Aichi 2030 Declaration on Environmentally Sustainable Transport (EST): Country Profile

Pakistan

Credits- unsplash

Developed by:

Asian Transport Observatory

Developed with the support of:

ADB ASIAN DEVELOPMENT BANK

AIIB ASIAN INFRASTRUCTURE INVESTMENT BANK

UNCRD

Pakistan

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Aichi 2030 Declaration on Environmentally Sustainable Transport (EST): Country Profile (Pakistan)

2024

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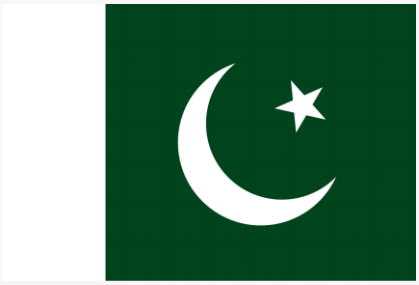


Pakistan, a country in the Central and West Asia region, having Low and lower middle income status, was recorded to have a national population of about 245 million in the year 2024.

The urban population share in total is about 38%. The age wise distribution of the national population accounts for 44% and 7% of <18 years old (minors) and >60 years old (seniors) population, respectively. The GDP per capita (PPP) for the year 2022 was 6,351 USD.

The motorisation rate of the road transport vehicles for the year 2022, for all vehicles combined, stood at 161 vehicles per thousand population. Similarly, the rate for 2&3 wheelers, LDV, freight vehicles and buses were 125, 19, 1, and 1 respectively.

Introduction to the profiles: The Asian Transport Outlook (ATO) project serves as a comprehensive data repository that organizes transport-relevant data and information from various official and secondary sources. These profiles are meticulously crafted using data from this extensive collection and draw upon a carefully curated selection of key indicators from a pool of over 500 transport-related metrics (visit https://asiantransportoutlook.com/snd for more information).

These profiles also provide comprehensive summaries of national targets that are relevant to the Aichi 2030 Declaration goals as contained in ATO's national policy trackers. The profile is structured by goals, followed by policy insights and enumeration of sample projects by the MDBs corresponding to the 6 Goals.

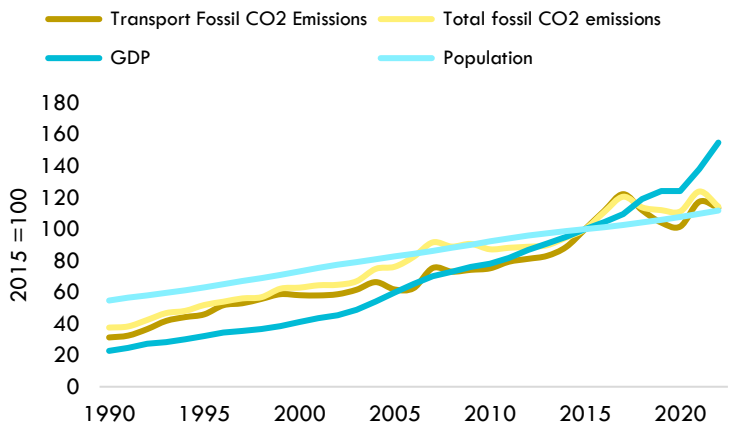
Contents:

Goal 1a – Low-Carbon (climate change mitigation):

By 2030, aim to peak transport CO2 emissions and initiate reductions in transport related CO2 emissions with the intention to move towards decarbonization of the transport sector by 2050, or shortly thereafter (Based on SDG 7.2, 9.1, 13.2, Paris Agreement)

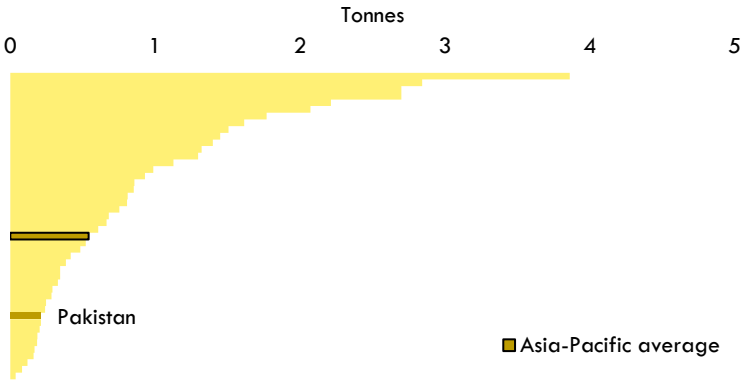
Transport CO2 emissions (fossil)

Growth of transport fossil CO2 emissions, total fossil CO2 emissions, population and GDP (PPP) (1990 - 2022)



(EDGAR, 2023)

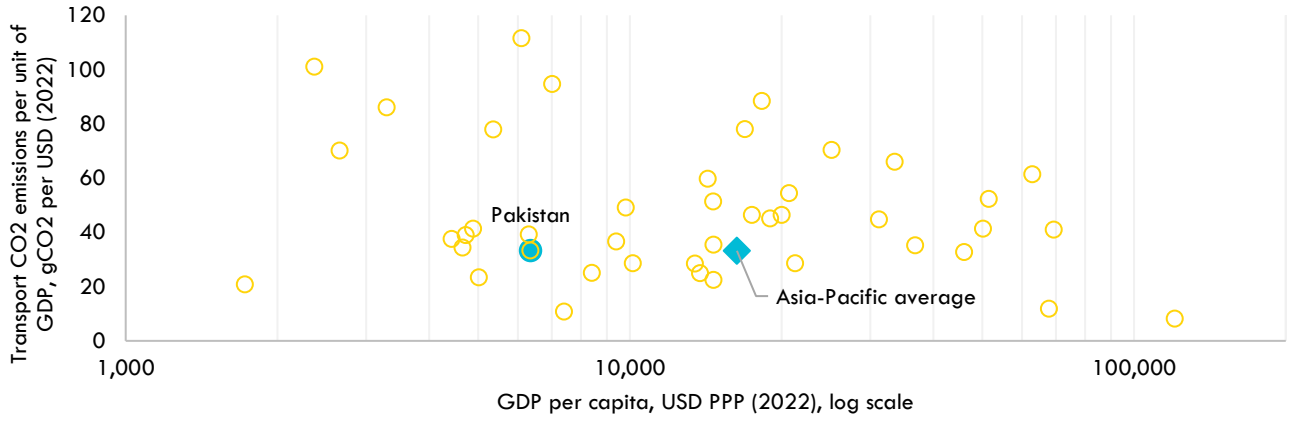
Transport fossil CO2 emissions per capita (2022)



(EDGAR, 2023)

- Motorization: The motorization rate is 161 vehicles per 1,000 people, with 2&3 wheelers being the most common.
- Emissions: Transport CO2 emissions per capita are 0.2 tonnes, lower than the Asia-Pacific average. Road transport accounts for 98% of emissions.
- Energy: Transport energy consumption is 0.8 EJ, with a CO2 emissions intensity of 63 gCO2 per MJ.

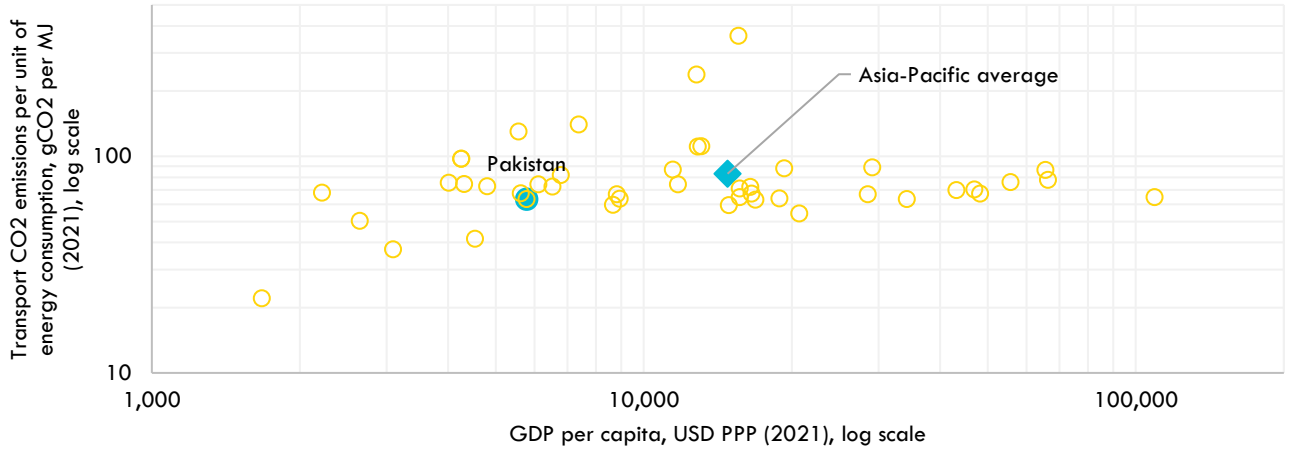
Transport CO2 emissions per unit of GDP (2022)



(EDGAR, 2023)

Transport energy consumption

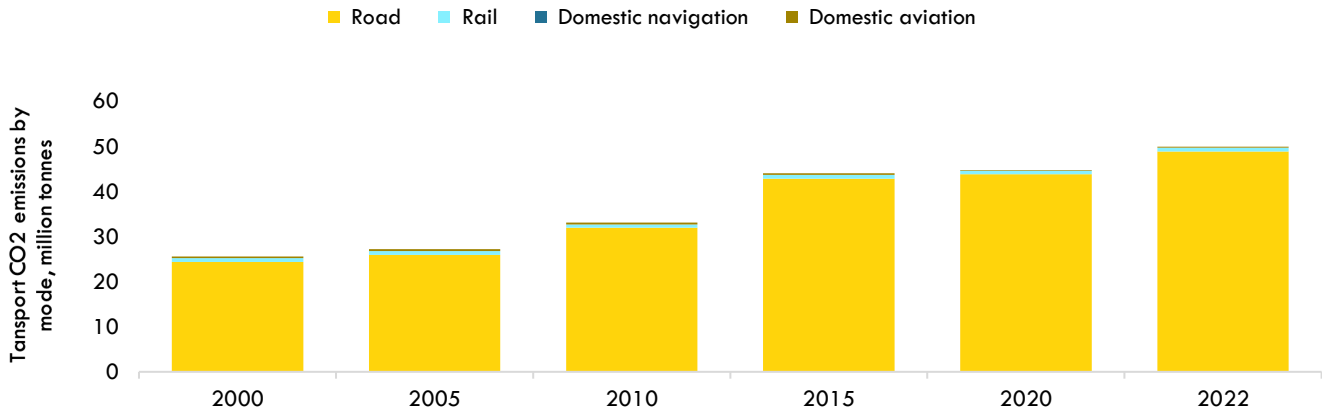
Transport CO2 emissions per unit of energy consumption and GDP per capita (2021)



(EDGAR, 2023)

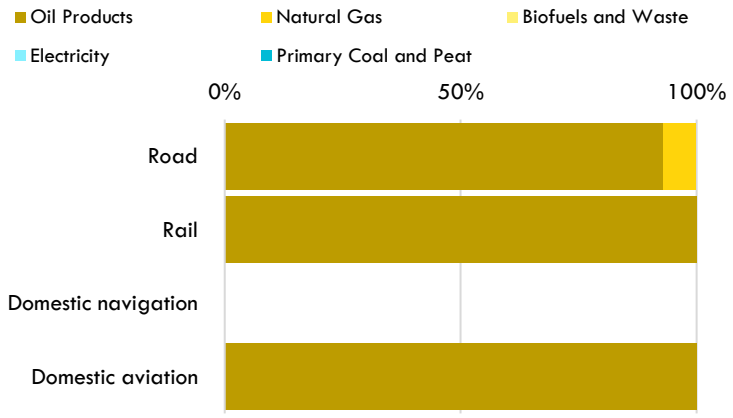
Transport CO2 emissions (fossil) and energy consumption modeshare

Growth of transport CO_2 emissions by mode



(EDGAR, 2023)

Share of transport energy consumption by mode and by source (2021)



(EDGAR, 2023)

Share of transport in renewable energy consumption:

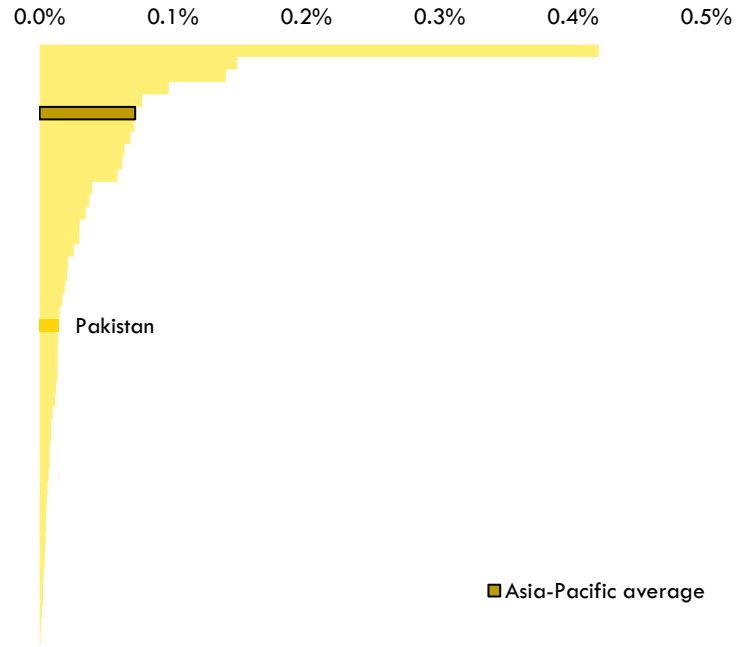
(Data not available)

Goal 1b – Resilience:

By 2030, increase resilience and adaptive capacity of transport system to climate-related hazards and pandemics such as COVID-19. (Based on SDG 13, Paris Agreement and the Sendai Framework for Disaster Risk Reduction 2015-2030)

Estimated average annual losses to transport infrastructure due to hazards

Average annual losses to transport infrastructure due to hazards, as a share of GDP, in Asia-Pacific (2023)



(CDRI, 2023)

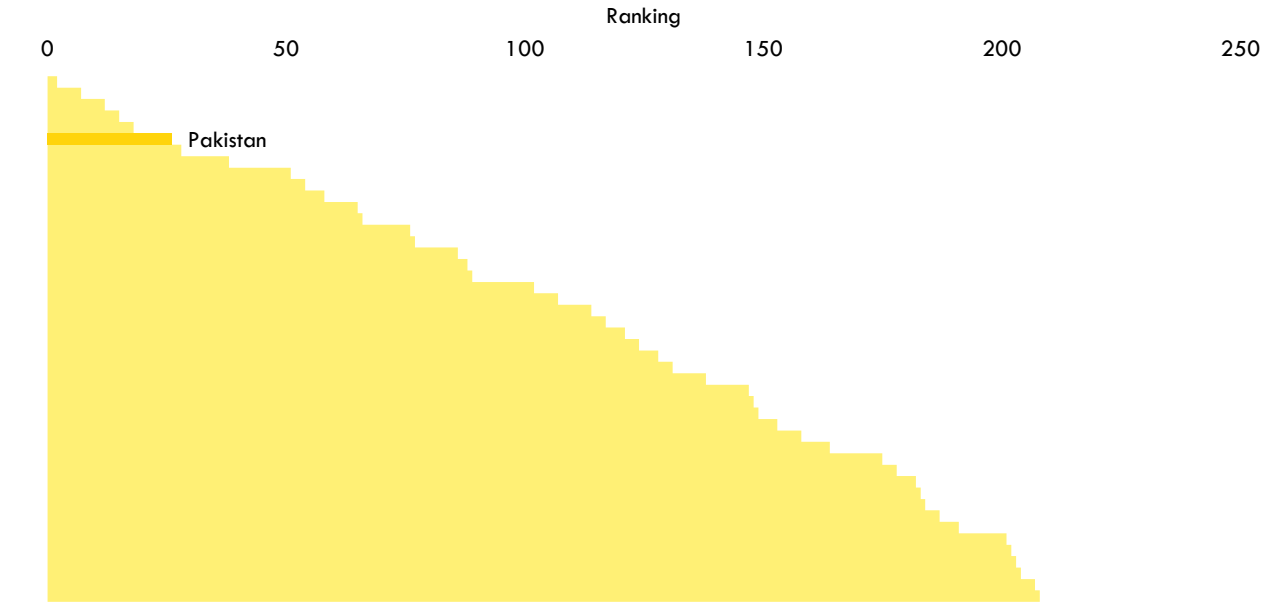
• Vulnerability: 96% of annual losses to transport infrastructure are due to road-related hazards. 1% of the population lives in low-elevated coastal zones.

• Network resilience: Pakistan ranks 26th globally in terms of National Road Vulnerability Index, indicating good network redundancy.

Note: National road vulnerability index ranking (NRVI), highest rank = 1 means fewer disruptions to trips after climate hazards due to sufficient network redundancy.

Climate change vulnerability

National road vulnerability index (NRVI) ranking (2023)



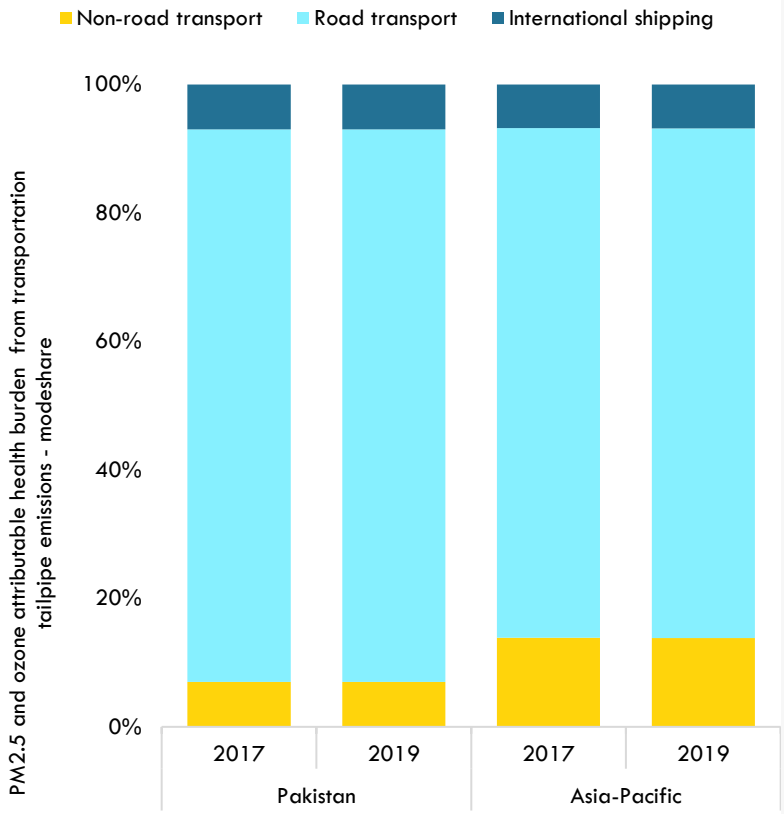
(Koks, et al., 2023)

Goal 1c – Air pollution:

By 2030, reduce air pollution and contamination caused by traffic, including PM2.5, other air pollutants and noise. (Based on SDG 3.9, 11.6).

Transport air pollution health impact

Transport air pollution health impact (PM 2.5)



(McDuffie et al., 2021)

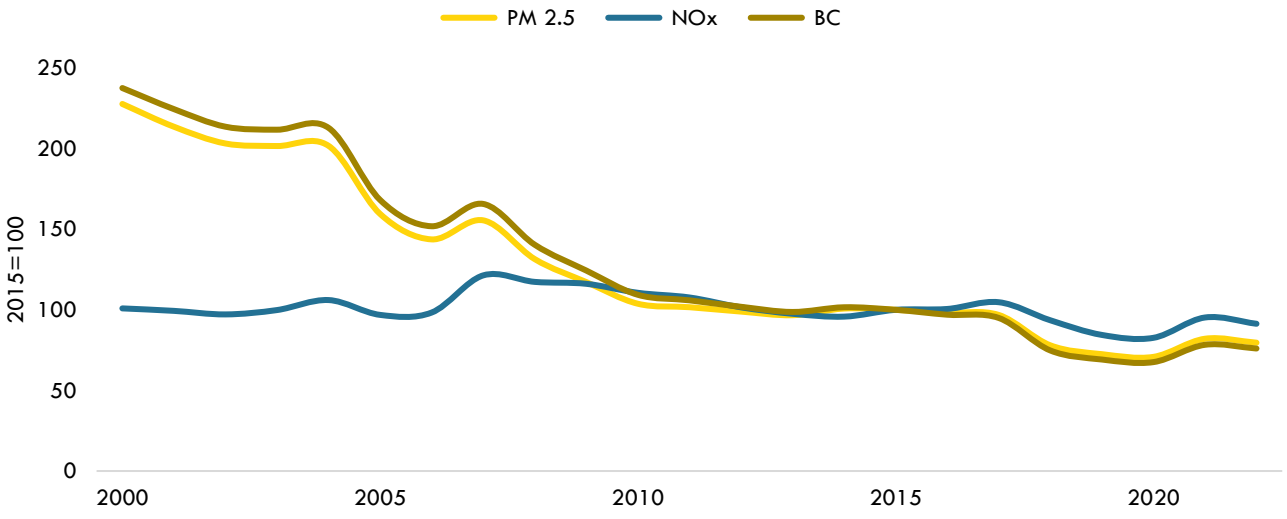
- Emissions reduction: PM2.5 and BC emissions have decreased, but NOx and SOx emissions have slightly increased. Road transport contributes significantly to NOx and BC emissions.

- Health impacts: Estimated deaths due to PM2.5 and ozone pollution from transport increased from 8,648 to 9,319 between 2017 and 2019.

- In Pakistan, the total attributable deaths due to the PM2.5 and ozone air pollution from the transport sector changed from 8,648 to 9,319 between 2017 to 2019.
- The numbers for Asia-Pacific were about 236 thousand and 253 thousand, respectively, for the same time period.

Transport air pollutant emissions

Growth of road transport air pollutant emissions



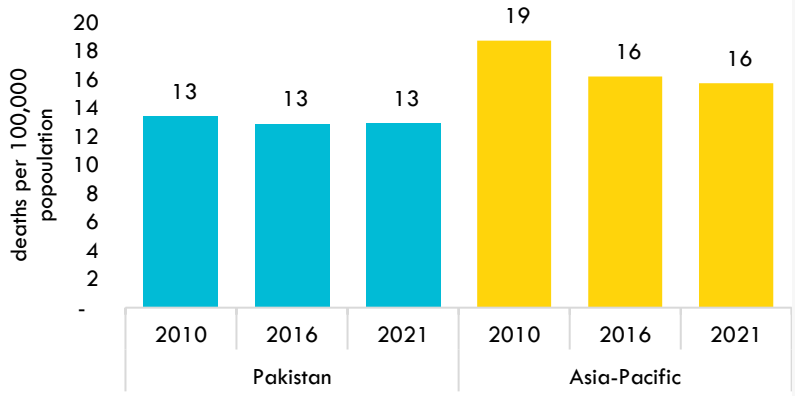
(EDGAR, 2023)

Goal 2 – Road safety:

By 2030, halve the number of deaths and injuries from road traffic accidents in Asia compared to 2020, with specific attention to vulnerable road users. (Based on SDG 3.6 and second UN Decade of Action on Road Safety 2021 – 2030, Stockholm Declaration on Road Safety)

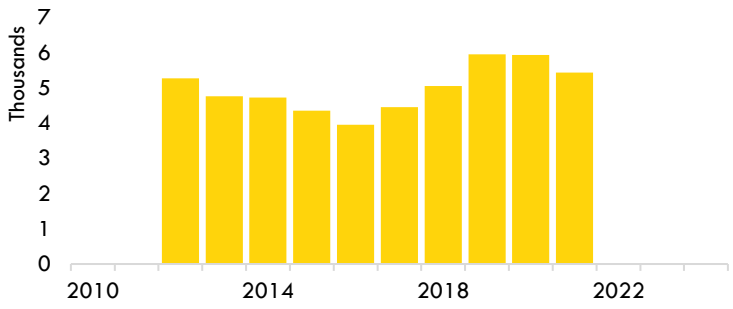
Road traffic crash fatalities

Road traffic crash fatality rate



(WHO, 2023)

Road traffic crash fatalities (absolute values)

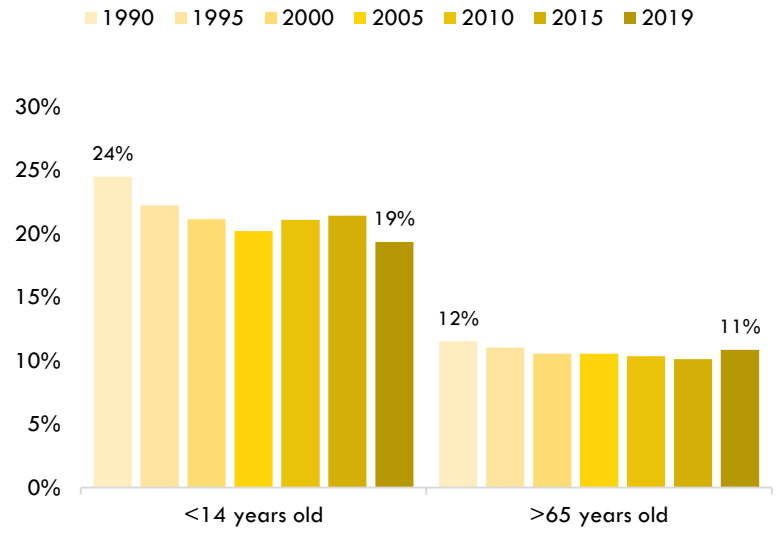


(Country official statistics)

- Fatalities: Estimated road traffic fatalities in 2021 range from 5,000 to 38,000 depending on the source. The fatality rate is 12.9 per 100,000 people.
- Vulnerable groups: The combined share of minors and seniors in fatalities decreased slightly. The share of females in fatalities is high at 47%.
- Pedestrian and cyclist safety: 41% of fatalities involve pedestrians and cyclists. Infrastructure for these groups is lacking.

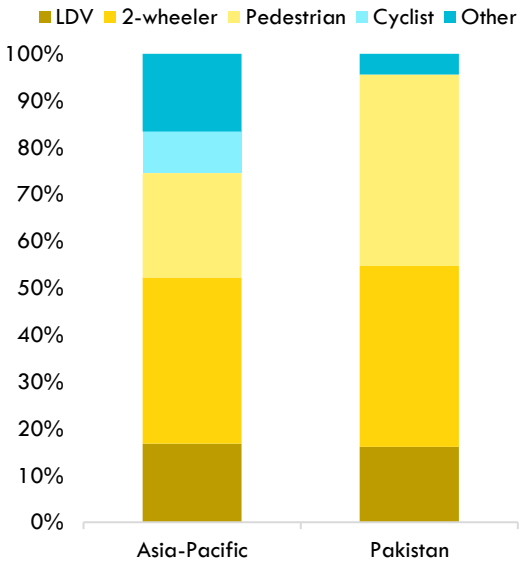
Share of vulnerable groups

Share of road crash fatalities by age



(GBD, 2021)

Share of road crash fatalities by mode



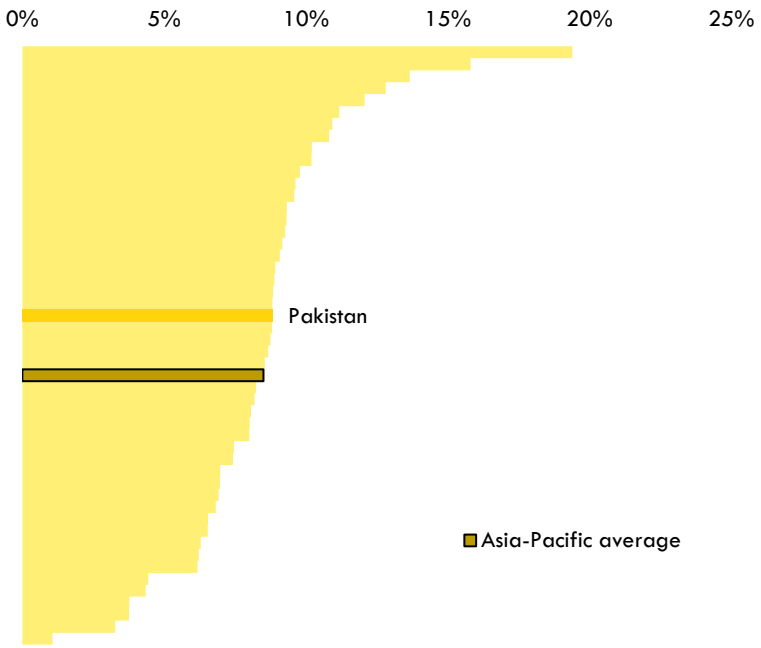
(WHO, 2023)

Goal 3 - Economic sustainability:

By 2030, realize sustainable economic and employment growth by leveraging science, technology and innovation and green investments in quality passenger and freight transport infrastructure and services in a manner that fully incorporates environmental and social impacts throughout the lifecycle of the transport infrastructure and services, (Based on SDG 8.4, SDG 9.1, 12.1 and 12.c)

Transport sector and GDP

Transport as a share of GDP

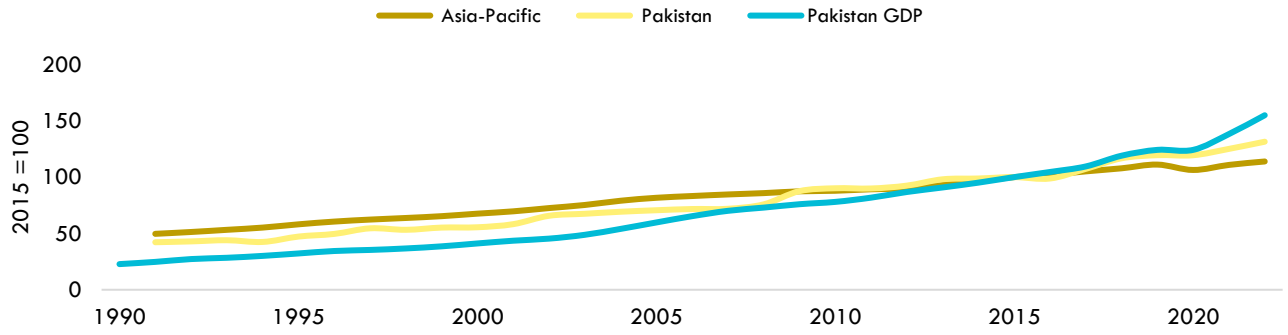


(UN, 2023)

- Economic contribution: Transport sector's share in GDP decreased from 12% to 9%.
- Employment: Transport sector employment grew at 4% annually, reaching 4.8 million in 2022. Female employment also increased.
- Logistics performance: Pakistan's logistics ranking improved significantly.

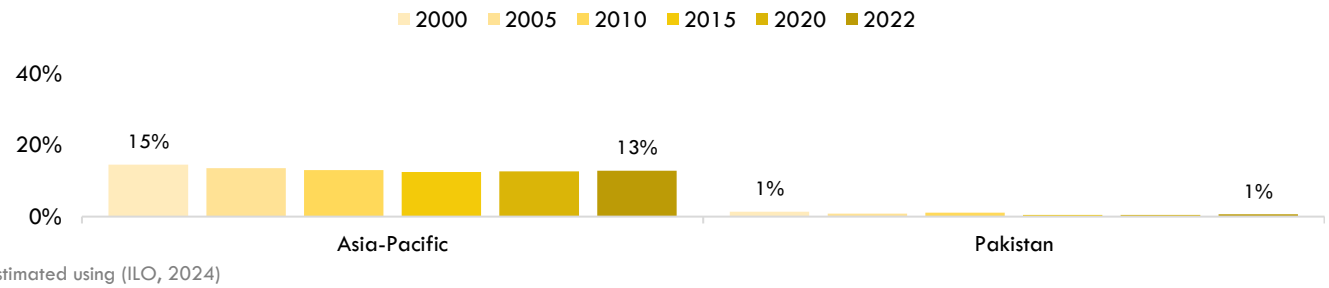
Transport employment

Growth of transport sector employment



(ILO, 2024)

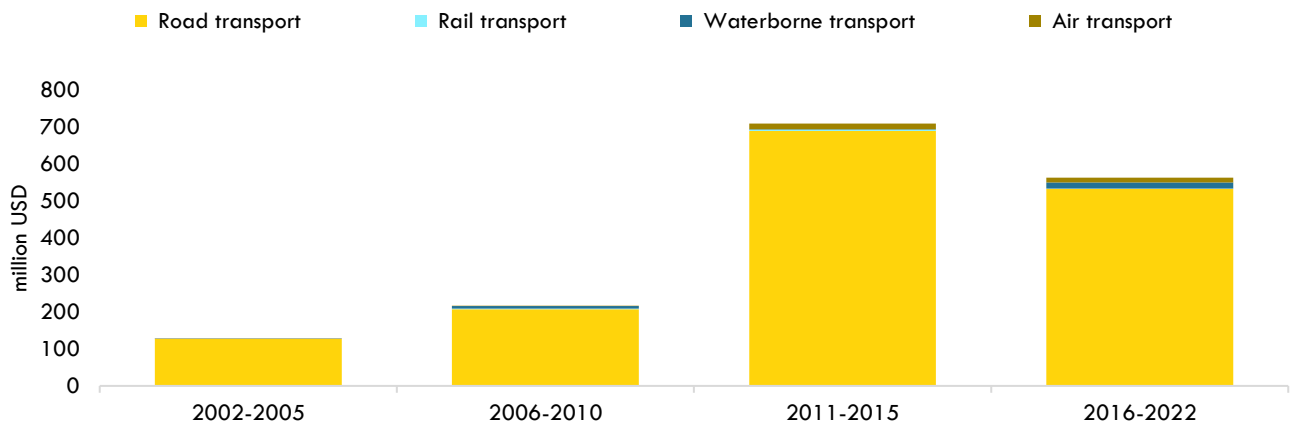
Female share in the transport employment



Estimated using (ILO, 2024)

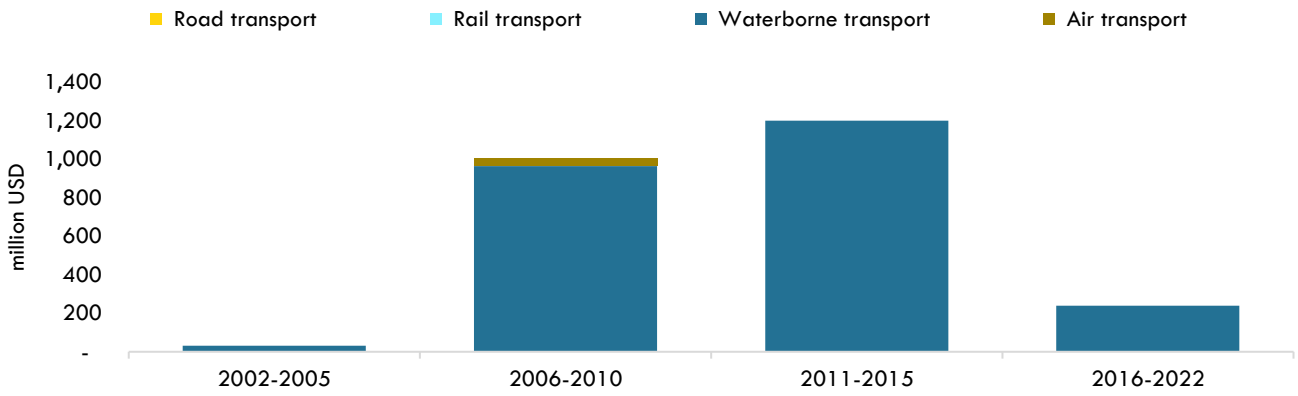
Transport investments

Official development assistance for Transport



(OECD, 2022)

Public Private Partnership in Transport



(WB, 2023)

Freight sector

Domestic Logistics Performance Index, Rank change (2016 - 2023)

(Data not available)

Goal 4 - Rural access:

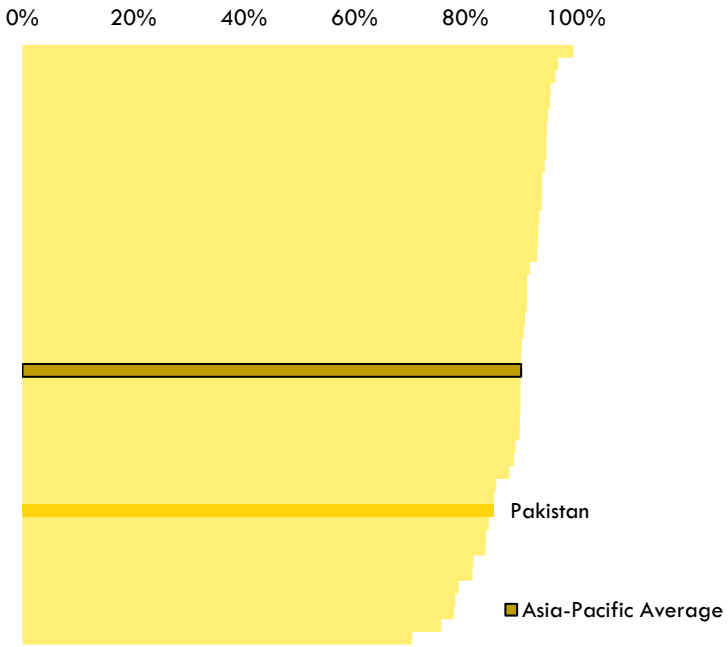
By 2030, realize accessible, inclusive, safe, affordable, and resilient rural transport infrastructure and services, thus facilitating improved access to markets, basic utilities and services including health and education by the farming community, and other rural population including physically disabled and vulnerable groups (Based on SDG 2 and SDG 9.1)

Rural access

Rural access index

(CIESIN-rural, 2023)

Share of Secondary and Tertiary roads in Total road network



(ATO and Country estimates)

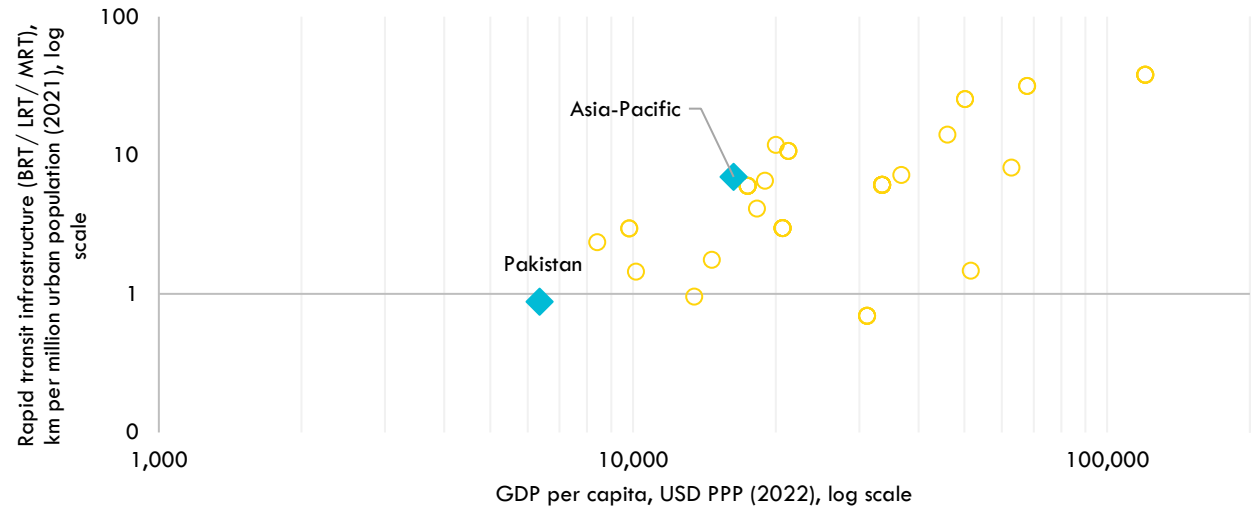
- Accessibility: 68% of the rural population lives within 2km of an all-weather road, lower than regional and global averages.
- Gap: An estimated 43 million people in Pakistan lack decent rural access.

Goal 5 - Urban access:

By 2030, ensure access to accessible, inclusive, safe, efficient, affordable, and sustainable transport facilities, systems and services for urban dwellers, including physically disabled and vulnerable groups through the development of urban transport infrastructure and services (Based on SDG 11.2 and 11.7)

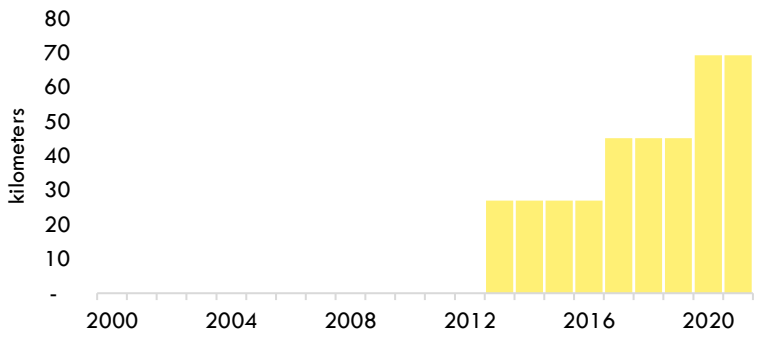
Urban rapid transit infrastructure

Rapid transit infrastructure to resident ratio (RTR)



(ITDP, 2022)

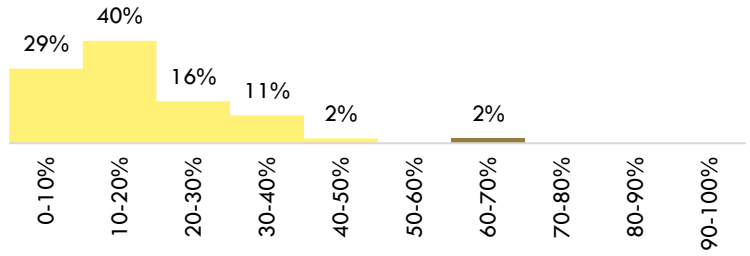
Urban rapid transit infrastructure length



(ITDP, 2022)

Urban access

Share of cities by level of urban access (out of 55 cities)



(CIESIN-urban, 2023)

- Rapid transit: Urban rapid transit infrastructure has expanded, but the infrastructure-to-resident ratio remains low compared to the Asia-Pacific average.

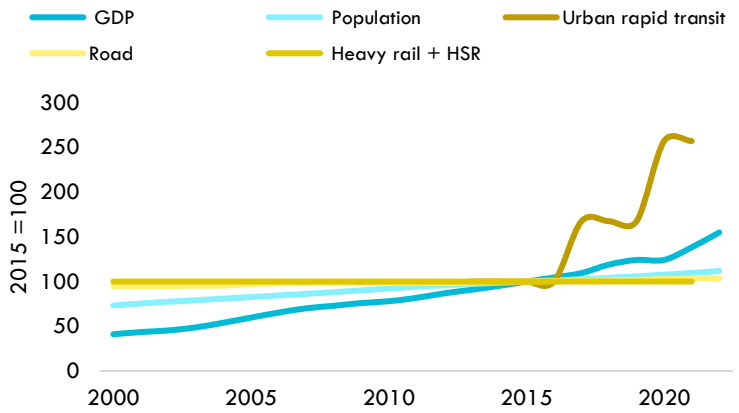
- Public transport access: Data on urban access to public transport is limited.

Goal 6 - National access and connectivity:

By 2030, facilitate inclusive multi-modal national (including rural-urban) and regional (cross-border) connectivity through the provision of sustainable multi-modal freight and passenger transport infrastructure and services (Based on SDG 9.1)

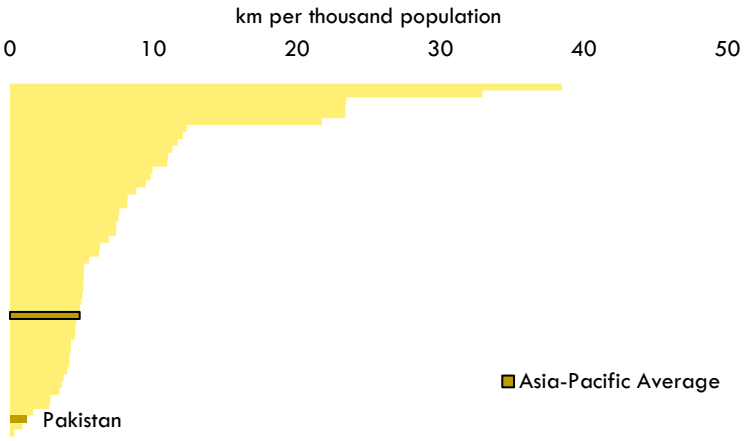
Transport infrastructure

Growth of transport infrastructure



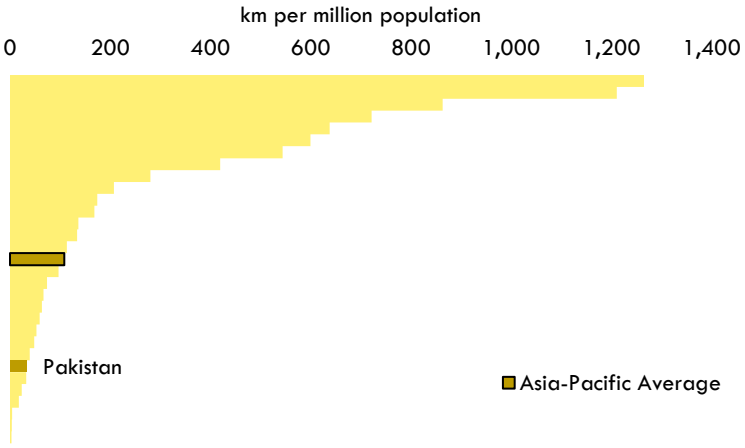
(IRF, 2024) (UIC, 2024) (ITDP, 2022) (ATO and Country estimates)

Road transport infrastructure availability (2022)



(IRF, 2024) (ATO and Country estimates)

Rail transport infrastructure (including HSR) availability (2021)



(UIC, 2024)

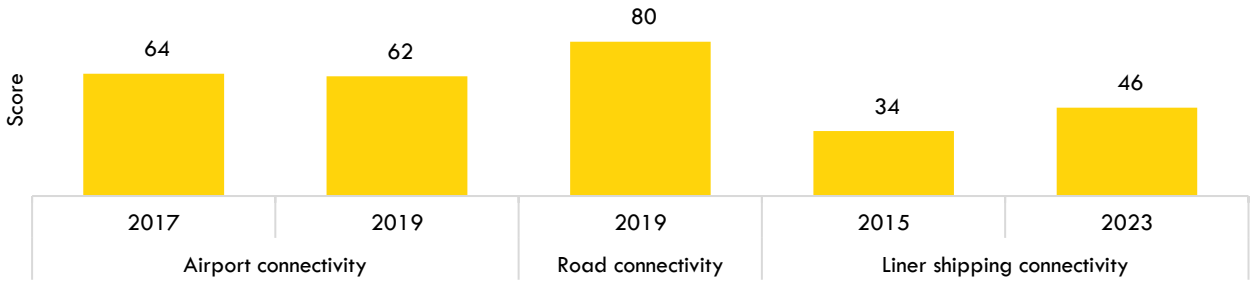
• Infrastructure: Road and heavy rail infrastructure has seen limited expansion. Bus motorization remains low.

• Connectivity: Airport connectivity has slightly decreased. Liner shipping connectivity has improved.

• Telecommunications: Mobile network and internet coverage have expanded significantly.

Transport connectivity

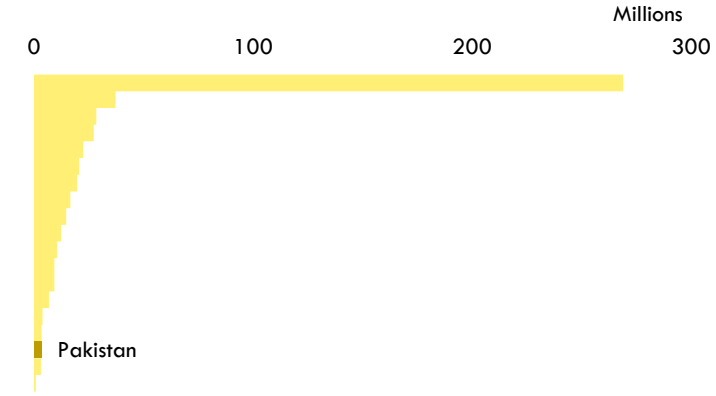
Transport connectivity



(WEF, 2018) (UNCTAD, 2024)

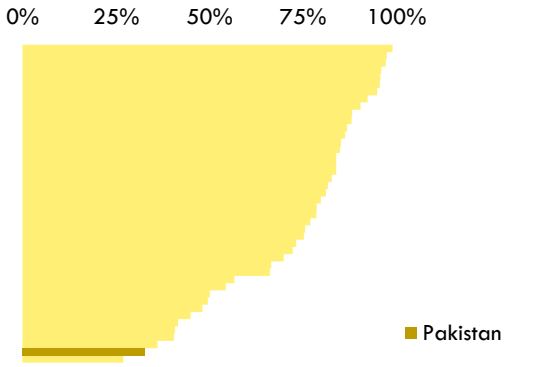
ICT

Container port traffic (TEU)



(UNCTAD, 2024)

Percentage of individuals using the internet (2022)



(ITU, 2023)

Transport Policy insights:

The insights are based on the transport policy trackers developed by the ATO. Trackers include analysis of policy measures and targets from all the transport relevant policy documents for a country published after the adoption of the Aichi 2030 Declaration, i.e. 2021.

• Policy adoption: 12 policy documents have been adopted since 2015, with 4 published since the Aichi 2030 Declaration.

• Focus areas: Most documents focus on Low-Carbon goals, with some addressing Air pollution and Road safety. Other goals have limited coverage in policy documents.

Transport relevant policy documents

Red - Poor coverage; Orange - Moderate coverage; Green - Extensive coverage

Doc. No.	Document Name	Year	Goal 1a	Goal 1b	Goal 1c	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6
1	Pakistan's Intended Nationally Determined Contribution	2015								
2	Technology Needs Assessment Report for Climate Change Mitigation	2016								
3	Technology Needs Assessment Report for Climate Change Adaptation	2016								
4	National Road Safety Strategy 2018-2030	2018								
5	National Transport Policy of Pakistan 2018	2018								
6	National Aviation Policy	2019								
7	National Freight and Logistics Policy	2020								
8	Electric Vehicle & New Technology Policy 2020-2025 (Draft)	2020								
9	Auto Industry Development and Export Policy 21-26	2021								
10	Pakistan Updated NDC 2021	2021								
11	National Clean Air Plan	2022								
12	Pakistan's First Biennial Update Report	2022								

(ATO National policy tracker)

Poor coverage
Moderate coverage
Extensive coverage

Transport relevant national targets

Doc. No.	Target	Year	Goal 1a	Goal 1b	Goal 1c	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6
1	**Pakistan's Intended Nationally Determined Contribution**									
	Having considered the existing potential for mitigation in the country, Pakistan intends to reduce up to 20% of its 2030 projected GHG emissions subject to availability of international grants to meet the total abatement cost for the indicated 20 percent reduction amounting to about US$ 40 billion at current prices.	2030	x		x					
	Safely Connected: A Regional Road Safety Strategy for CAREC Countries, 2017–2030									
	the overall target of the CAREC road safety strategy would be to reduce the number of fatalities on CAREC road corridors by 50% in 2030 as compared with the 2010 base level	2030				x				
4	**National Road Safety Strategy 2018-2030**									
	By 2030, all new national and provincial highway construction or improvements achieve technical standards for all road users that take into account road safety, or, alternatively meet a 3-star rating or better By 2030 all new or rehabilitation (improvement) road designs should always have a higher safety rating than the existing road and have at least a 3-star rating standard for all road users By 2030 national highways with more than 50,000 vehicles per day to have a minimum of three stars for all users By 2030 sections of national highway network passing through linear settlements to have a minimum four-star standard for motorcyclists, pedestrians and bicyclists	2030				x				x
	By 2030, all new national and provincial highway construction or improvements achieve technical standards for all road users that take into account road safety, or, alternatively meet a 3-star rating or better By 2030 all new or rehabilitation (improvement) road designs should always have a higher safety rating than the existing road and have at least a 3-star rating standard for all road users	2030				x				x
	By 2030, 100 percent of new and used vehicles (produced, sold, or imported) meet high quality safety standards which meet or exceed UN Regulations and Vehicle Technical Regulations	2030	x		x	x				
	Save at least 6,000 lives than would otherwise have been lost by 2030. Halve the fatalities on CAREC corridors by 2030. Reduce the number of multi-vehicle fatal crashes on motorways and national highways by 2030.	2030				x				
	By 2030, more than 75 percent of travel on existing national highway network is on roads that meet technical standards for all road users which take into account road safety.	2030	x			x				x
10	**Pakistan Updated NDC 2021**									
	By 2030, 30 % of all new vehicles sold in Pakistan in various categories will be Electric Vehicles (EVs).	2030	x		x					x
	30% shift to electric passenger vehicles and 50% shift to electric two/three wheelers and buses by 2030	2030	x		x					x

	target of 30% and 90% share in sale of passenger vehicles and heavy-duty trucks by 2030 and 2040	2030	x		x					x
	90% shift to electric passenger vehicles and 90% shift to electric two/three wheelers and buses by 2040	2040	x		x					x
	target of 30% and 90% share in sale of passenger vehicles and heavy-duty trucks by 2030 and 2040	2040	x		x					x
	By 2030, 60 % of all energy produced in the country will be generated from renewable energy resources including hydropower.	2030	x		x					x
	Pakistan intends to set a cumulative ambitious aim of conditional and voluntary contributions of overall 50% reduction of its projected emissions by 2030, with a 15% drop below business as usual (BAU) from the country's own resources, and an additional 35% drop below BAU subject to international financial support.	2030	x		x					
11	**National Clean Air Plan**									
	30% shift to electric passenger vehicles and 50% shift to electric two/three wheelers and buses by 2030	2030	x		x					x
	Implement fuel quality standards in transport to comply with Euro-5 or Euro-6 leading to complete shift to minimum Euro-5 by 2025, or Euro-6 by 2030	2030	x		x					
12	**Pakistan's First Biennial Update Report**									
	Further the Government has introduced the Electric Vehicle Policy, which targets a robust electric vehicle market having a 30% and 90% share in passenger vehicles and heavyduty trucks by 2030 and 2040 respectively.	2030	x		x	x				x
	Further the Government has introduced the Electric Vehicle Policy, which targets a robust electric vehicle market having a 30% and 90% share in passenger vehicles and heavyduty trucks by 2030 and 2040 respectively.	2030	x		x					x
	Further the Government has introduced the Electric Vehicle Policy, which targets a robust electric vehicle market having a 30% and 90% share in passenger vehicles and heavyduty trucks by 2030 and 2040 respectively.	2040	x		x					x

(ATO National policy tracker)

Transport relevant sample projects:

A sample list of projects by the MDB highlights their focus with respect to the Aichi 2030 Declaration Goals.

Transport relevant projects

Year	Project name	Amount (million USD)	Goal 1a	Goal 1b	Goal 1c	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6
	Pakistan: Punjab Arterial Roads Improvement Project	321		x		x	x	x		
2021	Khyber Pakhtunkhwa Cities Improvement Projects - Second Project Readiness Financing	15		x			x	x		x
2023	Central Asia Regional Economic Cooperation Corridor Development Investment Program (Tranche 3)	360		x		x	x		x	
2021	Central Asia Regional Economic Cooperation Corridor Development Investment Program (Tranche 2)	235		x			x	x		
2022	Emergency Flood Assistance Project	478		x			x	x		
2023	Integrated Flood Resilience and Adaptation Project	213		x						
2022	Sindh Flood Emergency Rehabilitation Project	500		x						
2022	Khyber Pakhtunkhwa Rural Accessibility Project (KPRAP)	300								

(MDB Projects database)

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GDP data is sourced from (WB, 2022) and Population data from (UN, 2022)