

South Africa

In **South Africa**, transport demand is primarily road-based, with cars and taxis making up the largest share of passenger travel. Passenger travel data indicates high percentage of informal transport and walking modes. Despite a slight reduction in transport emissions since 2015 (7.7%), the transport sector is the third-largest emitter of GHGs, accounting for 9.6% of national emissions in 2023. South Africa has a relatively high number of road traffic fatalities, which cost the country 7% of GDP in 2021. South Africa has the fourth-highest carbon intense electricity grid in Africa, and very low renewable energy consumption in transport.

Policies focus on e-mobility, cleaner fuels, and public transport improvements, including Bus Rapid Transit (BRT) and rail expansion. However, renewable energy accounts for only 1.1% of transport energy consumption. While electric vehicle adoption is growing, the lack of clear emission performance targets and ICE phase-out plans poses challenges for decarbonisation.

Income group: Middle-income

Human Development Index (2023): 0.74

Population size (2023): 5738 million +12.00% (2015 - 2023)

Urban population share (2023): 66.42% +16.37% (2015 - 2023)

GDP per capita (2023): 5778.58 USD -6.55% (2015 - 2023)

Share of transport and storage jobs in workforce (2023) 8.8%

Share of women employed in transport and storage (2023) 20.7%

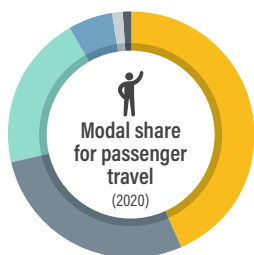


Transport Demand Trends

Passenger transport activity

3 502

million passenger-km of rail transport in 2020



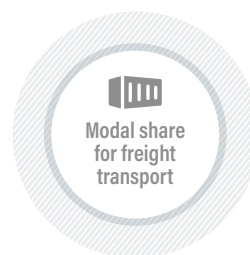
1.1% Train
5.8% Bus
28.1% Taxi
43.5% Car/truck
20.3% Walking
1.2% Other

SDG 9.1

Freight transport activity

103 868

million ton-km of rail transport in 2023



SDG 9.1

Transport energy consumption (2022)

670 826 TJ

-11.7% (2015 to 2022)

Oil products

98.9%

of total transport energy consumption

Per capita fossil fuel subsidies (2022)

143.4 USD per capita

SDG 12

Fuel quality standards (2022)

50-500 ppm

Average light duty vehicle fuel consumption (2022)



7.62 Lge/km

Road traffic fatalities (2021), WHO estimates

SDG 3.6

24.5 deaths per 100,000 people

18.7 Regional

15.0 Global

Road traffic fatality cost as percentage of GDP (2021)

7.0%

Premature deaths linked to transport air pollution (2019)

SDG 11.6

2.8 deaths per 100,000 people

1.0 Regional

2.3 Global

Contribution of transport to air pollution (2019)

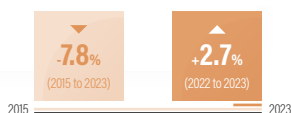
6.5%

Transport Emission Trends

Transport GHG emissions (2023)

50.4

million tonnes of CO₂ equivalent

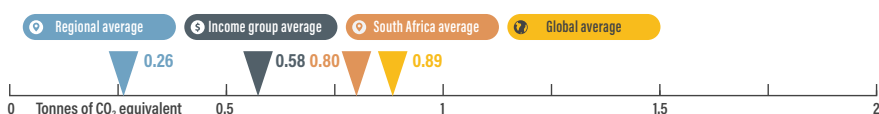


Per capita transport GHG emissions (2023)

0.80

tonnes of CO₂ equivalent per capita

PER CAPITA EMISSION COMPARISON



Transport is the **third-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



2019 VNR with transport linkages to SDG 7, SDG 8, SDG 9, SDG 11 and SDG 13

Transport actions in VNRs

- ▶ E-mobility
- ▶ Cleaner fuels
- ▶ Energy efficiency
- ▶ Active mobility
- ▶ BRT and public transport improvements
- ▶ CNG

Transport actions in NDC

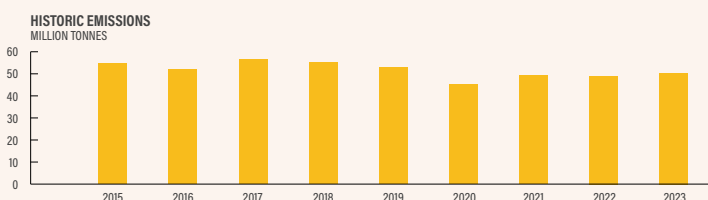
Mitigation

- ▶ General e-mobility
- ▶ General public transport improvement

Adaptation

- ▶ Adaptation and resilience of transport systems
- ▶ Design Standards and updates
- ▶ Transport Planning

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) | ✗ |
| Low emission zones (2022) | ✗ |

Adaptation and Resilience

| | |
|---|-------|
| ND-GAIN Index (2022) | 48.57 |
| Vulnerability score for infrastructure (2022) | 0.19 |

Walking

| | |
|------------------------------------|------|
| Walkability Score (2024) | 0.22 |
| National walking strategies (2024) | ✓ |

Cycling

| | |
|--|-----------------------|
| Cycling infrastructure in capital (2022) | 415 km (in Cape Town) |
| Percent near protected bikeways (2024) | 0.7% |
| Bike sharing systems (2024) | 1 |
| National cycling strategies (2024) | ✓ |

Public Transport

| | |
|--|-----------------------------------|
| Bus rapid transit (2024) | 88 km of total length in 3 cities |
| Bus rapid transit daily passenger volume (2024) | 111 578 passengers per day |
| Urban rail (LRT, metro, tram) (2024) | 889 km in 4 cities |
| Proportion of population that has convenient access to public transport (2020) <small>SDG 11.2</small> | 32.56% |

Intercity Rail

| | |
|--|-------------------------------|
| Rail network (2021) | 20 953 km |
| Rail travel activity (2020) | 3 501.96 million passenger-km |
| Rail freight activity (2008) | 103 868 million ton-km |
| High-speed rail (2021) | — |
| High-speed rail travel activity (2021) | — |
| National plans for passenger and freight rail expansion (2024) | ✓ |

Target

- Development of the Transnet Road-to-Rail Strategy
- To rebalance the road freight-rail freight split in an attempt to create a more appropriate market share
- To reduce the number of heavy trucks on the roads and decrease overloading on the road network

Road Transport

| | |
|--|--------------------|
| Total road vehicles in use per 1,000 people (2020) | 172.1 |
| Road vehicle fleet growth (from 2015 to 2020) | 769% |
| Rural Access Index (2019) <small>SDG 9.1</small> | 72.2 RAI PST |
| Diesel prices (2022) | 1.10 USD per litre |
| Gasoline prices (2022) | 1.13 USD per litre |

Aviation

| | |
|-----------------------------------|---------------------|
| Air passengers carried (2021) | 9.3 million people |
| Air freight activity (2021) | 15.1 million ton-km |
| Carbon-accredited airports (2023) | 5 |
| of which carbon neutral: | none |

Shipping

| | |
|---|-----------------|
| Logistics Performance Index (2023) | 3.7 |
| Liner shipping connectivity index (Q4 2024) | 39.1 |
| Container port traffic (2020) | 4 029 000.0 TEU |

Transport Energy Sources

| | |
|--|--|
| Biofuel blend overall mandate (2023) | — |
| Biofuel blend biodiesel mandate (2023) | 5.0% |
| Biofuel blend ethanol mandate (2023) | 2.0% |
| Carbon intensity of electricity (2023) | 709.69 gCO ₂ /kWh |
| Renewable energy (biofuels and electricity) share in transport (2022) <small>SDG 7.2.1</small> | 1.1% of total transport energy consumption |
| Biofuels (2022) | — |
| Electricity (2022) | 1.1% of total transport energy consumption |
| Targeted renewable power share | 13% Minimum rollout of renewable energy of 3 GW per annum, ramping up to 5 GW per annum by 2030 |

Vehicle Technologies

| | |
|---|----------------|
| Emission standards for LDVs (2024) | Below Euro 3 |
| CO ₂ emissions performance for passenger cars (2024) | — |
| Targeted CO ₂ emissions performance (2024) | No target set |
| Regulatory environment ranking on used vehicles (2024) | Banned |
| Electric vehicles stock for passenger cars (2023) | 3 503 vehicles |
| Share of electric vehicles in car sales (2023) | 0.29% |
| ICE phase-out targets | ✗ |
| Electric vehicles stock for vans (2023) | — |
| Electric vehicles stock for trucks (2023) | — |

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Supported by:  Drive Electric CAMPAIGN

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 |

