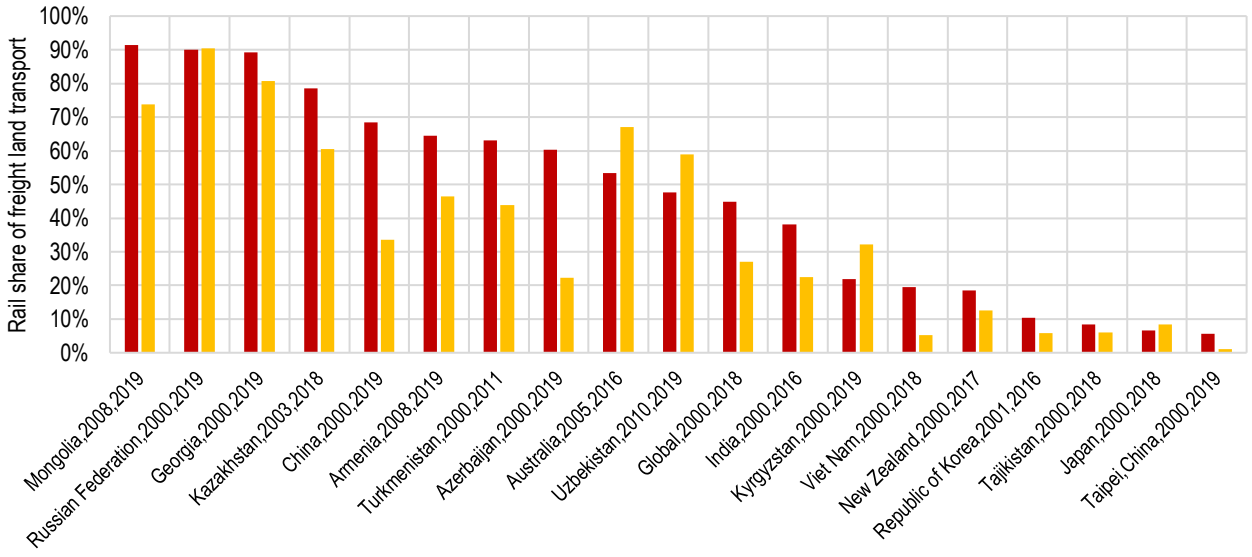
Asian Transport Outlook (ATO)

How efficient are Rail Freight Mode Shift Policies in Asia?

Close to 364,000 kilometres of heavy rail infrastructure[1] exists in ATO economies. This infrastructure accommodates freight activity of about 7 trillion tonne-kilometres annually[2]. The majority of this freight movement is concentrated in China, Russia and India, with about 88% of total ATO economy rail freight movement.

There has been only a marginal increase in heavy railway infrastructure in many Asian economies in the last two decades. For example, China, Russia and India, the countries contributing most to rail freight transport, increased their heavy infrastructure by only about 17,000 route kilometres in the last 25 years, i.e., with a 0.3% annual rate of increase[3]. At the same time changes in production and consumption patterns and changes in the commodity mix with new trade patterns and these are affecting freight transport activity. The growing demand for reliable, flexible and cost-effective door-to-door freight services has led to a significant freight shift away from railways. The railway freight share inland transport freight activity decreased in the majority of ATO economies (Fig. 1), of the three countries with largest rail freight activity Russia bucked this trend with no change. For the ATO region as a whole, rail share of total land freight transport went from 63% (1990-2000) to about 42% (2018). This is however still well above the global averages of 45% and 27%.

Figure 1: Rail Share of Freight Inland Transport, Multiple Years



Source: UIC, Country Statistical Yearbooks, World Bank

[1] Measured in route-kilometers of heavy railways

[2] See TAS-FRA-005

[3] This does not include high-speed rail infrastructure

ATO data used - TAS-FRA-004, TAS-FRA-005

The ESCAP member economies have adopted "The Regional Cooperation Framework[4], which proposes amongst others a harmonisation of infrastructure, rolling stock and other legislative requirements for international railway transport across the region to enhance railway transport competitiveness and to encourage a modal shift.

The sustainable transport community sees freight modal shift as one of the most promising ways to reduce energy use, CO2 emissions, road accidents and air pollution from the freight transport sector. Freight transport modes vary enormously in the amount of damage they do to the environment and related costs. The global evidence suggests that railways' freight movement is more energy efficient (compared with roads), thus offering significant potential to reduce energy use, CO2 emissions, and air pollution[5]. This is in part due to the greater use of electricity in railways, which has grown at an annual rate of close to 5% in recent years, enhancing its potential to reduce emissions.

Although sustainable transport plans, strategies, and policies in different countries emphasise freight modal shift (Table 1), most ATO economies have found it challenging to maintain the rail share in freight transport or to achieve significant growth away from the road to railways. In many economies, in a best case scenario, these policies merely slow the erosion of freight shift from the rail freight transport to the road.

Table 1: Rail Mode Share Targets in Selected ATO Economies

Economy	Modal Share Target	Timing of target	Document
India	Railways – freight load of 1.9 billion tonnes (in 2022-23) and an improved modal share of 40 per cent of freight movement (from the current level of 33 per cent)	2022-23	Strategy for New India @75
Pakistan	Increase the share of railways in national freight from present 4 percent (6 billion tonne-km) to 22 percent (81 billion-ton km) (68)	2030	Vision 2030
Sri Lanka	Increase freight transport share of the railway from 1% to 5% by 2020	2020	Public Investment Programme 2017 – 2020 (p.78)
Thailand	Domestic freight transport railway share from 1.4% to 4%	2021	Thailand Twelfth National Economic and Social Development Plan
Vietnam	Railways freight mode share to be 1-3%	2020	Transport Strategy 2020

[4] https://www.unescap.org/sites/default/d8files/knowledge-products/Regional%20cooperation%20framework_Railway%20transport.pdf
[5] https://www.iea.org/reports/the-future-of-rail