

# India

India's transport sector has experienced rapid growth, with passenger travel increasing by 58% and freight activity by 35% from 2015 to 2019. Roads dominate both passenger (96%) and freight (80%) transport. Women only represented 1.5% of the workforce in transport and storage in India in 2023. Transport emissions have risen by 32% since 2015, making it the fourth-largest emitting sector. Renewable energy, including biofuels and electricity, represented only 4.7% of India's total transport energy consumption, whereas the carbon intensity of its electricity remains very high, at 713 gCO<sub>2</sub>/kWh in 2023. Beyond climate impacts, transport accounted for 6.7% of national air pollutant emissions in 2019. India is home to some of the world's most polluted cities, whereby transport-induced air pollution caused 4.6 premature deaths per 100,000 people in 2019. Road traffic injury is another

leading cause of death, claiming 15.4 lives per 100,000 people and accounting for 4.2% of India's GDP in 2021. In 2020, only 34.18% of the Indian population had convenient access to public transport. On the other hand, a moderately high percentage (69.2%) of India's rural population lived within 2 kilometers of an all-season road in 2019. Policies focus on intercity and urban rail expansion, and electrification, with 2% of new cars being electric. Despite low per capita transport emissions (0.24 tonnes), fossil fuel subsidies (89.47 USD per capita) and high road traffic fatalities remain challenges towards achieving sustainable, low carbon transport. The country aims to enhance rail freight, expanding public transport, and increasing renewable energy use to drive sustainable mobility. Sustainability plans point towards national urban transport policies with the intention to increase access to rail-based public transport.

**Income group:** Middle-income

**Human Development Index (2023):** 0.69

**Population size (2023):** 1335.80 million **+8.44%** (2015 - 2023)

**Urban population share (2023):** 36.20% **+20.78%** (2015 - 2023)

**GDP per capita (2023):** 2234.44 USD **+40.24%** (2015 - 2023)

**Share of transport and storage jobs in workforce (2023)** **5.9%**

**Share of women employed in transport and storage (2023)** **5.6%**

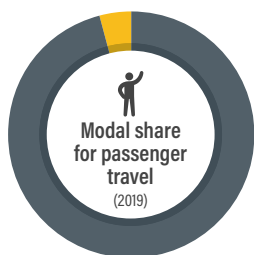
## Transport Demand Trends

### Passenger transport activity

**26 249 738**

million passenger-km in 2019

**+58.4%**  
(2015 to 2019)



96.0% Roads  
4.0% Railways

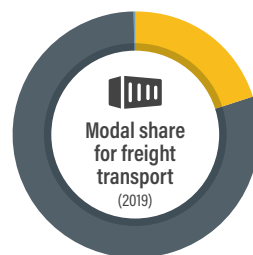
SDG 9.1

### Freight transport activity

**3 667 761**

million ton-km in 2019

**+35.3%**  
(2015 to 2019)



20.1% Railways  
79.8% Roads  
0.1% Aviation

SDG 9.1

### Transport energy consumption (2022)

**4 738 594** TJ

**+29.6%**  
(2015 to 2023)

#### Oil products

**91.9%**

of total transport energy consumption

### Per capita fossil fuel subsidies (2022)

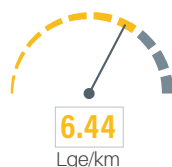
**89.47** USD per capita

SDG 12

### Fuel quality standards (2022)

**<15** ppm

### Average light duty vehicle fuel consumption (2022)



### Road traffic fatalities (2021), WHO estimates

SDG 3.6

**15.4** deaths per 100,000 people

**15.6** Regional  
**15.0** Global

### Road traffic fatality cost as percentage of GDP (2021)

**4.20%**

### Premature deaths linked to transport air pollution (2019)

SDG 11.6

**4.6** deaths per 100,000 people

**3.2** Regional  
**2.3** Global

### Contribution of transport to air pollution (2019)

**6.7%**

## Transport Emission Trends

### Transport GHG emissions (2023)

**349.3**

million tonnes of CO<sub>2</sub> equivalent

**+31.6%**  
(2015 to 2023)

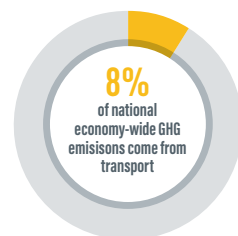
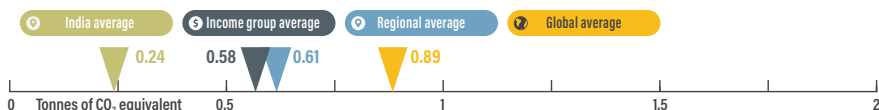
**+5.0%**  
(2022 to 2023)

### Per capita transport GHG emissions (2023)

**0.24**

tonnes of CO<sub>2</sub> equivalent per capita

#### PER CAPITA EMISSION COMPARISON



Transport is the **fourth-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 and Updated NDC

NDC highlights transport for GHG mitigation



Transport mitigation targets in NDC



Other non-emission related transport targets in NDC



VNR highlights transport



2020 VNR with transport linkages to SDG 5, SDG 11 and SDG 13

### Transport actions in VNRs

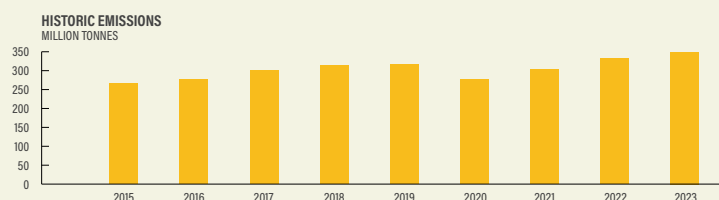
- ▶ National Urban Transport Policy
- ▶ Waterway development
- ▶ Freight development
- ▶ Urban metro development

### Transport actions in NDC

Mitigation

Adaptation

### 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)	✓
Number of sustainable urban mobility plans (2022)	3 cities
Low emission zones (2022)	1 city

### Adaptation and Resilience

ND-GAIN Index (2022)	4706
Vulnerability score for infrastructure (2022)	0.17

### Walking

Walkability Score (2024)	0.35
National walking strategies (2024)	✓

### Cycling

Cycling infrastructure in capital (2022)	36 km
Percent near protected bikeways (2024)	0%
Bike sharing systems (2024)	38
National cycling strategies (2024)	✓

### Public Transport

Bus rapid transit (2024)	228 km of total length in 9 cities
Bus rapid transit daily passenger volume (2024)	497 411 passengers per day
Urban rail (LRT, metro, tram) (2024)	950 km in 16 cities
Proportion of population that has convenient access to public transport (2020)	34.18% <span>SDG 11.2</span>

### Intercity Rail

Rail network (2021)	68 102.73 km
Rail travel activity (2021)	231 126 million passenger-km
Rail freight activity (2021)	719 762 million ton-km
High-speed rail	—
High-speed rail travel activity	—
National plans for passenger and freight rail expansion (2024)	✓

#### Target

- To develop capacity, infrastructure and enhance rail freight share ahead of the demand. Develop capacity by 2030 that will cater to growing demand up to 2050

### Road Transport

Total road vehicles in use per 1,000 people (2020)	32.7
Road vehicle fleet growth (from 2015 to 2020)	58.31%
Rural Access Index (2019)	<span>SDG 9.1</span> 69.2 RAI PST
Diesel prices (2022)	0.92 USD per litre
Gasoline prices (2022)	1.22 USD per litre

### Aviation

Air passengers carried (2021)	84.0 million people
Air freight activity (2021)	9079 million ton-km
Carbon-accredited airports (2023)	30 airports
of which carbon neutral:	4 airports

### Shipping

Logistics Performance Index (2023)	3.4
Liner shipping connectivity index (Q4 2024)	58.9
Container port traffic (2020)	16 285 806.0 TEU

### Transport Energy Sources

Biofuel blend overall mandate (2023)	—
Biofuel blend biodiesel mandate (2023)	0.1%
Biofuel blend ethanol mandate (2023)	10.0%
Carbon intensity of electricity (2023)	713.01 gCO <sub>2</sub> /kWh
Renewable energy (biofuels and electricity) share in transport (2022)	4.7% of total transport energy consumption <span>SDG 7.2.1</span>
Biofuels (2022)	2.8% of total transport energy consumption
Electricity (2022)	1.9% of total transport energy consumption
Targeted renewable power share	64%

### Vehicle Technologies

Emission standards for LDVs (2024)	Euro 4 and above
CO <sub>2</sub> emissions performance for passenger cars (2024)	111 g CO <sub>2</sub> /km in 2023
Targeted CO <sub>2</sub> emissions performance (2024)	54 g CO <sub>2</sub> /km by 2032
Regulatory environment ranking on used vehicles (2024)	Banned
Electric vehicles stock for passenger cars (2024)	240 000 vehicles
Share of electric vehicles in car sales (2024)	2.1 %
ICE phase-out targets	✗
Electric vehicles stock for vans (2024)	13 000 vehicles
Electric vehicles stock for trucks (2023)	—

This fact sheet is part of the SLOCAT Transport, Climate and Sustainability Global Status Report – 4<sup>th</sup> 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](https://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

