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**EEC Development and Transport Facilitation Measures in
Thailand, and Development Strategies of Neighboring
Countries**

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Edited by

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Introduction

Railway Infrastructure Development in Thailand and its Neighboring Countries

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Transportation infrastructure is the key for economic development. In particular, in recent years, railway transportation has been attracting much interest not only to solve city problems, such as traffic and air pollution, but also to attract skilled human resources from abroad. The Bangkok Research Center of JETRO Bangkok/IDE-JETRO has organized a project to study the impact of the railway's infrastructure. The 2017-2018 fiscal year project report was released in March 2018, entitled the “High-Speed Railway, the EEC, and the Change of the Landscape of Thailand and its Neighboring Countries,” *BRC (Bangkok Research Center) Research Report*, No. 20.¹ The report included many findings. The most important finding, a surprise, is that railway infrastructure per se has only a small impact. This finding suggests that measures to increase productivity are necessary to take advantage of railway infrastructure projects.

Based on this finding, the 2018-2019 fiscal year research project, the “EEC Development and Transport Facilitation Measures in Thailand, and Development Strategies by the Neighboring Countries,” has studied the importance of transit-oriented development (TOD) that jointly addresses railway and urban development, and which is expected to increase productivity by the service sector at and around the railway stations. At the

¹ See (<https://www.ide.go.jp/English/Publish/Download/Brc/20.html>)

request of the Thai Government, the research project has also studied the East-West Economic Corridor (EWEC) railway project. The preliminary study result of this project was presented on 30 November, 2018, at a meeting with the Ministry of Foreign Affairs, Kingdom of Thailand, the Office of Transport and Traffic Policy and Planning, and the Office of the Permanent Secretary, Ministry of Transport, Office of Industrial Economics, Ministry of Industry, the Office of the National Economic and Social Development Board, State Railway of Thailand, the Eastern Economic Corridor Office of Thailand, the Board of Investment of Thailand, the Embassy of Japan in Thailand, and JICA's Thailand Office that have cooperated together regarding transportation development in Thailand.²

On 30 November, 2018, the overall study results were presented at the IDE-JETRO Symposium, "Eastern Economic Corridor (EEC) and Neighboring Economies," held at the Novotel, Siam Square. Dr. Somkiat Tangkitvanich, President, Thailand Development Research Institute (TDRI), made the keynote speech on the Eastern Economic Corridor (EEC). Dr. Ruth Banomyong, Associate Professor, Thammasat University, moderated the Geographical Simulation Model (IDE-GSM) session on railway infrastructure, and Dr. Wisarn Pupphavesa, Senior Advisor, TDRI, handled the panel discussion on the country's development strategy. The collected papers presented here are updated versions reflecting the discussions at the symposium and the preparatory internal workshop.

The first four studies focus on railway transportation. Chapter 1 introduces the concept of transit-oriented development (TOD) to maximize the benefits from railway infrastructure. Chapters 2, 3, and 4 provide the various scenario simulation studies of the railway infrastructure projects. These simulation results would be useful for policy makers to understand the railway's infrastructure development. Chapters 5, 6, and 7 introduce the recent development of special economic zones (SEZ) in Cambodia, Vietnam, and Thailand, and the transport infrastructure development strategy and plans in Laos and Cambodia. The presentations and discussions were very helpful for us to understand the recent transportation and industrial developments in these countries, and have allowed us to set simulation scenarios and identify the simulation results.

² The author thanks Mr. Nobuyuki Kobayashi, First Secretary of Transport and Tourism and Deputy Chief of Economic Section, Embassy of Japan in Thailand, and Mr. Yordying Supasri, Counsellor, Department of East Asian Affairs, Ministry of Foreign Affairs, Kingdom of Thailand, for organizing the preliminary meeting on 30 November, 2018, at the Novotel, Bangkok Siam Square.

1. Transit-Oriented Development

The economic impact of the transport infrastructure per se, either by road or rail, is rather smaller than that usually believed. Road infrastructure shortens transportation time, but at the borders, trucks have to wait a long time for Customs procedures. Therefore, without Customs facilitation measures, the impact of any cross-border road infrastructure would be small. Among the transportation modes, the government usually constructs the road network first. Chapter 1, "Transit-Oriented Development: The Station Renaissance and Integrated Development", by Hiratsuka, has emphasized that a shift of the main transportation mode from road to rail is necessary to solve the heavy traffic and air pollution problems, and more importantly, for the transformation of the economic structure from manufacturing to a service-oriented system in the era of Industry 4.0. This shift means that people should switch from cars to travel by rail. Therefore, the connection of the railway to other transportation hubs, such as airports and bus terminals, as well as other railway networks, is crucial. Most importantly, the success of railway-oriented development lies in the creation of the density of people, jobs, offices, shops, restaurants, and public utilities which shape the urban city. Such economic densities are expected to increase the productivity of services, and they can be achieved by transit-oriented development (TOD), whereby transit and urbanization develop jointly at and around the train stations. Construction of dense mixed-use complexes at and around the railway stations promotes the density of offices, shops, public utilities, and residents, which creates jobs and increases the productivity of services. Indeed, in Chapters 2 and 3, assuming that the implementation of TOD increases the productivity of services, the impact would be significant. Put differently, without the TOD schemes, even if having frequent railway operation services and good connections with other transportation systems, the impact is very limited. However, TOD, which is the joint development of transit and real estate, is very costly. If the land value capture (LVC) approach, by which a transit company develops the land acquired at low prices for leasing of offices, shops, public utilities, and residential development after railway and land development, is taken, leasing revenue from real estate would be the resource for payment of railway projects' development. The implementation of TOD combined with LVC is a sustainable way to expand the railway network throughout the country, and attract human resources not only from within a country but also from overseas.

2. The East-West Economic Corridor (EWEC) Railway

The East-West Economic Corridor (EWEC), is the economic corridor connecting

Vietnam and Myanmar through Laos and Thailand. Along the EWEC, the improvement of roads, the construction of border bridges, and the Customs clearance procedures have progressed. Consequently, border trade is increasing there. However, looking at the regions of Thailand, the traffic level between Phitsanulok and Khon Kaen remains limited. Under such a situation, the 899km EWEC railway in Thailand (Mae Sot- Nakhon Sawan-Ban Phai-Mukdahan) has been under consideration. Chapter 2, "Geographical Simulation Analysis for the East-West Economic Corridor Railway," by Isono, analyzes the economic impact of the EWEC railway in Thailand, and its extension to Laos, Vietnam, and Myanmar. The simulation result of the baseline scenario, which includes four high-speed railway projects and ten double-track rail projects, is expected to increase Thailand's GDP by 0.613% by 2030, compared to the without scenario. Based on this baseline scenario result, three sections of EWEC railway in Thailand are simulated for 1) The western section (Mae Sot-Nakhon Sawan, 256 km); 2) The central section (Nakhon Sawan-Ban Phai, 385 km); and 3) The eastern section (Ban Phai-Nakhon Phanom, 358 km) separately. Being connected to Bangkok, the western and the eastern sections will increase Thailand's GDP by 2030 by 9.6 million US dollars (0.002%) and 6.2 million US dollars (0.001%) respectively, compared to the baseline scenario. However, the central section will increase the GDP by only 0.2 million US dollars (0.000%). These simulation results suggest that railway projects connecting core cities should be prioritized first, and the railway projects between the peripheries need further consideration. The extension of the EWEC railway to connect to Da Nang, Vietnam, through Laos and Thailand, and to Mawlamyine, Myanmar will generate 0.006% of Thailand's GDP, which is just double the impact of the EWEC railway in Thailand at 0.003%. The extension of the railway to cross-border may bring a huge impact. But it should be noted that the immigration procedure at the border may take much time for Cambodia, Myanmar, Thailand, and Vietnam, and this needs improved regulatory arrangements for the cross-border movement of people.

3. Lao-Chinese High-Speed Railway

Construction of the Lao-Chinese High-speed Railway (LCHSR) is planned to be completed by 2 December, 2021, the 46th National Day of Laos. The objective of the LCHSR is to operate both passenger and cargo trains separately on the same single-track railway. Chapter 3, "Geographical Simulation Analysis of the Lao-Chinese High-Speed Railway," by Keola, has obtained interesting findings regarding the LCHSR. It is assumed that passenger and cargo trains start operating in 2022. The 6 pairs of passenger train operation case increases Laos's GDP by almost three times more than that by the 4 pairs

of passenger train operation. It is a surprise that the mixture of 6 pairs of passenger train and 6 cargo train operations will increase Laos's GDP less than by the 6 pairs of passenger trains. Laos benefits most from passenger train operations. This is interpreted due to the limited labor supply, as labor would shift from the higher value service sector to the lower value manufacturing sector, such as textiles and food. On the contrary, the main beneficiary from the 6 pairs of cargo train operations is Thailand, followed by China. Thailand and China will increase production of food, apparel, and automobiles by the cargo train operation. Assuming implementation of the transit-oriented development (TOD), the provinces with LCHSR stations will increase their service productivity for the mixture operation case of 6 pairs of passenger and 6 cargo train operations, then the service sector will increase Laos's GDP by 7.5 times, with a 5 percent increase in productivity by the service sector, and more than 14 times, with a 10 percent increase in productivity by the service sector. This simulation result suggests TOD can jointly develop the railway and urbanization infrastructure at and around the stations to take advantage of the LCHSR.

4. Malaysia's High-Speed Railway

On 5 September, 2018, the Singaporean and Malaysian Governments formally agreed to postpone construction of the proposed high-speed railway between Singapore and Kuala Lumpur (SK-HSR) until the end of May 2020. By this postponement, opening of the HSR operation is delayed to 1 January, 2031. Chapter 4, "Geographical Simulation Analysis of the High-Speed Railway in Malaysia", by Kumagai, evaluates the controversial SK-HSR. There have been various simulation scenarios studied for the different sections (between Singapore and Kuala Lumpur, between Singapore and Butterworth, Penang, and between Singapore and Bangkok), at different speeds (200km/h, 250km/h, 300km/h, and 350km/h), with different frequencies (every 30 minutes, every 1 hour, and every 2 hours), with different fares (USD 0.5/km, USD 1.0/km, USD 2.0/km, and USD 4.0/km), and with a non-tariff barrier (NTBs) reduction among Singapore, Malaysia, and Thailand. As for this section, Malaysia gets the most benefit from the Singapore-Penang section, which is larger than 4.5 times the Singapore-Kuala Lumpur section. As for speed and frequency, the faster and more frequent the service is, the larger is the economic impact. Among these three countries, Malaysia is most sensitive to changes in the speed and frequency of the HSR service. This high sensitivity by Malaysia is interpreted that the HSR in Malaysia faces stiff competition by the airlines and highway buses. As for the fares, the three countries are commonly very sensitive to the fare rate. If the fare of the HST is as high as that of the airlines, the economic impact becomes almost nothing. The economic impact

of the HSR is geographically limited. On the contrary, the economic impact of the reduction of NTBs is widely observed not only by the economic sector but also according to the geographical region. Therefore, it is recommended that construction of an international HSR should be accompanied with an agreement among the related countries to facilitate economic transactions, in particular, the reduction of NTBs.

5. SEZ Development Strategy

Chapter 5, “Development of SEZ in Cambodia, Thailand, and Vietnam and the Regional Value Chains,” by Bui Thi Minh Tam, looks at the development of SEZ in Cambodia, Thailand, and Vietnam. This study emphasizes that the success of special economic zones (SEZ) depends on the quality of the infrastructure and proximity to the market for either the border gates located at the SEZ or coastal located SEZ developments. Vietnam has the longest experience of SEZ among these three countries, since the first EPZ was located at Tan Thuan, the Chinese border, in 1991. There have been six economic zone models, namely export-processing zones (EPZs), industrial zones (IZs), high-tech industrial zones (HITZ), border gate economic zones (BGEZ), and coastal economic zones (CEZ). The old form of cross-border trade duty-free commercial zones is no longer applicable, and border zones are on the way to transform into so-called Border Economic Zones with fewer privileges than before, but with more diverse investment and production activities ranging from trade, industrial development, service expansion, and residential services, in order to become modern urban complexes. Infrastructure, utilities, and connections between locations are the key for the investors. In Cambodia, SEZ are common in “China Plus One”, whereby most materials come from China, or “Thailand Plus One”, whereby most materials come from Thailand. Since 2015, the Thai Government has developed 10 border areas as SEZ to reduce regional inequality. Their advantages are good connectivity combined with good infrastructure and efficient public administration, but a disadvantage is the shortage of suitable labor. Therefore, the success of a SEZ lies in how much immigrant labor can be legally employed.

6. Laos’ Land Linked Development Strategy

Under the regional cooperation framework, such as the Greater Mekong Sub-Region and the Belt and Road initiative, the transformation from “a landlocked” to a “land linked” country is the top priority development strategy for Laos. Chapter 6, “Regional and International Integration and Connectivity Vision of the Lao PDR”, by Insisienmay and Bannalath, introduces the content of Laos’ “land linked” country strategy. The tasks for the land link transformation are (1) Upgrading the transport infrastructure (railways, roads,

and bridges), (2) Improvement of the regulatory framework, (3) Construction of logistical hubs, and (4) SEZ development. There are seven railways projects, with a total length of about 1,590kms in the plan by 2030. There is only one railway operating, the 3.5km section from Thanaleng, Vientiane Capital, to Nongkhai Province in Thailand. The Lao-Chinese HSR is currently under construction, which will substantially link China with Thailand through Laos, and with a connection to the existing 3.5km railway. A 460km expressway from Vientiane Capital to the Chinese border is planned. The first phase from Vientiane Capital to Vangvieng District of Vientiane Province is already under construction, and due for completion by 2020, and the fourth and last phase from Odomxay Province to Boten in Luangnumtha Province, will start in 2027 and finish by 2030. The expressways from Vientiane Capital to the Cambodian border, and to Hanoi have just started a feasibility study. As for bridges, each province of Laos at the Thai border will be connected by a friendship bridge. As for the regulatory framework, since December 2015, a single-stop inspection service has been implemented in the common control area at the Lao Bao-Densavanh International checkpoint in Savannakhet Province of Laos and Quant Tri province in Vietnam. A similar model will soon be applied at the Savannakhet-Mukdahan international checkpoint at the 2nd Lao-Thai Friendship Bridge. Logistical hub development is crucial for land link transformation. There are three international logistical hubs/parks, three regional logistical parks, and three specific logistical parks. So far, there is only one operating logistical hub or dry-port in the Savan Park Zone C within the Savan-Seno Special Economic Zone. There are 12 established industrial estates, called Specific Economic Zones (SEZ). The first SEZ establishment, the Savan-Seno SEZ, was established in 2003. Since 2017, the government has the intension to develop the existing SEZ and suspend establishment of new SEZ.

7. Cambodia's Connectivity Strategy

Chapter 7, on "Cambodia's Development Strategy: Connecting Neighbors", by Sothariat and Sotheara, explores Cambodia's development strategy, with the focus on connectivity with its neighbors. Cambodia's transport infrastructure development strategy, under the National Strategic Development Plan (NSDP 2013-2018), places the top priority on road construction. This includes 1) Construction of national, provincial, and rural roads; 2) The repair and maintenance of the transport system; 3) Traffic safety, through improvement and stricter enforcement of the "Law on Land Traffic"; and 4) Designing and implementing the Master Plan for Transport Infrastructure Development, in order to connect all parts of the country with the neighboring countries through developing multi-modal and cross-border transport systems. The cross-border costs at Cambodia's borders

seem to be the biggest issue for such connectivity. The forward charge at the Cambodian side is more than double that at the Thai and Vietnam sides, and trucks from Thailand and Vietnam entering Cambodia have to transship the containers to Cambodian registered trucks at the border, which impose extra payments for the container transshipment charge as well as revised truck charges. The regulatory framework for cross-border transportation should be improved by Cambodia.