

Brazil

Brazil put strong efforts in advancing sustainable, zero-emission transport through prioritising urban transport improvements and low-carbon fuels. However, transport sector was the second-largest contributor to Brazil's emissions, accounting for 17% of national GHG emissions in 2023. Transport GHG emissions grew by nearly 8% from 2015 to 2023. There is scarce data on passenger transport activity, but freight transport activity data indicated dominance of road freight in 2019. Brazil leads in biofuel use (21.3% of total transport energy consumption in 2022), with ethanol and biodiesel mandates at 27% and 10%, respectively. Beyond climate impacts, transport accounted for 6.5% of national air pollutant emissions in 2019, causing 1.31 premature deaths per 100,000 people in Brazil in 2019. Road traffic fatalities are at high levels with 15.7 deaths per

100,000 people and accounted with 5.2% a significant share of the country's GDP in 2021. Brazil's third NDC sets out both transport mitigation and adaptation measures. Especially on adaptation and resilience, efforts are needed because assessments show a high vulnerability and a low adaptability of infrastructure to the negative impacts of climate change. Nearly 400 cities have sustainable urban mobility plans as of 2024. Activities to enhance sustainability and access to public transport, walking and cycling are in progress. Already 74% of the urban population has convenient access to public transport. National policies support rail expansion with the target to double the modal share of rail.

	Income group: Middle-income	
	Human Development Index (2023): 0.79	
	Population size (2023): 202.46 million	+4.9% (2015 - 2023)
	Urban population share (2023): 90.8%	+8.3% (2015 - 2023)
	GDP per capita (2023): 9 27711 USD	+3.4% (2015 - 2023)
	Share of transport and storage jobs in workforce (2023)	7.3%
	Share of women employed in transport and storage (2023)	15.2%

Transport Demand Trends

Passenger transport activity

16 486

million passenger-km of rail transport in 2019

+3.9%
(2015 to 2019)

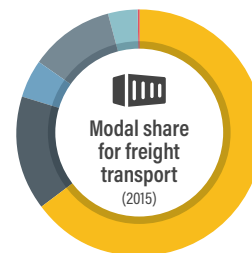


Freight transport activity

2.4

trillion ton-km in 2015

—
(2015 to 2023)



65%	Road
15%	Railway
5%	Inland waterway
11%	Cabotage
4%	Pipeline
0.04%	Air

SDG 91

SDG 91

Transport energy consumption (2022)

3 782 557 TJ

+6.2%
(2015 to 2022)

Oil products

75.3% of total transport energy consumption

Per capita fossil fuel subsidies (2022)

245.1 USD per capita

SDG 12

Fuel quality standards (2022)

50-500 ppm

Average light duty vehicle fuel consumption (2022)



Road traffic fatalities (2021), WHO estimates

SDG 3.6

15.7 deaths per 100,000 people

14.6 Regional
15.0 Global

Road traffic fatality cost as percentage of GDP (2021)

5.2%

Premature deaths linked to transport air pollution (2019)

SDG 11.6

1.3 deaths per 100,000 people

1.7 Regional
2.3 Global

Contribution of transport to air pollution (2019)

6.5%

Transport Emission Trends

Transport GHG emissions (2023)

221.1

million tonnes of CO₂ equivalent

+7.9%
(2015 to 2023)

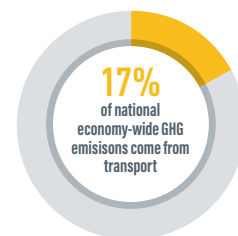
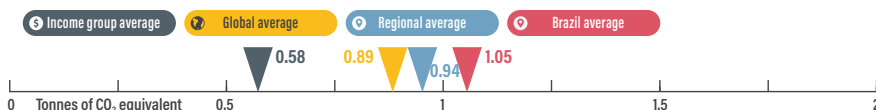
+2.0%
(2022 to 2023)

Per capita transport GHG emissions (2023)

1.05

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

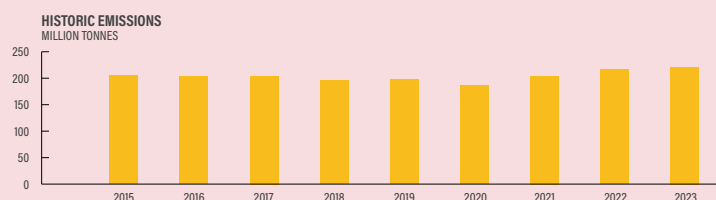
Increase the share of biofuels by 50% until 2033

VNR highlights transport



2024 VNR with transport linkages to SDG 9, SDG 10 and SDG 11

Transport GHG emissions from 2015 to 2023



Transport actions in VNRs

- ▶ Logistic improvements
- ▶ Transport infrastructure expansion
- ▶ Public transport expansion

Transport actions in NDC

Mitigation

- ▶ Transport demand management measures
- ▶ Transport and land use planning
- ▶ Infrastructure improvements
- ▶ Public transport improvement
- ▶ Active mobility
- ▶ Financial instruments to support decarbonisation
- ▶ Ecodriving
- ▶ E-mobility measures
- ▶ Alternative fuels measures
- ▶ Biofuels support measures
- ▶ Hydrogen support measures

Adaptation

- ▶ Transport System Adaptation
- ▶ Transport Planning
- ▶ Education and Training

Policy Areas: Indicators and Targets

Integrated Transport Planning

National urban mobility framework (2024)	✓
Sustainable urban mobility plans (2024)	✓
Number of sustainable urban mobility plans (2022)	396 cities
Low emission zones (2022)	✓ (First LEZ approved in 2022 for Rio de Janeiro)

Adaptation and Resilience

ND-GAIN Index (2022)	49.52
Vulnerability score for infrastructure (2022)	0.12

Walking

Walkability Score (2024)	0.61
National walking strategies (2024)	✓ (In progress)

Cycling

Cycling infrastructure in capital (2022)	636 km
Percent near protected bikeways (2024)	6%
Bike sharing systems (2024)	30
National cycling strategies (2024)	✓ (In progress)

Target

- To make cycling an efficient and healthy means of transport.
- Support local governments in the deployment of bicycle lanes, public bicycles and user support equipment.
- To promote the integration of the bicycle and public transport.

Public Transport

Bus rapid transit (2024)	922 km of total length in 27 cities
Bus rapid transit daily passenger volume (2024)	8 824 386 passengers per day
Urban rail (LRT, metro, tram) (2024)	733 km in 9 cities
Proportion of population that has convenient access to public transport (2020)	74.16% SDG 11.2

Intercity Rail

Rail network (2007)	32 622 km
Rail travel activity (2019)	16 486.36 million passenger-km
Rail freight activity (2007)	9 393.5 million ton-km
High-speed rail	—
High-speed rail travel activity	—
National plans for passenger and freight rail expansion (2024)	✓

Target

- To increase rail's modal share from the current 17.7% to 34.6%

Road Transport

Total road vehicles in use per 1,000 people (2020)	219.7
Road vehicle fleet growth (from 2015 to 2020)	6.97%
Rural Access Index (2019)	SDG 9.1 65.5 RAI PST
Diesel prices (2022)	1.07 USD per litre
Gasoline prices (2022)	1.11 USD per litre

Aviation

Air passengers carried (2021)	61.9 million people
Air freight activity (2021)	1294.5 million ton-km
Carbon-accredited airports (2023)	8 airports
of which carbon neutral:	none

Shipping

Logistics Performance Index (2023)	3.2
Liner shipping connectivity index (Q4 2024)	39.7
Container port traffic (2020)	10 376 571.0 TEU

Transport Energy Sources

Biofuel blend overall mandate (2023)	—
Biofuel blend biodiesel mandate (2023)	10.0%
Biofuel blend ethanol mandate (2023)	270%
Carbon intensity of electricity (2023)	96.40 gCO ₂ /kWh
Renewable energy (biofuels and electricity) share in transport (2022)	SDG 7.2.1 21.6% of total transport energy consumption
Biofuels (2022)	21.3% of total transport energy consumption
Electricity (2022)	0.3% of total transport energy consumption
Targeted renewable power share	23%

Vehicle Technologies

Emission standards for LDVs (2024)	Euro 4 and above
CO ₂ emissions performance for passenger cars (2024)	138 g CO ₂ /km in 2017
Targeted CO ₂ emissions performance (2024)	122 g CO ₂ /km by 2022
Regulatory environment ranking on used vehicles (2024)	Banned
Electric vehicles stock for passenger cars (2024)	94 000 vehicles
Share of electric vehicles in car sales (2024)	6.4 %
ICE phase-out targets	✗
Electric vehicles stock for vans (2024)	3 800 vehicles
Electric vehicles stock for trucks (2024)	—

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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

