

Japan

Japan's transport sector has seen a decline in both passenger (-9.95%) and freight (-6.44%) transport activity from 2015 to 2023. Passenger cars dominate travel (66.16%), while road freight remains the primary mode (92.66%) for freight transport. Transport emissions have decreased by 15.02% since 2015, yet per capita emissions (1.46 tonnes) remain above global and regional averages. Renewable energy, including biofuels and electricity, represented only 2.9% of Japan's total transport energy consumption, whereas the carbon intensity of its electricity remains high, at 493.6 gCO₂/kWh in 2023. Beyond climate impacts, transport accounted for 9.7% of national air pollutant emissions in 2019. Transport-induced air pollution,

in turn, caused 3.1 premature deaths per 100,000 people in Japan in 2019. Road traffic injuries, on the other hand, are responsible for 2.7 deaths per 100,000 people and accounted for 1.2% of Japan's GDP in 2021. In 2020, an impressive 74.18% of Japan's population had convenient access to public transport, whereas no data is available on rural populations' access to all-weather roads. Policies support rail expansion and public transport, with urban rail spanning over 1,000 km. Frameworks on sustainable urban mobility planes, national walking and cycling strategies were not identified. The share of electric vehicle is still low with 3.6% of total car sales, lagging behind other high-income countries.

Income group: High-income

Human Development Index (2023): 0.93

Population size (2023): 12719 million -2.11% (2015 - 2023)

Urban population share (2023): 92.48% -1.41% (2015 - 2023)

GDP per capita (2023): 37 033.29 USD +6.11% (2015 - 2023)

Share of transport and storage jobs in workforce (2023) 10.7%

Share of women employed in transport and storage (2023) 26%

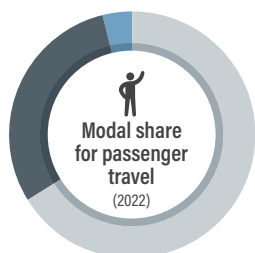
Transport Demand Trends

Passenger transport activity

1173 337

million passenger-km in 2022

-10%
(2015 to 2022)



30.1% Rail
66.2% Passenger cars
3.8% Bus

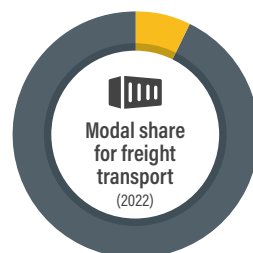
SDG 91

Freight transport activity

244 870

million ton-km in 2022

-6.4%
(2015 to 2022)



7.34% Railways
92.66% Road

SDG 91

Transport energy consumption (2022)

2 691 554 TJ

-0.1%
(2015 to 2022)

Oil products

97.1%

of total transport energy consumption

Per capita fossil fuel subsidies (2022)

1 629.7 USD per capita

SDG 12

Fuel quality standards (2022)

<15 ppm

Average light duty vehicle fuel consumption (2022)



Road traffic fatalities (2021), WHO estimates

SDG 3.6

2.7

deaths per 100,000 people

15.6

Regional

15.0

Global

Road traffic fatality cost as percentage of GDP (2021)

1.2%

Premature deaths linked to transport air pollution (2019)

SDG 11.6

3.1

deaths per 100,000 people

3.2

Regional

2.3

Global

Contribution of transport to air pollution (2019)

9.7%

Transport Emission Trends

Transport GHG emissions (2023)

182.0

million tonnes of CO₂ equivalent

-15.0%
(2015 to 2023)

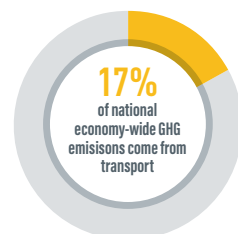
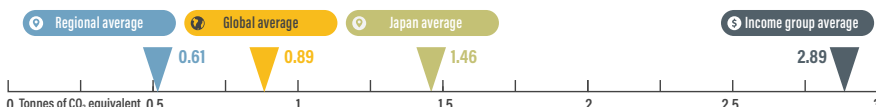
-3.7%
(2022 to 2023)

Per capita transport GHG emissions (2023)

1.46

tonnes of CO₂ equivalent per capita

PER CAPITA EMISSION COMPARISON



Transport is the **second-largest** GHG-emitting sector in the country in 2023.

Transport Decarbonisation Pathways

Transport strategy identifies climate change



Long-term strategy submitted to UNFCCC



NDC submitted:

1st, 2nd and 3rd NDC

NDC highlights transport for GHG mitigation



Transport mitigation targets in NDC



Other non-emission related transport targets in NDC



VNR highlights transport



2021 VNR with transport linkages to SDG 2, SDG 3, SDG 5, SDG 8, SDG 9, SDG 11, SDG 13, SDG 16 and SDG 17

Transport actions in VNRs

- Promotion of public transport
- Construction of a safe, smart, and sustainable road transportation system
- On-demand transportation and other digitalisation options

Transport actions in NDC

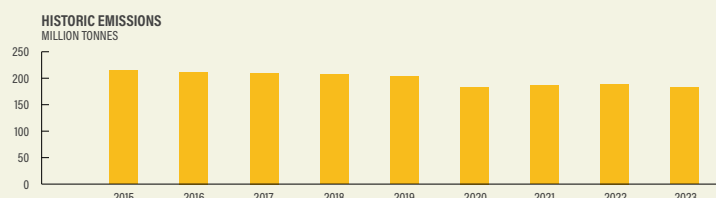
Mitigation

- No sectoral actions

Adaptation

- No sectoral actions

Transport GHG emissions from 2015 to 2023



Policy Areas: Indicators and Targets

Integrated Transport Planning

National urban mobility framework (2024)	✓
Sustainable urban mobility plans (2024)	✗ but Low Carbon City Act
Number of sustainable urban mobility plans (2022)	✗
Low emission zones (2022)	4 cities

Adaptation and Resilience

ND-GAIN Index (2022)	66.53
Vulnerability score for infrastructure (2022)	0.41

Walking

Walkability Score (2024)	0.81
National walking strategies (2024)	✗

Cycling

Cycling infrastructure in capital (2024)	300 km (13 kilometres of protected facilities in 2019)
Percent near protected bikeways (2024)	4%
Bike sharing systems (2024)	98
National cycling strategies (2024)	✓

Public Transport

Bus rapid transit (2024)	29 km of total length in 2 cities
Bus rapid transit daily passenger volume (2024)	9100 passengers per day
Urban rail (LRT, metro, tram) (2024)	Over 1,000 km in 24 cities
Proportion of population that has convenient access to public transport (2020) SDG 11.2	74.18%

Intercity Rail

Rail network (2011)	20 0874 km
Rail travel activity (2020)	263 211 million passenger-km
Rail freight activity (2020)	18 340 million ton-km
High-speed rail (2023)	1747 km
High-speed rail travel activity (2023)	74 221 million passenger-km
National plans for passenger and freight rail expansion (2024)	✓

Target

- To promote a modal shift, raise rail freight transport volume from 19.34 billion ton-kilometres (in 2013) to 25.64 billion ton-kilometres (by 2030), resulting in 1.466 million tonnes less CO₂ emissions

Road Transport

Total road vehicles in use per 1,000 people (2020)	606.0
Road vehicle fleet growth (from 2015 to 2020)	-0.91%
Rural Access Index (2019) SDG 9.1	—
Diesel prices (2022)	0.94 USD per litre
Gasoline prices (2022)	1.13 USD per litre

Aviation

Air passengers carried (2021)	45.4 million people
Air freight activity (2021)	10 9470 million ton-km
Carbon-accredited airports (2023)	5 airports
of which carbon neutral:	5 airports

Shipping

Logistics Performance Index (2023)	3.9
Liner shipping connectivity index (Q4 2024)	69.7
Container port traffic (2020)	21 385 632.0 TEU

Transport Energy Sources

Biofuel blend overall mandate (2023)	—
Biofuel blend biodiesel mandate (2023)	—
Biofuel blend ethanol mandate (2023)	—
Carbon intensity of electricity (2023)	493.59 gCO ₂ /kWh
Renewable energy (biofuels and electricity) share in transport (2022) SDG 7.2.1	2.9% of total transport energy consumption
Biofuels (2022)	0.7% of total transport energy consumption
Electricity (2022)	2.2% of total transport energy consumption
Targeted renewable power share	38%

Vehicle Technologies

Emission standards for LDVs (2024)	Euro 4 and above
CO ₂ emissions performance for passenger cars (2024)	115 g CO ₂ /km in 2018
Targeted CO ₂ emissions performance (2024)	83 g CO ₂ /km by 2030
Regulatory environment ranking on used vehicles (2024)	—
Electric vehicles stock for passenger cars (2024)	340 000 vehicles
Share of electric vehicles in car sales (2024)	2.8%
ICE phase-out targets	✗
Electric vehicles stock for vans (2024)	20 000 vehicles
Electric vehicles stock for trucks (2024)	410 vehicles

This fact sheet is part of the SLOCAT Transport, Climate and Sustainability Global Status Report – 4th Edition. The country fact sheets have been made possible thanks to financial support from the ClimateWorks Foundation. Information presented in this fact sheet is based on desk research and may not be complete or reflect the most recent status. Data has been collected to the best of our knowledge and availability. Where no information could be retrieved, the indicators are shown in grey. The content does not represent the views of the SLOCAT Partnership on Sustainable, Low Carbon Transport or the ClimateWorks Foundation. For more information, please visit gsr4.slocat.net.

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List of acronyms

GDP	Gross-domestic product
HDV	Heavy-duty vehicle
ICE	Internal combustion engine
kWh	Kilowatt-hour
LDV	Light-duty vehicle
LRT	Light-rail transit
NDC	Nationally determined contribution
PST	Primary, secondary or tertiary roads

TEU	Twenty-foot Equivalent Unit
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VNR	Voluntary national review of the Sustainable Development Goals
WLTP	Worldwide harmonised light vehicles test procedure

