.6 million  
(2020) (GHS)

**Population density**

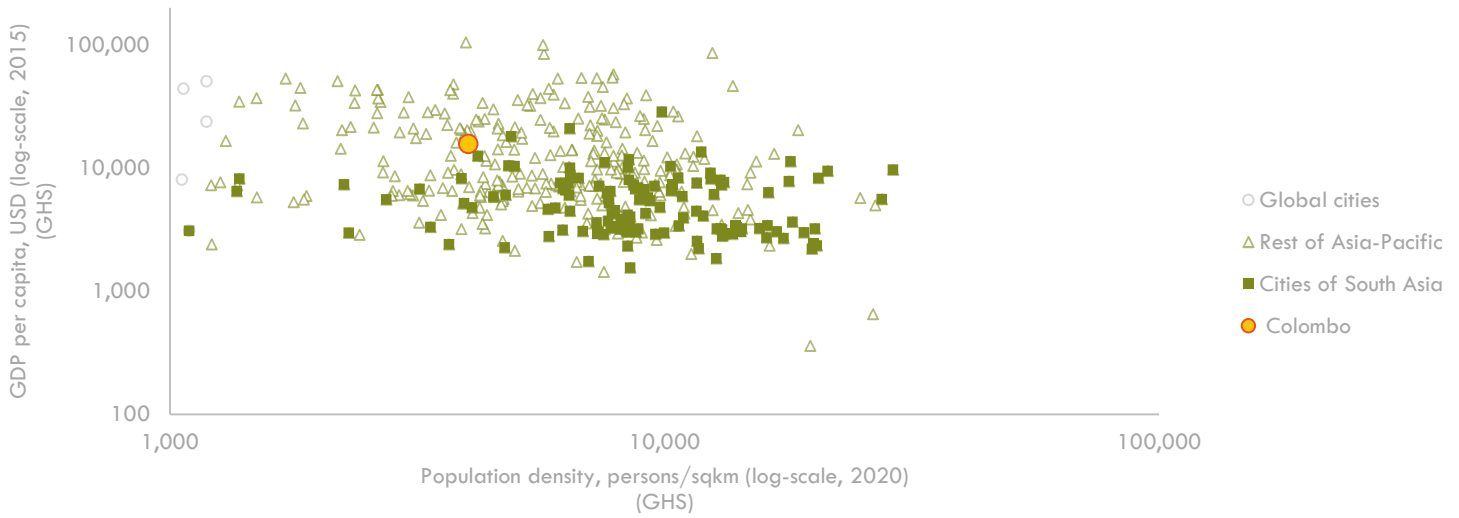
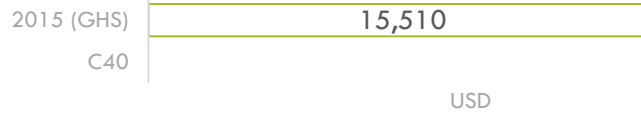
**Land area** 1,154 sqkm  
(2015) (GHS)



**Population density** 4 thousand per sqkm  
(2020) (GHS)

**GDP per capita**

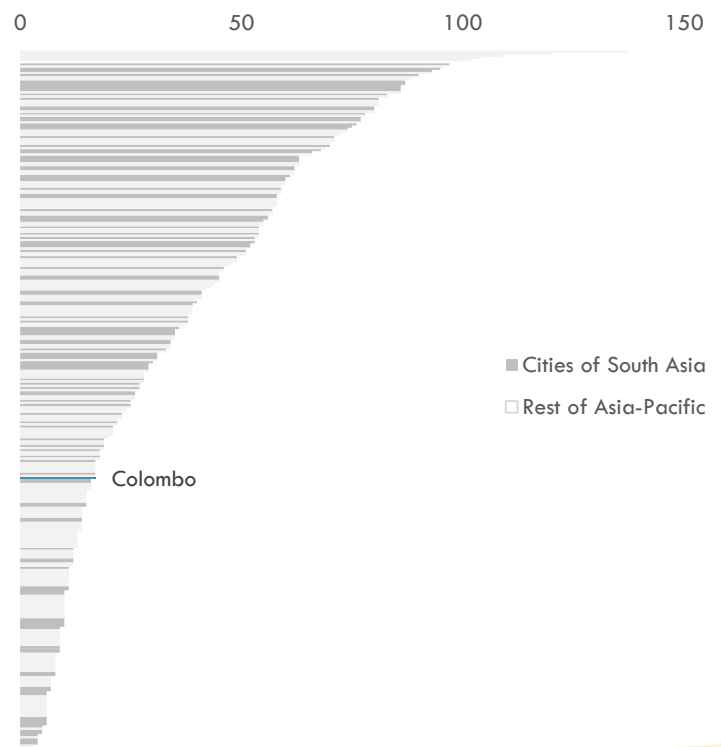
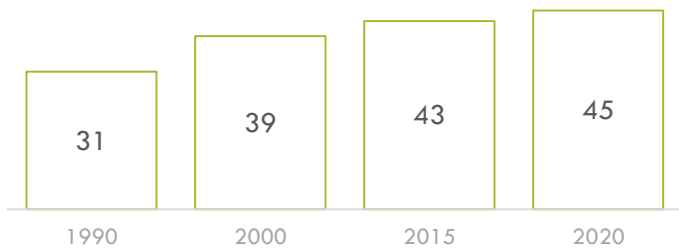
**GDP per capita** 16 thousand USD  
(2015) (GHS)



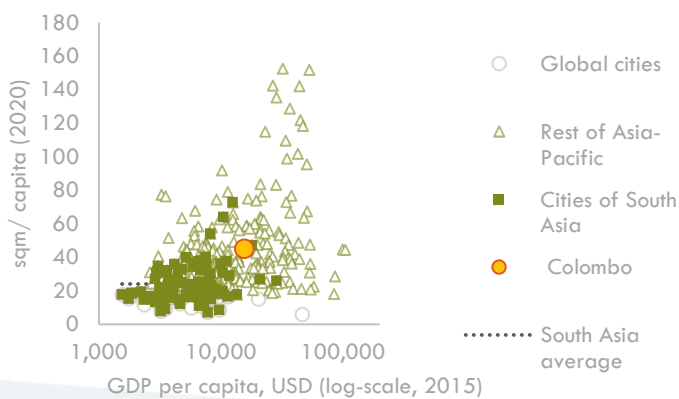
Urban Form and Structure

**Builtup area per capita**  
sqm per capita (GHS)

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

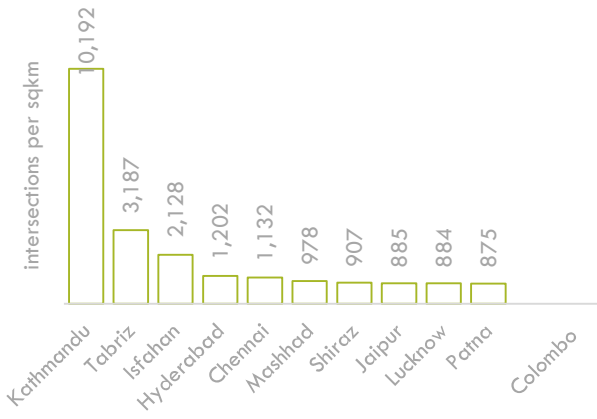


**Builtup area per capita**  
(GHS)



## Intersection density

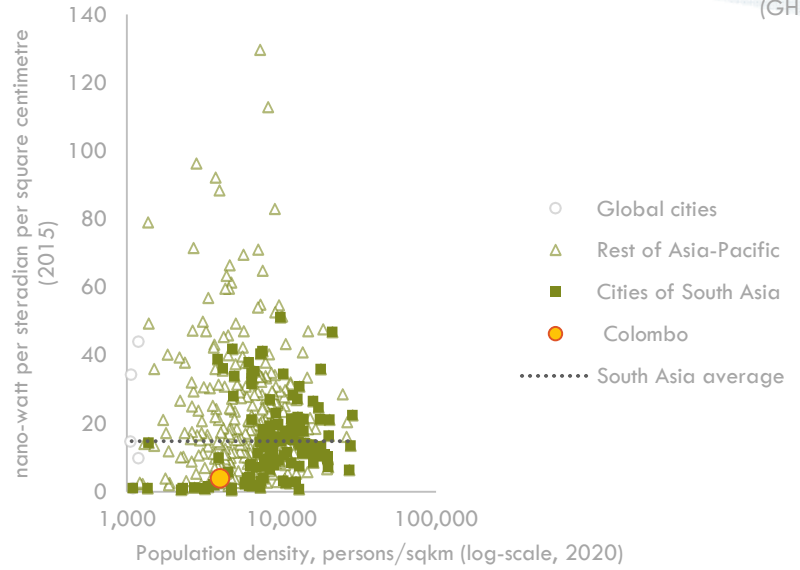
(Oke et.al. (2019) (OSM))



(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

## Night time light intensity (a)

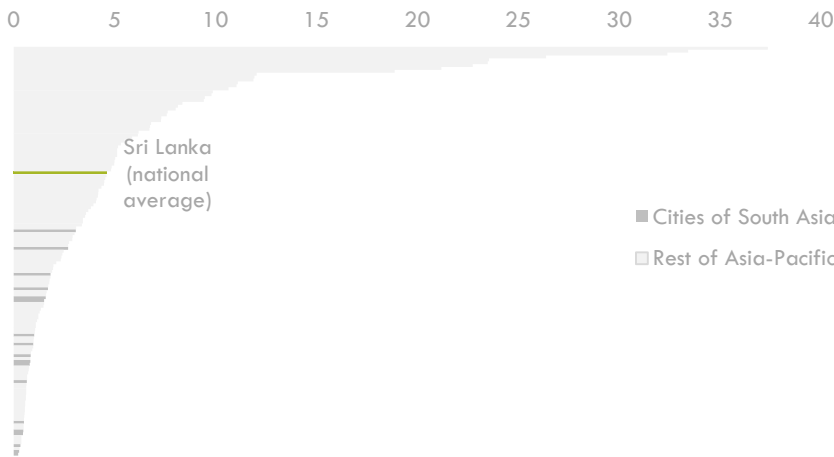
(GHS)



## Urban Transport Infrastructure

### Road availability

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



### Road kilometers n.d.

### Rapid transit infrastructure

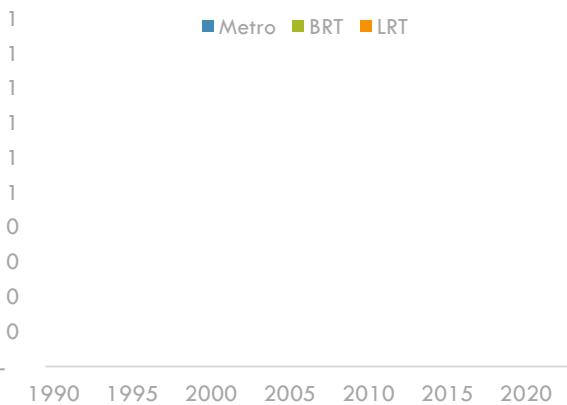
(2024) (TE)

■ Under construction ■ Planned

BRT LRT Metro

### Rapid transit infrastructure

kilometers (ITDP, Primary data)



**BRT** none

**LRT** none

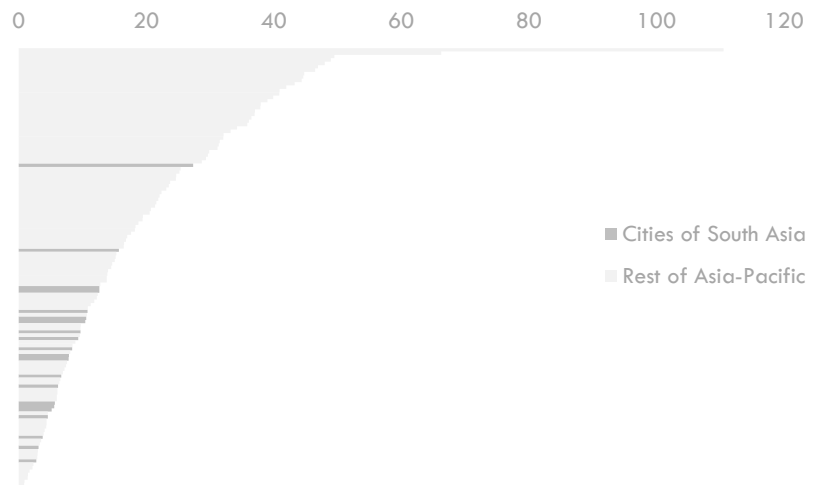
**Metro** none

**Total** none

(2023) (ITDP)

### Rapid transit availability

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

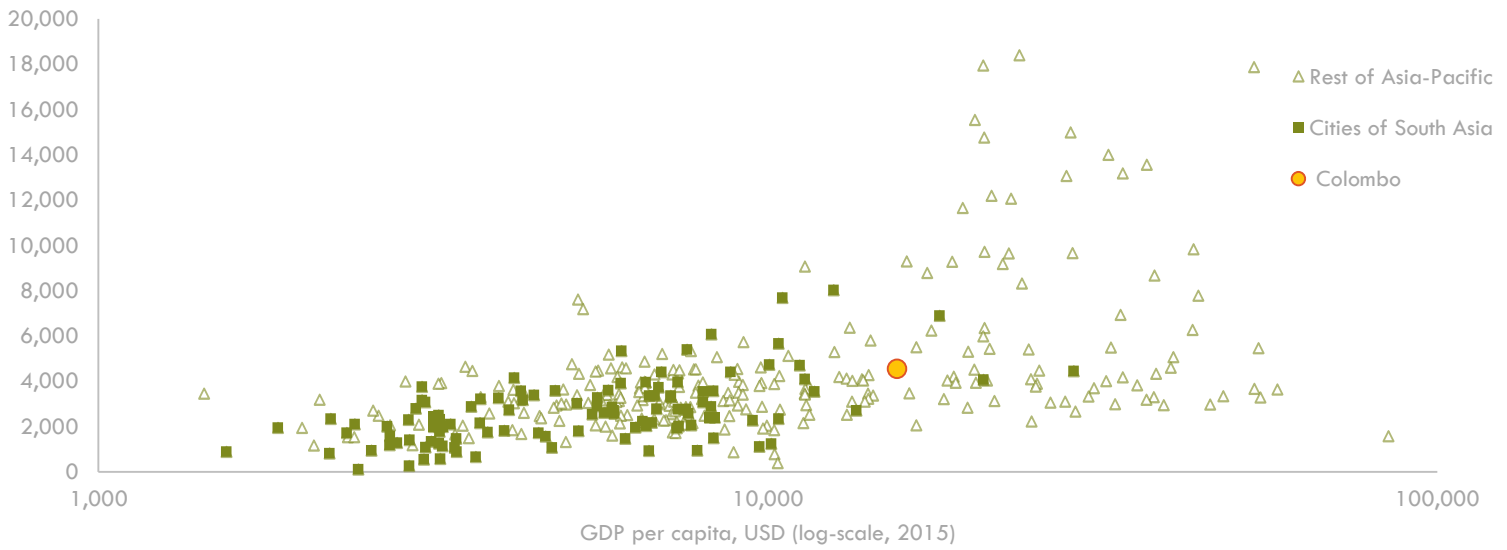


### Approximate transit coverage n.d.

## Transport Activity and Services

### VKT per capita

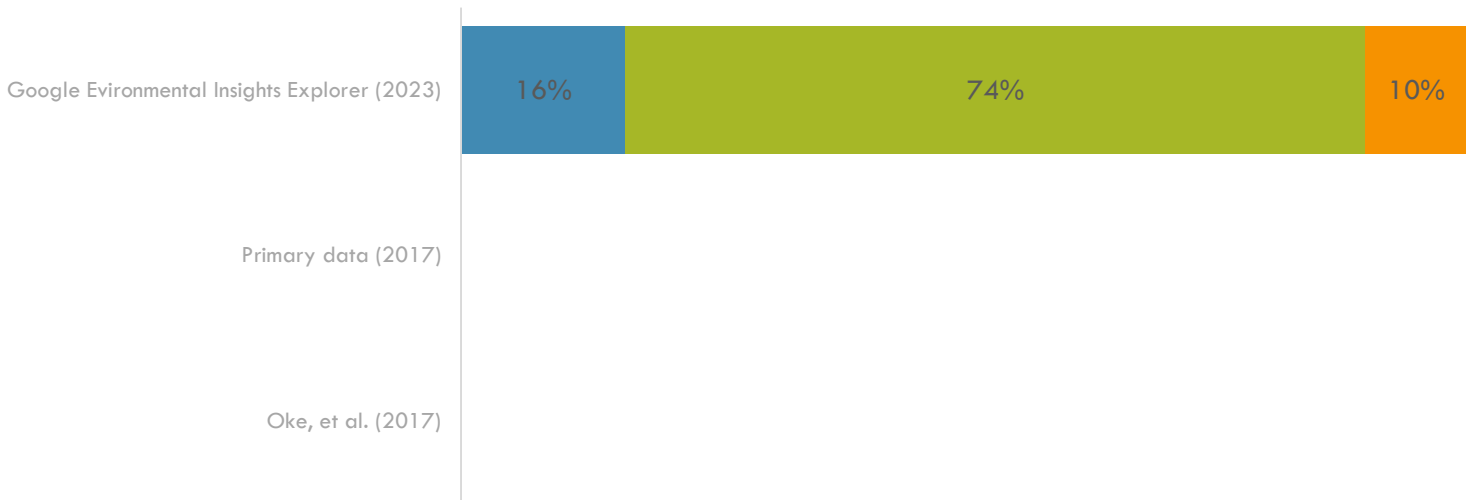
Vehicle-kilometer per capita (2022) (ClimateTrace)



### Trips Mode share (b)

Share, %

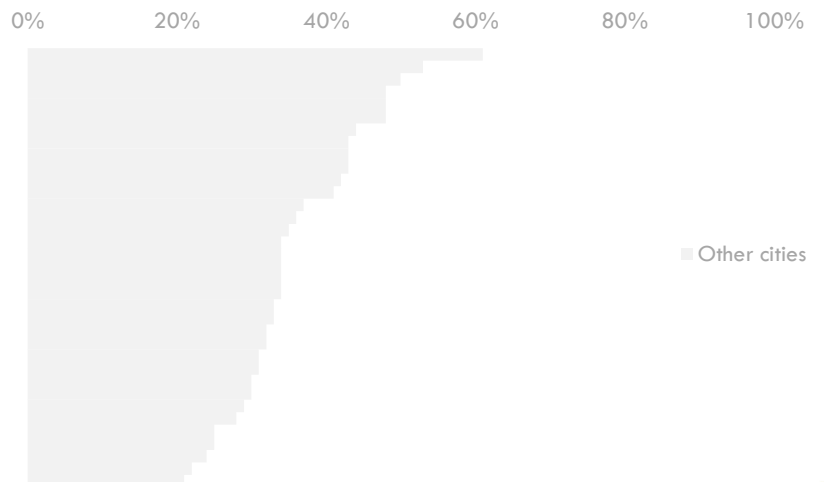
■ Walking and cycling ■ Private ■ Public transport (bus, ferry, informal public transit, etc)



(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)

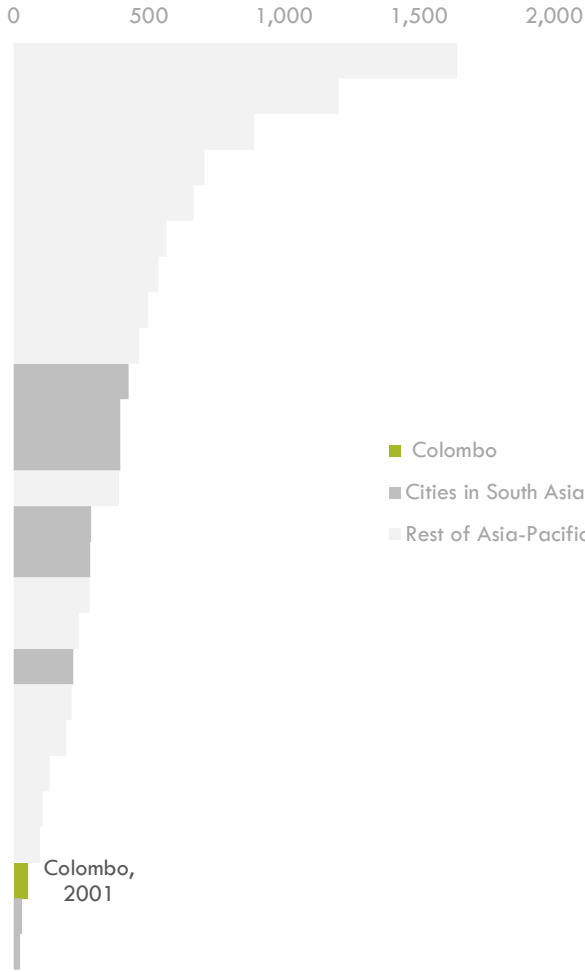


Metro ridership n.d.

Congestion ranking n.d.

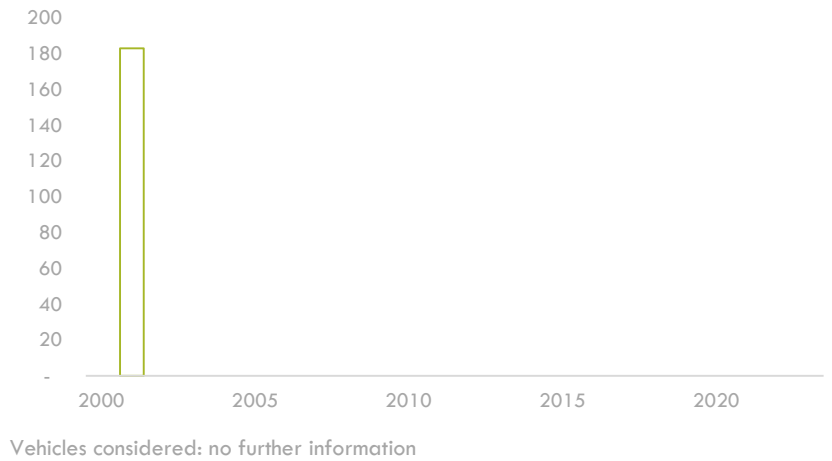
## Vehicle motorization

Vehicles per thousand population (Primary data)



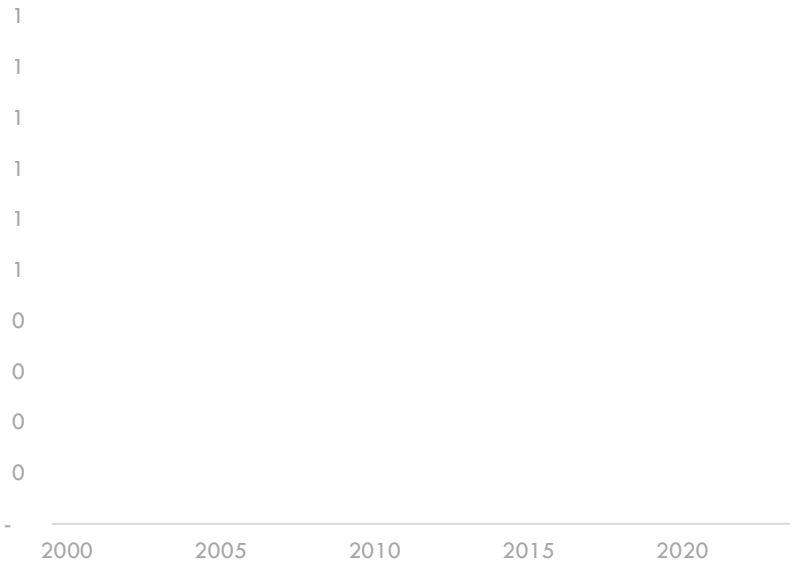
## Vehicles registered (c)

Thousand vehicles (Primary data)



## Bus fleet (operational)

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

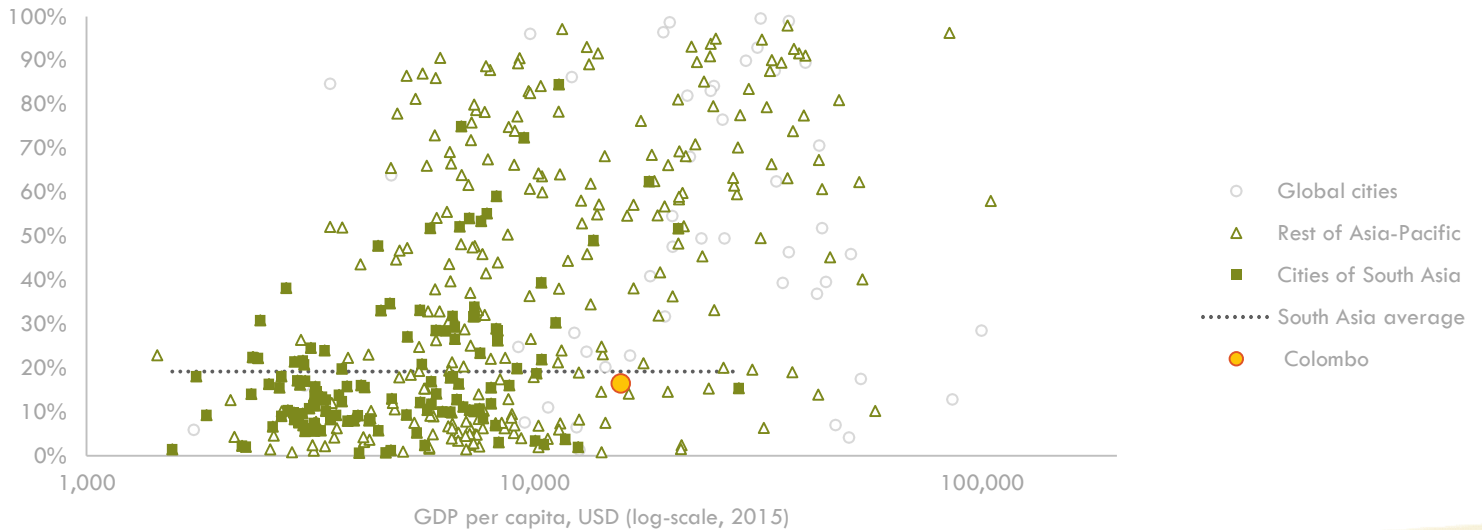


(c) It should be noted that, in most cases, scrapped vehicles are not de-registered, which may result in slightly inflated numbers.

## Urban Access

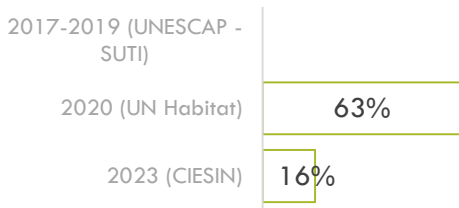
### Access to urban public transport

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



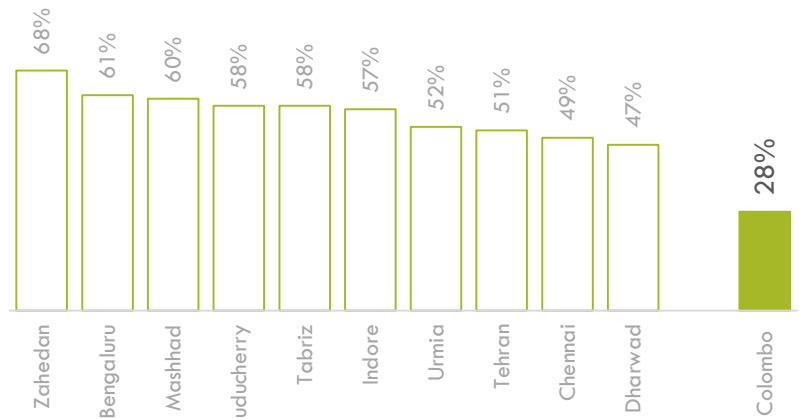
(d) "Access to urban public transport" is computed as share of population who live within a walking distance (along a street network) of 500m to a low capacity public transport system (eg bus, tram) and 1000m to a high capacity public transport system (eg trains, ferries, etc). Only public transport 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.

(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).

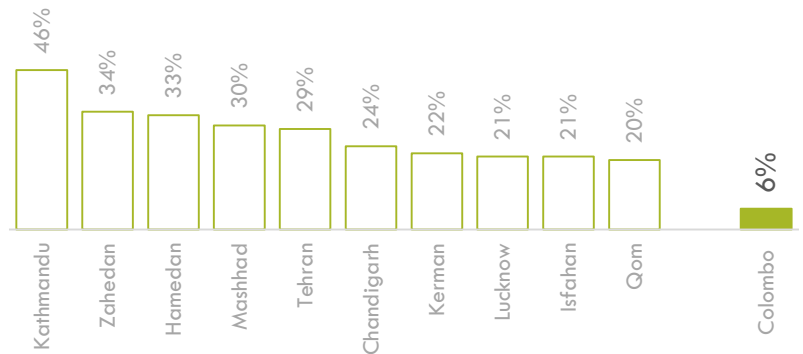
**People near services (both healthcare and schools) (e)**

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



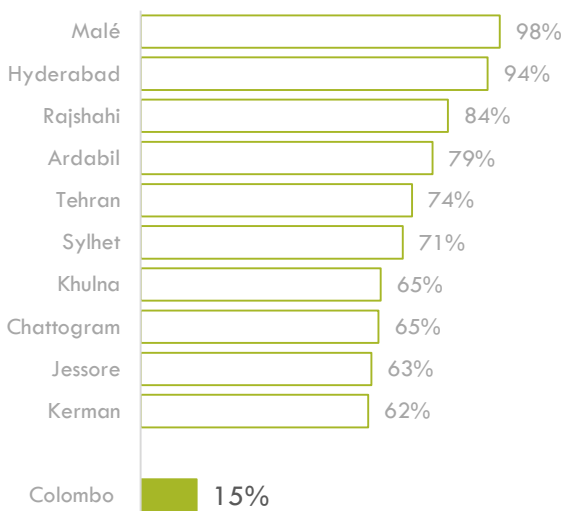
**People near car-free places (f)**

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



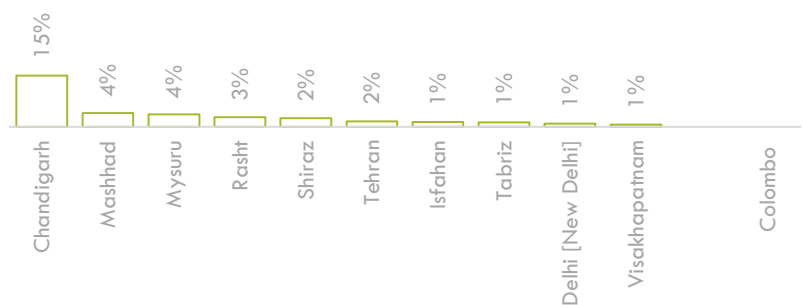
**People near open public space**

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



**People near protected bikelanes**

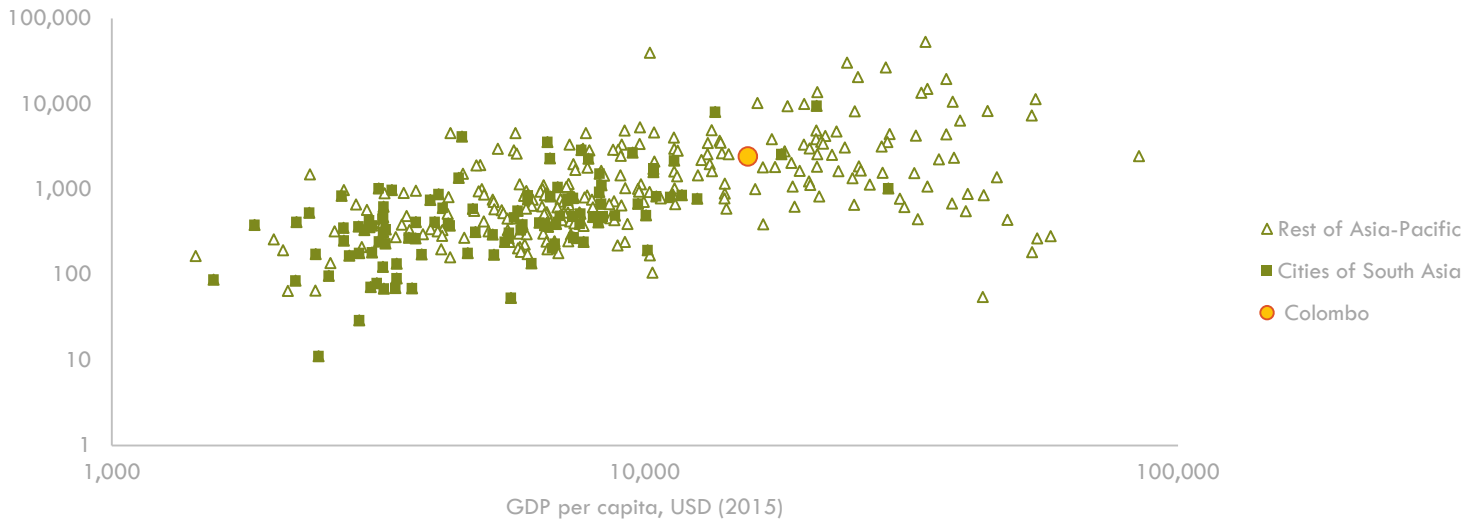
(Share of population) vs. highest 10 cities in South Asia (2020) (ITDP)



Transport externalities

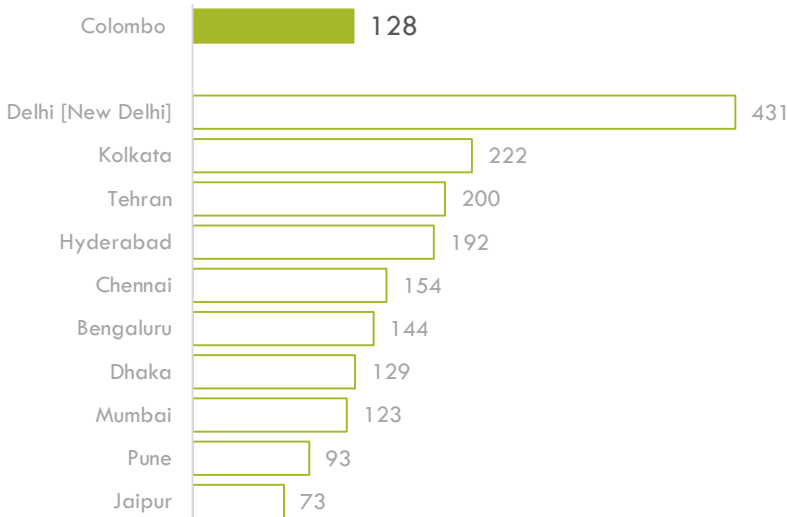
Road transport - CO2 emissions

Thousand tonnes (2022) (ClimateTrace)



Road transport - N2O emissions

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



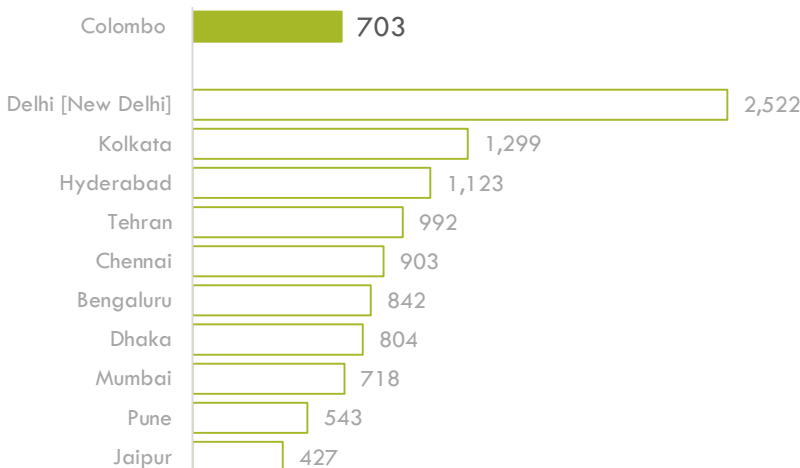
Population exposure to disasters

Share of population (2015) (GHS)



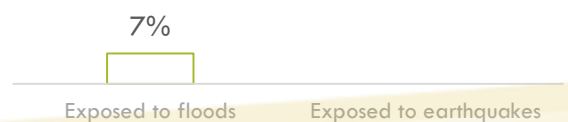
Road transport - CH4 emissions

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



Urban built-up area exposure to disasters

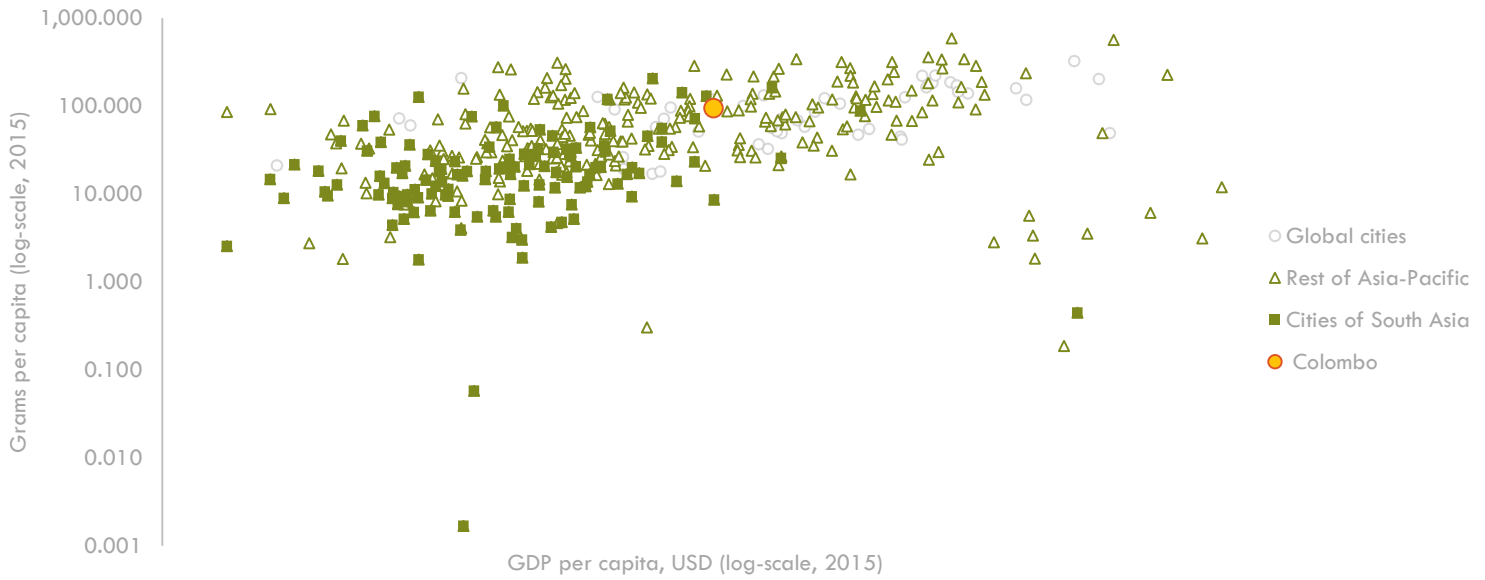
Share of urban area (2020) (GHS)





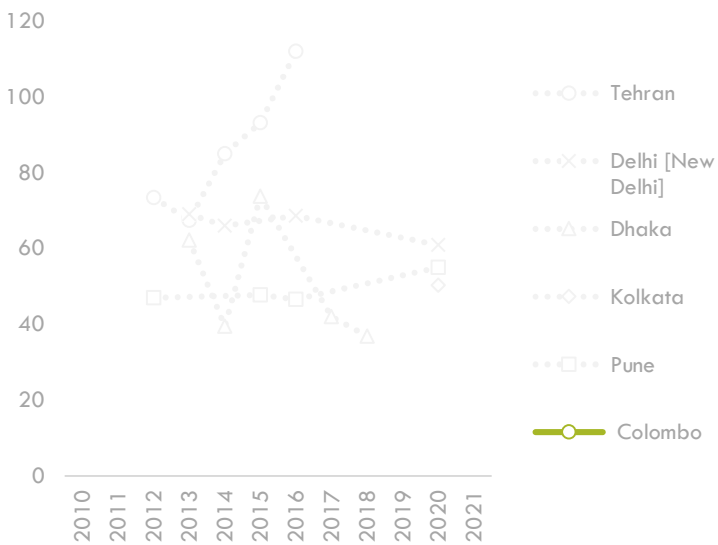
Transport PM 2.5 emissions

(GHS)



NO2 concentration

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



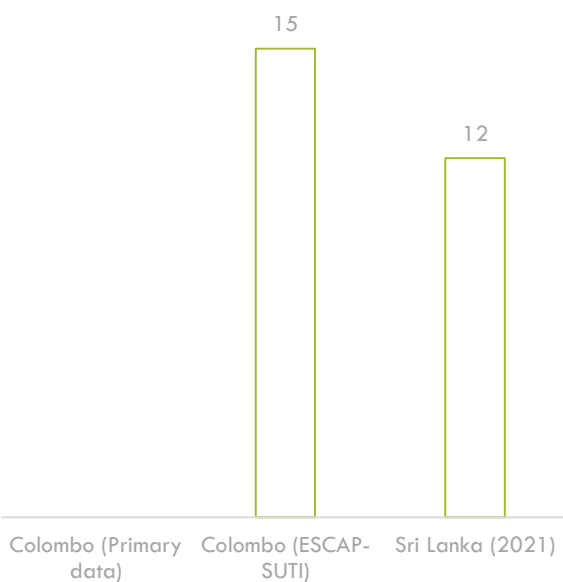
PM 2.5 concentration

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



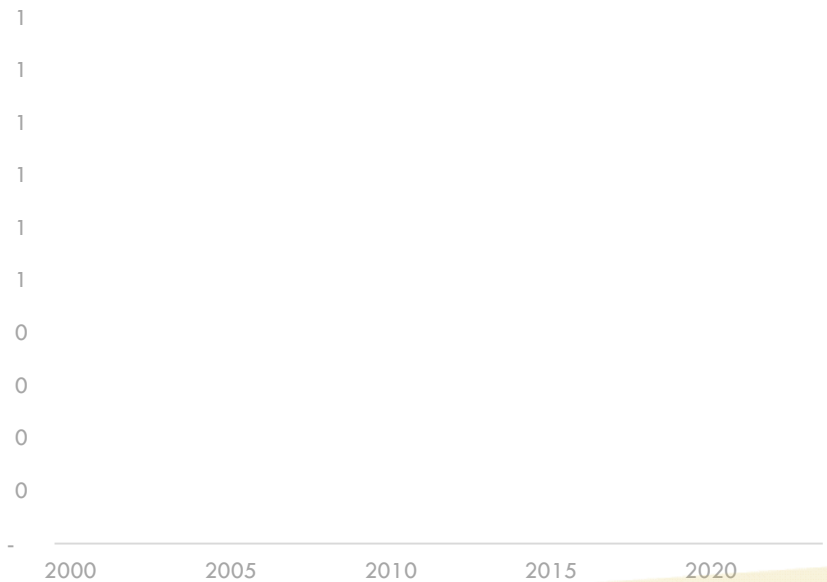
Road crash fatality rate

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)

**Colombo 39th out of 370 cities**  
(2023) (WB)

### 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

**Colombo 0.03/1.00**  
(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

**Colombo 33 score out of 100**  
(2024) (UNESCAP - SUTI)

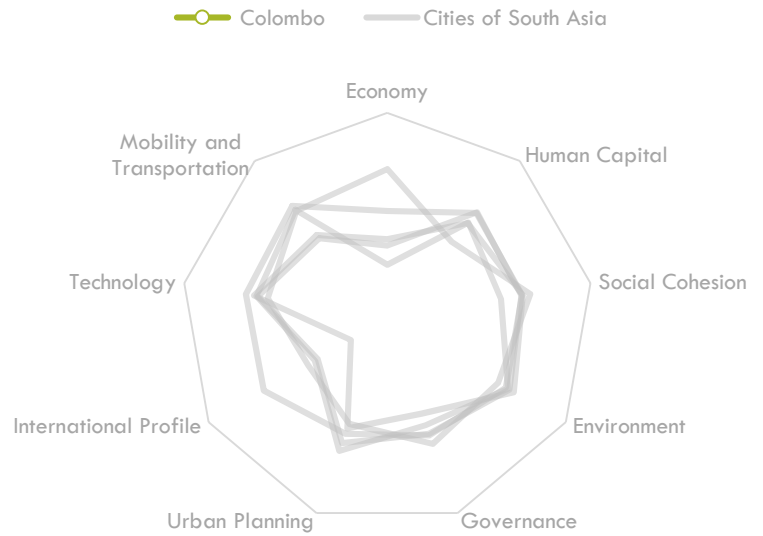
### Cities in Motion index ranking

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

**Colombo n.d.**

### Cities in Motion index ranking by subcomponent

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



**Transport relevant policy documents**

<b>Year published</b>	<b>Document name</b>
2001	Colombo Urban Transport Strategy
2014	Colombo Metropolitan Transport Master Plan and Areas for International Cooperation
2016	Western Region Megalopolis Transport Master Plan

## References

- ATO Urban Policy Tracker Asian Transport Outlook (ATO). (2024). ATO Urban Policy Tracker. <https://asiantransportoutlook.com/>
- C40 C40. (2024). Greenhouse gas emissions interactive dashboard. [https://www.c40knowledgehub.org/s/article/C40-cities-greenhouse-gas-emissions-interactive-dashboard?language=en\\_US](https://www.c40knowledgehub.org/s/article/C40-cities-greenhouse-gas-emissions-interactive-dashboard?language=en_US)
- CIESIN CIESIN. (2023). SDG Indicator 11.2.1: Urban Access to Public Transport, 2023 Release. <https://www.earthdata.nasa.gov/data/catalog/sedac-ciesin-sedac-sdgi-uapt-2023-2023.00>
- ClimateTrace Climate Trace. (2024). Data Downloads. <https://climatetrace.org/data>
- GHS GHS. (2024). GHSL - Global Human Settlement Layer. [https://human-settlement.emergency.copernicus.eu/ghs\\_ucdb\\_2024.php](https://human-settlement.emergency.copernicus.eu/ghs_ucdb_2024.php)
- Google Environmental Explorer Google. (2024). Environmental Insights Explorer. <https://insights.sustainability.google/places/ChIJbTgmYNLlzMROHiSrNoj7V8?ty=2023&hl=en-US>
- IESE IESE. (2024). IESE Cities in Motion Index. <https://www.iese.edu/media/research/pdfs/ST-0649-E.pdf>
- ITDP ITDP. (2024). The Atlas of Sustainable City Transport. <https://itdp.org/publication/the-atlas-of-sustainable-city-transport/>
- 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>
- OSM OSM. (n.d.). Open Street Map. <https://www.openstreetmap.org/#map=4/21.84/82.79>
- Primary data This includes city official reports or MDB/ Research organisation/ Third party report endorsed/ accepted/ guided by the city government
- TE Transport Politic. (n.d.). Transit Explorer Global Data. <https://www.thetransportpolitic.com/transit-explorer/transit-explorer-data-and-sources/>
- TomTom Tom Tom. (2023). Traffic index Ranking. <https://www.tomtom.com/traffic-index/ranking/>
- UITP - GUMI UITP. (2022). Global Urban Mobility Indicators 2022. <https://www.uitp.org/publications/global-urban-mobility-indicators-2022>
- UN Habitat UN Habitat. (2021). Urban Indicators Database. <https://data.unhabitat.org/>
- UNESCAP - SUTI UNESCAP. (n.d.). Sustainable Urban Transport Index (SUTI). <https://www.unescap.org/our-work/transport/suti>
- WHO WHO. (2024). WHO Ambient Air quality database. <https://www.who.int/data/gho/data/themes/air-pollution/who-air-quality-database>
- WB WB. (2024). The Container Port Performance Index 2023. <https://documents1.worldbank.org/curated/en/099060324114539683/pdf/P17583313892300871be641a5ea7b90e0e6.pdf>