Asian Transport Observatory

State of Play: Road Transport in South and Southeast Asia

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asiantransportobservatory.org



52 Economies (ADB Members + Russia and Iran)

460 Urban Centers

50+ Urban Centers with a detailed review

Collect
Bring together data from different sources

Curate
Check, clean, organize, and structure data

Connect
Link data to policy, planning, and investment questions

Communicate
Turn data into insights decision-makers can use

Capacitate
Build capacity to use data and insights in planning and investment decisions

Collaborate
Strengthen data collection, validation, and use

ATO National Database
Explore over 450 transport indicators from 51 economies divided across nine categories

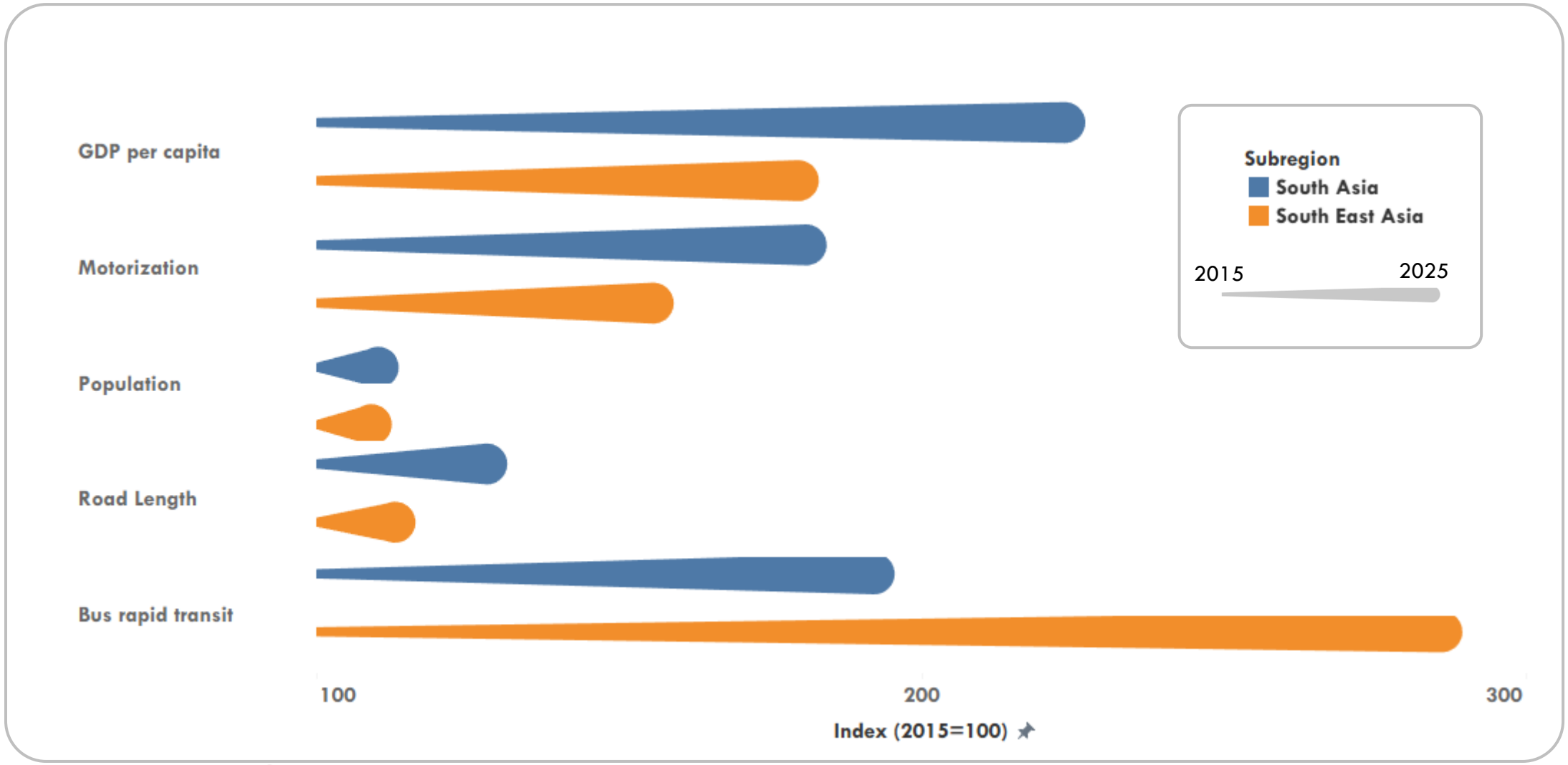
ATO National Transport Policy Documents Database
Explore close to 1100 transport policy documents in Asia and the Pacific

ATO Urban Database
Explore more than 260 urban level transport indicators across nine categories

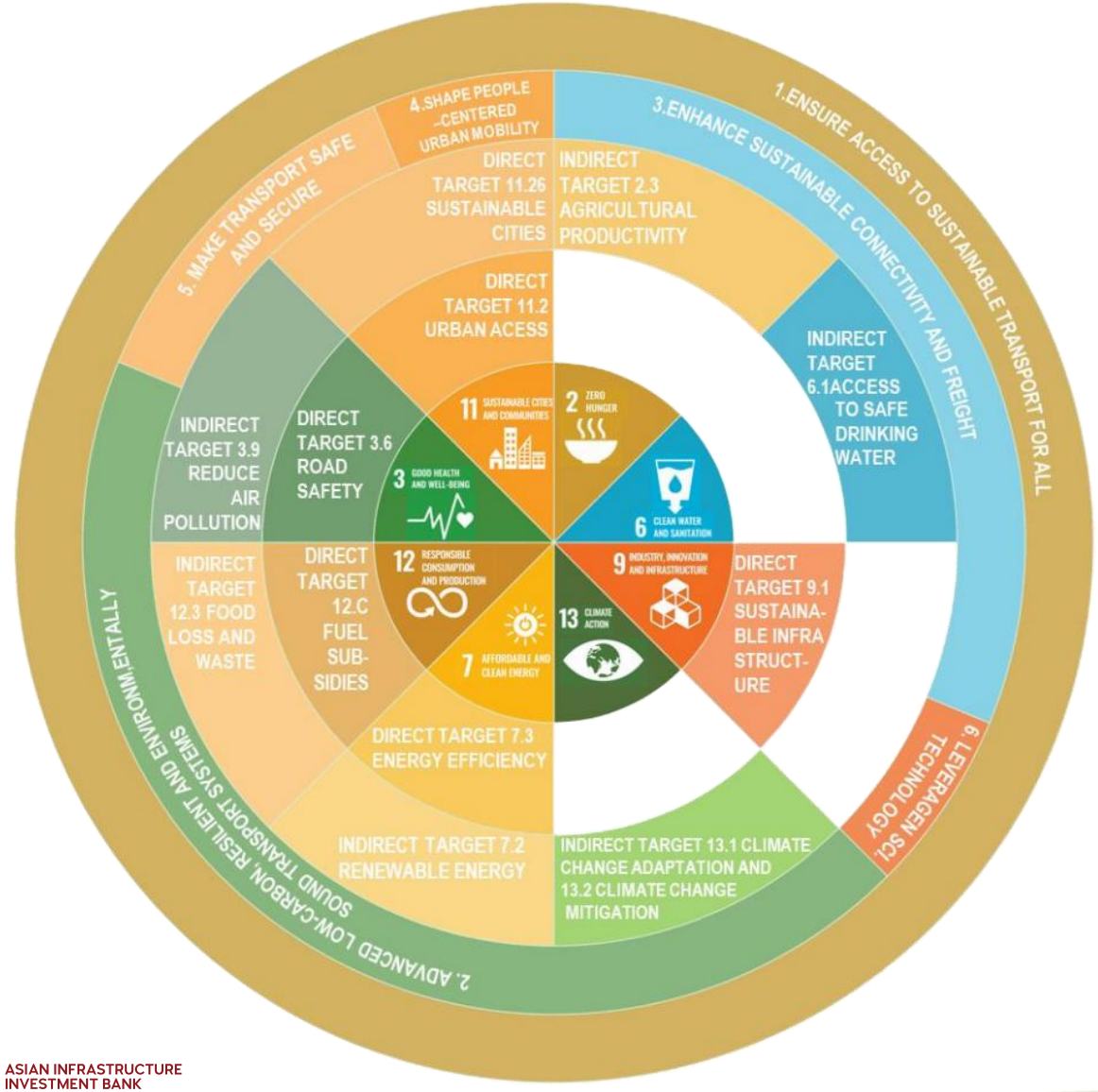
ATO Cost Database
Explore more than 1,300 transport-related projects and benchmark their costs within subregions or income groups in Asia and the Pacific

ATO Analytical Outputs
Read about analysis made using ATO transport data and policy information

Background and Drivers : In a Nutshell

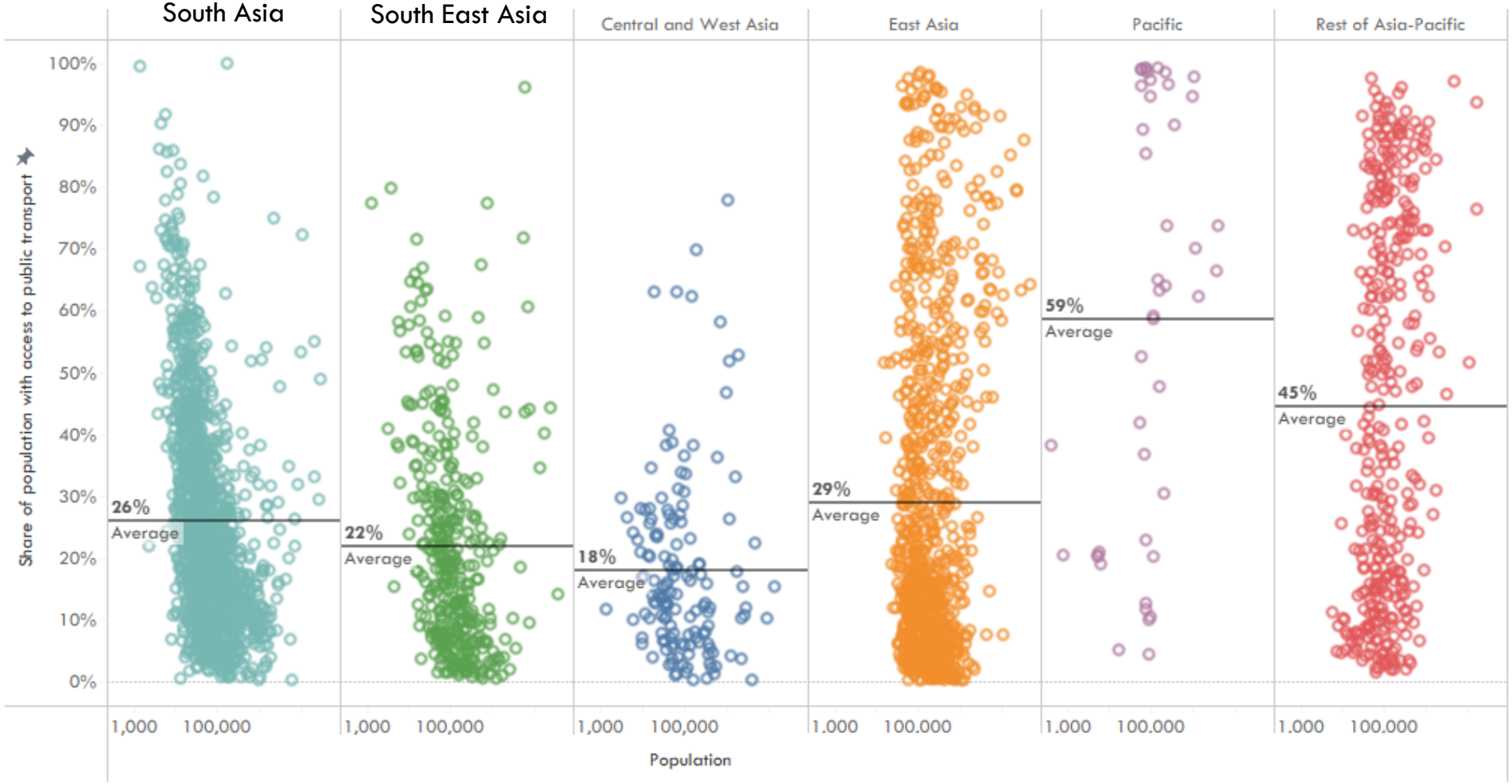


SDGs and the UN Decade of Sustainable Transport



1. Ensure access to sustainable transport for all

Access to Urban Public Transport Stations



Source: CIESIN. (2023). *SDG Indicator 11.2.1: Urban Access to Public Transport, 2023 Release: Sustainable Development Goal Indicators (SDGI).* https://sedac.ciesin.columbia.edu/data/set/sdgi-11-2-1-urban-access-public-transport-2023

Rural Access

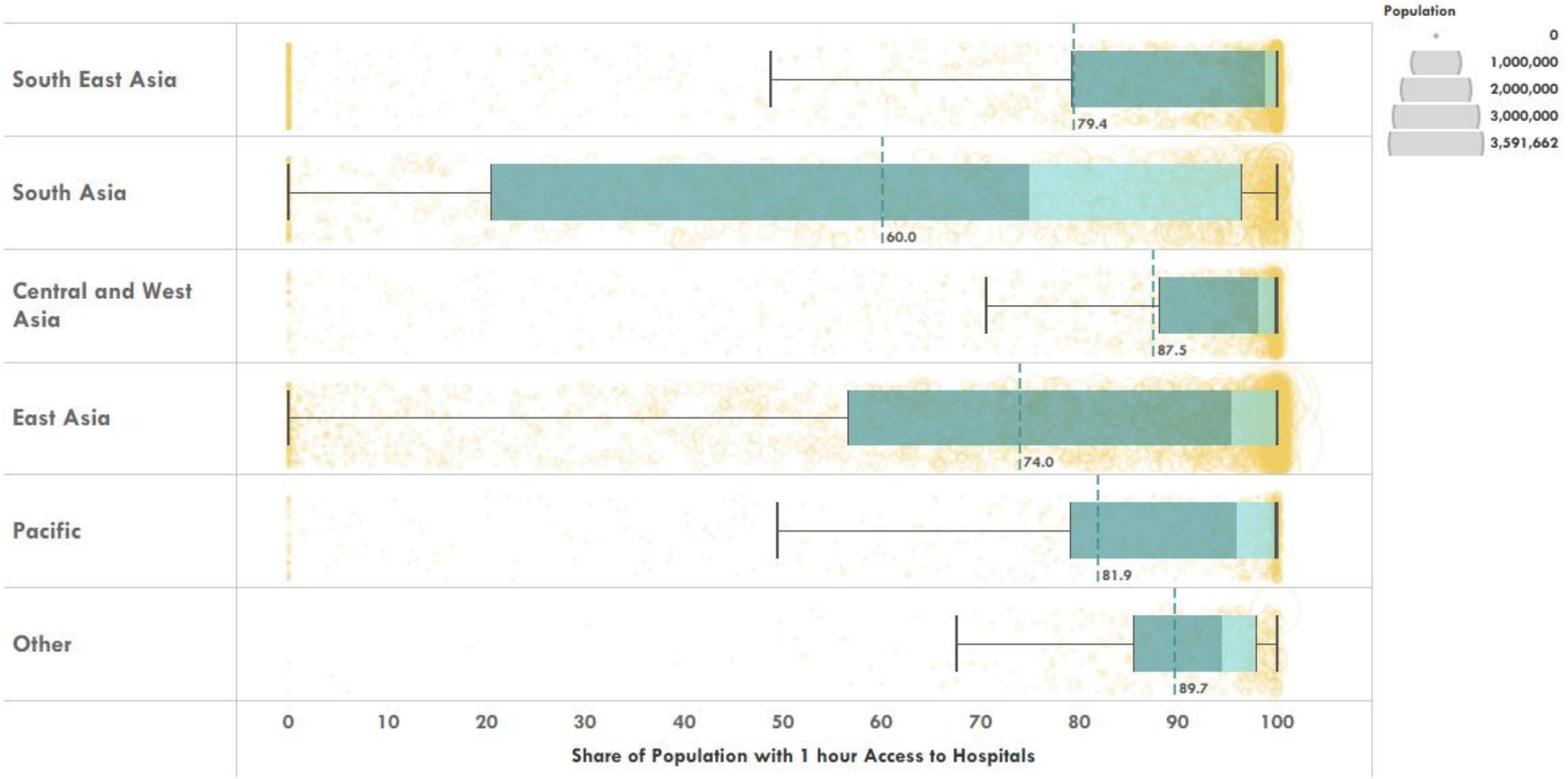


South Asia: 98% rural access, covering about 1.04 billion of 1.05 billion rural residents.

South East Asia: 93% rural access, covering about 306 million of 330 million rural residents.

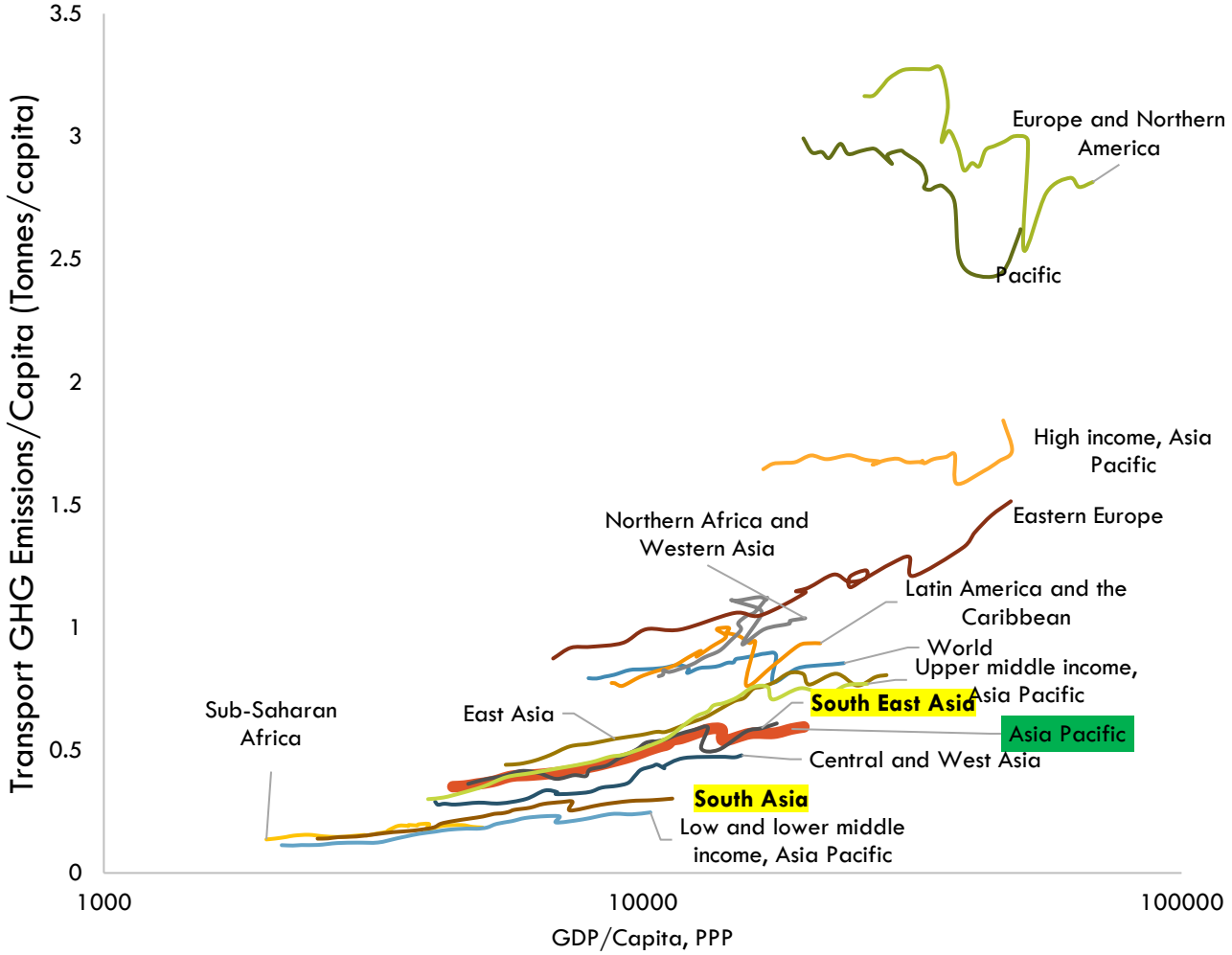
Around 18 million rural residents lack access in South Asia, compared with 24 million in South East Asia.

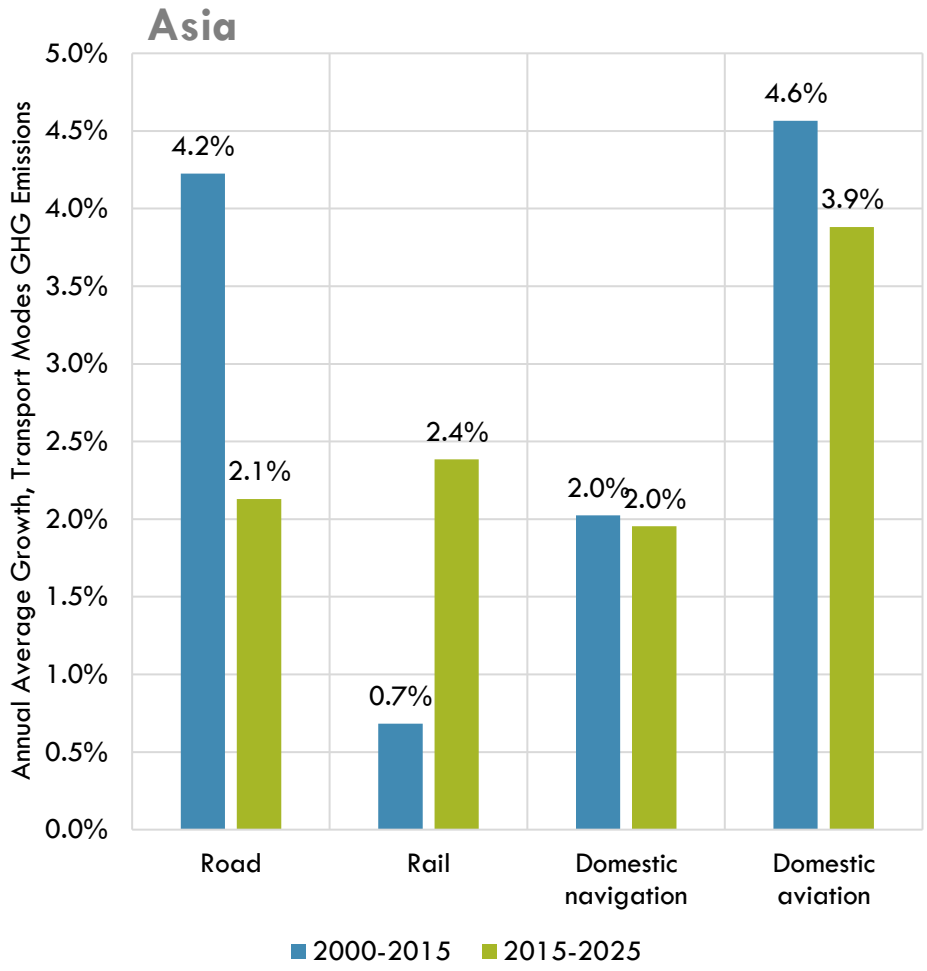
Access to Hospitals



2. Advance low-carbon, resilient and environmentally sound transport systems

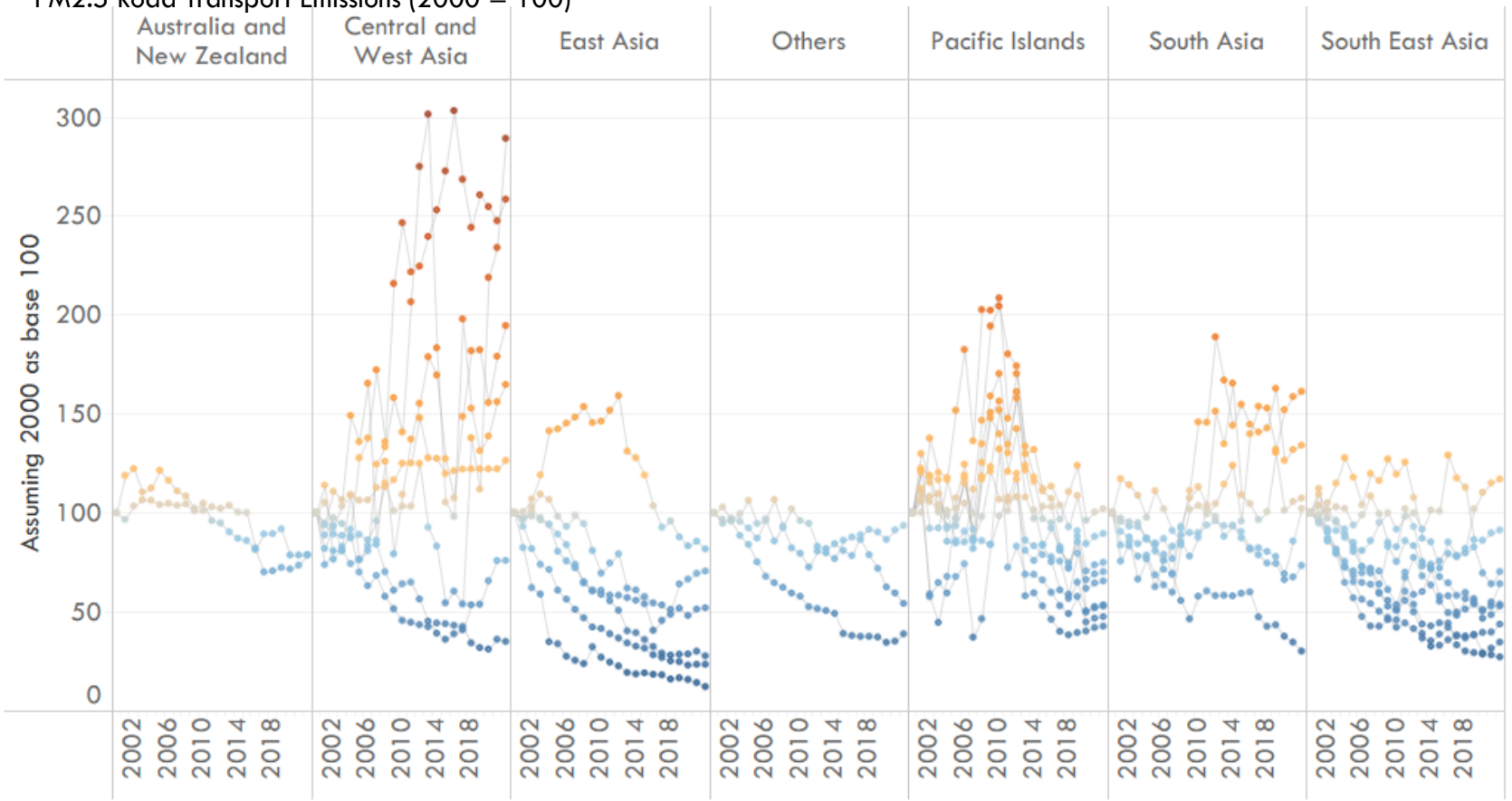
GHG Emissions – Transport





Road Transport and Air Pollution

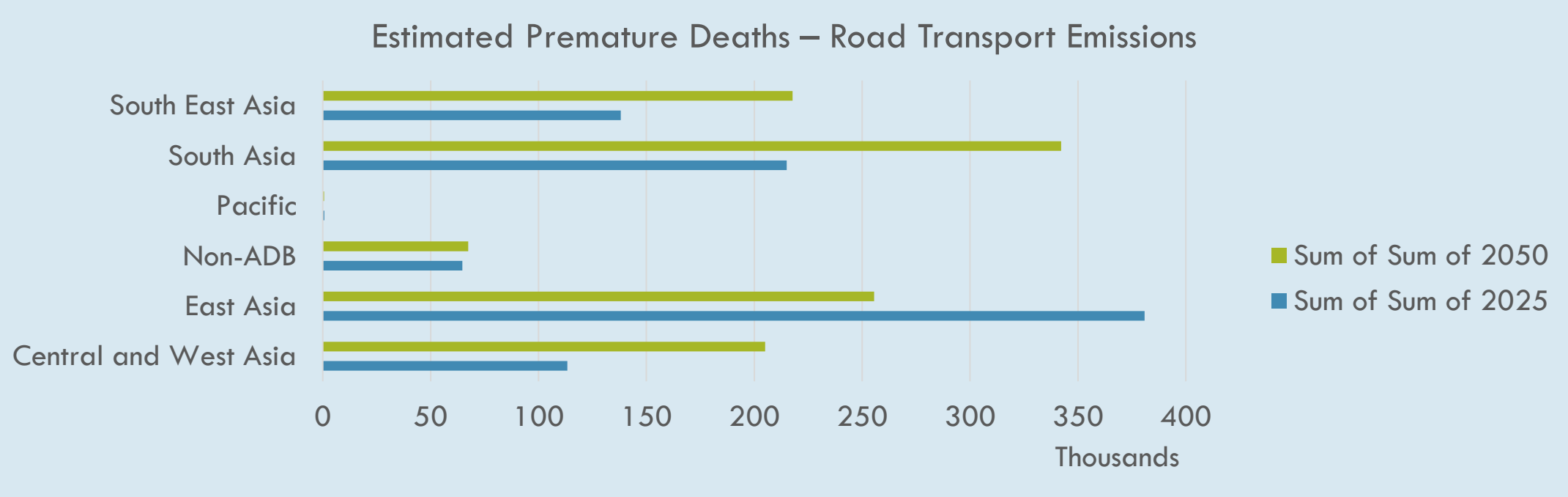
PM2.5 Road Transport Emissions (2000 = 100)



- Asia: Between 2010 and 2022, road transport emissions of nitrogen oxides (**NOx) dropped by 0.4%, sulfur oxides (SOx) by 0.6%, and Black Carbon (BC) by 2.5% annually** across Asia and the Pacific (EC, 2024)
- This occurred despite the road sector's vehicle fleet expanding by approximately **8% per year.**

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Road Transport Air Pollution - Health Impacts



- Air pollution remains a leading environmental risk factor for mortality worldwide, contributing to an estimated 7.9 million deaths in 2023
- ICCT (2026) estimates that >90 k premature deaths due to road vehicle air pollutant emissions (Asia), and increasing by 20% by 2050.
- 50% of the estimated deaths are from South and Southeast Asia

Source: ICCT (2026) ; PM2.5, O3, NO2

Climate Resilience - Exposed Roads to Floods

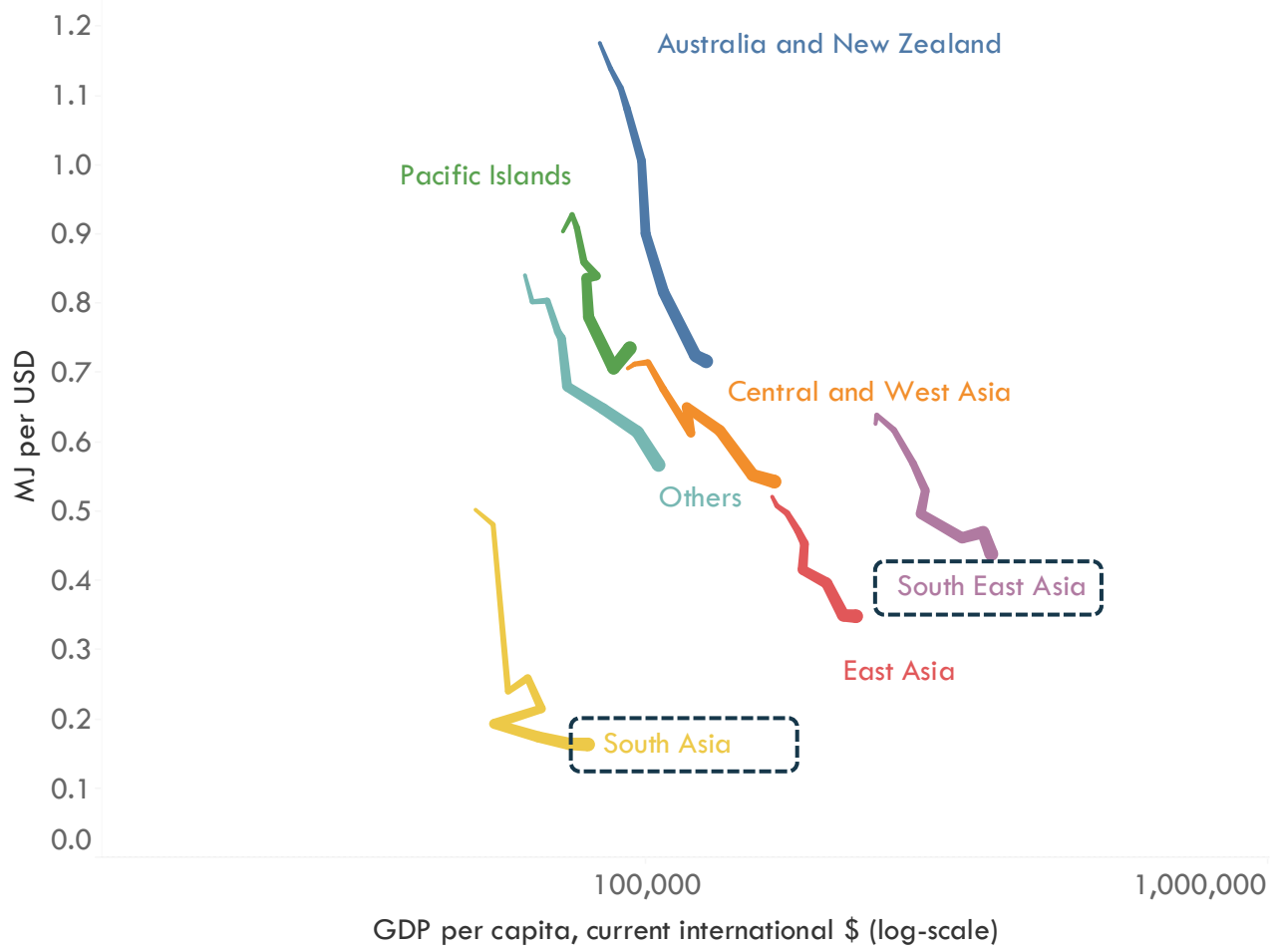
*Strategic road network



3. Enhance efficiency and promote sustainable connectivity and logistics

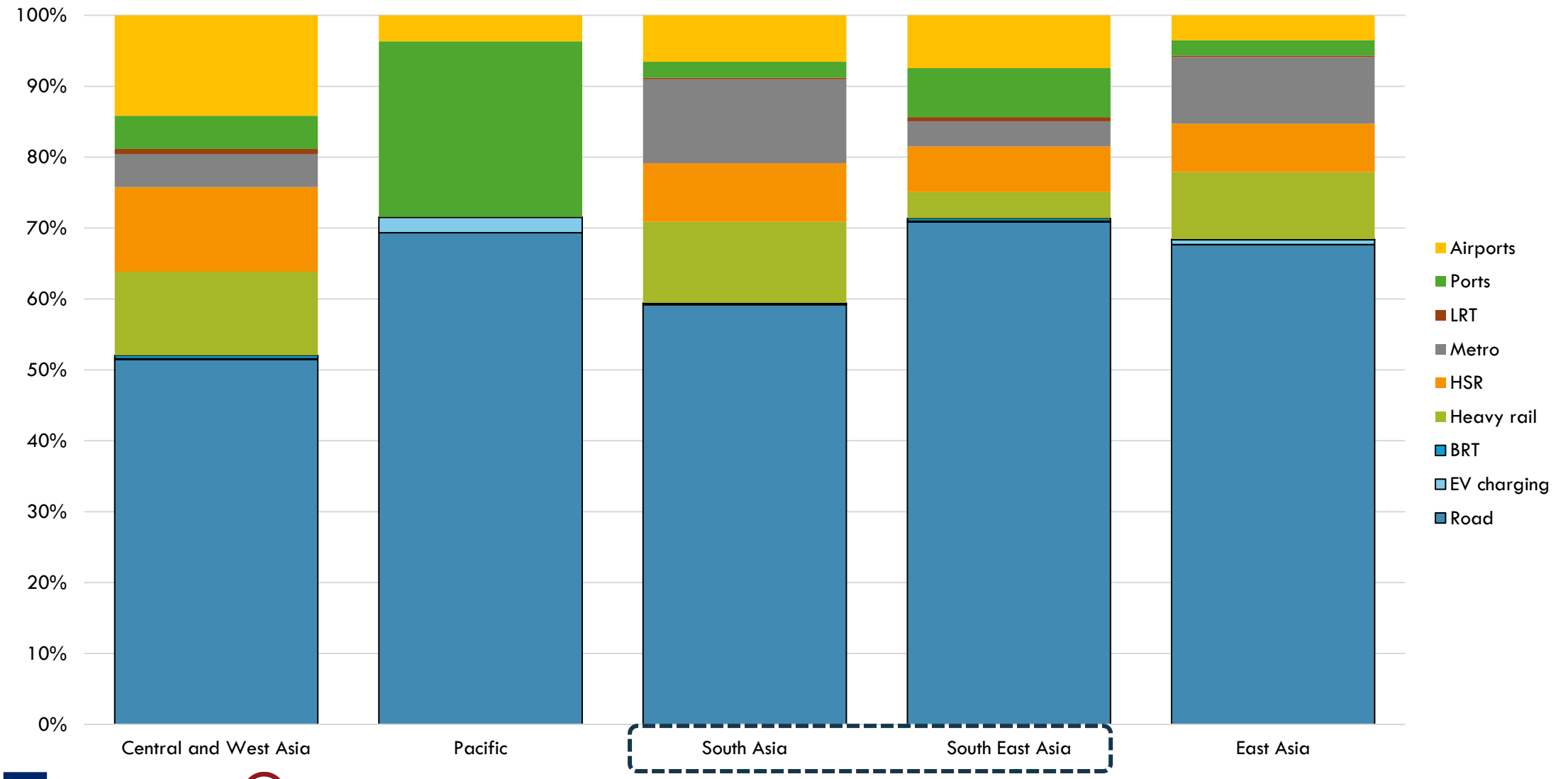
Energy Intensity

Transport energy intensity with GDP (2015-2023)



- South Asia: transport energy intensity fell from 0.50 to 0.16 MJ/USD between 2015 and 2023 (-67%).
- South East Asia: intensity declined from 0.63 to 0.44 MJ/USD over the same period (-30%).
- This trend is mirrored in Asia, where transport energy intensity has improved considerably. Further, Asian economies consistently demonstrate lower transport energy intensity than other region

Infrastructure Needs



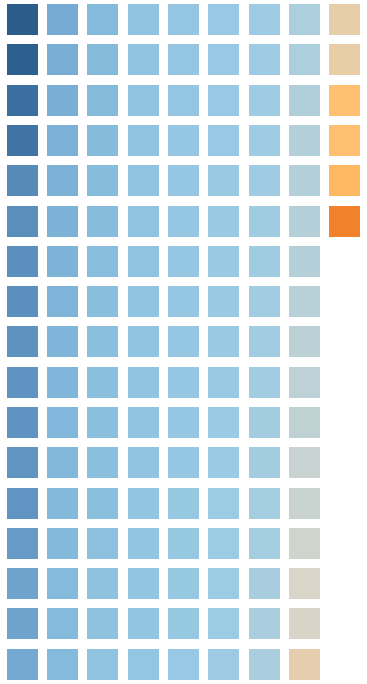
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4. Shape people-centered urban mobility and liveable cities

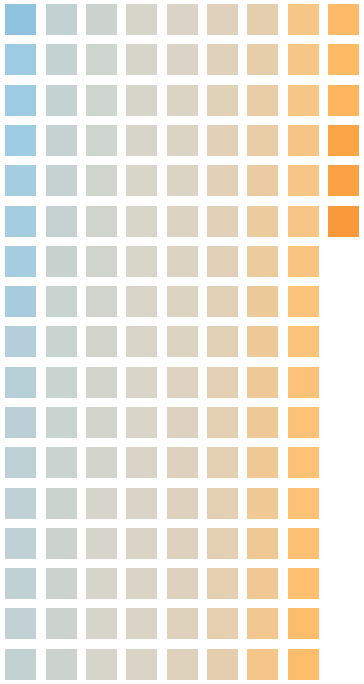
Shifting Modes

Modal shift in South and Southeast Asian Cities (2018-2023)

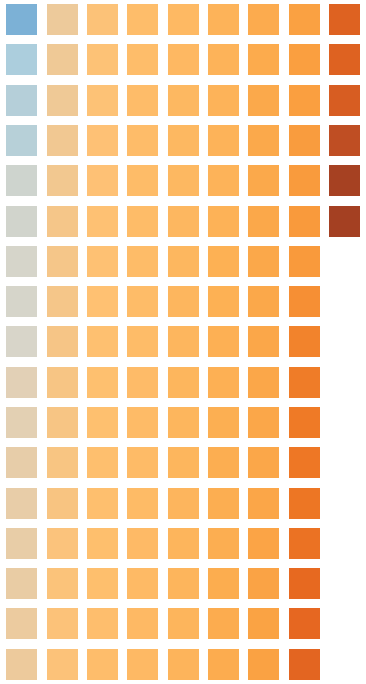
Private transport

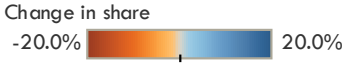


Public transport



Active transport



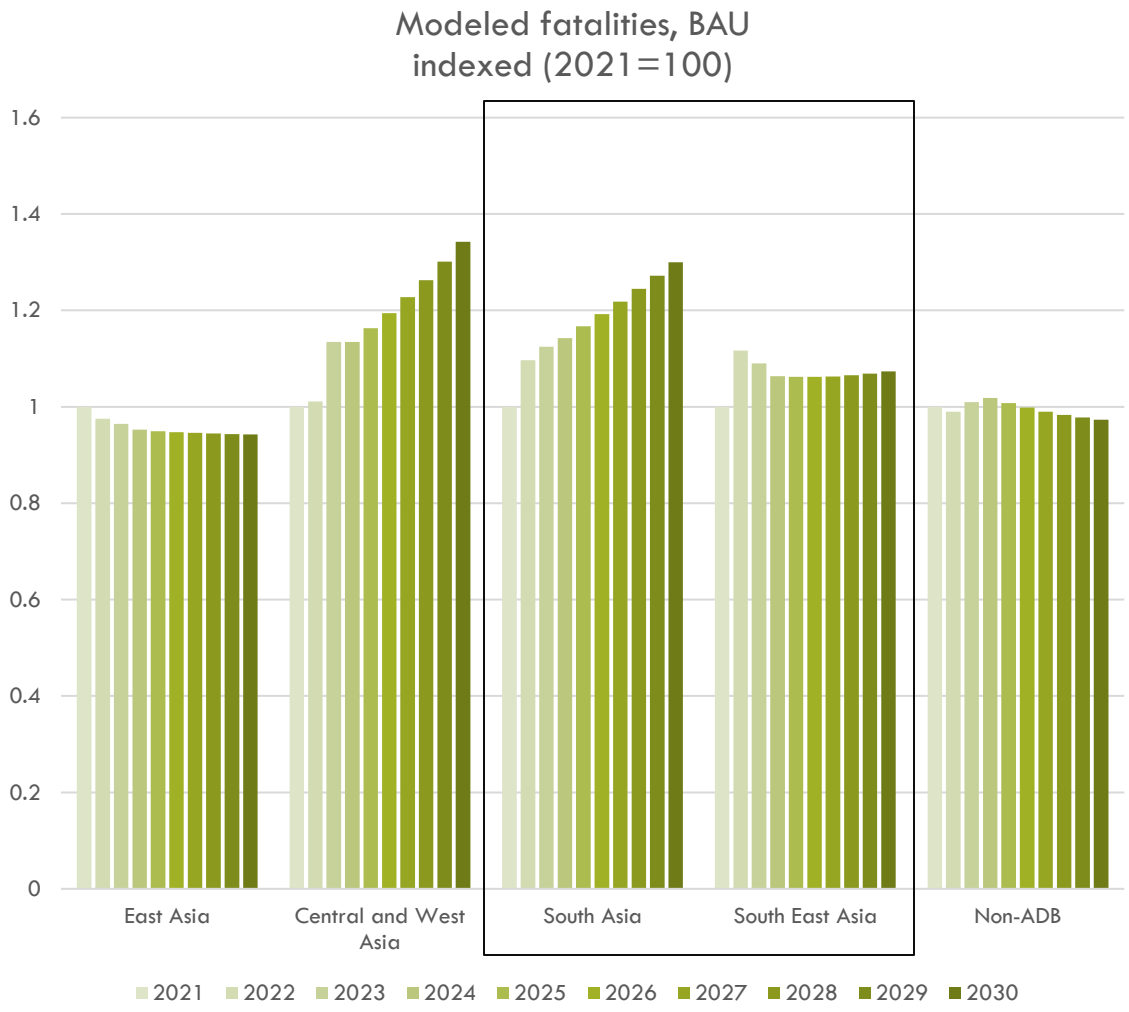


Source: ATO analysis and visualization based on Google. (2025, April 18). *Google Environmental Insights Explorer*. https://insights.sustainability.google/places/ChIJbT-gmYNLIlzMR0HiSrNojZV8?hl=en_us

Across 142 cities in South and Southeast Asia, private transport gained ground in 94% of cities, while active transport lost share in 94%. Public transport also lost share in 56% of cities.

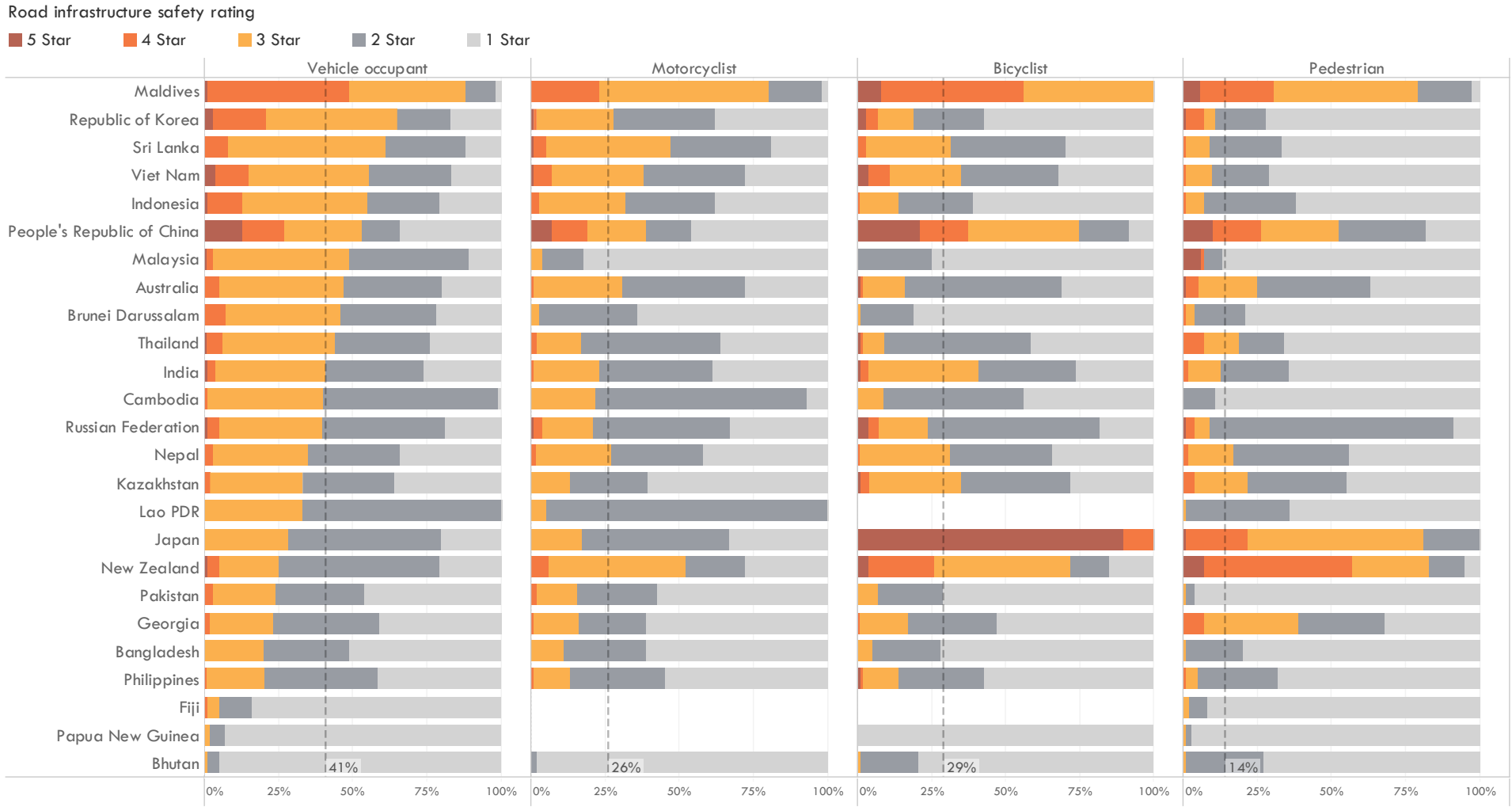
5. Make Transport Safe and Secure

Road Safety



- South East and South Asia are estimated to account around 60% of the road fatalities in Asia and the Pacific.
- South Asia: BAU fatalities rise steadily to 130% of 2021 levels by 2030.
- South East Asia: after a 12% increase in 2022, fatalities stabilize at around 106–107% of 2021 levels through 2030.

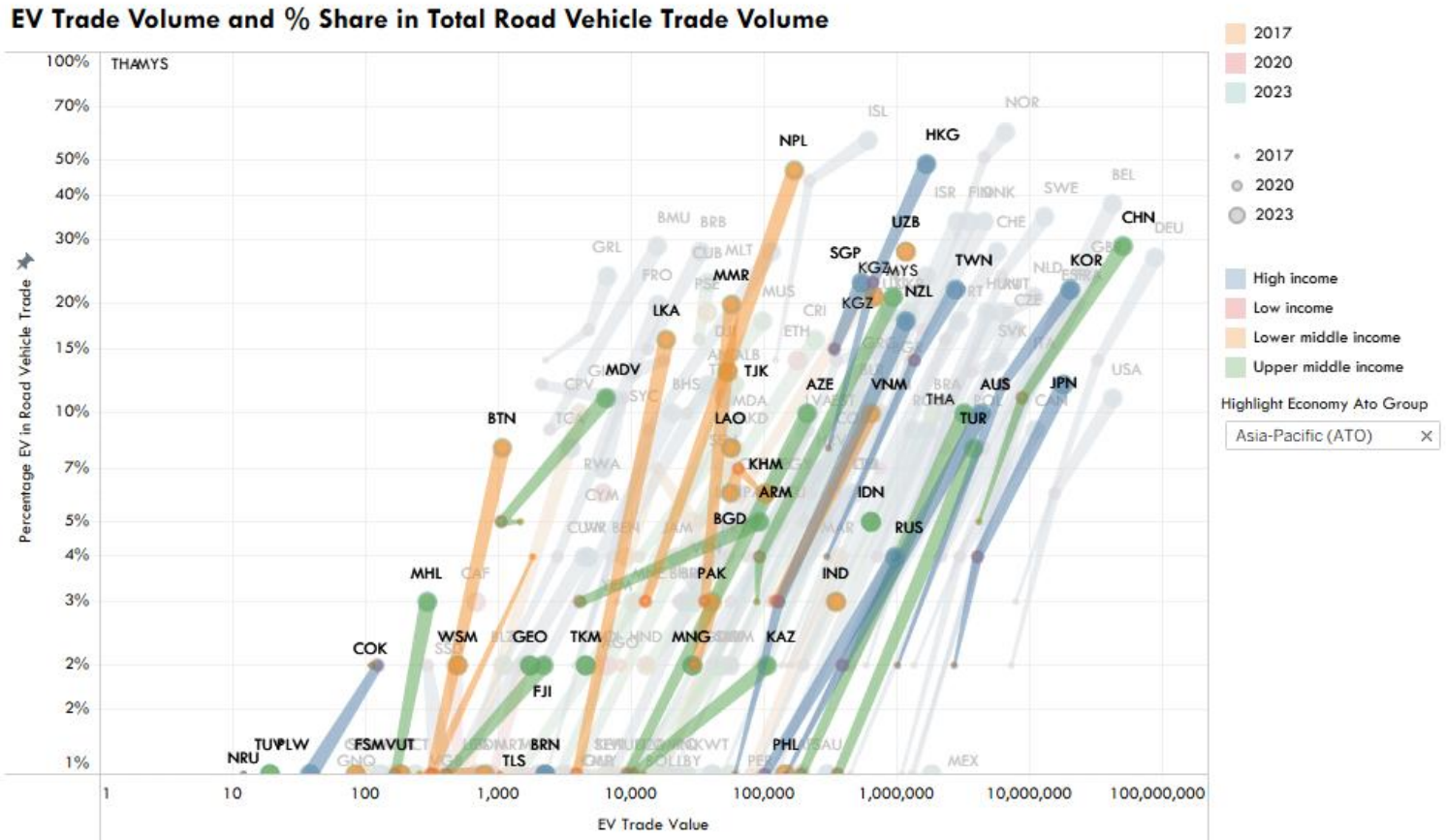
Road Infrastructure Rating

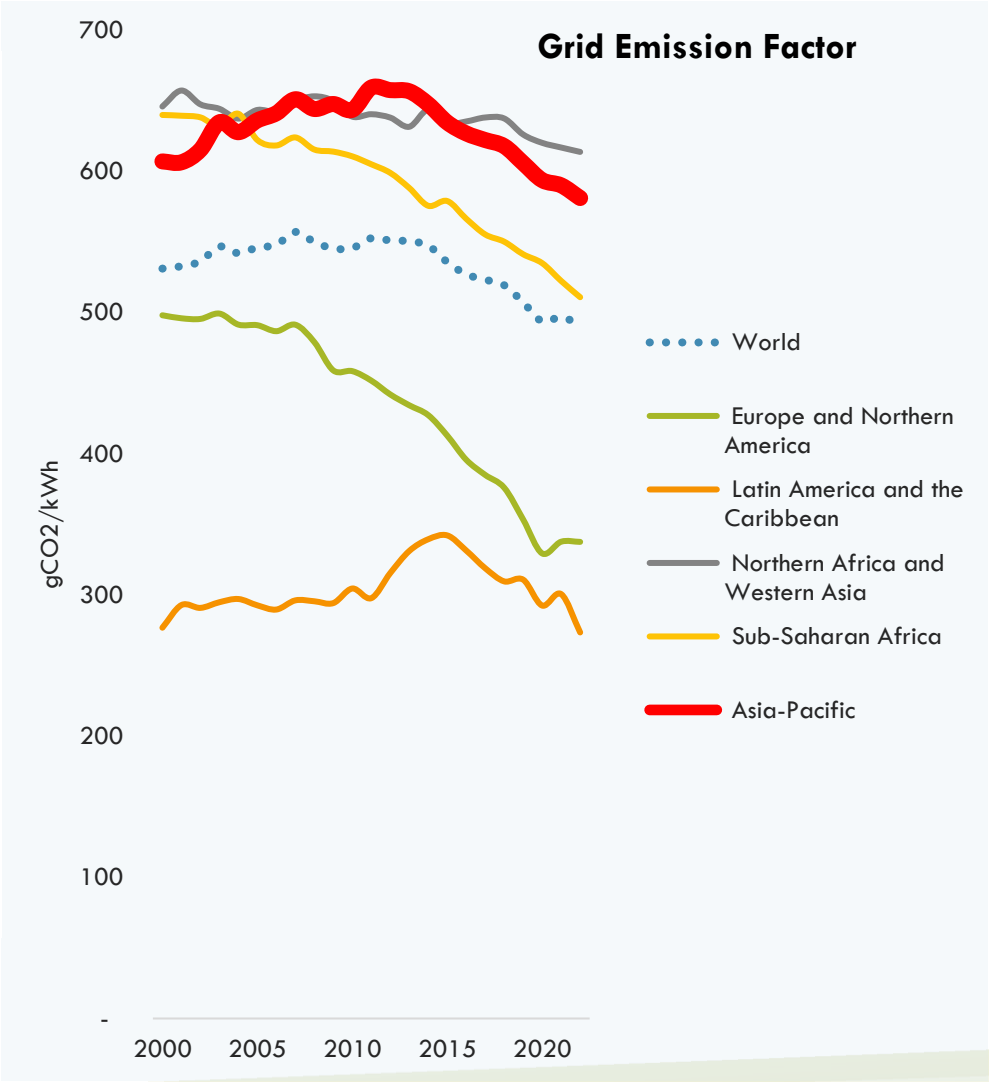


Source: iRAP. (2026). *Safety Insights Explorer—iRAP* . https://irap.org/safety-insights-explorer/

6. Leveraging on Science, Technology and Innovation

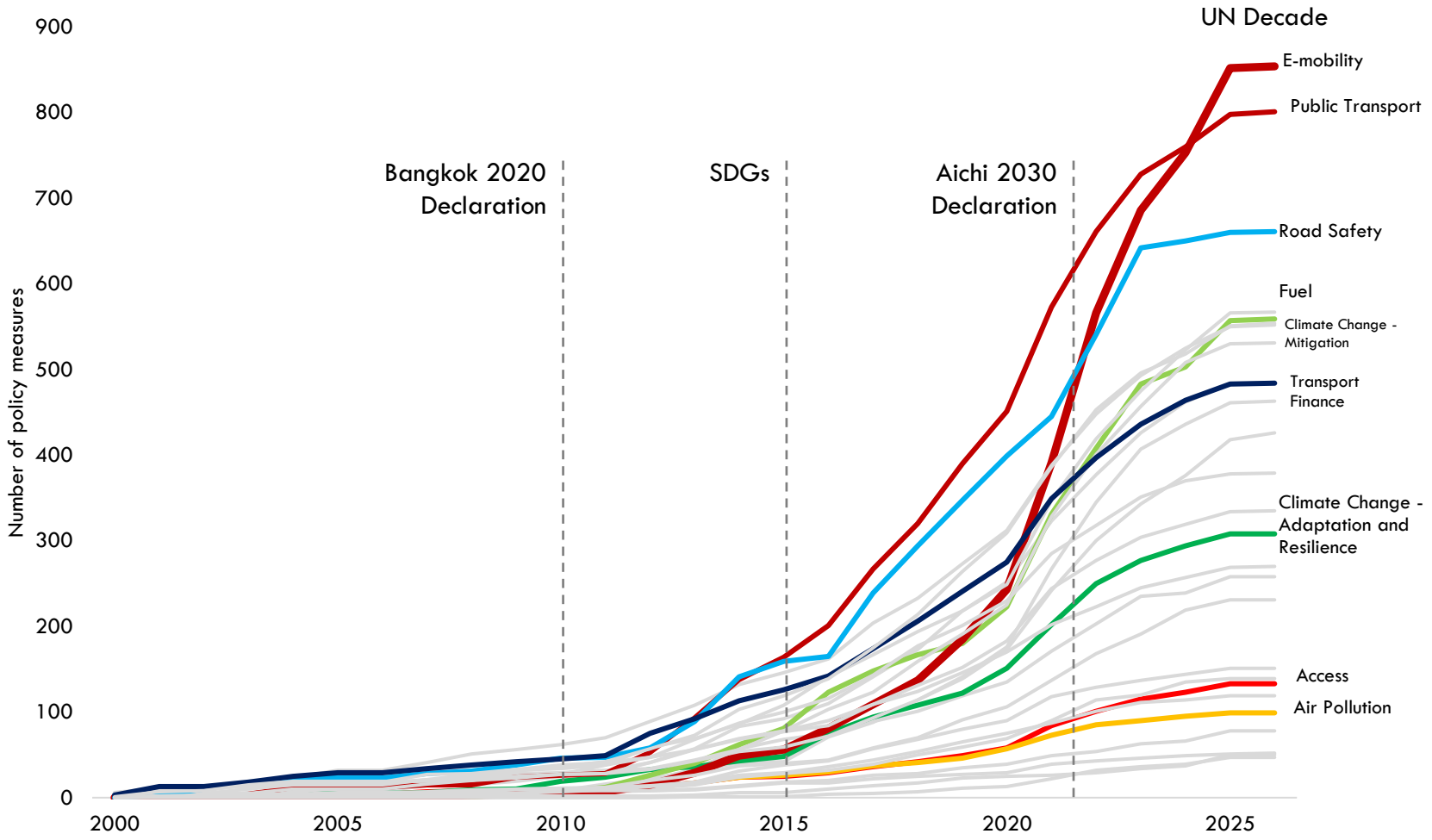
Electrification of Road Transport



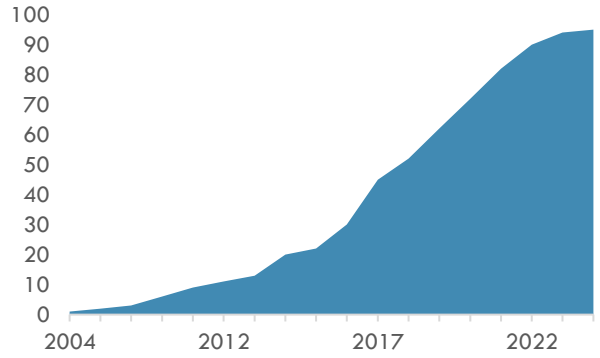


Policy Landscape Evolution

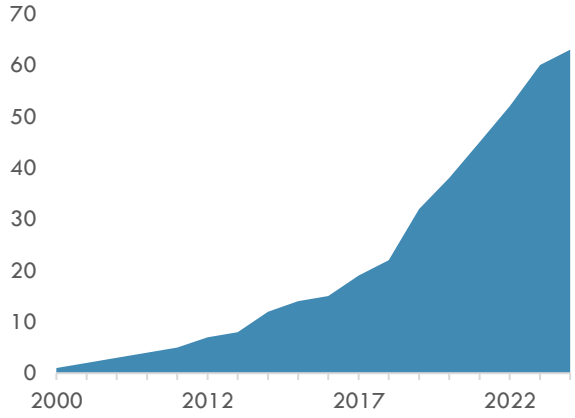
Transport policy measures from EST participating countries, cumulative



Cumulative Measures "Tech and Knowledge Transfer"

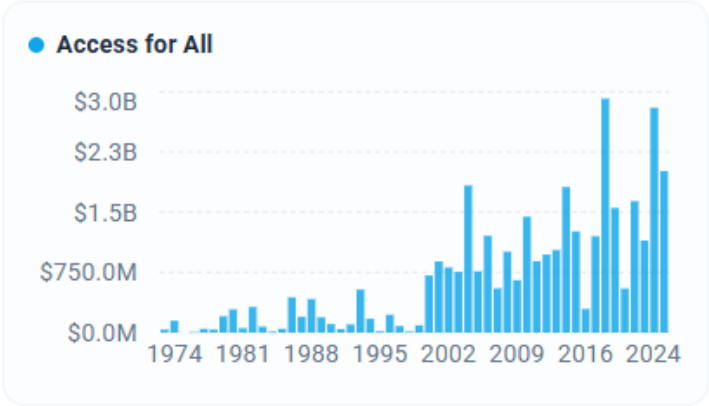


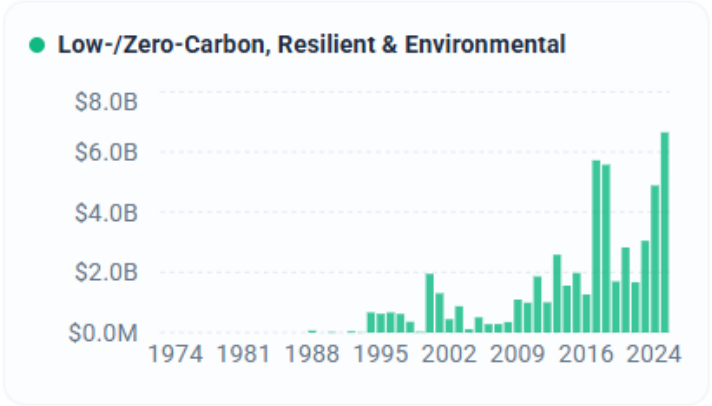
Cumulative Measures "Digitalization"

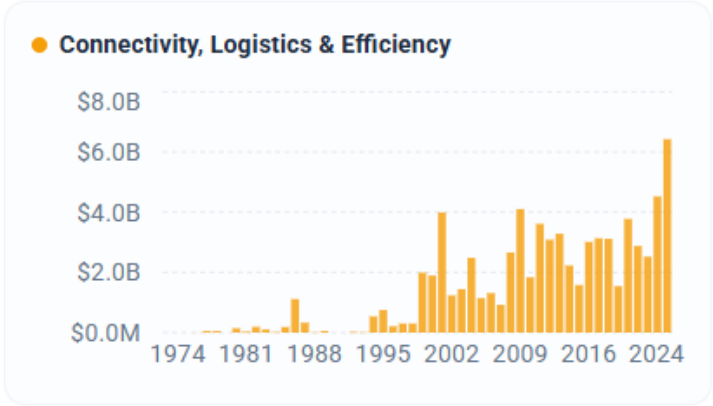


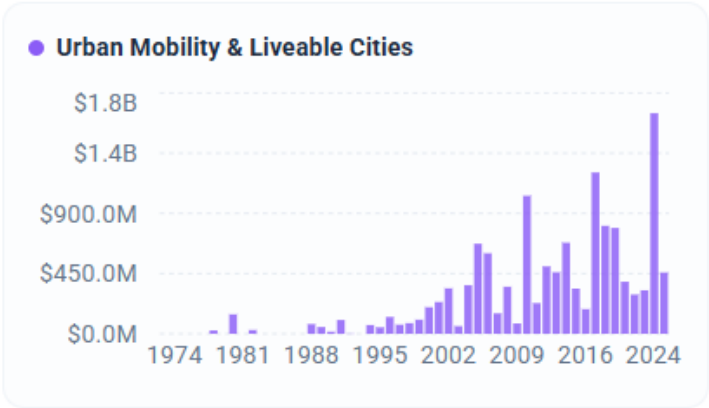
Development Financing

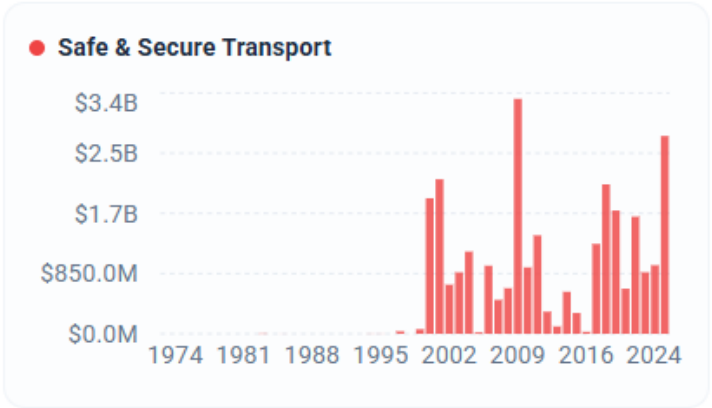
Roads

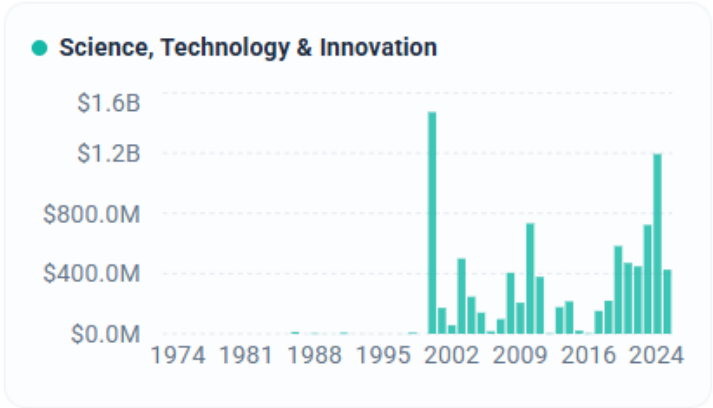












Source: ATO Transport Development Finance Explorer based on OECD CRS Data

- **Access is extensive, but still unequal:** Rural road access reaches 98% in South Asia and 93% in Southeast Asia, yet around **42 million rural residents remain unserved**, and urban public transport access remains limited.
- **Efficiency and cleaner vehicles are delivering gains, but emissions continue to rise:** Transport energy intensity has declined in both subregions, while Asia's road transport GHG emissions still grew **2.1% annually during 2015–2025**.
- **Urban mobility shows signs of "reverse shifting":** Across 142 cities, private transport gained share in **94%**, active transport declined in **94%**, and public transport lost ground in **56%**.
- **Electrification is advancing, but needs cleaner power and complementary measures:** Growing EV trade signals momentum, while carbon-intensive electricity grids constrain climate benefits; public transport, walking, and cycling remain essential.
- **Safety and resilience require stronger action:** Under business as usual, South Asian road fatalities could reach **30% above 2021 levels by 2030**, while flood exposure underscores the need for more resilient road networks.
- **Policy commitments and development financing have expanded; delivery must now catch up:** Growing attention to e-mobility, public transport, and resilience needs to translate into measurable improvements in access, emissions, safety, and reliability.

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"ATO translates data into insights, policies, and investments"

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