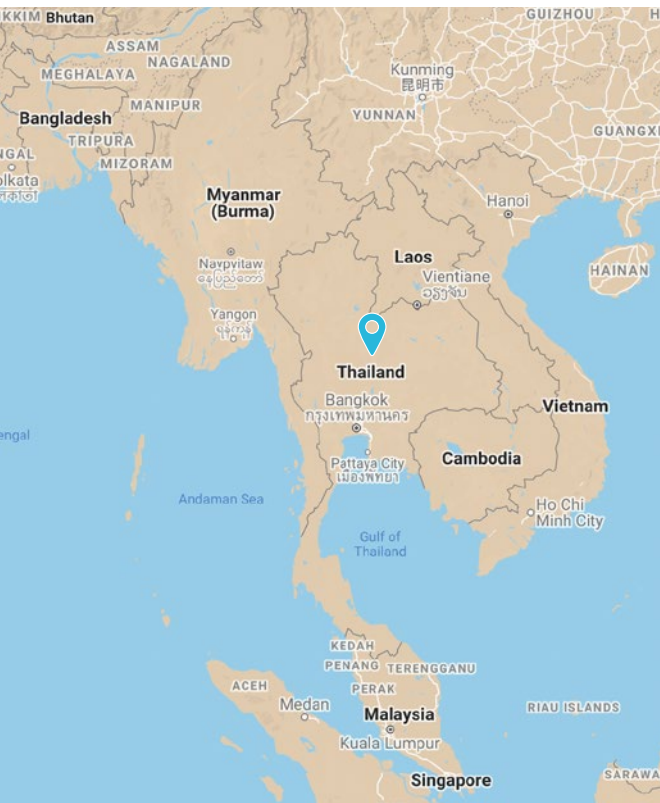


# Thailand

Partner country

Status of the project: Ongoing National Urban Mobility Policy or Programme



## Basic Information

Population: 66.17 million (2021) | Growth rate: -0.01%

Percentage of urban population: 34.47%

GDP per capita: USD 6,730.31 (2020)

Percentage of the population living below the national poverty lines: 6.84% (2020)

Nationally Determined Contribution (NDC):

Reducing annual GHG emissions by 20%, or 115.6 MtCO<sub>2</sub>, in 2030 compared to BAU. Transport will aim to reduce 41 MtCO<sub>2</sub> or 35.42% of the total NDC target (MoT)

National GHG emissions per capita: 5.37 tCO<sub>2</sub>eq (excluding LULUCF), 3.99 tCO<sub>2</sub>eq (including LULUCF)

Proportion of transport related GHG emissions: 25.93% (including LULUCF)

Exposure to climate change: HIGH

## Context

Thailand is in the heart of Southeast Asia and borders Lao PDR, Myanmar, Cambodia, and Malaysia. Its capital is Bangkok or Krung Thep in Thai. Thailand has the second largest economy in Southeast Asia after Indonesia. The services sector represents 45.75% of jobs in Thailand and contributes to 58.59% of the total GDP, followed by the agriculture sector, which employs 31.62% of the active workforce and contributes to 8% of the GDP. Last is the industry sector, which employs 22.63% of the active workforce and contributes to 33.4% of the GDP (Statista, 2019). Thailand relies heavily on tourism, with nearly 40 million visitors in 2019. This puts Thailand in one of the top 10 most visited countries in 2019. However, many sectors have suffered from the decline in tourism due to the COVID-19 pandemic, which had a major impact on Thailand's economy. Thailand experienced negative GDP growth in 2020 for the first time since 1998.

Private vehicles are the most popular mode of transportation in Thailand. Bangkok has the most diversified transport offer in the country, including BTS (sky train), MRT (subway), metered taxis, motorcycle taxis, and Tuk Tuks. However, the city is still notorious for traffic congestion as people prefer to use private vehicles for convenience and flexibility. To travel across the country or to the suburbs, there is an abundance of minivans and buses that connect most cities and popular destinations. Thailand also has 38 airports, seven of which are international airports. It typically takes around an hour to reach anywhere in Thailand by plane. Thailand also has a rail system spanning 4,925 km (BOI), which serves every part of the country although it is not a high-speed train.

The national government has collaborated with GIZ to develop a National Urban Mobility Programme (NUMP) called the Thai Clean Mobility Program, aiming towards reducing GHG emissions stemming from the transport sector, reducing air pollution and promoting a modal shift away from motorised private vehicles to public transport.

The development of the NUMP is a participatory process which requires several preparatory steps and discussions. These steps include:

- Building on existing sector studies to assess city and national government mechanisms for funding, financing and transport planning and implementation
- Identifying support needs for cities that are to be included in the NUMP (capacity, financial instruments, funding, planning procedures, institutional framework)
- Assessing the main current barriers to low-carbon transport in Thailand
- Providing recommendations for “Vision & Goal setting” to:
  - » Draft a national vision for urban mobility (in line with the NDC action plan);
  - » Define the objectives of the National Urban Mobility Programme; and
  - » Provide strategic direction on using the various levers of action available (governance, financing, funding, capacity building, technological choices, etc.) in Thailand

## Support from the Partnership

**Technical assistance:** National Urban Mobility Programme (NUMP)

**Type of NUMP:** Programme NUMP

**Funded by:** BMU

**Funding amount:** EUR 1,661,634

**Implemented by:** GIZ through the TRANSfer III Project

**Local counterpart:** Office of Transport and Traffic Policy and Planning (OTP), Ministry of Transport

**Main purpose of the NUMP:**

- Provide necessary groundwork that allows policymakers in the Thai government to make an informed decision on the implementation of the NDC action plan
- Develop a funding mechanism that supports the implementation of urban transport measures
- Provide a planning framework for urban transport planning (quality standards, clear guidance on roles and responsibilities, capacity development)

**Objectives and supported activities:**

The ‘Thai Clean Mobility Program’ consists of three pillars:

- Congestion charging
- Set-up of a Clean Transport Fund
- Public transport electrification

## Status of implementation

**Project start:** 2017 Q1

**Expected project completion:** 2022 Q4

### Completed outputs:

- Study Tour to Berlin and London (February 2020)
- Pre-feasibility study on congestion charging design for Bangkok (November 2020)
- Two congestion charge videos for communication and educational purposes for broad public as well as for the expert and policy maker community (December 2020)
- Study for the development of a Clean Transport fund (December 2020)
- Thailand Clean Mobility vision of the youth (July 2022)
- Study for Thailand's upscaling public and private investment on public transport electrification (October 2022)

## NUMP key measures and cost estimates

The following table highlights the most significant measures identified in the NUMP.

Measure	Cost Estimate
Congestion Charge	EUR 662,279,406
Bus Modernisation	EUR 124,902,630
BTS/MRT Fare Subsidy	EUR 290,633,646

## Core impact indicator baselines

Indicator	Baseline - 2016
<b>Total annual GHG emissions (Mt CO<sub>2</sub>eq)</b>	68.26 Mt CO <sub>2</sub> eq from the energy sector
<b>Annual transport related GHG emissions per capita (kg CO<sub>2</sub>eq)</b>	1.04 kgCO <sub>2</sub> eq
<b>Air pollution</b> Decrease in mean urban air pollution of particulate matter (in µg PM2.5) at road-based monitoring stations	43 µg/m <sup>3</sup> of PM2.5
<b>Road safety</b> Decrease of traffic fatalities in the urban area, per 100,000 inhabitants	11 fatalities / 100,000 habitants (2020)

## Insights from practice: lessons learned from the NUMP process

### Balance is key, as implementing congestion charging represents a political risk

One key lesson learned from this project is that implementing a congestion charging system can be a complex and politically sensitive process. It involves balancing the objectives and constraints of multiple stakeholders, which can be challenging.

In this project, a steering group and a working group were formed to ensure that all relevant stakeholders were included in the policy design process. However, due to the upcoming national election in Thailand, gaining political buy-in for the actual implementation of the congestion charge in Bangkok has been difficult, as decision-makers may fear that proposing such a system could reduce their popularity with the public.

### Supporting sustainable urban mobility in Thailand requires addressing institutional and regulatory barriers

Implementing the Clean Mobility Fund presents an opportunity to address institutional and legal barriers to congestion charging. Although the Ministry of Finance has reservations due to the past performance of similar funds, this presents an opportunity to ensure transparency and good performance in this initiative. The feasibility study has identified key roles and stakeholders involved in implementing the system, and it is recommended that cooperation between these stakeholders is set up to ensure successful implementation. Additionally, legal issues related to vehicle identification, charging, and payment enforcement need to be addressed. Addressing these issues will ensure a strong foundation for the Clean Mobility Fund and pave the way for effective policy recommendations.

## Highlights in the past year

### A youth vision on clean mobility in Thailand

The Transportation Institute at Chulalongkorn University is working with the GIZ TRANSfer project to help the Office of Transport and Traffic Policy and Planning (OTP) develop a roadmap for implementing congestion charges in Bangkok. As part of this effort, a workshop was held in July to raise awareness of congestion charging among youth and university students, with a focus on the Thailand Clean Mobility Programme (TCMP). The workshop aimed to help students understand the planning and technical factors that have contributed to the success of congestion charge policies in other countries, and to introduce approaches that could be adapted to the Thai context.

During the workshop, students were divided into groups and tasked with developing solutions for implementing congestion charges in specific areas of Bangkok. Some of the suggestions included reducing fees for vulnerable groups who need to use personal cars for medical treatment, optimising public transport with funds generated from the charges, and restricting vehicle types and entry times with variable fees. After presenting their ideas, the students voted on the best solutions, and shared their perspectives with professors and experts.

The goal of the workshop was to encourage young people to get involved in shaping policies that promote clean mobility and sustainable transportation in Bangkok. By fostering a better understanding of congestion charging and its potential benefits, the workshop aimed to contribute to the successful implementation of the TCMP and to help build a more sustainable future for the city.

### The Future of Thailand's Sustainable Clean Mobility - TRANSfer Project Closing Event for Thailand

On 26 September 2022 – the Office of Transport and Traffic Policy and Planning (OTP), together with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH celebrated their successful collaboration in Thailand's Sustainable Clean Mobility under the implementation of the Facilitating the development of ambitious transport mitigation actions (TRANSfer) project.

Over the past five years, OTP and the TRANSfer-Thailand project have jointly engaged with many related agencies to explore alternative solutions for solving the most enduring urban transport issues, i.e., emission mitigation, traffic congestion, and public transport service improvement. On this occasion, H.E. Georg Schmidt, the Ambassador of Germany to Thailand, Mr. Daniel Bongardt, TRANSfer Project Director, Dr. Dominika Kalinowska, Director of GIZ Transport Projects Thailand / ASEAN, Ms. Birgit Schwenk, Director-General at the Federal Ministry for Economic Affairs and Climate Action, Germany, and Mr. Punya Chupanit, Director General at the Office of Transport and Traffic Policy and Planning (OTP), reported and took part in the panel discussion under the topic “Move Forward Climate Change Mitigation Actions in the Transport Sector”. Around 100 participants from other related agencies in the public sector, private sector, educational institutions, and international organisations also joined the Closing Seminar.

Although the TRANSfer project has reached its final chapter, the OTP is still determined to work towards GHG emissions reduction and to continue the legacy of the TRANSfer project through, for instance, the study of the possibility and suitability of a congestion charge scheme in Bangkok and the plan for the establishment of the Clean Mobility Fund to improve public transport services.

The findings of the project's pre-feasibility study showed that if the congestion charge is implemented, it can help to decrease congestion and air pollution and at the same time increase travel speed and the number of commuters on public transport. Moreover, a financial analysis found that the Total Cost of Ownership (TCO) of an electric public bus is 23% lower than that of a fossil fuel public bus, mainly because of the difference between fuel and electricity costs. If 3,200 public buses that use natural gas are replaced with electric vehicles, GHG emissions can be reduced by 184,000 tonnes of carbon dioxide equivalent annually. However, the improvement of the service quality of public buses still needs support from the government to work out long-term solutions.

The support and cooperation that the OTP obtained from the TRANSfer project plays a vital role in helping Thailand reach its GHG emissions reduction target and sustainable transportation.