Mongolia

Green Roads Profile

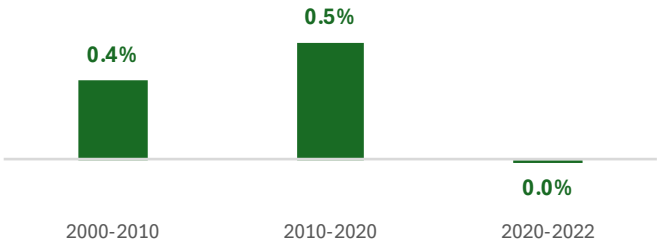
General

Road length (2022)
111,917 kilometers (1)

Subregion
East Asia

Income class
Low and lower middle income

Average annual growth rate of road length (1)



Population (2024)
3.5 million

Land area
1,558 thousand sqkm (2,3)

Urban population
69%

Rural population
31% (2)

Gross domestic product (GDP PPP, 2022)
48.46 billion USD

GDP per capita (PPP, 2022)
14,260 USD (2,3) (3)

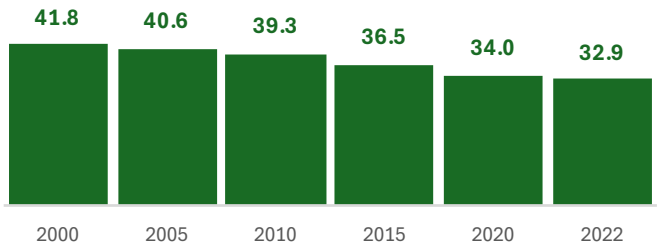
Mongolia's road network is comprised of 9.9% motorways, highways, and primary roads and 90.1% secondary roads, local roads, and other roads

Further information on road length, pavement, and quality by road class is available in Appendix A

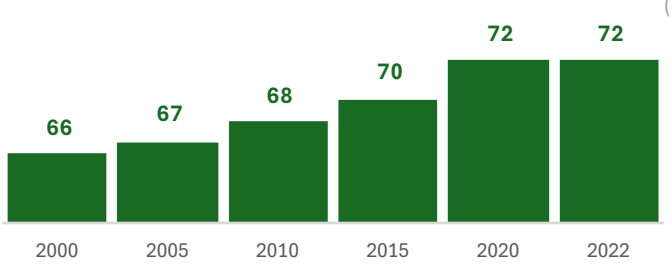
Road infrastructure availability (2022)
32.9 kilometers per thousand population (1,2)

Road infrastructure density (2022)
72 meters per square kilometer (1,3)

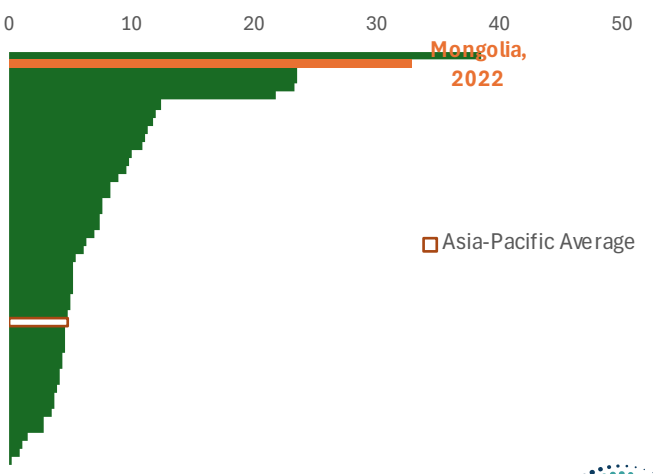
Road infrastructure availability trend, kilometers per thousand population (1,2)



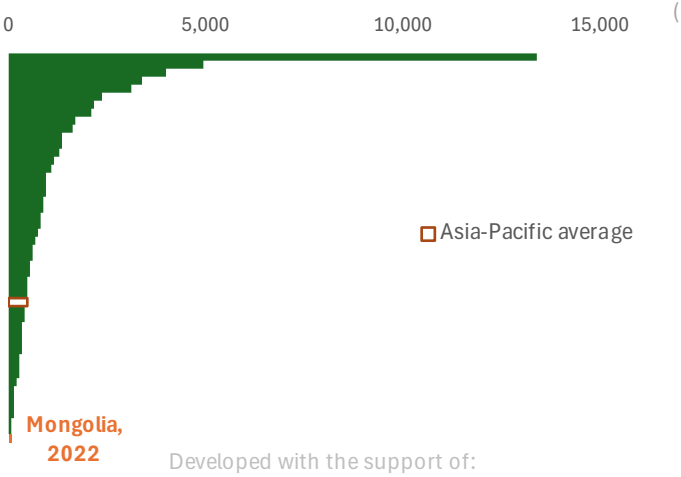
Road infrastructure density trend, meters per thousand population (1,3)



Road infrastructure availability in Asia-Pacific, kilometers per thousand population (1,2)



Road infrastructure density in Asia-Pacific, meters per square kilometer (1,3)



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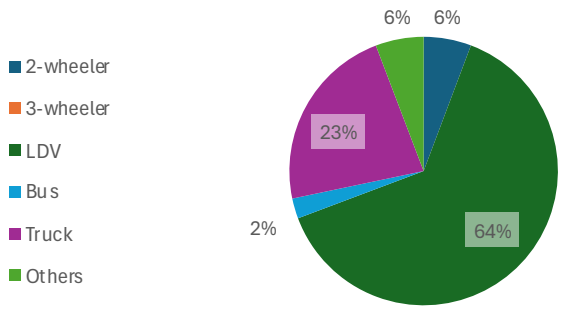
Road vehicles (2022)
1.32 million vehicles

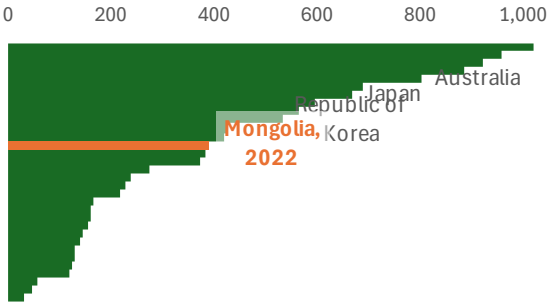
Share of vehicles by type



Motorization rate (2022)
389 vehicles per thousand population (1,2)

In 2000, Mongolia had 84 vehicles per thousand population. By 2022, this has increased to 389 compared with Asia-Pacific average of 577 in 2022.

Motorization rate in Asia-Pacific, vehicles per thousand population (1,2)

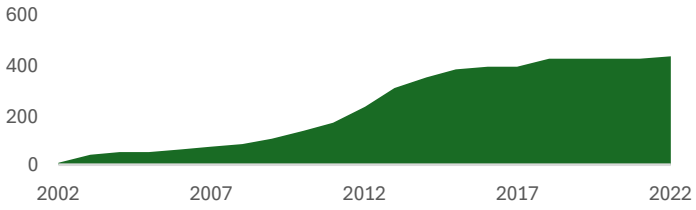


Road vehicles include 2- and 3-wheelers, LDVs, buses and other informal public transport, trucks, and other unclassified types

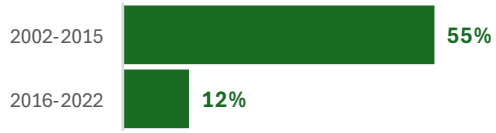
Public-private partnership investments in road sector, cumulative million USD (1)

Share of road in total public-private partnership investments (1)

Official development assistance in road sector, cumulative million USD (5)

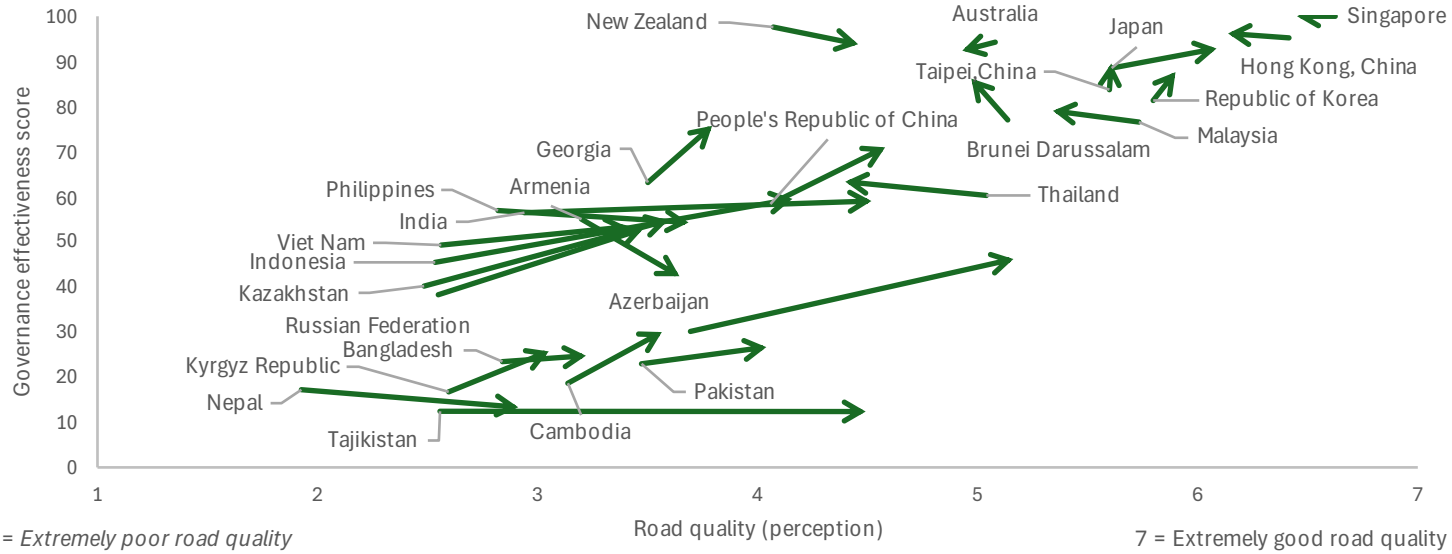


Share of road in total official development assistance (5)



Road maintenance budget and deficit is available in Appendix B. Road user charging revenue information is available in Appendix C

Road quality (perception) vs. governance effectiveness score (2009-2019)



1 = Extremely poor road quality

7 = Extremely good road quality

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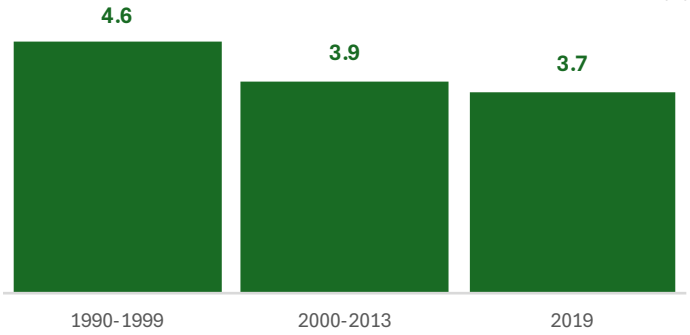
Quality of Life and Fostering Inclusive Growth

Rural access index (2023)
66% (6)

Based on 2015 estimates, only 39% of the population could reach the nearest city in 30 minutes, another 4% could reach in 1 hour, and another 13% could reach only after 3 hours.

Rural population without access to all-season roads (2023)
0.34 million (2,6)

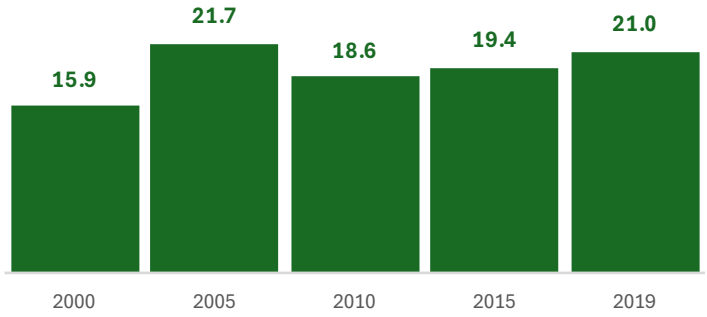
National street network disconnectedness index (7)



This indicator is a summary scalar measure for street-network sprawl describing connectivity of local street networks across the world

Road crash fatalities (2019)
679 deaths (8)

Road crash fatality rate per 100 thousand population (2,8)



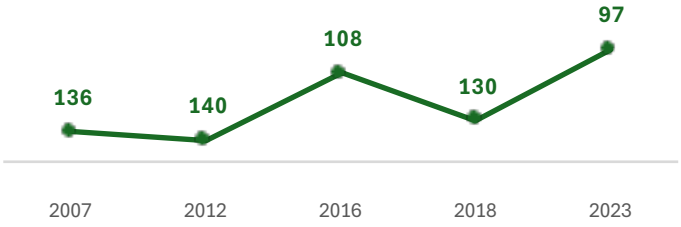
Asia-Pacific average is 15.7 fatalities per 100 thousand population

Mean speed (2022)
66 kilometers per hour (9)

Logistics performance index score (2023)
2.5/5 (10)

| Infrastructure score
2.3/5 (10)

Logistics performance index ranking trend (10)

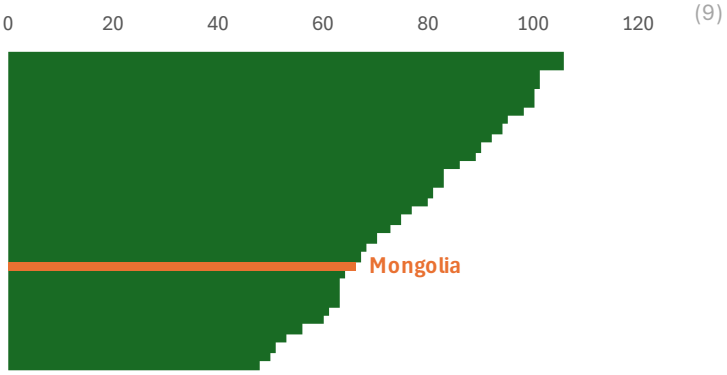


Percent of firms choosing transportation as their biggest obstacle - Manufacturing (2019)
1.8% (11)

Percent of respondents answering high/very high - Level of Fees and Charges on Road transport (2014)
66.7% (11)

Level of fees and charges for less than full truck loads are considered

Mean speed in Asia-Pacific, kilometers per hour (2022) (9)



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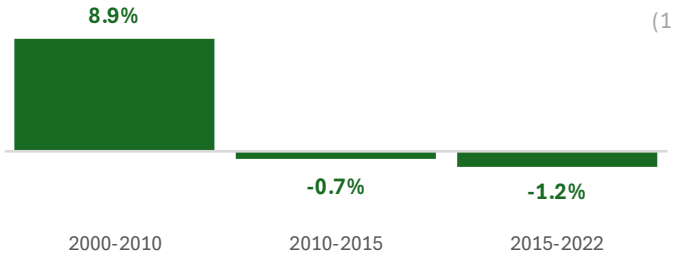
Employment in transport sector (2022)
84.6 thousand employees (12)

Share of transport sector in total employment (2022)
6.5% (12)

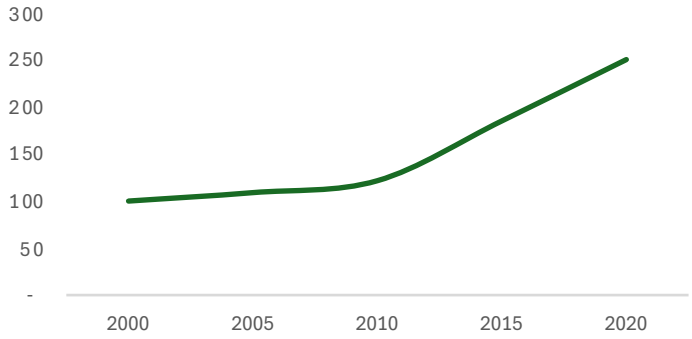
Average annual growth rate of transport sector employment (12)



Share of females in total transport sector employment (2022)
19.6% (12)

Decarbonization

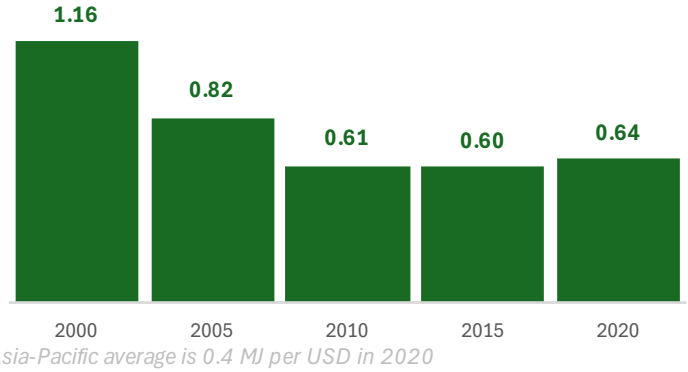
Road transport energy consumption trend
Assuming 2000 value as base (100) (13)



Between 2000-2010, Mongolia's road transport energy consumption grew 2.0% annually. Between 2010-2020, road transport energy consumption grew 7.5% annually.

99% of Mongolia's transport energy consumption is in the road sector.

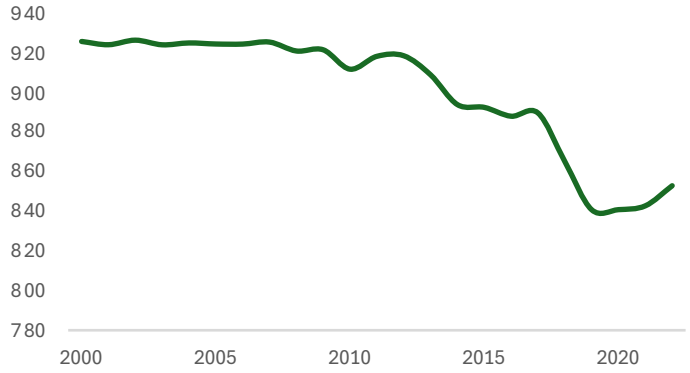
Road transport energy intensity with GDP, TJ per USD (PPP) (3,13)



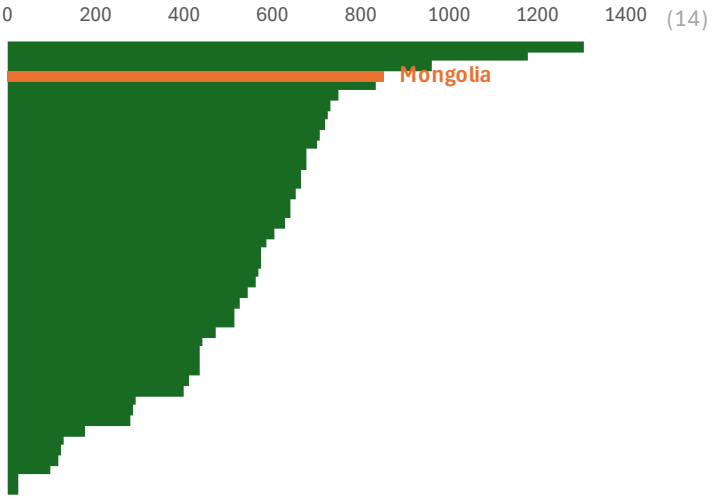
Asia-Pacific average is 0.4 MJ per USD in 2020

Grid emission factor (2022)
852.8 gCO2 per kWh (14)

Grid emission factor trend, gCO2 per kWh (14)



Grid emission factors in Asia-Pacific, gCO2 per kWh (14)



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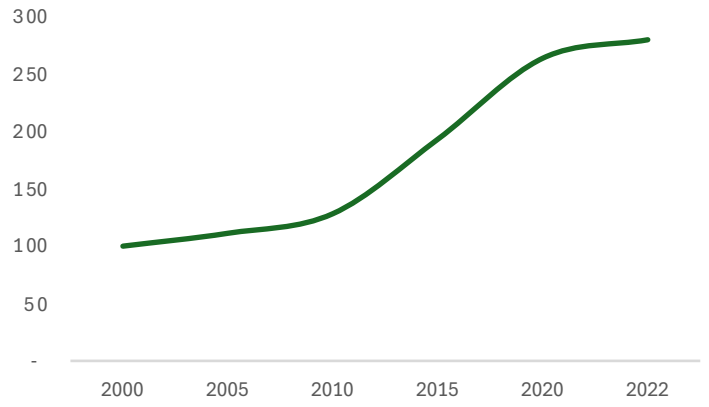
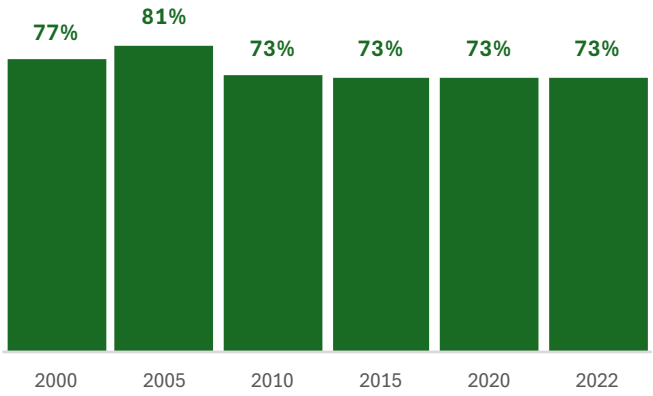
Road transport CO2 emissions trend

Assuming 2000 value as base (100) (15)



Share of road transport in total transport CO2 emissions (15)



Between 2010-2019, Mongolia's road transport fossil CO2 emissions was growing 7.5% annually. After the COVID-19 pandemic, road transport CO2 emissions was growing 3.0% annually.

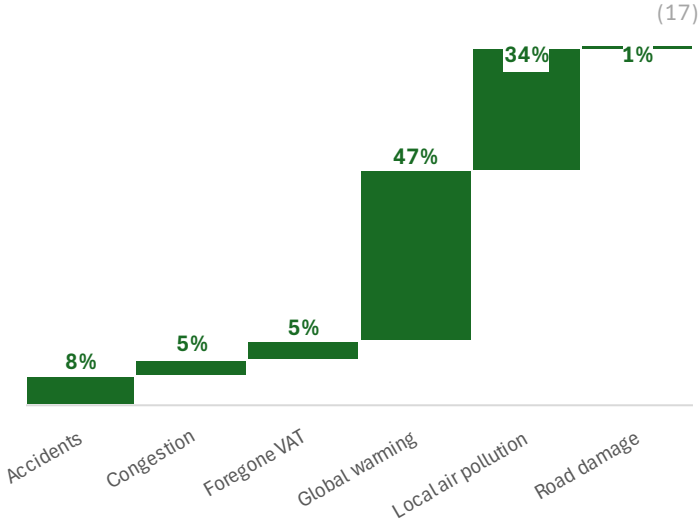
Transport fossil fuel subsidies, cumulative from 2010 to 2022

None (16)

0.0% of Asia-Pacific total

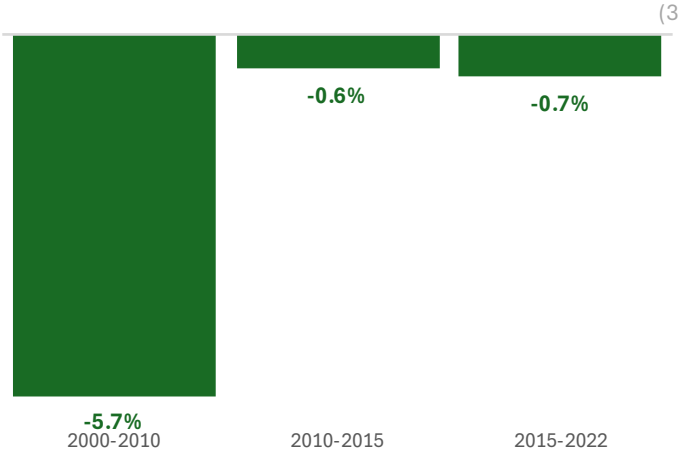
Implicit fossil fuel subsidies due to externalities

(17)



Road transport CO2 emissions intensity with GDP trend

(3,15)



Data includes all sectors and all fuel types

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Climate Resilience and Disaster Preparedness

Expected annual damages to road and rail infrastructure due to hazards (2019)
13.38 million USD (18)

Share of road in total transport infrastructure in multihazard average annual loss to transport infrastructure (2023)
77.3% (19)

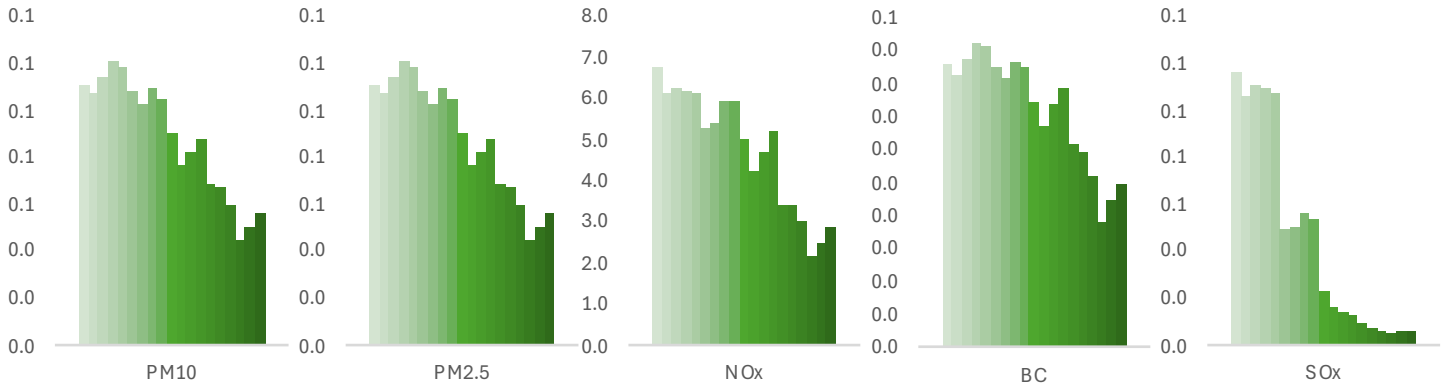
National road vulnerability index ranking (2023)
n.d. (20)

Share of population in low elevated coastal zones (2018)
0.0% (21)

Pollution, Water and Land Management, Preserving Biodiversity, and Sustainable Materials

Paved roads (2020)
10% (1)

Road transport air pollutant emissions, thousand tonnes (2000-2018) (15)



In 2022, road transport contributed 1.6%, re-suspended dust contributed 4.4% in transport PM10 emissions. In total, road transport contributed about 0.4% in total PM10 emissions in Mongolia.

Deaths due to occupational exposure to diesel engine exhaust (22)

2000-2010	2011-2018
64 deaths	**72 deaths**

Share of biofuels in road transport energy consumption (2020)
n.d. (13)

Domestic consumption per capita, tonnes (2024) (23)

Mongolia	Asia-Pacific
48.9 tonnes	**13.8 tonnes**

Domestic consumption is the total amount of materials directly used in the economy (used domestic extraction plus imports), minus the materials that are exported.

Terrestrial and marine protected areas (2022) (3)
19.8%
(% of total territorial area)

Terrestrial protected areas	Marine protected areas
19.8%	**n.d.**
(% of total land area)	*(% of territorial waters)*

Forest area (2021)
9.1% (3)
(% of land area)

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Policy Measures

Policy document	Year	Road-related measures
Action Plan of the Government of Mongolia 2020-2024	2020	Active transport infrastructure expansion, Transport asset management funding strategy, Transport asset management information system, Routine transport asset maintenance, Technologies on transport asset management, General transport asset management, Road charging and tolls, Measures to improve rural-urban connectivity, Road infrastructure expansion
Mongolia Green Development Policy	2014	Active transport infrastructure expansion, General infrastructure improvements, Vehicle inspection and maintenance, Technical standards for road infrastructure, Road infrastructure expansion
Mongolia Sustainable Development Vision 2030	2016	Reduction of transport/ logistics costs, Asphalt mix resurfacing
Mongolia's Initial Biennial Update Report	2017	Asphalt mix resurfacing, General transport asset management
Global Status Report on Road Safety 2018	2018	Automated enforcement of speed limits, Design standards for sidewalks and bicycle paths, National road safety strategy, National speed law, Audits/ star rating for existing roads for road safety
National Program on Road Safety	2019	General infrastructure improvements, Vehicle inspection and maintenance, Automated enforcement of speed limits, Audits/ star rating for existing roads for road safety, Audits/ star rating required for new road infrastructure for road safety
Safely Connected: A Regional Road Safety Strategy for CAREC Countries, 2017–2030	2017	General infrastructure improvements, Vehicle inspection and maintenance, Technical standards for road infrastructure, Request for financial support to develop transport, National road safety strategy, Passenger and freight load limits, Audits/ star rating for existing roads for road safety, Audits/ star rating required for new road infrastructure for road safety
Intended Nationally Determined Contribution (Updated)	2015	Disaster notification/ early warning system
Third National Communication of Mongolia	2018	General infrastructure improvements, Disaster notification/ early warning system, Road infrastructure expansion
Transport Strategy of Mongolia	n.d.	Investment required for specific projects, Road infrastructure expansion, National road safety strategy
About Road Traffic Safety	2015	Vehicle inspection and maintenance, Technical standards for road infrastructure
Transit Mongolia National Program	2008	General infrastructure improvements, Road infrastructure expansion
State Policy on Automobile Sector	2018	General infrastructure improvements, Vehicle inspection and maintenance, Target - Transport activity, General transport finance, Reference to finance mechanisms within country, Road infrastructure expansion, National road safety strategy
Three Pillar Development Policy	2018	General infrastructure improvements, Reduction of transport/ logistics costs, Measures to improve rural-urban connectivity, Road infrastructure expansion, Development of transport plan/ policy
First Submission of Mongolia's NDC	2020	Disaster notification/ early warning system, Development of transport adaptation/ emergency/ disaster plan/ policy
National Action Programme on Climate change (NAPCC)	2011	Disaster notification/ early warning system
International Energy Charter	2015	General infrastructure improvements
Road, Transport Sector of Mongolia	2008	Road infrastructure expansion
Technology Needs Assessment - Climate Change Mitigation in Mongolia	2013	General transport asset management
Vision 2050	2021	Road infrastructure expansion
Voluntary National Review 2023	2023	General infrastructure improvements, Road infrastructure expansion
State Policy on Railway Transportation	2010	General transport finance, Investment required for specific projects

Policy Measures

Policy document	Year	Road-related measures
Road Safety Opportunities and Challenges: Low- and Middle-Income Country Profiles	2020	Vehicle inspection and maintenance, Implementation of vertical deflections on roads
Law on Autoroads	2017	Transport asset management funding strategy, Reference to finance mechanisms within country

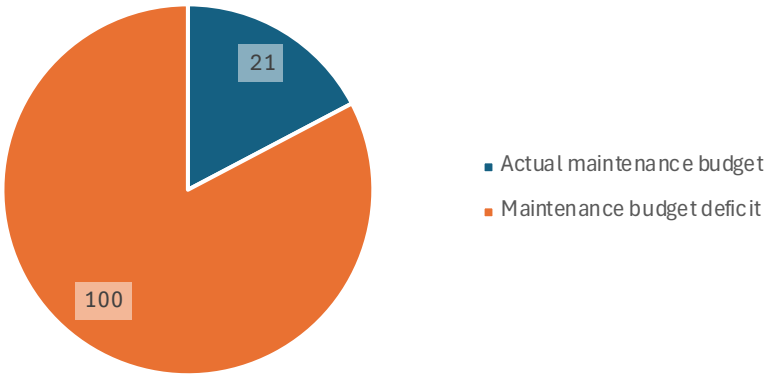
Appendix

A. Road length, pavement ratio, and quality by road class

Road class	Length	Paved	Quality			
			Good	Fair	Poor	Very Poor
International and state	14,921	50%	19%	20%	55%	6%
Special purpose	898	100%				
Capital city	1,136	100%				
Local	96,125	2%				

Definitions and sources are available in "Asian Development Bank, 2024. The Future of Road User Charging in Developing Asia and the Pacific: Road Maintenance Financing and Cost Recovery Options"

B. Maintenance needs and budget, million USD



C. Road user charge revenues

Road user charge	Revenue (million USD)
Gasoline and diesel tax	6.5
Fuel excise tax	96.5
Vehicle excise tax	65.7
Vehicle customs duty	21.0
Vehicle value added tax	42.1
Annual vehicle registration tax	4.3
Tolling	3.3

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Notes

(*) Policy measures and targets were extracted from policy documents as listed in the ATO National Transport Policies Database

https://bit.ly/ATOpolicyrepository

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