



ITS Driving for a Better Life
智能交通赋能幸福美好生活



Thailand Future Mobility

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Smart Mobility Research Center
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Society of Automotive Engineering Thailand

ITS Thailand



Topics

- Thailand status
- Electric Vehicle
- Connected and Autonomous Vehicle (CAV)
- Shared and Mobility services

Road Safety

The state of Thai society Q2/2019

Road accidents

Thailand still ranks No 1 in Southeast Asia and No 9 globally for road deaths



Motorbikes biggest cause of accidents: 39.6%

Of the accidents, about 50% are caused by reckless driving:



Cut-off overtaking



Violating speed limit



Driving very close to others



Age group with most traffic deaths: 15-24 years
4 in 5 traffic deaths are of men

Proposed solutions

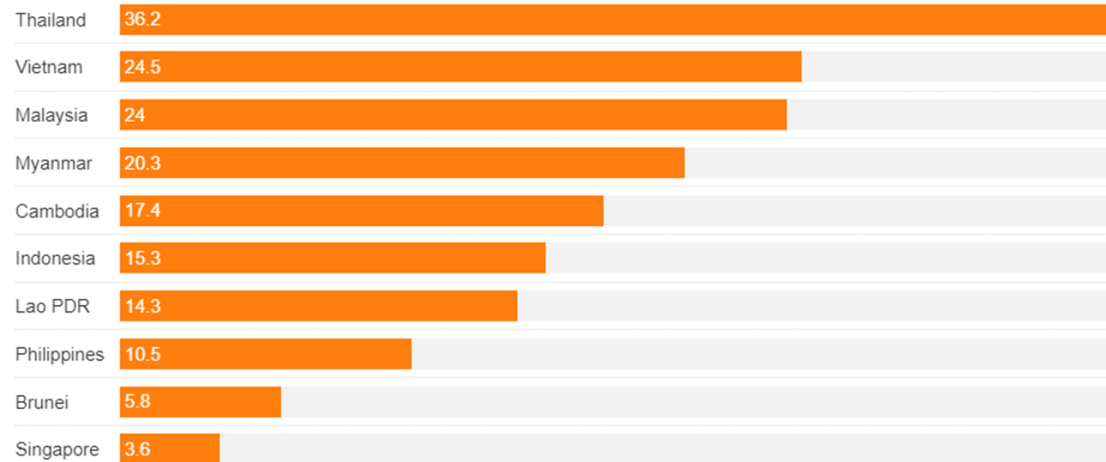


- Raise the level of road safety standards to 3 stars
- Enforce the law seriously and continuously
- Promote the use of technology and innovation to reduce road accidents
- Support local participation in the construction of road safety systems in their area
- Develop a systematic and integrated accident data system
- Promote a main agency for road safety

Source: National Economics and Social Development Council (NESDC)

Road crash fatality rate among ASEAN countries

*Fatality rate per 100,000 population



Source: ASEAN Road Safety Strategy, WHO [Get the data](#)

Created with [Datawrapper](#)

Thailand is the 1st rank in ASEAN for road crash fatality rate

Traffic Congestion

Average speed in Bangkok

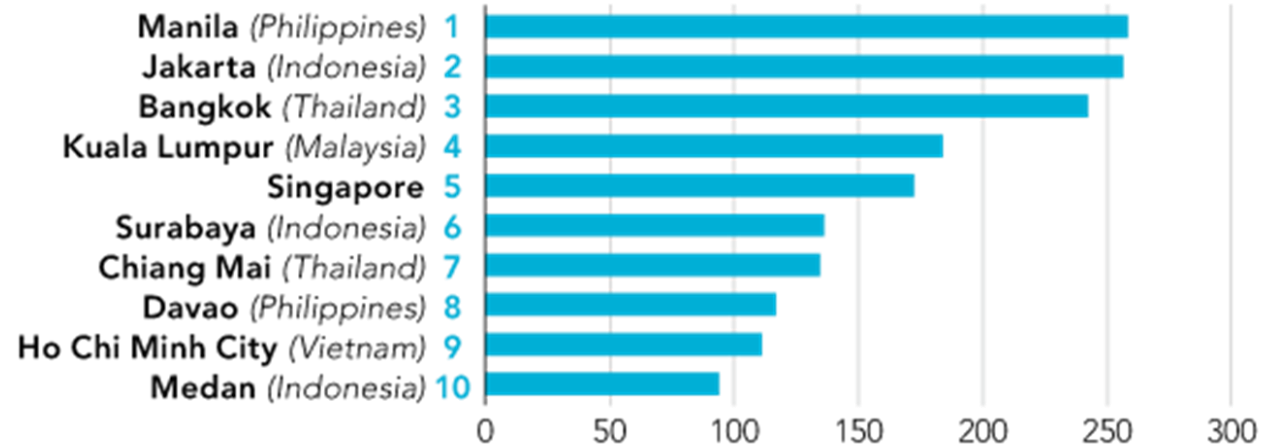
15 km/h (Morning)

19 km/h (Evening)



<https://th.m.wikipedia.org/wiki/>

10 most congested cities in Southeast Asia (traffic index)



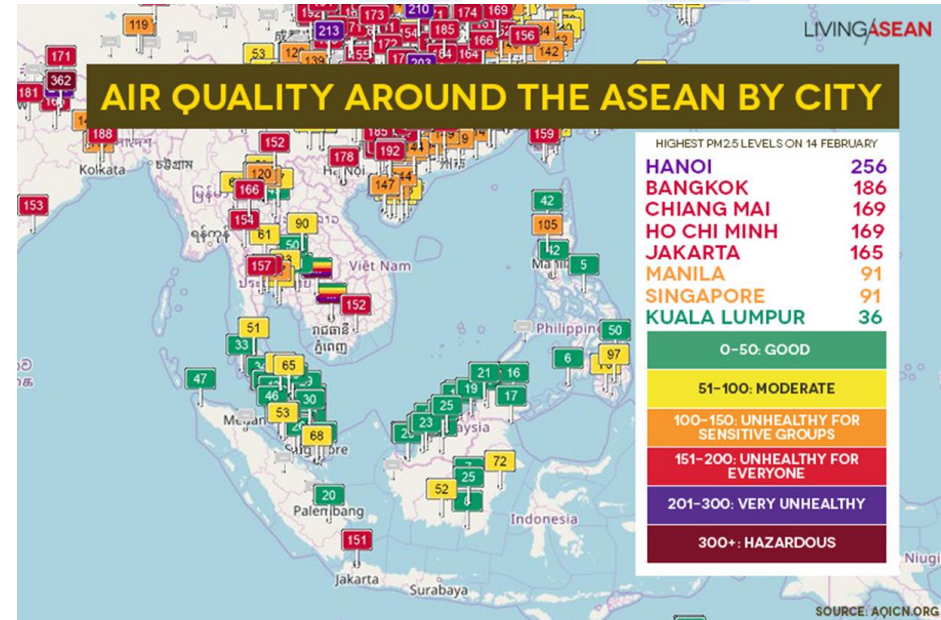
As of mid-2017; index factors in time spent in traffic during work commute, dissatisfaction over time spent in traffic, CO2 emissions, traffic system inefficiencies

Source: Numbeo

Bangkok is in the top-3 rank of ASEAN for the most congested cities

Air pollution

Bangkok is in the top-3 rank of ASEAN for the worst air quality



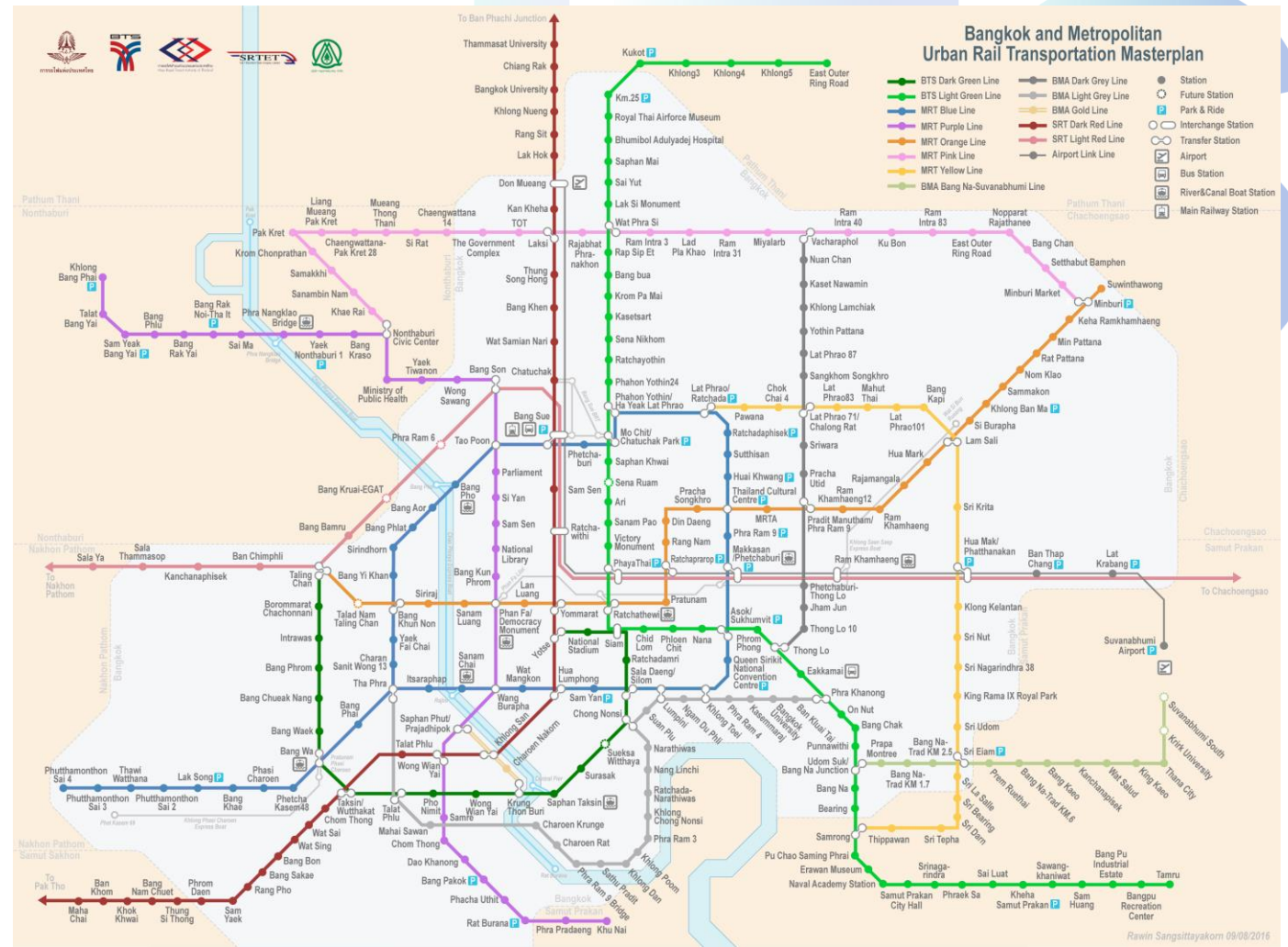
<https://livingasean.com/special-scoop/air-quality-asean-air-pollution-bangkok-hanoi-jakarta/>

Mass Rapid Transit in Bangkok

2021 Current Service: 210.25 km (130.64 mi)

2021 Under Construction: 123 km (76 mi)

2029 Planned total: 540 km (340 mi)



https://www.reddit.com/r/Thailand/comments/9phg62/5year_bangkok_mass_transit_plan/

Electric vehicles

On February 7, 2020, **the National Electric Vehicle Policy Committee** was appointed by PM to drive the development of Thailand's electric vehicle industry in efficient and effective ways.

There is integration and work together to be consistent and in the same direction. The composition of the committee consists of representatives from Government agency and experts

Vision: *Thailand is the world's major production base of electric vehicles and parts.*

Goal: *By 2035: Motor drivers can register new vehicles only 100% ZEV-free vehicles (Engine Ban)*

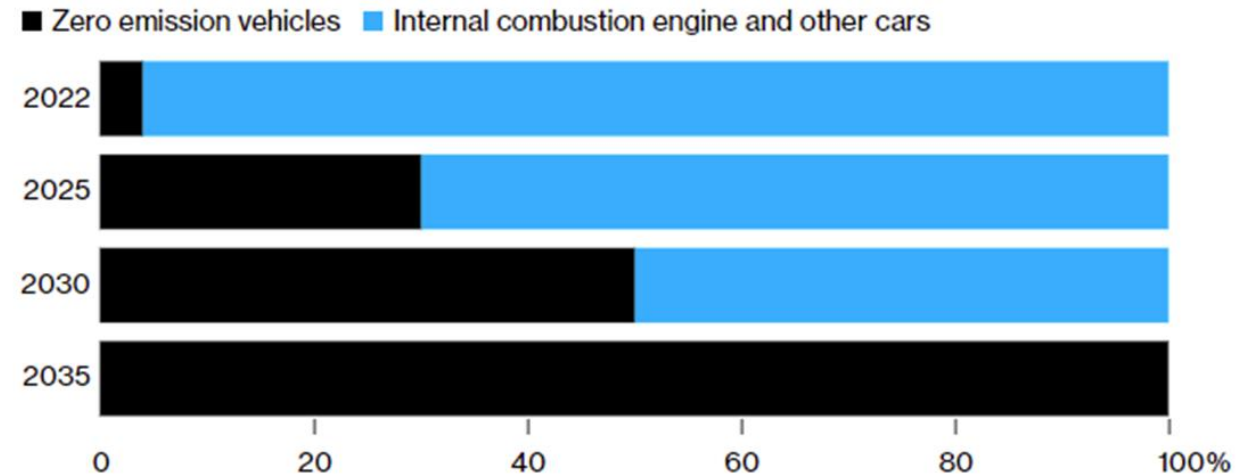
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Charging Forward

Thailand wants every new car sold in the country to be electric from 2035



Source: Energy Ministry

Electric Vehicle

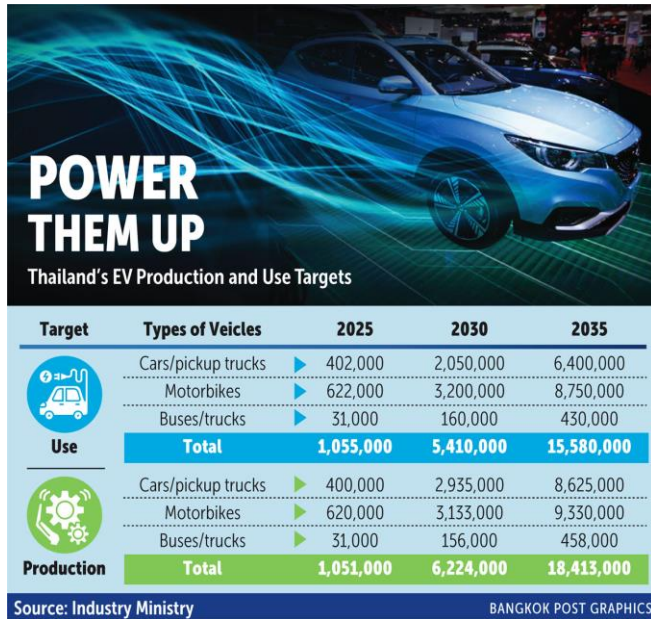
The measures for 1-5 years are as follows.

- Adjust the tax structure such as excise tax (starting in the year 2026) and annual car tax according to the international principle, “the older the car, the more expensive it must be”.
- Management of used car wrecks, batteries and solar cells.
- Build an infrastructure (Eco System) to promote the use of ZEV.
- Provide personnel development, etc. About The National Electric Vehicle Policy Committee



Credit: Asia-Pacific Economic Cooperation

Electric vehicles



DETAILS OF THE EV PACKAGE, 2022-2023

- ✓ Subsidy offered of 70,000 baht per unit for passenger cars with a battery of 10-30 kilowatt-hours (kWh), and 150,000 baht per car with a battery of more than 30 kWh for completely knocked down (CKD) and completely built up (CBU) units
- ✓ Reduction of customs duty by as much as 40% for battery electric vehicles (BEVs) with a retail price of up to 2 million baht
- ✓ Reduction of customs duty by 20% for BEVs with battery size exceeding 30 kWh and a retail price of between 2-7 million baht
- ✓ 150,000 baht subsidy per unit for CKD pickups with a battery size of more than 30 kWh
- ✓ Reduction of excise tax to 2% from 8% for BEVs
- ✓ EV motorcycles priced up to 150,000 baht receive an 18,000 baht subsidy per unit for both CKD and CBU units

BANGKOK POST GRAPHICS

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A package of EV incentives including tax cuts and subsidies to promote electric vehicle (EV) consumption and production between 2022-2023.

Electric vehicles



Electric boat services in river and canal are available. Electric buses are replacing the old bus in Bangkok. Thai company plays major role in developing and manufacturing these EVs.

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Connected and Autonomous Vehicle (CAV)

Policy guidelines for development of automotive industry towards the connected and autonomous vehicle (CAV) industry was produced in 2021 by Thailand Automotive Institute and submitted to Office of Industry Economic, Ministry of Industry.



There are many government agencies, private companies and research institute/universities participated in this project.

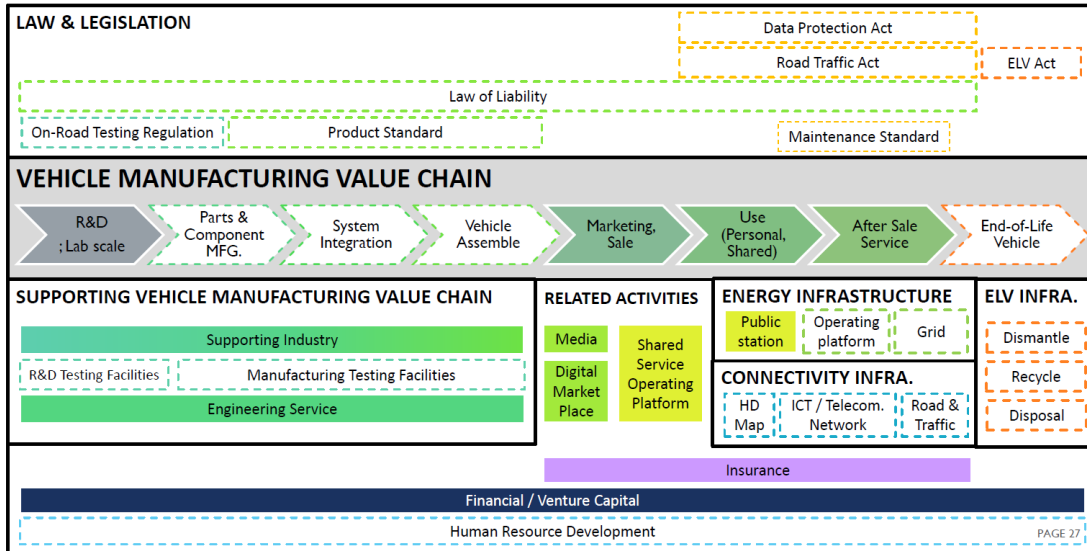


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12 พฤศจิกายน 2564



Connected and Autonomous Vehicle (CAV)

CAV Ecosystem

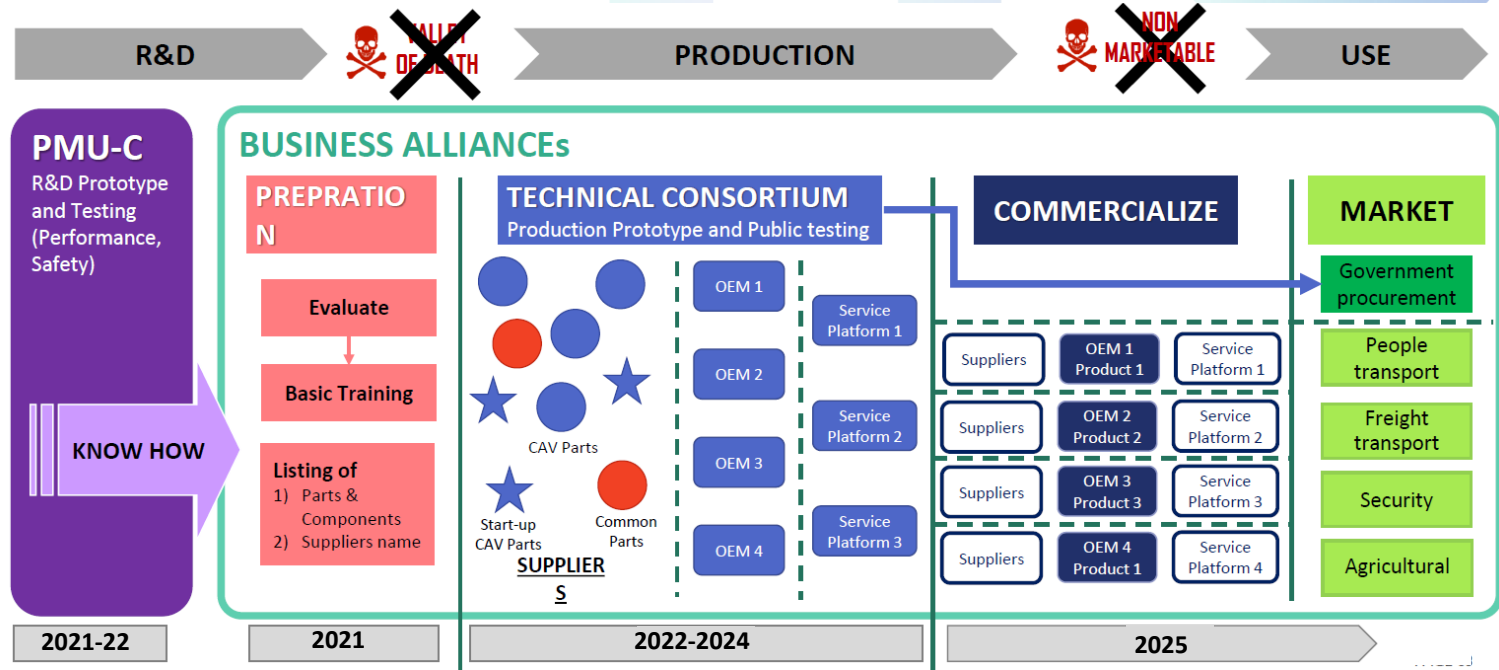
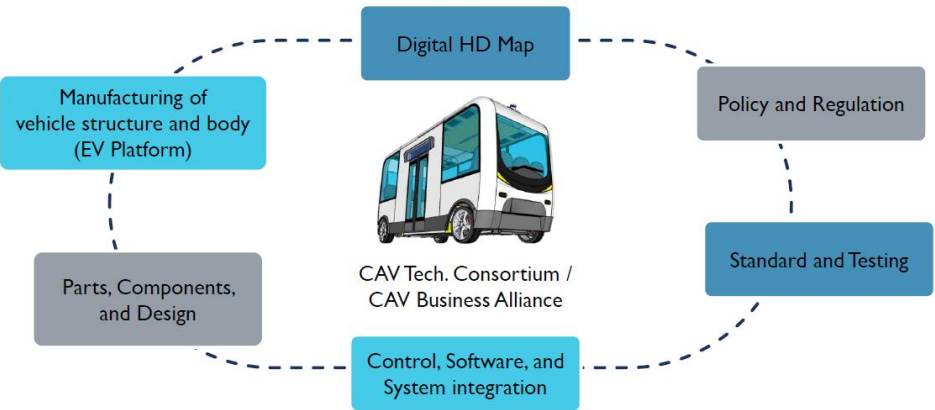


Strategic target of CAV

	2025					2030				
	LV1	LV2	LV3	LV4	LV5	LV1	LV2	LV3	LV4	LV5
1. OWNES VEHICLE Passenger / Pick up / Van	100%					100%				
2. LONG HAUL LOGISTICS & INTER CITY BUS	100%									
3. CITY BUS	100%									
4. LAST MILE LOGISTICS Pre-defined routes										
5. ROBO-TAXI										

Connected and Autonomous Vehicle (CAV)

CAV Tech. Consortium and Business Alliance



Connected and Autonomous Vehicle

Inter-urban CAV proving ground



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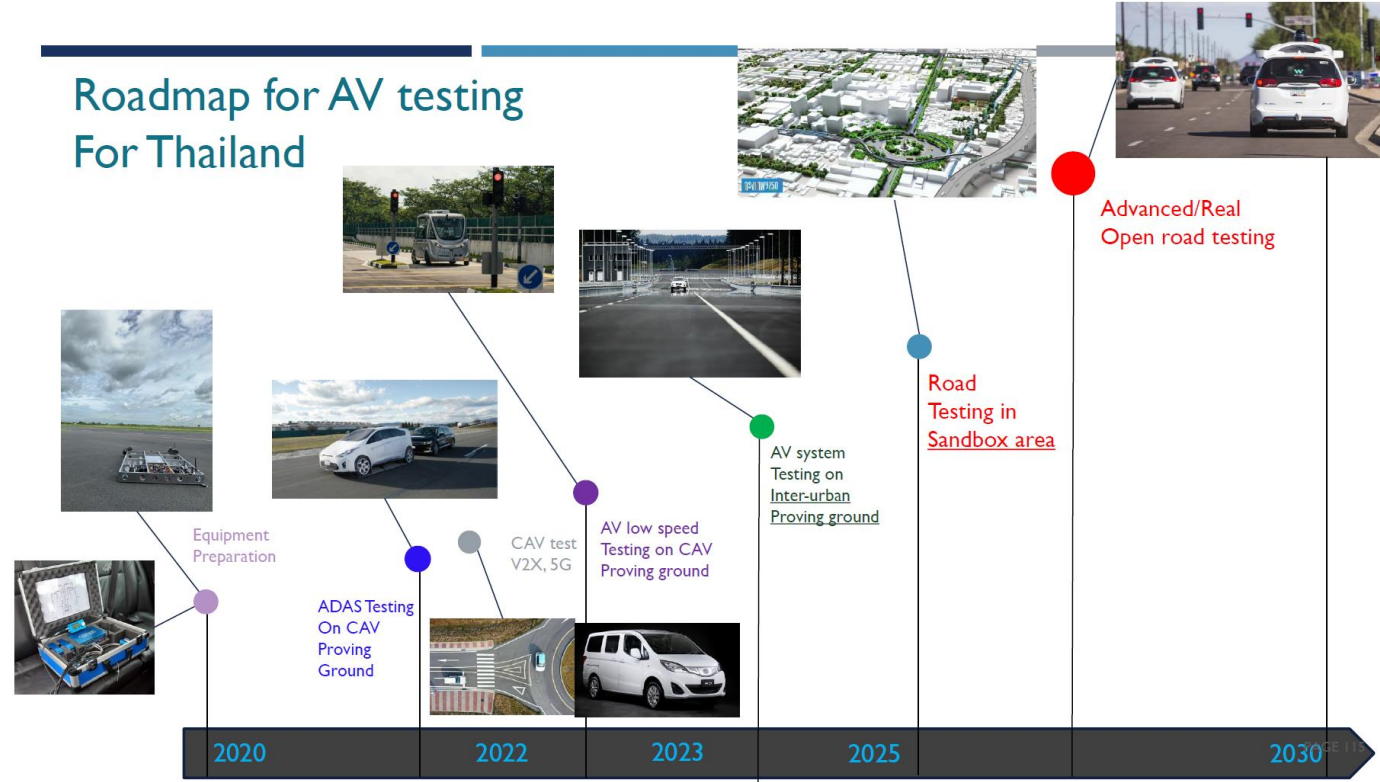


Low speed / urban CAV proving ground

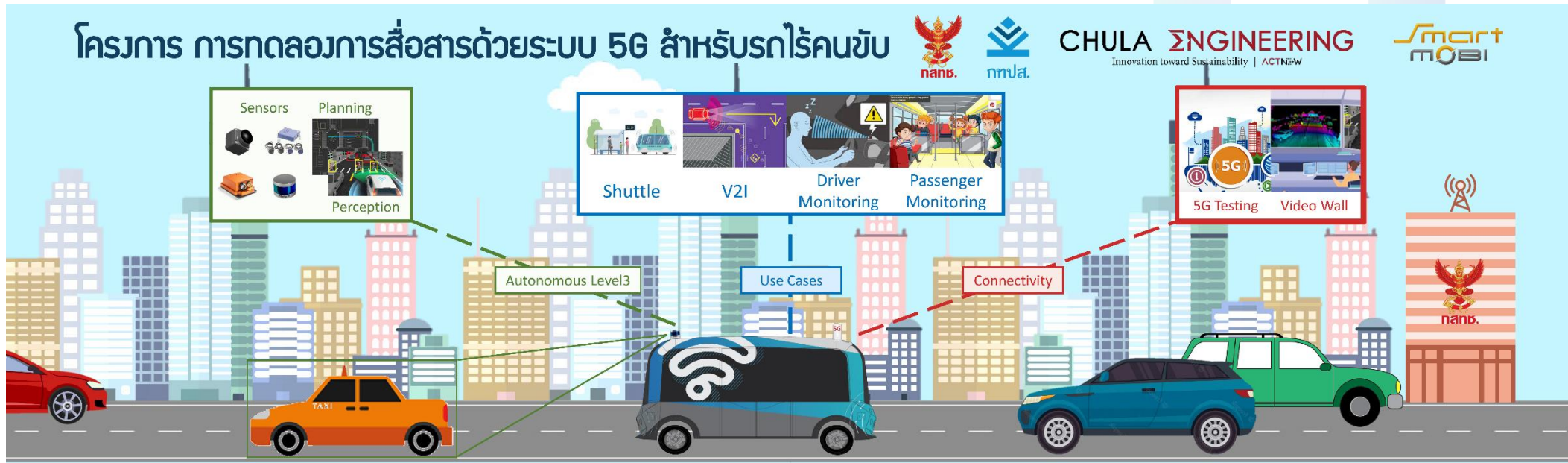


Credit: Thailand Automotive Institute

Roadmap for AV testing For Thailand



Connected and Autonomous Vehicle (CAV)

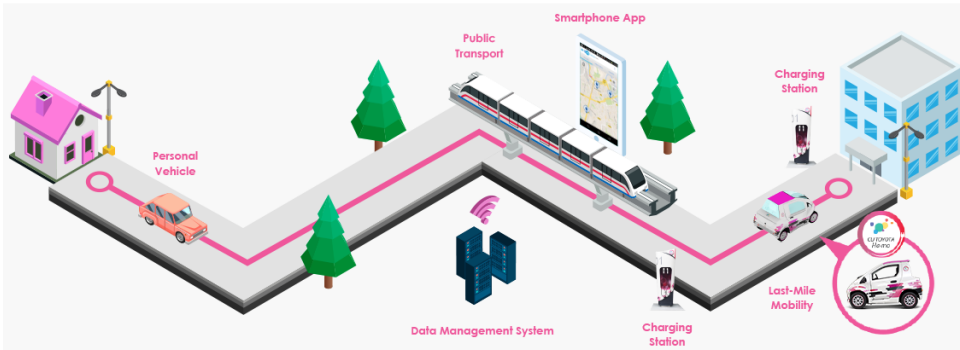


The National Broadcasting and Telecommunications Commission (NBTC) project on testing the autonomous shuttle vehicle with 5G C-V2X use cases

Shared and Mobility Services

Research based and commercial based shared and mobility services are expanding in Thailand.

First/Last Mile Shared micro EV.

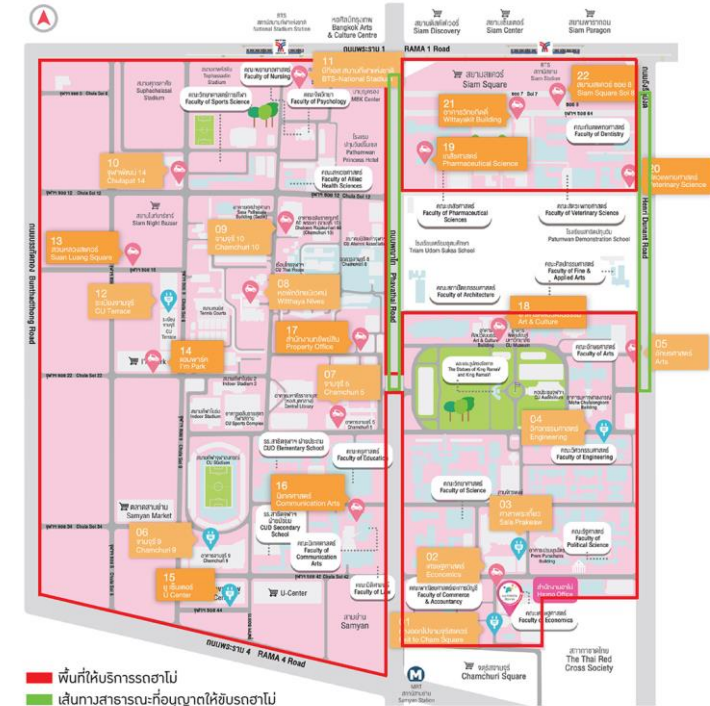


CU Toyota HA:MO



This research project was carried out during 2018 – 2021 in Chulalongkorn University Campus, downtown Bangkok.

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Shared and Mobility Services

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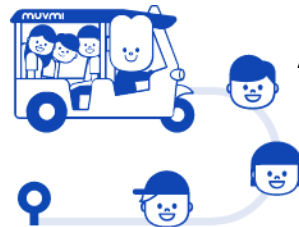
Local Ride Sharing Service.



Electric (EV) Tuk Tuks serving multiple areas around Bangkok



Request a ride via our app
Cashless payment via QR code



Affordable ridesharing system



Shared and Mobility Services

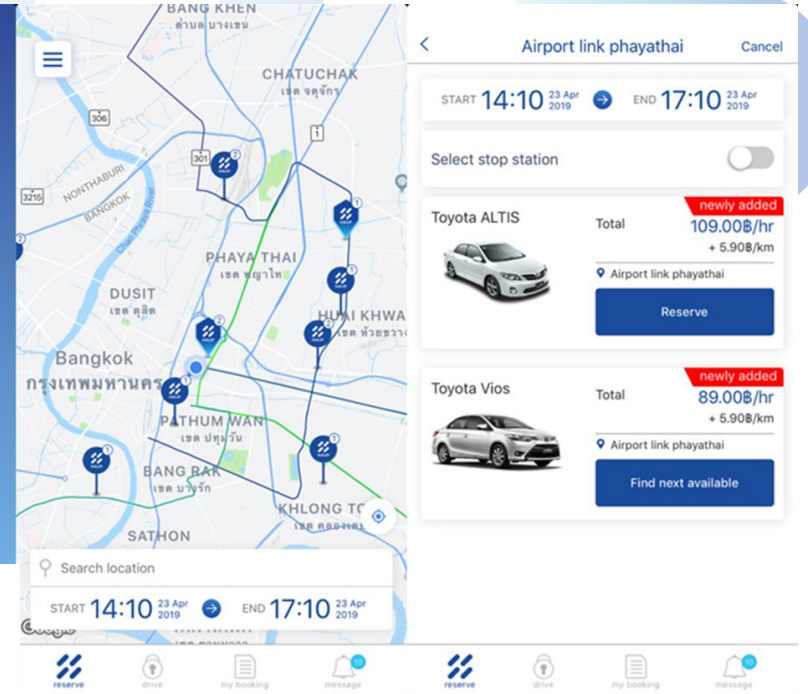
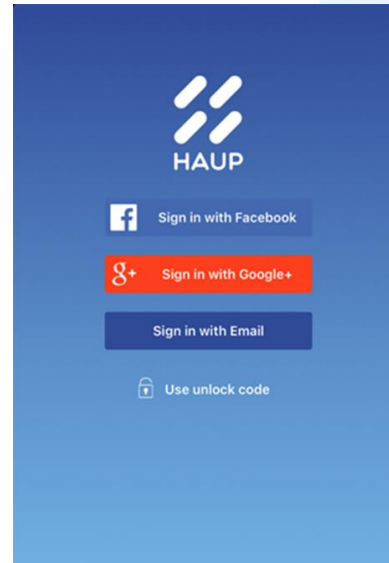
Research based and commercial based shared and mobility services are expanding in Thailand.

B2C Car Sharing Service

HAUP

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Go anywhere without your own car



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Conclusion

- Thailand policy for low carbon society, improving air quality and upgrading automotive industry drive for the high adoption of EV.
- CAV is in the beginning state for government policy. Many stakeholders are interested in the study/preparation and adoption of CAV in public.
- Shared and mobility services in Thailand are expanding. Recently, local Thai startups/company success in their business model.
- Mass rapid transit in Bangkok and other provinces needs supporting from the C-A-S-E to fulfill the good quality in operation and services of the future mobility.

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THANKS



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2022年4月27-29日 中国·成都

Chengdu, China 27-29 April 2022