



DAVAO CITY, PHILIPPINES

URBAN TRANSPORT PROFILE

December 2024

Summary

Davao City, with a population of 1.5 million, is experiencing rapid urbanization, leading to increased demands on its urban transport system. The city's population density grew from 12,000 persons per sqkm in 2000 to 15,000 persons per sqkm in 2020, accompanied by a significant increase in GDP per capita. This economic growth has likely fueled a rise in private vehicle ownership, as evidenced by the 135,000 registered vehicles in the city by 2016. Davao City's urban form is characterized by a relatively low built-up area per capita compared to the Southeast Asian average, and a lower road density compared to the national average. This suggests potential challenges in accommodating the growing transport needs of the population.

Despite these challenges, Davao City is taking proactive steps to modernize its public transport system. The Davao Public Transport Modernization Program aims to establish a comprehensive bus network, improving connectivity and efficiency. The city's commitment to sustainable transport is further demonstrated by its participation in the MobiliseYourCity Partnership. However, current data reveals a heavy reliance on private modes of transport, with 87% of trips made by private vehicles. This highlights the need for effective strategies to encourage a shift towards more sustainable modes, such as walking, cycling, and public transport.

To achieve its sustainable transport goals, Davao City intends to address several key areas. Improving access to public transport is crucial, with only 22% of the population currently having convenient access. Expanding the public transport network, particularly in underserved areas, and integrating it with other modes like walking and cycling, will be essential. Furthermore, promoting car-free zones and investing in protected bike lanes can encourage active travel and reduce reliance on private vehicles. The development of the Metropolitan Davao Comprehensive and Sustainable Urban Master Plan 2025-2045, in partnership with JICA and NEDA, provides a framework for integrated urban development, including sustainable transport solutions.

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

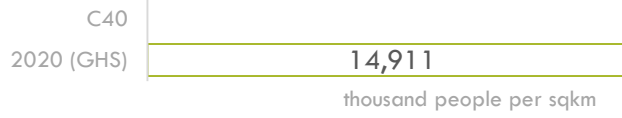
Population 1.5 million

(2020) (GHS)

Population density

Land area 130 sqkm

(2016) (Oke et.al. (2019) (Demographia))



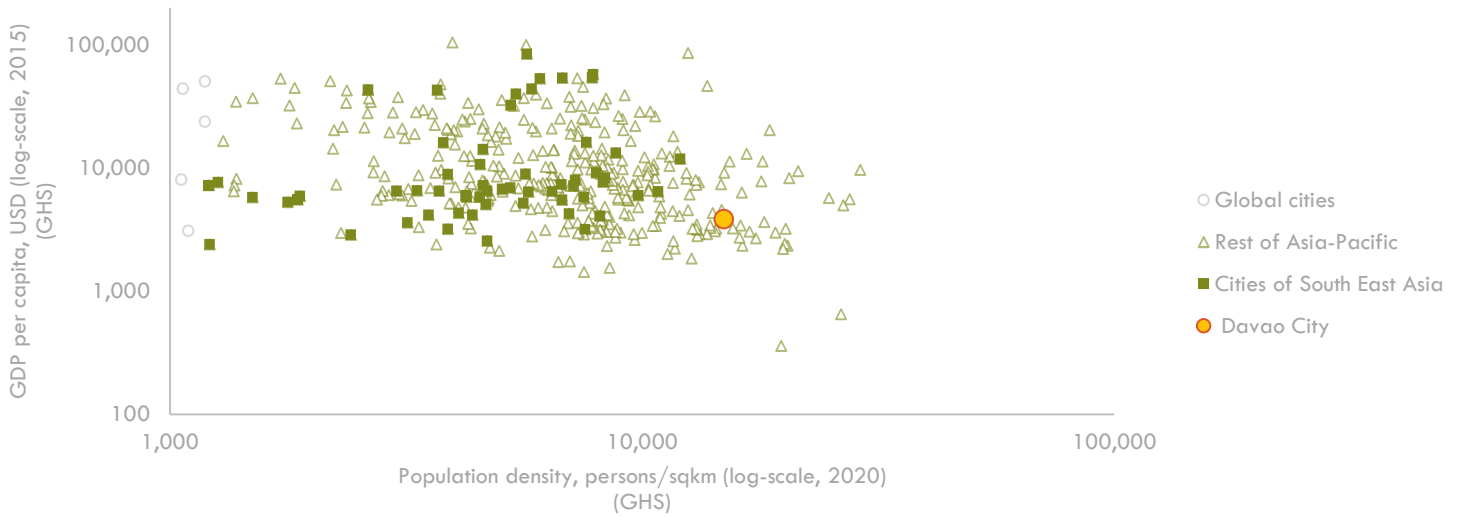
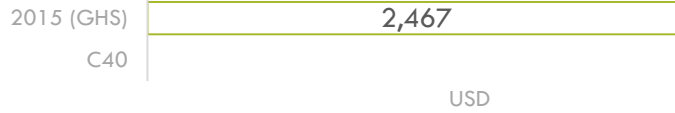
Population density 15 thousand per sqkm

(2020) (GHS)

GDP per capita

GDP per capita 2 thousand USD

(2015) (GHS)



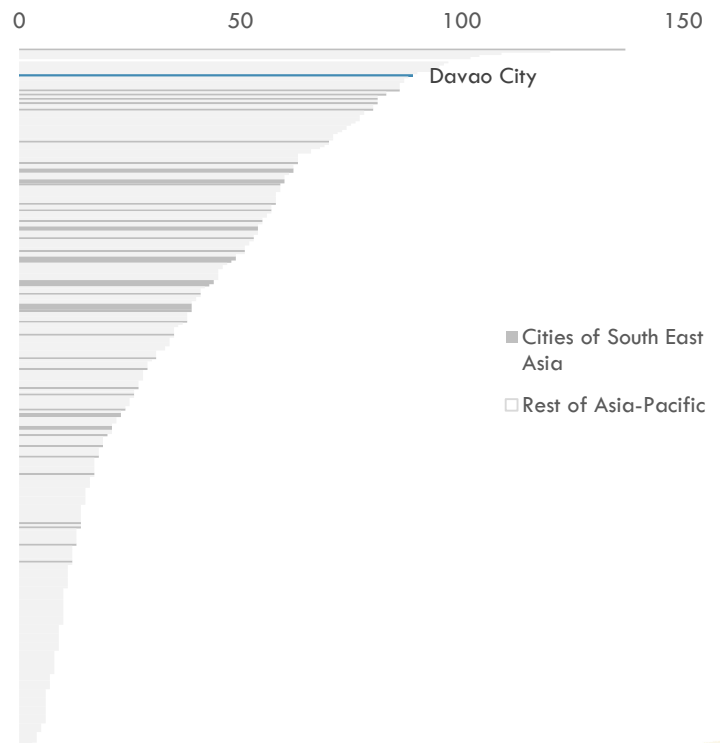
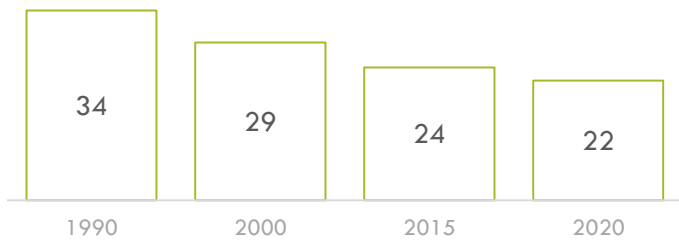
Urban Form and Structure

Builtup area per capita

sqm per capita (GHS)

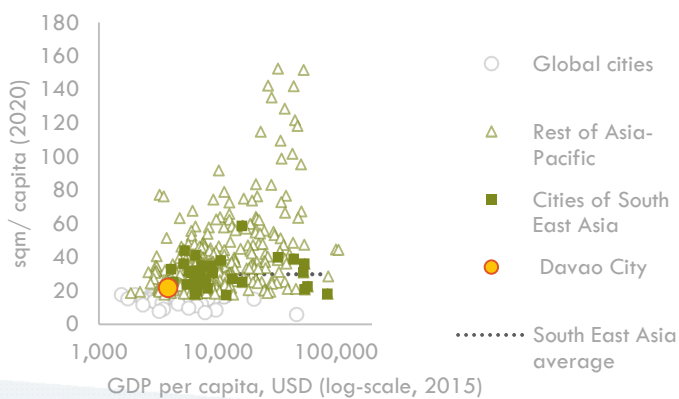
Mean block density

blocks per sqkm (2020) (ITDP)



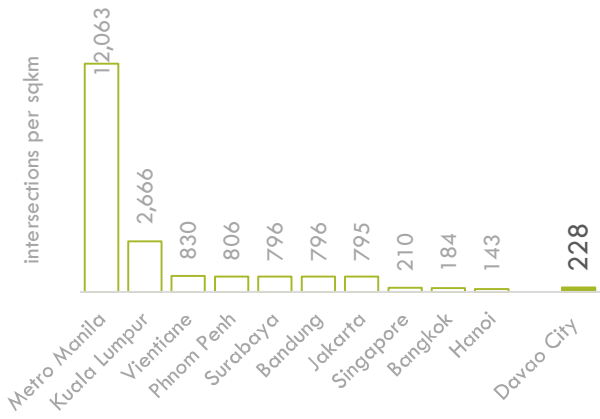
Builtup area per capita

(GHS)



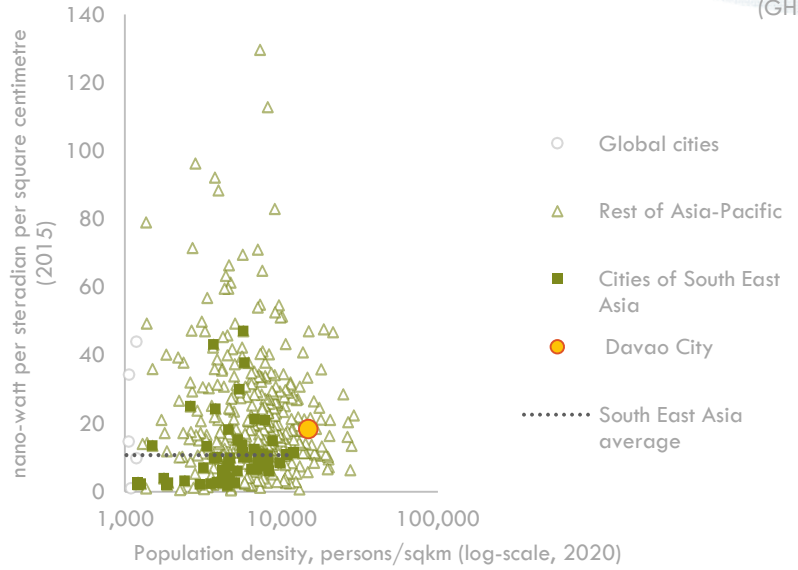
Intersection density

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



Night time light intensity (a)

(GHS)

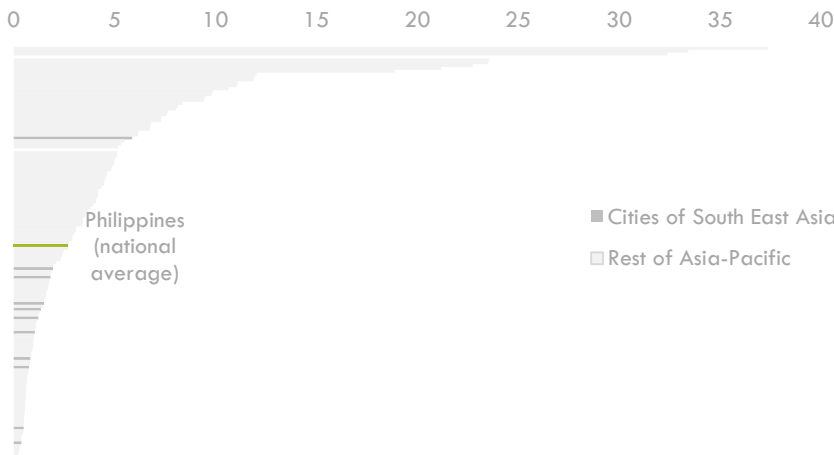


(a) Night time light intensity studies illustrate urban forms and patterns by mapping human activity, infrastructure, and connectivity, offering insights into urban sprawl, density variations, and transport network

Urban Transport Infrastructure

Road availability

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



Road kilometers 3,614 kilometers

(2018) (Primary data)

Rapid transit infrastructure

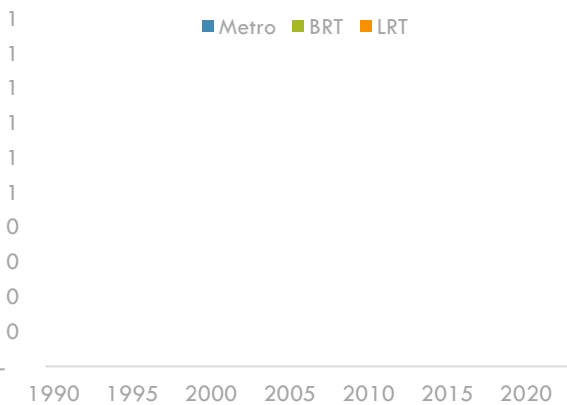
(2024) (TE)

■ Under construction ■ Planned

BRT LRT Metro

Rapid transit infrastructure

kilometers (ITDP, Primary data)



BRT none

LRT none

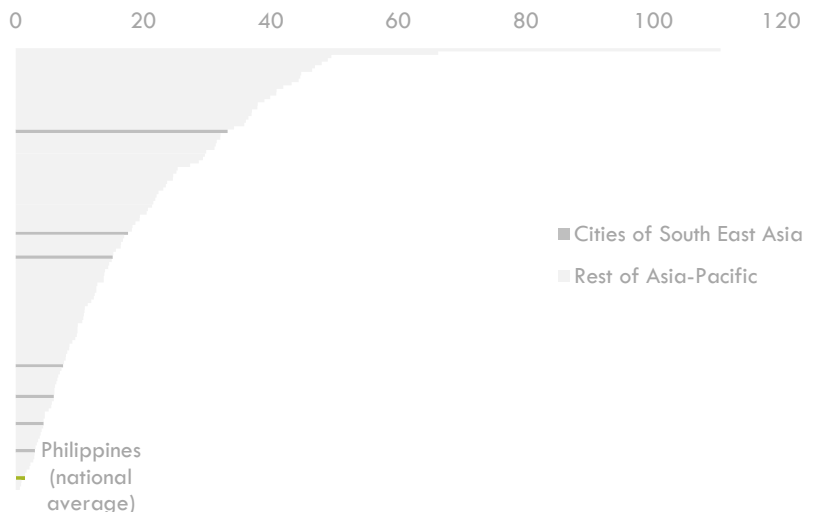
Metro none

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

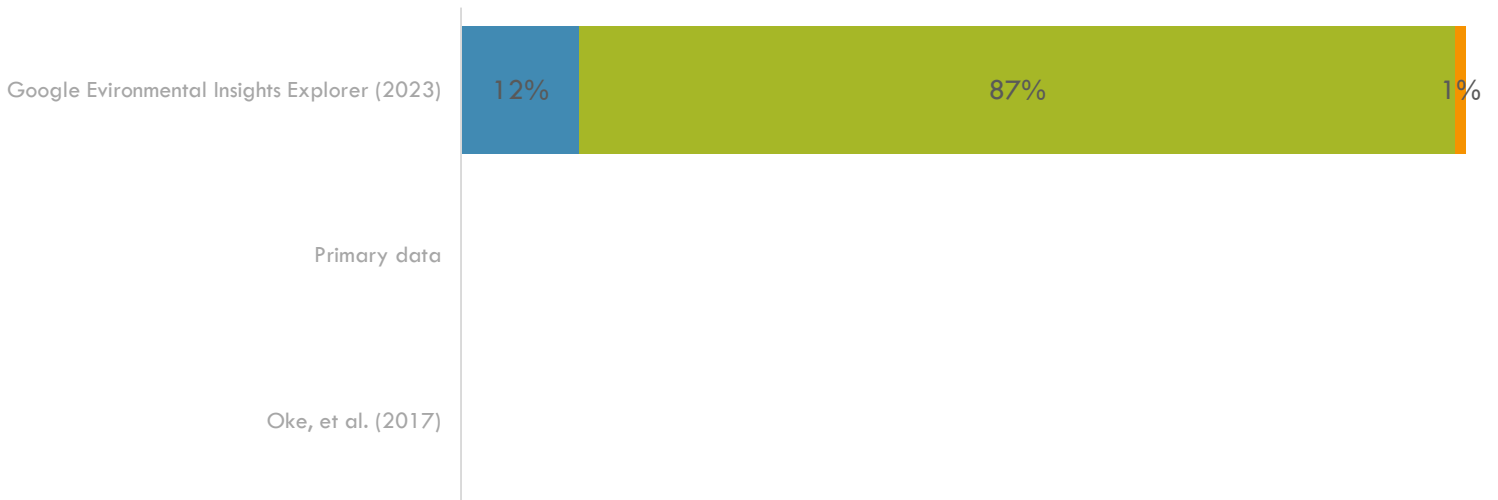
Vehicle-kilometer per capita (2022) (ClimateTrace)



Trips Mode share (b)

Share, %

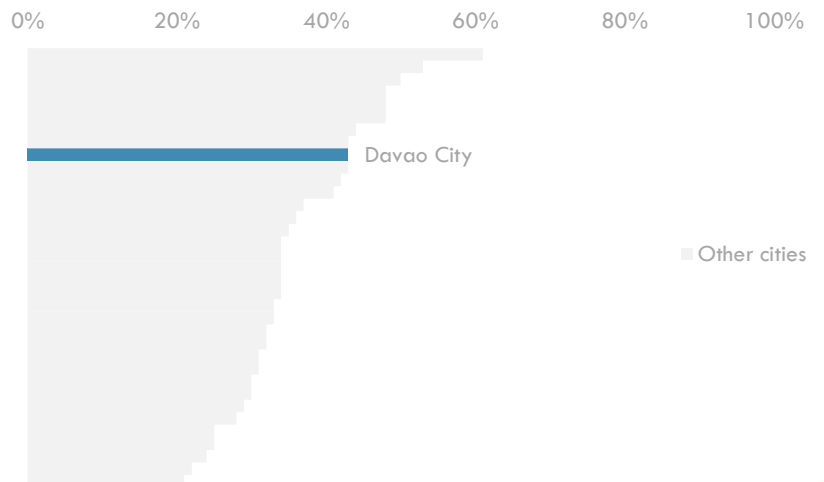
■ Walking and cycling ■ Private ■ Public transport (bus, ferry, informal public transit, etc)



(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)

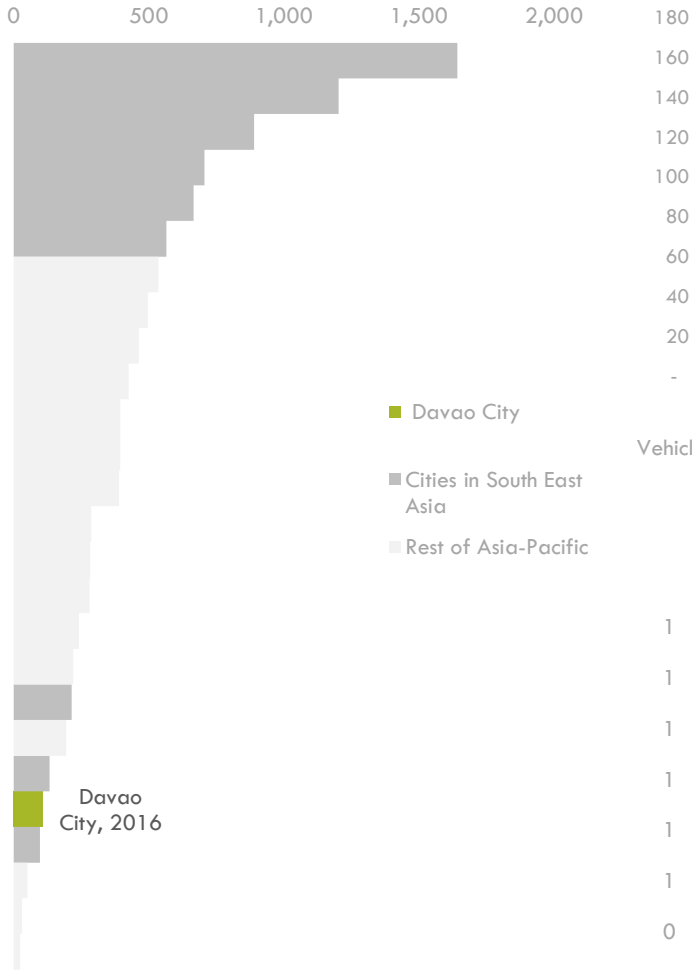


Metro ridership n.d.

Congestion ranking n.d.

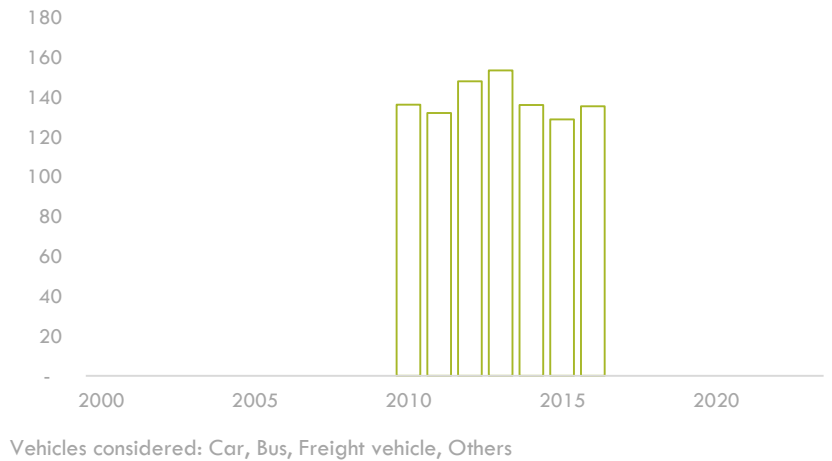
Vehicle motorization

Vehicles per thousand population (Primary data)



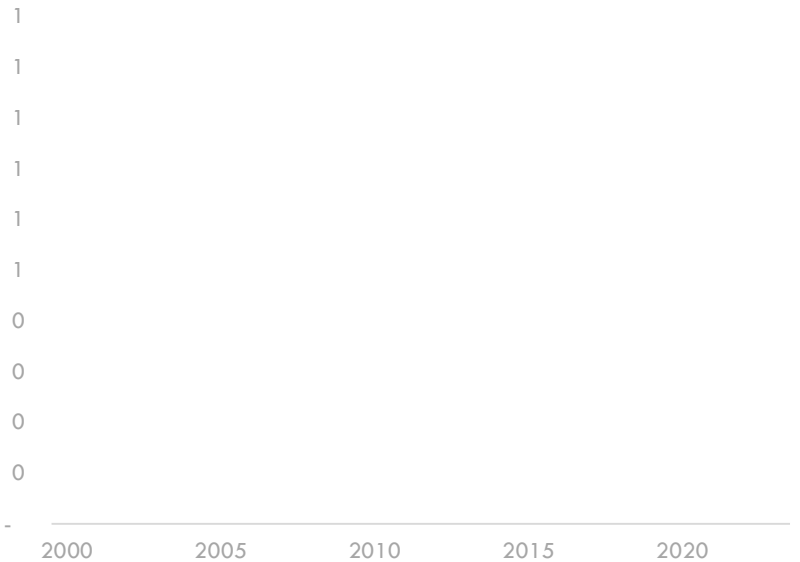
Vehicles registered (c)

Thousand vehicles (Primary data)



Bus fleet (operational)

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

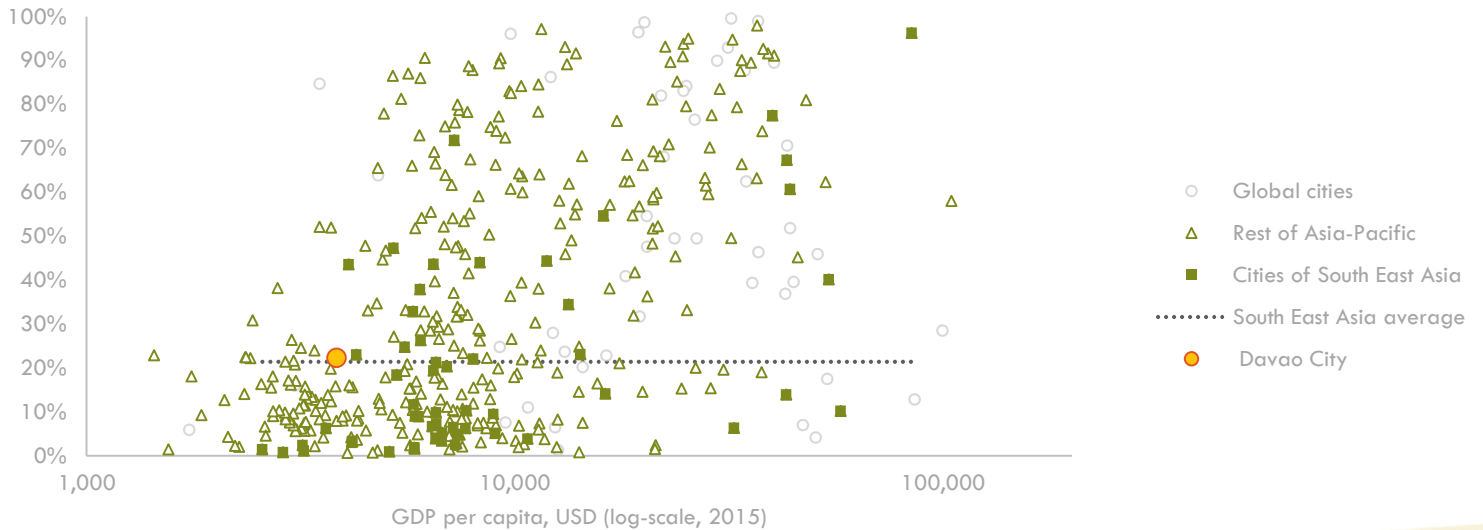


(c) It should be noted that, in most cases, scrapped vehicles are not de-registered, which may result in slightly inflated numbers.

Urban Access

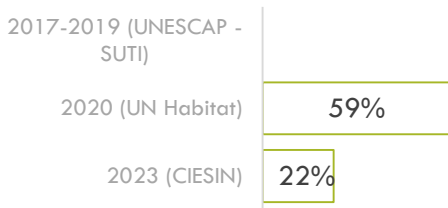
Access to urban public transport

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



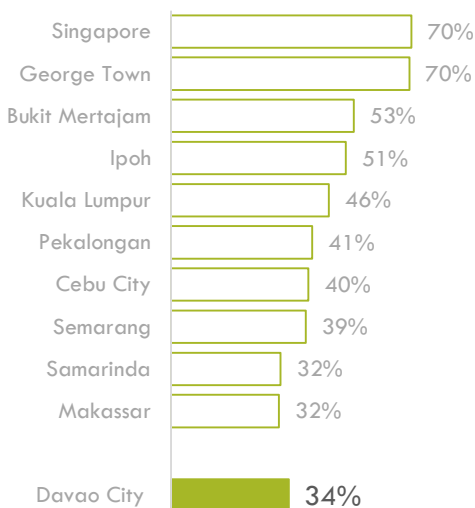
(d) "Access to urban public transport" is computed as share of population who live within a walking distance (along a street network) of 500m to a low capacity public transport system (eg bus, tram) and 1000m to a high capacity public transport system (eg trains, ferries, etc). Only public transport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

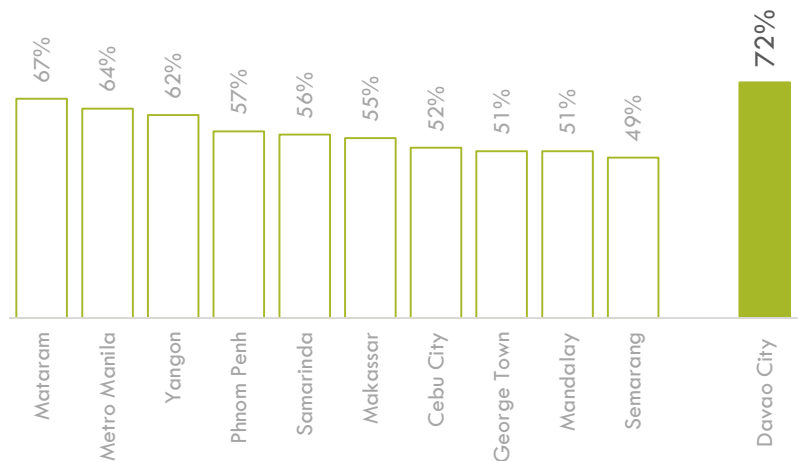
People near open public space

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



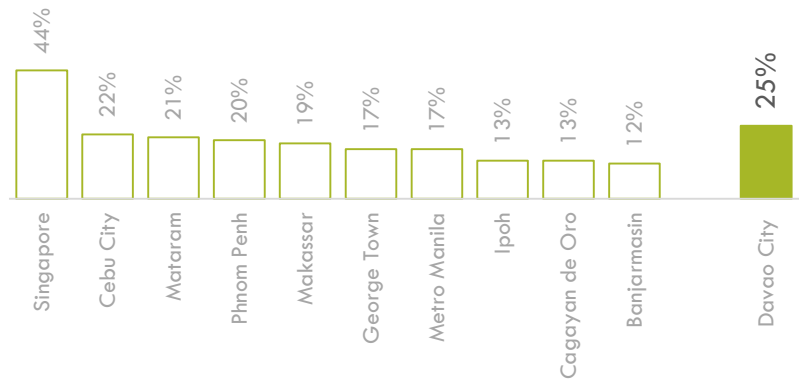
People near services (both healthcare and schools) (e)

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



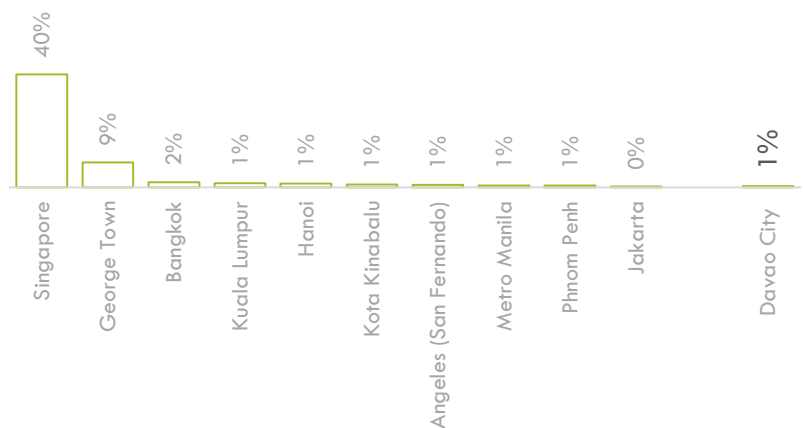
People near car-free places (f)

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



People near protected bikelanes

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



Transport externalities

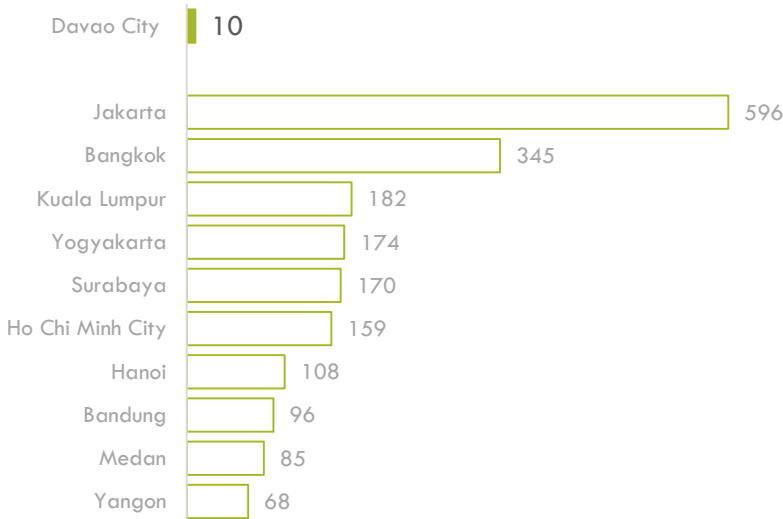
Road transport - CO2 emissions

Thousand tonnes (2022) (ClimateTrace)



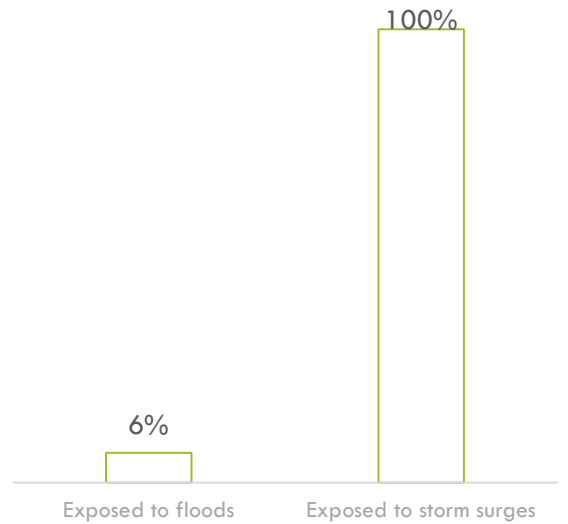
Road transport - N2O emissions

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



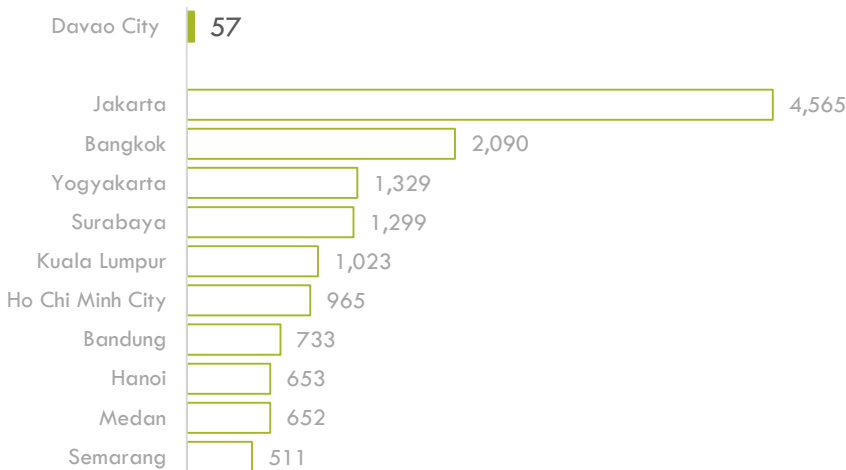
Population exposure to disasters

Share of population (2015) (GHS)



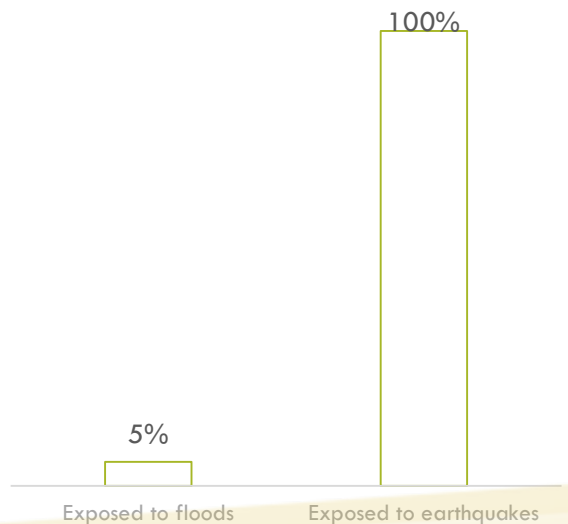
Road transport - CH4 emissions

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



Urban built-up area exposure to disasters

Share of urban area (2020) (GHS)



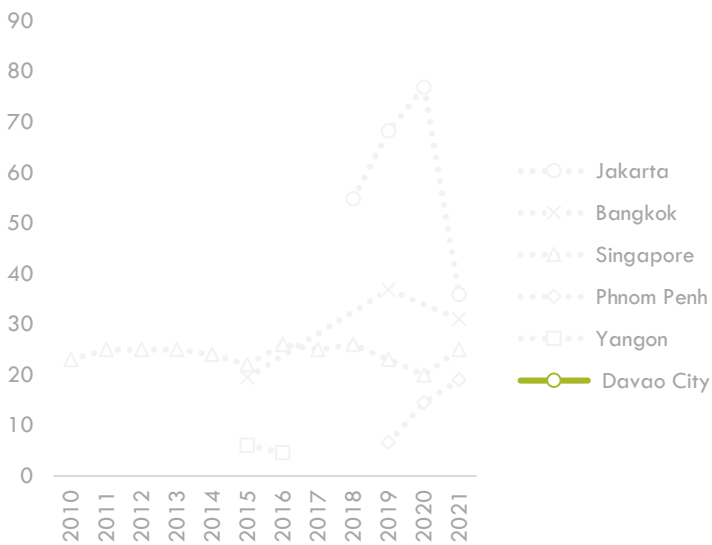
Transport PM 2.5 emissions

(GHS)



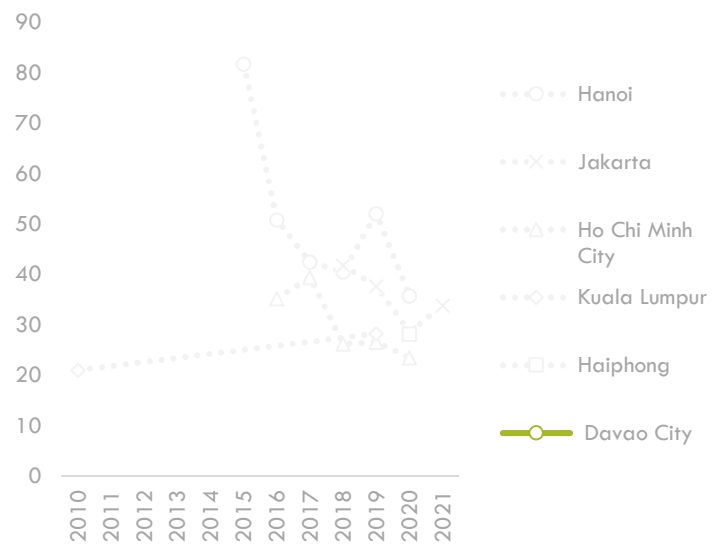
NO2 concentration

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



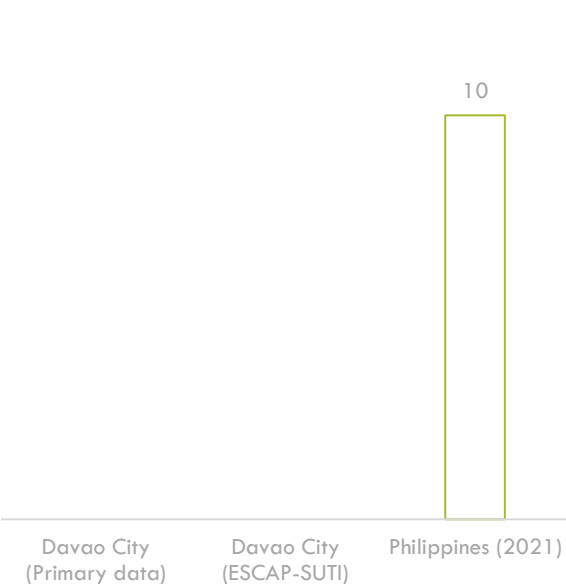
PM 2.5 concentration

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



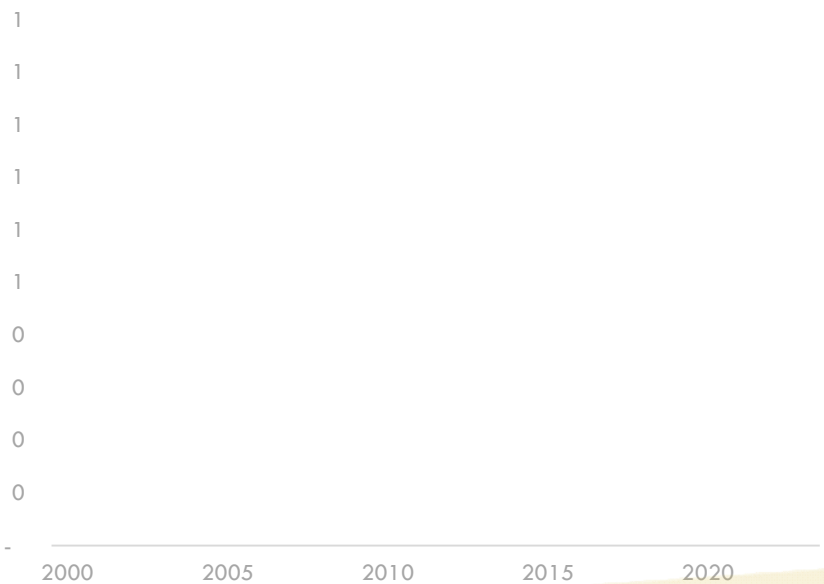
Road crash fatality rate

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)

Davao City 278th 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

Davao City 0.02/1.00
(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

Davao City n.d.

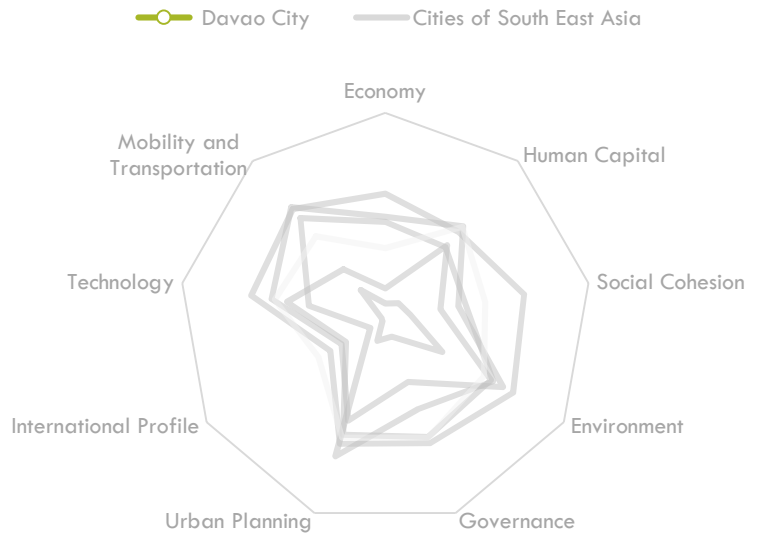
Cities in Motion index ranking

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

Davao City n.d.

Cities in Motion index ranking by subcomponent

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



Transport relevant policy documents

Year published	Document name
2010	Bicycle Ordinance
2018	Davao City Transport Roadmap
2018	Davao City Infrastructure Development Plan and Capacity Building Project
2018	Davao Comprehensive Development Plan 2018-2022
2019	Comprehensive Landuse Plan (CLUP) (2019-2028) – Volume 3: Sectoral Studies
2019	Comprehensive Landuse Plan (CLUP) (2019-2028) – Volume 4: Climate and Disaster risk
2023	Davao Public Transport Modernization Project
2024	Davao Regional Development Report

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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>
- 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/>
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