Philippines

Green Roads Profile

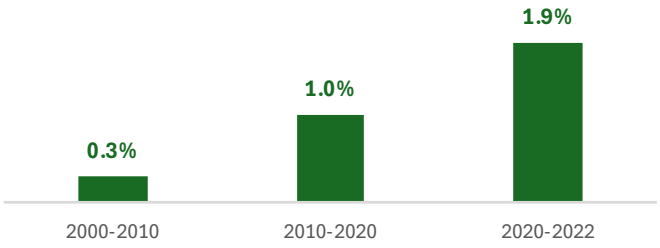
General

Road length (2022)
319,425 kilometers (1)

Subregion
South East Asia

Income class
Low and lower middle income

Average annual growth rate of road length (1)



Population (2024)
119.1 million

Land area
298 thousand sqkm (2,3)

Urban population
49%

Rural population
51% (2)

Gross domestic product (GDP PPP, 2022)
1.17 trillion USD

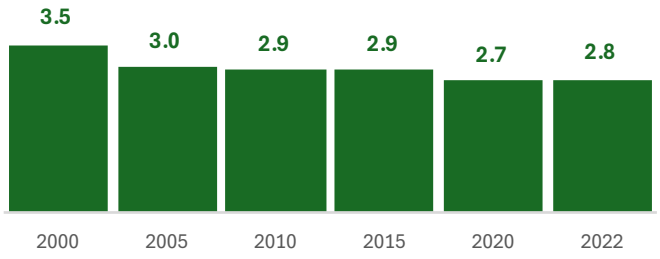
GDP per capita (PPP, 2022)
10,137 USD (2,3) (3)

Philippines's road network is comprised of 8.7% motorways, highways, and primary roads and 91.3% secondary roads, local roads, and other roads

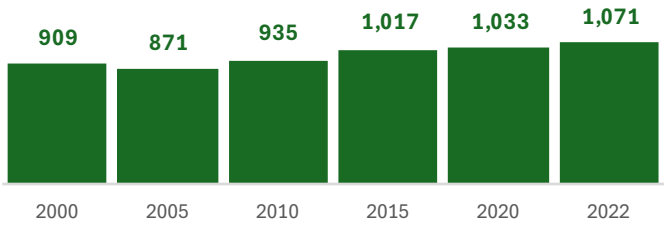
Road infrastructure availability (2022)
2.8 kilometers per thousand population (1,2)

Road infrastructure density (2022)
1,071 meters per square kilometer (1,3)

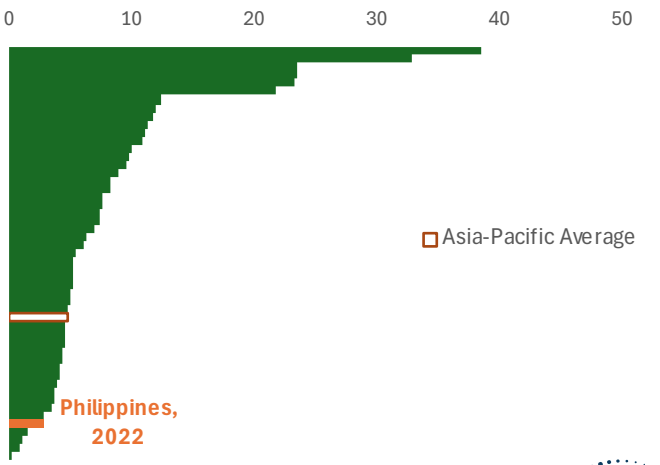
Road infrastructure availability trend, kilometers per thousand population (1,2)



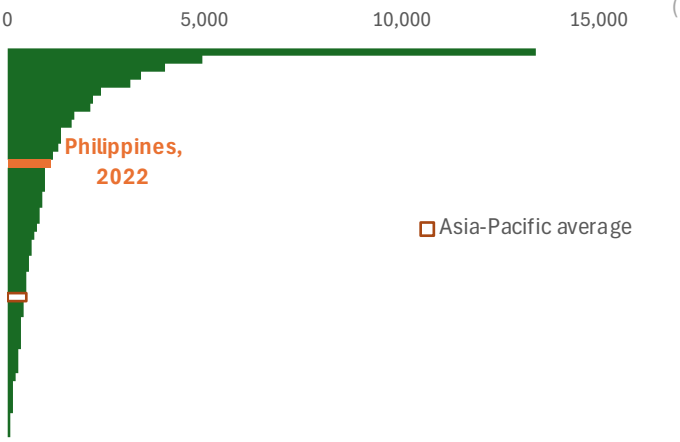
Road infrastructure density trend, meters per thousand population (1,3)



Road infrastructure availability in Asia-Pacific, kilometers per thousand population (1,2)



Road infrastructure density in Asia-Pacific, meters per square kilometer (1,3)



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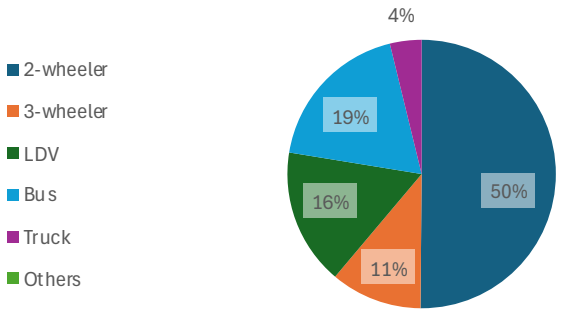
Road vehicles (2022)
13.86 million vehicles (1)

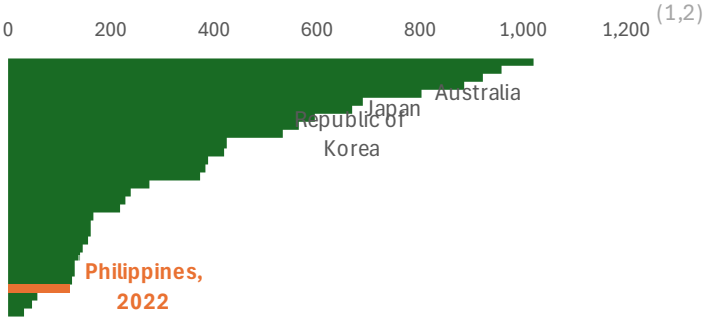
Share of vehicles by type (1)



Motorization rate (2022)
120 vehicles per thousand population (1,2)

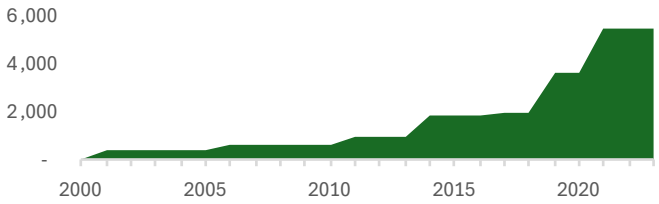
In 2000, Philippines had 67 vehicles per thousand population. By 2022, this has increased to 120 compared with Asia-Pacific average of 577 in 2022.

Motorization rate in Asia-Pacific, vehicles per thousand population (1,2)



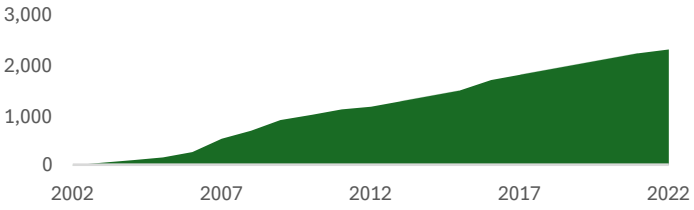
Road vehicles include 2- and 3-wheelers, LDVs, buses and other informal public transport, trucks, and other unclassified types

Public-private partnership investments in road sector, cumulative million USD (4)

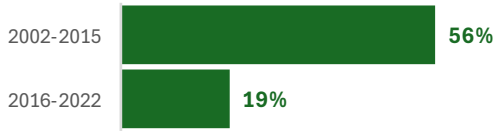


Share of road in total public-private partnership investments (4)

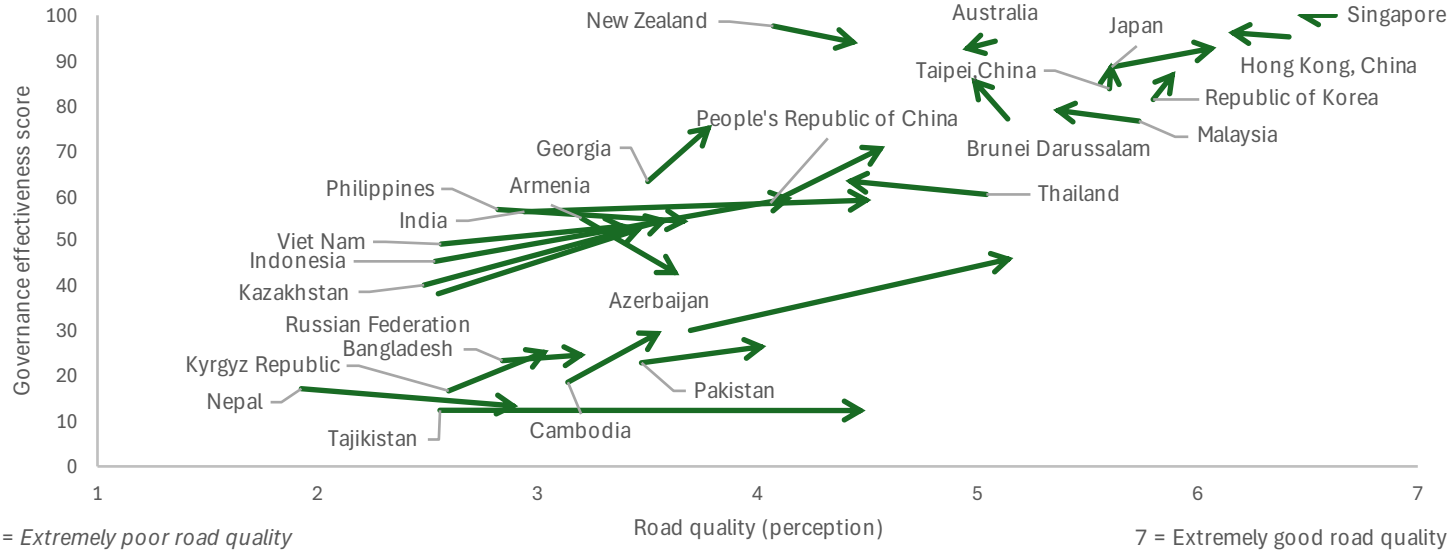
Official development assistance in road sector, cumulative million USD (5)



Share of road in total official development assistance (5)



Road quality (perception) vs. governance effectiveness score (2009-2019)



1 = Extremely poor road quality

7 = Extremely good road quality

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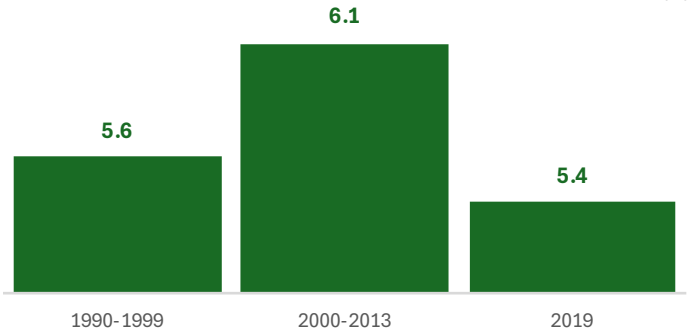
Quality of Life and Fostering Inclusive Growth

Rural access index (2023)
88% (6)

Based on 2015 estimates, only 72% of the population could reach the nearest city in 30 minutes, another 13% could reach in 1 hour, and another 12% could reach only after 3 hours.

Rural population without access to all-season roads (2023)
7.05 million (2,6)

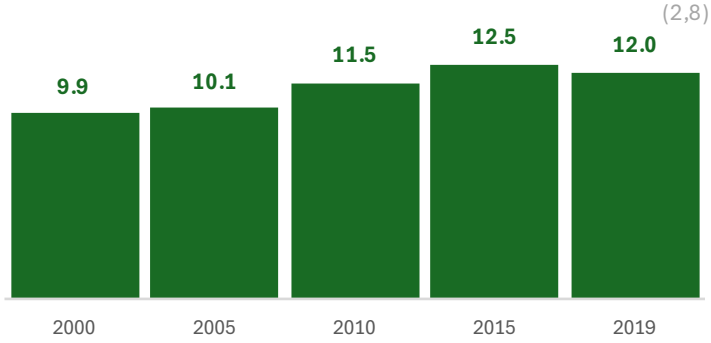
National street network disconnectedness index (7)



This indicator is a summary scalar measure for street-network sprawl describing connectivity of local street networks across the world

Road crash fatalities (2019)
13 thousand deaths (8)

Road crash fatality rate per 100 thousand population (2,8)



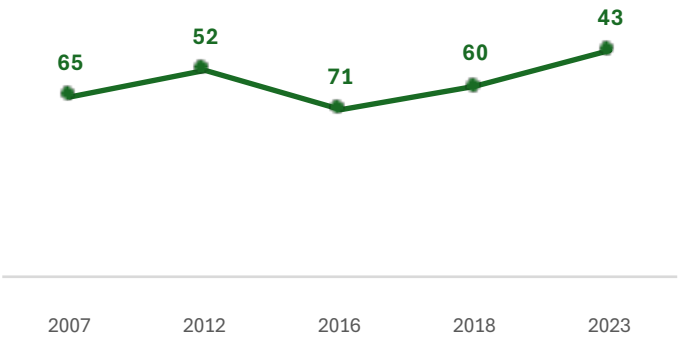
Asia-Pacific average is 15.7 fatalities per 100 thousand population

Mean speed (2022)
60 kilometers per hour (9)

Logistics performance index score (2023)
3.3/5 (10)

| Infrastructure score
3.2/5 (10)

Logistics performance index ranking trend (10)

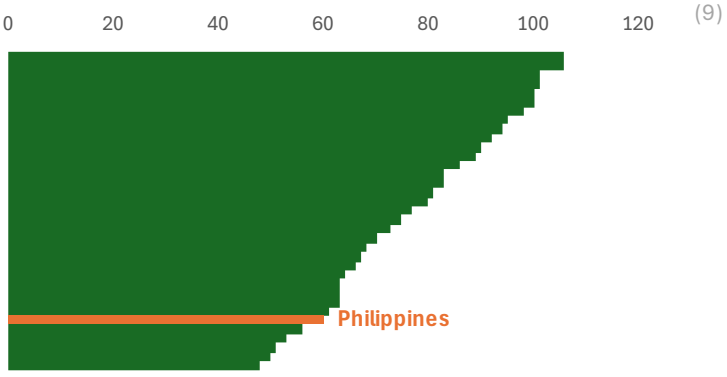


Percent of firms choosing transportation as their biggest obstacle - Manufacturing (2015)
5.9% (11)

Percent of respondents answering high/very high - Level of Fees and Charges on Road transport (2018)
50.0% (11)

Level of fees and charges for less than full truck loads are considered

Mean speed in Asia-Pacific, kilometers per hour (2022) (9)



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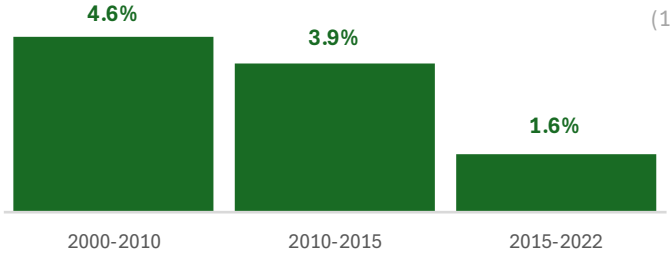
Employment in transport sector (2022)
3.75 million employees (12)

Share of transport sector in total employment (2022)
8.0% (12)

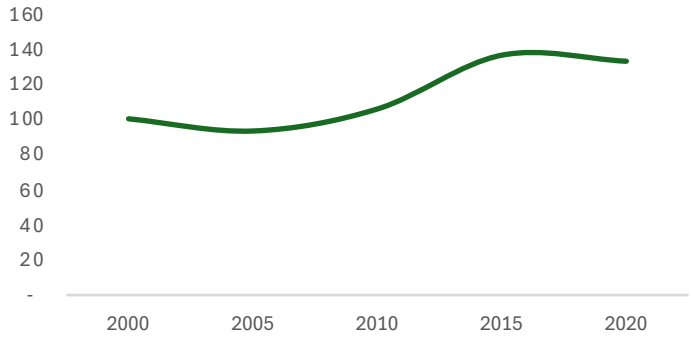
Average annual growth rate of transport sector employment (12)



Share of females in total transport sector employment (2022)
7.9% (12)

Decarbonization

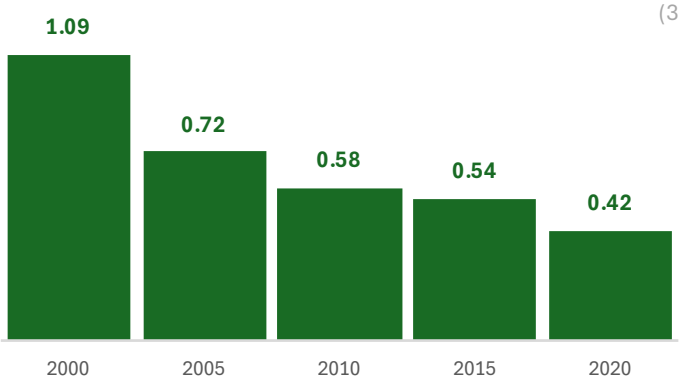
Road transport energy consumption trend
Assuming 2000 value as base (100) (13)



Between 2000-2010, Philippines's road transport energy consumption grew 0.5% annually. Between 2010-2020, road transport energy consumption grew 2.3% annually.

90% of Philippines's transport energy consumption is in the road sector.

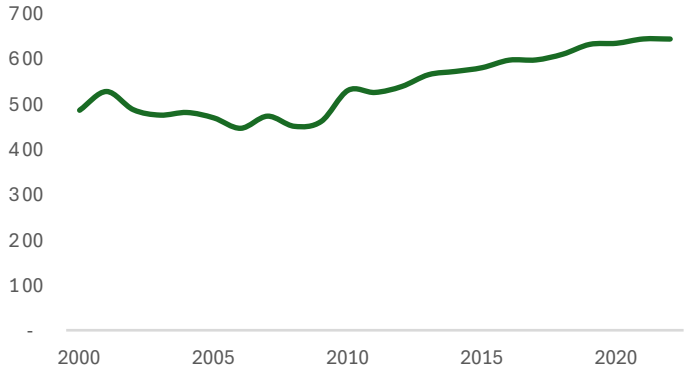
Road transport energy intensity with GDP, TJ per USD (PPP) (3,13)



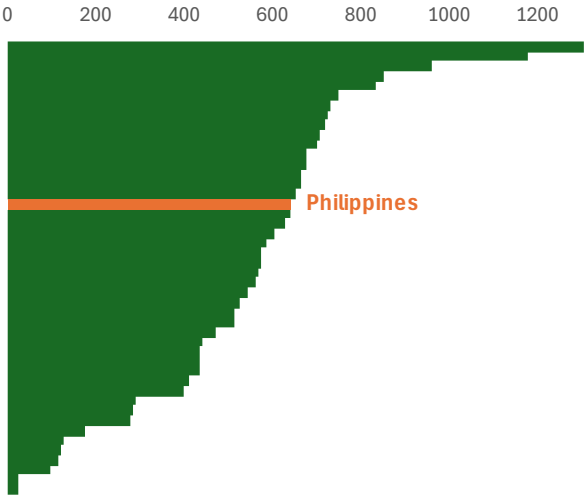
Asia-Pacific average is 0.4 MJ per USD in 2020

Grid emission factor (2022)
642 gCO2 per kWh (14)

Grid emission factor trend, gCO2 per kWh (14)



Grid emission factors in Asia-Pacific, gCO2 per kWh (14)



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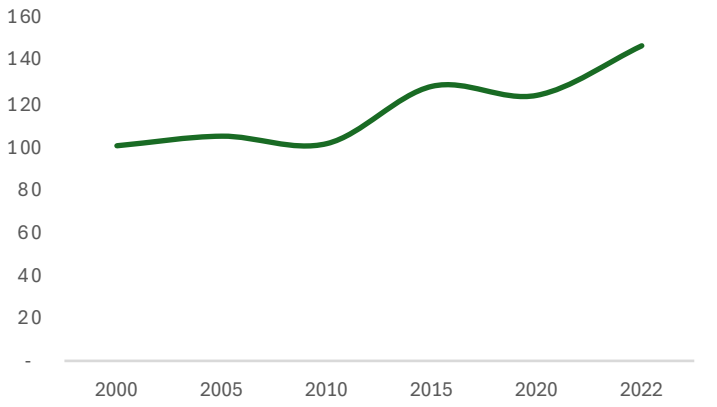
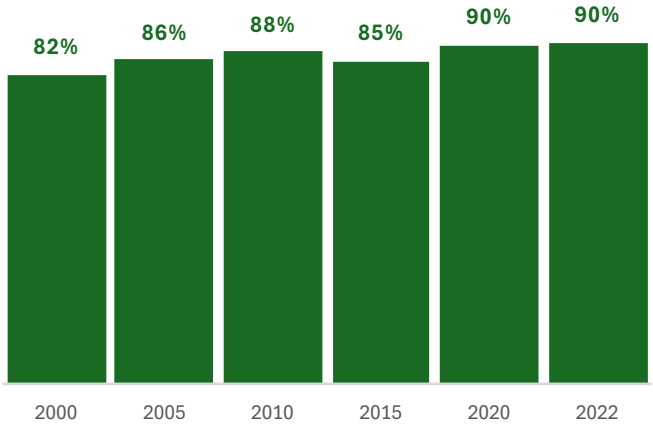
Road transport CO2 emissions trend

Assuming 2000 value as base (100) (15)



Share of road transport in total transport CO2 emissions (15)



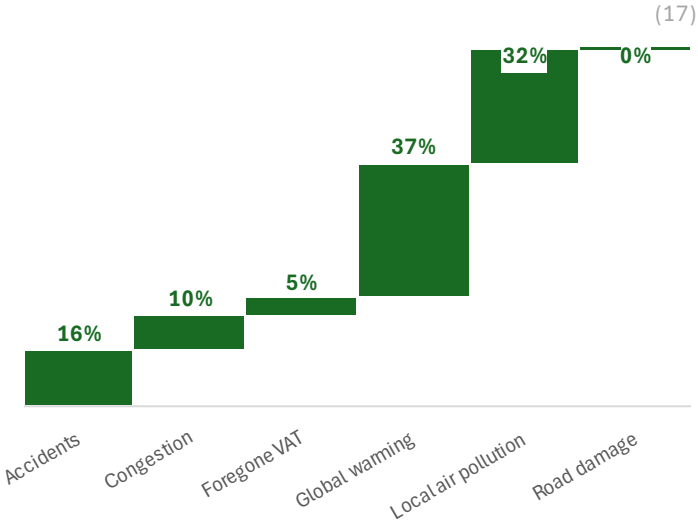
Between 2010-2019, Philippines's road transport fossil CO2 emissions was growing 5.0% annually. After the COVID-19 pandemic, road transport CO2 emissions was growing 8.9% annually.

Transport fossil fuel subsidies, cumulative from 2010 to 2022 (16)

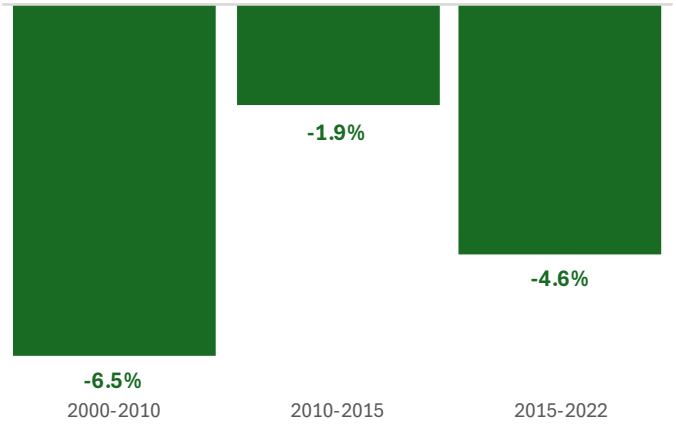
None

0.0% of Asia-Pacific total

Implicit fossil fuel subsidies due to externalities (17)



Road transport CO2 emissions intensity with GDP trend (3,15)



Data includes all sectors and all fuel types

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Climate Resilience and Disaster Preparedness

Expected annual damages to road and rail infrastructure due to hazards (2019)
409.62 million USD (18)

Share of road in total transport infrastructure in multihazard average annual loss to transport infrastructure (2023)
85.4% (19)

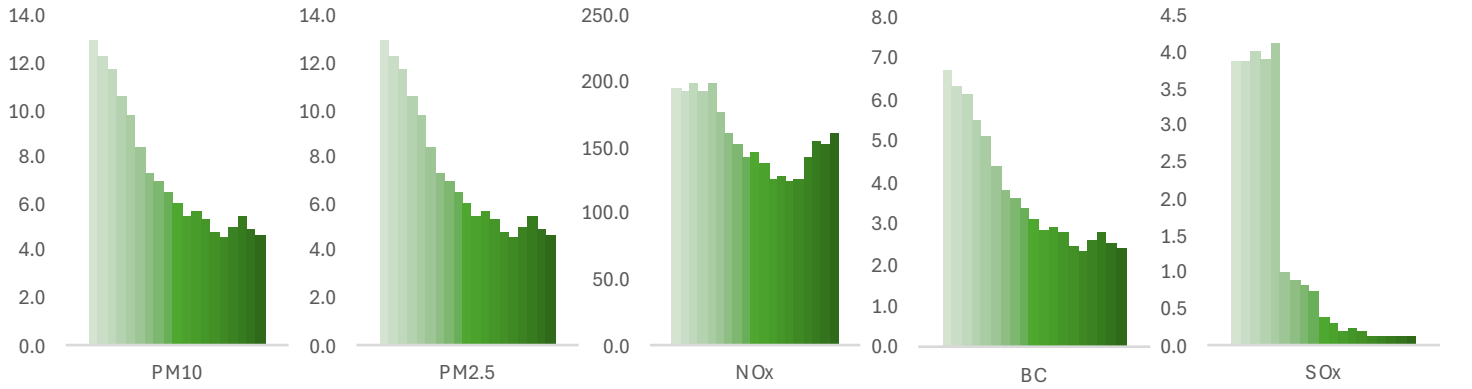
National road vulnerability index ranking (2023)
n.d. (20)

Share of population in low elevated coastal zones (2018)
5.7% (21)

Pollution, Water and Land Management, Preserving Biodiversity, and Sustainable Materials

Paved roads (2022)
99% (1)

Road transport air pollutant emissions, thousand tonnes (2000-2018) (15)



In 2022, road transport contributed 20.8%, re-suspended dust contributed 15.6% in transport PM10 emissions. In total, road transport contributed about 6.3% in total PM10 emissions in Philippines.

Deaths due to occupational exposure to diesel engine exhaust
| 2000-2010 | 2011-2018
1,909 deaths | **2,020 deaths** (22)

Share of biofuels in road transport energy consumption (2020)
6.4% (13)

Domestic consumption per capita, tonnes (2024)
| Philippines | Asia-Pacific
8.8 tonnes | **13.8 tonnes** (23)

Domestic consumption is the total amount of materials directly used in the economy (used domestic extraction plus imports), minus the materials that are exported.

Terrestrial and marine protected areas (2022)
3.7% (3)
(% of total territorial area)

Terrestrial protected areas
15.9%
(% of total land area)

Marine protected areas
1.7% (3)
(% of territorial waters)

Forest area (2021)
24.2% (3)
(% of land area)

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Policy Measures

Policy document	Year	Road-related measures
Philippine Development Plan 2023-2028	2023	Active transport infrastructure expansion, General infrastructure improvements, Vehicle inspection and maintenance, Disaster notification/ early warning system, Target - Transport activity, Transport infrastructure resilience, General transport asset management, Vehicle taxes, General economic instruments, General transport finance, Road infrastructure expansion, Development of transport plan/ policy, Disaster monitoring and risk assessment for transport infrastructure, Road-side checks on overloading
Guidelines for the Authorization of Private Motor Vehicle Inspection Center (PMVIC) for Additional PMVICs (PMVIC Phase II)	2021	Vehicle inspection and maintenance
Philippine Road Safety Action Plan 2023-2028	2023	Active transport infrastructure expansion, General infrastructure improvements, Vehicle inspection and maintenance, Automated enforcement of speed limits, Technical standards for road infrastructure, Implementation of horizontal deflections on roads, Implementation of vertical deflections on roads, Upgrading high risk locations for road safety, National road safety strategy, Audits/ star rating for existing roads for road safety
Philippine Energy Plan 2018-2040	2018	Active transport infrastructure expansion, Disaster monitoring and risk assessment for transport infrastructure
Voluntary National Review 2022	2022	Active transport infrastructure expansion
Global Status Report on Road Safety 2018	2018	Design standards for sidewalks and bicycle paths, Upgrading high risk locations for road safety, National road safety strategy, National speed law, Audits/ star rating for existing roads for road safety, Audits/ star rating required for new road infrastructure for road safety
Intended Nationally Determined Contribution	2015	Development of transport adaptation/ emergency/ disaster plan/ policy
National Climate change Action Plan 2011-2028	2011	Transport asset condition assessment, Transport infrastructure resilience, Fuel tax, Road charging and tolls, General economic instruments, Disaster monitoring and risk assessment for transport infrastructure
Second National Communication to the United Nations Framework Convention on Climate Change	2014	Development of transport plan/ policy
Technology Needs Assessment for Climate Change Mitigation	2018	Vehicle taxes, Development of transport plan/ policy
National Logistics Master Plan 2017-2022	2017	Transport infrastructure resilience, Development of transport plan/ policy
Guidelines and Standards for the Classification of Roads, Setting of Speed Limits Under Republic Act No. 4136, and Collection of Road Crash Data	2018	National speed law
An Act to Compile theLaws Relative to Land Transportation and Traffic Rules, to Create a Land Transportation Commission and for Other Purposes	1964	National speed law
Maritime Industry Development Plan 2019-2028	2021	General transport finance
National Urban Development and Housing Framework 2017-2022	2017	General infrastructure improvements, Development of transport adaptation/ emergency/ disaster plan/ policy
An order for the implementation of the fuel subsidy program and other related activities	2022	General economic instruments
Philippines Energy Efficiency and Conservation Roadmap 2017-2040	2017	Road charging and tolls

Policy Measures

Policy document	Year	Road-related measures
Road Safety Opportunities and Challenges: Low- and Middle-Income Country Profiles	2020	Vehicle inspection and maintenance, Implementation of vertical deflections on roads

Policy Targets

Policy document	Target year	Road-related targets
Philippine Development Plan 2023-2028	2028	Passengers transported via air and sea increased (number of passengers, cumulative) = 202.34 million (from 35.72 in 2021)
Philippine Development Plan 2023-2028	2028	Cargo transported via air and sea increased (international and domestic) (metric ton, cumulative) = 1850 million (from 470.30 in 2021)

Notes

(*) Policy measures and targets were extracted from policy documents as listed in the ATO National Transport Policies Database

https://bit.ly/ATOpolicyrepository

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(23) Global Materials Flow Database (UNEP, 2023), https://www.resourcepanel.org/global-material-flows-database

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This profile was developed by Asian Transport Outlook in support of TA-6756 Improving Infrastructure Sustainability Through Better Asset Management – Developing a Green Roads Toolkit and Guidance for ADB Projects. The ATO is an initiative developed under TA-6763 REG: Accelerating Innovation in Transport - Asian Transport Outlook: Phase 3 (55119-001) of the Asian Development Bank (ADB) and is also being supported by the Asian Infrastructure Investment Bank (AIIB) through Purchase Order No. CW39446 AIIB Support: Asian Transport Outlook Phase 3.

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