

Asian Transport Outlook (ATO)

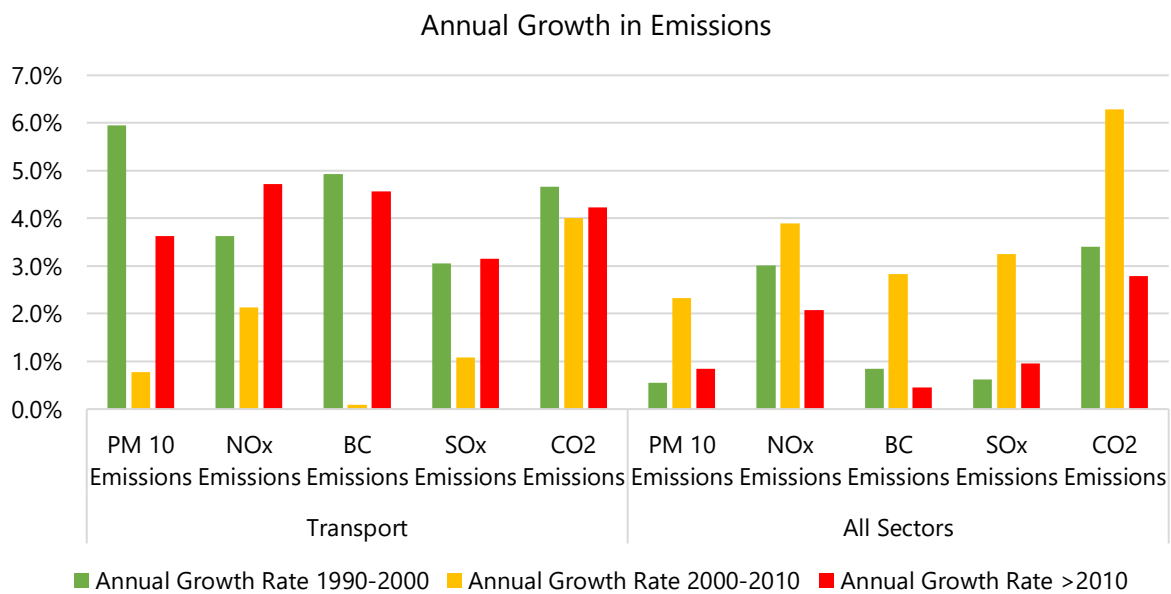
What is the status of Transport Sector Air Pollution in Asia?

Air pollution is directly mentioned in three SDG targets:

- Target 3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
- Target 11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.
- Target 12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their lifecycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment.

In the period 1990 till 2000, air pollutant emissions from the ATO economies' transport sector grew faster than the other sectors in the economy (Fig. 1). Following this, in overall terms the growth of transport emission (PM10, NOx, SOx and BC) slowed down in the 2000s. However, since 2010, growth rates in transport are higher again than for other sectors due to a rapid increase in transport demand and a relative slowing pace in tightening of transport related regulatory standards, i.e., emission standards and fuel quality.

Figure 1: Annual Growth in Emissions Transport Sector and all Sectors.

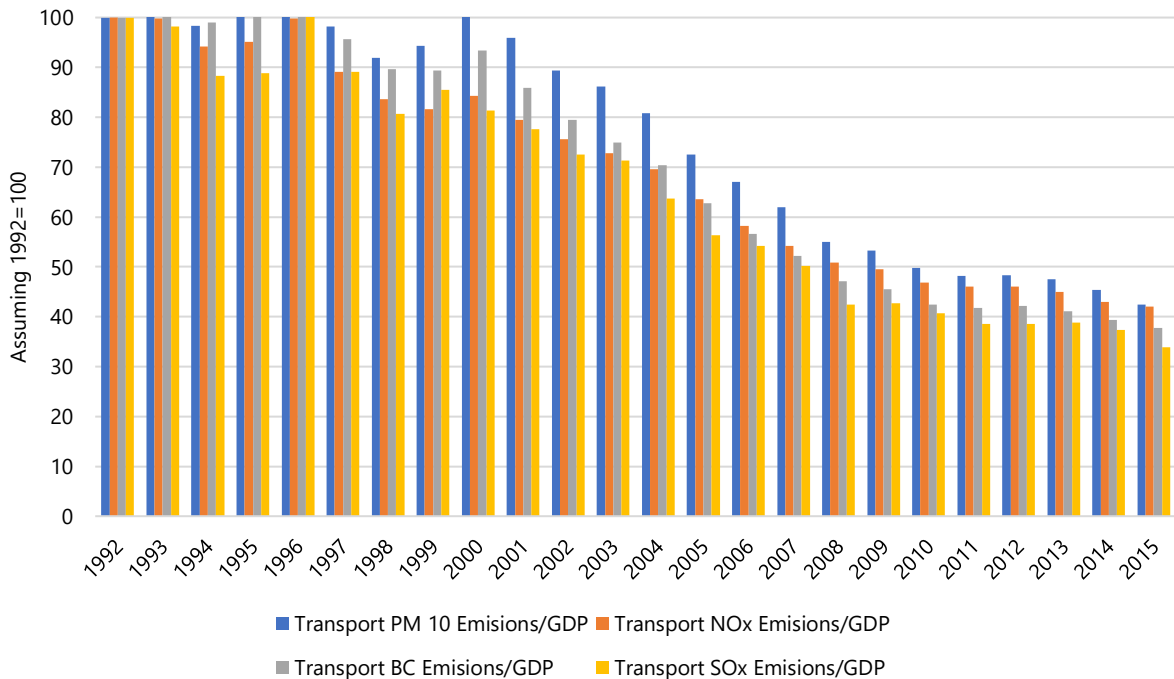


Source: https://edgar.jrc.ec.europa.eu/overview.php?v=50_AP, <https://edgar.jrc.ec.europa.eu/overview.php?v=booklet2018>

ATO Data Used: APH-VAP-021, APH-VAP-022, APH-VAP-023, APH-VAP-024, APH-VAP-025, APH-VAP-005, APH-VAP-010, APH-VAP-015, APH-VAP-020, CLC-VRE-045.

Data shows a similar interaction between economic growth and emissions; a strengthening of the coupling between GDP and emissions for the period 1990 to 2000 and a relative weakening of the coupling of emissions with income since 2000 (Fig. 2). However, since 2010, emissions have started rising, and more detailed data is required to confirm it. Since 2000, GDP is growing faster than air pollutants but this relative decoupling has slowed down in recent years i.e. since 2010. This implies that transport emission reduction policies have not been able to accelerate the reduction of transport related air pollution in Asia

Figure 2: Transport Related Emissions and GDP, 1992 - 2015

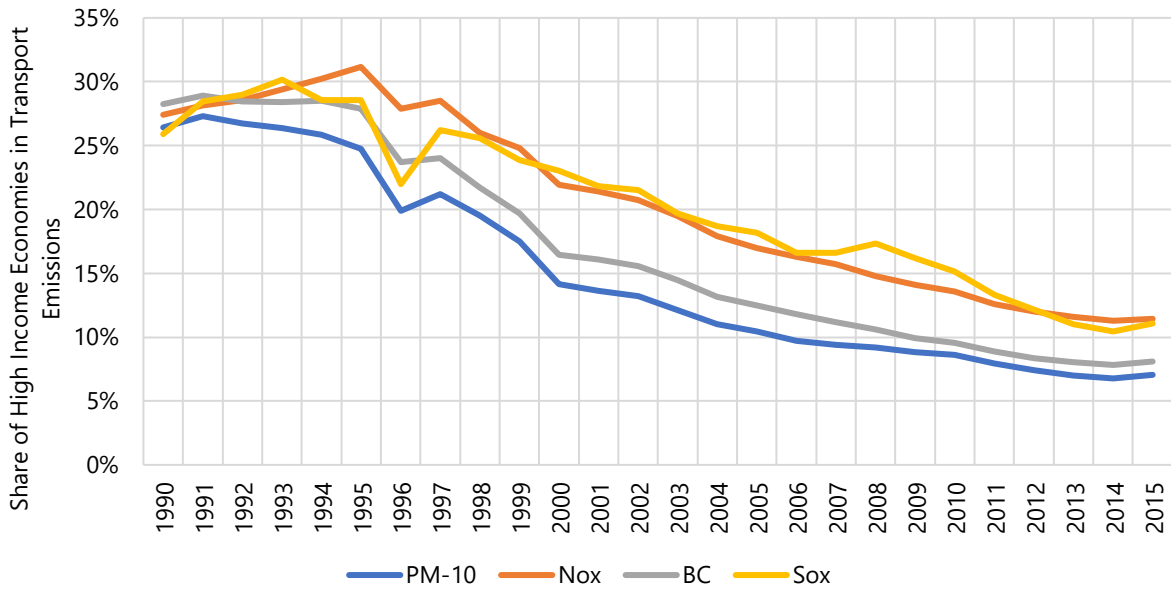


Source: https://edgar.jrc.ec.europa.eu/overview.php?v=50_AP,
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However, in high-income economies, a consistent reduction in air pollutant emissions can be observed with the share of high-income economies in transport emissions in the ATO economies reduced from 26%-28% in 1990 to 7%-11% in 2015 (Fig. 3).

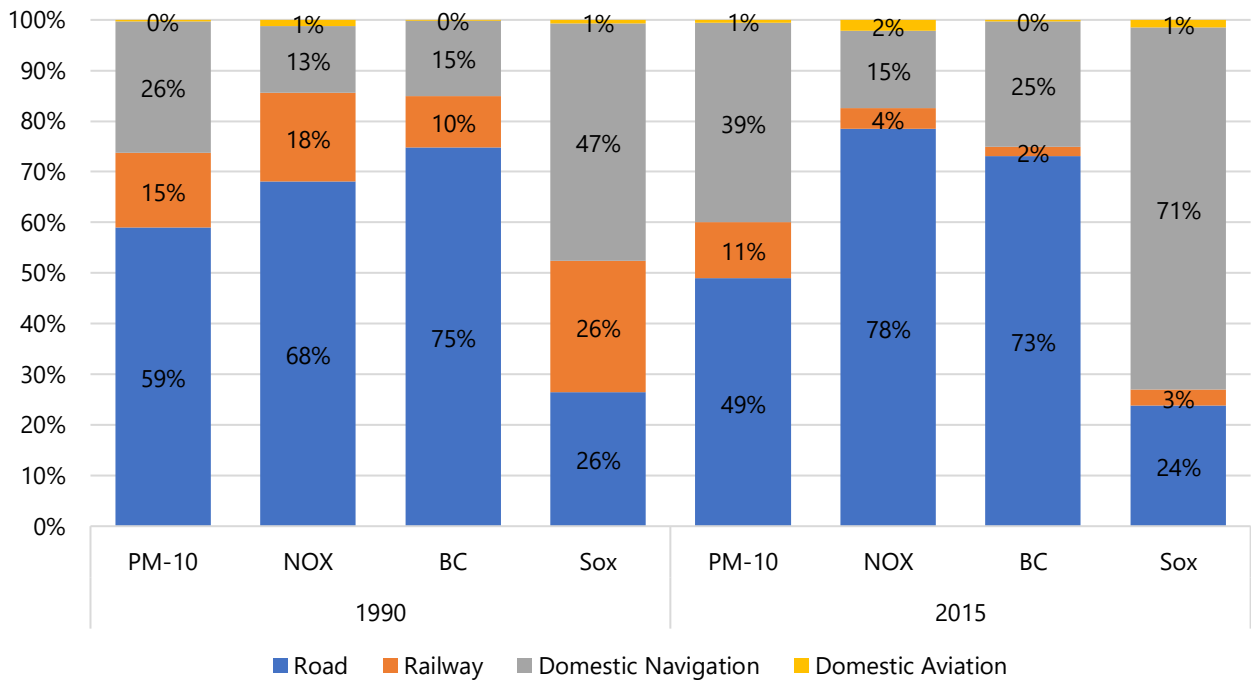
Figure 3: Share of High Income Economies in Transport Emissions, 1990 - 2015



Source: https://edgar.jrc.ec.europa.eu/overview.php?v=50_AP, <https://edgar.jrc.ec.europa.eu/overview.php?v=booklet2018> ATO Data Used - APH-VAP-021, APH-VAP-022, APH-VAP-023, APH-VAP-024, APH-VAP-025, APH-VAP-005, APH-VAP-010, APH-VAP-015, APH-VAP-020, CLC-VRE-045, SEC-SEG-001

Road transport and domestic navigation (inland shipping) are the primary sources of transport emissions (about 90% or above) (Fig. 4). The railway sector contribution to transport emissions has significantly reduced since 1990 due to more stringent engine emission standards and electrification. Domestic navigation emission share has increased substantially across the ATO economies. This is mainly due to an increase in activity. Domestic navigation has started to become cleaner only recently. It will take years for any impact to be seen. Road and railway have become cleaner when compared with navigation.

Figure 4: Relative Shares of Domestic Transport Modes in Transport Emissions, 1990 and 2015

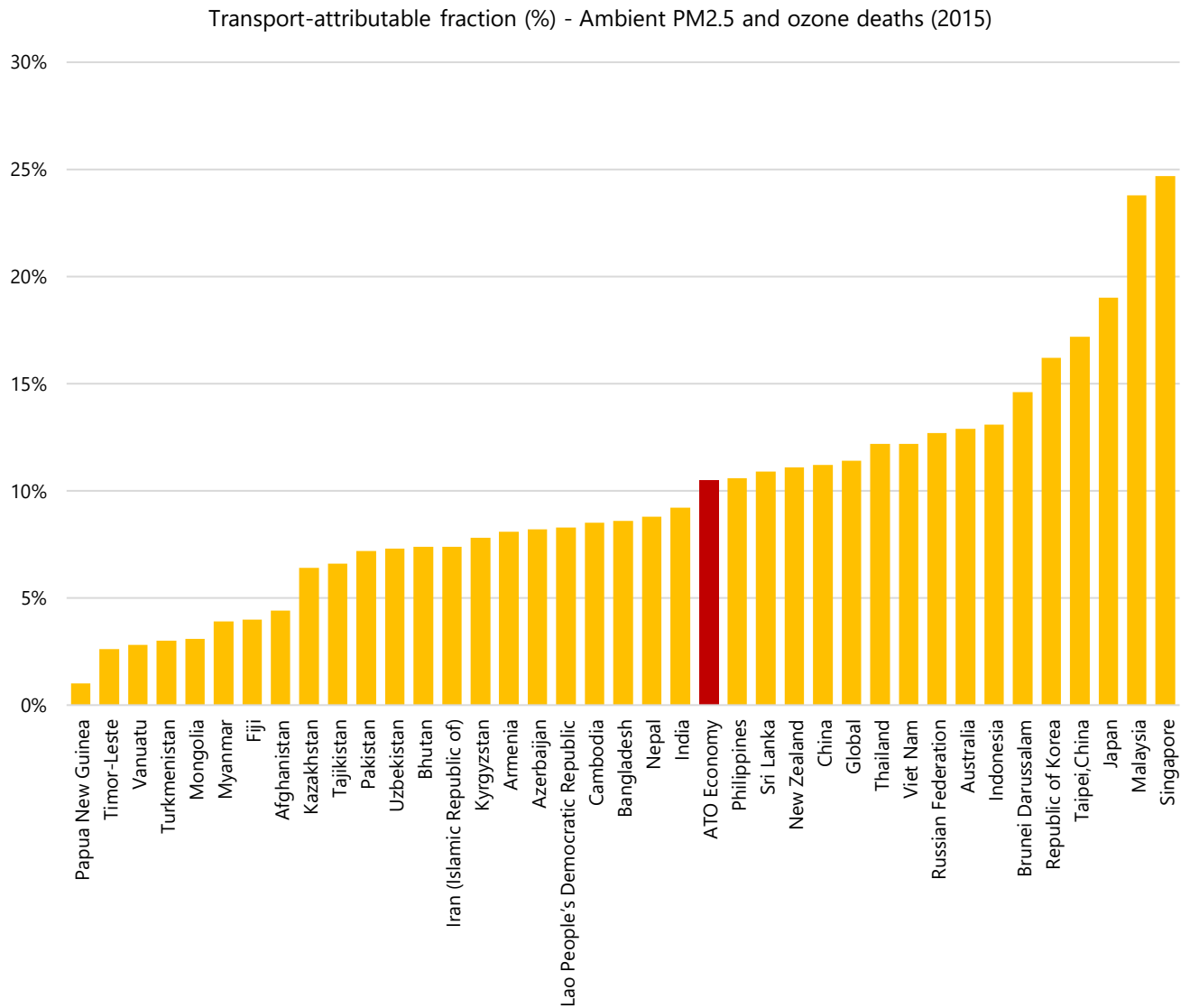


Source: https://edgar.jrc.ec.europa.eu/overview.php?v=50_AP , ATO Data Used - APH-VAP-001- APH-VAP-023

Emissions from the transport sector contribute significantly to ambient air pollution and associated health impacts. It has been estimated that the ATO economies which accounted for 41% of global GDP (in terms of purchasing power parity) contribute up to 62% of the transport sector global disease burden associated with fine particulate matter (PM2.5) and ground-level ozone¹. The current transport sector share in ambient fine particulate matter and ozone pollution related deaths in the ATO economies stands at 10% (Fig. 5). Road diesel vehicles cause a disproportionate share of road transport-related fine particulate matter (PM2.5) and ground-level ozone deaths. In the ATO economies, diesel vehicles account for 72% of the total road disease burden associated with particulate matter (PM2.5) and ground-level ozone pollution.

¹ Indicator - APH-HAT-002

Figure 5: Deaths Related to Ambient PM 2.5 and Ozone Emissions from the Transport Sector



Source: <https://theicct.org/publications/health-impacts-transport-emissions-2010-2015>

ATO Data Used: APH-HAT-002