METRO MANILA, PHILIPPINES

URBAN TRANSPORT PROFILE

December 2024

Asian
Transport
Observatory

Summary

Metro Manila, a rapidly growing megacity with a population of 24.4 million, faces significant urban transport challenges. Despite relatively low car ownership levels, the city grapples with severe traffic congestion, ranking 5th out of 387 cities globally in terms of congestion level. This congestion is exacerbated by a limited road network and rapidly growing vehicle fleet. Although efforts have been made to expand public transportation, with the rapid transit network growing from 48 kilometers in 2010 to 76 kilometers in 2023, it still falls short compared to other major cities. Moreover, the lack of investment in active mobility infrastructure, such as bike lanes and pedestrian walkways, hinders sustainable transport options.

While Metro Manila has made strides in expanding its public transport network, with a focus on metro and BRT systems, challenges persist. The city's public transport infrastructure remains inadequate compared to its population density, with only 3 kilometers of rapid transit per million people. This highlights the need for further investment in expanding the metro network and improving bus services. Additionally, the city intends to prioritize the development of active mobility infrastructure to provide residents with viable alternatives to private vehicles. Increasing the number of protected bike lanes and pedestrian walkways can encourage walking and cycling, reducing congestion and promoting a healthier urban environment.

Despite these challenges, Metro Manila has the potential to improve its urban transport system. The ongoing construction of the Metro Manila Subway Project, scheduled for completion in 2027, is a crucial step towards enhancing public transport connectivity. Furthermore, the Department of Transportation's target of building over 1,840 kilometers of protected bike lanes by 2028 demonstrates a commitment to promoting active mobility. By prioritizing sustainable transport solutions, Metro Manila can alleviate congestion, reduce its carbon footprint, and improve the quality of life 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.
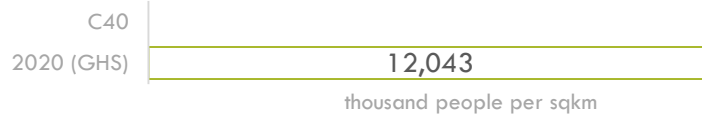
Disclaimer

General

Population 24.4 million
(2020) (GHS)
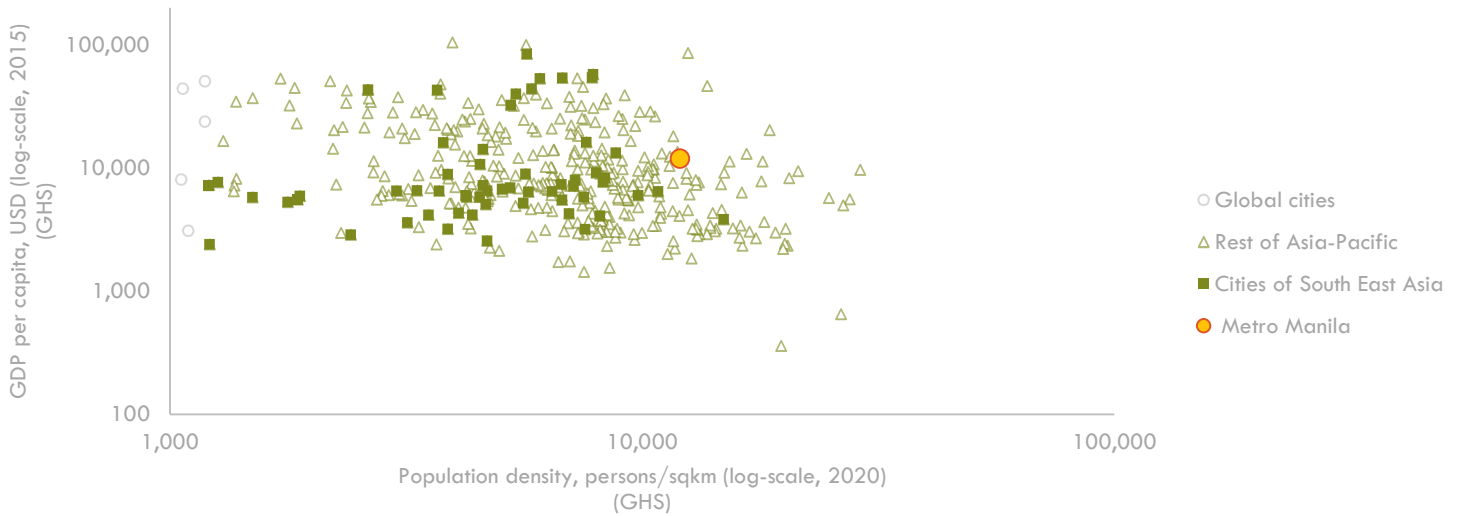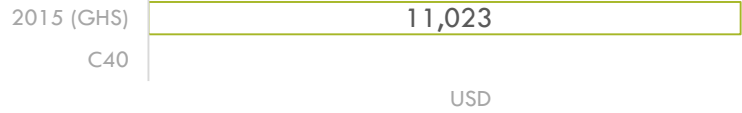
Land area 2,030 sqkm
(2015) (GHS)

Population density 12 thousand per sqkm
(2020) (GHS)

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

Population density

C40	
2020 (GHS)	12,043

thousand people per sqkm

GDP per capita

2015 (GHS)	11,023
C40	

USD

Urban Form and Structure

Builtup area per capita
sqm per capita (GHS)

1990	2000	2015	2020
22	21	18	17

Builtup area per capita
(GHS)

Mean block density
blocks per sqkm (2020) (ITDP)
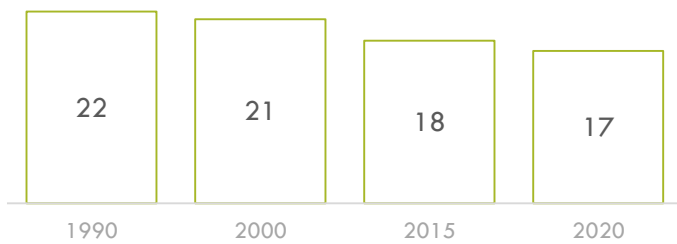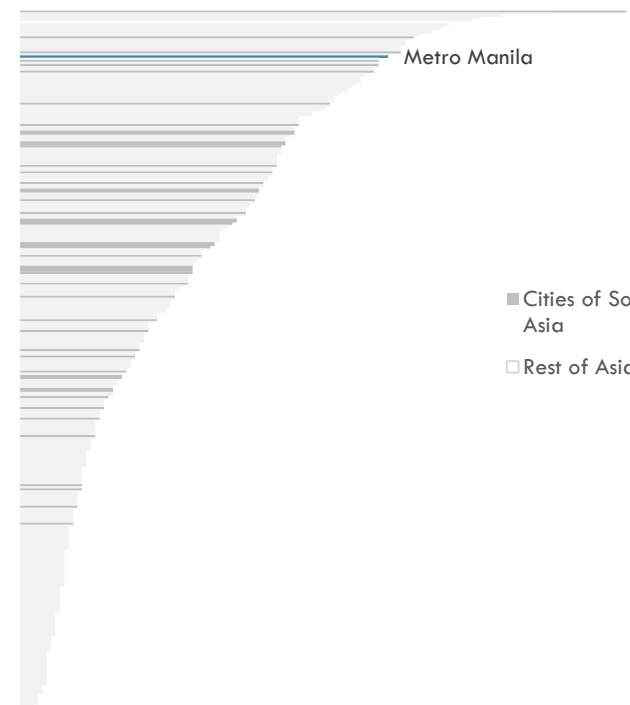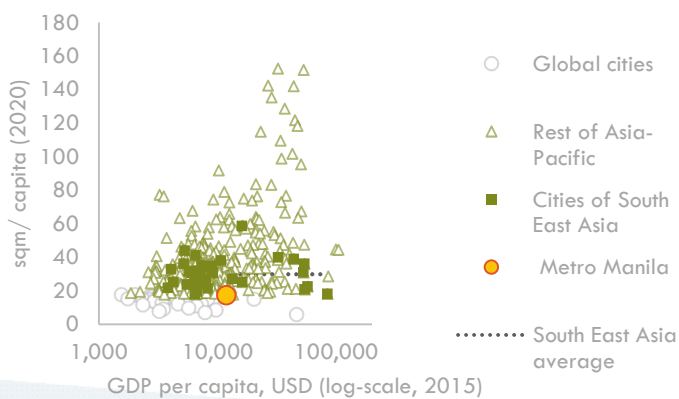
Intersection density
(Oke et.al. (2019) (OSM))

intersections per sqkm

City	Value
Kuala Lumpur	2,666
Vientiane	830
Phnom Penh	806
Surabaya	796
Bandung	796
Jakarta	795
Davao City	228
Singapore	210
Bangkok	184
Hanoi	143
Metro Manila	12,063
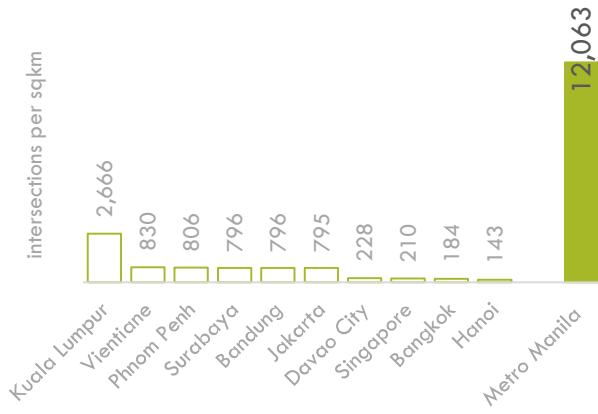
(a) Night time light intensity studies illustrate urban forms and patterns by mapping human activity, infrastructure, and connectivity, offering insights into urban sprawl, density variations, and transport network

Night time light intensity (a)
(GHS)

nano-watt per steradian per square centimetre (2015)

Population density, persons/sqkm (log-scale, 2020)

- ○ Global cities
- △ Rest of Asia-Pacific
- ■ Cities of South East Asia
- ● Metro Manila
- ⋯⋯ South East Asia average

Urban Transport Infrastructure
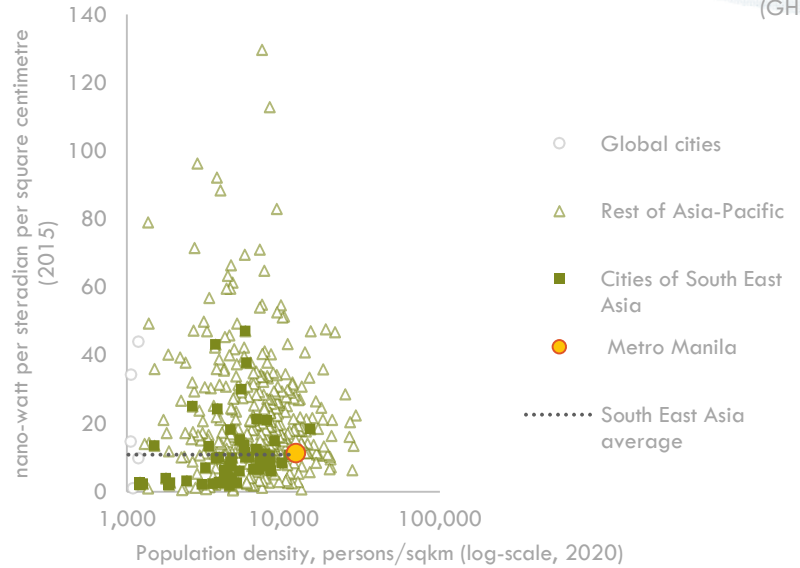
Road availability
kilometers per thousand population (2019) (Oke et.al. (OSM) and GHS)

Philippines (national average)

- ■ Cities of South East Asia
- □ Rest of Asia-Pacific

Road kilometers 8,193 kilometers
(2017) (Primary data)

Rapid transit infrastructure
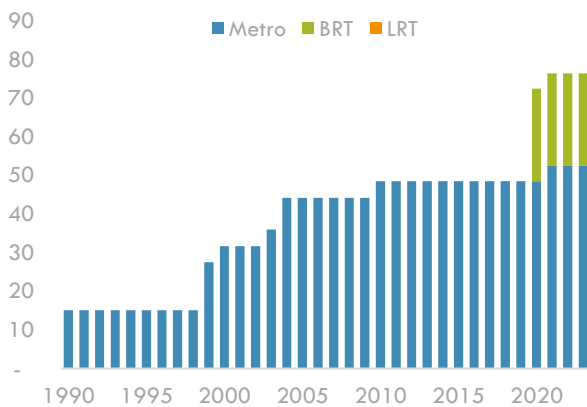(2024) (TE)

- ■ Under construction   ■ Planned

BRT   LRT   Metro

Rapid transit infrastructure
kilometers (ITDP, Primary data)

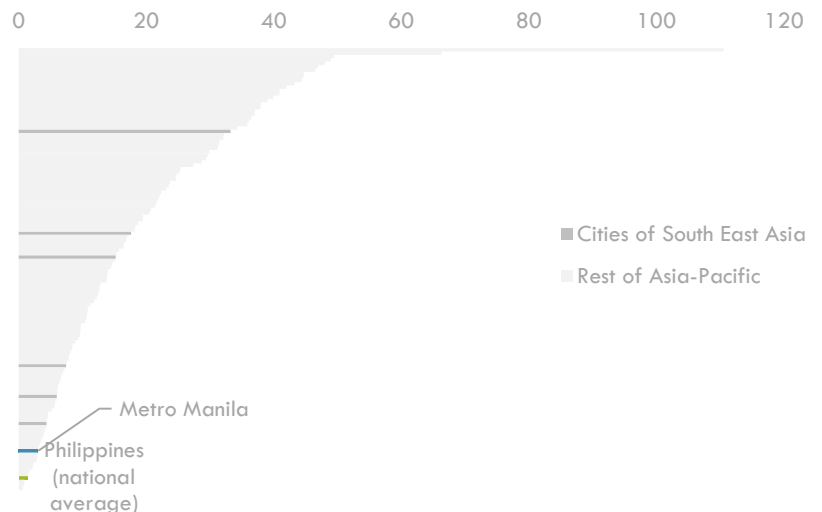■ Metro   ■ BRT   ■ LRT

BRT 24 kilometers
LRT none
Metro 52 kilometers
Total 76 kilometers
(2023) (ITDP)

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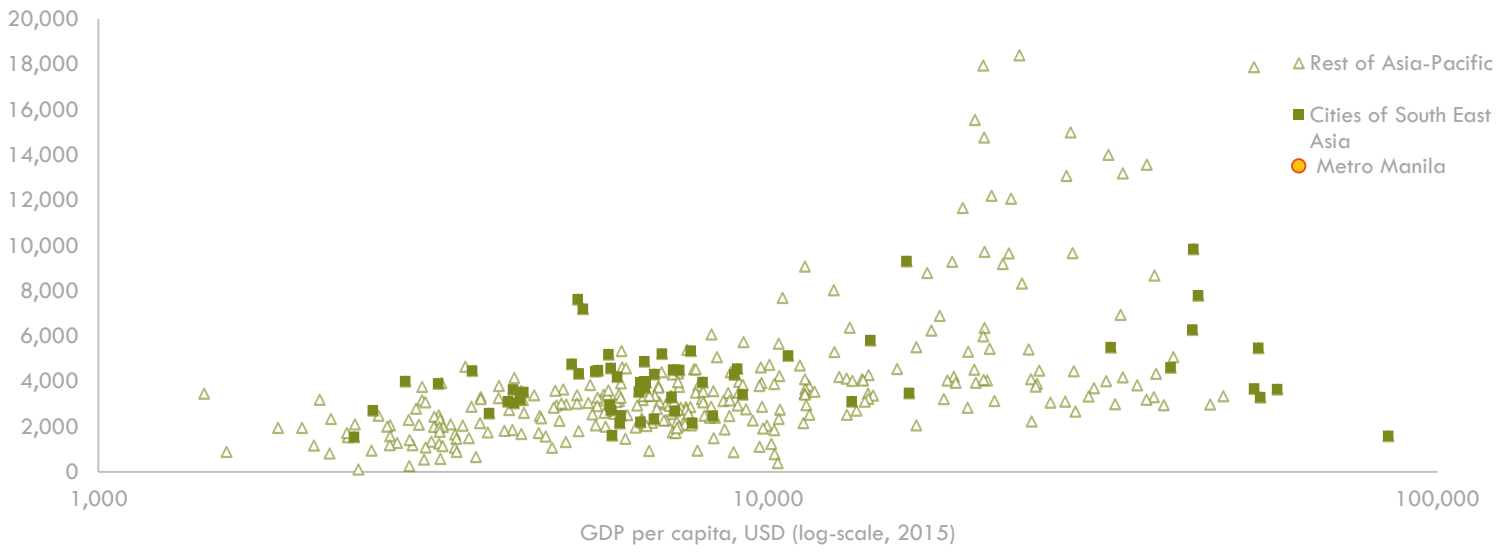kilometers per million urban population (2021) (ITDP, Primary data)

- ■ Cities of South East Asia
- □ Rest of Asia-Pacific

Metro Manila

Philippines (national average)

Approximate transit coverage 5% of land area
(2015) (ITDP and GHS)

Transport Activity and Services
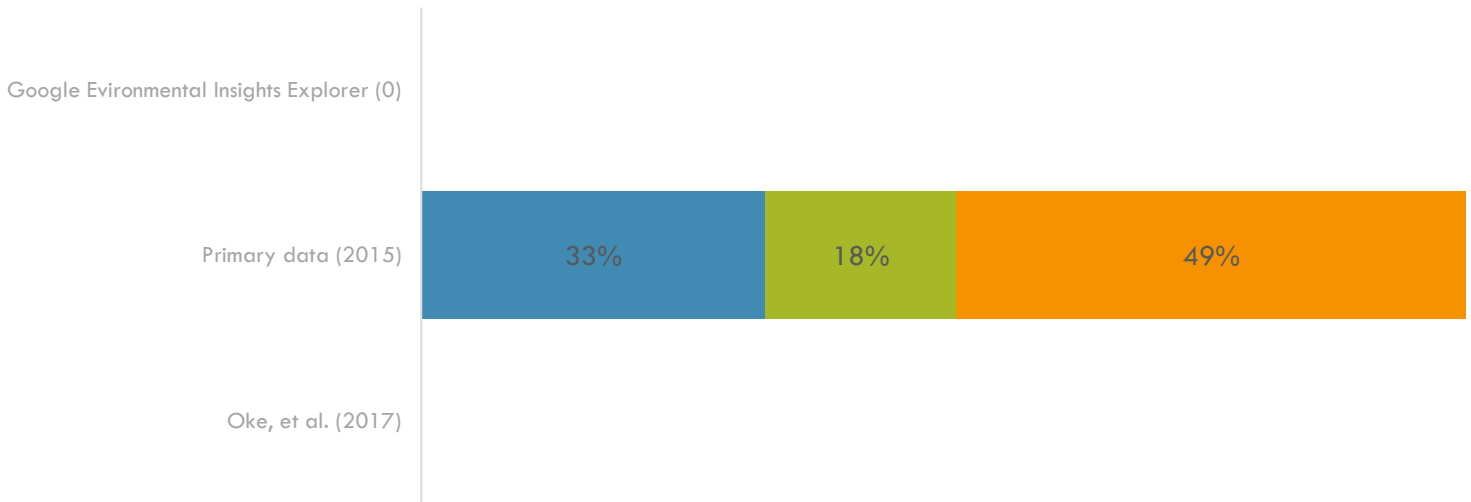
VKT per capita

Vehicle-kilometer per capita (2022) (ClimateTrace)

Trips Mode share (b)

Share, %

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

Google Evironmental Insights Explorer (0)			
Primary data (2015)	33%	18%	49%
Oke, et al. (2017)			

(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.

Metro ridership n.d.

Congestion ranking 5th out of 387 cities

Congestion level

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

■ Other cities

Vehicle motorization

Vehicles per thousand population (Primary data)

- ■ Metro Manila
- ■ Cities in South East Asia
- ■ Rest of Asia-Pacific

Metro Manila, 2021

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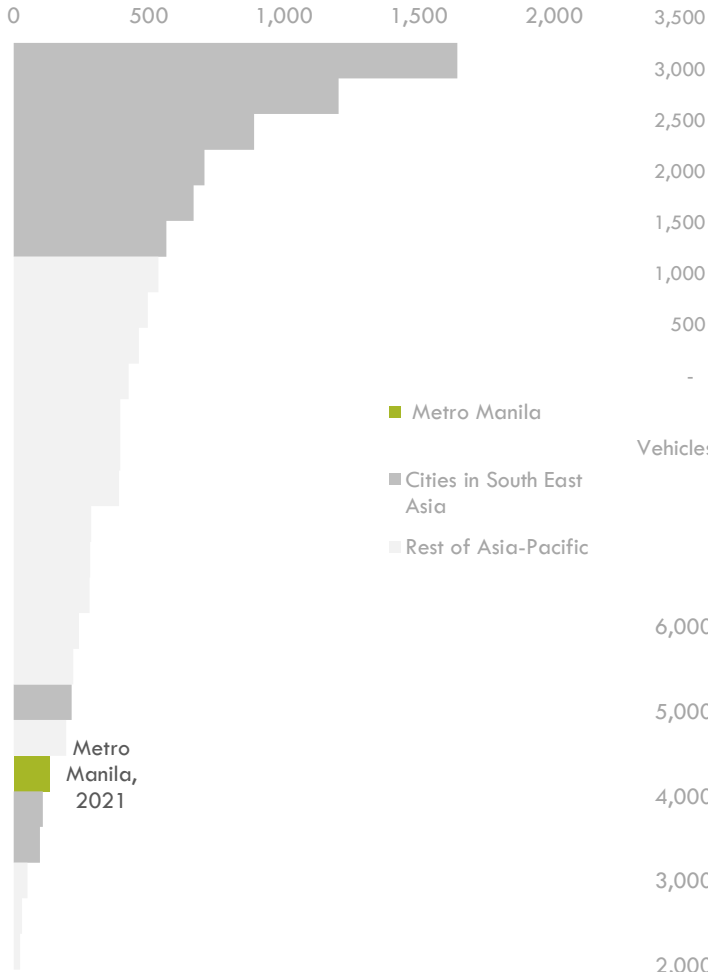
Vehicles registered (c)

Thousand vehicles (Primary data)

Vehicles considered: Car, Bus, Freight vehicle, 2W, 3W, Others
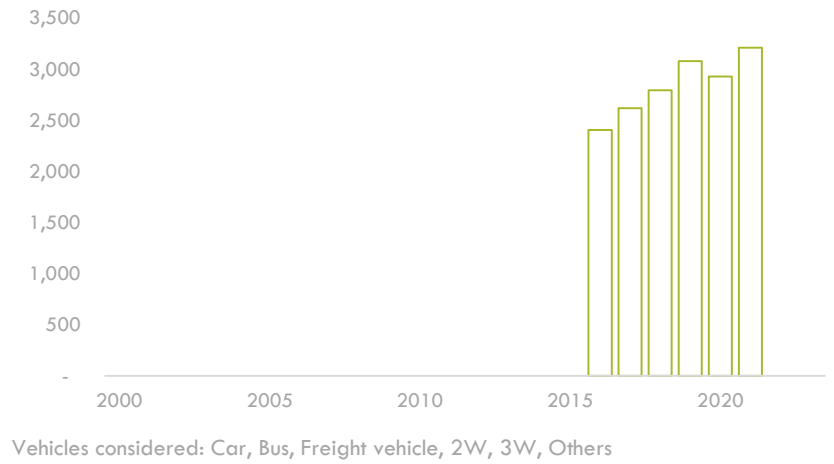
Bus fleet (operational)

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)

- ○ Global cities
- △ Rest of Asia-Pacific
- ■ Cities of South East Asia
- ⋯ South East Asia average
- ● Metro Manila

GDP per capita, USD (log-scale, 2015)
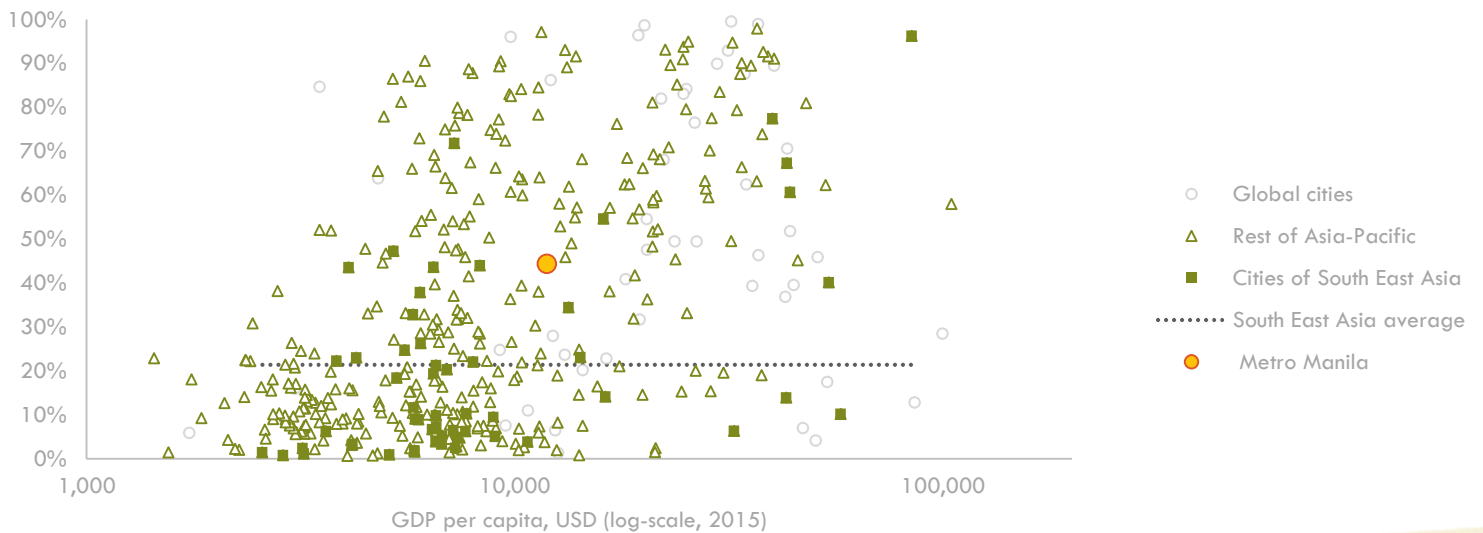
Access to urban public transport (d) - by source

Share of population with convenient access to public transport

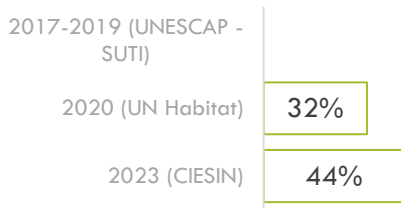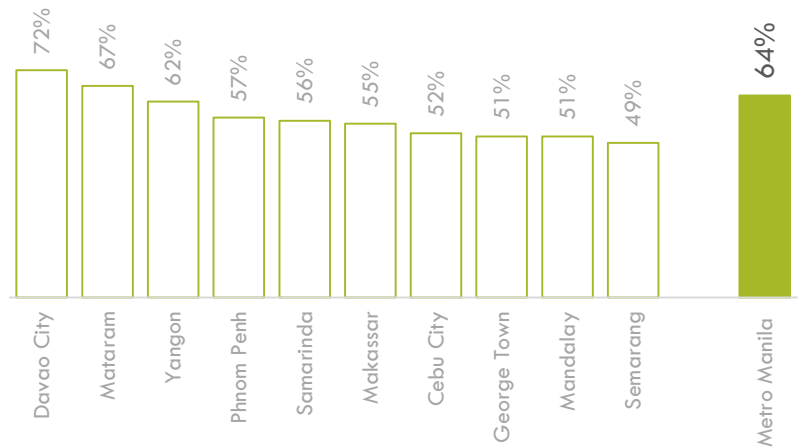|	
2017-2019 (UNESCAP - SUTI)	
2020 (UN Habitat)	32%
2023 (CIESIN)	44%

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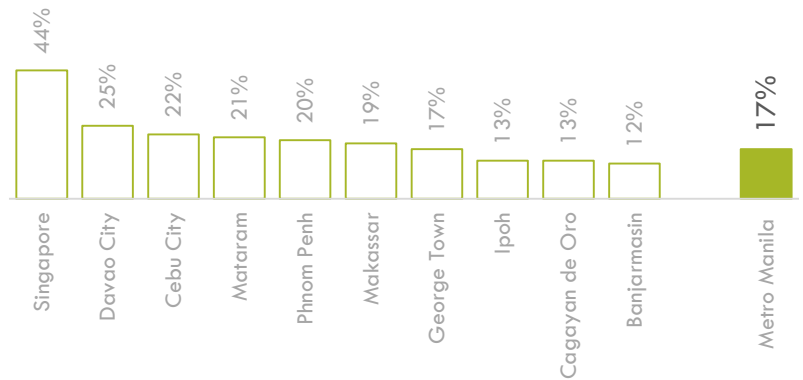
People near services (both healthcare and schools) (e)

(Share of population) vs. highest 10 cities in South East Asia (2020) (ITDP)
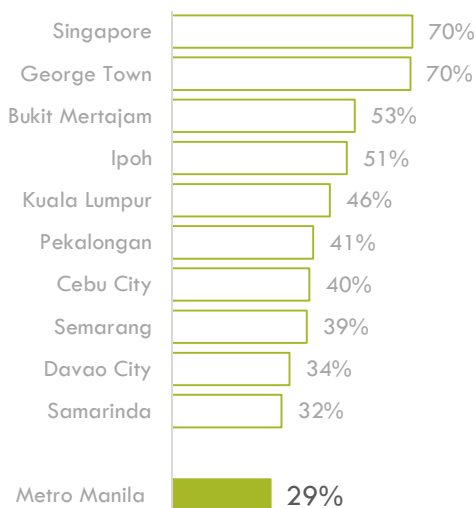
City	Value
Davao City	72%
Mataram	67%
Yangon	62%
Phnom Penh	57%
Samarinda	56%
Makassar	55%
Cebu City	52%
George Town	51%
Mandalay	51%
Semarang	49%
Metro Manila	64%

People near car-free places (f)

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

City	Value
Singapore	44%
Davao City	25%
Cebu City	22%
Mataram	21%
Phnom Penh	20%
Makassar	19%
George Town	17%
Ipoh	13%
Cagayan de Oro	13%
Banjarmasin	12%
Metro Manila	17%

People near open public space

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

City	Value
Singapore	70%
George Town	70%
Bukit Mertajam	53%
Ipoh	51%
Kuala Lumpur	46%
Pekalongan	41%
Cebu City	40%
Semarang	39%
Davao City	34%
Samarinda	32%
Metro Manila	29%

People near protected bikelanes

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

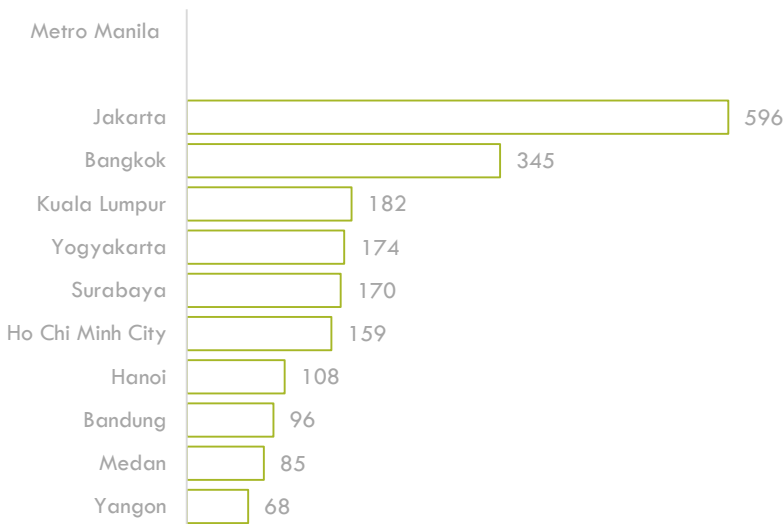| City	Value
Singapore	40%
George Town	9%
Bangkok	2%
Kuala Lumpur	1%
Hanoi	1%
Kota Kinabalu	1%
Angeles (San Fernando)	1%
Phnom Penh	1%
Davao City	1%
Jakarta	0%
Metro Manila	1%
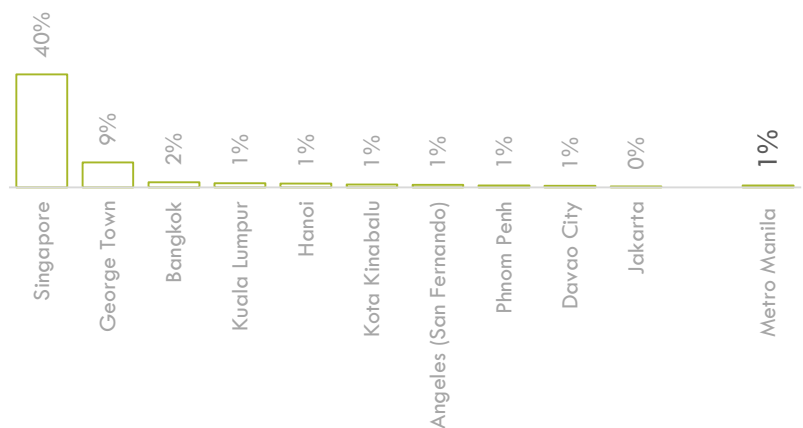
Transport externalities

Road transport - CO2 emissions

Thousand tonnes (2022) (ClimateTrace)

△ Rest of Asia-Pacific
■ Cities of South East Asia
⊙ Metro Manila

Road transport - N2O emissions

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

City	Value
Metro Manila	
Jakarta	596
Bangkok	345
Kuala Lumpur	182
Yogyakarta	174
Surabaya	170
Ho Chi Minh City	159
Hanoi	108
Bandung	96
Medan	85
Yangon	68

Population exposure to disasters

Share of population (2015) (GHS)

14% Exposed to floods
69% Exposed to storm surges
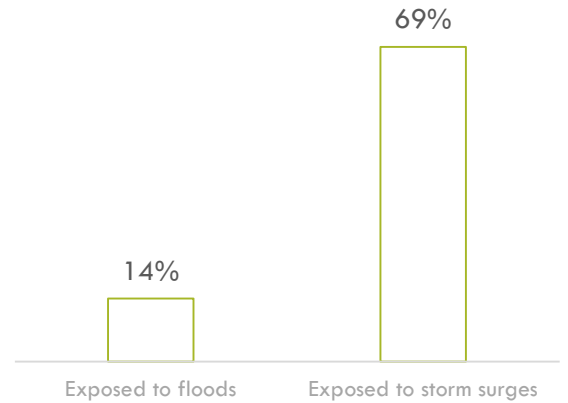
Road transport - CH4 emissions

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

City	Value
Metro Manila	
Jakarta	4,565
Bangkok	2,090
Yogyakarta	1,329
Surabaya	1,299
Kuala Lumpur	1,023
Ho Chi Minh City	965
Bandung	733
Hanoi	653
Medan	652
Semarang	511
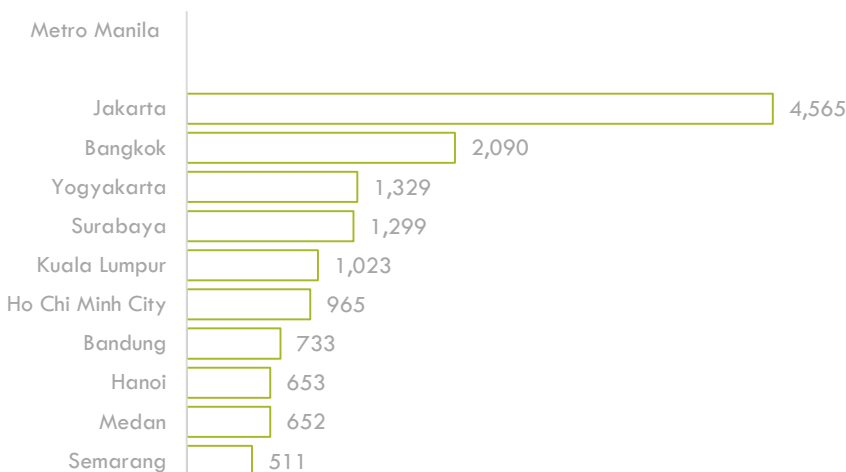
Urban built-up area exposure to disasters

Share of urban area (2020) (GHS)

10% Exposed to floods
100% Exposed to earthquakes
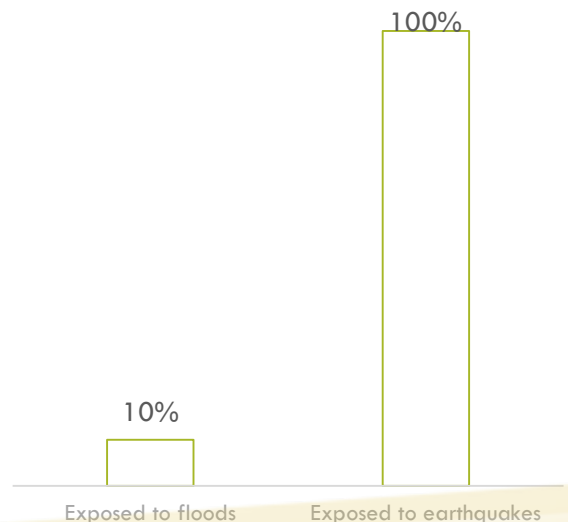
Transport PM 2.5 emissions
(GHS)
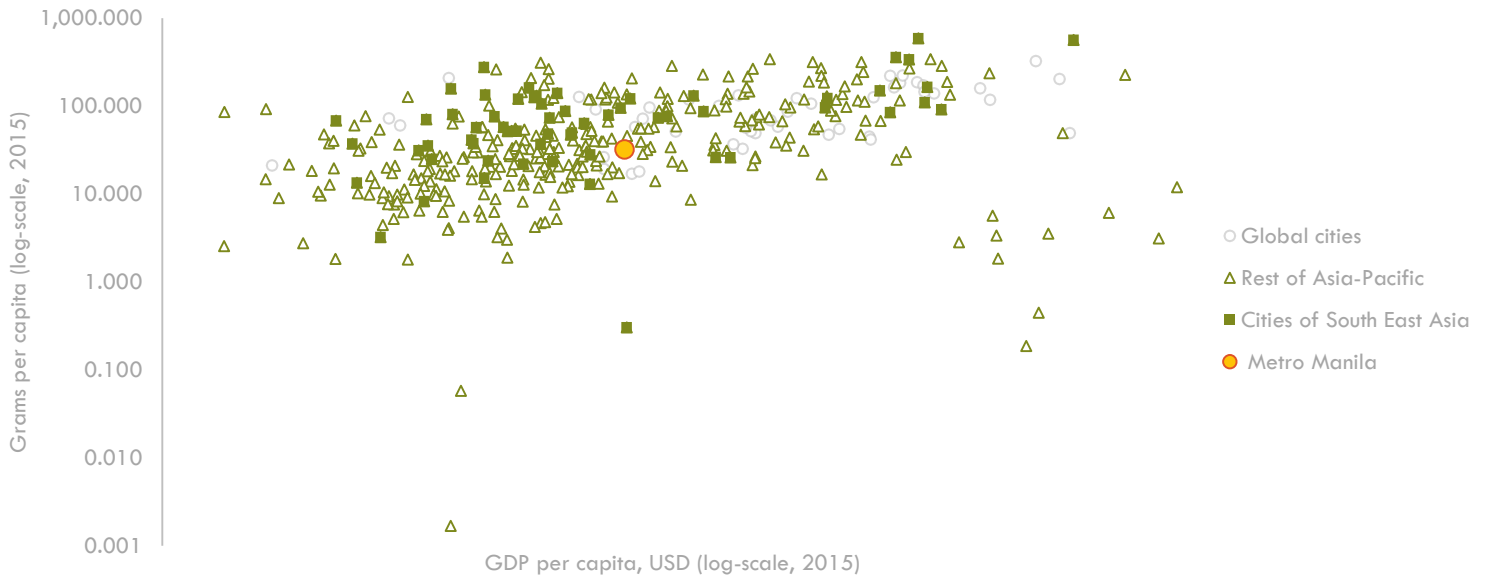
Grams per capita (log-scale, 2015)

GDP per capita, USD (log-scale, 2015)

○ Global cities
△ Rest of Asia-Pacific
■ Cities of South East Asia
● Metro Manila

NO2 concentration
ug/m3 (vs. highest 5 cities in South East Asia) (WHO)

Jakarta, Bangkok, Singapore, Phnom Penh, Yangon, Metro Manila

PM 2.5 concentration
ug/m3 (vs. highest 5 cities in South East Asia) (WHO)

Hanoi, Jakarta, Ho Chi Minh City, Kuala Lumpur, Haiphong, Metro Manila

Road crash fatality rate
Deaths per 100,000 population

Metro Manila (Primary data), Metro Manila (ESCAP-SUTI) 3, Philippines (2021) 10
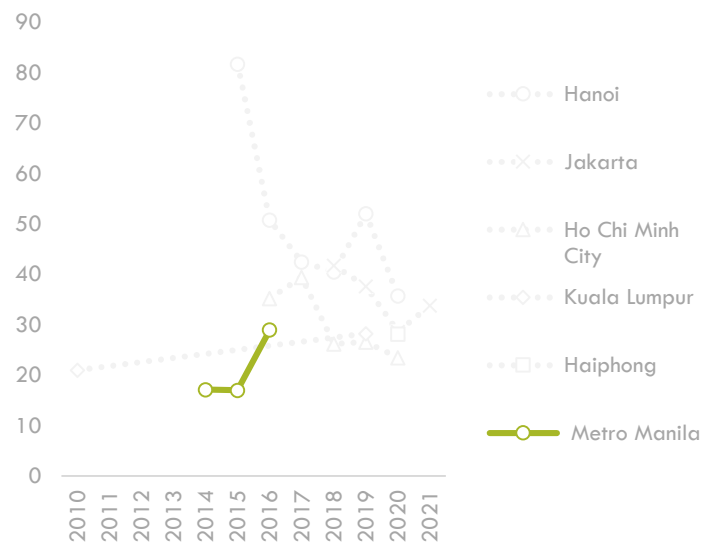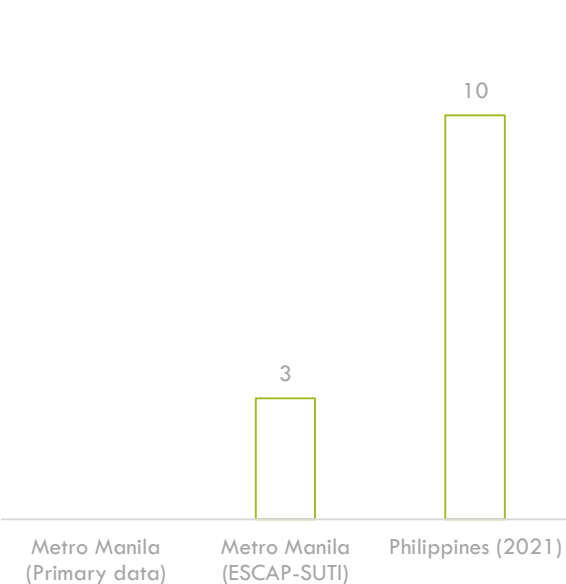
Road crash fatality rate
Deaths per 100,000 population (Primary data)
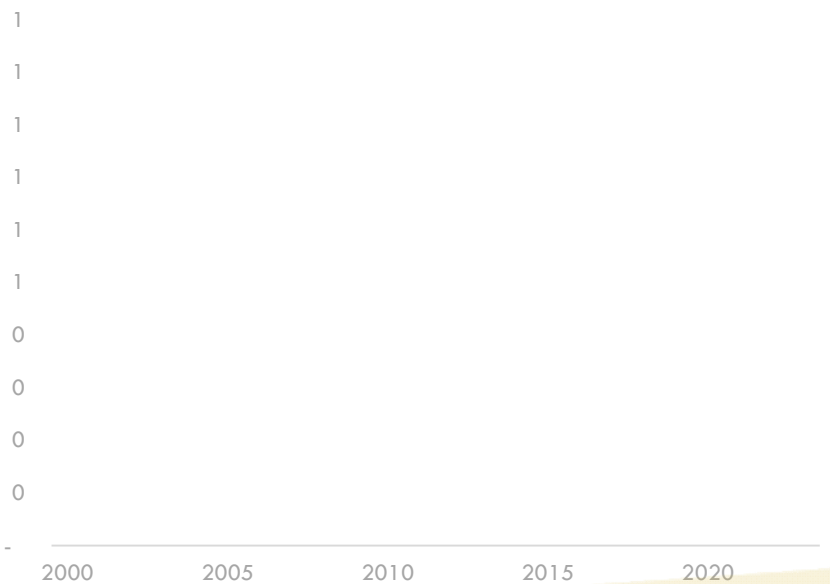
Transport related Indices

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)

Metro Manila 311th 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

Metro Manila 0.04/1.00

(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

Metro Manila 67 score out of 100
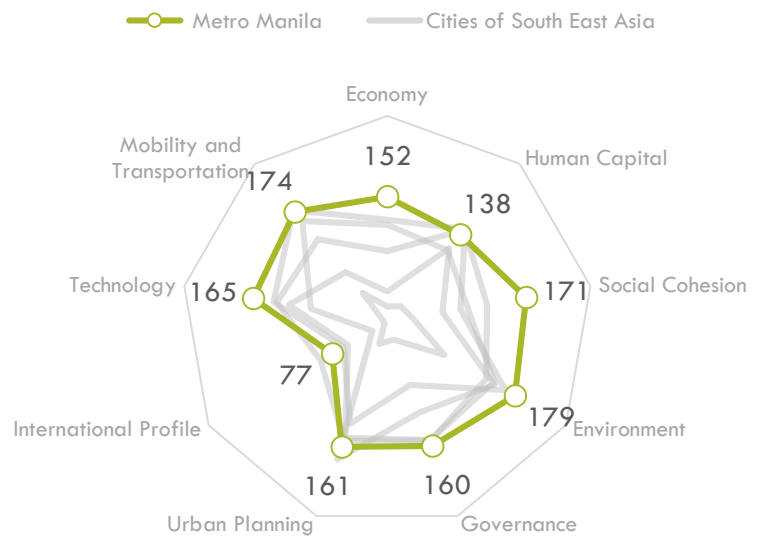
(2024) (UNESCAP - SUTI)

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

Metro Manila 160th out of 183 cities

(2024) (IESE)

Cities in Motion index ranking by subcomponent

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

— Metro Manila — Cities of South East Asia

Economy 152
Human Capital 138
Social Cohesion 171
Environment 179
Governance 160
Urban Planning 161
International Profile 77
Technology 165
Mobility and Transportation 174

Transport relevant policy documents

Year published	Document name
2012	Greenprint 2030
2017	NCR Regional Development Plan
2021	Sustainable Urban Transport Index for Metro Manila and Impacts of COVID-19 on Mobility
n.d.	National Urban Mobility Program EDSA-Bus Case Study
n.d.	Roadmap for Transport Infrastructure Development for Metro Manila and Its Surrounding Areas

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
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
Google Evironmental Explorer	Google. (2024). Environmental Insights Explorer. https://insights.sustainability.google/places/ChIJbTgmYNLIlzMR0HiSrNoj7V8?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 Stret 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 endorced/ 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/P175833138923008716e641a5ea7b90e0e6.pdf