

# Cambodia

## Green Roads Profile

### General

Road length (2022)  
**76,259 kilometers**

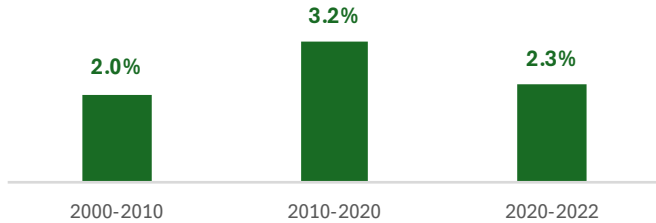
Subregion  
(1) **South East Asia**

Income class  
**Low and lower middle income**

Average annual growth rate of road length

Population (2024)  
(1) **17.1 million**

Land area  
**177 thousand sqkm** (2,3)



Urban population  
**26%**

Rural population  
**74%** (2)

Gross domestic product (GDP PPP, 2022)  
**89.79 billion USD**

GDP per capita (PPP, 2022)  
**5,355 USD** (2,3)  
(3)

*Cambodia's road network is comprised of 6.1% motorways, highways, and primary roads and 93.9% secondary roads, local roads, and other roads*

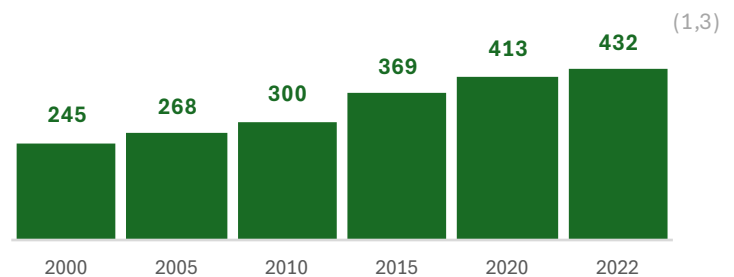
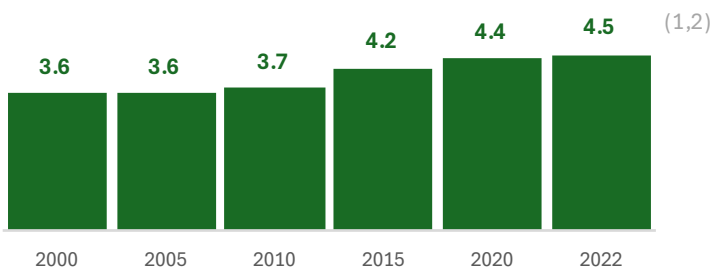
*Further information on road length, pavement, and quality by road class is available in Appendix A*

Road infrastructure availability (2022)  
**4.5 kilometers per thousand population**

Road infrastructure density (2022)  
(1,2) **432 meters per square kilometer** (1,3)

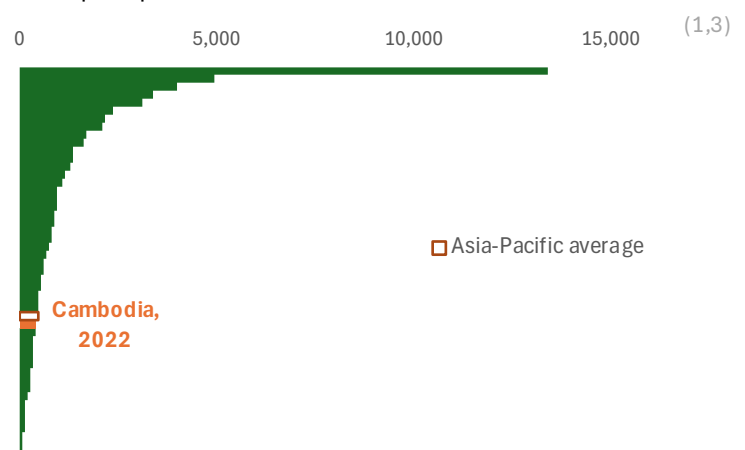
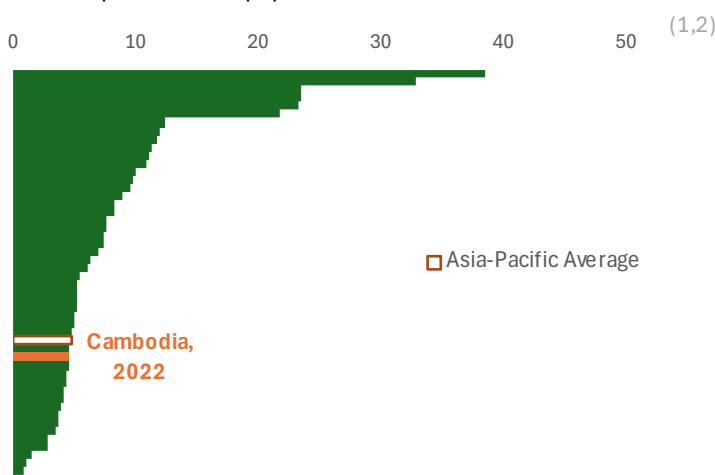
Road infrastructure availability trend, kilometers per thousand population

Road infrastructure density trend, meters per thousand population



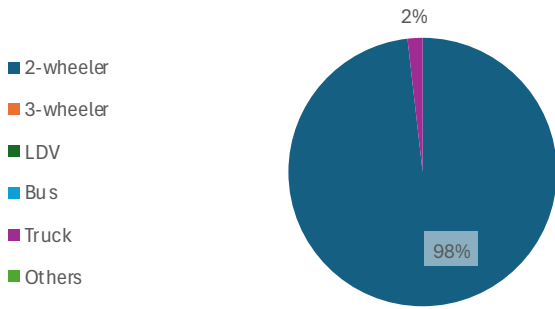
Road infrastructure availability in Asia-Pacific, kilometers per thousand population

Road infrastructure density in Asia-Pacific, meters per square kilometer



Road vehicles (2022)  
**910 thousand vehicles**

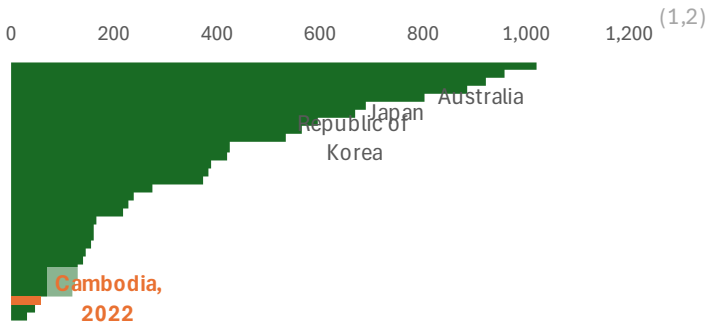
Share of vehicles by type



Motorization rate (2022)  
**54 vehicles per thousand population**

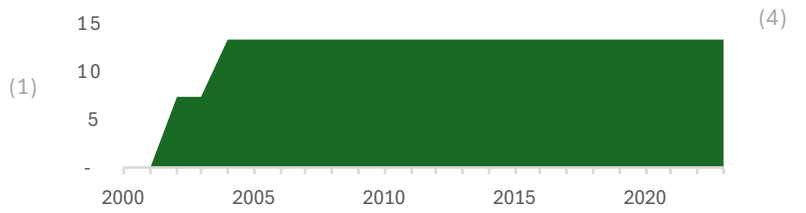
*In 2000, Cambodia had 18 vehicles per thousand population. By 2022, this has increased to 54 compared with Asia-Pacific average of 577 in 2022.*

Motorization rate in Asia-Pacific, vehicles per thousand population



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

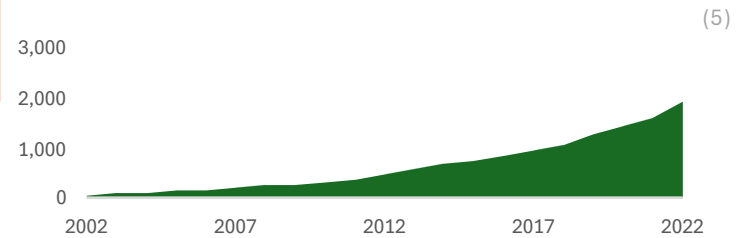
Public-private partnership investments in road sector, cumulative million USD



Share of road in total public-private partnership investments



Official development assistance in road sector, cumulative million USD

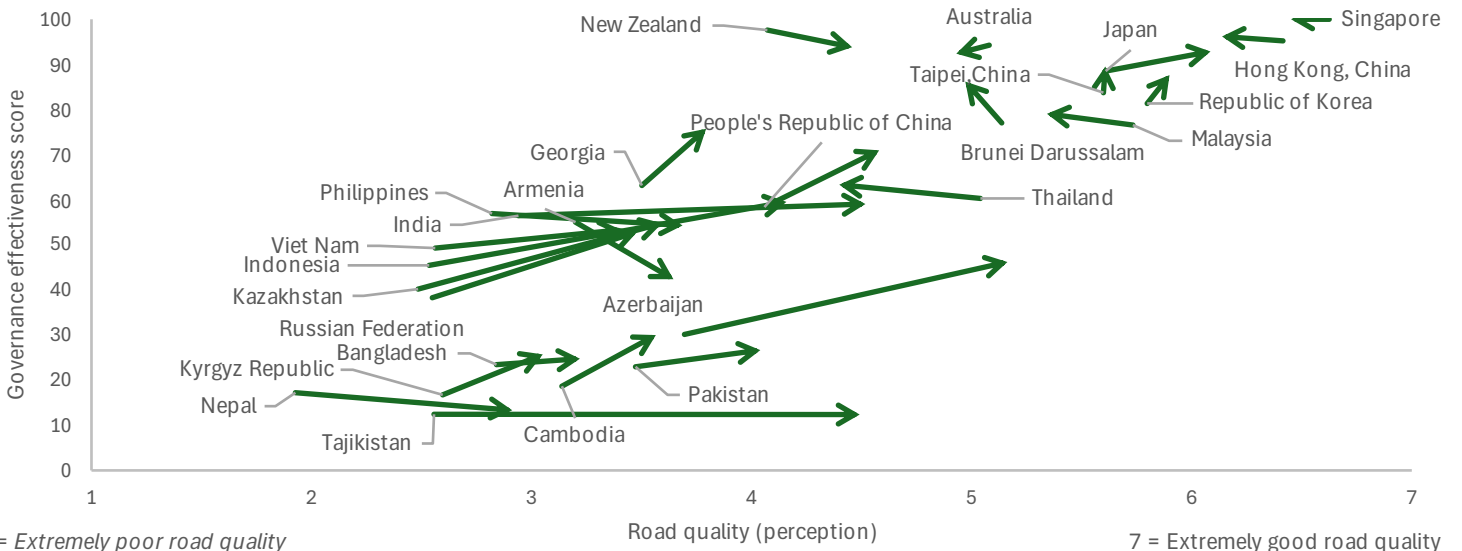


Share of road in total official development assistance



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

Developed with the support of:



Quality of Life and Fostering Inclusive Growth

Rural access index (2023)  
77%

(6)

Based on 2015 estimates, only 35% of the population could reach the nearest city in 30 minutes, another 22% could reach in 1 hour, and another 37% could reach only after 3 hours.

Rural population without access to all-season roads (2023)  
2.95 million

(2,6)

Logistics performance index score (2023)

2.4/5

(10)

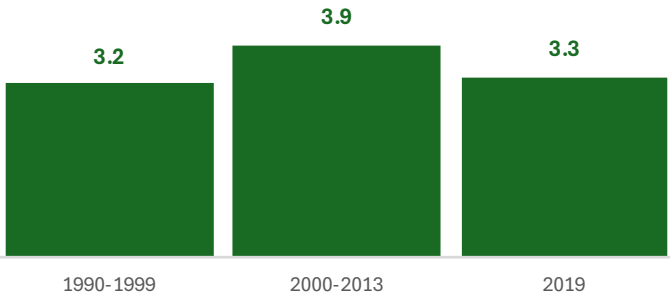
National street network disconnectedness index

(7)

| Infrastructure score

2.1/5

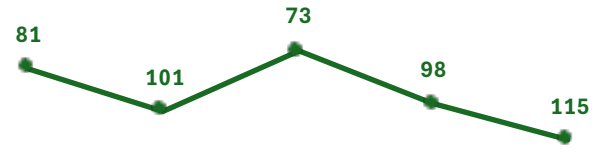
(10)



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

Logistics performance index ranking trend

(10)



Road crash fatalities (2019)  
3.2 thousand deaths

(8)

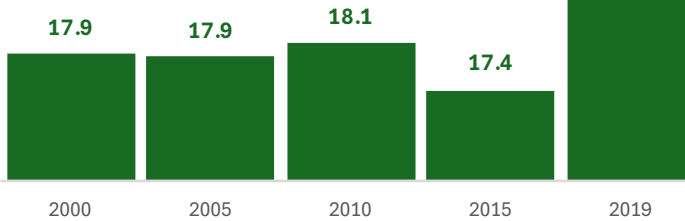
Road crash fatality rate per 100 thousand population

(2,8)

Percent of firms choosing transportation as their biggest obstacle - Manufacturing (2016)

9.9%

(11)



Asia-Pacific average is 15.7 fatalities per 100 thousand population

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

87.5%

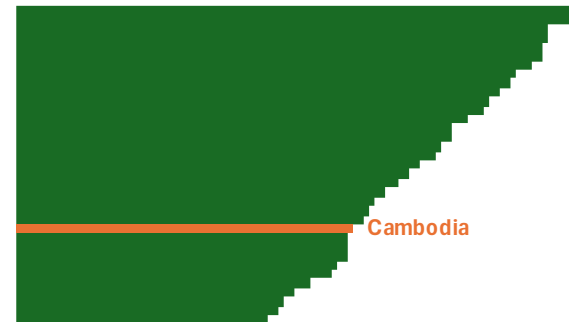
(11)

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

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

(9)

0 20 40 60 80 100 120



Mean speed (2022)  
64 kilometers per hour

(9)

Employment in transport sector (2022)

**395.5 thousand employees**

Share of transport sector in total employment (2022)

(12) **4.4%**

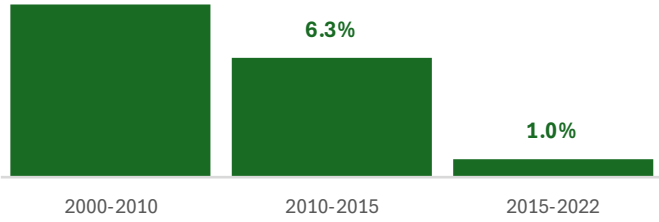
(12)

Average annual growth rate of transport sector employment

**9.2%**

**6.3%**

**1.0%**



Share of females in total transport sector employment (2022)

(12) **7.3%**

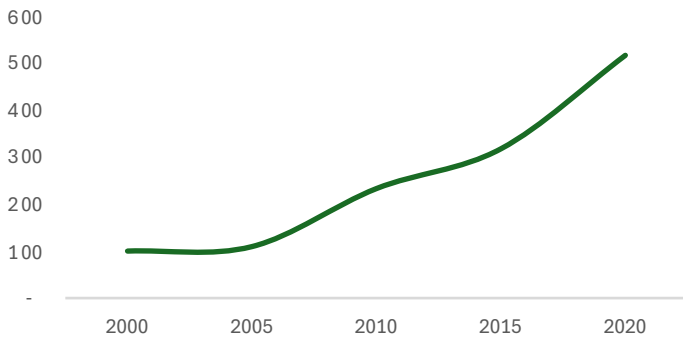
(12)

## Decarbonization

Road transport energy consumption trend

Assuming 2000 value as base (100)

(13)

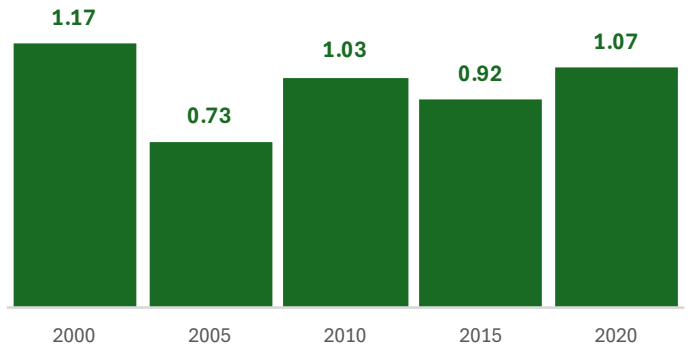


Between 2000-2010, Cambodia's road transport energy consumption grew 8.8% annually. Between 2010-2020, road transport energy consumption grew 8.3% annually.

85% of Cambodia'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)

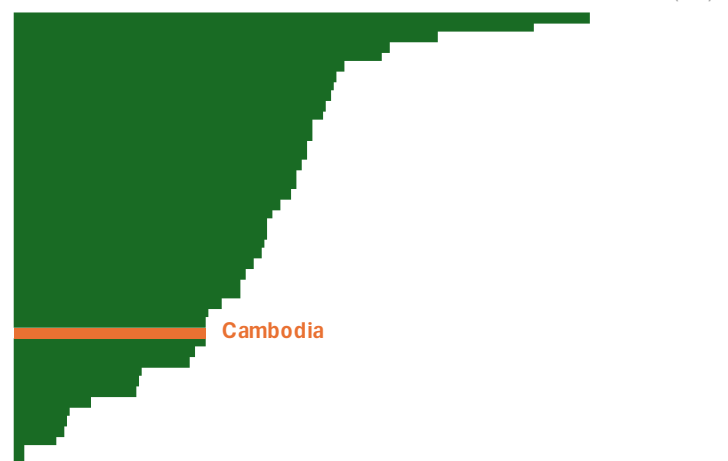
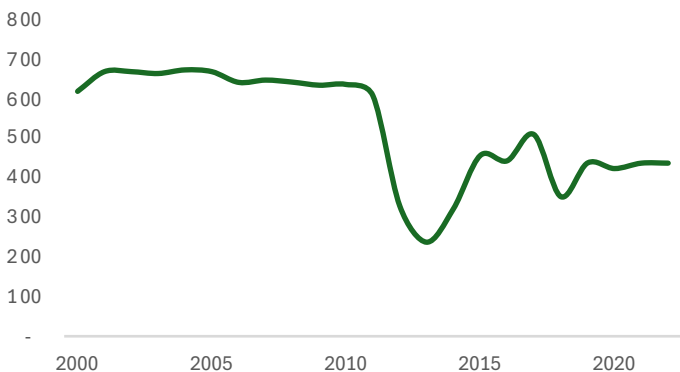
**436.1 gCO2 per kWh**

Grid emission factors in Asia-Pacific, gCO2 per kWh

(14)

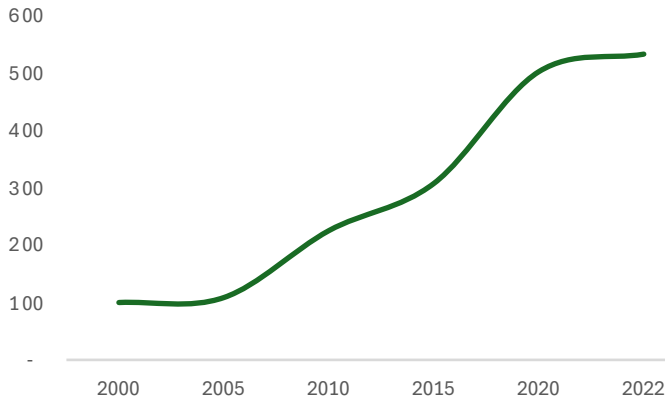
(14)

Grid emission factor trend, gCO2 per kWh



## Road transport CO2 emissions trend

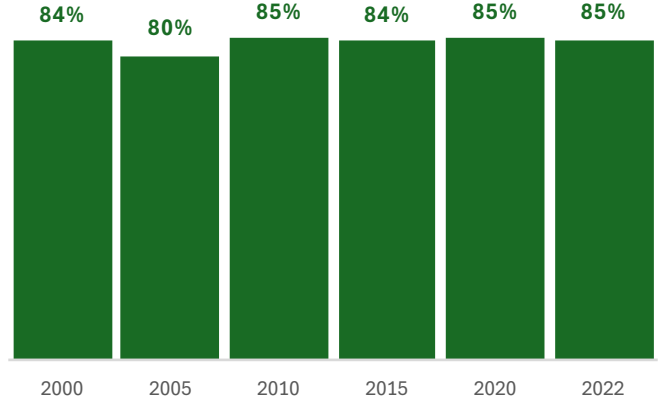
Assuming 2000 value as base (100)



(15)

## Share of road transport in total transport CO2 emissions

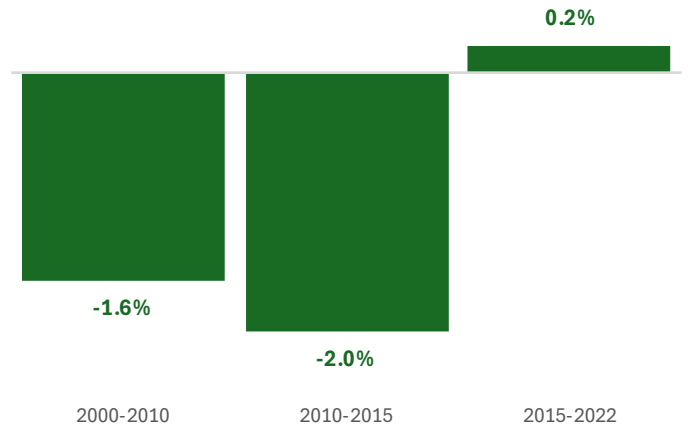
(15)



Between 2010-2019, Cambodia's road transport fossil CO2 emissions was growing 8.4% annually. After the COVID-19 pandemic, road transport CO2 emissions was growing 3.0% annually.

## Road transport CO2 emissions intensity with GDP trend

(3,15)



## Transport fossil fuel subsidies, cumulative from 2010 to 2022

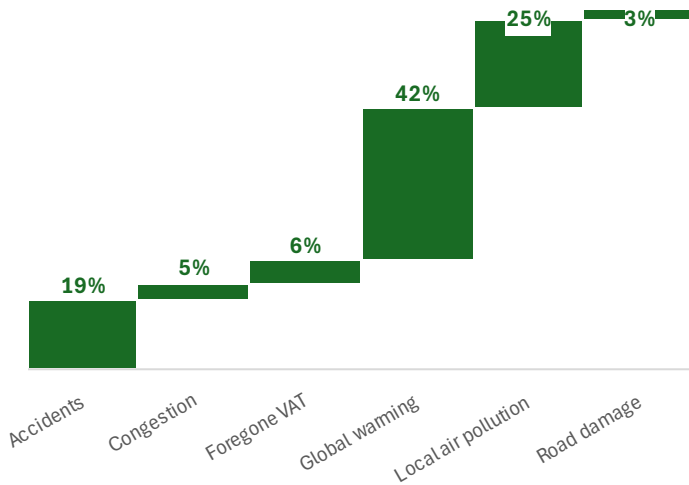
None

0.0% of Asia-Pacific total

(16)

## Implicit fossil fuel subsidies due to externalities

(17)



Data includes all sectors and all fuel types

Climate Resilience and Disaster Preparedness

Expected annual damages to road and rail infrastructure due to hazards (2019)  
**30.69 million USD**

(18)

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

(20)

Share of road in total transport infrastructure in multihazard average annual loss to transport infrastructure (2023)  
**90.9%**

(19)

Share of population in low elevated coastal zones (2018)  
**7.2%**

(21)

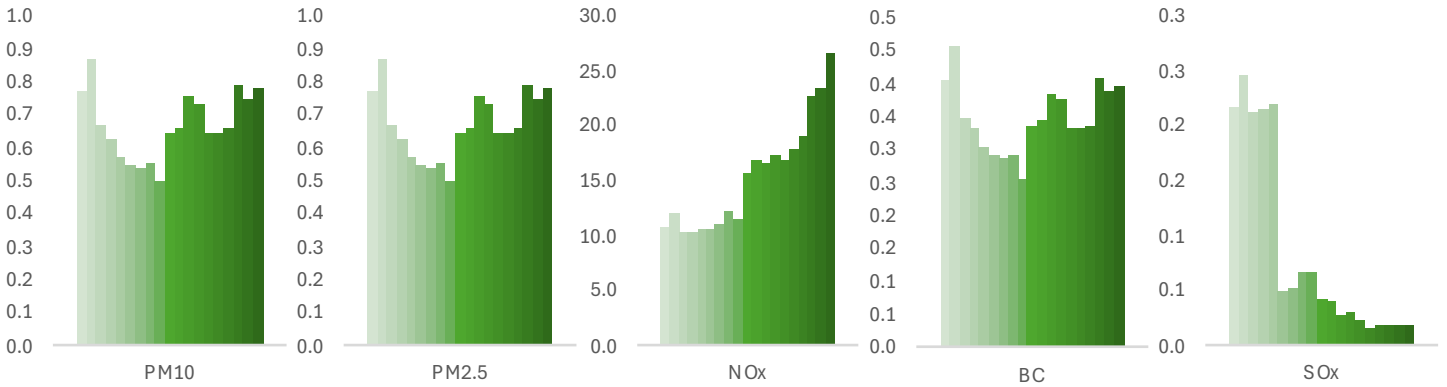
Pollution, Water and Land Management, Preserving Biodiversity, and Sustainable Materials

Paved roads (2019)  
**19%**

(1)

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

(15)



In 2022, road transport contributed 14.9%, re-suspended dust contributed 11.0% in transport PM10 emissions. In total, road transport contributed about 5.7% in total PM10 emissions in Cambodia.

Deaths due to occupational exposure to diesel engine exhaust  
 | 2000-2010 | 2011-2018  
**260 deaths** | **359 deaths**

Terrestrial and marine protected areas (2022)  
**31.8%**

(3)

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

Terrestrial protected areas  
**39.7%**

(13) (% of total land area)

Marine protected areas  
**1.4%**

(% of territorial waters)

(3)

Domestic consumption per capita, tonnes (2024)  
 | Cambodia | Asia-Pacific  
**8.4 tonnes** | **13.8 tonnes**

Forest area (2021)  
**44.8%**

(23) (% of land area)

(3)

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

Developed with the support of:



## Policy Measures

Policy document	Year	Road-related measures
Law on Land Traffic	2015	Vehicle inspection and maintenance, Passenger and freight load limits, Road-side checks on overspeeding, Road-side checks on overloading
Law on Road Traffic	2017	National speed law, Passenger and freight load limits, Road-side checks on overspeeding, Road-side checks on overloading
National Traffic Safety Plan	2014	Transport asset condition assessment, National speed law
Technology Needs Assessment and Technology Action Plans for Climate Change Mitigation	2013	General infrastructure improvements, Vehicle inspection and maintenance
Cambodia Biennial Update Report	2020	Active transport infrastructure expansion, General infrastructure improvements, Vehicle inspection and maintenance, Disaster notification/ early warning system, Transport infrastructure resilience, General transport asset management, Investment required for specific projects, Ecodriving
Climate Change Strategic Plan for the Transport Sector	2014	Active transport infrastructure expansion, General infrastructure improvements, Vehicle inspection and maintenance, Technical standards for road infrastructure, Transport infrastructure resilience, General transport asset management, Investment required for specific projects
National Strategic Development Plan 2019-2023	2019	Active transport infrastructure expansion, General infrastructure improvements, Reduction of transport/ logistics costs, Vehicle inspection and maintenance, Automated enforcement of speed limits, Technical standards for road infrastructure, Transport asset management funding strategy, Routine transport asset maintenance, Technologies on transport asset management, Transport infrastructure resilience, General transport asset management, General transport finance, Road infrastructure expansion, Upgrading high risk locations for road safety, Development of road plan/ policy, Development of transport plan/ policy, Adaptation transport laws, regulations and programmes, Passenger and freight load limits, General adaptation measures
National Strategic Plan on Green Growth 2013-2030	2013	Active transport infrastructure expansion, Vehicle inspection and maintenance
Global Status Report on Road Safety 2018	2018	Upgrading high risk locations for road safety, National road safety strategy, National speed law, Audits/ star rating for existing roads for road safety, Audits/ star rating required for new road infrastructure for road safety
Updated Nationally Determined Contribution - KHM	2020	General infrastructure improvements, Vehicle inspection and maintenance, Climate-resilient design standards, Transport infrastructure resilience, General transport asset management, Investment required for specific projects, Development of transport adaptation/ emergency/ disaster plan/ policy
Cambodia Industrial Development Policy 2015-2025	2015	General infrastructure improvements, General transport finance, Road infrastructure expansion
Rural Roads Policy	2007	General infrastructure improvements, Technical standards for road infrastructure, Transport asset management funding strategy, Transport asset management information system, Transport asset condition assessment, Technologies on transport asset management, General transport asset management, General transport finance, Implementation of horizontal deflections on roads, Implementation of vertical deflections on roads, Measures to improve rural-urban connectivity, Road-side checks on overloading
Cambodia Climate Change Strategic Plan 2014-2023	2014	Vehicle inspection and maintenance, Disaster notification/ early warning system, Transport infrastructure resilience, Measures to improve rural-urban connectivity, Ecodriving, General adaptation measures
Cambodia EV Roadmap	2022	Development of transport plan/ policy
Intended Nationally Determined Contribution - KHM	2015	Vehicle inspection and maintenance, Disaster notification/ early warning system, Transport infrastructure resilience, Ecodriving
Second Voluntary National Review	2023	Reference to finance mechanisms within country, Development of transport adaptation/ emergency/ disaster plan/ policy
Long-Term Strategy for Carbon Neutrality	2021	General transport finance, Investment required for specific projects, Development of transport plan/ policy
Logistics Master Plan	2017	Reduction of transport/ logistics costs, Road infrastructure expansion

## Policy Measures

Policy document	Year	Road-related measures
Rectangular Strategy Phase IV	2018	General transport finance, Development of transport plan/ policy
Truck Modernization Strategic Plan	2022	Road-side vehicle technical checks, Vehicle inspection and maintenance, Development of transport plan/ policy, Ecodriving
Cambodia's Third National Communication	2022	Vehicle inspection and maintenance, Disaster notification/ early warning system, Investment required for specific projects
Clean Air Plan of Cambodia	2022	Vehicle inspection and maintenance
Rural Development Strategic Plan 2019-2023	2019	Measures to improve rural-urban connectivity
Road Safety Opportunities and Challenges: Low- and Middle-Income Country Profiles	2020	Vehicle inspection and maintenance, Implementation of vertical deflections on roads



## Policy Targets

Policy document	Target year	Road-related targets
Cambodia's Third National Communication	2030	30 vehicle inspection centers in operation by 2030
Updated Nationally Determined Contribution - KHM	2030	30 vehicle inspection centres in operation by 2030

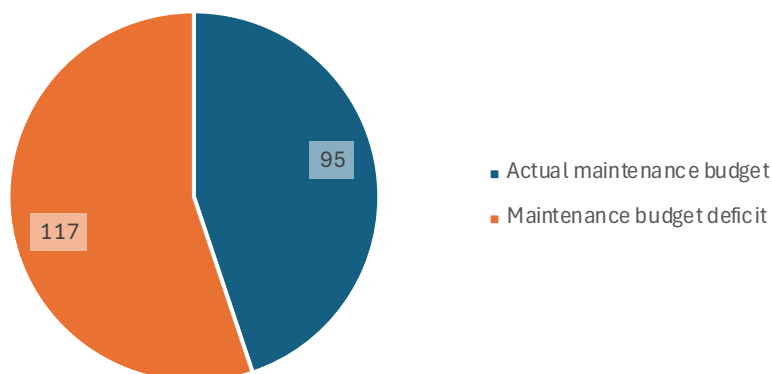
## Appendix

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

Road class	Length	Paved	Quality			
			Good	Fair	Poor	Very Poor
National road (1-digit)	2,254	100%	67%	8%	21%	4%
National road (2-digit)	5,161	76%				
Provincial road (3-4 digit)	12,380	39%				
Rural road	47,919	5%				

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)
Vehicle customs duty	418.0
Vehicle special tax	106.0
Vehicle value added tax	224.0
Fuel customs duty	71.6
Fuel additional tax	53.5
Fuel special tax	99.9
Fuel value added tax	211.5
Tolling	3.0

## Notes



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

<https://bit.ly/ATOpolicyrepository>

## References

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## Disclaimer

This profile was developed by Asian Transport Outlook in support of TA-6756 Improving Infrastructure Sustainability Through Better Asset Management – Developing a Green Roads Toolkit and Guidance for ADB Projects. The ATO is an initiative developed under TA-6763 REG: Accelerating Innovation in Transport - Asian Transport Outlook: Phase 3 (55119-001) of the Asian Development Bank (ADB) and is also being supported by the Asian Infrastructure Investment Bank (AIIB) through Purchase Order No. CW39446 AIIB Support: Asian Transport Outlook Phase 3.

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