

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

Brunei Darussalam



Credits: Pangalau, CC BY-SA 4.0 <<https://creativecommons.org/licenses/by-sa/4.0/>>, via Wikimedia Commons

Developed by:



Developed with the support of:



ASIAN DEVELOPMENT BANK



ASIAN INFRASTRUCTURE
INVESTMENT BANK



Disclaimer: The ATO project collects, collates, organizes, and presents transport-relevant data from publicly available official sources and reputable, peer-reviewed secondary sources. Users should be aware that: the ATO does not generate any primary data; the source data may contain inconsistencies or gaps; despite rigorous quality control measures, the ATO cannot guarantee the absolute accuracy, completeness, or suitability of the data for specific purposes.

Users of the data and derived knowledge products are strongly advised to: independently verify and validate all data before use; exercise professional judgment in data interpretation and application; and acknowledge that any reliance on ATO data is at the user's own risk. Users should also note that data may be subject to updates or revisions. It is the user's responsibility to ensure they are working with the most current version of the data available.

The ATO, and all affiliated organizations: make no representations or warranties, express or implied, regarding the data's accuracy, completeness, or fitness for any particular purpose; and disclaim all liability for any direct, indirect, incidental, consequential, or special damages arising from the use of or reliance upon ATO data or derived products.

The designations, presentations, and materials in this publication, including citations, maps, and bibliography, do not express or imply any opinion on the part of the ATO or involved organizations regarding the legal status of any country, territory, city, area, or its authorities, or concerning the delimitation of frontiers or boundaries.

By using the data or derived products, users agree to indemnify and hold harmless the ATO, its supporting organizations, and all affiliated organizations from any claims, losses, or damages resulting from such use.

Suggested Citation: Asian Transport Outlook (ATO). (2024). Aichi 2030 Declaration on Environmentally Sustainable Transport (EST): Country Profile (Brunei Darussalam), <https://asiantransportoutlook.com/analytical-outputs/countryprofiles/>

For any questions or information related to this publication, please write to asiantransportoutlook@gmail.com.

Photographs used are copyright free.

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

2024

The publication is available at: <https://asiantransportoutlook.com/analyticaloutputs/countryprofiles/>



Brunei Darussalam, a country in the South East Asia region, having High income status, was recorded to have a national population of about 456 thousand in the year 2024.

The urban population share in total is about 79%. The age wise distribution of the national population accounts for 27% and 12% of <18 years old (minors) and >60 years old (seniors) population, respectively. The GDP per capita (PPP) for the year 2022 was 69,298 USD.

The motorisation rate of the road transport vehicles for the year 2022, for all vehicles combined, stood at 691 vehicles per thousand population. Similarly, the rate for 2&3 wheelers, LDV, freight vehicles and buses were 10, 644, 33, and 5 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.

Contents:

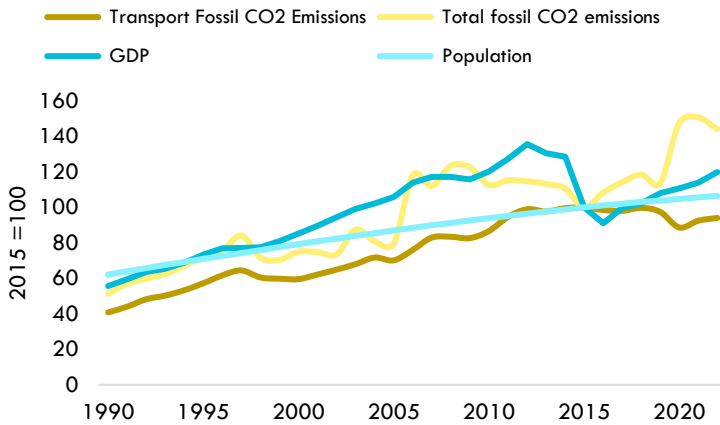
Executive Summary	3
Goal 1a – Low-Carbon (climate change mitigation)	4
Goal 1b – Resilience	6
Goal 1c – Air pollution	7
Goal 2 – Road safety	8
Goal 3 - Economic sustainability	9
Goal 4 - Rural access	11
Goal 5 - Urban access	12
Goal 6 - National access and connectivity	13
Transport Policy Insights and relevant sample projects	14

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)

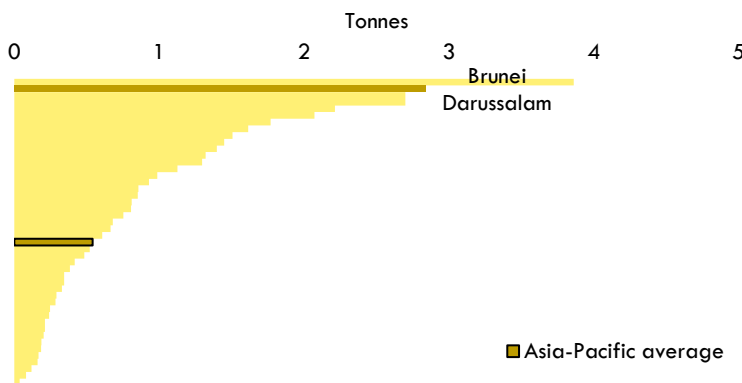
Transport CO2 emissions (fossil)

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



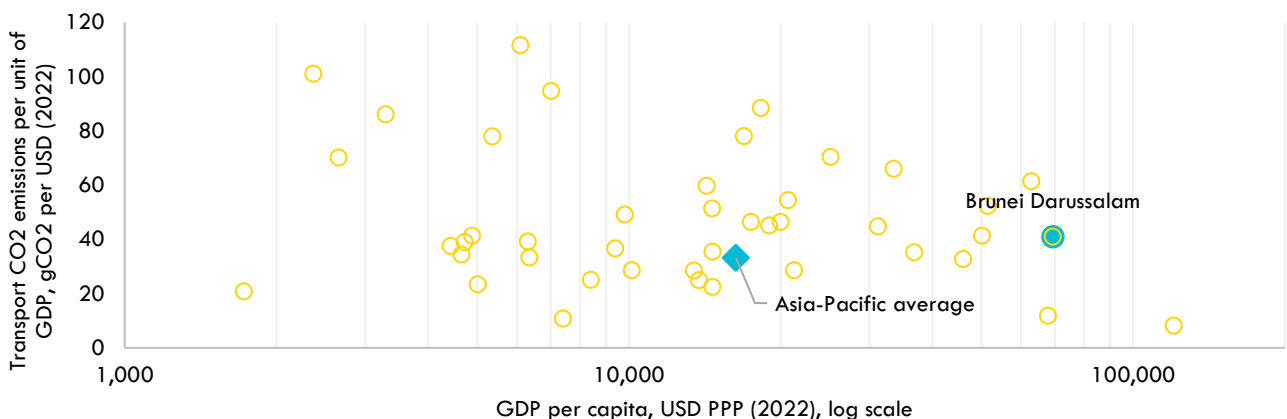
(EDGAR, 2023)

Transport fossil CO2 emissions per capita (2022)



(EDGAR, 2023)

Transport CO2 emissions per unit of GDP (2022)

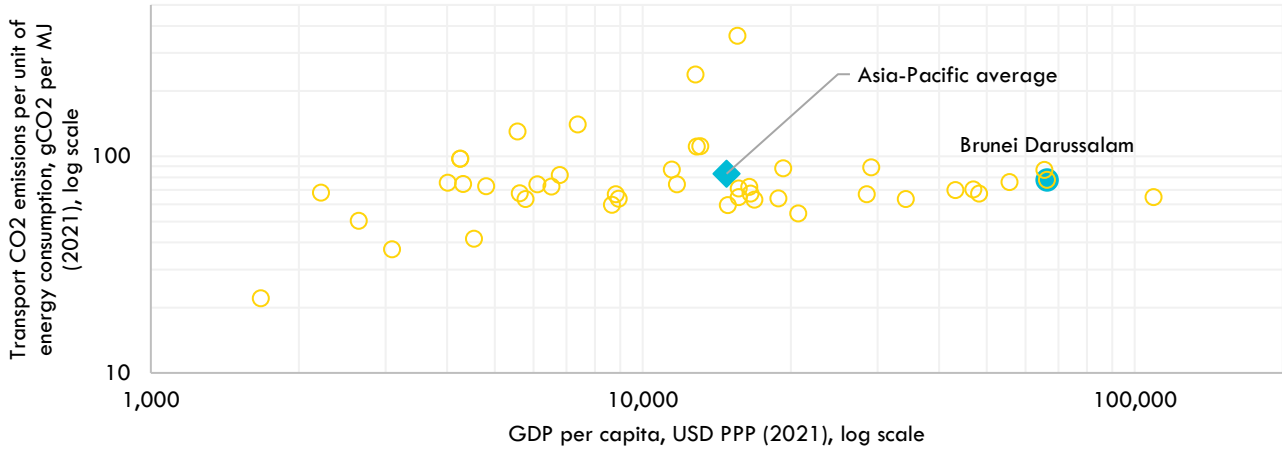


(EDGAR, 2023)

- CO2 emissions: Transport CO2 emissions per capita are 2.8 tonnes, significantly higher than the Asia-Pacific average of 0.5. However, Brunei Darussalam has seen a decrease in transport fossil CO2 emissions between 2015 and 2022.
- Energy consumption: Transport energy consumption per capita is low compared to the regional average.
- Emissions breakdown: Road transport accounts for 100% of transport CO2 emissions.

Transport energy consumption

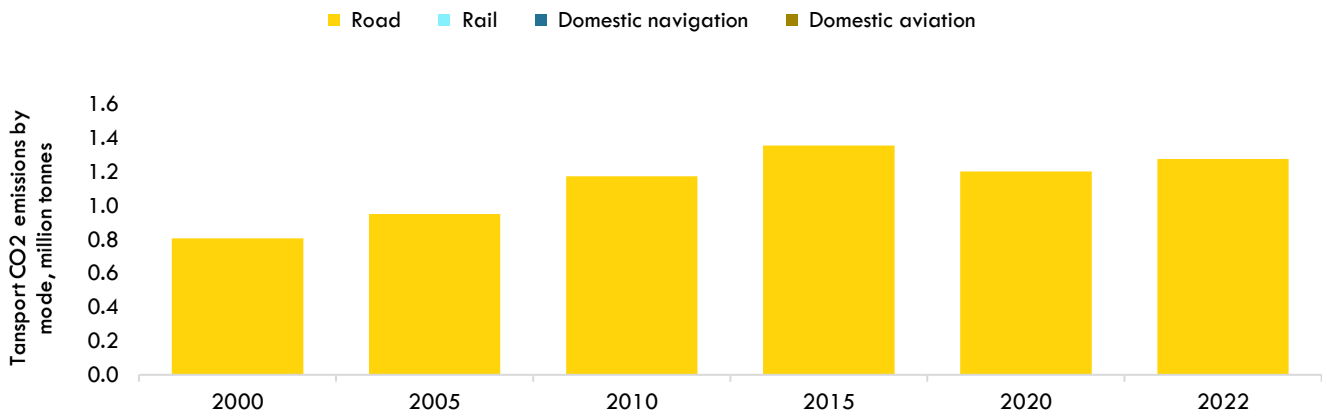
Transport CO₂ emissions per unit of energy consumption and GDP per capita (2021)



(EDGAR, 2023)

Transport CO₂ emissions (fossil) and energy consumption modeshare

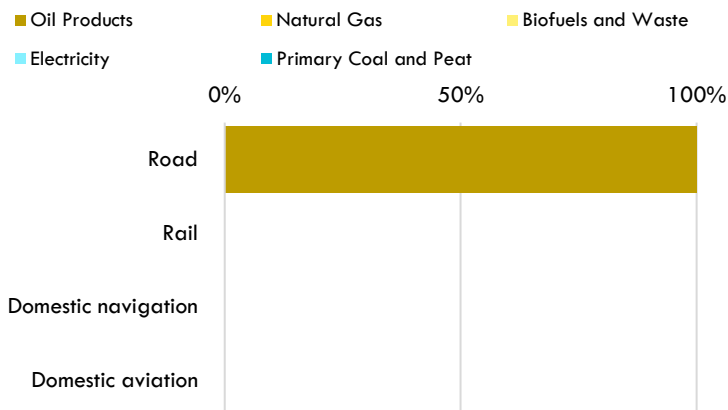
Growth of transport CO₂ emissions by mode



(EDGAR, 2023)

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

Share of transport in renewable energy consumption:



(Data not available)

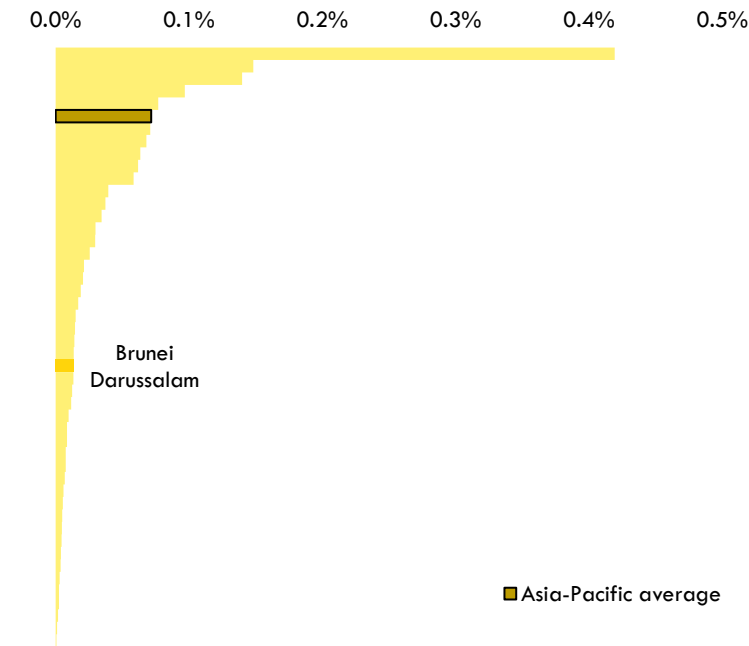
(EDGAR, 2023)

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)



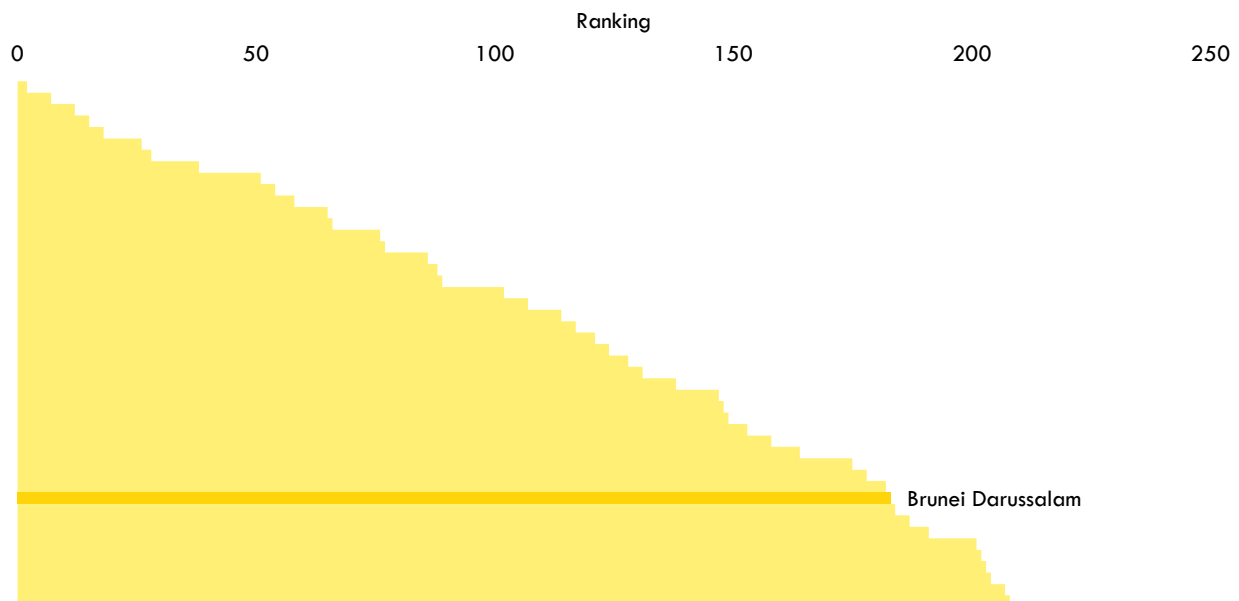
(CDRI, 2023)

- **Vulnerability:** Brunei Darussalam's transport infrastructure is vulnerable to hazards, with roads being the most affected.
- **Low elevated coastal zones:** 2% of the population lives in low elevated coastal zones, making them susceptible to sea-level rise and coastal flooding.
- **National Road Vulnerability Index (NRVI):** Brunei Darussalam ranks 183rd out of 208 countries, indicating a relatively high vulnerability to disruptions in road transport due to 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)



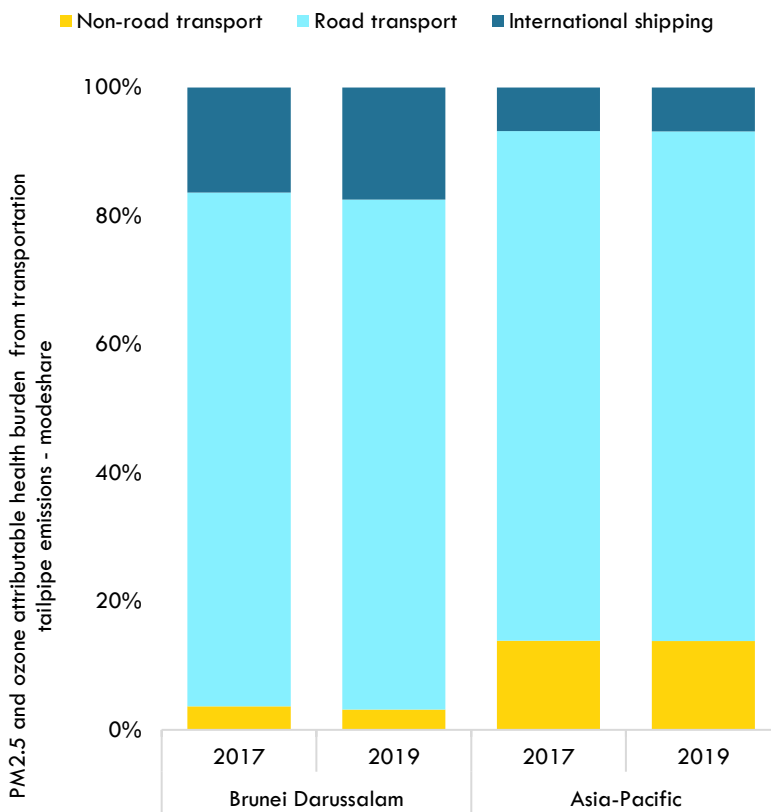
(Koks, et al., 2023)

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)

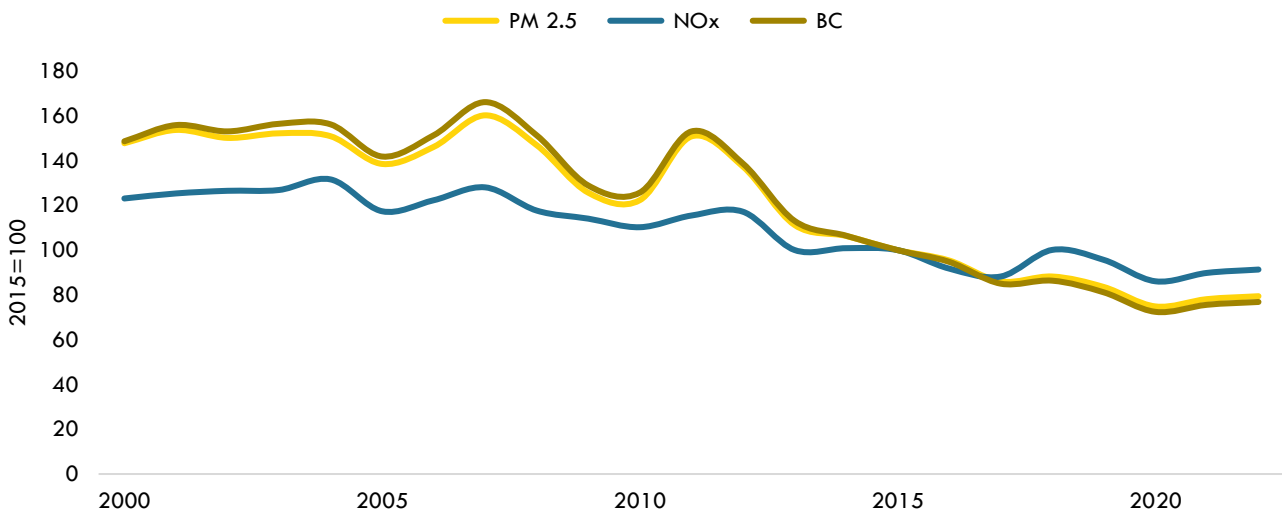


- Air pollutant emissions: Brunei Darussalam has made progress in reducing PM2.5, NOx, SOx, and BC emissions from road transport.
- Road transport's share: Road transport is a major contributor to NOx and BC emissions.
- Deaths from air pollution: The number of deaths due to PM2.5 and ozone pollution from transport remained stable between 2017 and 2019.
- In Brunei Darussalam, the total attributable deaths due to the PM2.5 and ozone air pollution from the transport sector stayed at about 6 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



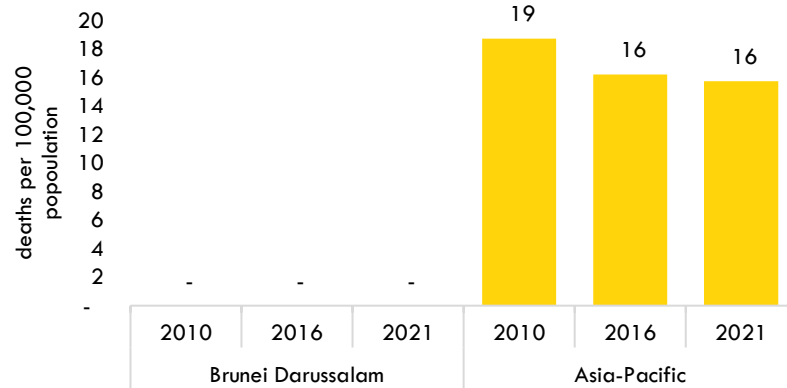
(EDGAR, 2023)

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)

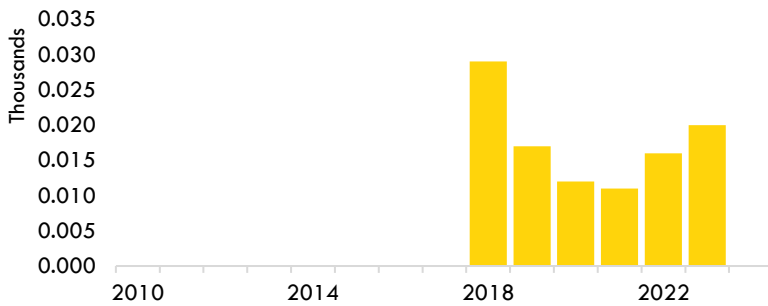
Road traffic crash fatalities

Road traffic crash fatality rate



(WHO, 2023)

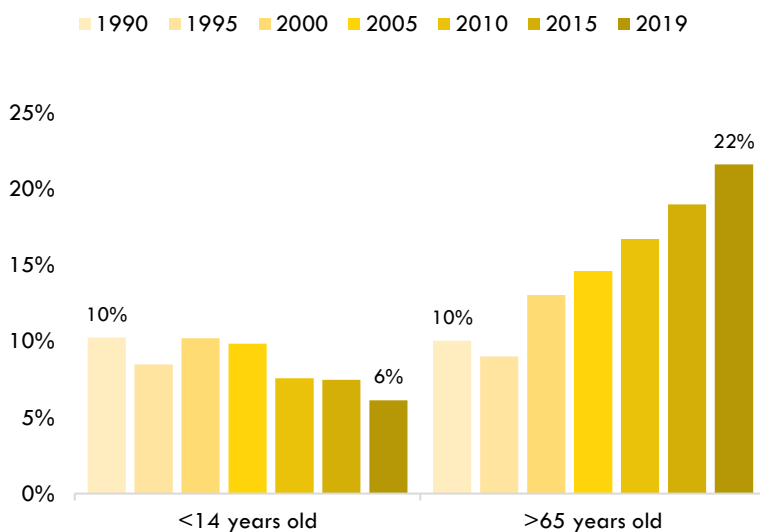
Road traffic crash fatalities (absolute values)



(Country official statistics)

Share of vulnerable groups

Share of road crash fatalities by age



(GBD, 2021)

- **Fatalities:** Reported road traffic fatalities vary depending on the data source, but the overall fatality rate is low compared to the regional average.

- **Economic cost:** Road traffic crashes cost Brunei Darussalam an estimated 3% of its GDP.

- **Vulnerable road users:** The share of minors and seniors in road crash fatalities is increasing.

- **Pedestrian and cyclist safety:** Data on pedestrian and cyclist fatalities is limited, but infrastructure improvements are needed.

Share of road crash fatalities by mode

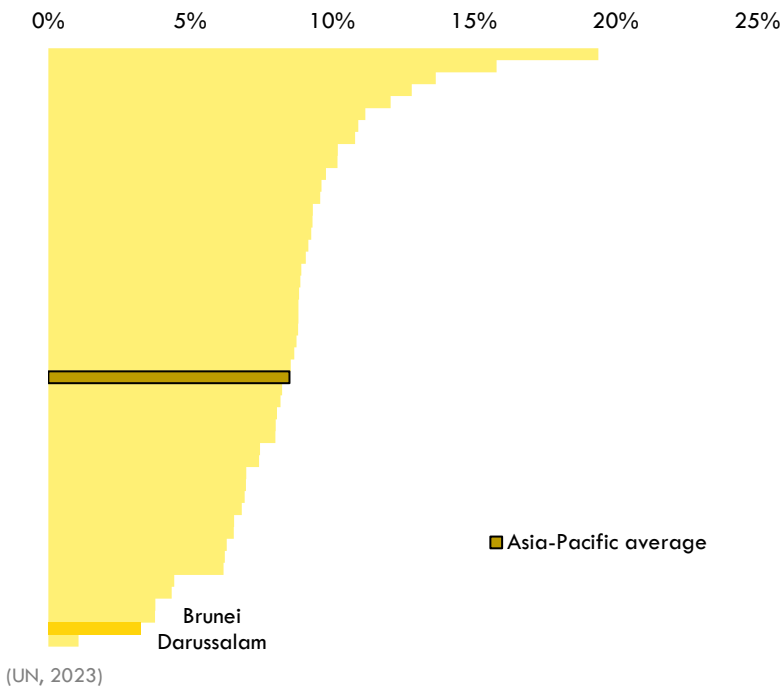
(Data not available)

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

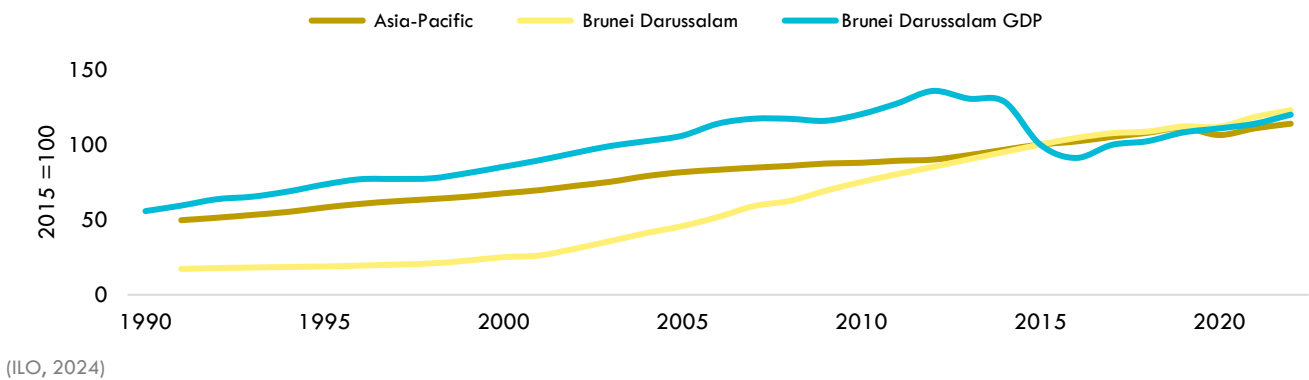
Transport as a share of GDP



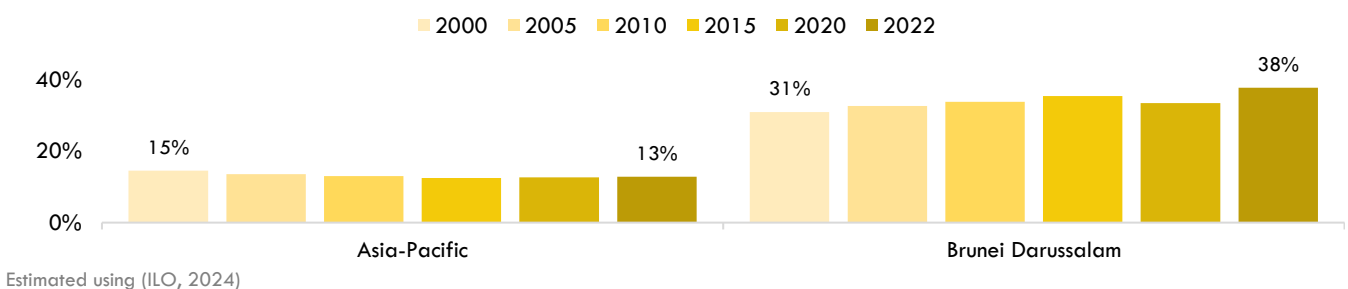
- Transport sector's contribution: The transport sector's contribution to GDP and employment is relatively small compared to the regional average.
- Logistics performance: Brunei Darussalam has seen improvements in its logistics performance ranking.

Transport employment

Growth of transport sector employment



Female share in the transport employment



Transport investments

Official development assistance for Transport

(Data not available)

Public Private Partnership in Transport

(Data not available)

Freight sector

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

(Data not available)

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)

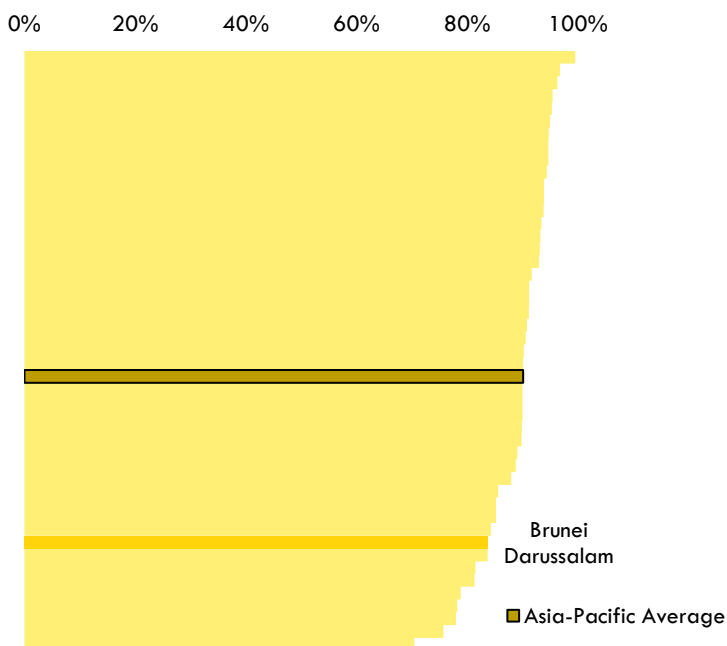
Rural access

Rural access index



(CIESIN-rural, 2023)

Share of Secondary and Tertiary roads in Total road network



(ATO and Country estimates)

• Rural access: 99% of the rural population lives within 2km of an all-weather road, exceeding regional and global averages.

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)

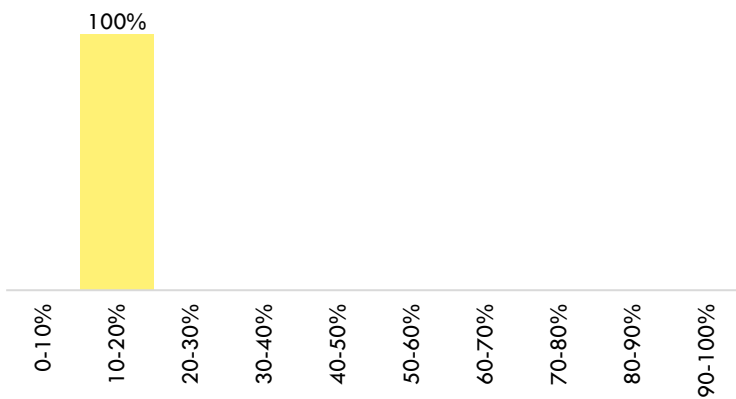
(Data not available)

Urban rapid transit infrastructure length

(Data not available)

Urban access

Share of cities by level of urban access (out of 1 cities)



(CIESIN-urban, 2023)

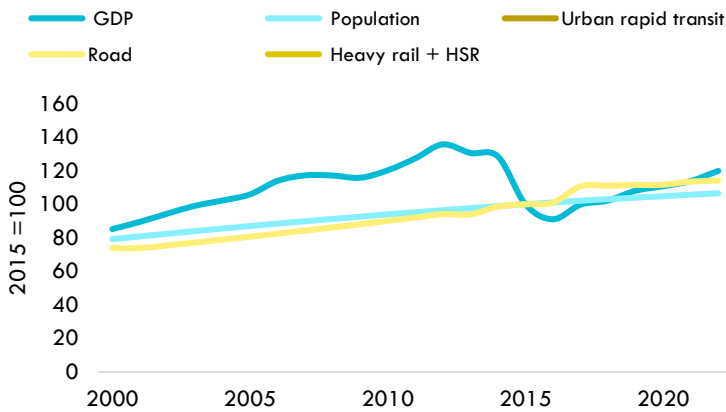
• Data limitations: Data on urban access to public transport is limited.

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)

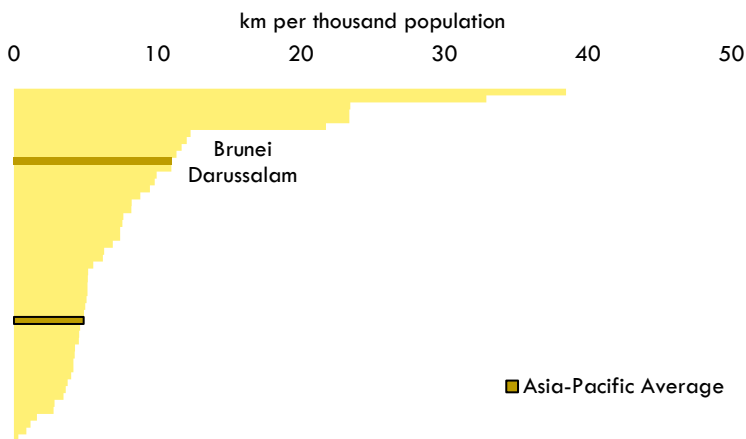
Transport infrastructure

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)

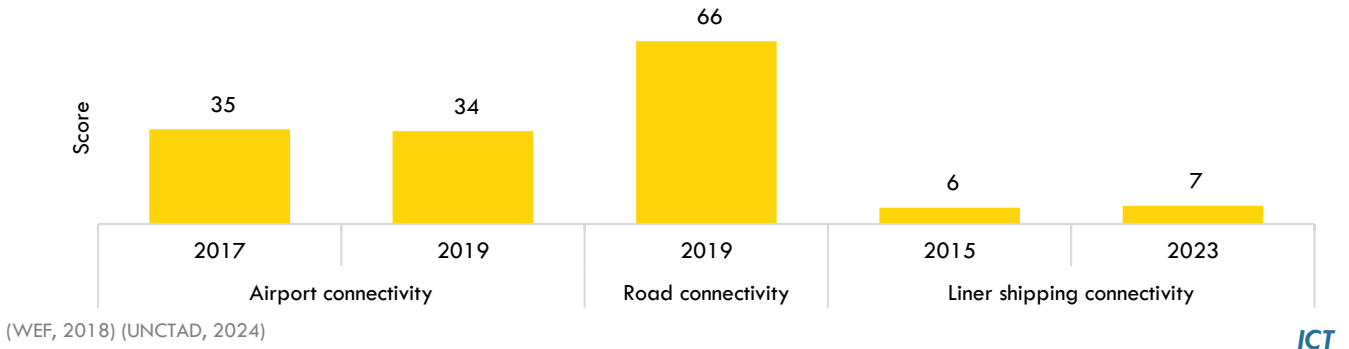
Rail transport infrastructure (including HSR) availability (2021)

(Data not available)

- Infrastructure Development: Road infrastructure has expanded, but heavy rail infrastructure is lacking.
- Public transport: The bus motorization index has decreased.
- Connectivity: Brunei Darussalam has maintained its air connectivity score and improved its liner shipping connectivity index.
- Telecommunications: Brunei Darussalam has a high mobile network and internet penetration rate.

Transport connectivity

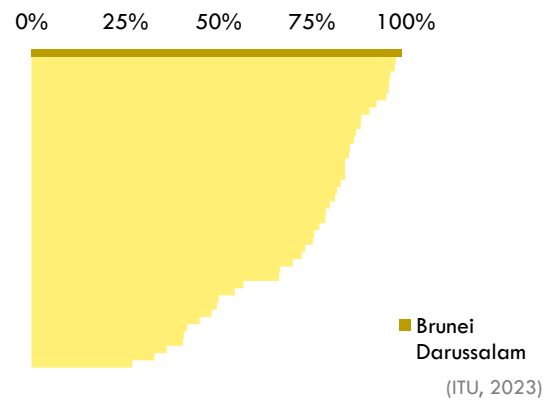
Transport connectivity



Container port traffic (TEU)

(Data not available)

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.

Key findings on policy focus since 2015

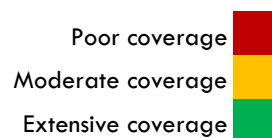
- Policy documents: Brunei Darussalam has adopted 8 policy documents related to transport since 2015, with a focus on low-carbon transport and air pollution.
- Aichi 2030 Declaration: One policy document has been published since the adoption of the Aichi 2030 Declaration.
- Climate action is a priority: 88% of documents extensively address Low-Carbon initiatives (Goal 1 a).
- Air pollution is also a major concern: 63% of documents give extensive coverage to Goal 1c.
- Resilience and road safety receive less attention: 13% and 25% of documents, respectively, cover these goals extensively.
- Economic sustainability, rural access, urban access, and national connectivity lack extensive coverage in the documents reviewed.

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 - BRN	2015	Green	Red	Green	Yellow	Red	Red	Red	Yellow
2	Strategic Plan 2018-2023	2018	Green	Green	Green	Green	Yellow	Red	Red	Green
3	The Brunei Darussalam Road Safety Strategic Plan 2025	2020	Yellow	Yellow	Yellow	Green	Red	Red	Red	Yellow
4	Strategic Plan for Ministry of Transport and Infocommunications	2020	Green	Yellow	Green	Yellow	Red	Red	Red	Green
5	Eleventh National Development Plan (2018-2023)	2020	Green	Yellow	Yellow	Yellow	Red	Red	Red	Green
6	Brunei Darussalam National Climate change Policy	2020	Green	Yellow	Green	Yellow	Red	Red	Red	Green
7	Nationally Determined Contribution - BRN	2020	Green	Red	Green	Red	Yellow	Red	Red	Yellow
8	Second Voluntary National Review - BRN	2023	Green	Yellow	Yellow	Yellow	Red	Red	Red	Yellow

(ATO National policy tracker)



Transport relevant national targets

Doc. No.	Target	Year	Goal 1a	Goal 1b	Goal 1c	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6
1	Intended Nationally Determined Contribution - BRN									
	and to increase the share of renewables so that 10% of the total power generation is sourced from renewable energy by 2035	2035	x		x					
	“Brunei Darussalam is targeting a 63% reduction in our total energy consumption by 2035. We [Brunei Darussalam] aim to achieve this by reducing fossil fuel demand for inland energy use, and through a revised power tariff that encourages energy savings	2035	x		x					
	o increase the share of public transport journeys as a percentage of total journeys from its current level of approximately 1% to 22% by 2035.	2035	x		x	x				
	Land Transport sector: to reduce carbon dioxide emissions from morning peak hour vehicle use by 40% by 2035 compared to a business as usual scenario.	2035	x							
	A transport fuel economy regulation is currently under development in Brunei Darussalam to improve the emissions performances of vehicles on the road. The Government of Brunei Darussalam is considering setting fuel consumption targets for new vehicles that are similar to those in the EU, such as 17.2 kilometre/litre by 2020 (EU 2016 target equivalent) and at 21.3 kilometre/litre by 2025 (EU 2020 target equivalent).	2025	x							
6	Brunei Darussalam National Climate change Policy									
	Increase total share of renewable energy to at least 30% of total capacity in the power generation mix	2035	x		x					
	Increase total share of Electric Vehicles to 50% of total annual vehicle sales	2035	x		x					x
7	Nationally Determined Contribution - BRN									
	Increase total share of renewable energy to at least 30% of total capacity in the power generation mix by 2035.	2035	x		x					
	Increase total share of electric vehicles (EV) to 60% of the total annual vehicle sales by 2035.	2035	x		x					x
	Brunei Darussalam is committed to a reduction in GHG emissions by 20% relative to Business-As-Usual levels by 2030.	2030	x		x					
4	Strategic Plan for Ministry of Transport and Infocommunications									
	12 airlines operating at Brunei International Airport by 2025 32 city pairs/connectivity by 2025 6% increase in passenger traffic by 2025 80% accuracy in aviation weather warning by 2025	2025	x		x					x
	4800 jobs in land transport sector by 2025 1800 jobs in the aviation sector by 2025 2000 jobs in the maritime sector by 2025	2025	x	x	x	x				x
	Increase in hybrid vehicles = 50% Increase in electric vehicles = 50%	2025	x		x					x
	By 2025 increase in taxis = 100% Increase in bus ridership = 10%	2025	x		x	x				x
	3 new maritime and ports related businesses established by 2025	2025	x		x					x

3	The Brunei Darussalam Road Safety Strategic Plan 2025									
	Zero road accident fatalities by 2025 Zero fatalites per population Decrease number of accidents by 50% Zero accidents involving vehicles 15 years and older Decrease the number of accidents involving 2 years license holder driver by 70% Zero road accidents related to driving under influence (DUI) Decrease the proportion of accidents involving drivers 59 years and older by 48% Decrease the proportion of accidents involving heavy commercial vehicles by 50% Decrease the proportion of accidents involving foreign drivers by 65%	2025			x					
8	Second Voluntary National Review - BRN									
	This taskforce, consisting of relevant government agencies, industry players and private sectors will work to increase the capacity of RE to at least 250 MW by 2030 through the construction of small, medium and large-scale projects, implementing collaborative RE projects with relevant stakeholders and continuation of solar projects deployment in rural areas.	2030	x	x						
	The country aims to increase EV share up to 60 per cent of total annual sales by 2035 as per the current ambition of the BNCCP.	2035	x	x						x

(ATO National policy tracker)

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)	