

Aichi 2030 Declaration on Environmentally Sustainable Transport (EST): Country Profile

Philippines



Credits: DOTr, 2020

Developed by:



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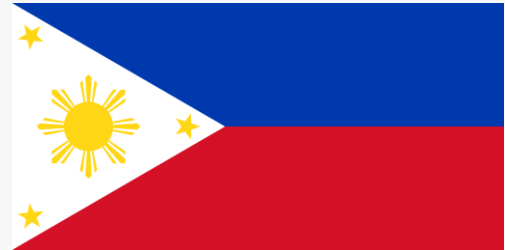
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Aichi 2030 Declaration on Environmentally Sustainable Transport (EST): Country Profile (Philippines)

2024

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Philippines, a country in the South East Asia region, having Low and lower middle income status, was recorded to have a national population of about 119 million in the year 2024.

The urban population share in total is about 49%. The age wise distribution of the national population accounts for 37% and 9% of <18 years old (minors) and >60 years old (seniors) population, respectively. The GDP per capita (PPP) for the year 2022 was 10,137 USD.

The motorisation rate of the road transport vehicles for the year 2022, for all vehicles combined, stood at 120 vehicles per thousand population. Similarly, the rate for 2&3 wheelers, LDV, freight vehicles and buses were 60, 20, 4, and 22 respectively.

Introduction to the profiles: The Asian Transport Outlook (ATO) project serves as a comprehensive data repository that organizes transport-relevant data and information from various official and secondary sources. These profiles are meticulously crafted using data from this extensive collection and draw upon a carefully curated selection of key indicators from a pool of over 500 transport-related metrics (visit <https://asiantransportoutlook.com/snd> for more information).

These profiles also provide comprehensive summaries of national targets that are relevant to the Aichi 2030 Declaration goals as contained in ATO's national policy trackers. The profile is structured by goals, followed by policy insights and enumeration of sample projects by the MDBs corresponding to the 6 Goals.

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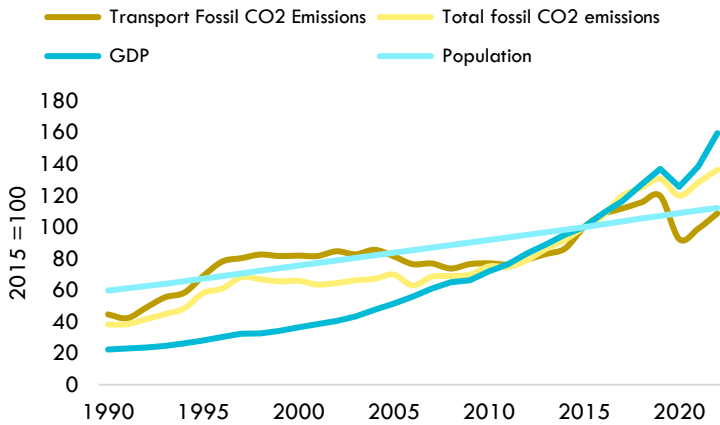
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Goal 1a – Low-Carbon (climate change mitigation):

By 2030, aim to peak transport CO2 emissions and initiate reductions in transport related CO2 emissions with the intention to move towards decarbonization of the transport sector by 2050, or shortly thereafter (Based on SDG 7.2, 9.1, 13.2, Paris Agreement)

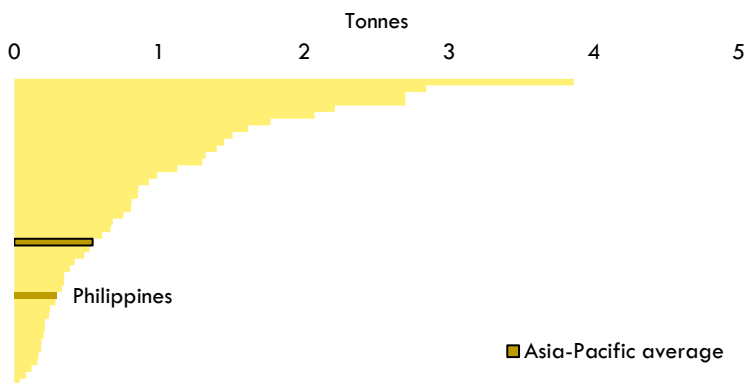
Transport CO2 emissions (fossil)

Growth of transport fossil CO2 emissions, total fossil CO2 emissions, population and GDP (PPP) (1990 - 2022)



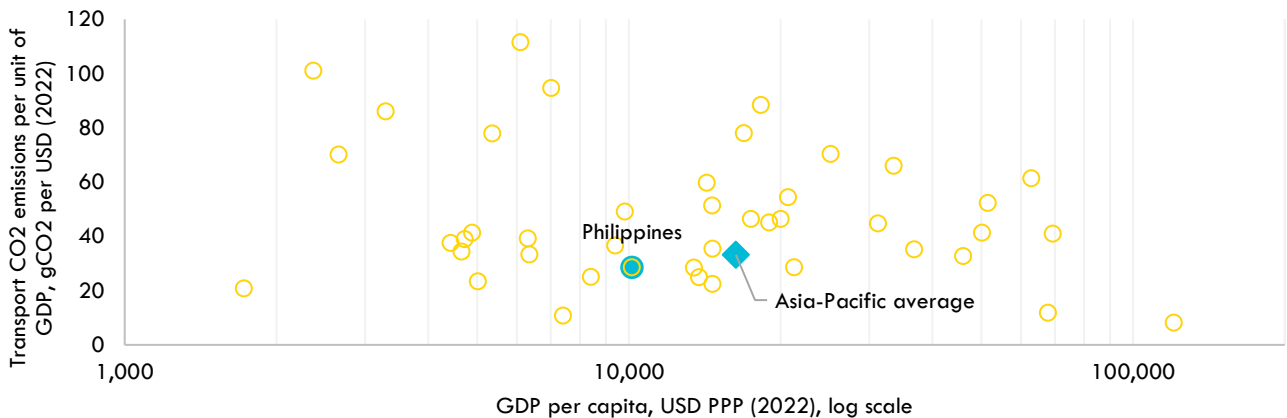
(EDGAR, 2023)

Transport fossil CO2 emissions per capita (2022)



(EDGAR, 2023)

Transport CO2 emissions per unit of GDP (2022)

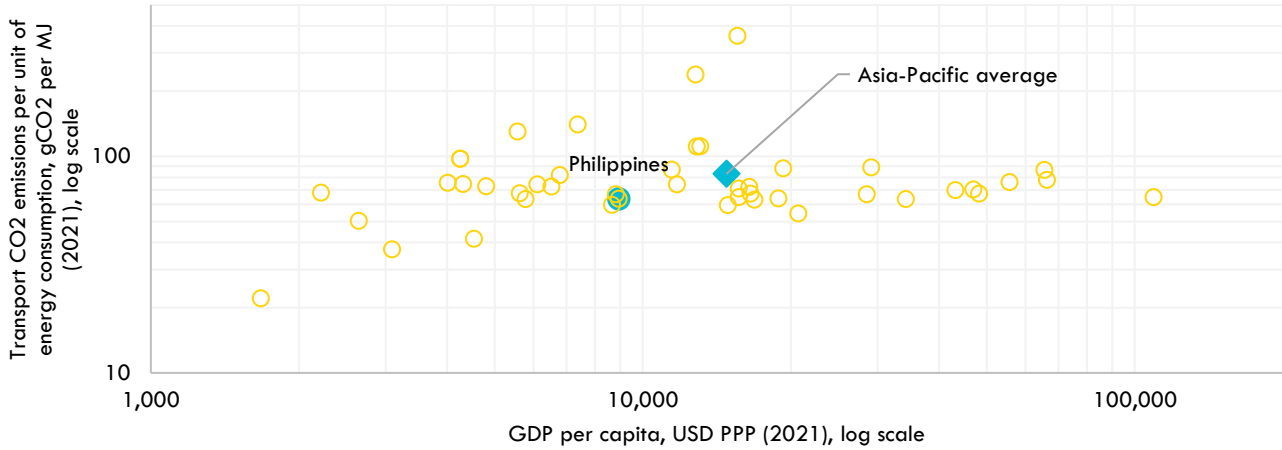


(EDGAR, 2023)

- **Motorization:** The motorization rate is 120 vehicles per 1,000 people, with a high proportion of two and three-wheelers.
- **Emissions:** Transport CO2 emissions have grown at an average annual rate of 1% between 2015 and 2022, slower than the regional average. Per capita emissions are lower than the regional average, but the transport sector's share in total emissions has decreased.
- **Energy consumption:** Transport energy consumption is low compared to the regional average.
- **LDV share:** Road transport dominates CO2 emissions. Light-duty vehicles contribute 29% to road transport emissions.

Transport energy consumption

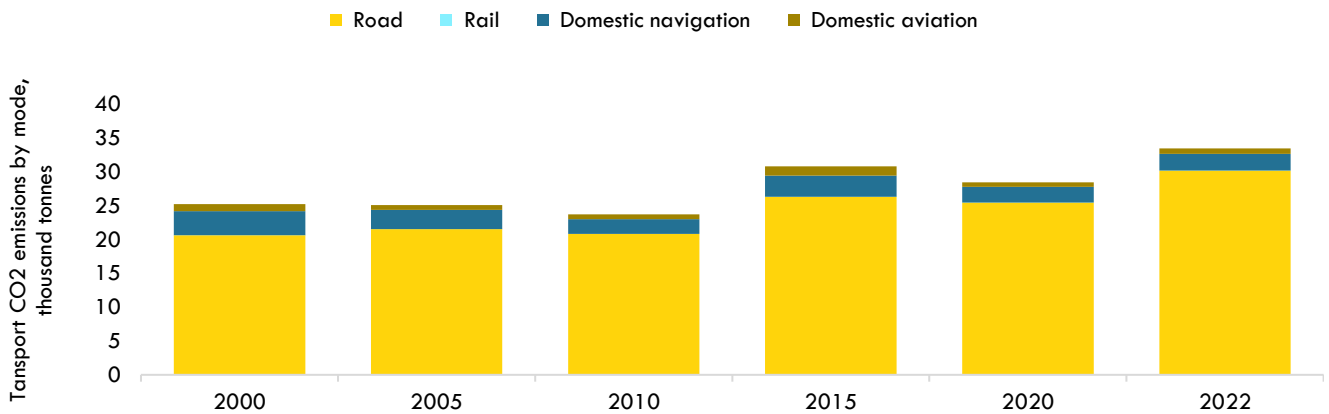
Transport CO₂ emissions per unit of energy consumption and GDP per capita (2021)



(EDGAR, 2023)

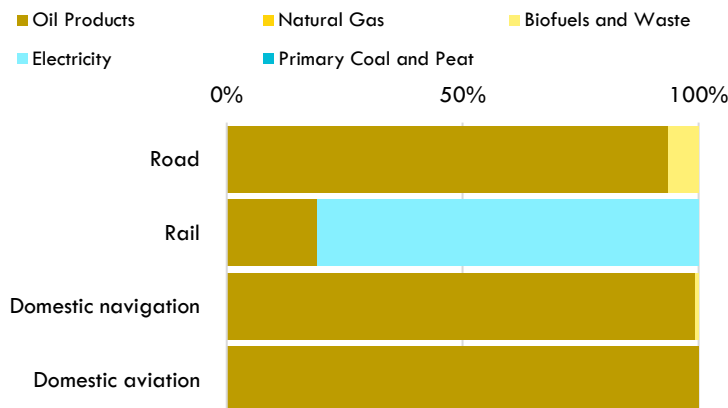
Transport CO₂ emissions (fossil) and energy consumption modeshare

Growth of transport CO₂ emissions by mode



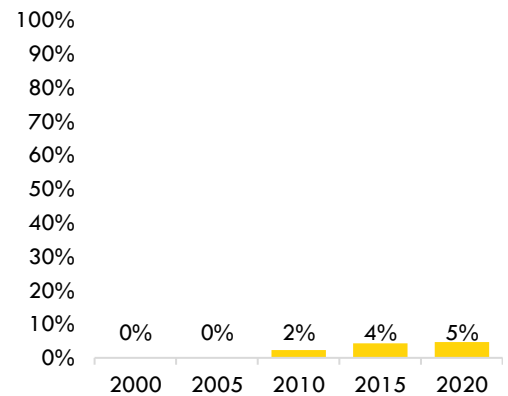
(EDGAR, 2023)

Share of transport energy consumption by mode and by source (2021)



(EDGAR, 2023)

Share of transport in renewable energy consumption:



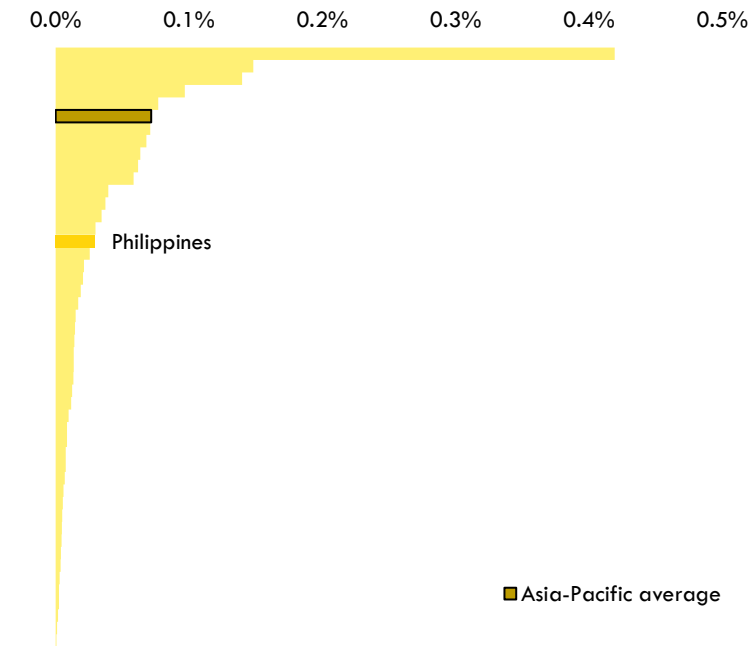
(Tracking SDG 7, 2024)

Goal 1b – Resilience:

By 2030, increase resilience and adaptive capacity of transport system to climate-related hazards and pandemics such as COVID-19. (Based on SDG 13, Paris Agreement and the Sendai Framework for Disaster Risk Reduction 2015-2030)

Estimated average annual losses to transport infrastructure due to hazards

Average annual losses to transport infrastructure due to hazards, as a share of GDP, in Asia-Pacific (2023)



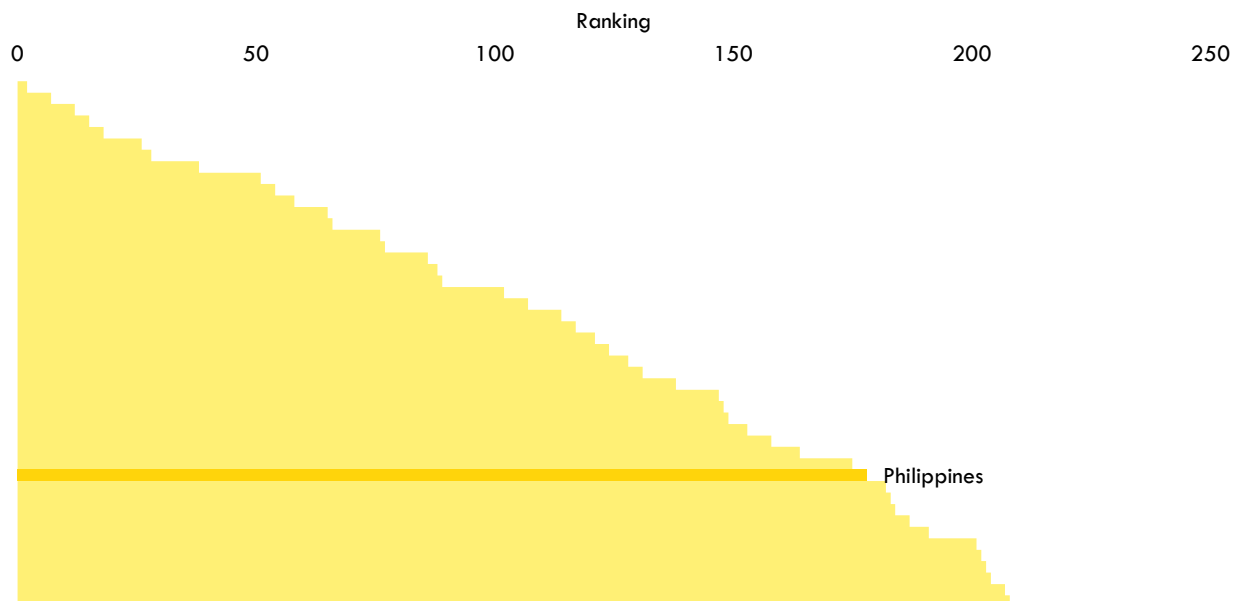
(CDRI, 2023)

- Infrastructure vulnerability: Road infrastructure is highly vulnerable to hazards, accounting for 85% of average annual losses.
- Coastal population: 6% of the population lives in low-elevated coastal zones, susceptible to sea-level rise and storm surges.
- Road network redundancy: The Philippines ranks low in terms of road network redundancy, indicating potential disruptions after climate hazards.

Note: National road vulnerability index ranking (NRVI), highest rank = 1 means fewer disruptions to trips after climate hazards due to sufficient network redundancy.

Climate change vulnerability

National road vulnerability index (NRVI) ranking (2023)



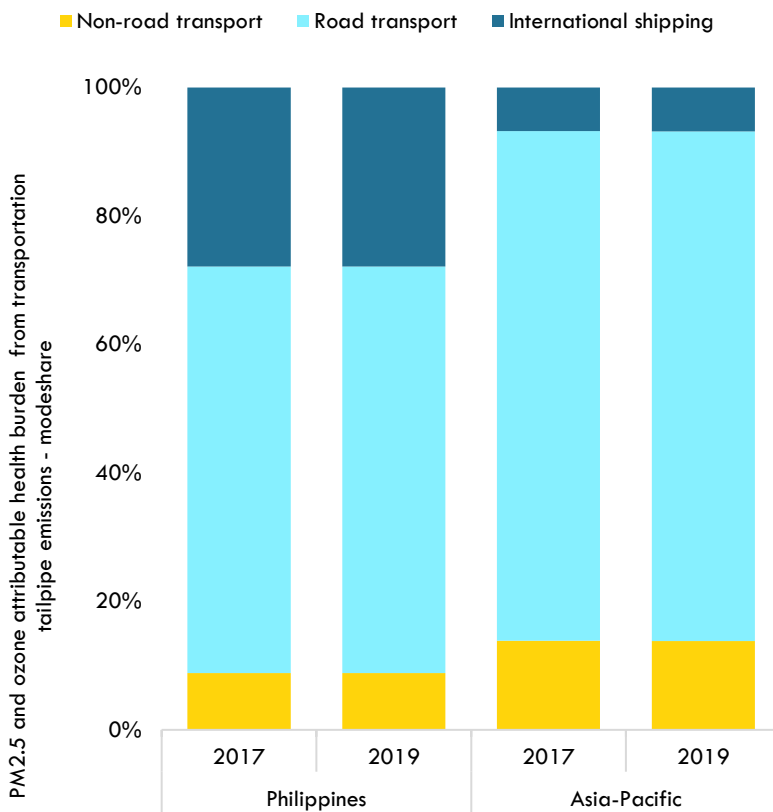
(Koks, et al., 2023)

Goal 1c – Air pollution:

By 2030, reduce air pollution and contamination caused by traffic, including PM2.5, other air pollutants and noise. (Based on SDG 3.9, 11.6).

Transport air pollution health impact

Transport air pollution health impact (PM 2.5)



- Air pollutant emissions: PM2.5, NOx, SOx, and BC emissions from road transport have decreased or remained stable despite GDP growth.

- Road transport's share: Road transport contributes significantly to NOx and BC emissions.

- Deaths from air pollution: Deaths due to PM2.5 and ozone pollution from transport have increased, with non-road transport being the major contributor.

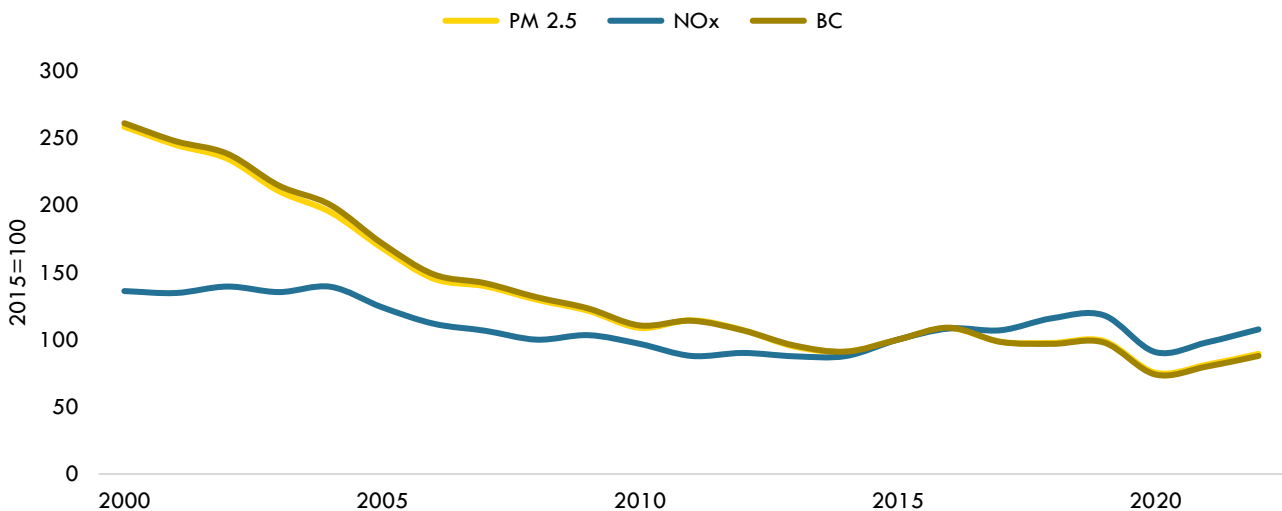
- In Philippines, the total attributable deaths due to the PM2.5 and ozone air pollution from the transport sector changed from 2,315 to 2,515 between 2017 to 2019.

- The numbers for Asia-Pacific were about 236 thousand and 253 thousand, respectively, for the same time period.

(McDuffie et al., 2021)

Transport air pollutant emissions

Growth of road transport air pollutant emissions



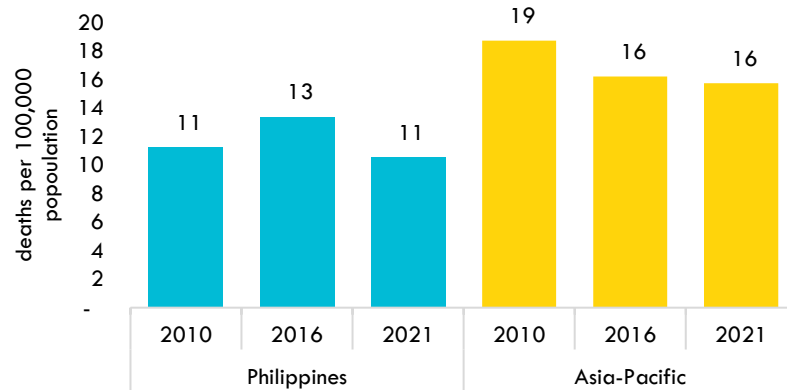
(EDGAR, 2023)

Goal 2 – Road safety:

By 2030, halve the number of deaths and injuries from road traffic accidents in Asia compared to 2020, with specific attention to vulnerable road users. (Based on SDG 3.6 and second UN Decade of Action on Road Safety 2021 – 2030, Stockholm Declaration on Road Safety)

Road traffic crash fatalities

Road traffic crash fatality rate



(WHO, 2023)

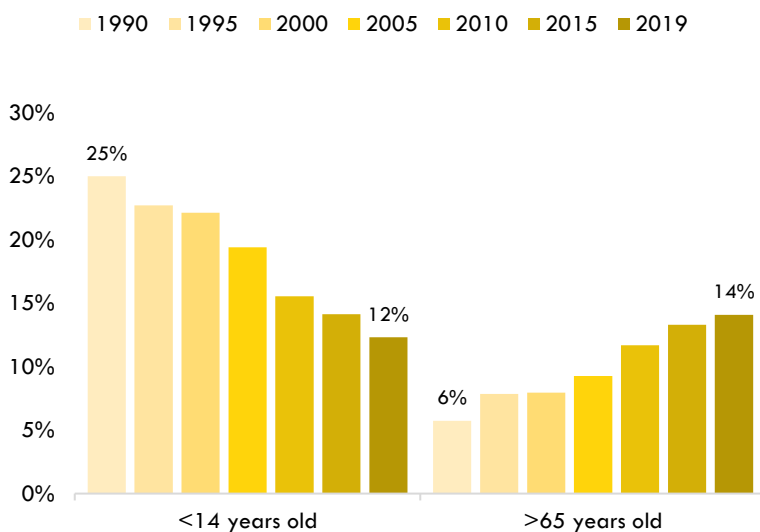
Road traffic crash fatalities (absolute values)

(Data not available)

- **Fatalities:** Estimated road traffic fatalities are high, with discrepancies between different data sources. The fatality rate is lower than the regional average.
- **Economic cost:** Road crash fatalities and injuries cost 3% of GDP.
- **Vulnerable groups:** The share of minors and seniors in fatalities has decreased slightly. The share of females remains stable.
- **Pedestrian and cyclist safety:** The share of pedestrian and cyclist fatalities is low compared to the regional average.
- **Infrastructure safety:** The share of roads with 3 stars or better for pedestrians and cyclists is low.

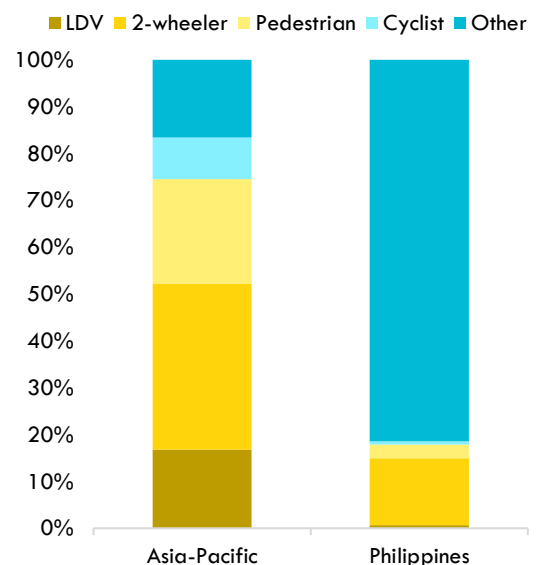
Share of vulnerable groups

Share of road crash fatalities by age



(GBD, 2021)

Share of road crash fatalities by mode



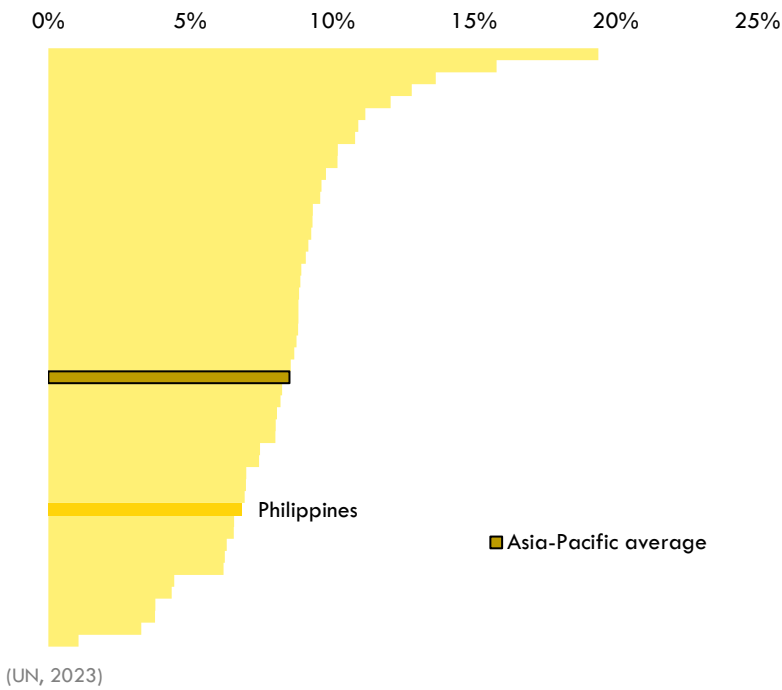
(WHO, 2023)

Goal 3 - Economic sustainability:

By 2030, realize sustainable economic and employment growth by leveraging science, technology and innovation and green investments in quality passenger and freight transport infrastructure and services in a manner that fully incorporates environmental and social impacts throughout the lifecycle of the transport infrastructure and services, (Based on SDG 8.4, SDG 9.1, 12.1 and 12.c)

Transport sector and GDP

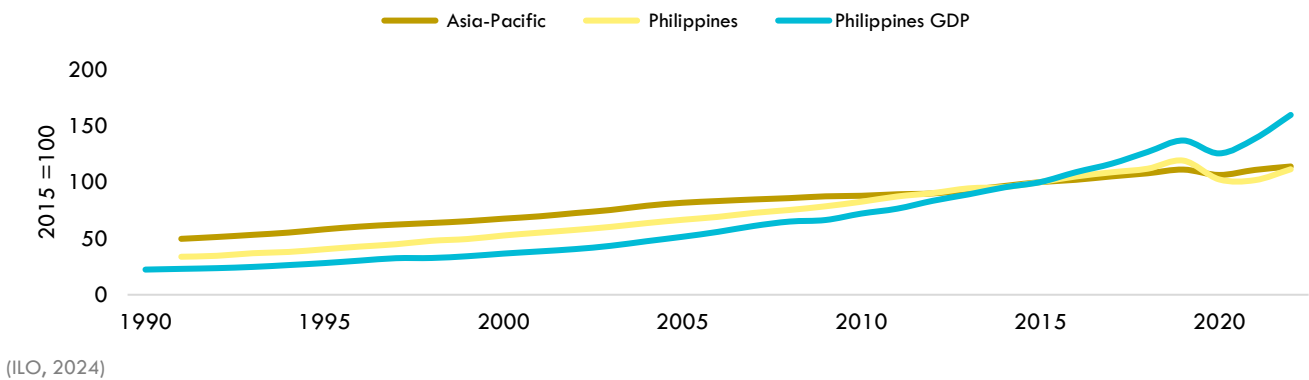
Transport as a share of GDP



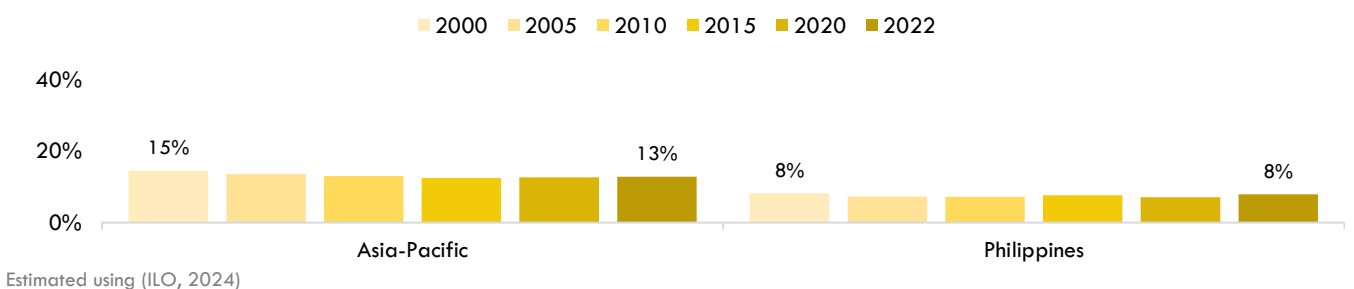
- Transport sector's contribution: The transport sector's contribution to GDP has remained stable.
- Employment: Transport employment growth is lower than the regional average.
- Female employment: Female employment in the transport sector has grown.
- ODA and PPP: The transport sector has received significant ODA and PPP investments, with a shift away from road investments.
- Logistics performance: The Philippines has improved its logistics performance ranking.

Transport employment

Growth of transport sector employment

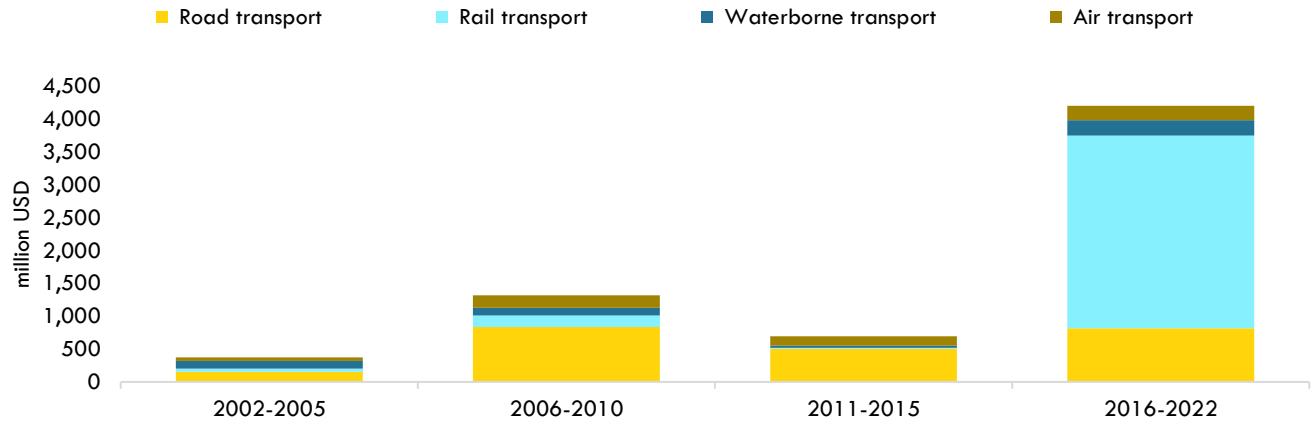


Female share in the transport employment



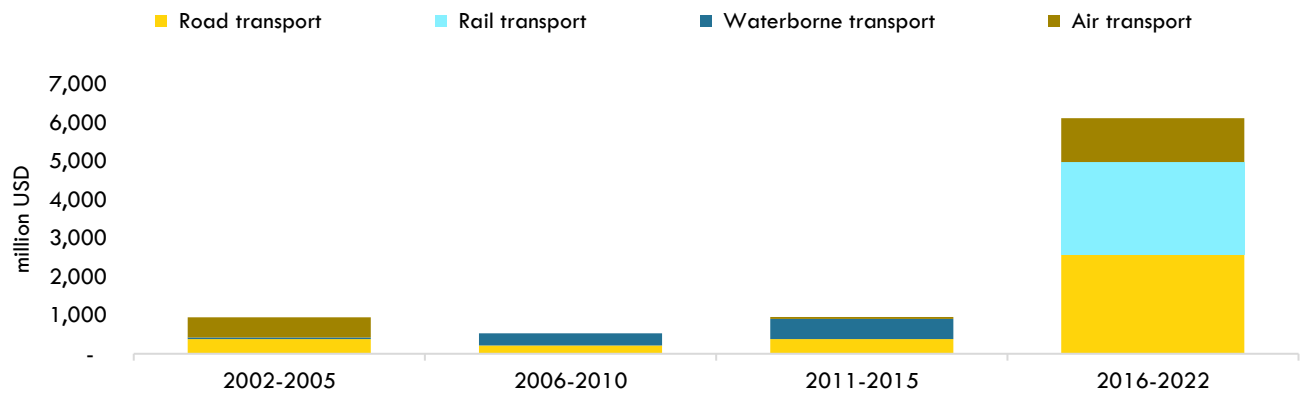
Transport investments

Official development assistance for Transport



(OECD, 2022)

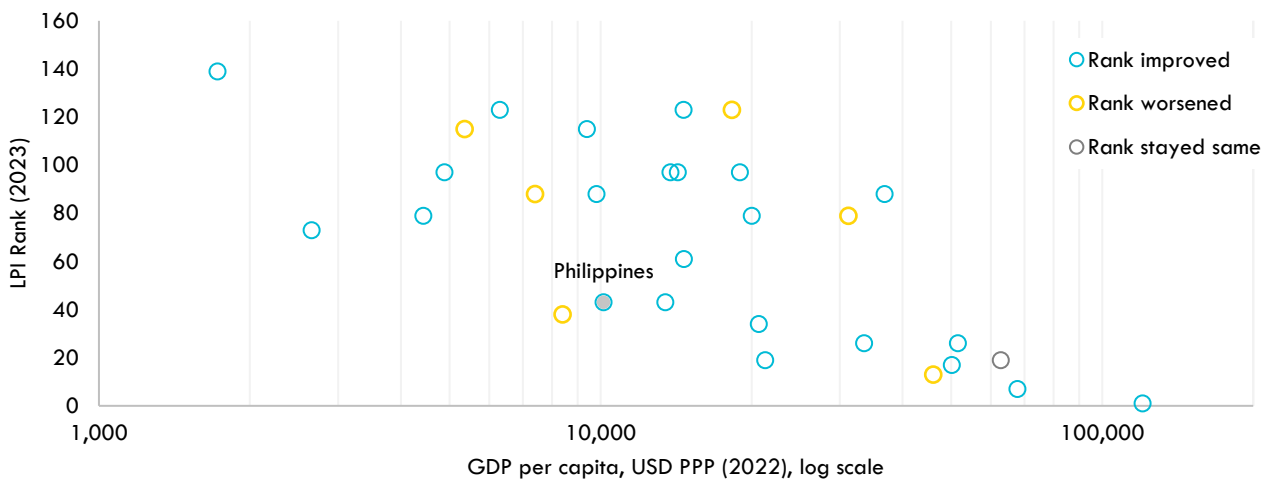
Public Private Partnership in Transport



(WB, 2023)

Freight sector

Domestic Logistics Performance Index, Rank change (2016 - 2023)



(WB, 2022)

Goal 4 - Rural access:

By 2030, realize accessible, inclusive, safe, affordable, and resilient rural transport infrastructure and services, thus facilitating improved access to markets, basic utilities and services including health and education by the farming community, and other rural population including physically disabled and vulnerable groups (Based on SDG 2 and SDG 9.1)

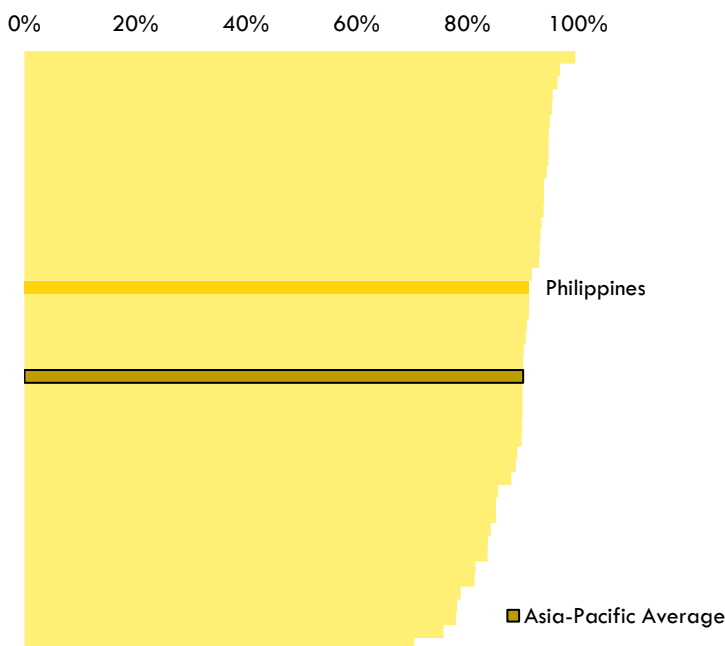
Rural access

Rural access index



(CIESIN-rural, 2023)

Share of Secondary and Tertiary roads in Total road network



(ATO and Country estimates)

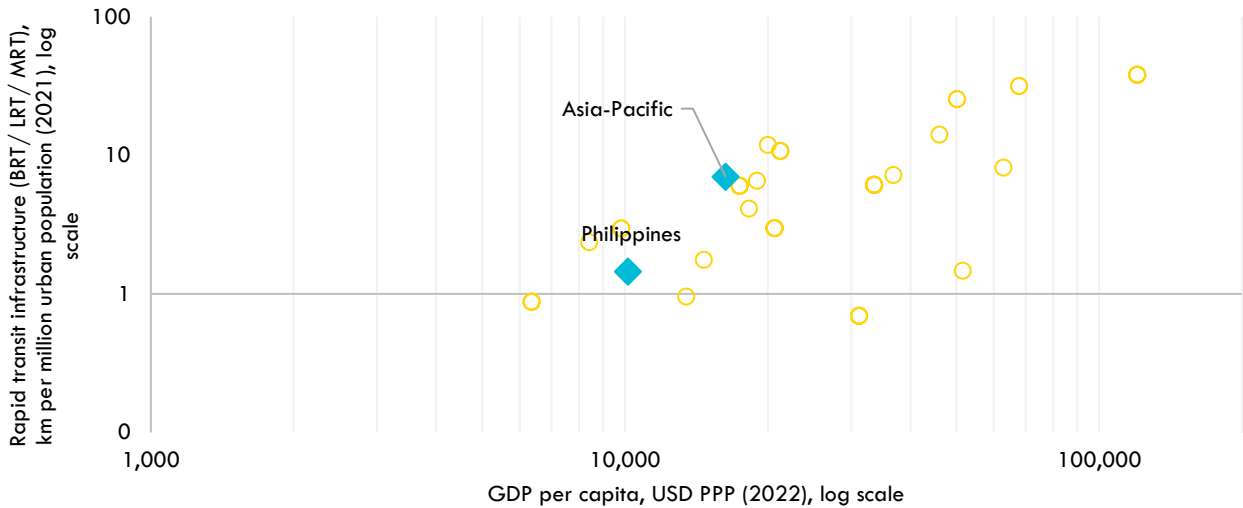
- Rural access: A high percentage of the rural population lives within 2km of an all-weather road, exceeding regional and global averages.
- Population lacking access: 7 million people in the Philippines lack decent rural access.

Goal 5 - Urban access:

By 2030, ensure access to accessible, inclusive, safe, efficient, affordable, and sustainable transport facilities, systems and services for urban dwellers, including physically disabled and vulnerable groups through the development of urban transport infrastructure and services (Based on SDG 11.2 and 11.7)

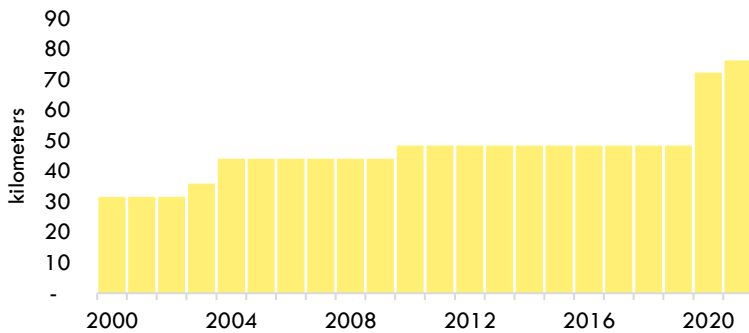
Urban rapid transit infrastructure

Rapid transit infrastructure to resident ratio (RTR)



(ITDP, 2022)

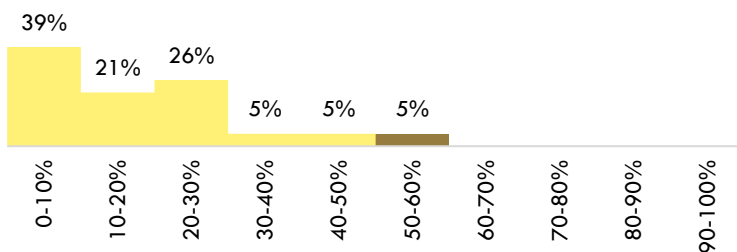
Urban rapid transit infrastructure length



(ITDP, 2022)

Urban access

Share of cities by level of urban access (out of 62 cities)



(CIESIN-urban, 2023)

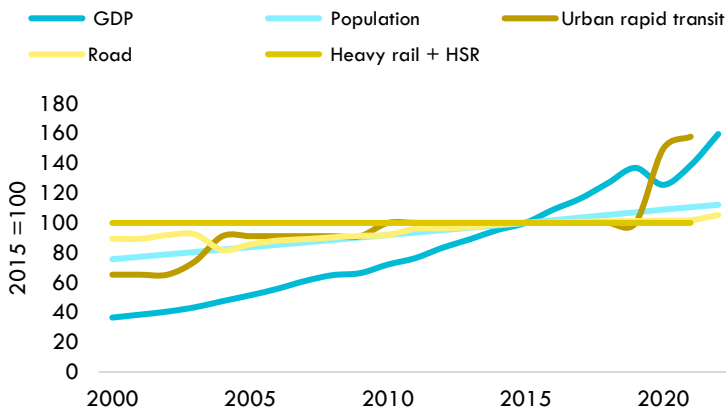
- Rapid transit: Urban rapid transit infrastructure has expanded, but the infrastructure-to-resident ratio remains low compared to the regional average.
- Urban access to public transport: Data on urban access to public transport is limited.

Goal 6 - National access and connectivity:

By 2030, facilitate inclusive multi-modal national (including rural-urban) and regional (cross-border) connectivity through the provision of sustainable multi-modal freight and passenger transport infrastructure and services (Based on SDG 9.1)

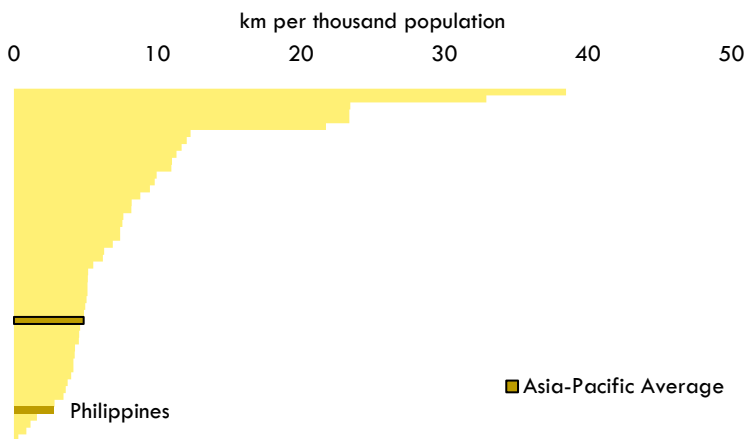
Transport infrastructure

Growth of transport infrastructure



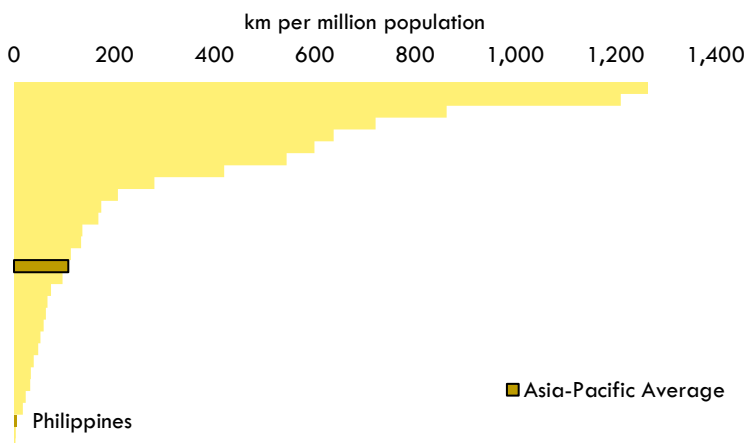
(IRF, 2024) (UIC, 2024) (ITDP, 2022) (ATO and Country estimates)

Road transport infrastructure availability (2022)



(IRF, 2024) (ATO and Country estimates)

Rail transport infrastructure (including HSR) availability (2021)

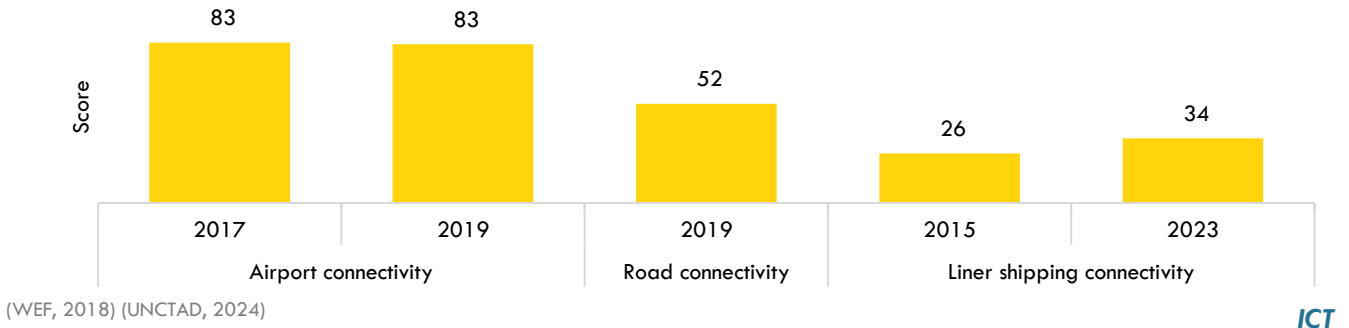


(UIC, 2024)

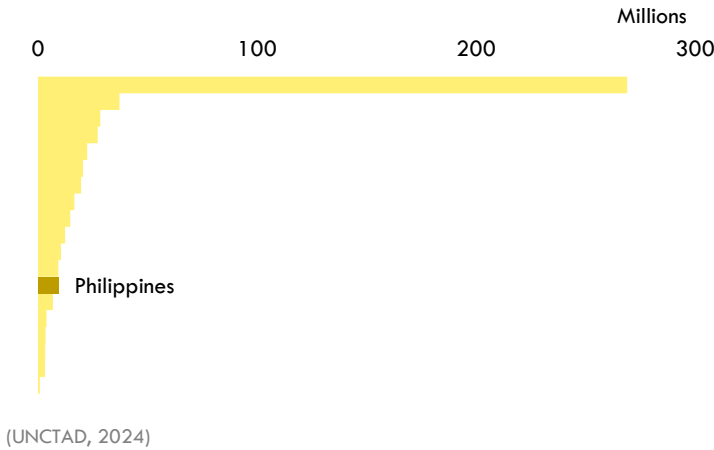
- Infrastructure: Road and heavy rail infrastructure has seen limited expansion.
- Bus motorization: The bus motorization index has increased.
- Infrastructure availability: Road and heavy rail infrastructure availability is lower than the regional average.
- Connectivity: Airport and liner shipping connectivity have improved. Container port traffic is significant.
- Telecommunication and internet: Mobile network coverage is extensive, and internet usage has increased significantly.

Transport connectivity

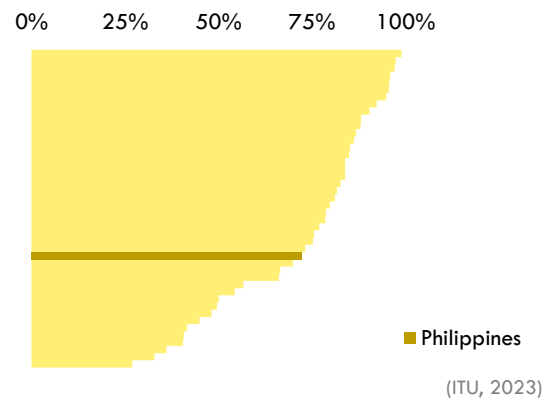
Transport connectivity



Container port traffic (TEU)



Percentage of individuals using the internet (2022)



Transport Policy insights:

The insights are based on the transport policy trackers developed by the ATO. Trackers include analysis of policy measures and targets from all the transport relevant policy documents for a country published after the adoption of the Aichi 2030 Declaration, i.e. 2021.

- Policy documents: 25 policy documents have been adopted since 2015, with a focus on low-carbon transport and air pollution.
- Aichi 2030 Declaration: 9 documents have been published since the adoption of the Aichi 2030 Declaration.
- The policy landscape since 2015 shows a clear emphasis on climate change mitigation (Goal 1 a), with 76% of documents providing extensive coverage. Air pollution (Goal 1 c) and road safety (Goal 2) also received substantial attention, with 60% and 36% coverage, respectively. However, there's a significant gap in addressing resilience (Goal 1 b), rural access (Goal 4), and urban access (Goal 5), with no documents providing extensive coverage. Economic sustainability (Goal 3) and national access and connectivity (Goal 6) received minimal attention, with only 4% coverage each.

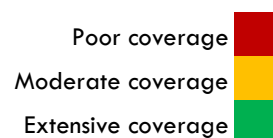
Transport relevant policy documents

Red - Poor coverage; Orange - Moderate coverage; Green - Extensive coverage

Doc. No.	Document Name	Year	Goal 1a	Goal 1b	Goal 1c	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6
1	Intended Nationally Determined Contribution	2015	Green	Yellow	Green	Red	Red	Red	Red	Yellow
2	An Act Defining and Penalizing Distracted Driving	2015	Red	Red	Red	Green	Red	Red	Red	Red
3	Philippine New Urban Agenda (PhiNUA)	2016	Yellow	Yellow	Yellow	Yellow	Red	Red	Red	Yellow
4	National Transport Policy and its Implementing Rules and Regulations	2017	Green	Yellow	Green	Yellow	Red	Red	Red	Yellow
5	National Logistics Master Plan 2017-2022	2017	Green	Yellow	Green	Yellow	Red	Red	Red	Green
6	National Urban Development and Housing Framework 2017-2022	2017	Green	Yellow	Yellow	Yellow	Red	Red	Yellow	Yellow
7	Philippines Energy Efficiency and Conservation Roadmap 2017-2040	2017	Green	Red	Yellow	Yellow	Red	Red	Red	Red
8	Renewable Energy Roadmap 2017-2040	2017	Green	Red	Green	Red	Red	Red	Red	Red
9	Philippine Energy Plan 2018-2040	2018	Green	Red	Green	Red	Red	Red	Red	Yellow
10	Philippines Action Plan on CO2 Reduction	2018	Green	Yellow	Yellow	Red	Red	Red	Red	Yellow
11	Technology Needs Assessment for Climate Change Mitigation	2018	Green	Yellow	Green	Yellow	Yellow	Red	Red	Yellow
12	Child Safety in Motor Vehicles Act	2018	Red	Red	Red	Green	Red	Red	Red	Red
13	Guidelines and Standards for the Classification of Roads, Setting of Speed Limits Under Republic Act No. 4136, and Collection of Road Crash Data	2018	Yellow	Red	Yellow	Green	Red	Red	Red	Red
14	Authority of the Land Transportation Franchising Board (LTRFB) to regulate the transport network companies (TNCs) and Transportation Network Vehicles Service (TNVS)	2018	Green	Red	Green	Green	Yellow	Red	Red	Red
15	Guidelines on the Accreditation of speed limiter installers and testing facilities pursuant to Republic Act No. 10916, otherwise as the Road Speed Limiter Act of 2016	2018	Red	Red	Red	Green	Red	Red	Red	Red
16	Guidelines for the scrapping of old Public Utility Vehicle Units (PUVS) under the Department Order 2017-011 otherwise known as the Omnibus Franchising Guidelines	2020	Green	Red	Green	Green	Red	Red	Red	Red
17	Guidelines for the Authorization of Private Motor Vehicle Inspection Center (PMVIC) for Additional PMVICs (PMVIC Phase II)	2021	Green	Red	Green	Green	Red	Red	Red	Red
18	Maritime Industry Development Plan 2019-2028	2021	Green	Red	Green	Red	Red	Red	Red	Yellow
19	Nationally Determined Contribution	2021	Green	Red	Green	Red	Red	Red	Red	Red
20	Electric Vehicle Industry Development Act	2021	Green	Red	Green	Red	Yellow	Red	Red	Yellow
21	Voluntary National Review 2022	2022	Green	Red	Green	Yellow	Red	Red	Yellow	Yellow
22	Comprehensive Roadmap for the Electric Vehicle Industry	2022	Green	Red	Green	Red	Red	Red	Red	Yellow

23	An order for the implementation of the fuel subsidy program and other related activities	2022								
24	Philippine Development Plan 2023-2028	2023								
25	Philippine Road Safety Action Plan 2023-2028	2023								

(ATO National policy tracker)



Transport relevant national targets

Doc. No.	Target	Year	Goal 1 a	Goal 1 b	Goal 1 c	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6
1	Intended Nationally Determined Contribution									
	The Philippines intends to undertake GHG (CO ₂ e) emissions reduction of about 70% by 2030 relative to its BAU scenario of 2000-2030.	2030	x		x					
7	Philippines Energy Efficiency and Conservation Roadmap 2017-2040									
	Annual energy saved by 2040 (KTOE) = 4,500 Implied annual savings = 1.9% Total savings = 25%	2040	x							
8	Renewable Energy Roadmap 2017-2040									
	Increased installed capacity to at least 20,000 MW	2040	x		x					
19	Nationally Determined Contribution									
	The Philippines commits to a projected GHG emissions reduction and avoidance of 75%, of which 2.71% is unconditional and 72.29% is conditional, representing the country's ambition for GHG mitigation for the period 2020 to 2030 for the sectors of agriculture, wastes, industry, transport, and energy. This commitment is referenced against a projected business-as-usual cumulative economy-wide emission of 3,340.3 MtCO ₂ e for the same period.	2030	x		x					
22	Comprehensive Roadmap for the Electric Vehicle Industry									
	achieve at least a 5% EV share in corporate and government fleets, public transport operators, and industrial and commercial companies at the end year of the Medium Term (2034) and increasing to 10% by 2040	2034	x		x					x
	achieve at least a 5% EV share in corporate and government fleets, public transport operators, and industrial and commercial companies at the end year of the Medium Term (2034) and increasing to 10% by 2040	2040	x		x					x
	The PEP targets a 35% renewable energy share in the country's total energy mix by 2030.	2030	x		x					
21	Voluntary National Review 2022									
	avoid 75 percent of future greenhouse gas emissions from 2020-2030	2030	x		x					

24	Philippine Development Plan 2023-2028									
	Percentage of cycling households in the Philippines increased (% of total households) = 36 (from 29 in 2020)	2028	x	x	x					x
	Share of renewable energy in the power generation mix increased (%) = 33 (from 22.40 in 2021)	2028	x	x						
	Passenger trips via rail in Metro Manila increased (% share to total passenger trips, cumulative) = 14 (from 1 in 2021)	2028	x	x	x					
	Death rate due to road traffic accidents decreased (per 100,000 population) = 1.68 (from 8.0 in 2020)	2028			x					
	Road traffic accident (crash) rate reduced (number of incidents per 100,000 population) - incidents of accidents (crash) = 2.50 (from 3.85 in 2021)	2028			x					
	Passengers transported via air and sea increased (number of passengers, cumulative) = 202.34 million (from 35.72 in 2021)	2028	x	x	x					
	Cargo transported via air and sea increased (international and domestic) (metric ton, cumulative) = 1850 million (from 470.30 in 2021)	2028	x	x	x					
	Mitigated GHG emissions increased (MtCO ₂ e) = 26.04 (from 0 in 2019)	2028	x							
	Travel time (decreased) via land per key corridor (hours) = 3.207 (from 2.38 in 2021)	2028	x	x	x					x
25	Philippine Road Safety Action Plan 2023-2028									
	Reduce road traffic deaths by at least 35% by 2028	2028			x					

(ATO National policy tracker)

Transport relevant sample projects:

A sample list of projects by the MDB highlights their focus with respect to the Aichi 2030 Declaration Goals.

Transport relevant projects

Year	Project name	Amount (million USD)	Goal 1a	Goal 1b	Goal 1c	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6
2023	Infrastructure Preparation and Innovation Facility, Second Additional Financing	201	x	x	x	x	x	x		x
2024	Mindanao Transport Connectivity Improvement Project	440		x	x	x	x	x		x
	Philippines: Laguna Lakeshore Road Network (Phase 1) Project	300		x		x	x	x		x
2023	Davao Public Transport Modernization Project	1015	x	x	x		x		x	
2022	Sustainable Transport Development Diagnostic in Bataan Province	0.2	x	x	x	x	x			
	Philippines: Facility for Accelerating Studies for Infrastructure (FAST-Infra)	44				x	x	x		x
2024	Philippines: Bataan- Cavite Interlink Bridge Project and Tranche 1	350		x			x			x
2022	Project Implementation Support and Institutional Strengthening for Road-Based Public Transport	0.2		x			x		x	
2021	Metro Manila Bridges Project	175		x			x			x
2023	Bataan-Cavite Interlink Bridge Project	2108		x			x	x		

(MDB Projects database)

References:

- Asian Transport Outlook (ATO) + Country. (2024). ATO estimates based on Country Official Statistics (ATO and Country estimates)
- Asian Transport Outlook (ATO) + UNEP. (2024). ATO analysis of UNEP Index using latest data (ATO analysis of UNEP data)
- Coalition for Disaster Resilient Infrastructure (CDRI). (2023). Building & infrastructure. <https://giri.unepgrid.ch/facts-figures/building-infrastructures> (CDRI, 2023)
- Socioeconomic Data and Applications Center (SEDAC). (2023). SDG Indicator 11.2.1: Urban Access to Public Transport, 2023. <https://sedac.ciesin.columbia.edu/data/set/sdgi-11-2-1-urban-access-publictransport-2023> (CIESIN-urban, 2023)
- Socioeconomic Data and Applications Center (SEDAC). (2023). SDG Indicator 9.1.1: The Rural Access Index (RAI), 2023. <https://sedac.ciesin.columbia.edu/data/set/sdgi-9-1-1-rai-2023> (CIESIN-rural, 2023)
- Asian Transport Outlook (ATO). (2024). ATO National policy tracker. The trackers are based on the national level policies. (ATO National policy tracker)
- Emissions Database for Global Atmospheric Research (EDGAR). (2023). EDGAR - Emissions Database for Global Atmospheric Research. <https://edgar.jrc.ec.europa.eu/> (EDGAR, 2023)
- Ember. (2023). Yearly electricity data. <https://ember-climate.org/data-catalogue/yearly-electricity-data/> (EMBER, 2023)
- Global Burden of Disease (GBD). (2021). GBD Results. <http://ghdx.healthdata.org/gbd-results-tool> (GBD, 2021)
- International Council on Clean Transportation (ICCT). (2023). <https://theicct.org/> (ICCT, 2023)
- International Energy Agency (IEA). (2022). Fossil Fuels Consumption Subsidies 2022. <https://www.iea.org/reports/fossil-fuels-consumption-subsidies-2022> (IEA, 2022)
- International Monetary Fund (IMF). (2024). Climate Change Dashboard. <https://climatedata.imf.org/pages/access-data> (IMF, 2024)
- International Road Federation (IRF). (2024). <https://irfnet.ch/data-statistics/4> (IRF, 2024)
- International Trade Centre (ITC). (2024). Trademap. <https://www.trademap.org/> (ITC, 2024)
- Institute for Transportation and Development Policy (ITDP). (2022). Rapid Transit Database. <https://www.itdp.org/rapid-transit-database/> (ITDP, 2022)
- International Telecommunication Union (ITU). (2023). Statistics. <https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx> (ITU, 2023)

Aichi 2030 Declaration on Environmentally Sustainable Transport (EST): Country Profile

Koks, et al. (2023). A global assessment of national road network vulnerability. https://iopscience.iop.org/article/10.1088/2634-4505/acd1aa	(Koks, et al., 2023)
McDuffie et al. (2021). Global Burden of Disease-Major Air Pollution Sources. https://costofairpollution.shinyapps.io/gbd_map_global_source_shinyapp/	(McDuffie et al., 2021)
Organisation for Economic Co-operation and Development (OECD). (2022). Data Explorer. https://stats.oecd.org/Index.aspx?DataSetCode=CRS1#	(OECD, 2022)
International Organization of Motor Vehicle Manufacturers (OICA). (2023). Statistics. https://www.oica.net/production-statistics/	(OICA, 2023)
Tracking SDG 7. (2024). The energy progress report. https://trackingsdg7.esmap.org/	(Tracking SDG 7, 2024)
International Union of Railways (UIC). (2024). https://uic-stats.uic.org/	(UIC, 2024)
UN. (2023). Downloads. https://unstats.un.org/unsd/snaama/Downloads	(UN, 2023)
UN. (2018). Environmental Vulnerability Indicators. https://www.un.org/development/desa/dpad/least-developed-country-category/evi-indicators-ldc.html	(UN, 2018)
UN. (2021). Energy Statistics. https://unstats.un.org/unsd/energystats/	(UN, 2021)
UN. (2022). Population Database. https://population.un.org/wpp/	(UN, 2022)
UN Conference on Trade and Development (UNCTAD). (2024). Statistics. https://unctadstat.unctad.org	(UNCTAD, 2024)
UNEP. (2023). Global Materials Flow Database. https://www.resourcepanel.org/global-material-flows-database	(UNEP, 2023)
World Bank. (2022). https://data.worldbank.org/	(WB, 2022)
World Bank. (2023). PPI Database. https://ppi.worldbank.org/en/ppi	(WB, 2023)
World Economic Forum (WEF). (2020). Global Competitiveness Report Special Edition 2020. https://www.weforum.org/publications/the-global-competitiveness-report-2020/	(WEF, 2018)
World Health Organisation (WHO). (2023). Global Status Report on Road Safety 2023. https://www.who.int/teams/social-determinants-of-health/safety-and-mobility/globalstatus-report-on-road-safety-2023	(WHO, 2023)
International Labour Organization (ILO). (2024). Statistics. https://www.ilo.org/global/statistics-and-databases/lang--en/index.htm	(ILO, 2024)
Asian Transport Outlook (ATO). (2024). ATO compilation of the MDB projects. The database is a compilation of the transport relevant projects undertaken by 3 MDBs - ADB, AIIB and World Bank having the project approval year 2019 or after.	(MDB Projects database)
Country official statistics. (varies). Country official statistics in the form of statistical yearbooks, handbooks, databanks etc.	(Country official statistics)
GDP data is sourced from (WB, 2022) and Population data from (UN, 2022)	