MODULE 4

CLIMATE AND SUSTAINABILITY RESPONSES IN TRANSPORT SUB-SECTORS AND MODES

SLOCAT Partnership on Sustainable, Low Carbon Transport

TRANSPORT, CLIMATE AND SUSTAINABILITY GLOBAL STATUS REPORT

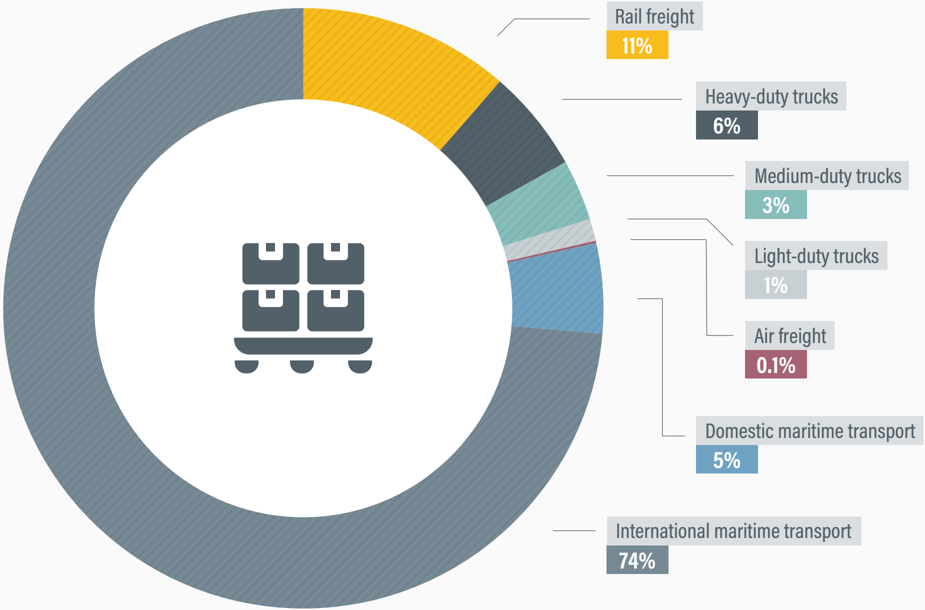
4TH EDITION

MODULE 4.1

FREIGHT TRANSPORT AND LOGISTICS

FIGURE 1. Global freight transport by modal share, based on transport performance, 2025 estimates

Freight transport modes by freight activity in tonnes-kilometers

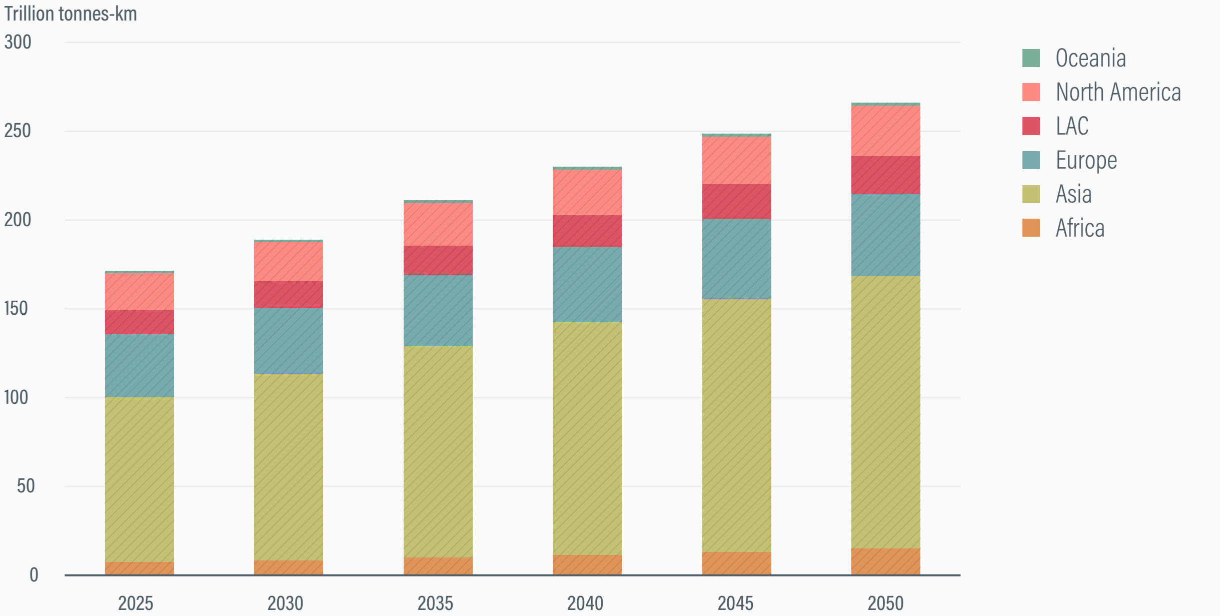


Most of the world's freight is carried by water – in 2025, international maritime shipping accounted for 74% of all freight tonne-kilometres, and domestic maritime shipping for 5% – followed by rail (11%), road transport (10%) and aviation (0.1%).

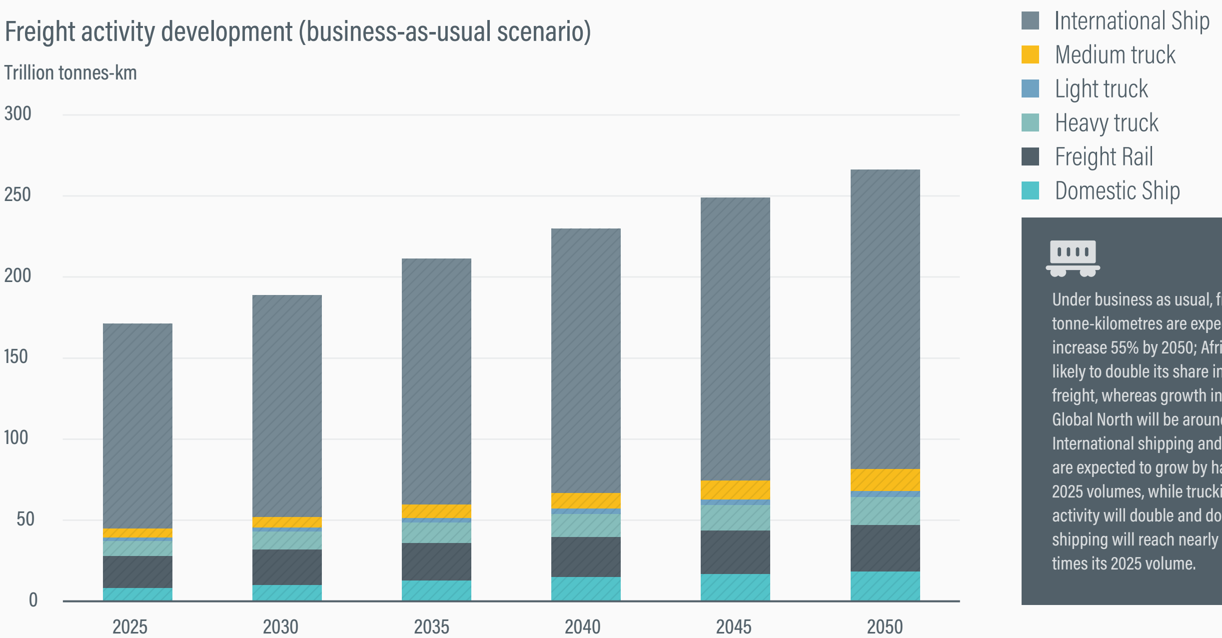
Note: Total = 171 trillion tonne-kilometres.

FIGURE 2. Freight transport growth, by region and mode, under a business-as-usual scenario, 2025-2055

Freight activity development (business-as-usual scenario)

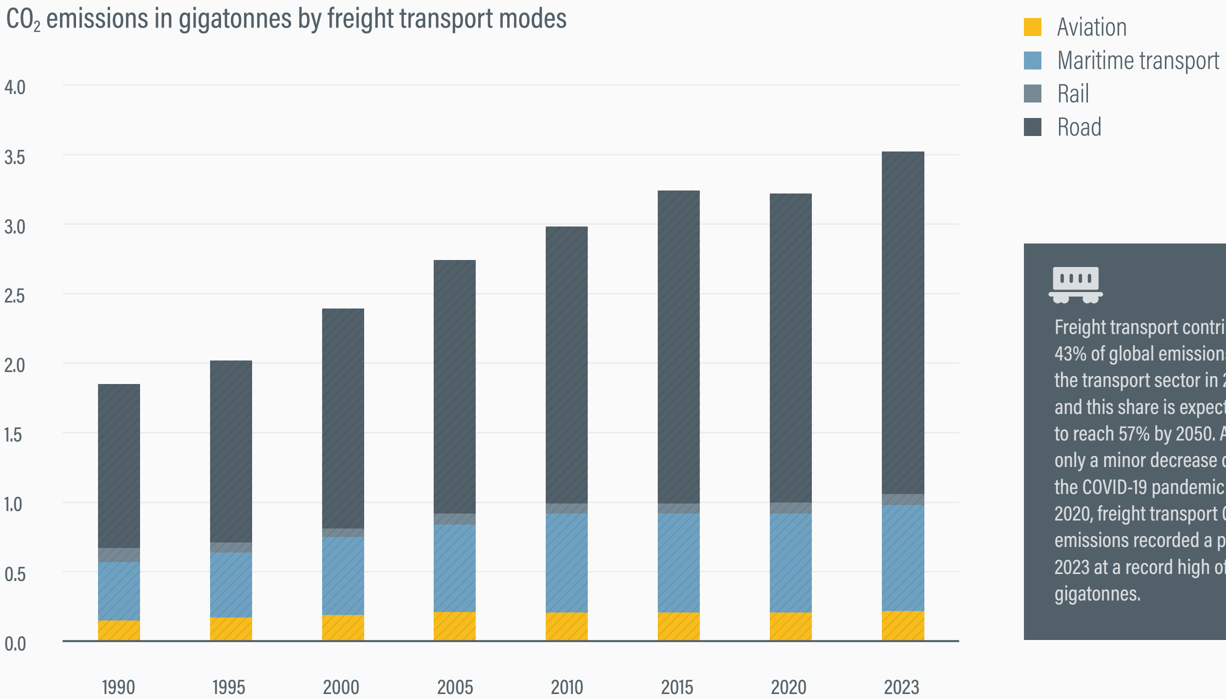


Freight activity development (business-as-usual scenario)



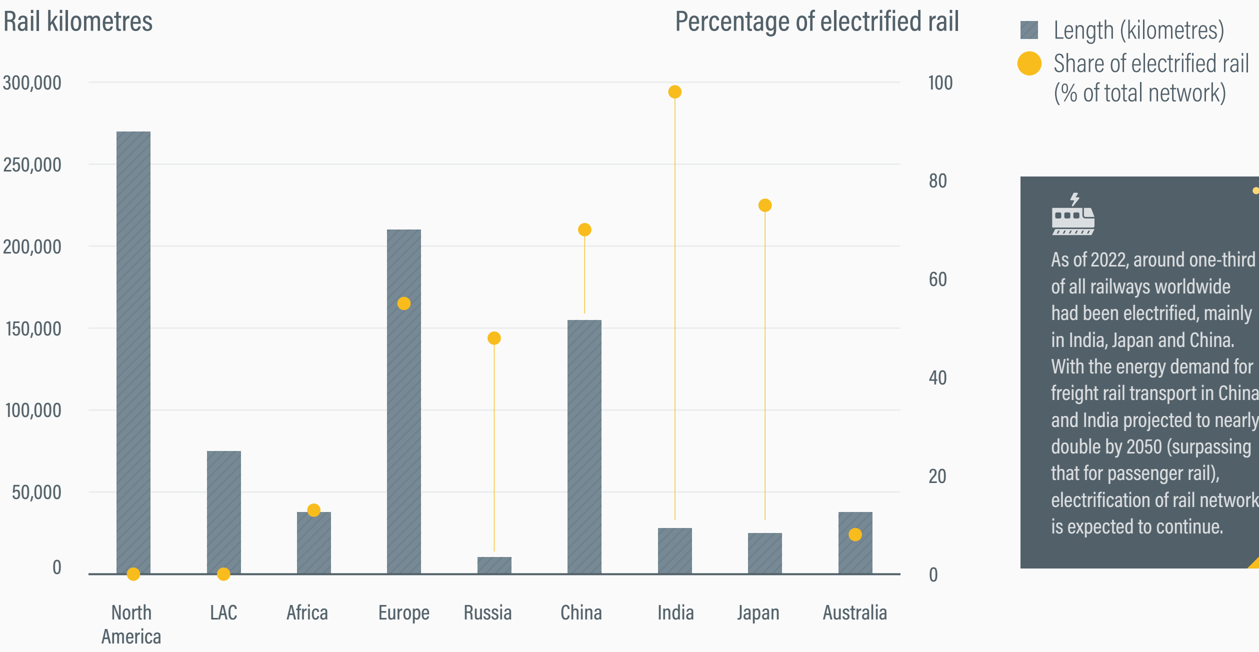
Under business as usual, freight tonne-kilometres are expected to increase 55% by 2050; Africa is likely to double its share in global freight, whereas growth in the Global North will be around 33%. International shipping and rail are expected to grow by half their 2025 volumes, while trucking activity will double and domestic shipping will reach nearly 2.5 times its 2025 volume.

FIGURE 3. Global CO_2 emissions by mode of transport, 1990-2023



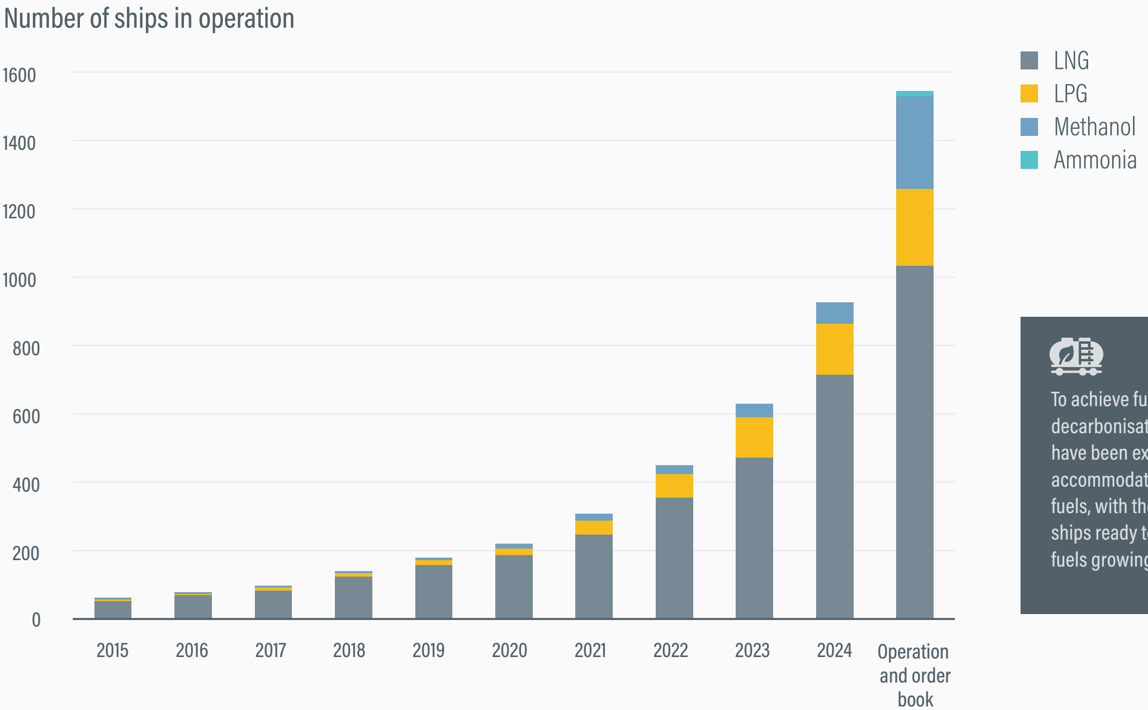
Freight transport contributed 43% of global emissions from the transport sector in 2023, and this share is expected to reach 57% by 2050. After only a minor decrease during the COVID-19 pandemic in 2020, freight transport CO_2 emissions recorded a peak in 2023 at a record high of 3.5 gigatonnes.

FIGURE 4. Rail length and share of electrification in selected countries, 2022



As of 2022, around one-third of all railways worldwide had been electrified, mainly in India, Japan and China. With the energy demand for freight rail transport in China and India projected to nearly double by 2050 (surpassing that for passenger rail), electrification of rail networks is expected to continue.

FIGURE 5. Number of ships capable of using alternative fuels (excluding liquefied natural gas carriers), 2015-2024



To achieve further decarbonisation, fleets have been expanded to accommodate alternative fuels, with the number of ships ready to use these fuels growing steadily.

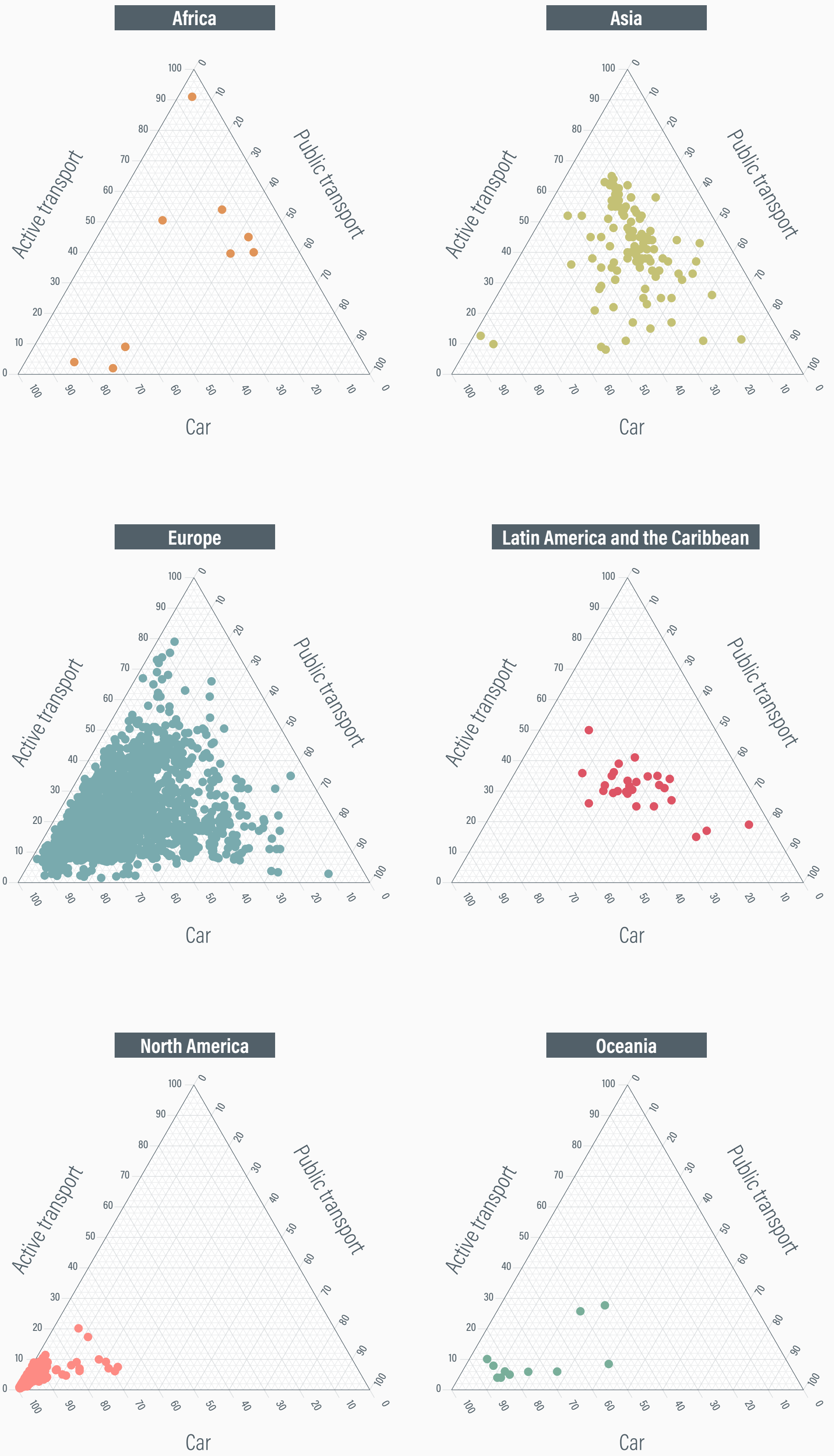
FIGURE 6. ZEVWISE green corridors as of 2024

For road transport, the strategic collaboration ZEVWISE aims to run at least 10 green corridors for long-haul transport by the end of 2026 – including connections between Asia and Europe, within the United States, and in Africa.

MODULE 4.2

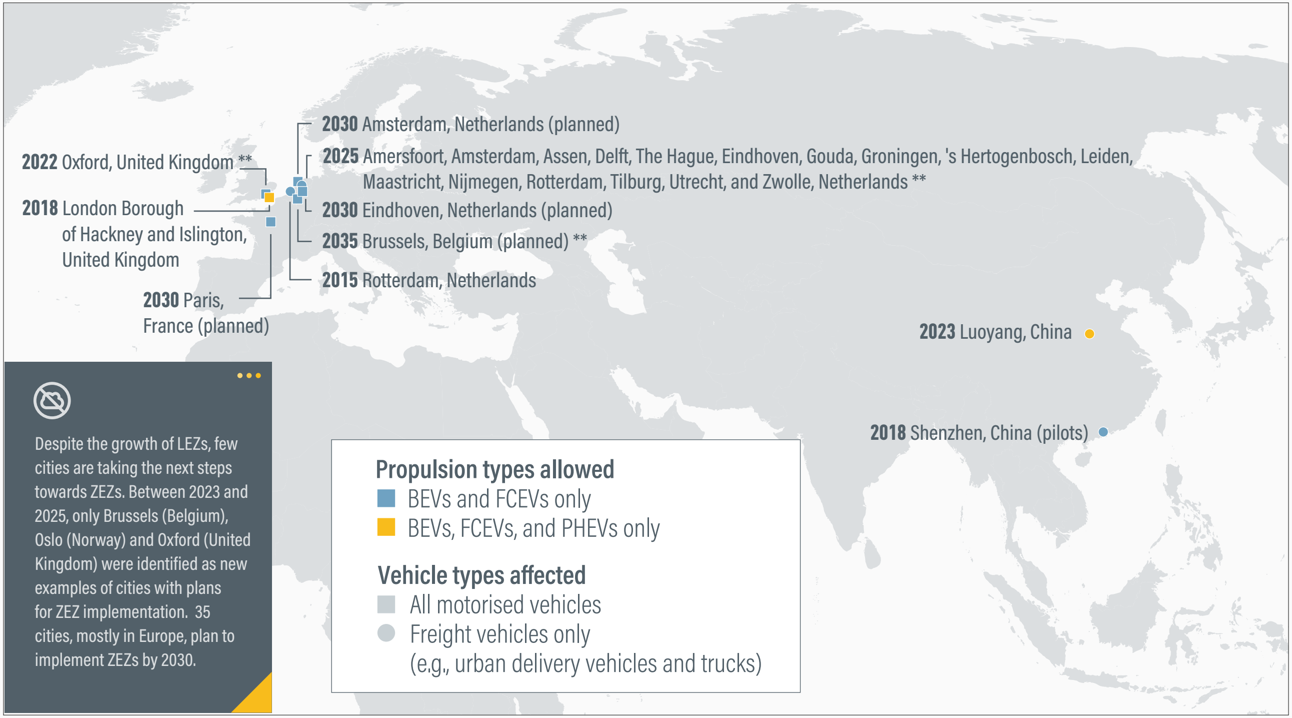
INTEGRATED TRANSPORT PLANNING

FIGURE 1. Urban transport modal shares by region, as of 2024



Transport modal shares in cities vary by world region and depend on factors such as city size (including urban density), income level and access to transport options. A 2024 analysis of nearly 800 cities across 61 countries found that, on average, 51% of journeys are by car, compared with 26% by public transport and 22% by active transport (walking and cycling), with trends varying by region.

FIGURE 2. Implemented and planned zero-emission zones and variants as of April 2025



Source: See endnote 195 for this section.

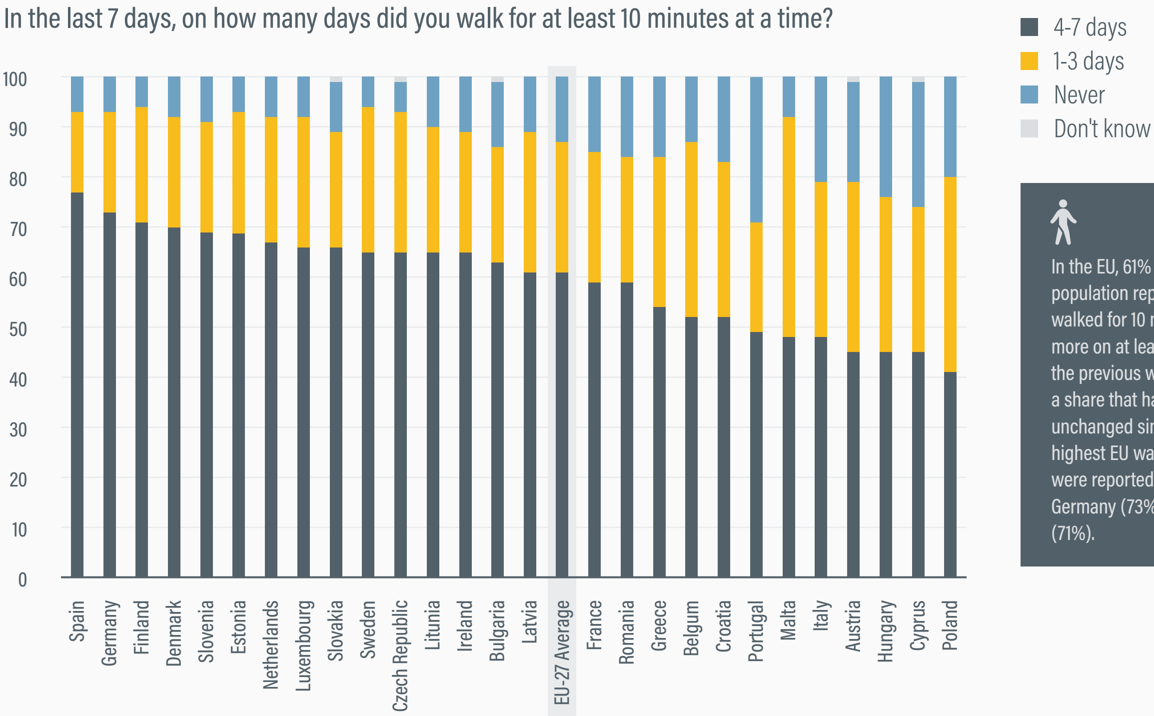
* Note: Zero-emission zones (ZEZs) allow battery electric vehicles (BEVs) and fuel cell electric vehicles (FCEVs) only; near-ZEZs also allow plug-in hybrid electric vehicles (PHEVs). Affected areas of zones range from a single street to an entire city or metropolitan area. The map includes cities that have committed in an offcial policy document or announcement to introduce a ZEZ or near-ZEZ, set a date of introduction/start date, indicated the vehicle types affected, and set binding requirements for access (such as minimum emissions standard certification). For ZEZs and near-ZEZs covering all motorized vehicles, the applicability to all vehicle types must be clearly stated in the offcial document.

** For cities in the Netherlands with an implemented ZEZ, a transitional phase for some types of freight vehicles exist until up to 2030 e.g., newer vans and trucks with high Euro emission standards. Oxford has a charge-based scheme which allows non-zero emission vehicles to enter when paying a charge. Brussels has not set a date for buses, coaches, and heavy goods vehicles.

MODULE 4.3

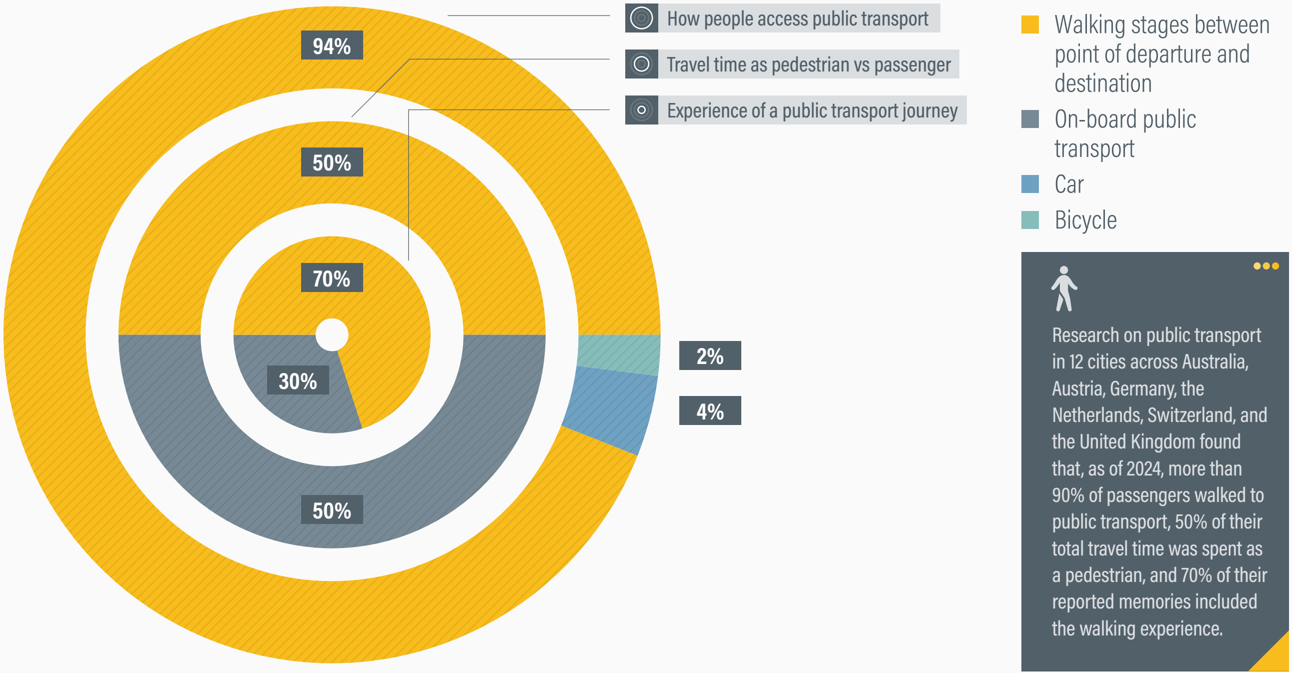
WALKING

FIGURE 1. Survey results on walking for at least 10 minutes at a time for EU countries, 2022



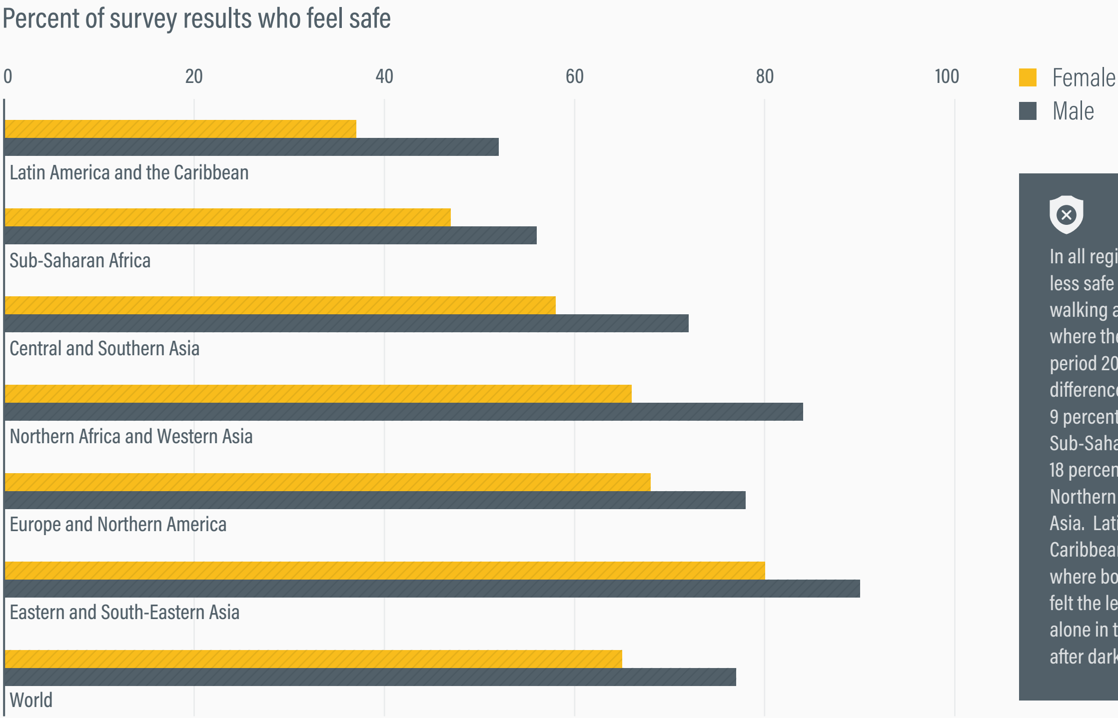
In the EU, 61% of the population reported having walked for 10 minutes or more on at least four days in the previous week in 2022, a share that has remained unchanged since 2017. The highest EU walking rates were reported in Spain (77%), Germany (73%) and Finland (71%).

FIGURE 2. Surveys related to the walking component of a public transport journey



Research on public transport in 12 cities across Australia, Austria, Germany, the Netherlands, Switzerland, and the United Kingdom found that, as of 2024, more than 90% of passengers walked to public transport, 50% of their total travel time was spent as a pedestrian, and 70% of their reported memories included the walking experience.

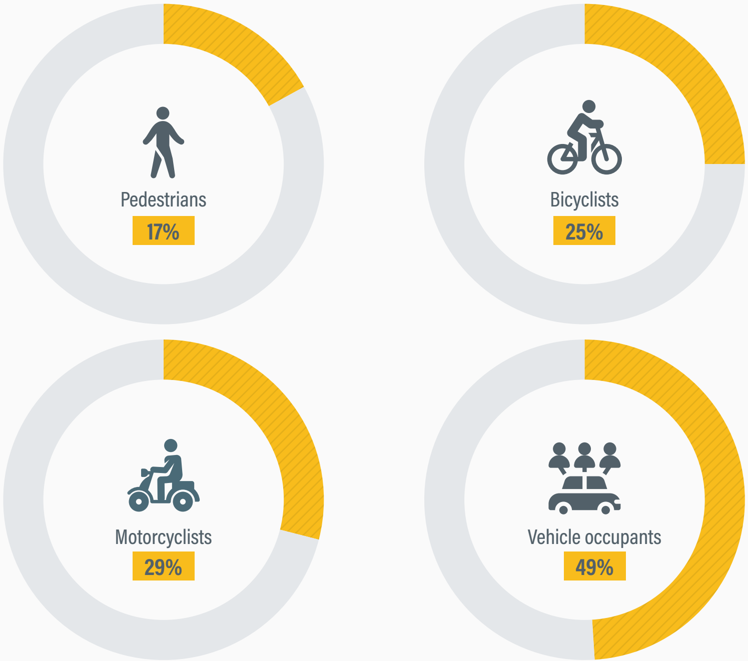
FIGURE 3. Share of people who feel safe walking alone at night where they live, by region and gender, 2020-2022



In all regions, women feel less safe than men when walking alone at night where they live. For the period 2020-2022, this difference ranged between 9 percentage points in Sub-Saharan Africa and 18 percentage points in Northern Africa and Western Asia. Latin America and the Caribbean was the region where both women and men felt the least safe walking alone in their neighbourhood after dark (37-52% safe).

FIGURE 4. Assessed quality of the world's roads for safety, as of May 2025

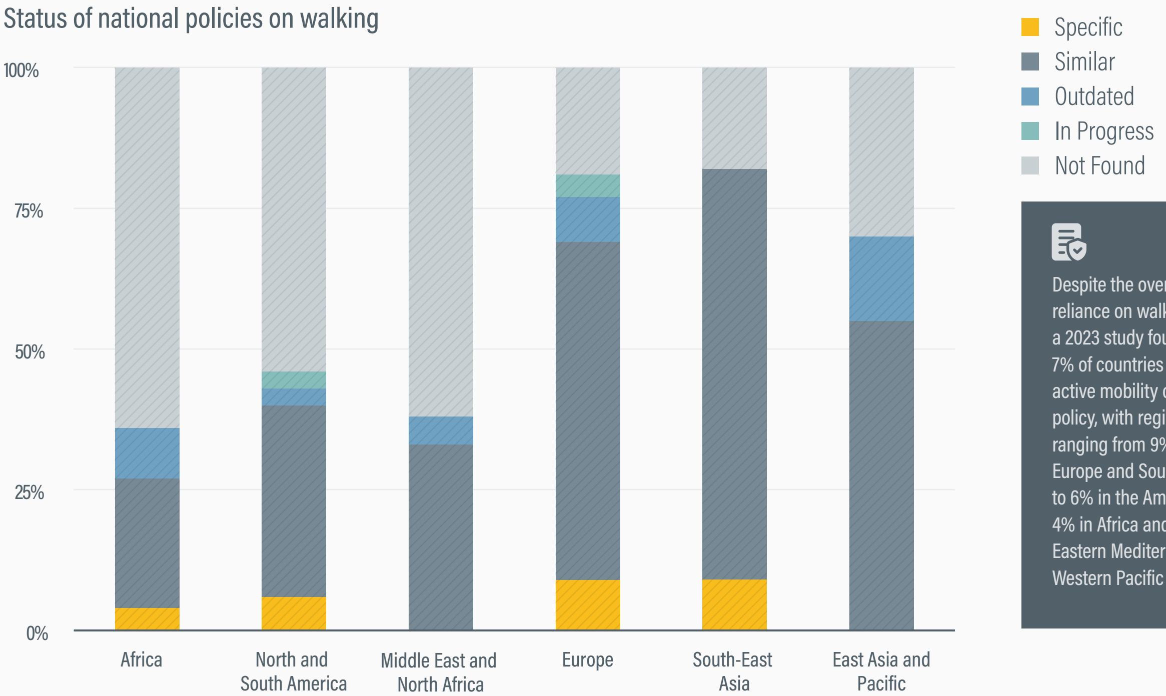
Road length rated 3-Star or better



Infrastructure safety key performance indicators:

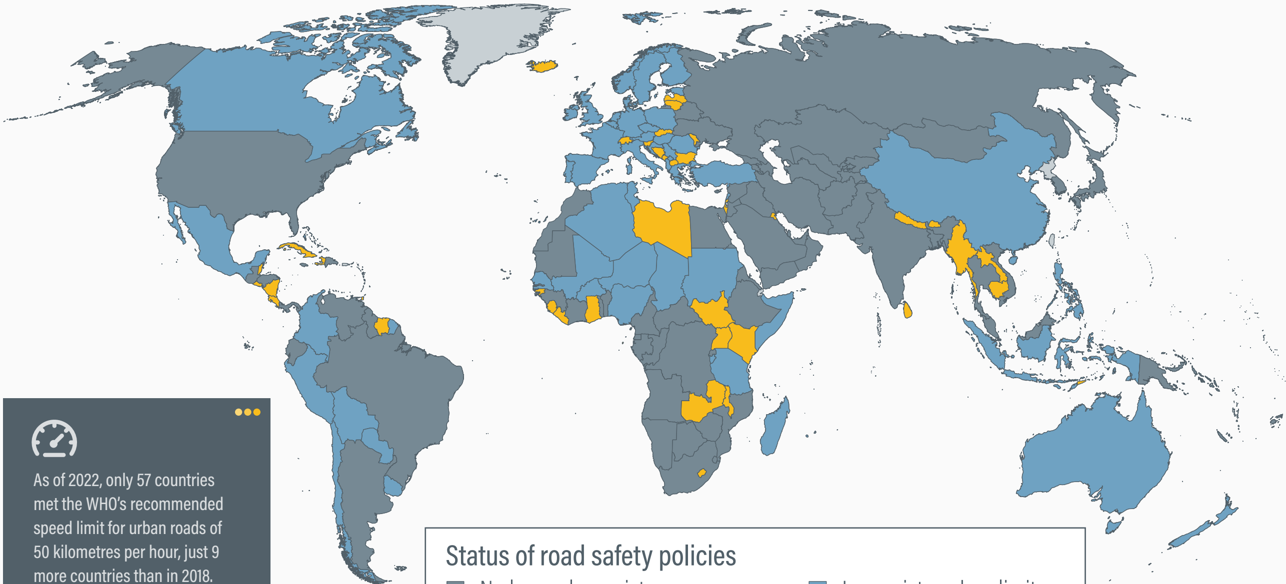
- Pedestrians have a crossing
- Pedestrian crossings in good condition
- Pedestrians have formal sidewalks
- <40km/h or bicyclists have facilities
- <60km/h or motorcyclists have facilities

FIGURE 5. Status of national policies on walking by region, 2023



Despite the overwhelming reliance on walking globally, a 2023 study found that only 7% of countries had a specific active mobility or walking policy, with regional shares ranging from 9% each in Europe and South-East Asia, to 6% in the Americas, to 4% in Africa and 0% in the Eastern Mediterranean and Western Pacific regions.

FIGURE 6. Status of speed laws by country, 2022

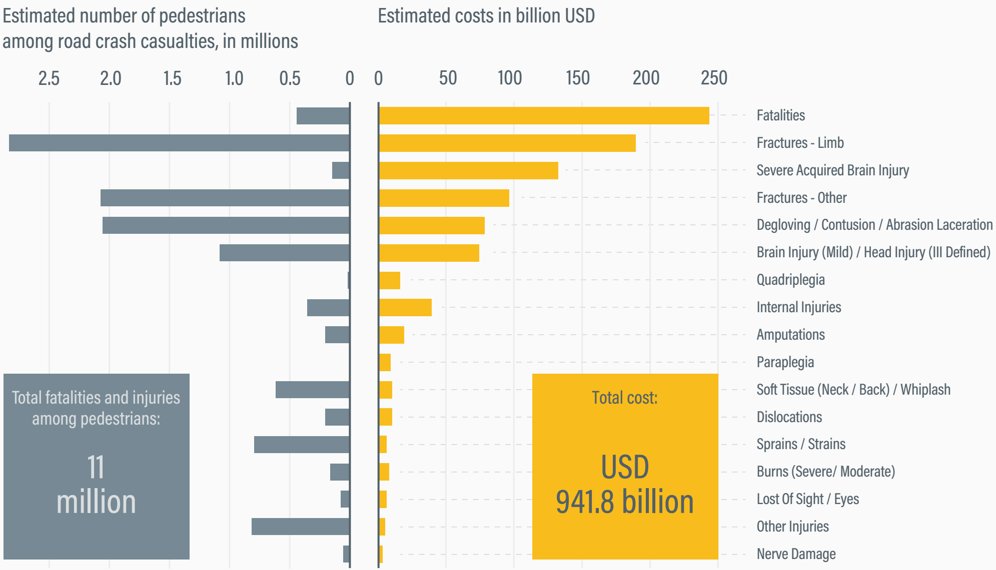


As of 2022, only 57 countries met the WHO's recommended speed limit for urban roads of 50 kilometres per hour, just 9 more countries than in 2018. Implementing reduced speeds for people to safely walk or cycle is an important measure to improve global road safety trends and promote active mobility.

Status of road safety policies

- No law or law exists but urban limits are >50 km/h
- Law exists, urban limits are set at ≤50 km/h, but local authorities cannot modify this limit
- Law exists, urban limits are set at ≤50 km/h and local authorities can modify this limit
- No information

FIGURE 7. Estimated pedestrian road crash casualties and costs, 2021

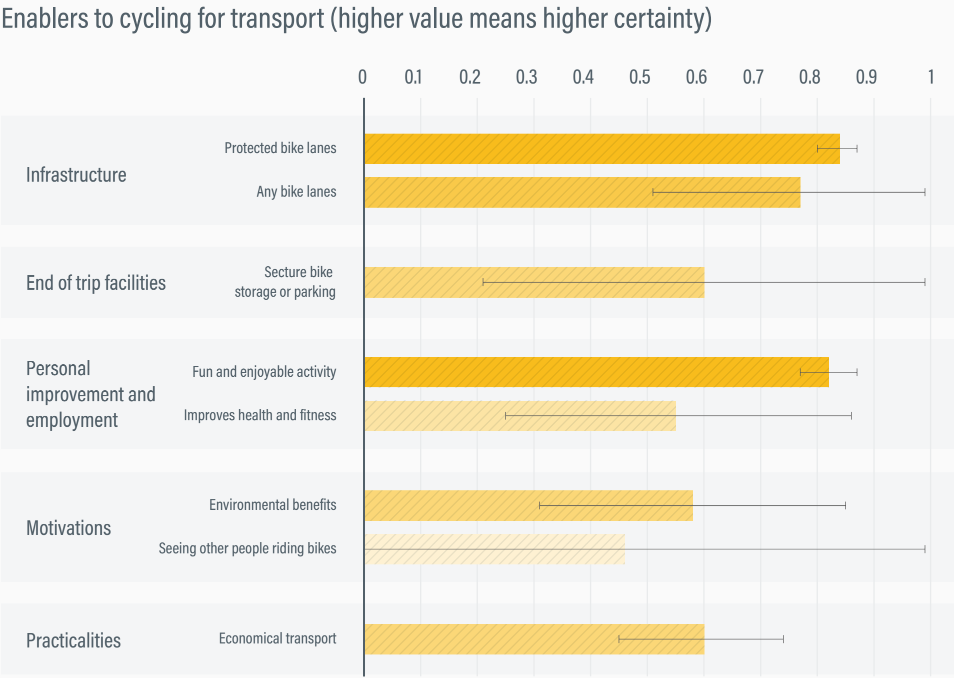


An estimated 11 million pedestrians worldwide die or suffer life-changing injuries each year due to road crashes. The cost of pedestrian deaths and injuries is estimated at USD 941.8 billion annually.

MODULE 4.4

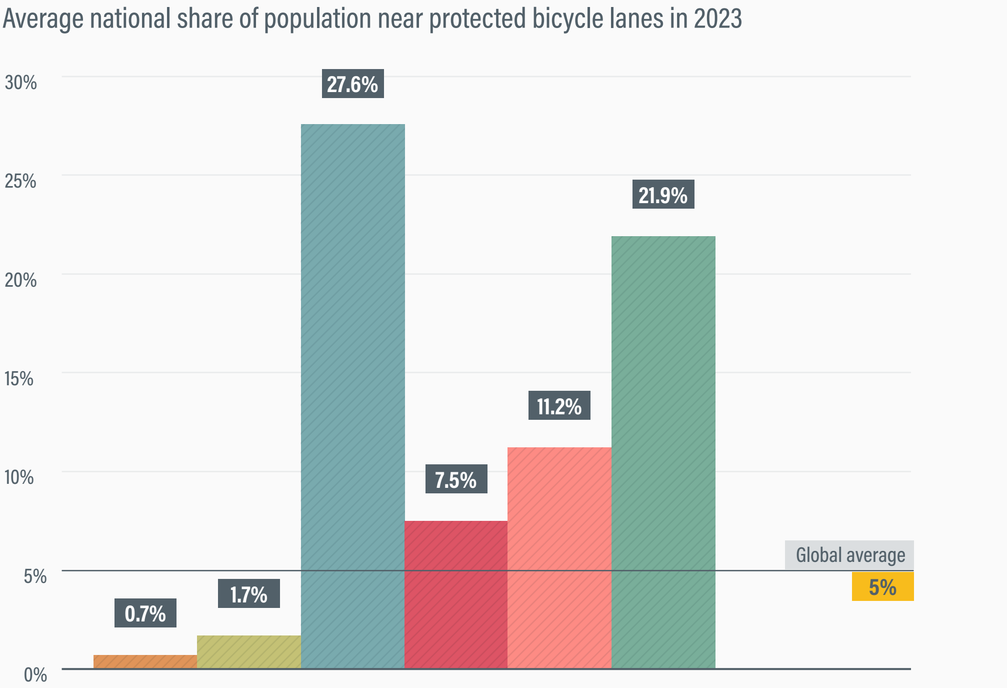
CYCLING

FIGURE 1. Enablers to cycling for transport, based on a 2022 study



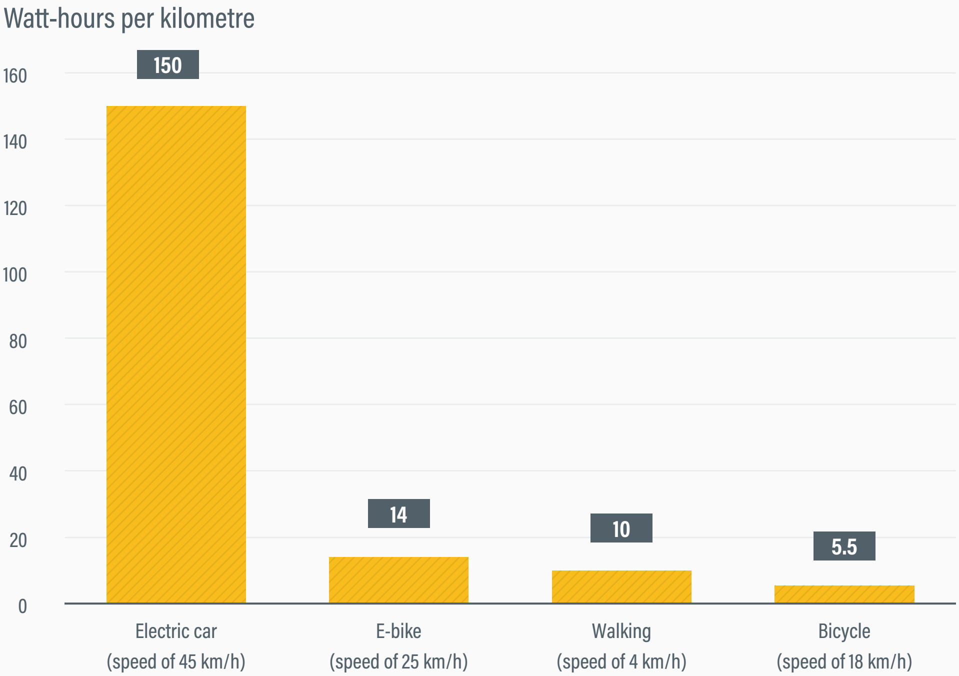
Globally, the most important enabler for a high cycling mode share is still the good-quality of paved roads and the presence of safe cycling infrastructure, especially features that separate cyclists from car traffic.

FIGURE 2. Share of population with access to protected bike lanes, by region, 2023



While access to protected cycling infrastructure is a key enabler of cycling for transport, as of 2023, only 5% of the global population had access to a protected bike lane within 300 metres. Regional disparities are significant: 27.6% of people in Europe and have access to protected bike lanes, compared with just 0.7% in Africa.

FIGURE 3. Energy efficiency of different modes of transport

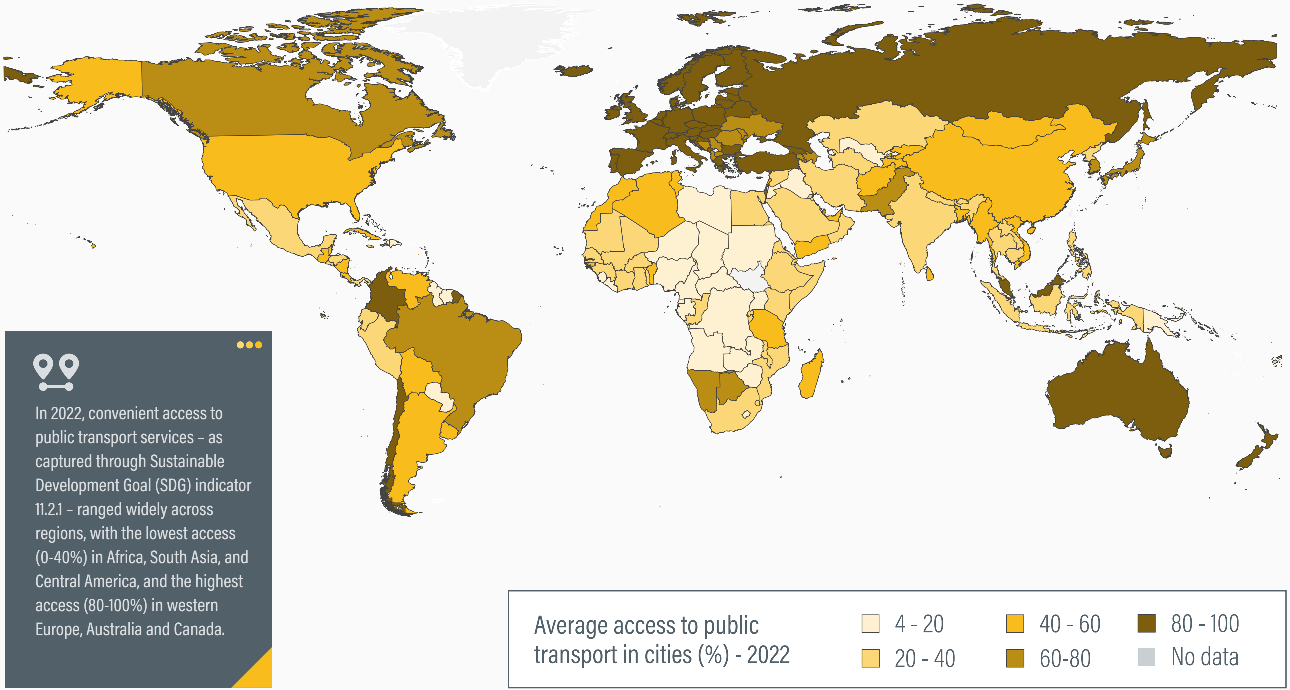


Cycling is the most energy-efficient mode of mobility in terms of energy use per kilometre, requiring 27 times less energy than a battery-electric car. People who cycle every day emit 84% fewer carbon emissions from their daily travel than those who do not.

MODULE 4.5

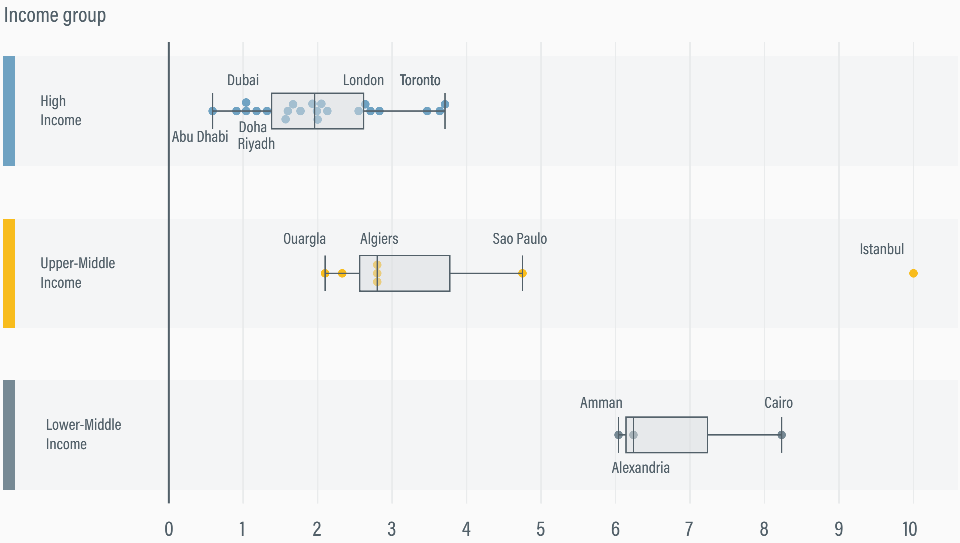
PUBLIC TRANSPORT

FIGURE 1. Share of urban population with convenient access to public transport (population-weighted average), by country, 2022



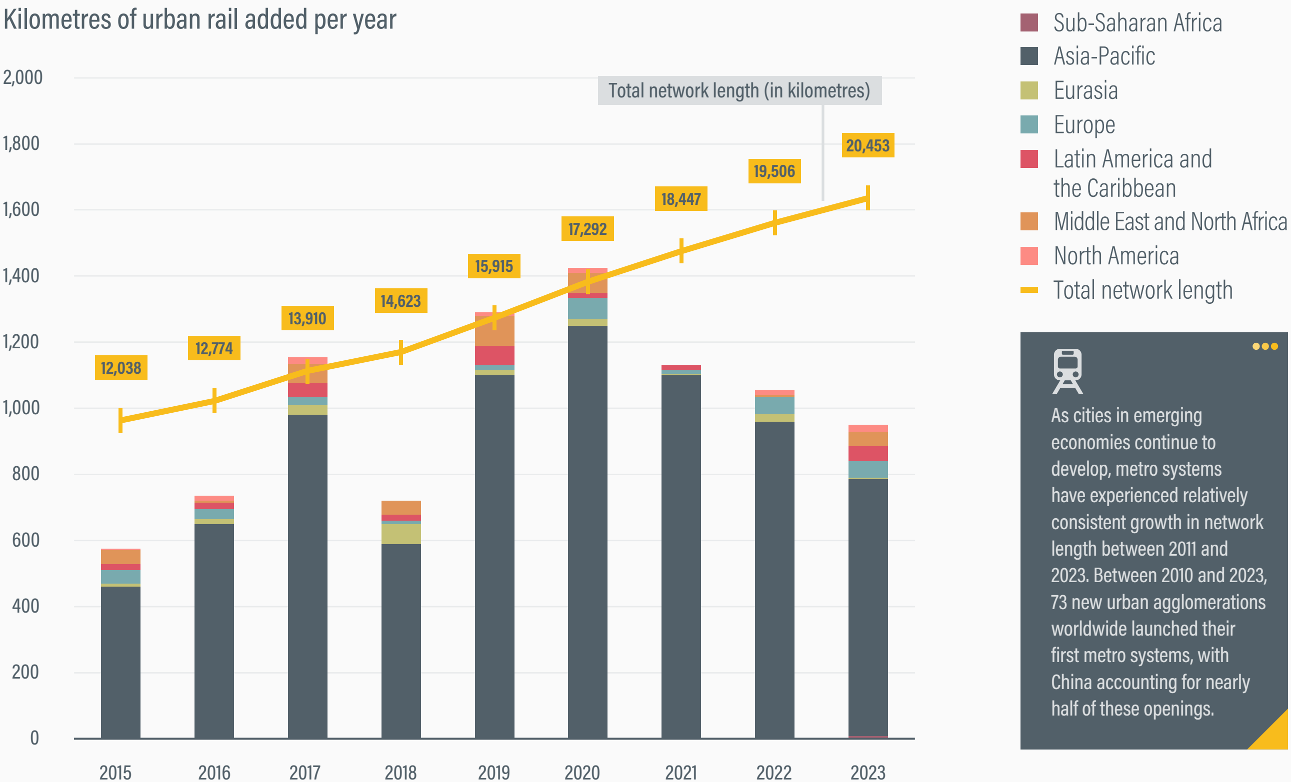
In 2022, convenient access to public transport services – as captured through Sustainable Development Goal (SDG) indicator 11.2.1 – ranged widely across regions, with the lowest access (0-40%) in Africa, South Asia, and Central America, and the highest access (80-100%) in western Europe, Australia and Canada.

FIGURE 2. Ratio of monthly pass cost to average monthly income (%) in selected cities, 2025



Average access to public transport can be misleading even for urban areas when socio-economic and individual factors – such as income, gender, disability status, race and ethnicity – create systematic barriers to public transport use. Public transport affordability is commonly measured by examining the cost of a monthly pass relative to household income. In lower- to middle-income groups, economic barriers may effectively render even nearby public transport services inaccessible.

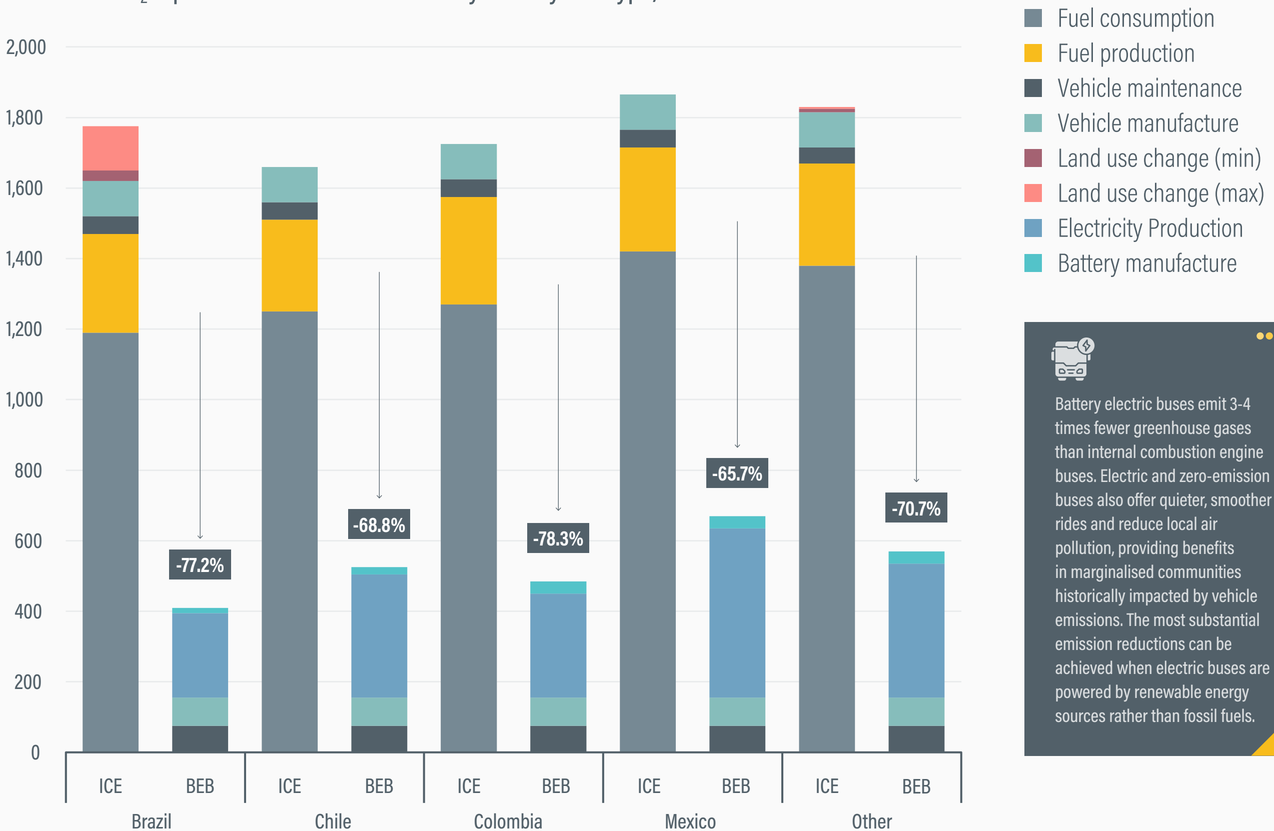
FIGURE 3. Metro network length by region, 2015-2023



As cities in emerging economies continue to develop, metro systems have experienced relatively consistent growth in network length between 2011 and 2023. Between 2010 and 2023, 73 new urban agglomerations worldwide launched their first metro systems, with China accounting for nearly half of these openings.

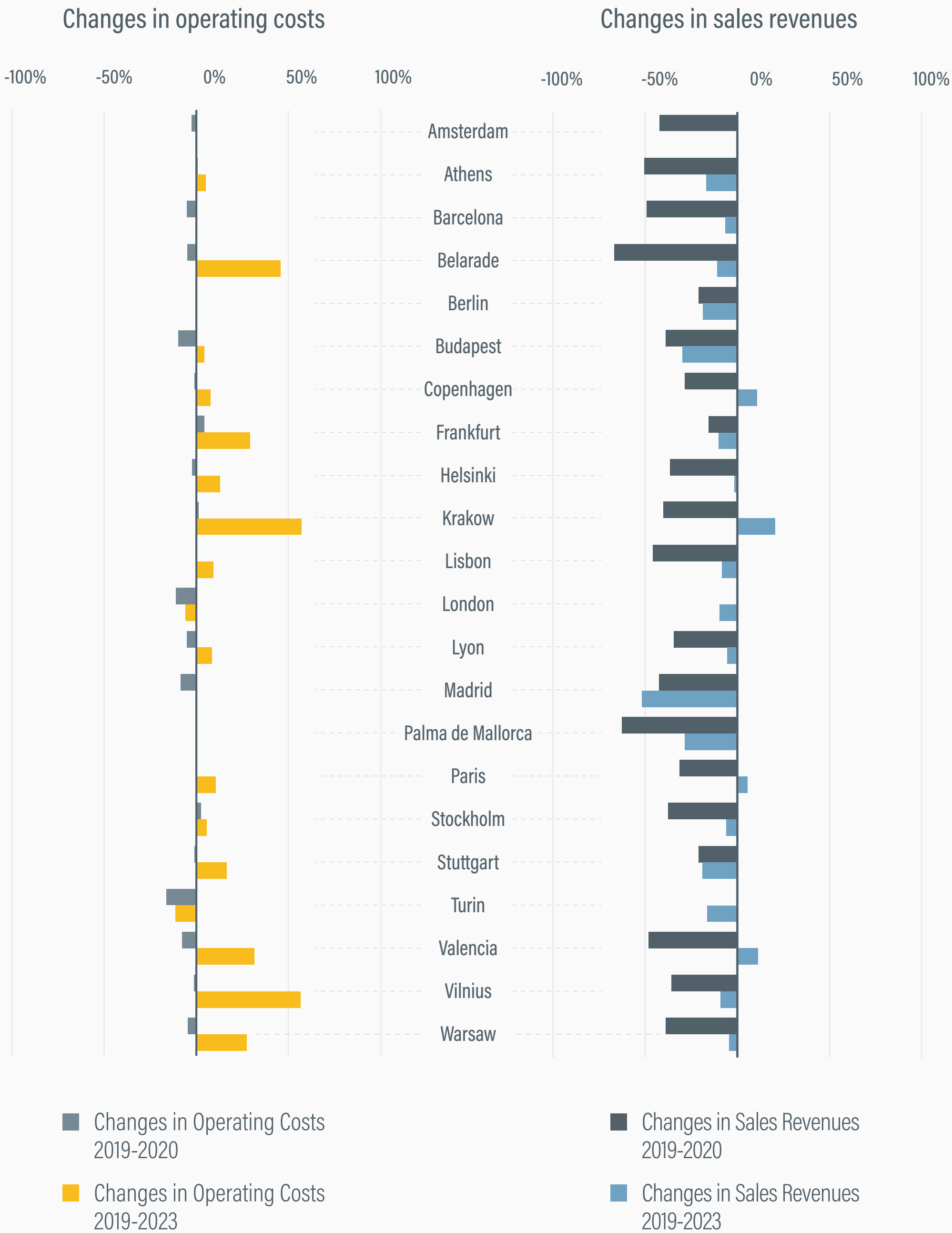
FIGURE 4. Comparison of life-cycle emissions of 12-15 metre buses in Latin America, 2024

Estimated CO_2 equivalent emissions for activity area by bus type, in tonnes



Battery electric buses emit 3-4 times fewer greenhouse gases than internal combustion engine buses. Electric and zero-emission buses also offer quieter, smoother rides and reduce local air pollution, providing benefits in marginalised communities historically impacted by vehicle emissions. The most substantial emission reductions can be achieved when electric buses are powered by renewable energy sources rather than fossil fuels.

FIGURE 5. Transport operating costs and revenue recovery in European cities, 2019-2020 and 2019-2023



Since the COVID-19 pandemic, operating costs for many public transport agencies have risen due to inflation, energy price rises, and wage growth, whereas fare revenues have tended to remain below pre-pandemic levels. European metropolitan areas illustrate these financial pressures.

FIGURE 6. Impacts of extreme heat (left) and flooding (right) on public transport users, service providers and physical assets

Extreme heat

Infrastructure and Asset Impacts

Public infrastructure assets
- Pavement degradation
- Melting roads
- Exposed and deteriorated stops, shelters, and waiting areas
- Weather-damaged signage and information systems
- Disrupted and damaged charging infrastructure

Vehicle assets
- Engine overheating
- Vehicle shortened lifespan and breakdowns
- HVAC system failures
- Battery degradation
- Increased tire wear and blowouts
- Increased fuel/energy consumption

Health & Operational Impacts

User (experience varies by age, gender, socioeconomic conditions)
- Exposure during walking or biking to stops/stations, waiting and in-vehicle
- Psychological impacts (stress, anxiety about service)
- Avoided trips or modal shifts
- Curtailed access and loss of productivity (due to service disruptions)
- Heat-related health risks

Service Providers (Operators, drivers, etc.)
- Exposure during waiting for passengers, in-vehicle
- Heat-related health risks
- Worker absenteeism during extreme heat
- Decreased revenue and increased maintenance costs
- blowouts
- Increased fuel/energy consumption

Flooding

Infrastructure and Asset Impacts

Public infrastructure assets
- Road and pavement degradation from prolonged water exposure
- Damaged or clogged drainage systems
- Inundated and damaged stops, shelters, and waiting areas
- Electrical system failures and damaged signage in flooded areas

Vehicle assets
- Engine, brake and electrical system damage
- Vehicle shortened lifespan and breakdowns
- Interior damage (for buses/ minibuses)
- Battery degradation and corrosion
- Increased maintenance require-ments
- Increased fuel/energy consumption

Health & Operational Impacts

User (experience varies by age, gender, socioeconomic conditions)
- Exposure during walking or biking to stops/stations
- Extended waiting time at stops and in-vehicle delays
- Psychological impacts (stress, anxiety about service
- Avoided trips or modal shifts
- Curtailed access and economic losses (due to service disruptions)
- Health risks from waterborne diseases

Service Providers (Operators, drivers, etc.)
- Service disruptions, operational challenges, and suspensions
- Safety risks when navigating flooded roads
- Health risks from waterborne diseases
- Worker absenteeism during severe flooding
- Decreased revenue and increased maintenance costs

MODULE 4.6

INFORMAL TRANSPORT

FIGURE 1. Scale of informality of transport services according to their context

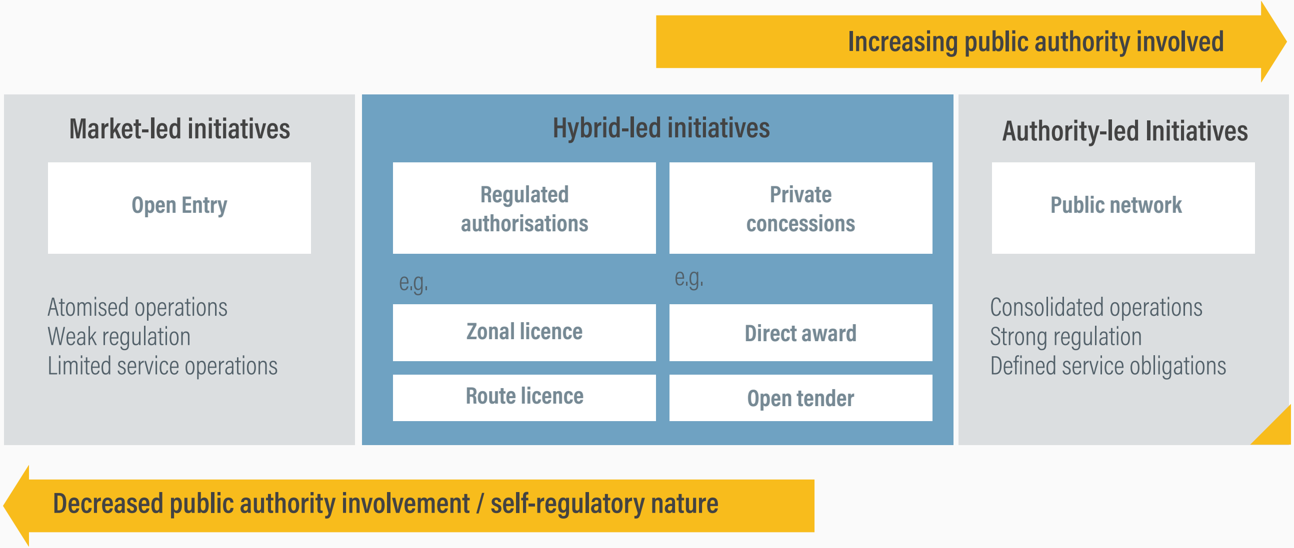
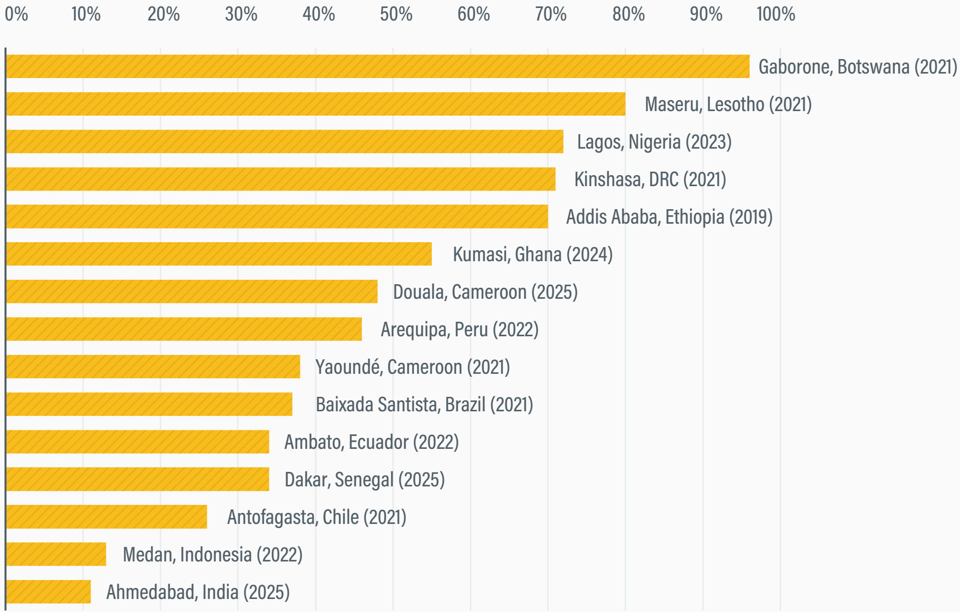


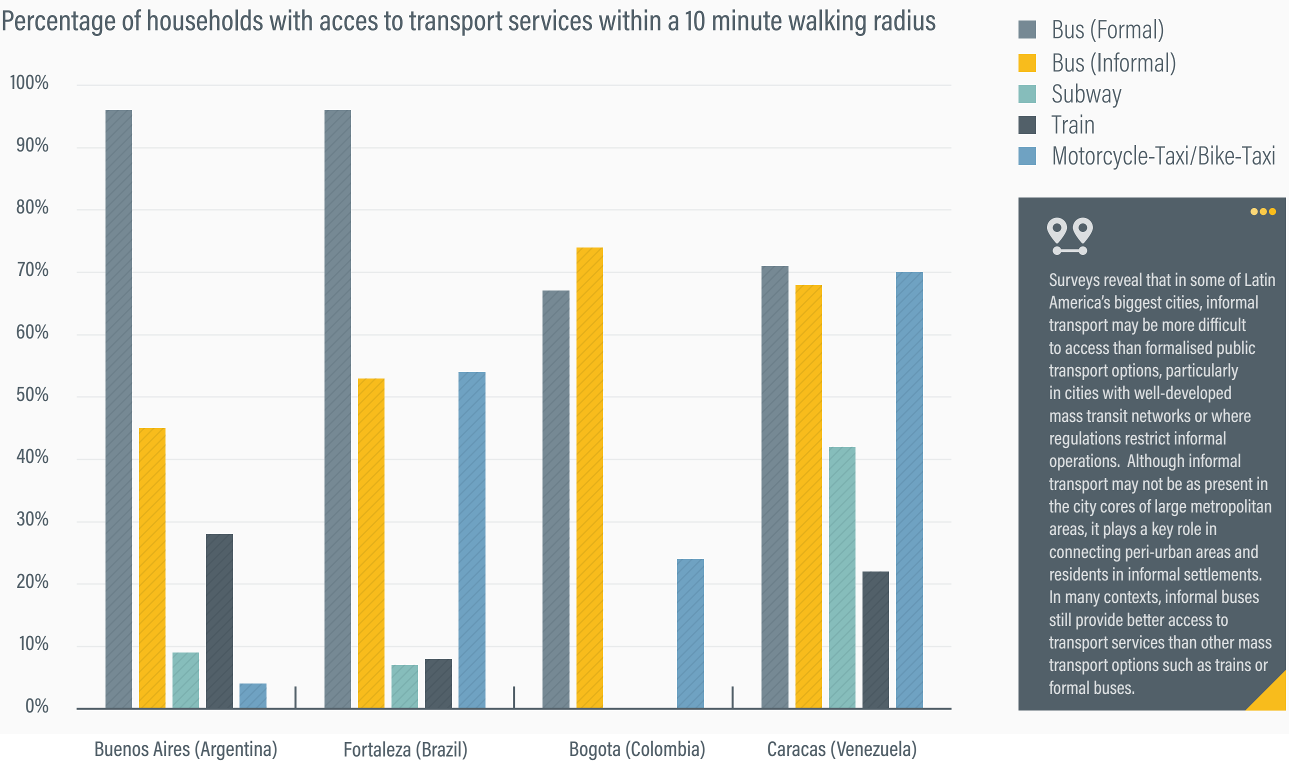
FIGURE 2. Share of informal transport trips in selected cities and years

Share of informal transport services in total motorised travel activity of selected cities



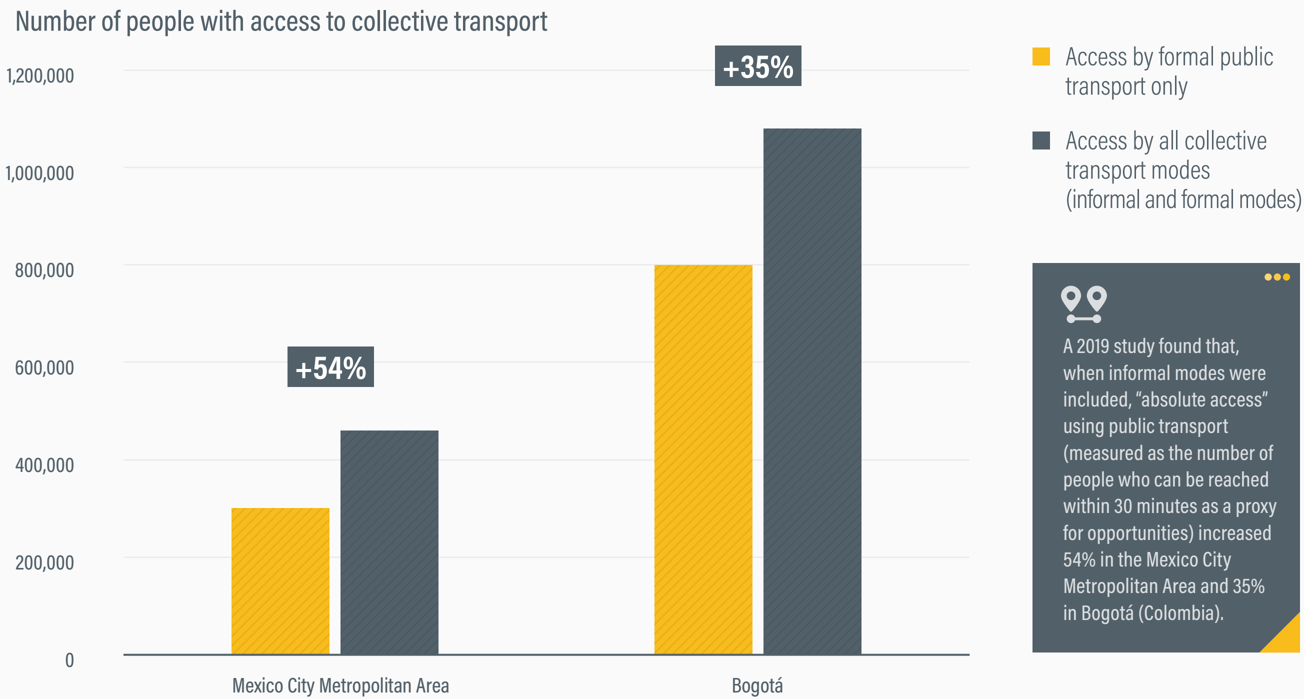
Data on informal transport for different cities in the Global South show that these modes still represent a large share of passenger transport services, ranging from 11% to 95% of trips in different cities, with an average of 48% of trips.

FIGURE 3. Share of households able to access transport modes within a 10-minute walk, in four Latin American cities, 2017



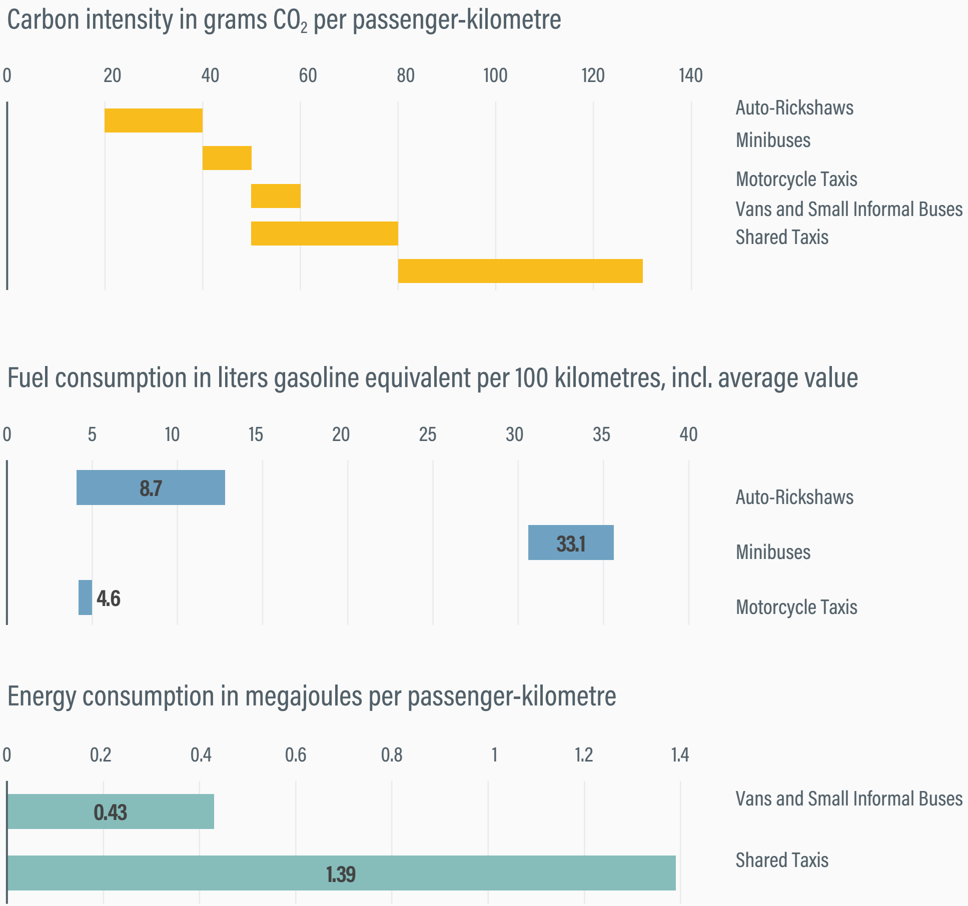
Surveys reveal that in some of Latin America's biggest cities, informal transport may be more difficult to access than formalised public transport options, particularly in cities with well-developed mass transit networks or where regulations restrict informal operations. Although informal transport may not be as present in the city cores of large metropolitan areas, it plays a key role in connecting peri-urban areas and residents in informal settlements. In many contexts, informal buses still provide better access to transport services than other mass transport options such as trains or formal buses.

FIGURE 4. Absolute access using public transport and informal modes in Mexico City and Bogotá, 2019



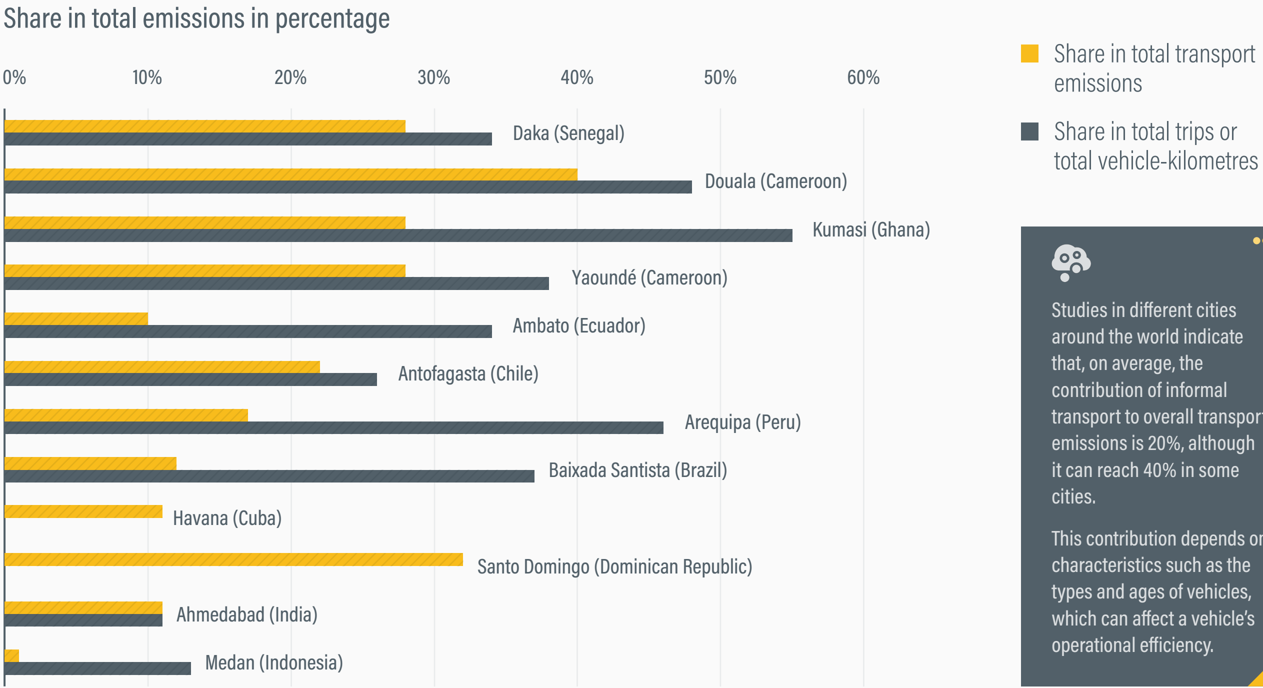
A 2019 study found that, when informal modes were included, "absolute access" using public transport (measured as the number of people who can be reached within 30 minutes as a proxy for opportunities) increased 54% in the Mexico City Metropolitan Area and 35% in Bogotá (Colombia).

FIGURE 5. Typical carbon dioxide emission factors and energy efficiency for different informal transport modes



Smaller vehicles that make it possible to transport more passengers during a single trip – such as auto-rickshaws and minibuses – are considered the most energy-efficient and least carbon-intensive modes of informal transport.

FIGURE 6. Informal transport's share of emissions in selected cities globally



Studies in different cities around the world indicate that, on average, the contribution of informal transport to overall transport emissions is 20%, although it can reach 40% in some cities.

This contribution depends on characteristics such as the types and ages of vehicles, which can affect a vehicle's operational efficiency.

FIGURE 7. Insights on boda boda operations collected by Lubyanza Research Group during 2024

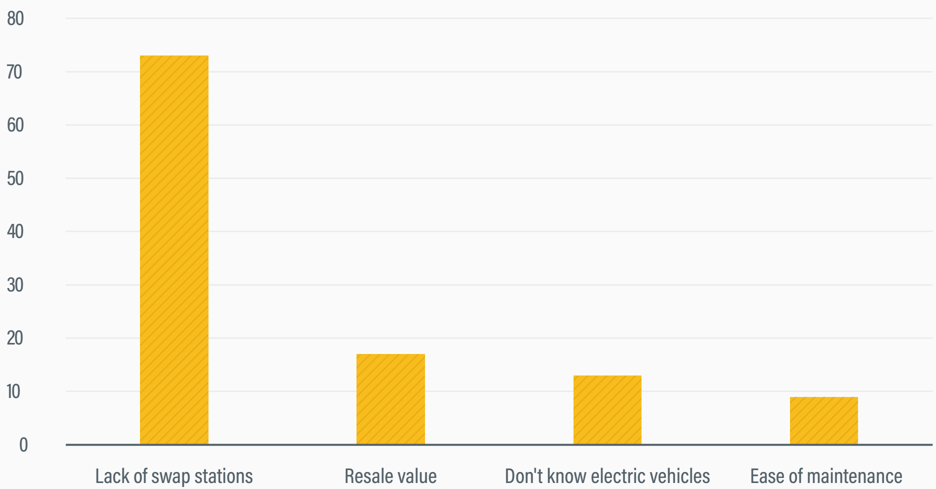
4% share their bike at least once a week

72% have never had a drivers license

40% of riders wearing reflector jackets

58% of bikes on the road are second-hand

Why Petrol Riders Don't Switch to Electric

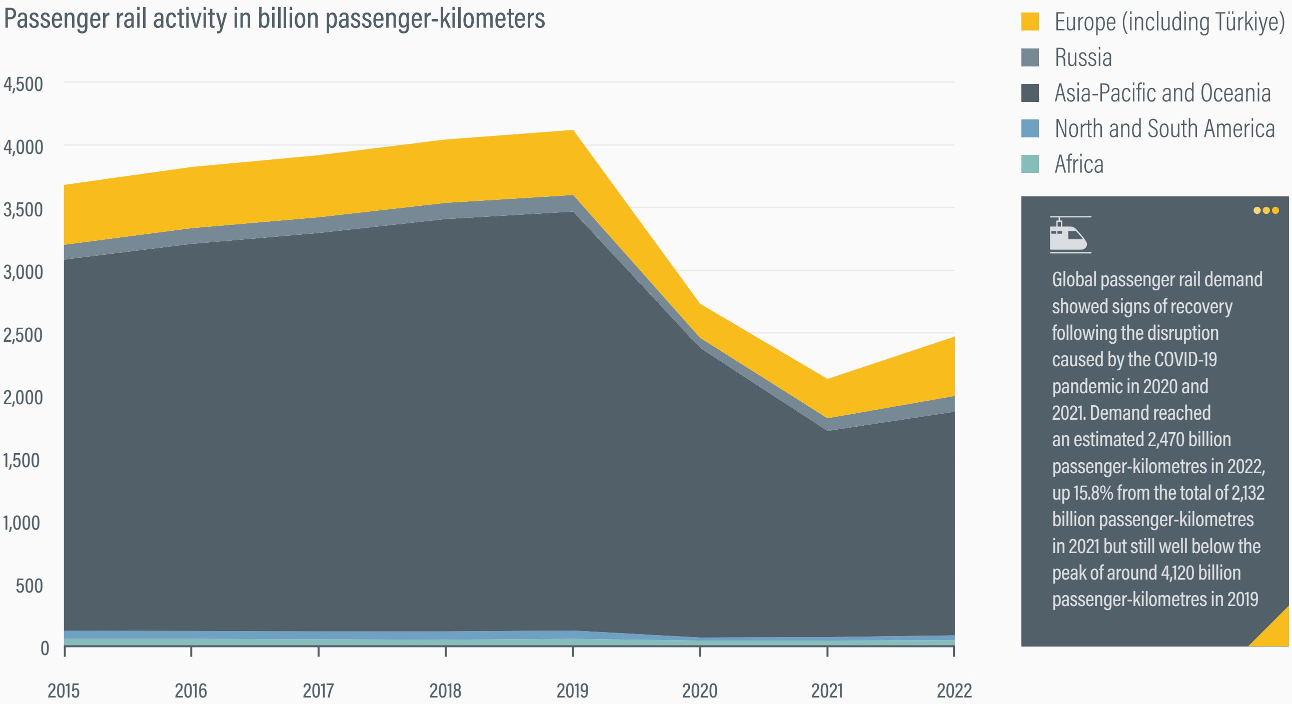


In many African cities, where second-hand motorcycles dominate the informal transport fleet, emissions depend on the vehicle age and mileage, and drivers and users are among the most vulnerable to road crashes and injuries. In Kampala (Uganda) and Nairobi (Kenya), initiatives such as Lubyanza collect quarterly data on boda bodas that includes topics such as vehicle characteristics, road worthiness compliance, helmet use, reflective jacket use, and worker profiles and needs. Such insights can inform sustainability and climate action projects and help address challenges such as improving working conditions and compliance with road safety requirements

MODULE 4.7

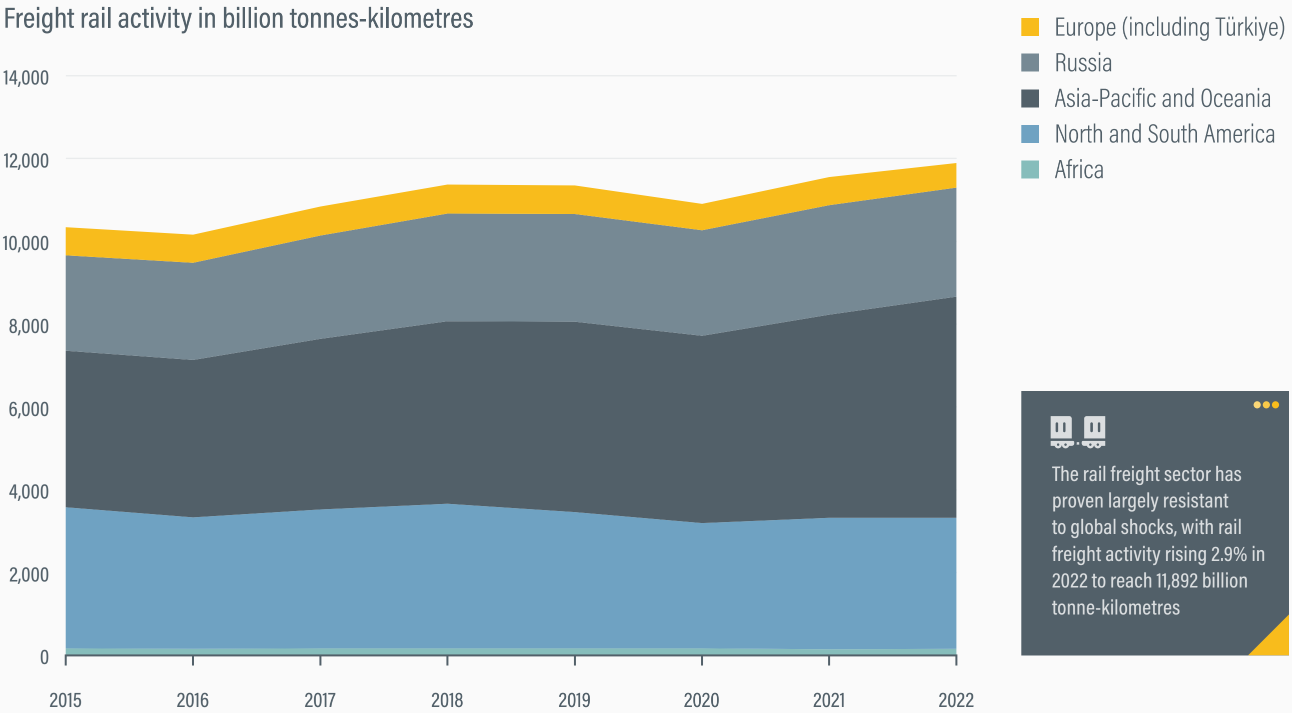
RAIL

FIGURE 1. Passenger rail activity by region, 2015 to 2022



Global passenger rail demand showed signs of recovery following the disruption caused by the COVID-19 pandemic in 2020 and 2021. Demand reached an estimated 2,470 billion passenger-kilometres in 2022, up 15.8% from the total of 2,132 billion passenger-kilometres in 2021 but still well below the peak of around 4,120 billion passenger-kilometres in 2019

FIGURE 2. Freight rail activity by region, 2015-2022



The rail freight sector has proven largely resistant to global shocks, with rail freight activity rising 2.9% in 2022 to reach 11,892 billion tonne-kilometres

FIGURE 3. Tonnes of rail freight carried per unit of gross domestic product, by country, 2023

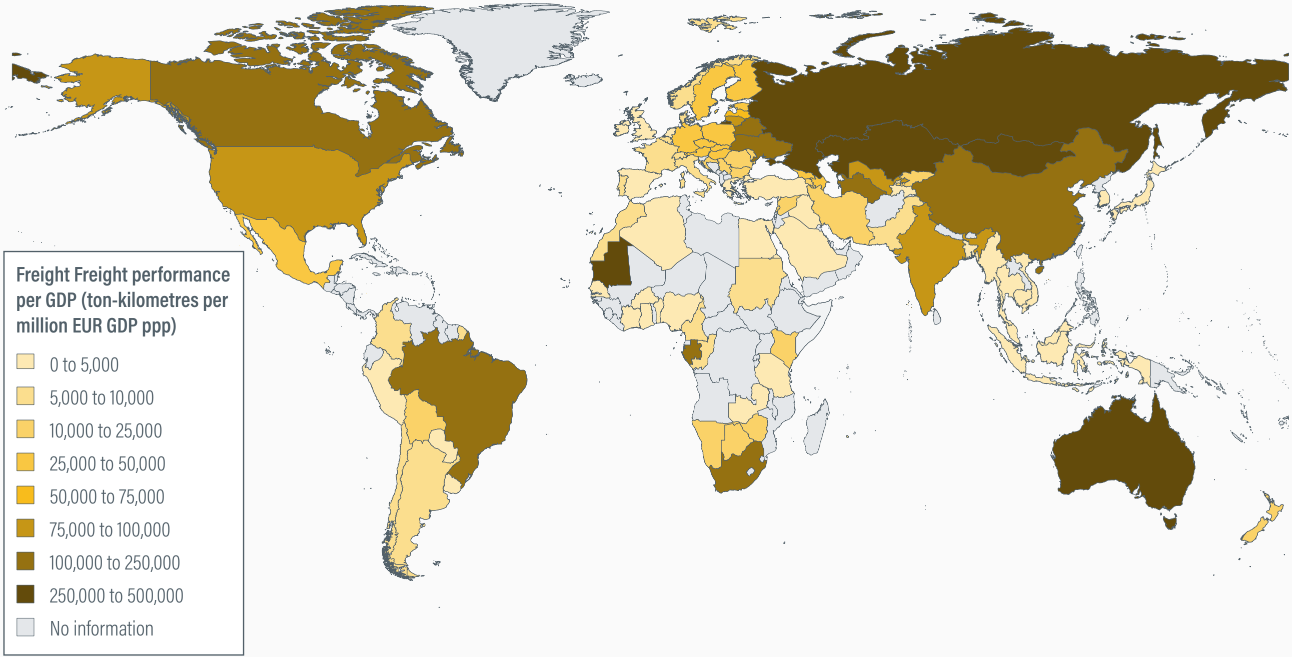
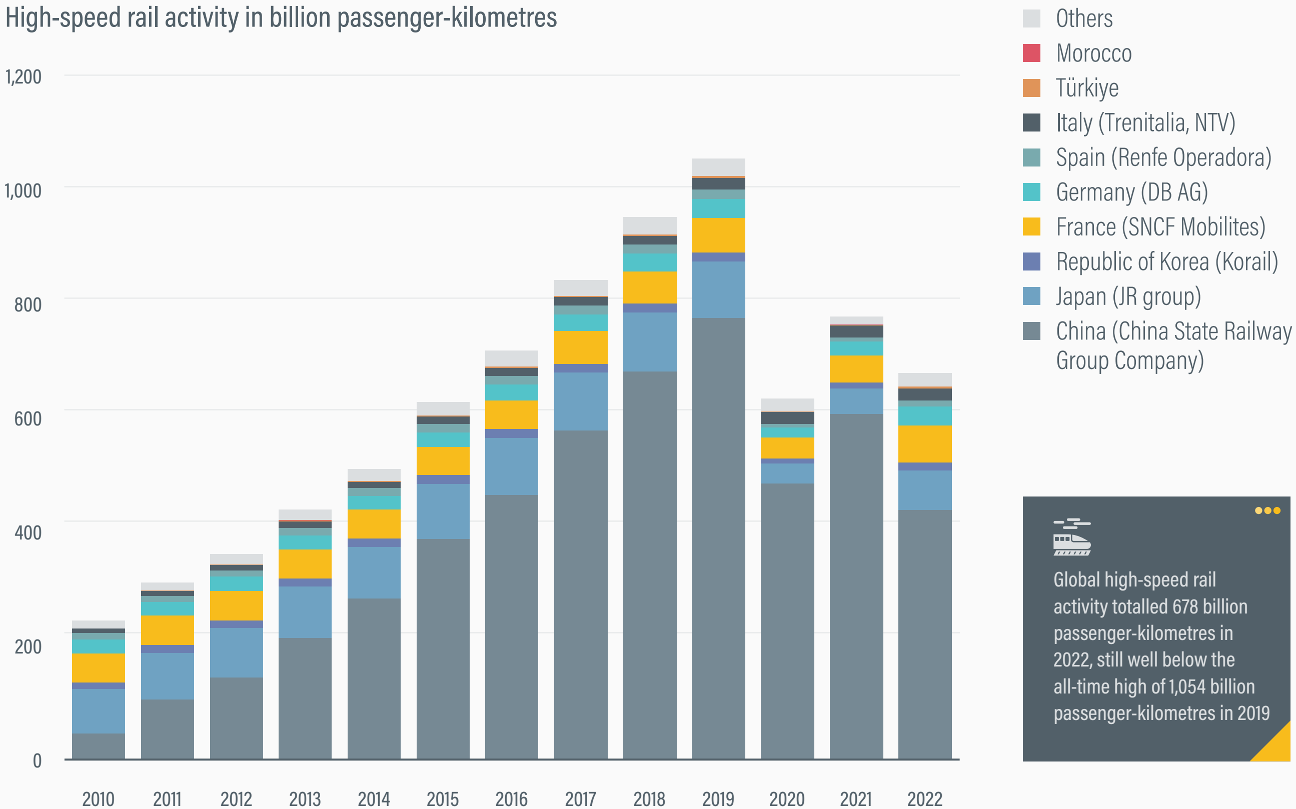
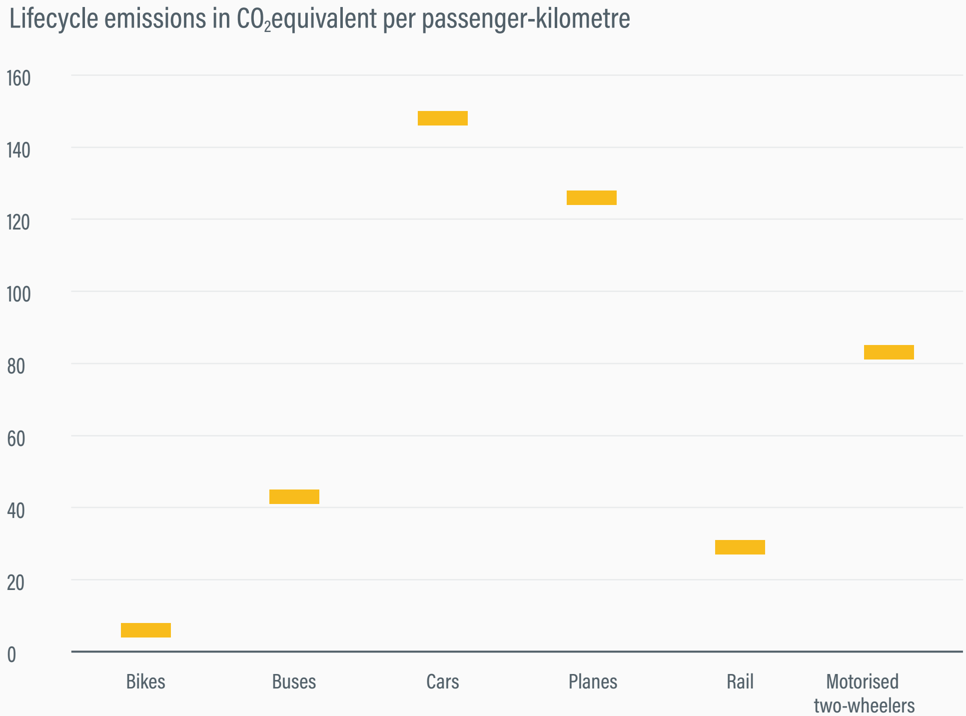


FIGURE 4. High-speed rail activity by country, 2010-2022



Global high-speed rail activity totalled 678 billion passenger-kilometres in 2022, still well below the all-time high of 1,054 billion passenger-kilometres in 2019

FIGURE 5. Life-cycle greenhouse gas emissions intensity of motorised passenger transport modes, 2022

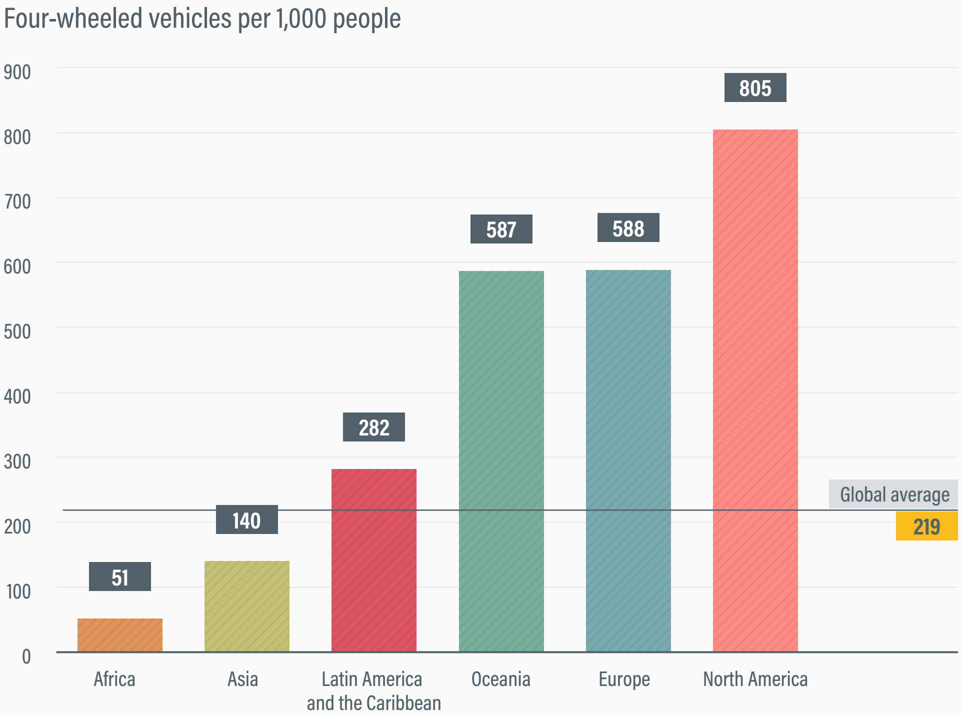


On a life-cycle basis, rail emitted 29 grams of CO_2 equivalent per passenger-kilometre on average in 2022

MODULE 4.8

ROAD TRANSPORT

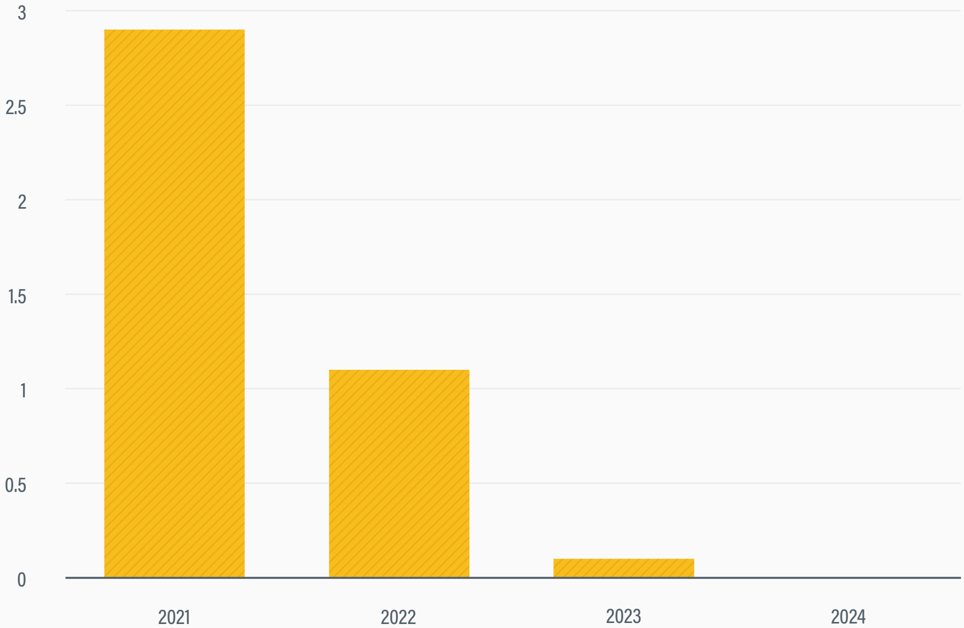
FIGURE 1. Vehicle ownership rates by region in 2022



In 2022, the absolute number of cars grew to a global average of 219 four-wheeled vehicles per 1,000 people, with much higher averages in North America (805), Europe (588) and Oceania (587).

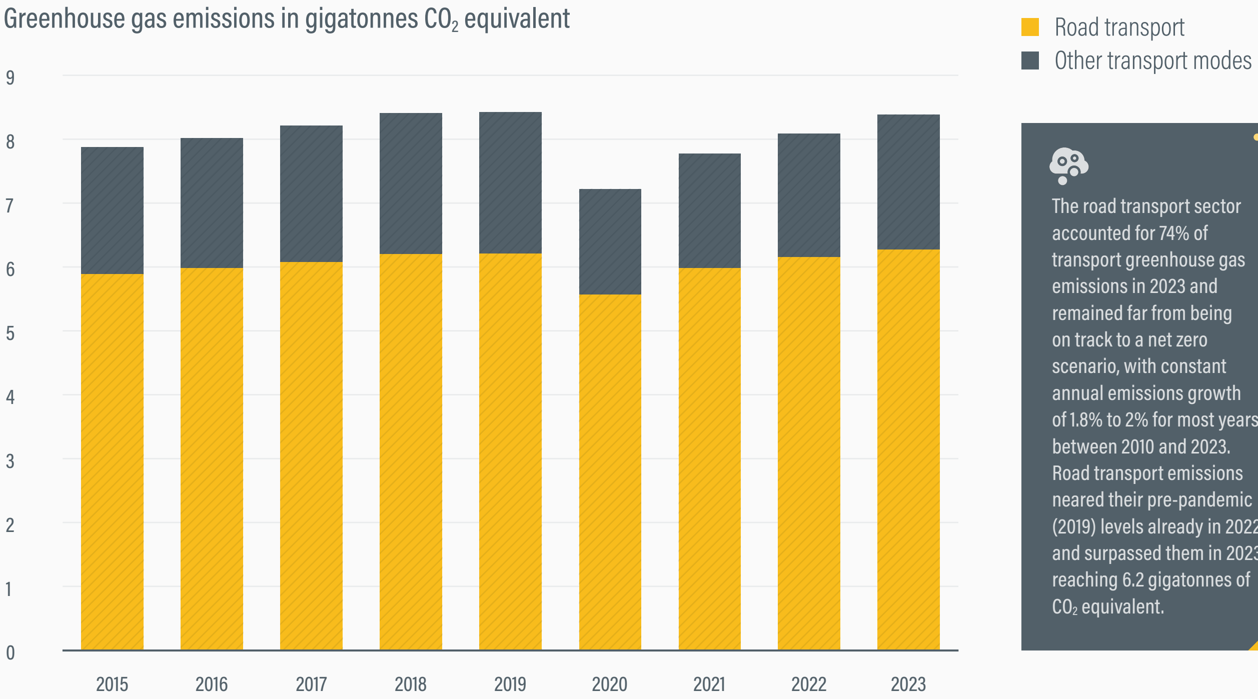
FIGURE 2. Growth in oil demand for road transport, 2021-2024

Road transport oil demand change in million barrels of oil per day



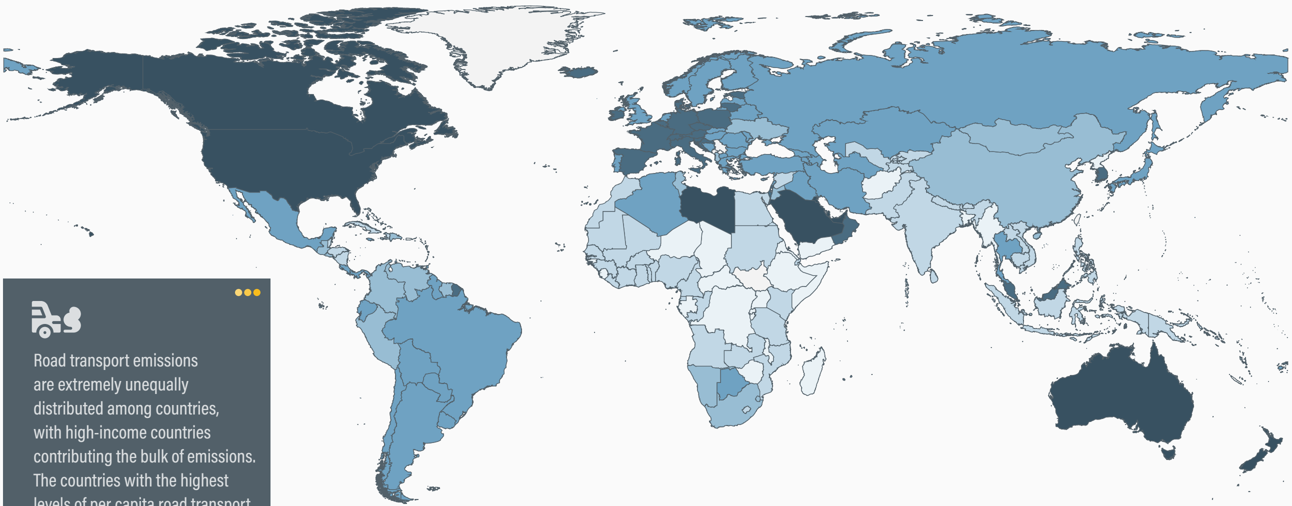
While global oil demand for transport continued to grow annually to 2023, growth in oil demand for road transport continued to decline (with no growth in 2024), due mainly to changes in the Chinese market.

FIGURE 3. Greenhouse gas emissions from road transport compared to other modes, 2015-2023



The road transport sector accounted for 74% of transport greenhouse gas emissions in 2023 and remained far from being on track to a net zero scenario, with constant annual emissions growth of 1.8% to 2% for most years between 2010 and 2023. Road transport emissions neared their pre-pandemic (2019) levels already in 2022 and surpassed them in 2023, reaching 6.2 gigatonnes of CO_2 equivalent.

FIGURE 4. Per capita greenhouse gas emissions from road transport by country, 2023



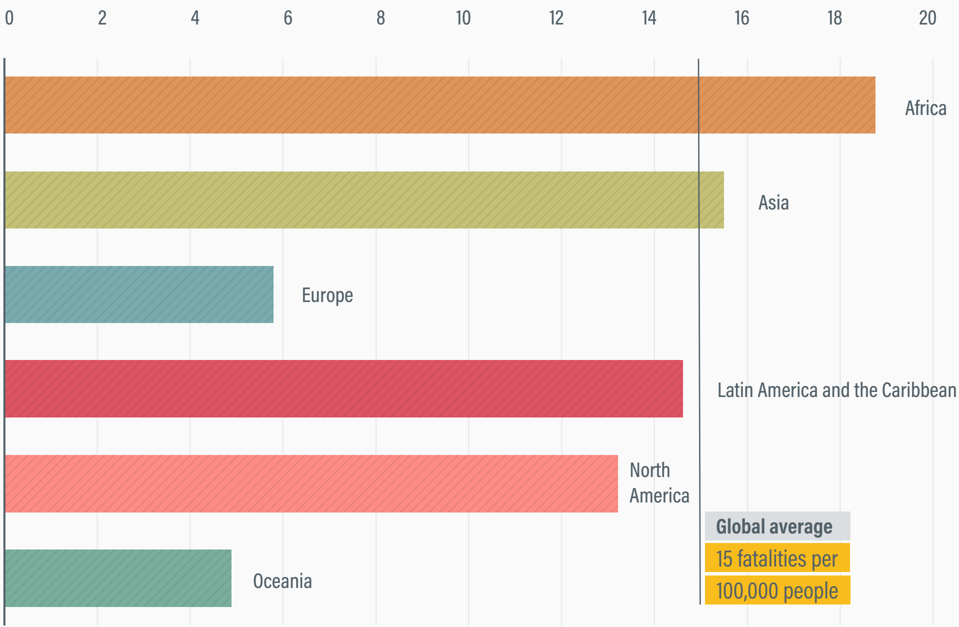
Road transport emissions are extremely unequally distributed among countries, with high-income countries contributing the bulk of emissions. The countries with the highest levels of per capita road transport CO_2 equivalent emissions in 2023 were Luxembourg (6.4 tonnes), Qatar (5.1 tonnes), Saudi Arabia (4.4 tonnes), the United States (4.2 tonnes) and the United Arab Emirates (4 tonnes).

Per capita road transport emissions

- 0 - 0.11
- 0.11 - 0.5
- 0.5 - 0.75
- 0.75 - 1.6
- 1.6 - 2.5
- 2.5 - 6.4
- No data

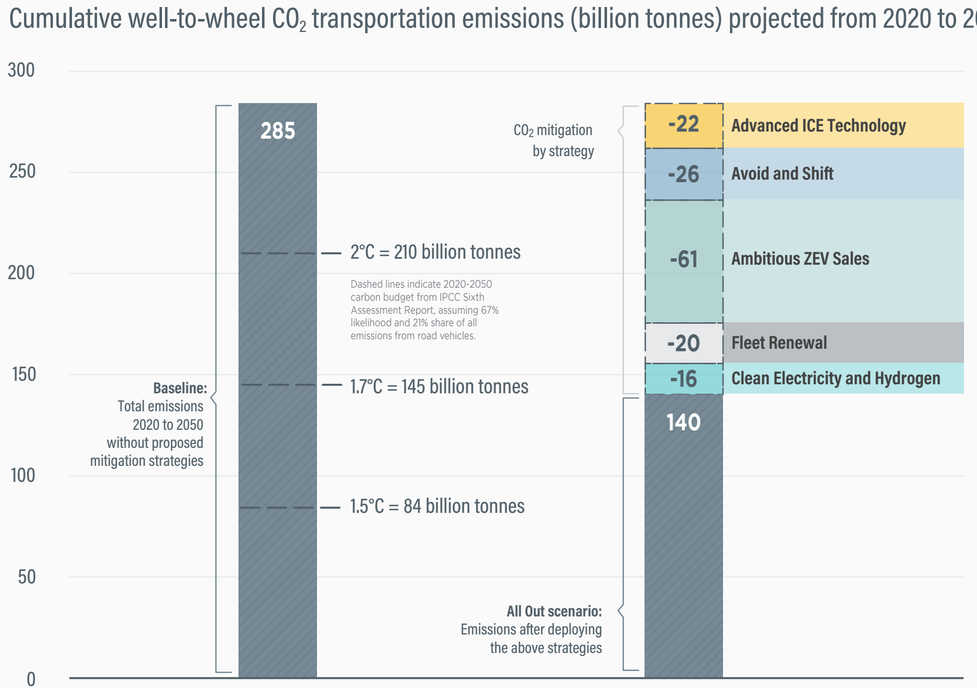
FIGURE 5. Road casualities per 100,000 people by region and compared to the global average

Road causalities per 100,000 people in 2021



Road traffic crashes killed 1.19 million people in 2021, with significant disparities by region. The highest per capita road fatalities were recorded in Africa with 18.8 fatalities per 100,000 people, above the global average of 15 deaths per 100,000 people.

FIGURE 6. Mitigation potential of feasible emission reduction strategies for road transport

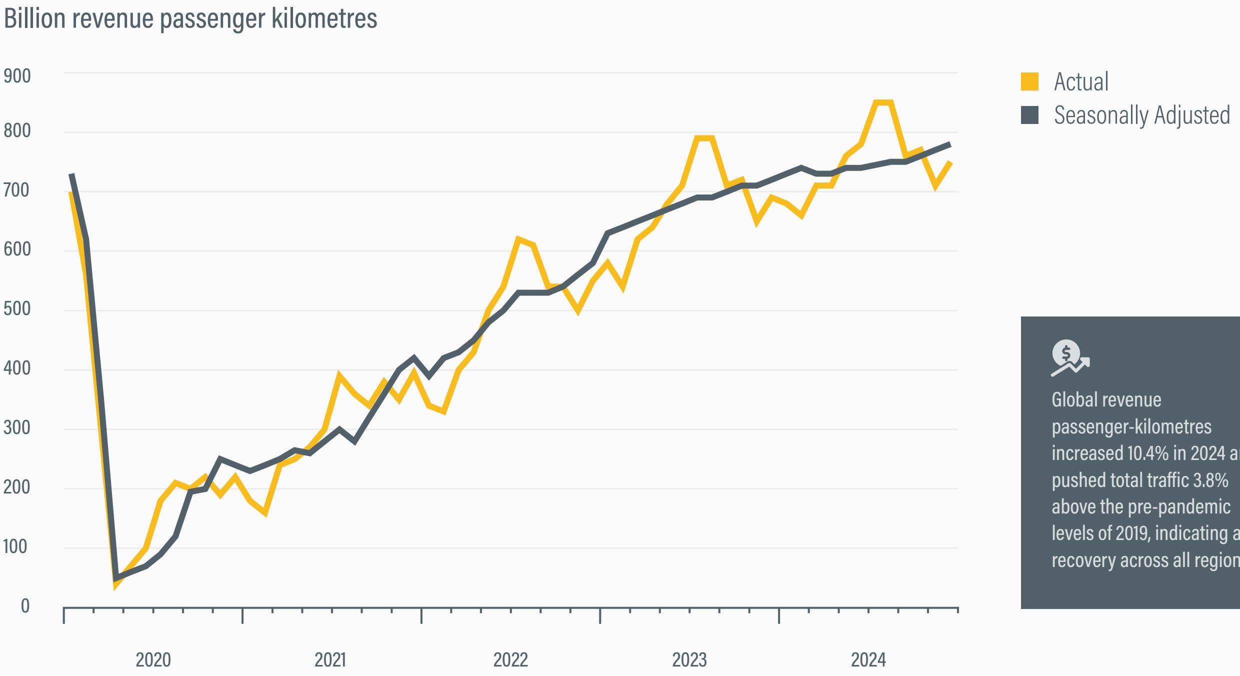


Successful strategies to reduce road transport emissions and create healthier, more sustainable urban and rural areas include a mix of the Avoid-Shift-Improve framework for both passenger and freight transport. "Avoid" and "Shift" measures would contribute as much as 18% of greenhouse gas reductions, keeping the allocated carbon budget for road transport within 1.7 degrees Celsius of global warming by 2050.

MODULE 4.9

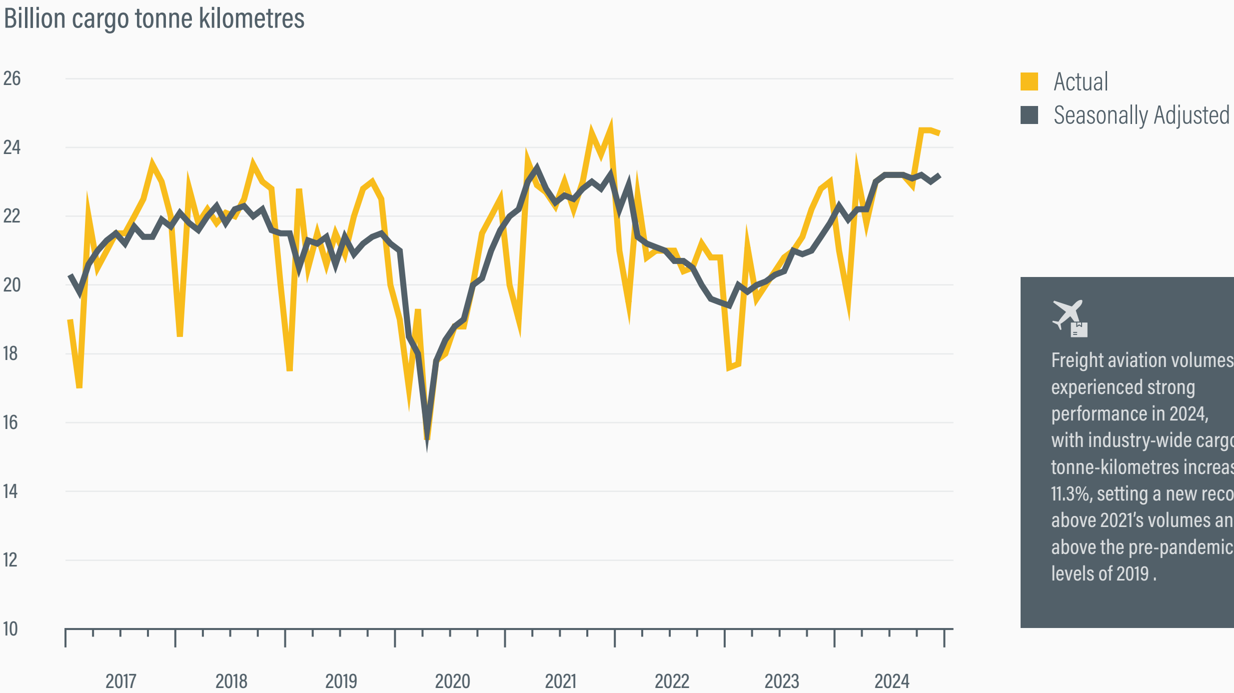
AVIATION

FIGURE 1. Aviation passenger volumes (in billion revenue passenger kilometres), 2020-2024



Global revenue passenger-kilometres increased 10.4% in 2024 and pushed total traffic 3.8% above the pre-pandemic levels of 2019, indicating a full recovery across all regions.

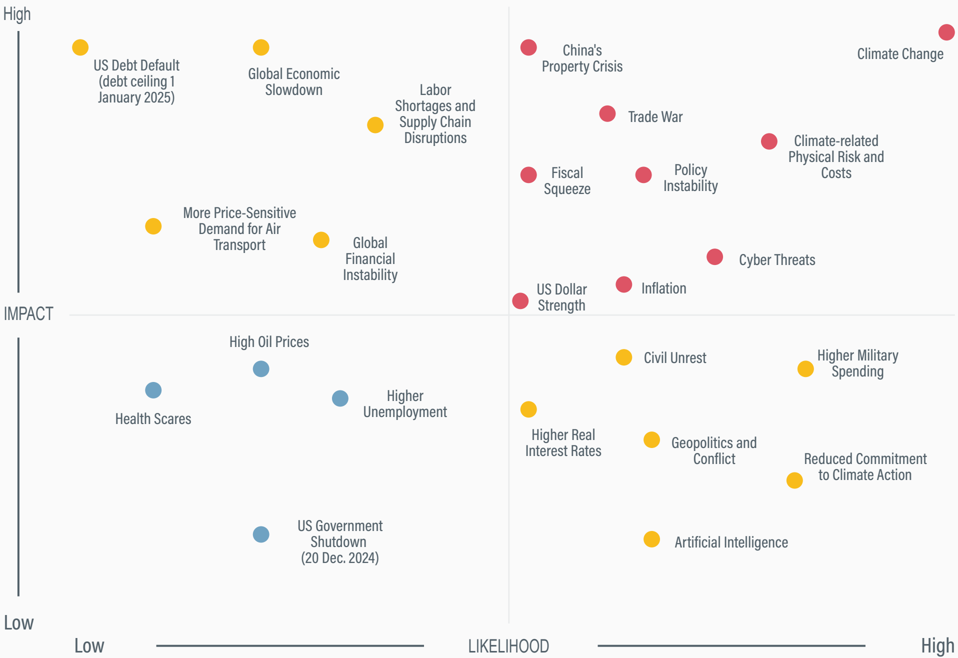
FIGURE 2. Freight aviation volumes (in billion cargo tonne kilometres), 2017-2024



Freight aviation volumes experienced strong performance in 2024, with industry-wide cargo tonne-kilometres increasing 11.3%, setting a new record above 2021's volumes and above the pre-pandemic levels of 2019 .

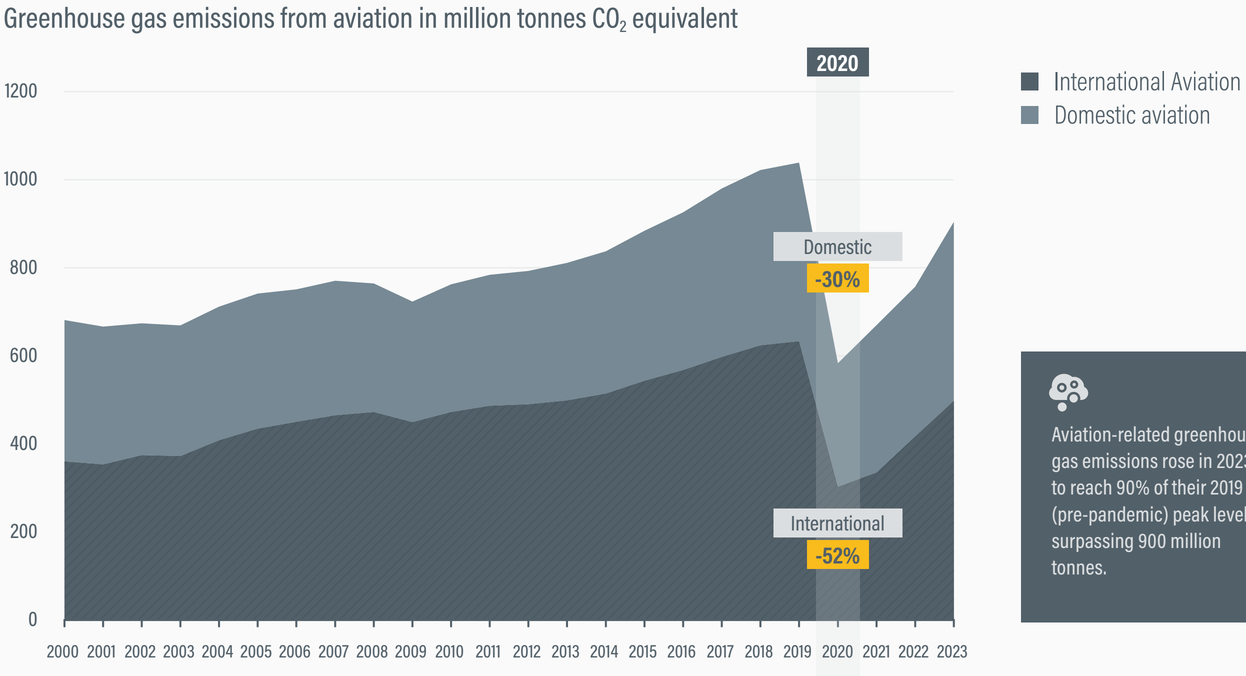
FIGURE 3. Assessment of potential risks to the global economy that can affect aviation, as of 2025

Risks in 2025



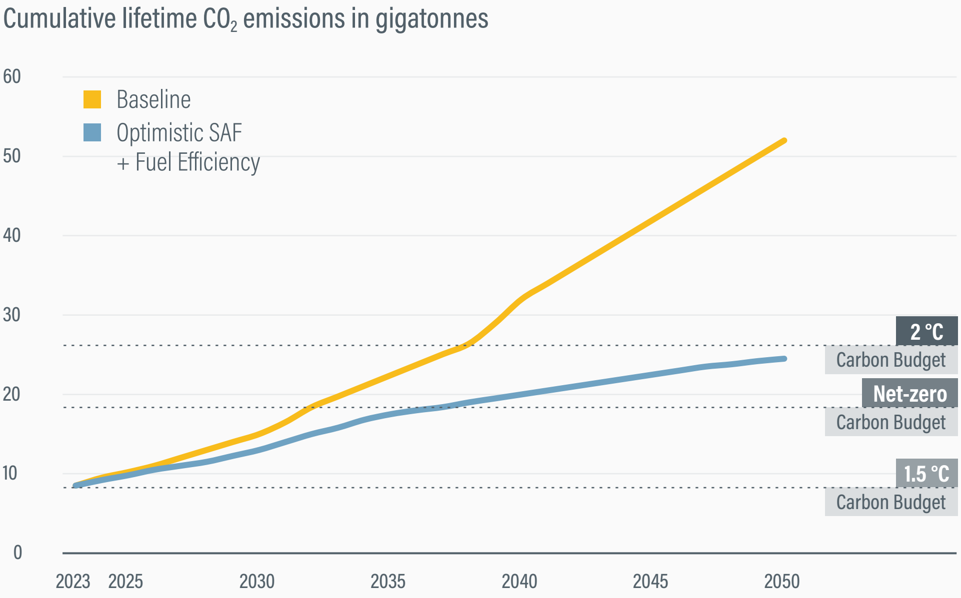
In addition to economic and demographic factors, geopolitical events have influenced regional aviation patterns, posing threats to the stability needed for long-term investments in decarbonisation. Both demand forecasts and effective decarbonisation planning must account for this volatility. Direct risks to airline operations and demand can stem from policy instability following major elections, potential trade disputes (e.g., US tariffs), a shifting global power balance (potentially leading to more conflict), and even reduced political commitment to climate action.

FIGURE 4. Global aviation emissions (domestic and international), 2000-2023



Aviation-related greenhouse gas emissions rose in 2023 to reach 90% of their 2019 (pre-pandemic) peak level, surpassing 900 million tonnes.

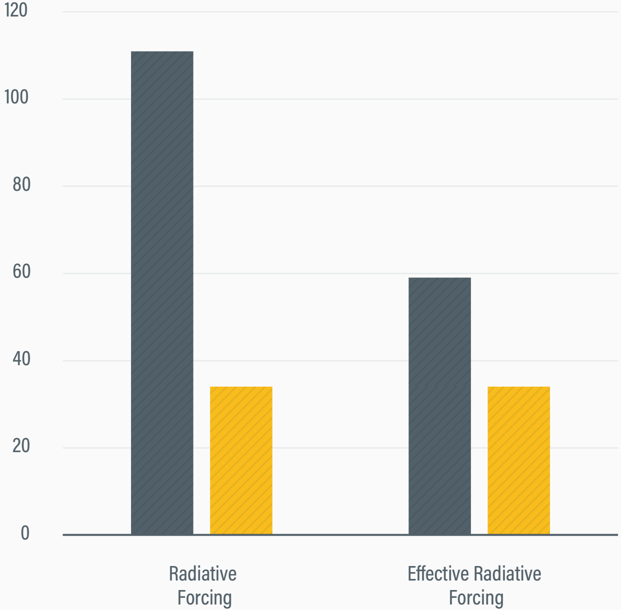
FIGURE 5. Consumption of aviation carbon budget from cumulative lifetime emissions of projected fleet



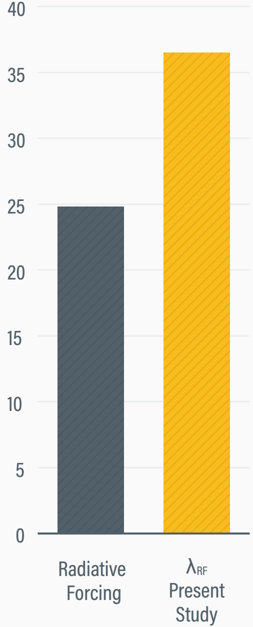
The aviation sector would need to adhere to stringent carbon budgets to align with the goals of the Paris Agreement to keep global temperature rise below 1.5°C and well below 2°C. As of 2023, the global commercial aviation fleet already in service was set to emit around 9 gigatonnes of CO_2 over its lifetime, or nearly half the indicative carbon budget of 18.4 gigatonnes of CO_2 that is required for the sector to align with a net zero emission pathway. New aircraft delivered from 2024 onwards might exhaust the sector's 1.5°C carbon budget by 2032.

FIGURE 6. Estimation of the contrail cirrus climate impact on global surface temperature

Radiative forcing (RF) expressed in milliwatts per square metre



Eventual surface temperature warming in millikelvin $\Delta T_{surface}^{(eq.)}$ [mK]

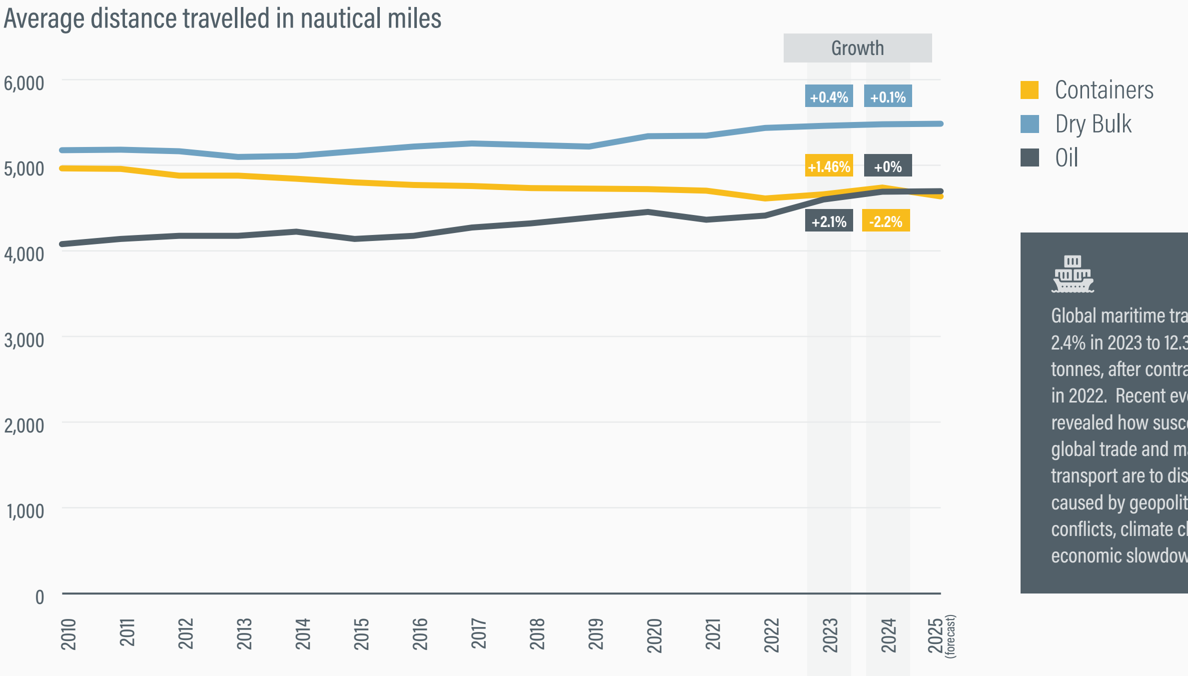


Beyond CO_2 emissions, aviation impacts the climate greatly through non-CO_2 effects, including the release of nitrogen oxide (NOx) emissions at altitude and the formation of persistent condensation trails (contrails) and contrail-induced cirrus clouds. These effects could equal or exceed the total climate warming impact of aviation's CO_2 emissions alone.

MODULE 4.10

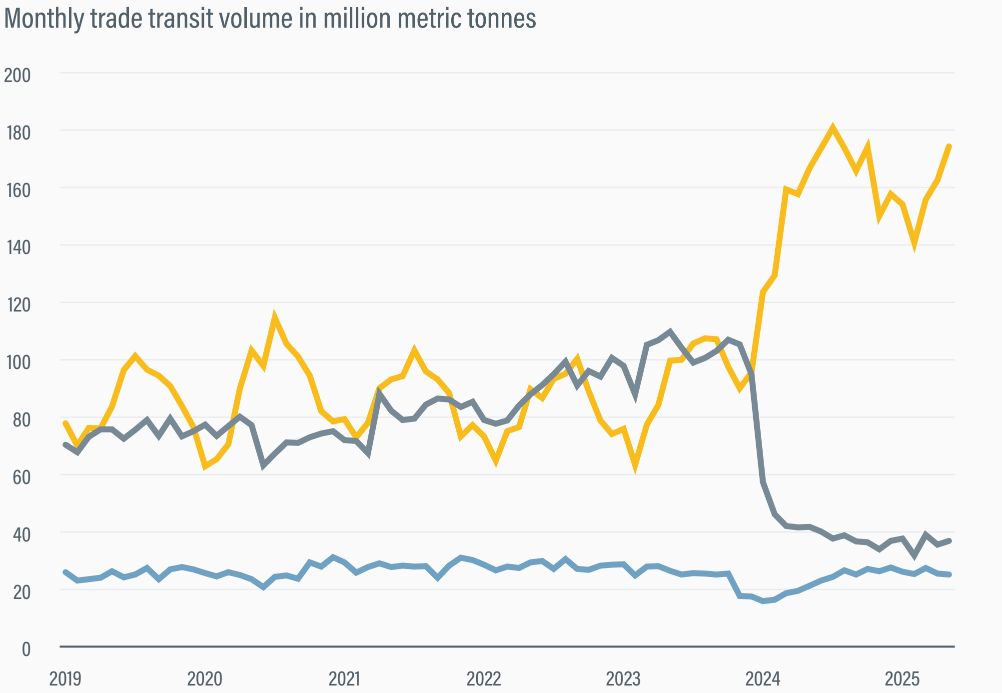
SHIPPING

FIGURE 1. World seaborne trade by type, 2010-2024 and forecast for 2025



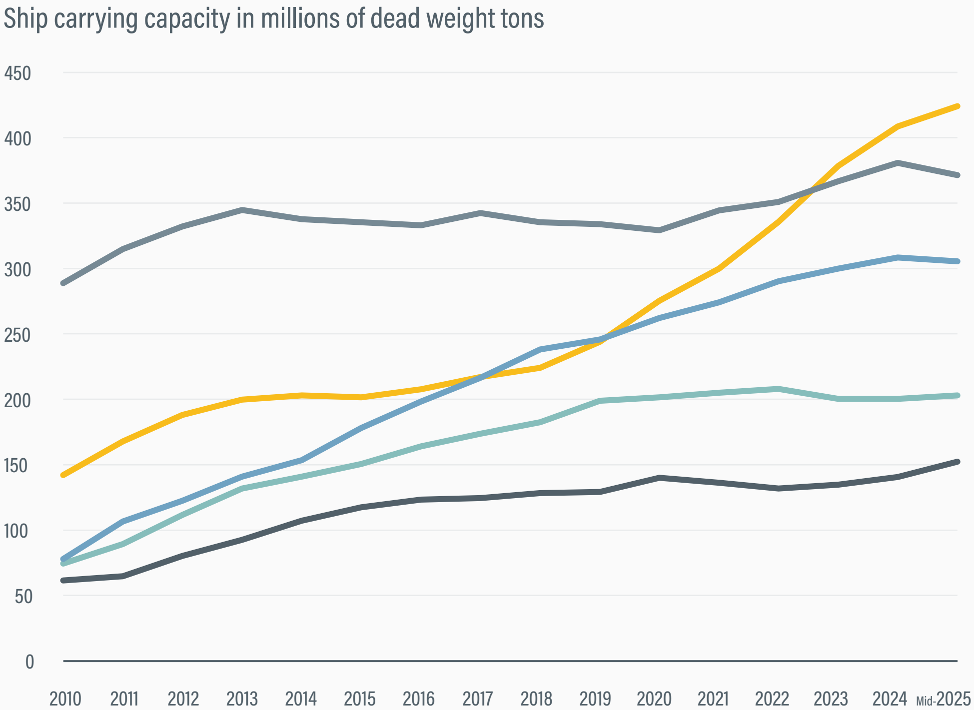
Global maritime trade grew 2.4% in 2023 to 12.3 billion tonnes, after contracting 0.4% in 2022. Recent events have revealed how susceptible global trade and maritime transport are to distortions caused by geopolitical conflicts, climate change and economic slowdowns.

FIGURE 2. **Monthly trade transit volume of major shipping routes**



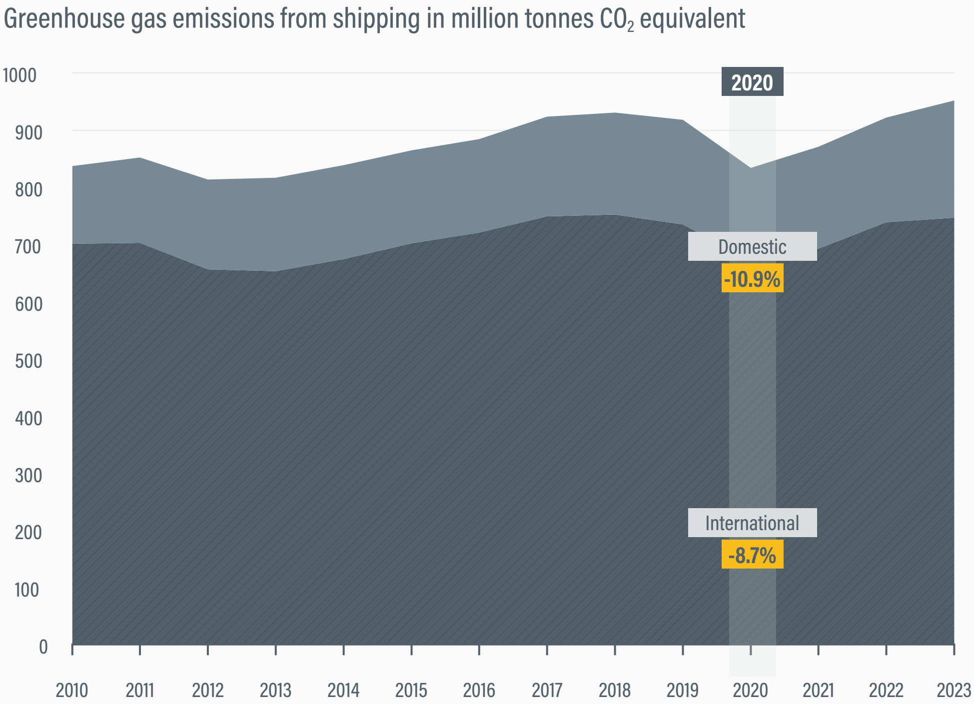
Unrest in the Middle East and attacks on merchant ships in the Red Sea have greatly reduced vessel crossings of the Suez Canal, the shortest maritime route between Asia and Europe, through which around 15% of global maritime trade volume normally passes; most ships have since opted for a much longer (at least 10 days longer) route around the Cape of Good Hope in Africa. In the first two months of 2024, the volume of trade that passed through the Suez Canal dropped 50% from a year prior, while the volume of trade transiting around the Cape of Good Hope increased an estimated 74%.

FIGURE 3. World's top five countries for ship registration, 2010-2025



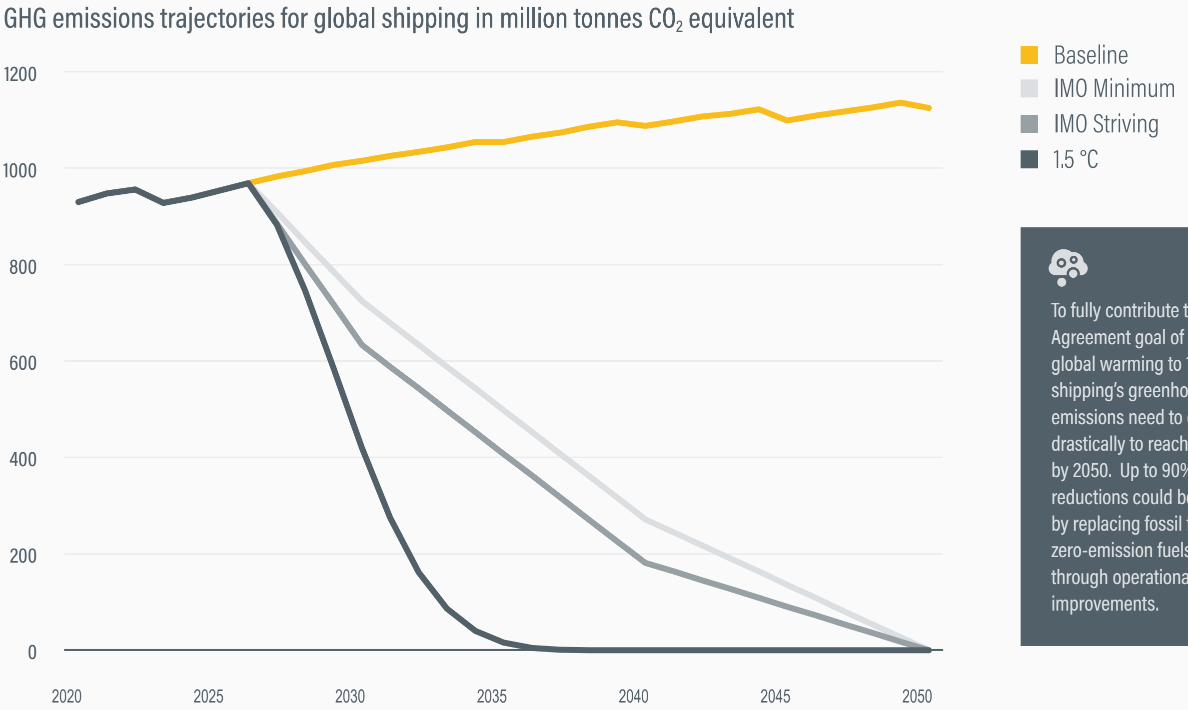
As of mid-2025, the leading countries for ship registration were Liberia, with 424 million DWT, Panama (371 million DWT) and the Marshall Islands (305 million DWT). Out of a total of 112,495 ship registrations, SIDS accounted for 13.7% (15,462), and low- and middle-income countries (also including SIDS) represented 70.3% (79,098). By registering their vessels in SIDS, shipowners can benefit from less-costly registration fees, lower safety and worker welfare standards, and fewer restrictions overall.

FIGURE 4. Greenhouse gas emissions from shipping (international and domestic), 2010-2023



Greenhouse gas emissions from shipping (domestic and international) totalled around 950 million tonnes of CO2 equivalent in 2023. International shipping contributed more than three-quarters of the total, or 746 million tonnes (up 1.1% from 2022 and 11.2% from 2020), while domestic shipping (or waterborne navigation) contributed 205 million tonnes, up 26% from 2020.

FIGURE 5. Potential emission trajectories for shipping, 2020-2050

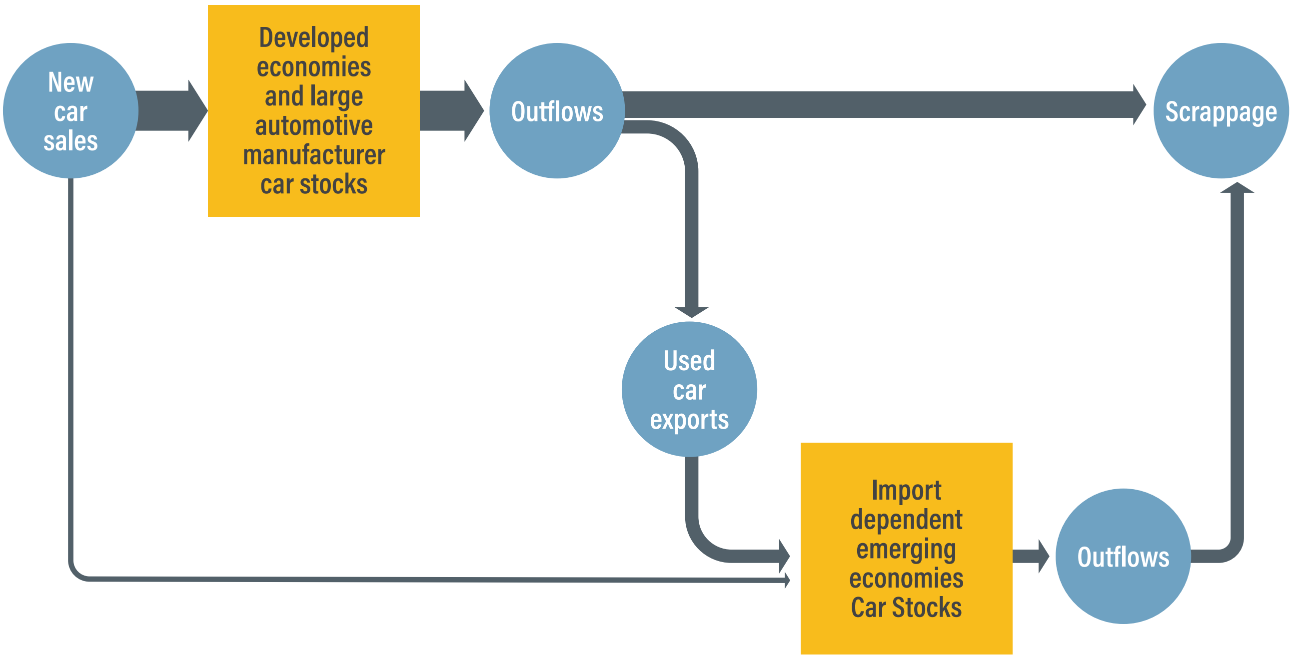


To fully contribute to the Paris Agreement goal of limiting global warming to 1.5°C, shipping's greenhouse gas emissions need to decline drastically to reach zero by 2050. Up to 90% of the reductions could be achieved by replacing fossil fuels with zero-emission fuels, and 10% through operational efficiency improvements.

MODULE S1

SECOND-HAND VEHICLES

FIGURE 1. Schematic flowchart of global vehicle flows



Note: The thickness of the arrows qualitatively depicts the volume of the vehicle flows. Used vehicle exports/imports within a region are not shown.

FIGURE 2. Global used vehicle flows by region, 2015-2020

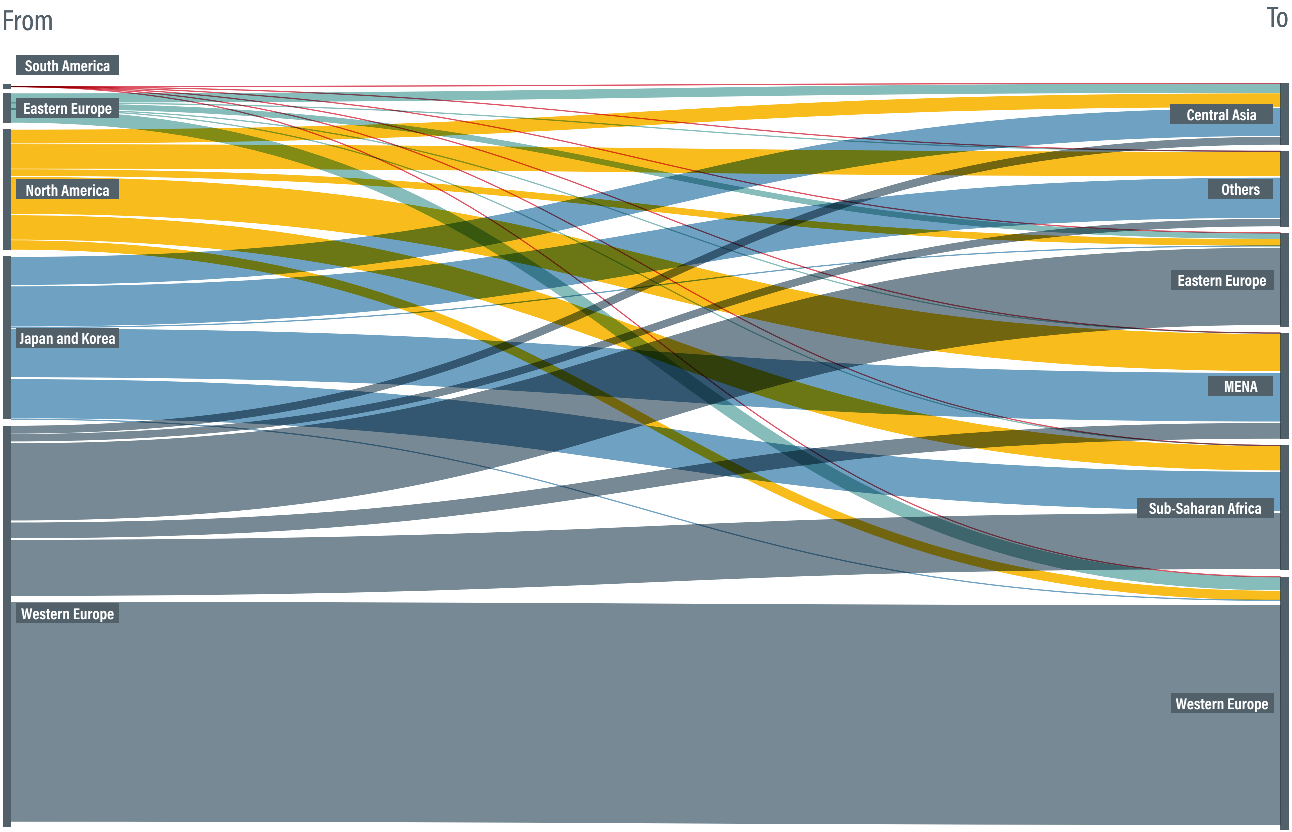
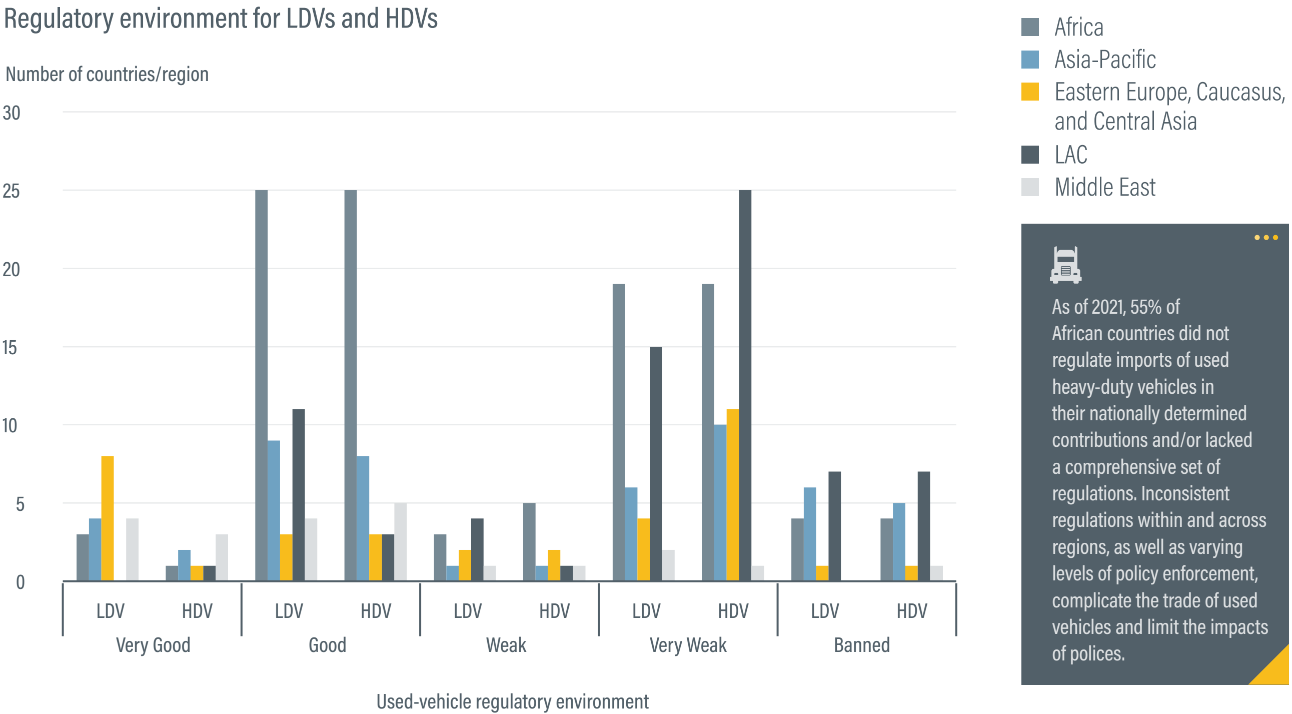


FIGURE 3. Age of vehicle imports versus GDP in selected countries, 2020

In 2018, 85% of the region's vehicle fleet was used imports. African countries also have the highest median age of used vehicle imports, at more than 15 years, compared to less than 3 years in Norway. The age of vehicle imports is generally higher in countries that have a lower per capita gross domestic product (GDP).

FIGURE 4. Regulatory environments for light-duty and heavy-duty vehicles, by region, as of 2023



As of 2021, 55% of African countries did not regulate imports of used heavy-duty vehicles in their nationally determined contributions and/or lacked a comprehensive set of regulations. Inconsistent regulations within and across regions, as well as varying levels of policy enforcement, complicate the trade of used vehicles and limit the impacts of polices.