



ASEAN Infrastructure Sector Report 2024-25

An EMIS Insights Industry Report

Sector Overview

The countries of the Association of Southeast Asian Nations (ASEAN) are a vastly diverse and uneven landscape in terms of infrastructure development. For instance, Singapore is a perennial global leader in infrastructure quality whereas other countries in the region have serious infrastructure deficiencies that hamstringing the efficiency and competitiveness of their economies. What the countries of the ASEAN have in common, however, is the understanding that infrastructure underpins growth, and the vision to invest in the sector's development. This was reflected in the resilience of infrastructure investment across the region in 2023 despite economic and geopolitical uncertainty, high inflation and lacklustre global demand for goods and services.

Globally, Europe and North America account for 78% of all capital invested in infrastructure, according to the Global Infrastructure Hub. Although it commands a much smaller share of the world's infrastructure investment inflows, the Asia-Pacific region raised USD 13.2bn in infrastructure investments in the first half of 2024 alone compared to USD 9.6bn in North America and USD 9bn in Europe over the same time period according to Infrastructure Investor. This fact further illustrates the attractiveness of the infrastructure sector in the region.

In recent years, members of the ASEAN Economic Community (AEC) have implemented sectoral reforms to attract foreign investments, especially for physical connectivity and renewable energy infrastructures. Governments in the region have codified frameworks such as Public-Private Partnerships and Build-Operate-Transfer into laws to facilitate projects in the infrastructure sector. Following the examples of Singapore and Thailand, Indonesia and the Philippines have relaxed limitations on foreign ownership in specific sectors and under particular circumstances. In line with the recent trend for regional integration, Singapore and Thailand entered agreements with Cambodia, Laos and Malaysia to purchase energy, especially from renewable sources. Apart from the goal of shifting the energy mix to comprise more renewable sources, expanding and upgrading the connective infrastructure is a significant focus for countries like the Philippines, Thailand and Vietnam.

Demographic Profile

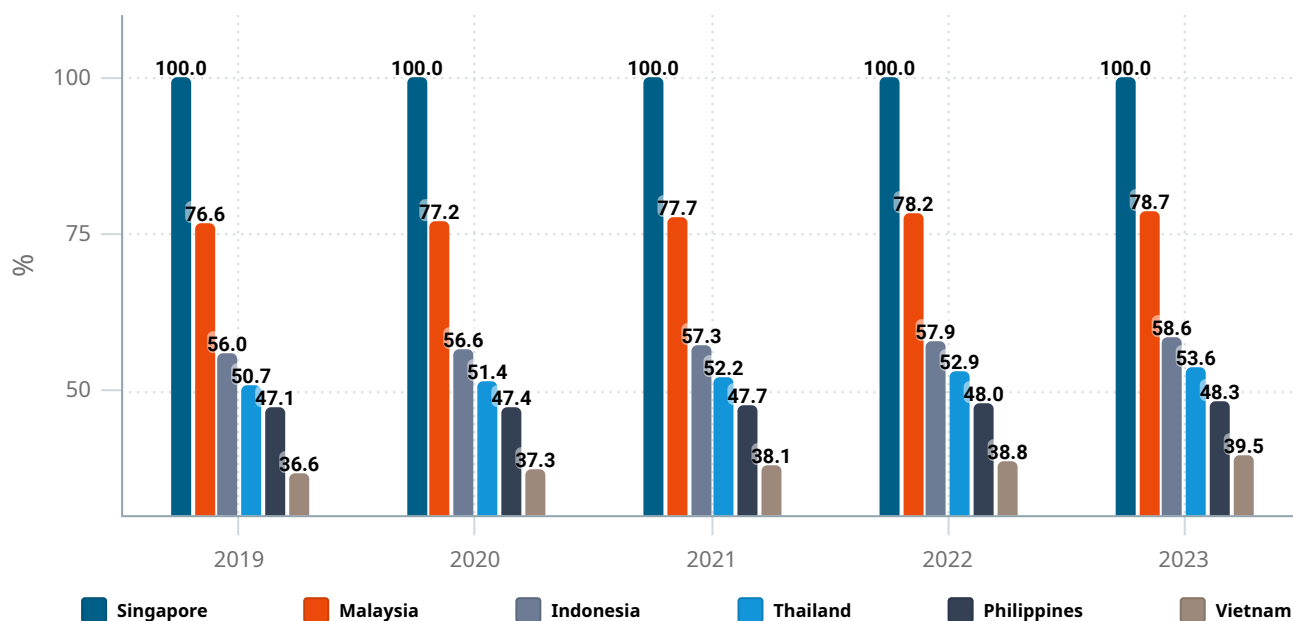
The ASEAN region countries have undergone substantial social and economic changes between 1990 and 2023. As a result of economic changes and population shift away from rural areas brought about by a decline in agricultural employment and better employment opportunities in the manufacturing and service sectors, the ASEAN region has experienced a great degree of urbanisation.

Population, mn

Name	2019	2020	2021	2022	2023
Indonesia	269.58	271.86	273.75	275.50	277.53
Malaysia	32.80	33.20	33.57	33.94	34.31
Philippines	110.38	112.19	113.88	115.56	117.34
Singapore	5.70	5.69	5.45	5.64	5.92
Thailand	71.31	71.48	71.60	71.70	71.80
Vietnam	95.78	96.65	97.47	98.19	98.86

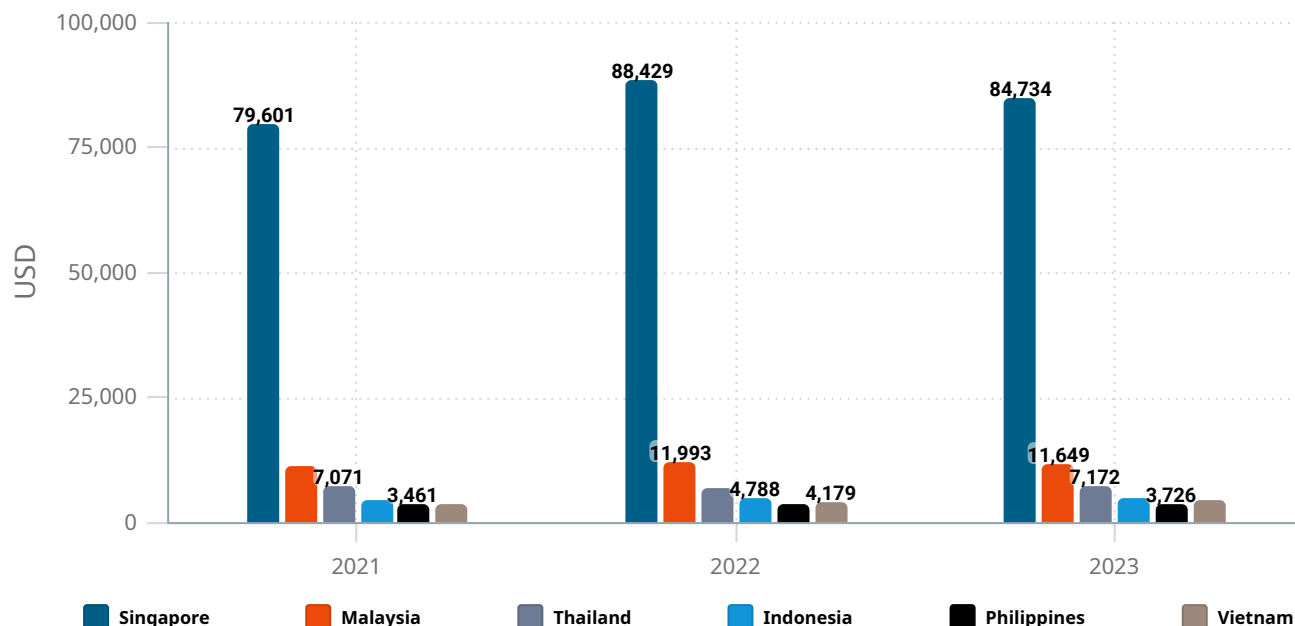
Sources: CEIC, WB

Urban Population as % of Total Population



Sources: CEIC, WB

GDP per Capita



Sources: CEIC, WB

Indonesia

With economic growth returning to pre-pandemic levels, Indonesia's infrastructure sector model is changing despite a high-interest rate environment and marked currency depreciation. In 2021, at the Conference of Paris (COP) 21, the country announced its goal to reach carbon neutrality by 2060. Further sector liberalisation came in the same year with Presidential Regulation No. 10, the "New Investment List", which allowed full foreign ownership for ports, airports, and power generation facilities with installed capacities of more than 1 MW. The policy shift toward foreign ownership is to support economic growth through developing transportation, municipal and energy infrastructure.

Presidential Regulation No. 10 of 2021, also known as the New Investment List, has significantly liberalised Indonesia's infrastructure sector for foreign investors, notably allowing full foreign ownership in ports, power generation, and airports for facilities over 1 MW. This regulatory shift aims to stimulate private investment, acknowledging the potential within the infrastructure sector to bolster economic growth and address underdevelopment across transportation, municipal services and renewable energy in line with Indonesia's carbon neutrality goal by 2060. President Joko Widodo raised the national infrastructure budget to IDR 422.7tn for 2024, up 103.1% from IDR 208.1tn in 2014 when he first took office. Over time, the increase in infrastructure allocations has attracted criticism about the investment efficiency of infrastructure projects and the dominance of State-Owned Enterprises (SOEs) in winning contracts. Despite the objections, President Widodo's commitment to improving the connective infrastructure of the country is evident in more than 1,000 km of toll roads, the Light Rapid Transit (LRT) in Jakarta and the construction of ports and airports around the 17,000-island archipelago. Since the COVID-19 pandemic, the country has continually grown in real economic terms from its 2.1% y/y contraction in 2020. In 2021, the economic revival was evident in the 3.7% y/y expansion, followed by a 5.3% y/y increase in 2022. In 2023, the domestic economy expanded by 5% y/y to IDR 20,892.4tn in current prices.

Thailand

With the Bangkok Metropolitan Region being highly urbanised, connective infrastructure investments are now directed to the further development of the Eastern Economic Corridor (EEC) comprised of Chachoengsao, Chonburi and Rayong. To move forward in this direction, the Thai government has implemented a series of framework policies to attract foreign investment. Government-to-government negotiations and partnerships between foreign and domestic firms facilitate infrastructure development. The Power Development Plan 2018-2036 indicates the country's direction toward increasing the share of renewables in the energy mix to 37% by 2036 from 12%. Increasing the contribution of renewables will hinge on the combined capacity of solar power microgrids. The country's Mass Rapid Transit Master Plan emphasises rail transportation. The plan outlines a network of services including the Airport Rail Link, Bangkok Mass Rapid Transit, BTS Sky Train and the monorails to connect metropolitan areas. Prompted by the call for developing logistics and communications networks in the Action Plan for Thailand's Logistics Development (2023-2027), the Ministry of Transport and Communications allocated THB 980bn, with 62% of that amount going toward multimodal connections and the remaining 38%, for upgrades of transportation modes.

Since the COVID-19 pandemic, Thailand has struggled to grow economically in real terms. In 2020, the economy contracted by 6.1% y/y to THB 15.7tn. In 2021, tepid growth reached 1.6% y/y to THB 16.2tn. A 2.5% y/y expansion raised the value of all production in the country to THB 17.4tn, with inflation at 6.1% y/y. However, by 2023, growth subsided to 1.9% y/y as the economy expanded to THB 17.9tn.

Philippines

As the nation seeks to accelerate its economic development, a widespread effort to attract investments, coupled with strong domestic economic fundamentals, have generated interest in its infrastructure sector. The Build Better More (BBM) infrastructure programme aims to spend up to 6% of the country's GDP annually to continue improving and expanding infrastructure. The private sector is also expected to invest about 6% of GDP in the sector to match the national government's commitment. Around PHP 9tn has been allocated for the BBM programme, comprising 194 infrastructure projects ranging from airports, bridges, digital connectivity, public transportation, roads and seaports. To increase investments in key sectors, such as renewables, rail transport and public service projects, limitations on foreign ownership were relaxed in 2022.

Additionally, the national government utilises the Public-Private-Partnership and Build-Operate-Transfer frameworks to facilitate the award of projects to the private sector. Under these frameworks, conglomerates such as the San Miguel Corporation (SMC) and the Ayala Corporation have completed major national projects through subsidiaries. The total installed capacity of renewables has grown since implementing a moratorium on coal-fired power plants in 2020.

In the post-pandemic years, an economic revival of the country is in effect. A 5.7% y/y GDP expansion in 2021 reflected the gradual re-opening of the economy, which had contracted by 9.5% y/y in 2020. In 2022, the Philippine economy surged by 7.6% y/y, marking one of the fastest expansions in the ASEAN. In light of headwinds from a strengthening US dollar and geopolitical tensions, the economy expanded at a slower 5.5% y/y pace to PHP 24.3tn in 2023.

Singapore

Government-led strategic planning has underpinned Singapore's leadership in infrastructure quality and investment for decades. The Singapore Green Strategy 2030 (SGP30) sets the direction for sustainable development by 2030. To achieve this goal, SGP30 advocates extensive use of renewable energy sources, reduced greenhouse gas emissions and integration of policies for a sustainable economy. The Significant Infrastructure Government Loan Act (SINGA) has generated large-scale infrastructure project allocations. Under SINGA, the government can borrow as much as SGD 90bn, about a fifth (19.2%) of GDP, to finance infrastructure projects, allowing the government to distribute spending over several generations. The Tuas Mega Port, slated for completion in 2040, is a clear example of a SINGA-supported long-term project. The completion of Changi Airport and the Tuas Mega Port will cement the city-state's leadership in infrastructure quality in the wider region, if not the world.

A particular focus of SGP30 is the energy sector. By 2030, it is expected that solar power installations will have a collective capacity of 2 GWp. According to the plan, Singapore is to strengthen connections with regional neighbours to acquire energy at a reasonable cost. Advocating research and development in low-carbon solutions, such as hydrogen, to generate energy is another facet of the SGP30.

Vietnam

Arguably one of the fastest-developing countries in the world in terms of infrastructure, Vietnam is implementing an ambitious plan to attract investments for its transportation and power generation infrastructure subsectors. The Power Development Plan for 2021-2030 (PDP8) calls for increased installed generation capacity between 130.4 GW to 143.8 GW by 2030, a veritable 88.2% to 107.5% expansion from the 69.3 GW in 2020. Long-term contracts with renewable energy producers and government support have increased installed capacity to 17,536 MW in 2020, a whopping 404.5% expansion since 2018. Infrastructure investments from USD 85.7bn to USD 101.6bn are necessary to achieve this goal. Along with the energy sector, road, airport and seaport projects will harness private-sector investment through the Public-Private Partnership Law of 2021. The Road Development Plan for 2021-2030 requires VND 900tn in investments to expand the road system of the country by 2030. By 2030, the government expects the railway system to carry 4.4% of cargo and passengers. Achieving this goal requires 2,362 km of railway upgrades. A new unified seaport system is underway that is expected to increase capacity of Vietnam's ports to as much as 1.4 bn tonnes of cargo by 2030, a 180% addition from the 0.5mn tonnes capability currently available.

Malaysia

Several government administrations have committed to modernised and extensively developed the Malaysian infrastructure sector. The country sees infrastructure development as a key driver of economic growth. Although small infrastructure projects are awarded to domestic contractors, large projects such as the East Coast Rail Link (ECRL) and the Klang Valley Mass Rapid Transit (MRT) have relied on government-to-government negotiations. The Malaysian government uses the Public-Private Partnership framework for large-scale concessions to leverage the private sector in building more infrastructure projects while keeping public debt manageable. As with other members of the

Association of Southeast Asian Nations (ASEAN), the country also uses the BOT framework for long-term concessions. The energy infrastructure of Malaysia generates an excess of electricity, which it can sell to neighbouring countries. The government offers tax incentives for new renewable energy projects to expand renewables' contribution to the energy mix. The transportation network's enhancement circumscribes new highway constructions, developments of urban transportation modes, railway system upgrades and civil aviation sector improvements. Sustainable water management is a government priority, as well as investments in water and wastewater treatment facilities. Further investments in digital connectivity are also a focal point for the government.

Sources

World Bank, World Economic Forum, CEIC, Infrastructure Investment Hub

Thailand

Sector Snapshot

Bangkok has been the focal point of earlier stages of infrastructure development in Thailand, owing to its cultural significance for the country and the economy. Given that efforts to construct expressways and widen roadways in Bangkok have yielded only temporary relief from the city's infamous traffic congestions, the current emphasis of authorities is the expansion of Bangkok's public transportation infrastructure. The Mass Rapid Transit Master Plan places a lot of emphasis on the development of rail transportation. This plan envisions the establishment of connections between various metropolitan areas through the utilisation of services like the BTS SkyTrain, the Bangkok Mass Rapid Transit ("MRT") network, monorail services and the Airport Rail Link.

Rail transport is another area of emphasis in the Thai government's efforts to extend transportation infrastructure beyond the Bangkok Metropolitan Region. The newly constructed Bang Sue Grand Station in Bangkok serves as the central node of a high-speed rail system that extends throughout Thailand from Bangkok. From Nong Khai in northeast Thailand to Vientiane in Laos, a high-speed rail line will eventually connect the two countries. Furthermore, Thailand is actively engaged in the development of road, rail and maritime infrastructure within the EEC to establish a hub for commerce and manufacturing that will link Thailand with the rest of Southeast Asia. The region's major infrastructure projects include the construction of an additional 7mn TEU container handling capacity at Laem Chabang Port, an expansion of THB 290bn to U-Tapao International Airport in Pattaya, and a railroad connecting U-Tapao with Don Mueang and Suvarnabhumi International Airports in Bangkok.

At present, a substantial portion of Thailand's electricity generation infrastructure is dependent on natural gas. Thailand is constructing additional liquefied natural gas (LNG) processing and storage facilities to meet the increasing demand for imported natural gas due to the inaccessibility of the country's offshore natural gas deposits. The Power Development Plan (PDP) of the Thai government has established a target to augment the share of renewable energy in the nation's energy composition from the existing 13% to 37% by 2036. Furthermore, Thailand is transitioning from relying on imported natural gas to renewable energy sources to supply electricity to regions experiencing rising energy demand but situated at a considerable distance from natural gas resources. Producers have experimented with numerous renewable energy projects, including the construction of floating hydro-solar hybrid power plants and microgrids powered by solar energy.

Sector Outlook

Between 2024 and 2026, the Thai government plans to accelerate work on infrastructure megaprojects, including both new and ongoing initiatives inherited from the previous administration. Specifically, the execution of the Action Plan for Thailand's Logistics Development (2023-2027) will guarantee that considerable emphasis is placed on the development of communication and logistics networks. To reach this goal, the Ministry of Transport and

Communications has set aside THB 980bn for 112 projects. Of this amount, THB 610bn, or 62% of the total cost, is for promoting multimodal onward connections and improving or changing transportation modes, making up 38% of the total.

Accelerated progress is expected to be made on phases 1 and 2 of the double-track railway expansion as well as the construction of additional segments of the rail network to establish it as the principal mode of transportation connecting industrial estates and border regions. Particular emphasis will be placed on phase 2 of the project which spans from Khon Kaen to Nong Khai and will establish a connection with the Boten-Vientiane in Lao PDR (the high-speed China-Lao rail link between Vientiane and Lao PDR originates in Kunming, China). Then, upon the completion of these regional transport links, exports and tourist exchange between Thailand and its neighbours will receive a substantial boost.

Phase 2 of the single rail transfer operator (SRT0) at Laem Chabang Port serves as an example of the development and utilisation of ports and port hinterlands. Projects like these will subsequently facilitate the expansion of maritime and coastal transportation services.

Certain megaprojects associated with the Eastern Economic Corridor (EEC) are experiencing delays due to unresolved labour shortages and complications stemming from compulsory land purchases that originated during the pandemic. Construction of the high-speed rail connection between the country's three airports in the region is currently slated to commence in 2024. Furthermore, as of April 2023, phase 3 of the Laem Chabang Port development was forty percent behind schedule. More optimistically, as of August 2023, 60% of the third phase of the Map Ta Phut Port development was completed; this is projected to be finalised as planned by 2027.

The acceleration of infrastructure development will facilitate new investment opportunities, particularly in the S-curve industries that are the focus of the EEC. As a consequence of crowding-in effects, this will improve Thailand's supply chain in technology-driven industries and stimulate investment in related businesses, including real estate, transportation, logistics, and construction contractors.

Major Infrastructure Projects between 2023 to 2027

Project	Project Timeline	Planned Budget, THB mn					Total	Project Progress
		2023	2024	2025	2026	2027		
1) Double Track, Phase 1								
Lopburi - Pak Nam Pho	2018-2024	8,025	286				8,311	In progress
Mab Kabao - Jira Junction	2018-2026	2,830	225				3,055	In progress
Nakhon Pathom - Hua Hin	2018-2024	1,785					1,785	In progress
Hua Hin - Prachuap Kiri Khan	2018-2024		560				560	In progress

Prachuap Kiri Khan - Chumphon	2018-2024	1,715					1,715	In progress
2) Double Track, Phase 2								
Khon Kaen - Nong Khai	2023-2027	3	5,012	11,195	11,749	1,790	29,749	Not yet started
Pak Nam Pho - Den Chai	2023-2027	6,064	5,879	14,181	21,756	13,792	61,672	Not yet started
Den Chai - Chiang Mai	2023-2027	6	7,180	8,055	17,826	17,837	50,904	Not yet started
Jira Junction - Ubon Ratchathani	2023-2027	3,749	4,745	14,093	12,939	1,998	37,524	Not yet started
Chumphon - Surat Thani	2023-2027	6	3,466	6,371	9,917	4,527	24,287	Not yet started
Surat Thani - Hat Yai - Song Khla	2023-2027	6	6,920	9,975	19,552	16,768	53,221	Not yet started
Hat Yai - Padang Besar	2023-2028	5	895	2,165	2,908	685	6,658	Not yet started
3) High-speed Rail								
High speed rail connecting three airports, Phase 1 (Don Mueang - Suvarnabhumi - U-Tapao)	2022-2028	424	413				837	In progress
High speed rail connecting regions, Phase 1 (Bangkok - Nakhon Ratchasima)	2018-2026	21,955	23,820	75,170	37,795		158,740	In progress
4) Laem Chabang Port, Phase 3 (Part of Port Authority of Thailand's Investment)	2023-2027	10,174	6,678	4,198	4,325		25,375	In progress
5) National Highway Network	2023-2027	7,586	23,609	43,746	47,441	42,811	165,193	In progress
6) Enhancing Airport Capacity to Connect Transportation Networks	2023-2029	3,563	5,622	2,646	2,491	2,256	16,578	In progress

Driving Forces

Infrastructure development has been designated as a primary focus of the Thai government's economic development strategy. To ensure that the development of Thailand's infrastructure does not have a significant fiscal burden, the government has actively sought private investment from both domestic and international corporations. Thailand's strategic geographical position has facilitated its pivotal role in connecting the region's swiftly growing economies, thereby emphasizing the criticality of infrastructure development. Concurrently with its efforts to alleviate traffic congestion in the capital city, Thailand is augmenting its investments to bridge the infrastructural gap that separates Bangkok from the rest of the nation.

The Thai government sees the EEC is a crucial component of the nation's industrial transformation strategy. Bordering the Gulf of Thailand are the three eastern provinces of the EEC: Chachoengsao, Chonburi and Rayong. The government encourages major investments in the region, including the construction of highways, double-track railways, and high-speed train networks, as well as the opening of a third international airport, U-Tapao International Airport, and the expansion of Laem Chabang Port to ensure the success of the EEC.

Government-to-government projects have had a big impact on infrastructure development. For instance, Chinese investments made through the Belt and Road Initiative (BRI) have been crucial to some of Thailand's most important infrastructure projects. China has been extending financial and technical support towards the development of a high-speed rail infrastructure in Thailand, as well as a canal initiative aimed at linking the Gulf of Thailand with the Indian Ocean.

The Private Participation in State Undertakings Act 2535 of 1992 was instrumental in the Thai government's adoption of the public-private partnership (PPP) model. Through several high-profile projects, including Bangkok's mass rail transit network, Thailand's high-speed rail system and the third phase of expansions for the Map Ta Phut Industrial Port, PPP has proven to be an effective framework for expanding Thailand's infrastructure. Some of Thailand's largest infrastructure construction firms, including Italian-Thai Development PCL, have benefited from the cascading effects of these PPP projects. These companies have submitted bids for infrastructure projects in foreign countries by applying the insights they have acquired from working on domestic construction projects. Furthermore, a significant number of the most prominent infrastructure companies in Thailand are multinational conglomerates with broad business operations spanning various sectors. Their diversified business interests afford them the financial means to undertake infrastructure projects characterised by significant risk and slow return on investments.

Restraining Forces

The Thai government's efforts to maintain the economy despite a decline in tourism limit its ability to allocate funds for additional infrastructural development. Despite the difficult environment, Thailand must continue to invest in infrastructure as an economic multiplier for regions outside the capital. It is worth noting that in developing the Eastern Economic Corridor (ECC), Thailand will have to carefully manage the tension between ambition and prudence, especially in light of the EEC's fierce

competition from export-driven ASEAN countries like Singapore and Malaysia.

In the past, Thailand has sought international assistance for the financing of its infrastructure. A joint venture between Chinese and Thai partners is presently in operation to finish the high-speed rail infrastructure of the country. However, there are hazards associated with relying on foreign government financing and expertise, most notably the risk of debt-trap diplomacy. When the provisions of the agreements between Thailand and its foreign government partners are anything but entirely transparent, this raises significant concerns.

The extensive geographical separation that exists between the Bangkok Metropolitan Area and the rest of Thailand presents the government with considerable obstacles. Bangkok is the most significant metropolis in Thailand due to its status as the nation's economic, political, and population epicenter. Notwithstanding the government's endeavors to alleviate strain on Bangkok's highways through the development of additional public transport infrastructure, traffic congestion persists in the city due to the dense concentration of economic activities. To mitigate strain on the overdeveloped capital, where additional infrastructure investment would result in diminishing returns, the government is essentially obligated to decentralize economic activity via the Eastern and Southern Economic Corridors and other large-scale projects away from the Bangkok Metropolitan Area. Inequality is a contributing factor to the escalation of disturbances in Thailand, potentially resulting in a deterioration of political stability.

Main Sector Indicators

Name	2019	2020	THB 2021	2022	2023
Newly Registered Motor Vehicles	2,958,183.00	2,561,968.00	2,610,967.00	2,939,118.00	2,976,998.00
Total Electricity Generation, GWh	212,049.68	206,023.25	209,716.77	215,837.84	223,283.27
Newly Registered Commercial Vehicles	80,760.00	76,498.00	77,415.00	81,239.00	81,207.00
Outward Cargo from Laem Chabang Port, tonnes mn	51.11	46.22	52.49	55.92	52.95
Inward Cargo to Laem Chabang Port, tonnes mn	36.60	35.07	39.89	39.53	41.47
Cargo Volume: Inbound Product (IP), tonnes mn	31.46	29.38	30.94	40.19	39.71
Inward Cargo to Bangkok Port, tonnes mn	12.06	12.95	13.04	11.94	11.67
Cargo Volume: Outbound Product (OP), tonnes mn	11.99	11.80	12.67	11.66	12.05
Rail Freight Transport, tonnes mn	10.26	11.51	11.46	11.37	12.12
Outward Cargo from Bangkok Port, tonnes mn	8.15	8.29	7.45	6.63	7.28
Container Traffic: Laem Chabang, TEU mn	7.98	7.55	8.52	8.86	8.87
Container Traffic: Bangkok, TEU mn	1.46	1.42	1.38	1.29	1.26

Sources: CEIC, DLT, PAT, MAPTAPHUTPORT, ISL, EPPO, MOT

Sources

Smart Energy International, EMIS Company Database, EPPO, MoT, Airport Technology, Future Southeast Asia, Logistics Manager, Railway Gazette International, The Nation, Bangkok Post, Global Construction Review, East Asia Forum, Oxford Business Group, The Law Reviews, Nikkei Asian Review, Reuters, Krungsri

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Infrastructure	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+
Insurance	+	+	+	+	+	+		+		+	+		+			
Metal Processing	+	+	+							+		+	+			
Mining			+				+			+		+	+			+
Oil and Gas	+	+	+	+		+			+	+	+	+	+		+	+
Pharma and Healthcare	+	+	+	+	+	+			+	+	+	+	+		+	
Real Estate and Construction	+	+	+	+	+	+	+	+		+	+	+	+			
Renewables	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Telecommunications	+	+	+	+	+	+	+	+		+	+		+			+
Transportation	+	+	+	+	+		+	+		+		+	+		+	



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