THAILAND

ROAD SAFETY PROFILE

Supported by:

The ATO road safety profiles offer insights into the road safety in 37 Asia-Pacific countries by utilizing road safety related data from various sources and policy information extracted from a range of documents.

These road safety profiles were developed by the Asian Transport Observatory in collaboration with the Asia Pacific Road Safety Observatory (APRSO) and the International Road Federation (IRF). This September 2025 edition updates the February 2025 release—prepared for the Global Ministerial Conference on Road Safety in Marrakech—to inform discussions at the Asia-Pacific Regional Road Safety Conference in Manila.

Country Summary

Road safety in Thailand remains a critical concern despite some improvements. While progress has been made, the country's road fatality rate is still significantly higher than regional averages. In 2021, it was estimated about 18 thousand fatalities in Thailand due to road crashes. (WHO) Road crash injuries accounted for 3.5% of all deaths in Thailand that year. This narrative explores the situation's complexities, examining data discrepancies, the human and economic costs, and the policy landscape surrounding road safety in Thailand.

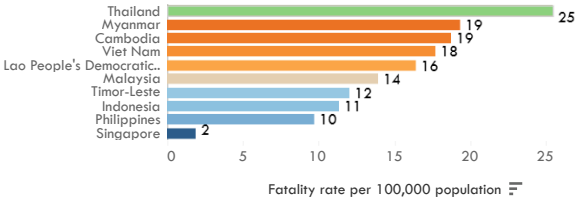
Population (2024)
72 Million

GDP per capita, PPP (2022)
20,679 USD
Upper middle income

WHO (estimate) road crash fatalities for Year 2021
18,218 deaths

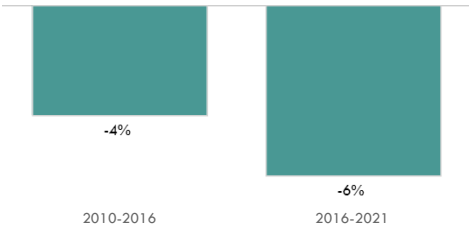
The country report to WHO recorded 16,957 deaths in 2021

WHO estimated road crash fatality rate in Thailand compared to other countries in South East Asia (2021)



(WHO estimated, 2023)

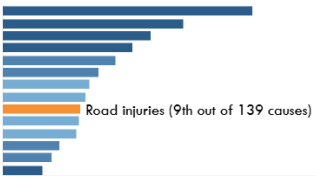
Annual average growth rate of road crash fatalities



(WHO estimated, 2023)

The country report to WHO recorded 23.6 deaths per 100,000 population in 2021

Causes of mortalities in Thailand (2021)



(IHME, 2024)

A significant challenge in assessing Thailand's road safety situation is the discrepancies between reported data. The numbers reported by country statistics, WHO, and the Global Burden of Disease for 2021 and 2022 vary significantly, ranging from approximately 7,000 to 22,000 fatalities. This inconsistency makes it difficult to accurately track progress and implement effective interventions.

Road crash fatality rate, by source

WHO (estimate) for Year 2021
25.4 per 100,000 population

WHO (country-report) for Year 2021
23.6 per 100,000 population

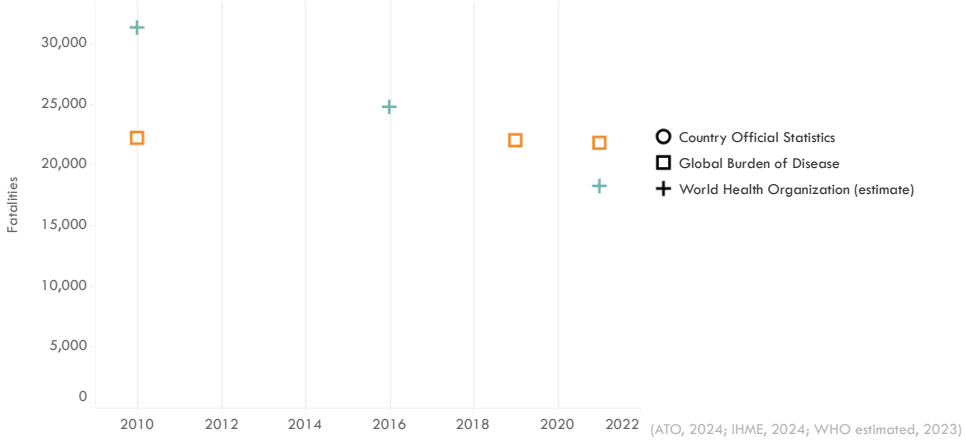
Country official statistics for Year 2024
19.7 per 100,000 population

GBD estimate for Year 2021
30.4 per 100,000 population

Every 7 minutes, someone dies in a road crash in Thailand

(WHO estimated, 2023)

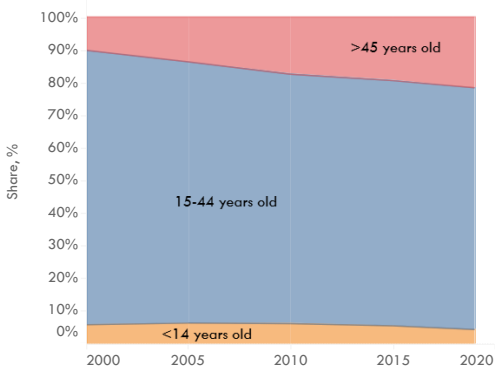
Road crash fatalities, by source



(ATO, 2024; IHME, 2024; WHO estimated, 2023)

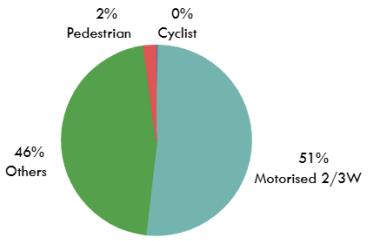
Analyzing disaggregated data reveals further insights. The share of female fatalities has slightly decreased, and the combined share of minors (<14) and seniors (>65) in road crash fatalities has seen a slight increase. Concerningly, the combined share of pedestrians and bicyclists in total fatalities is only 2%, significantly lower than the Asia-Pacific average of 31%, suggesting potential underreporting or a need for more detailed investigation into these vulnerable road user groups.

Road crash fatalities, share by age group



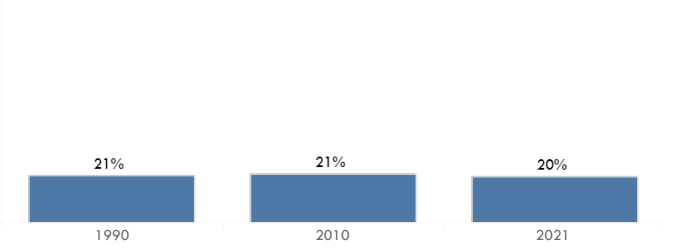
(IHME, 2021)

Road crash fatalities, share by road user



(Country report to WHO, 2023)

Share of female road crash fatalities



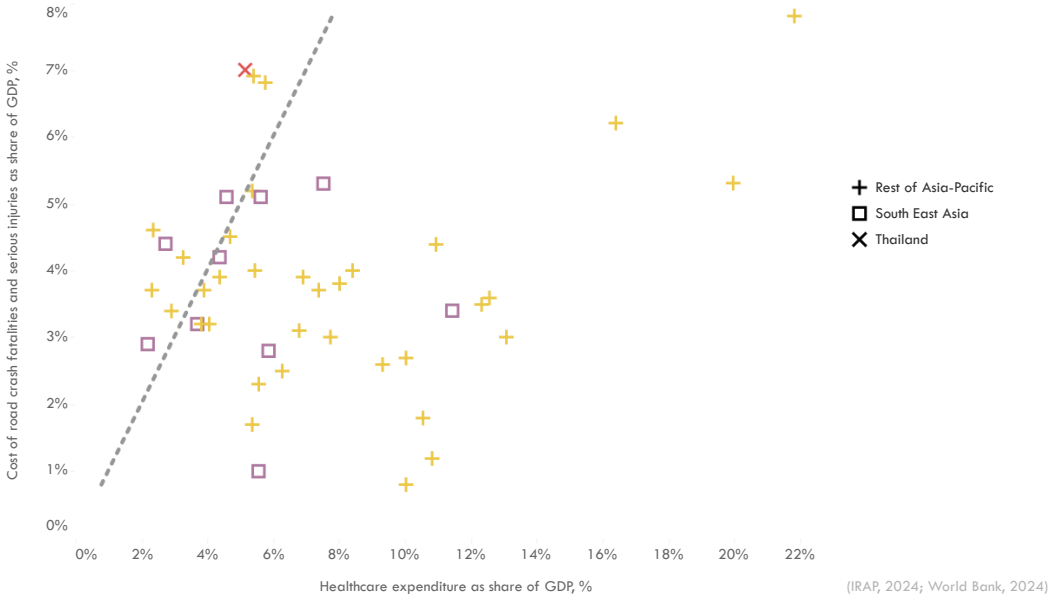
The country report to WHO indicates that women made up 19% of total road crashes deaths in 2021

(IHME, 2024)

The impact of road crashes extends far beyond human suffering. These fatalities and serious injuries cost Thailand approximately 36 billion USD in 2021, roughly 7% of the country's GDP. For comparison, healthcare expenditure in Thailand in the same year amounted to only 5.2% of its GDP.

Cost of road crash fatalities and serious injuries (2021)
35.6 Billion USD

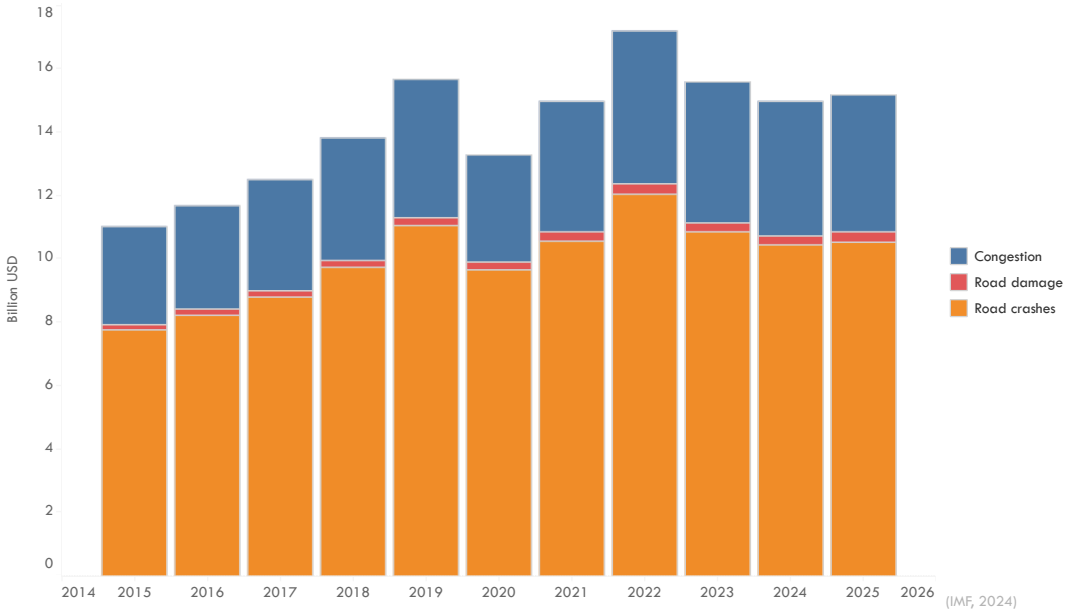
Cost of road crash fatalities and serious injuries vs. country healthcare expenditure as share of GDP (2021)



(IRAP, 2024; World Bank, 2024)

Road crashes also constitute about 70% of the total implicit costs due to fossil fuel subsidies in transport. Investing in road safety offers a significant return. IRAP estimates that an annual investment of 632 million USD (just 0.1% of Thailand's GDP) could save about 6,000 lives yearly.

External costs to the society due to fossil fuel subsidies in transport



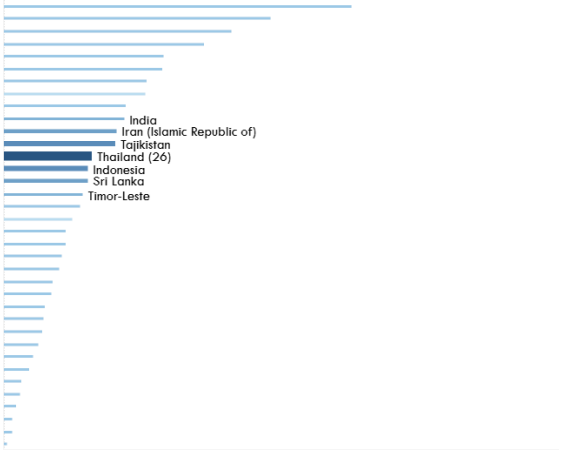
(IMF, 2024)

The quality of road infrastructure plays a critical role in road safety. As of 2024, only 19% and 10% of road infrastructure in Thailand had a 3-star or better IRAP rating for pedestrians and bicyclists, respectively, compared to the Asia-Pacific averages of 14% and 22%. The situation is better for vehicle occupants, with at least 44% of roads having a 3-star or better rating. However, for motorcyclists, who make up a substantial portion of road users, only about 17% of road infrastructure has a 3-star or better rating. Thailand had about 31 fatalities per thousand kilometers of road.

Road availability (2021)
9.8 kilometers per thousand population

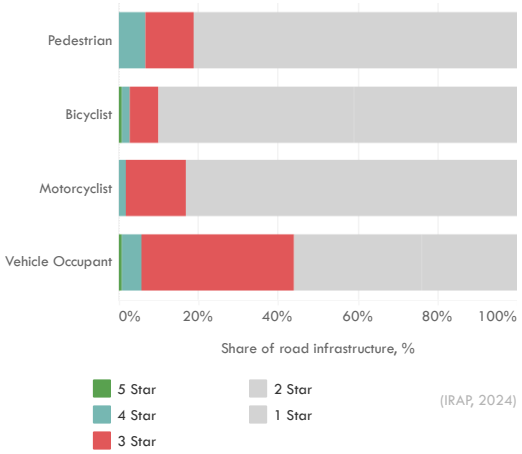
Length of road assessed by IRAP (as of 2024)
3,061 kilometers

Road crash fatalities per thousand kilometers (2021)



(WHO estimated, 2023; Nirandjan, et al., 2022)

Share of road infrastructure with 3-star or better safety rating, by road user category (2024)

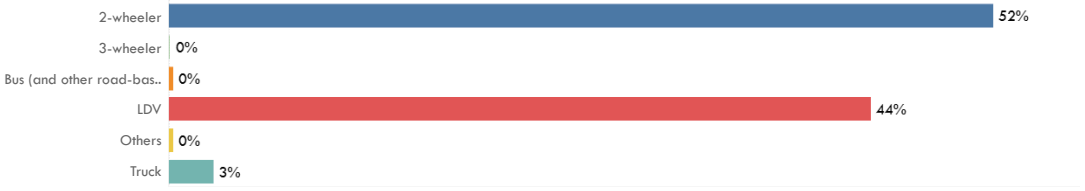


(IRAP, 2024)

By 2022, there were 596 vehicles per thousand in Thailand, shared by 52% of 2-wheelers, 44% of LDVs, and a small percentage of other vehicle types. This high level of motorization, particularly the prevalence of motorcycles and infrastructure challenges, contributes to the high fatality rate.

Motorization rate (2022)
596 vehicles per thousand population

Vehicle share by type (2022)

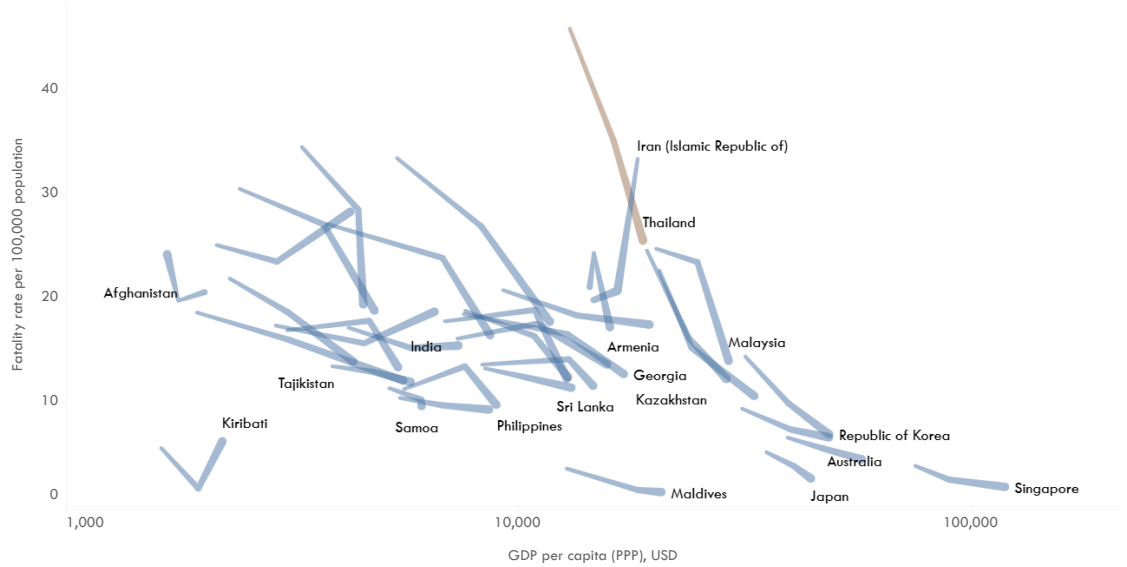


(ATO, 2024)

Benchmarking

While WHO estimates a decrease in fatalities per 100,000 population from 45.8 in 2010 to 25.4 in 2021 (a -44% decrease), this improvement is remarkably more pronounced than the regional average. The Asia-Pacific region only experienced a -19% improvement during this period, while South East Asia saw a -35% decrease.

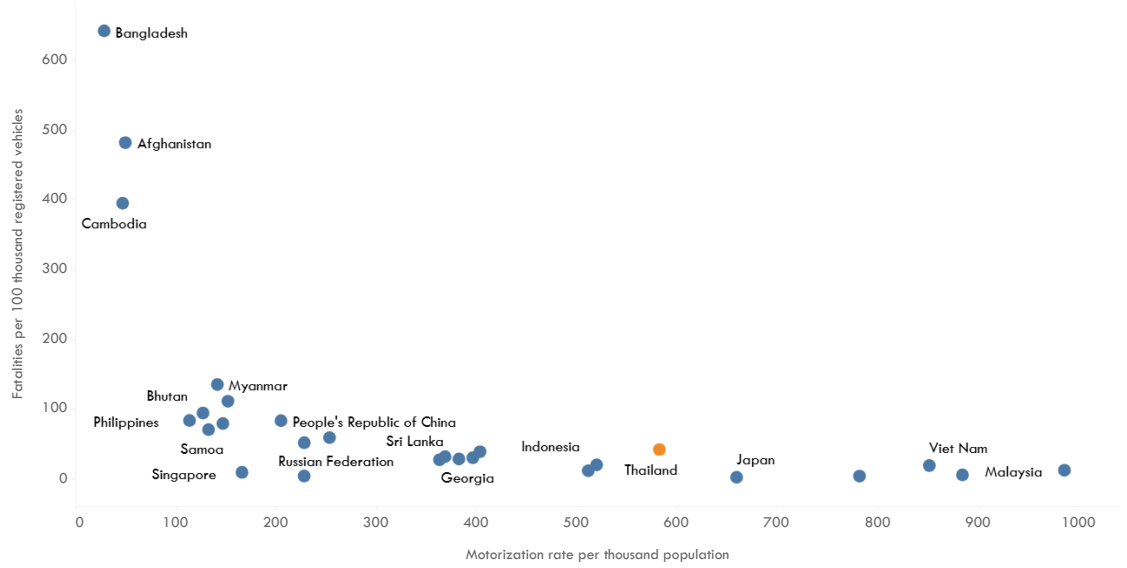
Road crash fatality rate vs. GDP per capita (2010, 2016, 2021)



(WHO estimated, 2023; World Bank, 2023)

Thailand had about 44 fatalities per 100 thousand registered vehicles.

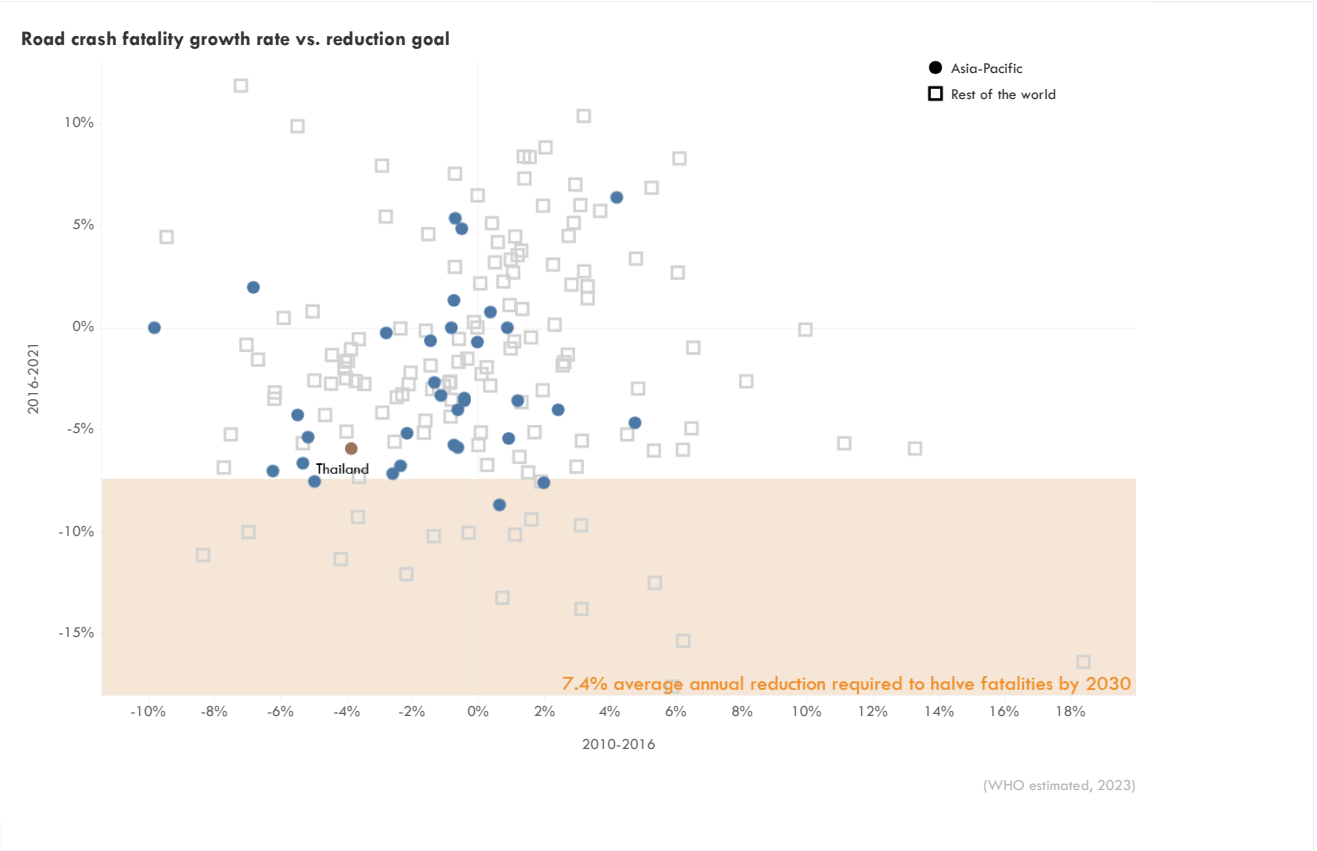
Road crash fatalities per vehicle registration (2021)



(WHO estimated, 2023; ATO, 2024)

Can Asia meet the 2030 target of halving fatalities?

- **Urgent action needed to reduce road fatalities** The Decade of Action for Road Safety 2021-2030 aims to cut road fatalities in half by 2030. An annual reduction of at least 7.4% is necessary to achieve this.
- **Asia-Pacific region falling behind** Despite reaching a peak in road crash fatalities, the Asia-Pacific region is not on track to meet the 2030 goal. The average annual reduction in deaths between 2016 and 2021 was only 0.6%, far below the required rate.
- **Varying progress across Asia** Using the 2016-2021 road crash fatality growth rate as a basis for estimates until 2030:
  - Only 3 Asian countries are projected to achieve the 50% reduction target by 2030.
  - 18 Asian countries are expected to reduce fatalities by at least 25%.
  - Worryingly, 7 Asian countries will continue to increase road fatalities, moving further away from the target.
- In Thailand, road crash fatalities decreased by approximately -5.9% per year between 2016 and 2021. However, this is not enough to reach the 2030 target to halve the fatalities by 2030



Policy Landscape

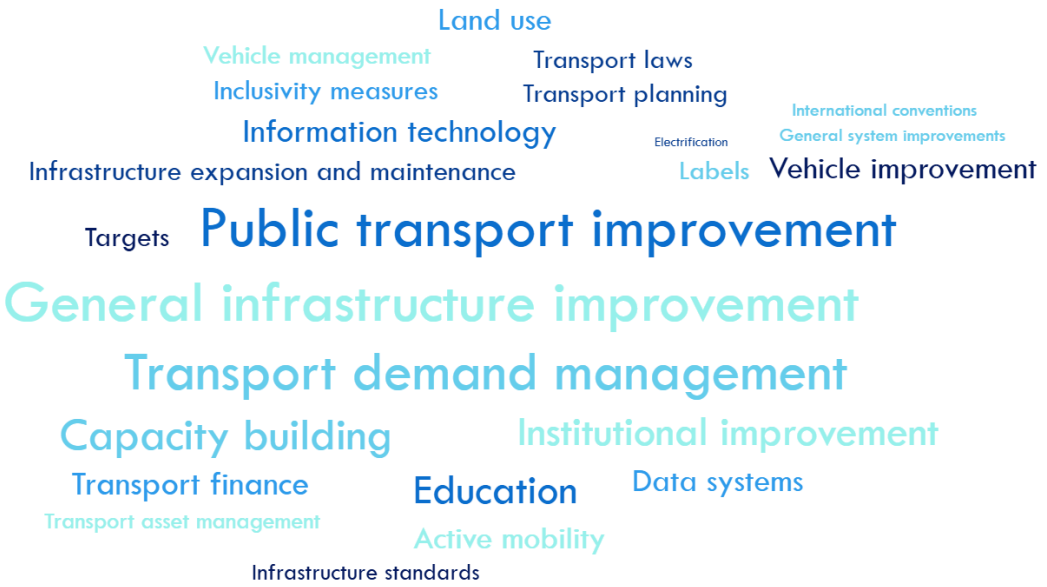
Thailand has established various road safety targets, including reducing the proportion of deaths from public transport accidents. The country's road safety strategy, the Thailand Road Safety Master Plan 2022-2027, was published in 2022. Other relevant policy documents include the Strategies for the Development of Thailand's Transport System for a 20-Year Period (2018-2036), the Climate Change Master Plan 2015-2050, and the Thirteenth National Economic and Social Development Plan (2023-2027). These plans demonstrate a commitment to addressing road safety, but practical implementation and enforcement are crucial for achieving meaningful change.

Targets to reduce road crash fatalities or injuries	Target year	Document	Year published
Proportion of fatalities from public transport accidents to passenger traffic traveling on all public transpor = Present (2015) 8.48% Target (2036) 2.77 percent	2036	Strategies for the Development of Thailand's Transport System for a 20-Year Period (2018-2036)	2019

Measure type	Other targets with indirect benefits to road safety	Target year	Document	Year published
Employment in transport, communication, and storage	The number of automotive workers upskilled to EVs and employed in the new industry increases by 5,000 by 2027.	2027	The Thirteenth National Economic and Social Development Plan (2023-2027)	2023
General capacity building	The value of investment in automotive-related science, technology, research and innovation increases by 20 per cent per year. The number of workers undertaken EVs training development is not less than 30,000 by 2027.	2027	The Thirteenth National Economic and Social Development Plan (2023-2027)	2023
Target - Modal shift	Proportion of public transport users traveling in Bangkok and its vicinity = Present (2015) 31.28% Target (2036) 50.38% Proportion of public transport users in intercity travel = Present (2015) 50.28% Target (2036) 61.12%	2036	Strategies for the Development of Thailand's Transport System for a 20-Year Period (2018-2036)	2019

Target - Transport activity	Proportion of the volume of freight by rail = Present (2015) 1.4% Target (2036) Percent 10% Proportion of volume of water transport = Present (2015) 11.44% Target (2036) 19 percent	2036	Strategies for the Development of Thailand's Transport System for a 20-Year Period (2018-2036)	2019
Urban passenger rail infrastructure improvement	According to the Mass Rapid Transit Master Plan in the Bangkok Metropolitan Region (M-MAP), the Government aims to finish 103 metro stations by 2029.	2029	Voluntary National Review 2021	2021

Policy measures with indirect benefit to road safety



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