



ASSESSMENT OF GREATER MEKONG SUBREGION ECONOMIC CORRIDORS

INTEGRATIVE REPORT

10TH ECONOMIC CORRIDORS FORUM
13 DECEMBER 2018



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Photos on the front cover (left to right):

Aerial view of Danang Port. The port is the third largest port system in Viet Nam and lies at the eastern end of the GMS East–West Economic Corridor (photo by ADB).

Bridging borders. The bridge between the Lao People’s Democratic Republic and Thailand allows people to trade and travel (photo by Pitchayawat Proongsak).

Erenhot railway station. Trucks parked at the Erenhot railway station in the People’s Republic of China (photo by 2011 Dengjia for ADB).

Note:

In this publication, “\$” refers to US dollars

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ABBREVIATIONS

ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
BCF	border crossing facility
CBTA	Cross-Border Transport Facilitation Agreement
EEC	Eastern Economic Corridor
EWEC	East–West Economic Corridor
FDI	foreign direct investment
GIS	geographic information system
GMS	Greater Mekong Subregion
HCMC	Ho Chi Minh City
IZ	industrial zone
km	kilometer
km ²	square kilometer
Lao PDR	Lao People’s Democratic Republic
NR	National Road
NSEC	North–South Economic Corridor
NSEC-1	Kunming–Chiang Rai–Bangkok via Lao PDR or Myanmar Subcorridor
NSEC-2	Kunming–Boten–Oudoxay–Luang Prabang–Vang Vieng–Vientiane–Nong Khai–Udon Thani– Nakhon Ratchasima–Laem Chabang Subcorridor
NSEC-3	Kunming–Ha Noi–Hai Phong Subcorridor
NSEC-4	Nanning–Ha Noi Subcorridor
NSEC-5	Kunming–Muse–Mandalay–Yangon–Thilawa Subcorridor
NSEC-6	Mandalay–Tamu Subcorridor

NSEC-7	Laem Chabang–Bangkok–Nakhon Ratchasima– Udon Thani–Nakhon Phanom–Takhek–Na Phao– Vuong Anh–Ha Noi Subcorridor
NSEC-8	Vientiane–Paksan–Vinh–Ha Noi Subcorridor
PRC	People’s Republic of China
SEC	Southern Economic Corridor
SEC-1	Dawei–Bangkok–Phnom Penh–HCMC–Vung Tau Subcorridor
SEC-2	Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon Subcorridor
SEC-3	Bangkok–Trat–Kampot–Ha Tien–Nam Can Subcorridor
SEC-4	Sihanoukville–Phnom Penh–Stung Treng–Pakse– Savannakhet Subcorridor
SEZ	special economic zone
SSI	single–stop inspection
TTF	transport and trade facilitation

The Assessment of Greater Mekong Subregion Economic Corridors consists of six country reports and an integrative report prepared by a study team composed of Filologo Pante, Jr. (team leader), Josephine Duque-Comia of the GMS Secretariat, Hir Samnang (Cambodia), Sengsavang Phandanouvong (Lao People's Democratic Republic), Phyo Kyaw Thu (Myanmar), Liu Zengjun (People's Republic of China), Pawat Tantrongjita (Thailand), and Pham Thanh Tung (Viet Nam). Lothar Linde prepared the geographic information system maps, while Cira Rudas and Rowena Sancio (GMS Secretariat) assisted in finalizing the reports. Cuong Minh Nguyen of the GMS Secretariat provided overall guidance and coordinated with the GMS countries. Concerned ministries and agencies in the GMS countries extended valuable cooperation and support in the conduct of the assessment.

EXECUTIVE SUMMARY

The development of transport corridors as economic corridors has been at the center of the Greater Mekong Subregion (GMS) Economic Cooperation Program (GMS Program) since 1998, when the economic corridor approach was adopted by the GMS countries. This approach has been pursued as a spatial planning tool to connect major cities and urban centers, border nodes, maritime gateways, key industrial hubs, and major trade routes in support of subregional economic integration.

Economic corridors are geographically defined areas that facilitate the national and trans-national movement of people, goods, services, capital, and information. Compared to transport corridors, economic corridors extend beyond a single route and encompass an economic zone, running parallel to the main transport arteries. They stimulate and promote trade, investment, and other economic activities along principal routes and surrounding areas.

The GMS countries have designated the East-West Economic Corridor (EWEC), North-South Economic Corridor (NSEC), and Southern Economic Corridor (SEC) as top priority for transforming transport corridors into economic corridors.

In 2016, the Asian Development Bank (ADB) conducted a review of the configuration of the economic corridors, to take into account the opening up of Myanmar, and to ensure that (i) Yangon, Nay Pyi Taw, and Vientiane

are included in the economic corridors; (ii) there is a close match between corridor routes and trade flows; (iii) GMS capitals and major urban centers are connected to each other; and (iv) the corridors are linked with maritime gateways. That same year, the GMS Ministers endorsed the recommended changes in the configuration of the economic corridors. They also underscored the need to assess the state of GMS economic corridors, to guide future investments and other interventions for development. This assessment responds to that need.

Purpose and outputs of the assessment

ADB conducted the assessment to collect and consolidate information on the state of GMS economic corridors. The assessment can guide future efforts in GMS economic corridors development by (i) increasing knowledge and appreciation of the state of development of each GMS economic corridor; (ii) identifying gaps and bottlenecks to be addressed, and the corresponding priorities for interventions; and (iii) providing a benchmark for monitoring progress in developing the GMS economic corridors.

The assessment focuses not only on the physical condition of road transport infrastructure and border crossing facilities, but also endeavors to provide a broad indication of the economic potential of the economic corridors by collecting data on special economic zones (SEZs), investment opportunities, cross-border traffic

and trade, and tourist attractions in the vicinity. Where relevant, the assessment touches upon the status of rail and water transport development.

The outputs of the assessment are six country reports and this integrative report. Each country report, prepared by a national consultant in that GMS country, contains a detailed and comprehensive account of the state of the economic corridors within that GMS country. The findings on the physical state of road infrastructure and border crossing facilities are based on field visits to all the corridor routes, and consultation meetings with central and local officials. This integrative report puts together the country components of the economic corridors into the GMS-wide EWEC, NSEC, and SEC. The country reports have allowed the GMS geographic information system (GIS) database to be improved and updated. New GMS economic corridor maps have also been prepared.

Overview of the economic corridors' configuration

EWEC connects Da Nang in the central coast of Viet Nam and Yangon–Thilawa and Mawlamyine in Myanmar via the Lao People's Democratic Republic (Lao PDR), and Thailand. It crosses from Myanmar to Thailand through the Myawaddy (Myanmar)–Mae Sot (Thailand) border gate, then to Lao PDR through the Mukdahan (Thailand)–Savannakhet (Lao PDR) border gate, and finally to Viet Nam through the Dansavanh (Lao PDR)–Lao Bao (Viet Nam) border gate. The distance from Yangon to Da Nang is 1,788.1 kilometers (km).

NSEC has eight branches (referred to as subcorridors) connecting the capitals, urban centers, industrial zones (IZs), maritime gateways, and trade routes in the People's Republic of China (PRC), the Lao PDR, Myanmar, Thailand, and Viet Nam along the north–south axis of the GMS. These subcorridors (NSEC 1–8) are shown below.

Table 1: North-South Economic Corridor and its Subcorridors

Subcorridor	Countries Traversed	End-to-End Distance (km)
Kunming–Chiang Rai–Bangkok via the Lao PDR or Myanmar Subcorridor (NSEC-1)	PRC, Lao PDR, Myanmar, and Thailand	*1,709.0
Kunming–Boten–Oudomxay–Luang Prabang–Vang Vieng–Vientiane–Nong Khai–Udon Thani–Nakhon Ratchasima–Laem Chabang Subcorridor (NSEC-2)	PRC, Lao PDR, and Thailand	2,037.7
Kunming–Ha Noi–Hai Phong Subcorridor (NSEC-3)	PRC and Viet Nam	1,161.0
Nanning–Ha Noi Subcorridor (NSEC-4)	PRC and Viet Nam	583.0
Kunming–Muse–Mandalay–Yangon–Thilawa Subcorridor (NSEC-5)	PRC and Myanmar	1,778.2
Mandalay–Tamu Subcorridor (NSEC-6)	Myanmar to border with India (extension of NSEC-5)	**464.4
Laem Chabang–Bangkok–Nakhon Ratchasima–Udon Thani–Nakhon Phanom–Takhek–Na Phao–Vuong Anh–Ha Noi Subcorridor (NSEC-7)	Thailand, Lao PDR, and Viet Nam	1,551.7
Vientiane–Paksan–Vinh–Ha Noi Subcorridor (NSEC-8)	Lao PDR and Viet Nam	471.3

PRC = People's Republic of China, Lao PDR = Lao People's Democratic Republic.

* Via the Lao PDR.

** Via Yargi Road.

Source: ADB. GMS Economic Corridor Assessment Team.

SEC has four subcorridors connecting the capitals, urban centers, IZs, maritime gateways, and trade routes in Cambodia, the Lao PDR, Thailand, and Viet Nam.

One subcorridor links those nodal points to Dawei in Myanmar. These subcorridors (SEC 1–4) are listed below.

Table 2: Southern Economic Corridor and its Subcorridors

Subcorridor	Countries Traversed	End-to-End Distance (km)
Dawei–Bangkok–Phnom Penh–HCMC–Vung Tau Subcorridor (SEC-1)	Cambodia, Myanmar, Thailand, and Viet Nam	1,332.6
Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon Subcorridor (SEC-2)	Cambodia, Thailand, and Viet Nam	1,338.0
Bangkok–Trat–Kampot–Ha Tien–Nam Can Subcorridor (SEC-3)	Cambodia, Thailand, and Viet Nam	1,079.0
Sihanoukville–Phnom Penh–Stung Treng–Pakse–Savannakhet Subcorridor (SEC-4)	Cambodia and Lao PDR	1,158.0

Lao PDR = Lao People’s Democratic Republic, SEC = Southern Economic Corridor.
Source: ADB. GMS Economic Corridor Assessment Team.

Condition of Road Transport Infrastructure

Observations regarding the physical condition of the roads in the GMS economic corridors are based on the field survey conducted in June 2017. The country reports contain a detailed account of these observations.

Road classification is based on the Asian Highway standards: Primary (4 or more

lanes, control access); Class I (4 or more lanes); Class II (2 lanes); and Class III (2 lanes). Pavement is asphalt or cement for Primary, Class I, and Class II, and double bituminous treatment for Class III. These are similar to the “Road and Bridge Design and Construction Standards and Specifications” provided for in Annex 11 of the GMS Cross-border Transport Facilitation Agreement. Observations regarding road condition are based on factors such as the state of road surface, road maintenance, and adequacy of

road signs and drainage facilities.

The corridor roads in the PRC are all classified as primary, except for sections between Jinghong and Daluo, which are Class II and undergoing rebuilding. All corridor roads in Thailand are Class I. The corridor roads in Viet Nam range from Class II to III, with a few classified as Class I (expressway). In the Lao PDR, most of the corridor roads are classified as Class III, with some sections requiring repairs and/or upgrades, while other corridor roads are below Class III and require financing for further improvement. All the corridor roads in Cambodia are classified as Class III, except for the Thnol Toteung–Phnom and Penh Phnom Penh–Skun sections in SEC– 4, which are classified as Class I. Corridor roads in Myanmar range from Class I to below Class III in SEC 1 (Htee Khee–Dawei SEZ).

All corridor roads in EWEC are in good condition, except for those in the Lao PDR, which range from fair to good and require urgent repairs and upgrades. In NSEC, most of the corridor roads are in good condition except for the following, which require repairs and/or upgrades: (i) Myanmar section in NSEC–1, (ii) Lao PDR sections in NSEC–2, (iii) a few sections in Myanmar in NSEC–5 frequently damaged by heavy trucks, (iv) Myanmar roads in NSEC–6, and (v) Lao PDR sections in NSEC–8. In SEC, most of the roads are also in good condition except for the following that require repairs and/or upgrades: (i) Myanmar section in SEC–1, (ii) one section in Cambodia in SEC–2, and (iii) several sections in Cambodia and the Lao PDR in SEC–4.

Observations covering road class and road condition are shown in the following GIS maps of the GMS economic corridors: Figure A, map of the economic corridor routes; Figure B, map of the economic corridor routes with road class overlay; and Figure C, map of the economic corridor routes with road condition overlay.

Border crossing facilities

Along the GMS economic corridors are 25 border crossing points: three in EWEC, 14 in NSEC, and eight in SEC. In general, facilities for customs, immigration, and quarantine, as well as common control areas, are in place, i.e., they are established and found to be adequate in majority of the border crossings. All border crossing facilities are in place in EWEC. In NSEC, most of the border crossing facilities are in place. Exceptions are the following border gates where facilities, including common control areas, need to be established and/or improved: Boten (NSEC–1), Thanaleng (NSEC–2), Thakhek (NSEC–7), and Nam Phao (NSEC–8) in the Lao PDR. In SEC, all border crossing facilities are in place except in Ban Phu Nam Ron, Thailand and Htee Khee, Myanmar in SEC–1; and Hat Lek, Thailand in SEC–3.

Border crossing facilities are well developed where the volume of cross-border trade and passenger and vehicle traffic are relatively high, such as in Ruili–Muse, Dongxing–Mong Cai, Hekou–Lao Cai, Myawaddy–Mae Sot, Aranyaprathet–Poipet, and Bavet–Moc Bai. In general, where cross-border trade and traffic are still limited, the facilities are less developed or, in some cases, rudimentary.

All border checkpoints along the GMS economic corridors in the PRC are well developed. The same is true in Thailand except, as noted above, in Hat Lek in the Thailand–Cambodia border and Ban Phu Nam Ron in the Thailand–Myanmar border

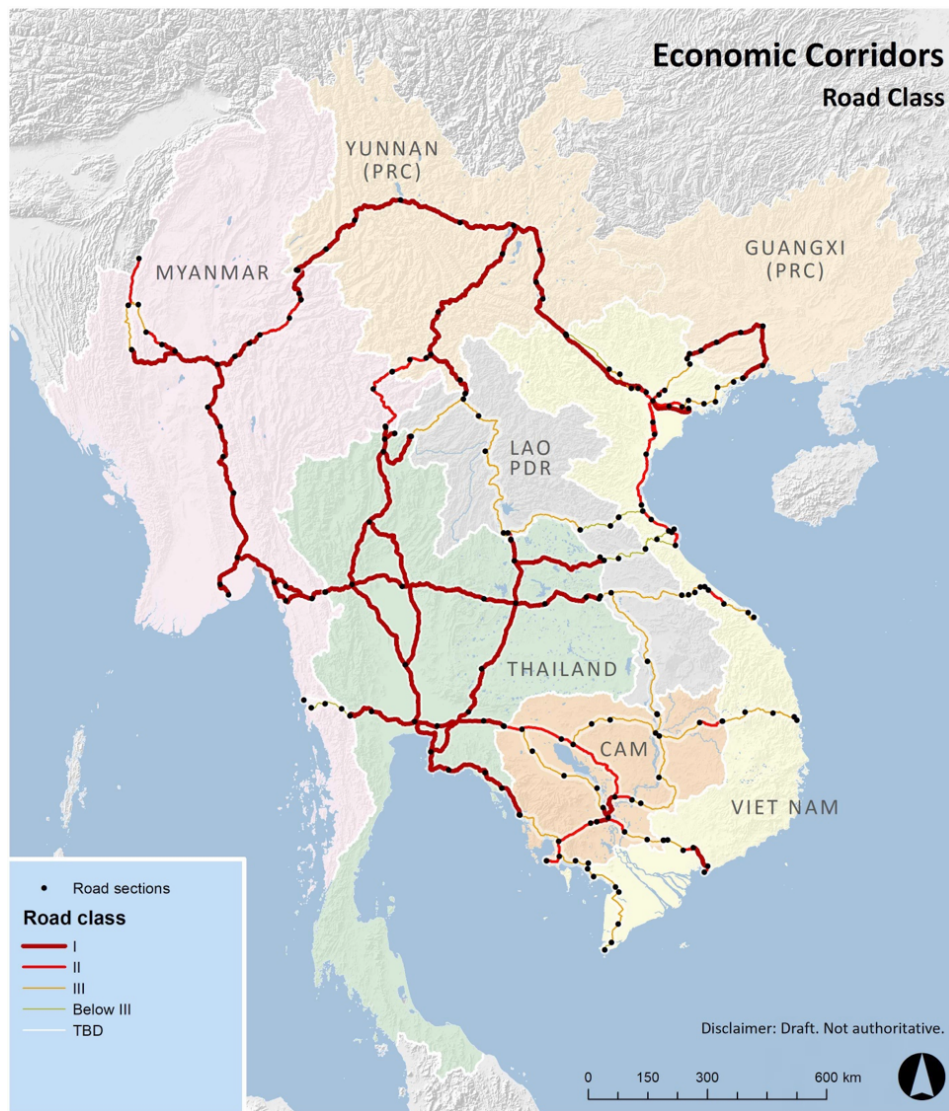
connecting to Dawei. Border crossing facilities in many border checkpoints in the Lao PDR require improvement to accommodate increasing cross-border trade and traffic.

Figure 1: Greater Mekong Subregion Economic Corridor Routes



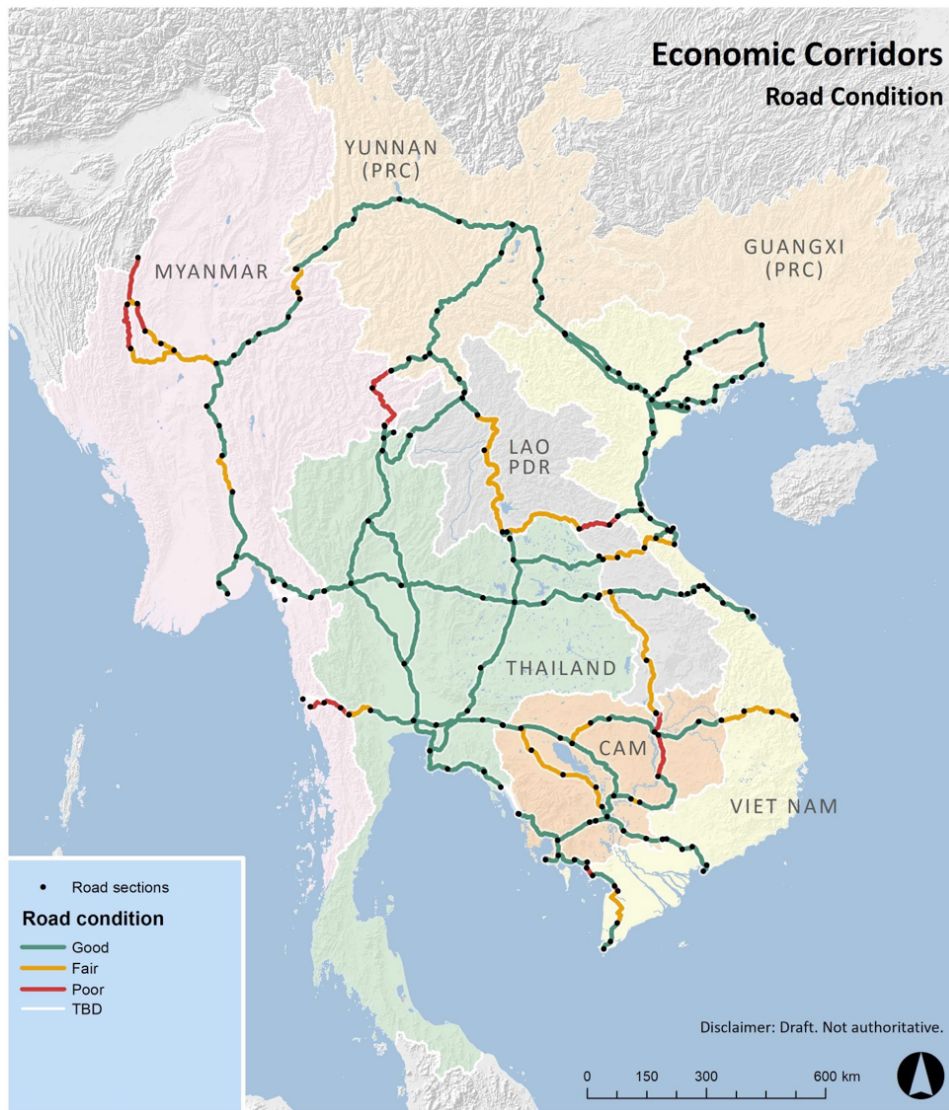
CAM = Cambodia, PRC = People’s Republic of China, Lao PDR = Lao People’s Democratic Republic.
 Source: ADB. GMS Economic Corridor Assessment Team.

Figure 2: Greater Mekong Subregion Economic Corridor Routes with Road Class Overlay



CAM = Cambodia, PRC = People's Republic of China,
Lao PDR = Lao People's Democratic Republic, TBD = To be determined.
Source: ADB. GMS Economic Corridor Assessment Team.

Figure 3: Greater Mekong Subregion Economic Corridor Routes with Road Condition Overlay



CAM = Cambodia, PRC = People's Republic of China,
Lao PDR = Lao People's Democratic Republic , TBD = To be determined.
Source: ADB. GMS Economic Corridor Assessment Team.

Cross-Border Trade and Traffic

Cross-border trade and vehicle traffic differ significantly among the corridors and subcorridors. Those that connect capitals and major economic centers of the GMS countries, such as Kunming–Bangkok (NSEC-1), Vientiane–Bangkok (NSEC-2), Kunming–Ha Noi–Hai Phong (NSEC-3), Nanning–Ha Noi (NSEC-4), Kunming–Mandalay–Yangon (NSEC-5), and Bangkok–Phnom Penh–Ho Chi Minh City (SEC-1) constitute the main trade routes and have the largest volume of cross-border trade and traffic in the GMS.

Cross-border trade is largest in the following border crossings along the GMS economic corridors:

In EWEC

- Myawaddy (Myanmar)–Mae Sot (Thailand)

In NSEC

- Mohan, PRC–Boten, Lao PDR (NSEC-1 and NSEC-2)
- Tachilek, Myanmar–Mae Sai, Thailand (NSEC-1)
- Hekou, PRC–Lao Cai, Viet Nam (NSEC-3)
- Pingxiang, PRC–Lang Son, Viet Nam (NSEC-4)
- Dongxing, PRC–Mon Cai, Viet Nam (NSEC-4)
- Muse, PRC–Ruili, Myanmar (NSEC-5)
- Vientiane, Lao PDR–Nong Khai, Thailand (NSEC-2)

In SEC

- Bavet, Cambodia–Moc Bai, Viet Nam (SEC-1)
- Poipet, Cambodia–Aranyaprathet, Thailand (SEC-1)

The primary cross-border trade routes along the GMS economic corridors are

- Bangkok–Yangon via Mae Sot–Myawaddy (EWEC and NSEC-1)
- Kunming–Bangkok via Lao PDR (NSEC-1)
- Bangkok–Vientiane (NSEC-2)
- Kunming–Ha Noi–Hai Phong (NSEC-3)
- Nanning–Ha Noi via Dongxing–Mong Cai (NSEC-4)
- Kunming–Mandalay via Muse–Ruili (NSEC-5)
- Bangkok–Phnom Penh–Ho Chi Minh City (SEC-1)

Economic Potential and Investment Opportunities

EWEC, NSEC, and SEC have good economic potential, with prospects for development varying among EWEC and the subcorridors of NSEC and SEC. In general, subcorridors connecting major economic centers and industrial hubs such as Kunming, Nanning, Bangkok, Ho Chi Minh City, Ha Noi, Phnom Penh, Yangon, and Vientiane tend to be more advanced and dynamic. However, improved physical connectivity has allowed the less developed corridors to catch up since they have better access to inputs, markets, and services, as well as more opportunities for investment.

Differences exist between the economic corridor areas, but all are rich in natural resources, especially forest and mineral resources. They are characterized by close historical and cultural ties. Located in their vicinity are many tourism attractions that, with proper promotion, can help generate employment and income, especially in the less developed areas of the GMS. With Thailand as an aviation hub in Southeast Asia, and the GMS countries having world-class tourist destinations and diverse tourism resources, increased connectivity along the GMS economic corridors can facilitate better and more multicountry and circuit tours. The tourist attractions along and around each of the GMS economic corridors are listed in the main text of this integrative report.

EWEC covers some of the most diverse areas in the region. Its main characteristics are a relative remoteness from the major economic centers and low population density, especially in the Lao PDR. Many areas along this corridor are still dependent on agriculture. It is the only direct and continuous land route between the Indian Ocean (Andaman Sea) and the South China Sea. It provides landlocked Lao PDR with access to the sea in Da Nang, Viet Nam. It is at the center of several Indochina crossroads, thus serving as interchange links to major economic centers. Examples are Khon Kaen, which connects Bangkok and Ha Noi, Tak and Phitsanulok with connections to NSEC, and Savannakhet with its connection to SEC.

Investment opportunities in EWEC are

- Agriculture and agro-industry (agro-processing, food industries, livestock products);
- Resource-based manufacturing (wood-based industries, cement, construction materials, granite, fertilizer, ceramics, and glass);
- Labor-intensive industries (garments, footwear, leather products, toys, furniture, handicraft, jewelry);
- Capital and technology-intensive industries (electronics, chemicals, agri-equipment, plastic products, manufacture and assembly of parts cars, motorcycles, and light trucks);
- Tourism-related industries; and
- Transport, power, and telecommunications.

NSEC has vast potential for development, as it is endowed with abundant natural resources and economically diversified along its north-south axis. It is a “natural economic corridor” in the GMS: the infrastructure network in the subregion has generally a north-south orientation. It is strategically located, linking the more developed and industrialized economies of the PRC and Thailand.

NSEC serves as the main land route for trade between the PRC's Yunnan Province and Thailand, and provides an important land link opening up sea access to landlocked Yunnan Province. It is also a direct trade conduit between southern PRC and northern Viet Nam. The PRC shares borders with the countries of the Association of Southeast Asian Nations (ASEAN) through NSEC, which is therefore well positioned to serve as a gateway for ASEAN–PRC trade. NSEC's links extend northwards: (i) beyond Yunnan Province and Guangxi to the rest of the PRC, and (ii) beyond Myanmar to South Asia via the Tamu (Myanmar)–Moreh (India) border gate. NSEC extends southwards to Malaysia, Singapore, and the rest of Southeast Asia.

The sectors and subsectors that offer good investment opportunities for NSEC development are

- Agriculture and agro–industry, including food processing and contract farming;
- Resource–based industries, including the processing of mineral and forest products, and energy–related industries;
- Light manufacturing industries such as clothing, garments, footwear, paper, accessories, and consumer products;
- Construction materials, including cement, iron, and steel;
- Agricultural machinery and equipment;
- Technology–intensive industries such as automotive parts, electronics, and electronic components;
- Service–based industries such as tourism and logistics; and
- Cottage industries linked to tourism and involving the participation of local communities.

SEC has considerable potential for growth. It is diverse in income and economic structure, natural resources, and labor markets, creating many complementarities that may be pursued to promote development. It has the necessary drivers of growth: markets, agricultural and industrial base, and world-class tourism assets. SEC has a strong manufacturing base in Thailand, particularly in the Eastern Economic Corridor in Chonburi, Rayong, and Chachoengsao, and in Ho Chi Minh City and Vung Tau in Viet Nam. Connecting these manufacturing hubs will create many business opportunities along the SEC for domestic and foreign investors. SEC areas have advantages in agriculture, forestry, and fishery production and processing that, in turn, provide investment opportunities in the SEC aside from manufacturing.

Investment opportunities in SEC include the following sectors or subsectors:

- Service industries (finance, banking, health, education and training, business services);
- Oil and gas (production and processing of petroleum oil products);

- Transport (land, seaport, and marine transport services);
- Logistics (inland container depot and distribution center, cold storage, and warehousing);
- Tourism, including cultural, historical, and ecotourism (tourist facilities and services, including hotels, resorts, restaurants, tour operations and transport services, rest areas and recreational facilities);
- Agriculture and agro-industry (rice, sugarcane, cassava, rubber, various types of beans, and processed food products);
- Fishery industry and marine product processing, including aquaculture;
- Manufacturing (automobiles, electronics, electrical appliances, agricultural machinery, chemicals, plastics; garments, household wares, wooden furniture, sugar industry, biochemical industry, and other light manufacturing industries);
- Mineral industry (mining and processing of mineral products); and
- Hydropower.

Special Economic Zones

GMS countries have many SEZs or IZs to promote domestic and foreign direct investment (FDI), stimulate domestic

industries, create jobs, and increase income not only in their own localities but also in neighboring areas through upward and downward linkages. This strategy is designed to help spread the benefits of growth to the countryside, especially to rural areas disadvantaged by their remoteness from the major economic centers. The main attractions provided by GMS governments to investors include a fast-tracked approval process, available and reliable infrastructure and utilities, fiscal incentives, permission to own land in the zone or industrial estate and to bring in foreign workers and remit foreign currency, and a favorable environment for the flow of safe and quality products.

Most SEZs or IZs are located along or around the economic corridors, giving them the advantage of connectivity domestically as well as externally with other GMS counties. SEZs and IZs have been established in almost all border areas of the GMS countries along EWEC, NSEC, and SEC. This enables cross-border cooperation in the pursuit of growth in production, trade and investment, finance, and infrastructure. SEZs and IZs along the GMS corridors spearhead the development of manufacturing and other value-adding activities in the GMS by promoting domestic and foreign investment, and links to domestic and regional production networks and supply chains.

Proposed Classification of the Economic Corridors

The Review of Configuration of the GMS Economic Corridors proposed that a classification be adopted to guide investment

programming. This classification system is useful for prioritizing interventions, which is imperative, since resources are limited. It can help identify priority actions to be pursued in each corridor or subcorridor. For example, if certain corridors have poor road conditions and/or many bottlenecks along the way, the main focus would be to improve transport infrastructure — primarily hardware. In corridors or subcorridors where road conditions are functioning well, then focus would be on transport and trade facilitation (TTF), urban development, enterprise development, and investment promotion — primarily software.

The main text of this integrative report presents and simulates the application of a classification system using the state of transport infrastructure and the implementation of TTF measures as the principal bases for determining the category of corridors or subcorridors. The lowest is Category 1, where cross-border connections have been established but many road sections are in poor condition and require substantial repair and/or upgrade. The highest is Category 5, where transport infrastructure has been completed and functions well along the full length of the corridor or subcorridor, and where major sections serve as trade and transit corridors, with TTF measures fully implemented.

EWEC is classified as Category 3. Of the eight NSEC subcorridors, two are classified as Category 4; three, as Category 3; two, as Category 2; and the Mandalay–Tamu Subcorridor, the lowest, as Category 1. Among the four SEC subcorridors,

SEC-1 is classified as Category 4 and the rest, Category 2.

Another classification can be adopted by the GMS countries to monitor and evaluate progress in transforming transport corridors into economic corridors. For this purpose, a grading system can be used with such indicators as follows:

- State of transport infrastructure and border crossing facilities along the economic corridor routes;
- Time and cost of crossing borders along the corridor or subcorridor;
- Value and volume of cross border trade;
- Cross-border traffic (cargo and passenger) in key border crossings;
- Number of tourist arrivals in tourism sites along or around the corridor subcorridor;
- Value of investments made in SEZs or IZs along and around the corridor subcorridor; and
- Operations of SEZs/IZs along and around the corridor or subcorridor.

Much more information is required by this grading system than those gathered in this assessment, so a separate exercise has to be undertaken using various sources of information, including this assessment.

Conclusion

The overall conclusion that emerges from the country reports is that, indeed, much has been accomplished in establishing physical connectivity in EWEC, NSEC, and SEC. There is no longer any missing link. However, several sections along the corridors or subcorridors still require repairs and upgrades, and there are bottlenecks at some border checkpoints that need addressing.

Improvements in connectivity have reinforced the operation of SEZs and IZs along the corridors or subcorridors, facilitating the transport of required inputs and the goods they produce. The establishment of SEZs at the borders of neighboring countries has also spurred cross-border cooperation. Better connectivity has improved visitor access to tourist attractions along and around the economic corridors and/or subcorridors.

Most of the recommendations in each country report are country- and corridor-specific; however, some concern GMS economic corridors as a whole. They include

- Expediting the implementation of ongoing and planned road or other transport projects, so that they can be opened to traffic sooner and enable full and smoother access through the corridor or subcorridors;
- Establishing and/or improving facilities at the borders such as logistics centers, bonded warehouses, cargo yards, and border equipment for facilitating border clearance,

to support cross-border trade and traffic;

- Harmonizing road infrastructure standards, such as road design and axle load limits;
- Implementing the single window inspection and single stop inspection scheme in more border gates;
- Intensifying efforts to enable transit cargo to go through the corridors or subcorridors;
- Accelerating the implementation of the GMS Cross-border Transport Facilitation Agreement (CBTA);
- Strengthening the links between different modes of transport through the development of intermodal connections; and
- Establishing a database for the transport infrastructure of GMS economic corridors, covering all modes (road, rail, and inland waterways) and nodes (dry ports, inland container depots, ports, and airports) of transport.

On the whole, the country reports confirm that the GMS countries have built a firm foundation for creating vibrant GMS economic corridors. However, full benefits will be obtained only if the requisite next steps are taken to further strengthen this foundation, and to transform transport corridors into fully functioning economic corridors.

I. INTRODUCTION

The development of transport corridors as economic corridors has been at the center of the Greater Mekong Subregion (GMS) Economic Cooperation Program (GMS Program) since 1998, when the economic corridor approach was adopted by the GMS countries.¹ This approach has been pursued as a spatial planning tool to connect major cities and urban centers, border nodes, maritime gateways, key industrial hubs, and major trade routes in support of subregional economic integration.

Economic corridors are geographically defined areas that facilitate the national and transnational movement of people, goods, services, capital, and information. Compared to transport corridors, economic corridors extend beyond a single route and encompass an economic zone running parallel to the main transport arteries. They stimulate and promote trade, investment, and other economic activities along the principal routes and surrounding areas.

The East–West Economic Corridor (EWEC), North–South Economic Corridor (NSEC), and Southern Economic Corridor (SEC) were given top priority for transforming transport corridors into economic corridors. They were designated as flagship programs at the First GMS Summit held in Phnom Penh, Cambodia in November 2002.

Thus, aside from investment in transport infrastructure, complementary efforts in trade and transport facilitation, border and corridor town development, and investment promotion have largely focused on EWEC, NSEC, and SEC.

In 2016, the Asian Development Bank (ADB) conducted a review of the configuration of the economic corridors to take into account the opening up of Myanmar and to ensure that (i) Yangon, Nay Pyi Taw, and Vientiane are included in the economic corridors; (ii) there is a close match between corridor routes and trade flows; (iii) GMS capitals and major urban centers are connected to each other; and (iv) the corridors are linked with maritime gateways.² The GMS Ministers endorsed the recommended changes in the configuration of the economic corridors at the 21st GMS Ministerial Conference held in Chiang Rai, Thailand on 30 November–1 December 2016. These changes addressed the (i) limited involvement of the Lao People’s Democratic Republic (Lao PDR) and Myanmar in EWEC and NSEC; (ii) absence of Yangon, Nay Pyi Taw, and Vientiane in any economic corridor; and (iii) omission of the principal trade routes between the People’s Republic of China (PRC) and Myanmar, Myanmar and Thailand, and the PRC, the Lao PDR, and Thailand in the economic corridors. Figure 1 shows the new configuration of the GMS economic corridors.

¹ ADB. 1998. Summary of Proceedings, Eighth Greater Mekong Subregion Ministerial Conference. Manila. 2 October.

² ADB. 2018. Review of Configuration of Greater Mekong Subregion Economic Corridors. Manila. <https://www.adb.org/sites/default/files/institutional-document/214361/configuration-gms-corridors.pdf>

Figure 4: New Configuration of the Greater Mekong Subregion Economic Corridors



Source: ADB. 2018. Review of Configuration of Greater Mekong Subregion Economic Corridors. Manila. <https://www.adb.org/documents/review-configuration-gms-corridors>.

The GMS Ministers also underscored the need to assess the state of development of GMS economic corridors to guide future investments and other interventions. In response to this need, ADB engaged national consultants in each GMS country to help conduct the assessment in their countries, covering the (i) physical condition of transport infrastructure and cross-border facilities, with emphasis on road transport; and (ii) economic potential and investment opportunities, focusing on the operation of special economic zones (SEZs) and the presence of tourist attractions along the economic corridors.

Six country reports, each prepared by a national consultant³ in a GMS country, contain detailed and comprehensive accounts of the state of economic corridors within that country. The findings on the physical state of road infrastructure and border crossing facilities are based on

field visits to all the corridor routes and consultations with central and local officials from April to June 2017. Photographs accompanying the country reports help visualize key installations visited during the field surveys. This integrative report consolidates and integrates the country components of the economic corridors into the GMS-wide EWEC, NSEC, and SEC.

Data from the country reports were used to update the GMS economic corridor geographic information system (GIS) database. New GMS economic corridor maps were prepared. The maps shown in Figure 2 onward are the updated GMS economic corridor maps. Appendix 1 contains a note on improving and amending the GMS economic corridors GIS database. Appendix 2 shows the economic corridor routes in each GMS country with road class and road condition plotted on the routes.

³ The national consultants engaged for the assessment were Hir Samnang, for Cambodia; Sengsavang Phandanouvong, for the Lao PDR; Phyo Kyaw Thu, for Myanmar; Liu Zengjun, for the PRC; Pawat Tantrongjita, for Thailand; and Pham Thanh Tung, for Viet Nam.

II. CONFIGURATION OF THE GREATER MEKONG SUBREGION ECONOMIC CORRIDORS

A. East–West Economic Corridor

The East–West Economic Corridor (EWEC) connects Da Nang in the central coast of Viet Nam and Yangon–Thilawa and Mawlamyine in Myanmar via the Lao PDR and Thailand. It crosses from Myanmar to Thailand through the Myawaddy (Myanmar)–Mae Sot (Thailand) border gate, then to the Lao PDR through the Mukdahan (Thailand)–Savannakhet (Lao PDR) border gate, and finally to Viet Nam through the Dansavanh (Lao PDR)–Lao Bao (Viet Nam) border gate. It has an end-to-end distance of 1,788.9 kilometer (km). Figure 2 shows a map of EWEC. Table 1 shows (i) the main road sections of EWEC in Myanmar, Thailand, the Lao PDR, and Viet Nam; (ii) the roads they traverse; and (iii) the distances in between.

B. North–South Economic Corridor

The North–South Economic Corridor (NSEC) has eight branches (called subcorridors) connecting the capitals, urban centers, industrial zones (IZs), maritime gateways, and trade routes in the People’s Republic of China (PRC), the Lao PDR, Myanmar, Thailand, and Viet Nam along the north–south axis of the GMS. NSEC 1, 2, 3, 4, and 5 are integral parts of the PRC–Indochina Peninsula Economic Corridor — one of the six corridors in the PRC’s Belt and Road Initiative. Figure 3 shows a map of NSEC, while Table 2 presents NSEC’s subcorridors and the GMS countries they traverse. The configuration of the eight subcorridors of NSEC is summarized in Tables 3 to 10.

Table 3: East-West Economic Corridor

Starting Point	End Point	Route	Distance (km)
Yangon	Da Nang		1,788.9
Myanmar			
Yangon	Myawaddy		437.3
Yangon	Payagyi (Bago)	AH 1	97.6
Payagyi (Bago)	Thaton	AH 1	143.6
Thaton	Kawkareik	AH 1	133.6
Kawkareik	Myawaddy	AH 1	62.5
Thailand			
Mae Sot	Mukdahan		756.6
Mae Sot	Tak	AH 1 (NH12)	7.0
Tak	Phitsunulok	AH 16 (NH12)	35.0
Phitsunulok	Chumpae	AH 16 (NH12)	129.0
Chumpae	Khon Kaen	AH 16 (NH12)	80.0
Khon Kaen	Kalasin	AH 16 (NH12)	82.0
Kalasin	Kamchaee	AH 16 (NH12)	241.0
Kamchaee	Mukdahan	AH 16 (NH12)	140.0
Mukdahan	Second Friendship Bridge	AH 16 (NH12)	90.0
Lao PDR			
Savannakhet	Dansavanh		250.0
Savannakhet	Seno	AH 16 (NR 9)	36.0
Seno	Dansavanh	AH 16 (NR 9)	214.0

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Starting Point	End Point	Route	Distance (km)
Viet Nam			
Lao Bao	Da Nang		345.0
Lao Bao	Khe Sanh	AH 16 (NH 9)	21.0
Khe Sanh	Dac Krong	AH 16 (NH 9)	24.0
Dac Krong	Cam Lo	AH 16 (NH 9)	23.0
Cam Lo	Dong Ha	AH 16 (NH 9)	15.0
Dong Ha	Quang Tri	AH 1 (NH 1A)	15.0
Quang Tri	Hue City	AH 1 (NH 1A)	57.0
Hue City	Lang Co	AH 1 (NH 1A)	73.0
Lang Co	Da Nang Port	AH 1 (NH 1A)	34.0

AH = Asian Highway, Lao PDR = Lao People's Democratic Republic, NH = national highway, NR = national road.
 Source: ADB. GMS Economic Corridor Assessment Team.

Figure 6: North-South Economic Corridor



CAM = Cambodia, PRC = People's Republic of China, Lao PDR = Lao People's Democratic Republic.
Source: ADB. GMS Economic Corridor Assessment Team.

Table 4: Branches of the North–South Economic Corridor

Subcorridor	Countries Traversed
Kunming–Chiang Rai–Bangkok via Lao PDR or Myanmar (NSEC-1)	PRC, Lao PDR, Myanmar, and Thailand
Kunming–Boten–Oudomxay–Luang Prabang–Vang Vieng–Vientiane–Nong Khai–Udon Thani–Nakhon Ratchasima–Laem Chabang (NSEC-2)	PRC, Lao PDR, and Thailand
Kunming–Ha Noi–Hai Phong (NSEC-3)	PRC and Viet Nam
Nanning–Ha Noi (NSEC-4)	PRC and Viet Nam
Kunming–Muse–Mandalay–Yangon–Thilawa (NSEC-5)	PRC and Myanmar
Mandalay–Tamu (NSEC-6)	Myanmar to border with India (extension of NSEC-5)
Laem Chabang –Bangkok–Nakhon Ratchasima–Udon Thani–Nakhon Phanom–Takhek–Na Phao–Vung Ang–Ha Noi (NSEC-7)	Thailand, Lao PDR, and Viet Nam
Vientiane–Paksan–Vinh–Ha Noi Corridor (NSEC-8)	Lao PDR and Viet Nam

PRC = People’s Republic of China, Lao PDR = Lao People’s Democratic Republic.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-1: Kunming–Chiang Rai–Bangkok via Lao PDR or Myanmar Subcorridor

NSEC-1 connects Kunming, Yunnan Province, the PRC to Bangkok, Thailand either through the Lao PDR or Myanmar. Table 3 shows (i) the main road sections of NSEC-1 in the PRC,

the Lao PDR, Myanmar, and Thailand; (ii) the roads they traverse; and (iii) the distances in between. The distance through the Lao PDR is 1,709.3 km, while the one through Myanmar is slightly shorter at 1,676.1 km. In the PRC, NSEC-1 stretches from Kunming, the capital city of Yunnan, to either Mohan at the border

with the Lao PDR, or Daluo at the border with Myanmar. In Mohan, NSEC crosses into Boten in the Lao PDR, while in Daluo, it crosses into Mongla in Myanmar. From Boten,

NSEC-1 goes through Nateuy and then to Houayxay where it crosses into Thailand through Chiang Khong and eventually Bangkok through either Phitsanulok or Tak.

Table 5: Kunming–Chiang Rai–Bangkok via Lao PDR or Myanmar Subcorridor (NSEC-1)

Starting Point	End Point	Route	Distance (km)
Kunming	Bangkok		1,709***
PRC via Lao PDR			
Kunming	Mohan		654.0
Kunming	Yuxi	G8511	70.0
Yuxi	Pu'er	G8511	320.0
Pu'er	Mengyang	G8511	97.0
Mengyang	Mengla	G8511	105.0
Mengla	Mohan	G8511	62.0
PRC via Myanmar			
Kunming	Daluo		628.0
Mengyang*	Jinghong	G219	18.0
Jinghong	Menghai	G219	54.0
Menghai	Daluo	S333	69.0
Lao PDR			
Boten	Houaxay		251.0
Boten	Nateuy	AH 3 (NR 3)	19.0
Nateuy	Houaxay	AH 3 (NR 3)	232.0

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Starting Point	End Point	Route	Distance (km)
Myanmar			
Mongla	Tachilek		246.9
Mongla	Kengtung	AH 2	90.1
Kengtung	Tachilek	AH 3	156.8
Thailand			
Chiang Khong	Bangkok		**804.3
Chiang Khong	Chiang Rai	AH 3 (NH1020, 1128, 1126)	97.8
Via Maesai			
Maesai	Chiang Rai	AH 2 (NH1)	62.4
Chiang Rai	Lampang	AH 2 (NH1)	228.0
Lampang	Phisanulok	AH 2 (NH1)	223.5
Phisanulok	Nakhon Sawan	AH 1/AH 2 (NH117)	240.0
Via Tak			
Lampang	Tak	AH 1 (NH1)	183.0
Tak	Nakhon Sawan	AH 1 (NH1)	181.0
Nakhon Sawan	Bangkok	AH 1 (NH 1A,32)	15.0

AH = Asian Highway, PRC = People's Republic of China, Lao PDR = Lao People's Democratic Republic, NH = national highway, NR = national road.

* The road sections from Kunming to Mengyang are the same as those in the route via the Lao PDR.

** This is the length of the Chiang Khong–Bangkok route via Phisanulok; the length of the Mae Sai–Bangkok also via Phisanulok is 768.9 km. The distance through Tak (Lampang–Tak) is around 40 km shorter than through Phisanulok (Lampang–Phisanulok).

*** Via Lao PDR (Chiang Rai and Phisanulok in Thailand).

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-2: Kunming–Boten–Luang Prabang–Vientiane–Nong Khai– Udon Thani–Nakhon Ratchasima–Laem Chabang Subcorridor

NSEC-2 connects Kunming, the PRC to Vientiane in the Lao PDR and Laem Chabang in Thailand. From the Mohan (PRC)–Boten (Lao PDR) border gate, NSEC-2 passes

through Luang Prabang and Vientiane before crossing into Thailand through the Thanaleng (Lao PDR)–Nong Khai (Thailand) border gate. It has an end-to-end distance of more than 2,000 km. Table 4 shows (i) the main road sections of NSEC-2 in the PRC, the Lao PDR, and Thailand; (ii) the roads they traverse; and (iii) the distances in between.

Table 6: Kunming–Boten–Luang Prabang–Vientiane–Nong Khai–Udon Thani–Nakhon Ratchasima–Laem Chabang Subcorridor (NSEC-2)

Starting Point	End Point	Route	Distance (km)
Kunming	Laem Chabang		2,037.7
PRC			
Kunming	Mohan		654.0
Kunming	Yuxi	G8511	70.0
Yuxi	Pu'er	G8511	320.0
Pu'er	Mengyang	G8511	97.0
Mengyang	Mengla	G8511	105.0
Mengla	Mohan	G8511	62.0
Lao PDR			
Boten	Thanaleng		701.0
Boten	Nateuy	AH 3 (NR 3)	19.0
Nateuy	Muangchai	AH 12 (NR 13N)	84.0
Muangchai	Luang Prabang	AH 12 (NR 13N)	194.0

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Starting Point	End Point	Route	Distance (km)
Lao PDR			
Luang Prabang	Sikeut	AH 12 (NR 13N)	371.0
Sikeut	Dongdok 4 – Junction	AH 12 (NR 13N)	12.0
Dongdok 4 – Junction	Thanaleng	AH 12 (NR 450)	20.0
Thanaleng	Thanaleng BC/1FSB	AH 12	1.0
Thailand			
Nong Khai	Laem Chabang		682.7
Nong Khai	Udon Thani	AH 12 (NH2)	53.2
Udon Thani	Khon Kaen	AH 12 (NH2)	113.4
Khon Kaen	Nakhon Ratchasima	AH 12 (NH2)	190.5
Nakhon Ratchasima	Pranchinburi	AH 19 (NH304)	155.0
Pranchinburi	Laem Chabang	AH 19 (NH304,7)	170.6

AH - Asian Highway, PRC = People's Republic of China, Lao PDR = Lao People's Democratic Republic, NH = national highway, NR = national road.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-3: Kunming–Ha Noi–Hai Phong Subcorridor

NSEC 3 connects Kunming, Yunnan Province, the PRC to Ha Noi and Hai Phong in northern Viet Nam. From Kunming, it traverses the cities of Mile, Kaiyuan, and Mengzi, and Hekou County then crosses into Viet Nam at the Hekou (PRC)–Lao Cai (Viet Nam)

border gate. From Lao Cai, NSEC-3 goes through Yen Bai, Doan Hung, Viet Tri, Vinh Yen, Noi Bai (Ha Noi), and Hai Duong before reaching Hai Phong. NSEC-3 has an end-to-end distance of 1,161 km. Table 5 shows (i) the main road sections of NSEC-3 in the PRC and Viet Nam, (ii) the roads they traverse, and (iii) the distances in between.

Table 7: Kunming–Ha Noi–Hai Phong Subcorridor (NSEC-3)

Starting Point	End Point	Route	Distance (km)
Kunming	Hai Phong		1,161
PRC			
Kunming	Hai Phong		1,161
Kunming	Mile	G80	180
Mile	Kaiyuan	G80/G8011	90
Kaiyuan	Mengzi	G8011	40
Mengzi	Hekou	G8511	150
Viet Nam			
Lao Cai	Hai Phong		701
Lao Cai	Yen Bai	AH14 (NH70)	153
Yen Bai	Doan Hung	AH14 (NH70)	42
Doan Hung	Viet Tri	AH14 (NH2A)	46
Viet Tri	Vinh Yen	AH 14 (NH2A)	31
Vinh Yen	Noi Bai (Ha Noi)	AH 14 (NH2A)	28
Lao Cai	Noi Bai (Ha Noi)		*300
Noi Bai (Ha Noi)	Hai Duong	AH 14 (NH5)	76
Hai Duong	Hai Phong	AH14 (NH5)	49

AH = Asian Highway, NH = national highway, PRC = People's Republic of China.

* Via AH 14; the distance is 264 km through the expressway (Route No. 4).

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-4: Nanning-Ha Noi Subcorridor

NSEC-4 connects Nanning, the capital city of Guangxi, the PRC to Ha Noi, Viet Nam through Youyiguan or Dongxing. Through Youyiguan, it crosses Fusui County, Chongzuo City, Ningming County, and Pingxiang City before reaching the border with Viet Nam at Huu Nghi. From Huu Nghi, NSEC-4 traverses the cities of Lang Son, Bac Giang, and Bac Ninh before reaching Ha Noi. Through Dongxing, NSEC-4 goes

through Fangchenggang City before reaching the border with Viet Nam at Mong Cai. From Mong Cai, NSEC-4 passes through Quang Ha, Tien Yen, and the cities of Cam Pha, Ha Long, and Hai Phong on the way to Ha Noi. The distance from Nanning to Ha Noi via Youyiguan-Huu Nghi is 583 km. The distance via Dongxing-Mong Cai is about 120 km longer. Table 6 shows (i) the main road sections of NSEC-4 in the PRC and Viet Nam, (ii) the roads they traverse, and (iii) the distances in between.

Table 8: Nanning-Ha Noi Subcorridor (NSEC-4)

Starting Point	End Point	Route	Distance (km)
Nanning	Ha Noi		583
PRC			
Nanning	Youyiguan		195
Nanning	Fusui	G7211	45
Fusui	Chongzuo	G7211	62
Chongzuo	Ningming	G7211	44
Ningming	Pingxiang	G7211	29
Pingxiang	Youyiguan	G7211	15
Viet Nam			
Huu Nghi	Ha Noi		169
Huu Nghi	Lang Son City	NH1A	15
Lang Son City	Bac Giang City	NH1A	103
Bac Giang City	Bac Ninh City	CTO1	20
Bac Ninh City	Ha Noi	CTO1/NH5	31

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Starting Point	End Point	Route	Distance (km)
Alternate Route via Hai Phong			
PRC			
Nanning	Dongxing		185
Nanning	Fangchenggang	G75	102
Fangchenggang	Dongxing	G7511	83
Viet Nam			
Bac Luan (Mong Cai)	Hai Phong City		219
Bac Luan (Mong Cai)	Quang Ha	NH18	18
Quang Ha	Tien Yen	NH18	48
Tien Yen	Cam Pha City	NH18	52
Cam Pha City	Ha Long City	NH18	28
Ha Long City	Uong Bi City	NH18	41
Uong Bi City	Hai Phong City (via Quan Toan)	NH10/NH5	32

NH = national highway, PRC = People's Republic of China.
Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-5: Kunming–Muse–Mandalay–Yangon–Thilawa Subcorridor

NSEC-5 connects Kunming in Yunnan Province, the PRC to Yangon–Thilawa in Myanmar. From Kunming in the PRC, NSEC-5 traverses Chuxiong, Dali, Baoshan, and Mangshi before reaching Ruili at the border with Myanmar. In Myanmar, NSEC-5

stretches from its border with the PRC at Muse to Kukai, Thein Ni, Lashio, Mandalay, Meikthilar, Nay Pyi Taw, and Bago before reaching Yangon–Thilawa. The end-to-end distance of NSEC-5 is 1,726.4 km. Table 7 shows (i) the main road sections of NSEC-5 in the PRC and Myanmar, (ii) the roads they traverse, and (iii) the distances in between.

**Table 9: Kunming–Muse–Mandalay–Yangon–Thilawa Subcorridor
(NSEC-5)**

Starting Point	End Point	Route	Distance (km)
Kunming	Yangon		1,778.2
PRC			
Kunming	Ruili		704.0
Kunming	Chuxiong	G56	152.0
Chuxiong	Dali	G56	157.0
Dali	Baoshan	G56	185.0
Baoshan	Mangshi	G56	140.0
Mangshi	Ruili	G56	70.0
Myanmar			
Muse	Yangon		1,074.2
Muse	Kukai	AH14	96.6
Kukai	Thein Ni	AH14	27.3
Thein Ni	Lashio	AH14	51.1
Lashio	Kyauk Me	AH14	105.8
Kyauk Me	Naung Cho	AH14	48.7
Naung Cho	Pyin Oo Lwin	AH14	37.2
Pyin Oo Lwin	Mandalay	AH14	67.2
Mandalay	Meikthilar	AH1	134.4
Meikthilar	Yamethin	AH1	62.8
Yamethin	Nay Pyi Taw	AH1	90.3

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Starting Point	End Point	Route	Distance (km)
Nay Pyi Taw	Taunggoo	AH1	87.9
Taunggoo	Bago	AH1	172.8
Bago	Yangon	AH1	64.3
Yangon	Thilawa SEZ	Direct	27.8

AH = Asian Highway, PRC = People's Republic of China, SEZ = special economic zone.
 Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-6: Mandalay–Tamu Subcorridor

The entire NSEC-6 is located in Myanmar and connects Mandalay and Tamu. This connection provides the GMS with a link to South Asia through the Tamu (Myanmar)–Moreh (India) border gate. There are three

possible routes from Mandalay to Tamu: (i) via Yargi Road, (ii) via Gangaw Road; and (iii) via Ye–U Road. The shortest route is through Yargyi Road (464.4km) Table 8 shows (i) the main road sections of NSEC-6, (ii) the roads they traverse, and (iii) the distances in between.

Table 10: Mandalay–Tamu Subcorridor (NSEC-6)

Starting point	End point	Route	Distance (km)
Myanmar			
Via Yargyi Road			
Mandalay	Tamu	Direct	464.4
Mandalay	Monywa	AH1	130.0
Monywa	Yar Gyi	AH1	64.4
Yar Gyi	Lar Poh	AH1	28.9
Lar Poh	Kalewa	AH1	91.7
Kalewa	Kyigone	AH1	27.9
Kyigone	Tamu	AH1	121.5

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Starting point	End point	Route	Distance (km)
Via Gangaw Road			
Mandalay	Tamu	Direct	605.5
Mandalay	Monywa	AH1	130.0
Monywa	Gangaw	AH1	193.3
Gangaw	Kalay	AH1	150.8
Kalay	Tamu	AH1	131.4
Via Ye-U Road			
Mandalay	Tamu	Direct	469.6
Mandalay	Shwebo		112.6
Shwebo	Ye-U		37.8
Ye-U	Taze		20.9
Taze	Kalewa		148.8
Kalewa	Kygione	AH1	27.9
Kygione	Tamu	AH1	121.5

AH= Asian Highway.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-7: Laem Chabang-Bangkok-Nakhon Ratchasima-Udon Thani-Nakhon Phanom-Takhek-Na Phao-Vung Ang-Ha Noi

NSEC-7 provides a shorter route than the EWEC from Laem Chabang/Bangkok to Ha Noi. In Thailand, it stretches from Laem Chabang to Nakhon Phanom at the border with the Lao PDR, going through Prachinburi, Nakhon Ratchasima, Khon Kaen, and Udon Thani. In the Lao PDR, NSEC-7 starts in

Thakek at the Thai-Lao border and crosses into Ha Noi at the Na Phao (Lao PDR)-Chalo (Viet Nam) border gate. From Chalo, NSEC-7 goes through Vung Ang, Ha Tinh, and the cities of Vinh, Thanh Hoa, and Ninh Binh. The distance from Laem Chabang to Ha Noi via NSEC-7 is 1,551.7 km. Table 9 shows (i) the main road sections of NSEC-7 in the Lao PDR, Thailand, and Viet Nam; (ii) the roads they traverse; and (iii) the distances in between.

Table 11: Laem Chabang–Bangkok–Nakhon Ratchasima–Udon Thani–Nakhon Phanom–Takhek–Na Phao–Vung Ang–Ha Noi subcorridor (NSEC-7)

Starting point	End point	Route	Distance (km)
Laem Chabang	Ha Noi		1,551.7
Thailand			
Laem Chabang	Nakhon Phanom	via cities	*869.5
Laem Chabang	Prachinburi	AH19 (NH7,304)	170.6
Prachinburi	Nakhon Ratchasima	AH19 (NH304)	155.0
Nakhon Ratchasima	Khon Kaen	AH12 (NH2)	190.5
Khon Kaen	Udon Thani	AH12 (NH2)	113.4
Udon Thani	Nakhon Phanom	AH12 (NH2)	240.0
Lao PDR			
Thakhek	Na Phao		150.0
Thakhek	Muang Mahaxai	AH131	51.0
Muang Mahaxai	Na Phao	AH131	99.0
Viet Nam			
Cha Lo	Ha Noi		**532.2
Cha Lo	Vung Ang	AH 131(NH12A/C)	***136.6
Vung Ang	Ha Tinh	NH12A/NH1A	59.0
Ha Tinh	Vinh City	AH1(NH1A)	56.4
Vinh City	Thanh Hoa City	AH1(NH1A)	139.0

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Starting point	End point	Route	Distance (km)
Thanh Hoa City	Ninh Binh City	AH1(NH1A)	60.2
Ninh Binh City	Phu Ly City	NH1A or CT01	****32.0
Phu Ly City	Ha Noi	NH1A or CT01	****62.2

AH = Asian Highway, NH = national highway.

CT01 = expressway route number 1.

* Distance via direct route is 775.9 km.

** Distance via old route is 583 km.

*** New route.

**** Via expressway.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-8: Vientiane-Paksan-Vinh-Ha Noi Subcorridor

NSEC-8 connects the capital cities of Vientiane in the Lao PDR and Ha Noi in Viet Nam. It stretches from Vientiane to Ban Lao and Lak Sao in the Lao PDR before reaching the Nam Phao (Lao PDR)-Cao Treo

(Viet Nam) border gate. From Cao Treo, NSEC-8 goes through Bai Bot-Hong Linh, and cities of Vinh, Thanh Hoa, Ninh Binh, and Phu Ly before reaching Ha Noi. Its end-to-end distance is 471.3 km. Table 10 shows (i) the main road sections of NSEC-8 in the Lao PDR and Viet Nam, (ii) the roads they traverse, and (iii) the distances in between.

Table 12: Vientiane-Paksan-Vinh-Ha Noi Subcorridor (NSEC-8)

Starting Point	End Point	Route	Distance (km)
Laem Chabang	Ha Noi		1,551.7
Thailand			
Laem Chabang	Nakhon Phanom	via cities	*869.5
Laem Chabang	Prachinburi	AH19 (NH7,304)	170.6
Prachinburi	Nakon Rachasima	AH19 (NH304)	155.0
Nakon Rachasima	Khon Kaen	AH12 (NH2)	190.5

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Starting Point	End Point	Route	Distance (km)
Viet Nam			
Cau Treo	Ha Noi		
Cau Treo	Bai Bot–Hong Linh	AH15 (NH8)	85.3
Bai Bot–Hong Linh	Vinh City	AH1 (NH1A)	20.5
Vinh City	Thanh Hoa City	AH1 (NH1A)	139
Thanh Hoa City	Ninh Binh City	AH1 (NH1A)	60.2
Ninh Binh City	Phu Ly City	NH1A or CT01	*32.0
Phu Ly City	Ha Noi	NH1A or CT01	*62.2

CT01=expressway route number 1.

* Via expressway.

Source: ADB. GMS Economic Corridor Assessment Team.

C. Southern Economic Corridor

The SEC has four subcorridors connecting the capitals, urban centers, IZs, maritime gateways, and trade routes in Cambodia, the Lao PDR, Thailand, and Viet Nam. Figure 4 shows a map of SEC, while Table 11 presents SEC's subcorridors and the GMS countries they traverse. The configuration of the four subcorridors of SEC is shown in Tables 12 to 15.

SEC-1: Dawei–Bangkok–Phnom Penh–HCMC–Vung Tau Subcorridor

SEC-1 connects Dawei in Myanmar to Bangkok in Thailand, Phnom Penh in

Cambodia, and Ho Chi Minh City and Vung Tau in Viet Nam. It crosses three border gates: (i) Htee Khee (Myanmar)–Ban Phu Nam Ron (Thailand), (ii) Aranyaprathet (Thailand)–Poipet (Cambodia), and (iii) Bavet (Cambodia)–Moc Bai (Viet Nam). The distance from Bangkok to Phnom Penh is 836.3 km, while that between Phnom Penh–Ho Chi Minh City is 256 km. It has an end-to-end distance of 1,332.6 km. Table 12 shows (i) the main road sections of SEC-1 in Myanmar, Thailand, Cambodia, and Viet Nam; (ii) the roads they traverse; and (iii) the distances in between.

Figure 7: Southern Economic Corridor



CAM = Cambodia, PRC = People's Republic of China, Lao PDR = Lao People's Democratic Republic.
Source: ADB. GMS Economic Corridor Assessment Team.

Table 13: Branches of the Southern Economic Corridor

Subcorridor	Countries Traversed
Dawei–Bangkok–Phnom Penh–HCMC–Vung Tau Subcorridor	Cambodia, Myanmar, Thailand, and Viet Nam
Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon Subcorridor	Cambodia, Thailand, Viet Nam, and Thailand
Bangkok–Trat–Kampot–Ha Tien–Nam Can Subcorridor	Cambodia, Thailand, and Viet Nam
Sihanoukville–Phnom Penh–Stung Treng–Pakse–Savannakhet Subcorridor	Cambodia and Lao People’s Democratic Republic

Source: ADB. GMS Economic Corridor Assessment Team.

Table 14: Dawei–Bangkok–Phnom Penh–HCMC–Vung Tau Subcorridor (SEC-1)

Starting Point	End Point	Route	Distance (km)
Dawei	Vung Tau		1,332.6
Myanmar			
Dawei	Htee Khee		140.0
Dawei	Myitta	–	55,2
Myitta	Sinbyudaing	–	57,6
Sinbyudaing	Htee Khee	–	27,2
Thailand			
Ban Phu Nam Ron	Aranyaprathet	Direct	*438.0
Ban Phu Nam Ron	Khanchanaburi	AH123 (NH3521,3229)	66.8
Khanchanaburi	Bangkok	AH123 (NH323,4)	124.7
Bangkok	Chachoengsao	AH123 (NH7)	84.6

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Starting Point	End Point	Route	Distance (km)
Chachoengsao	Sa Kaeo	AH1 (NH304,359,33)	120.0
Sa Kaeo	Aranyaprathet	AH1(NH33)	57.7
Cambodia			
Poipet	Bavet		574.0
Poipet	Sisophon	AH 1 (NR5)	47.0
Sisophon	Battambang	AH 1 (NR5)	70.0
Battambang	Pursat	AH 1 (NR5)	104.0
Pursat	Kampong Chhnang	AH 1 (NR5)	95.0
Kampong Chhnang	Preach Kdam	AH 1 (NR5)	61.0
Preach Kdam	Phnom Penh	AH 1 (NR5)	30.0
Phnom Penh	Neak Loeung	AH 1 (NR5)	60.0
Neak Loeung	Svay Rieng	AH 1 (NR5)	65.0
Svay Rieng	Bavet	AH 1 (NR5)	42.0
Viet Nam			
Moc Bai	Vung Tau City		180.6
Moc Bai	Go Dau	–	10.0
Go Dau	An Suong (HCMC)	–	48.0
An Suong (HCMC)	Intersection AH1/ AH17	–	31.0
Intersection AH1/ AH17	Ba Ria City	–	77.6
Ba Ria City	Vung Tau City		14.0

AH = Asian Highway, HCMC = Ho Chi Minh City.

*453.8 km via cities.

Source: ADB. GMS Economic Corridor Assessment Team.

SEC-2: Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon Subcorridor

SEC-2 connects Bangkok in Thailand, Siem Reap in Cambodia, and Pleiku in the Central Highlands and Quy Nhon in the central coast of Viet Nam. The distance from Bangkok to

Siem Reap via SEC-2 is 591 km, while that from Bangkok to Quy Nhon is 1,338 km. Table 13 shows (i) the main road sections of SEC-1 in Myanmar, Thailand, Cambodia, and Viet Nam; (ii) the roads they traverse; and (iii) the distances in between.

Table 15: Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon Subcorridor (SEC-2)

Starting Point	End Point	Route	Distance (km)
Bangkok	Quy Nhon		1,338.0
Myanmar			
Ban Phu Nam Ron	Aranyaprathet	Direct	*438.0
Ban Phu Nam Ron	Khanchanaburi	AH123 (NH3521,3229)	66.8
Khanchanaburi	Bangkok	AH123 (NH323,4)	124.7
Bangkok	Chachoengsao	AH123 (NH7)	84.6
Chachoengsao	Sa Kaeo	AH1 (NH304, 359,33)	120.0
Sa Kaeo	Aranyaprathet	AH1 (NH33)	57.7
Cambodia			
Poipet	O Yadav		665.0
Poipet	Sisophon	AH 1 (NR5)	48.0
Sisophon	Siem Reap	AH 21 (NR6)	105.0
Siem Reap	Dam Dek	AH 21 (NR6)	33.0
Dam Dek	Koh Ke	AH 21 (NR64)	80.0
Koh Ke	Preah Vihear	AH 1 (NR64/62)	53.0

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Starting Point	End Point	Route	Distance (km)
Preah Vihear	Stung Treng	AH 21 (NR9)	143.0
Stung Treng	Rattanakiri (Ban Lung)	AH 21 (NR7/78)	135.0
Rattanakiri (Ban Lung)	O Yadav	AH 21 (NR78)	68.0
Viet Nam			
Le Thanh	Quy Nhon City		234.0
Le Thanh	Pleiku City	NH19	74.0
Pleiku City	An Khe	NH19	93.0
An Khe	An Nhon Crossroad	NH19	43.0
An Nhon Crossroad	Quy Nhon City	NH19	24.0

AH = Asian Highway, NH = national highway, NR = national road.

*453.8 km via cities.

Source: ADB. GMS Economic Corridor Assessment Team.

SEC-3: Bangkok-Trat-Kampot-Ha Tien-Nam Can Subcorridor

SEC-3 connects Bangkok in Thailand and Ca Mau in Viet Nam via the eastern seaboard of Thailand and the coast of Cambodia and Viet Nam. The distance from Bangkok to Ca Mau is 1,079 km. SEC-3 crosses two

border gates: (i) Hat Lek (Thailand)–Kho Khong (Cambodia), and (ii) Lork (Cambodia)–Ha Tien (Viet Nam). Table 14 shows (i) the main road sections of SEC-3 in Myanmar, Thailand, Cambodia, and Viet Nam; (ii) the roads they traverse; and (iii) the distances in between.

Table 16: Bangkok-Trat-Kampot-Ha Tien-Nam Can Subcorridor (SEC-3)

Starting Point	End Point	Route	Distance (km)
Bangkok	Nam Can		1,079.0
Thailand			
Bangkok	Hat Lek		*411.8
Bangkok	Rayong	AH19 (NH7)	172.2
Rayong	Chantaburi	AH123 (NH3)	130.4
Chantaburi	Trat	AH123 (NH3)	68.7
Trat	Hat Lek	AH123 (NH3)	95.7
Cambodia			
Koh Kong	Lork		307.0
Koh Kong	Sre Ambel	AH123 (NR48)	159.0
Sre Ambel	Veal Rign	AH 123 (NR4)	40.0
Veal Rign	Kampot	AH 123 (NR3)	54.0
Kampot	Kampong Trach	AH 123 (NR33)	37.0
Kampong Trach	Lork	AH 123 (NR33)	17.0
Viet Nam			
Ha Tien	Ca Mau Southern Tip		360.2
Ha Tien	Kien Luong	NH80	25.6
Kien Luong	Rach Gia City	NH80	89.6
Rach Gia City	Min Luong Crossroad	Via bypass NH80 in Rach Gia City and small segment of NH61	27.0

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Starting Point	End Point	Route	Distance (km)
Min Luong Crossroad	Ca Mau City	NH63	110.0
Ca Mau City	Nam Can	NH1A	50.0
Nam Can	Ca Mau Southern Tip	HCMC Road	56.0

AH = Asian Highway, HCMC = Ho Chi Minh City, NH = national highway, NR = national road.
 *467 km via cities.

Source: ADB. GMS Economic Corridor Assessment Team.

SEC-4: Sihanoukville–Phnom Penh–Stung Treng–Pakse–Savannakhet Subcorridor

SEC-4 connects the port city of Sihanoukville in Cambodia to Savannakhet in the Lao PDR via Phnom Penh and Stung Treng in Cambodia and Pakse in the Lao PDR.

It crosses into the Lao PDR through the Trapeang Kriel (Cambodia)–Nong Nokkheane (Lao PDR) border gate. It has an end-to-end distance of 1,158 km. Table 15 shows (i) the main road sections of SEC-4 in Cambodia and Viet Nam, (ii) the roads they traverse, and (iii) the distances in between.

Table 17: Sihanoukville–Phnom Penh–Stung Treng–Pakse–Savannakhet Subcorridor (SEC-4)

Starting Point	End Point	Route	Distance (km)
Sihanoukville	Savannakhet		1,158
Cambodia			
Sihanoukville	Trapeang Kriel		750
Sihanoukville	Kampong Speu	AH11 (NR4)	182
Kampong Speu	Thnol Toteung	AH11 (NR4)	18
Thnol Toteung	Phnom Penh	AH11 (NR4)	30
Phnom Penh	Skun	AH11 (NR6A)	75

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Starting Point	End Point	Route	Distance (km)
Skun	Kampong Cham	AH11 (NR7)	45
Kampong Cham	Thbong Khmum	AH11 (NR7)	36
Thbong Khmum	Kratie	AH11 (NR7)	174
Kratie	Stung Treng	AH11 (NR7)	127
Stung Treng	Trapeang Kriel	AH11 (NR7)	63
Lao PDR			
Nong Nokkheane	Savannakhet		408
Nong Nokkheane	Pakse	AH11	160
Pakse	Savannakhet	AH11	248

AH = Asian Highway, NH = national highway, NR = national road.
 Source: ADB. GMS Economic Corridor Assessment Team.

III. ASSESSMENT OF ROAD TRANSPORT INFRASTRUCTURE

This section presents the findings of the assessment of transport infrastructure in EWEC, NSEC, and SEC, focusing on road transport.⁴ The tables below show, for each road section of the corridors and subcorridors, the road class, number of traffic lanes, and their physical condition. Physical condition is reported as “good, fair, or poor.”⁵ Road classification is based on the Asian Highway standards: Primary (4 or more lanes, control access); Class I (4 or more lanes); Class II (2 lanes); and Class III (2 lanes). Pavement is asphalt or cement for Primary, Class I, and Class II, and double bituminous treatment for Class III.

A more detailed description of the physical condition of the roads is contained in the country reports. The assessment of transport infrastructure indicates where further investments are needed to improve road transport. It also provides a benchmark for tracking progress over time.

A. East-West Economic Corridor

Table 16 shows the assessment of the road sections of EWEC in Myanmar, Thailand, the Lao PDR, and Viet Nam. All the road sections in the Myanmar component of EWEC are in good condition, Class I–II with 2–4 lanes and up to 6 lanes in the Yangon–Payagyi section. However, a bypass road is urgently needed in Thaton. All the road sections in the Thailand component are also in good condition, with 2–4 lanes and up to 6 lanes in the Khon Kaen–Kalasin section. A bottleneck, covering 43 km between the Lom Sak and Khon Kaen districts, needs to be addressed. The road sections in the Lao PDR component are in good condition with 2 lanes (Class III), except in the Savannakhet–Seno section, which is fair and requires urgent repairs. Both road sections in the Lao PDR require upgrades. All the road sections in the Viet Nam component are Class II, except for two sections that are Class III. All road sections are in good condition with 2–4 lanes.

⁴ Road transport is the dominant mode of transport in the GMS, with the volume of passengers and goods carried by road far exceeding that transported by rail, air, and water. See Greater Mekong Subregion. 2016. Greater Mekong Subregion Statistics on Growth, Infrastructure, and Trade, (2nd Edition). GMS Eighth Economic Corridors Forum. Phnom Penh, Cambodia.

⁵ Observations regarding road condition are based on factors such as the state of the road surface, road maintenance, and adequacy of road signs and drainage facilities.

Table 18: Road Transport: East-West Economic Corridor

Section	Road class/ Traffic Lanes	Road Condition	Remarks
Myanmar			
Yangon–Payagyi (Bago)	I (4/6)	Good	
Payagyi (Bago)– Thaton	I (4)	Good	
Thaton–Hpa-an	II–I (2/4)	Good	Thaton bypass road urgently needed.
Hpa-an–Kawkareik	II–I (2/4)	Good	The Eindu–Kawkareik road is being upgraded to Class II.
Kawkareik– Myawaddy	I (4)	Good	
Thailand			
Mae Sot–Tak	I (2/4)	Good	
Tak–Phitsunulok	I (4)	Good	
Phitsunulok– Chumpae	I (2)	Good	
Chumpae–Khon Kaen	I (2/4)	Good	
Khon Kaen–Kalasin	I (4/6)	Good	There is a bottleneck between Lom Sak and Khon Kaen districts covering 43km.
Kalasin–Kamchaee	I (2/4)	Good	
Kamchaee– Mukdahan	I (4)	Good	
Mukdahan–Second Friendship Bridge	I (4)	Good	

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Section	Road class/ Traffic Lanes	Road Condition	Remarks
Lao PDR			
Savannakhet–Seno	III (2)	Fair	Requires urgent repairs and upgrades. Road signs and markings are lacking.
Seno–Dansavanh	III (2)	Good	Requires upgrades. Road signs and markings are lacking.
Viet Nam			
Lao Bao–Khe Sanh	III (2)	Good	
Khe Sanh–Dac Krong	III (2)	Good	
Dac Krong–Cam Lo	III (2)	Good	
Cam Lo–Dong Ha	III (4)	Good	
Dong Ha–Quang Tri	II (4)	Good	These are 4 lanes except for approach roads to Phuoc Tuong, Phu Gia, and Hai Van Tunnel still with 2 lanes; these are being upgraded to 4 lanes.
Quang Tri–Hue City	II (4)	Good	
Hue City–Lang Co	III (4)	Good	
Lang Co–Da Nang Port	III (4)	Good	

Lao PDR = Lao People’s Democratic Republic.

Source: ADB. GMS Economic Corridor Assessment Team.

B. North-South Economic Corridor

NSEC-1: Kunming-Chiang Rai-Bangkok via Lao PDR or Myanmar Subcorridor

Table 17 shows the assessment of the road sections of NSEC-1 in the PRC, the Lao PDR, and Thailand. All road sections in the PRC component of NSEC-1 are of primary class with 4 lanes. Two sections from Mengyang to Mongla are being rebuilt. The road sections in the Lao PDR component, which passes

through mountainous areas, are Class III and in good condition, but they require upgrades. It is also necessary to improve facilities, such as road markings and road signs. Traffic volume has increased after the opening of the Fourth International Mekong Bridge between Houaxay in the Lao PDR and Chiang Khong in Thailand. The two sections in Myanmar are in poor condition and are occasionally closed due to safety concerns. All the road sections in Thailand are Class I and in good condition.

Table 19: Road transport: Kunming-Chiang Rai-Bangkok via Lao PDR or Myanmar Subcorridor (NSEC-1)

Section	Road Class/ Traffic Lanes	Road Condition	Remarks
PRC via Lao PDR			
Kunming-Mohan			
Kunming-Yuxi	Primary (4-6)	Good	
Yuxi-Pu'er	Primary (4)	Good	
Pu'er- Mengyang	Primary (4)	Good	
Mengyang-Mengla	Primary (4)	-	Being rebuilt
Mengla-Mohan	Primary (4)	-	Being rebuilt
PRC via Myanmar			
Mengyang-Daluo			
Mengyang*-Jinghong	Primary (4)	Good	
Jinghong- Menghai	II	Good	4-lane expressway is being built.
Menghai-Daluo	II	Good	4-lane expressway is being built

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Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Lao PDR			
Boten–Houayxay			
Boten–Nateuy	III (2)	Good	Requires upgrade
Nateuy–Houayxay	III (2)	Good	Requires upgrade
Myanmar			
Mongla–Kengtung	(2)	Poor	Occasionally closed due to safety concerns
Kengtung–Tachilek	(2)	Poor	Occasionally closed due to safety concerns
Thailand			
Chiang Khong–Bangkok			
Chiang Khong– Chiang Rai	I (4)	Good	No bottleneck along the route
Via Mae Sai			
Mae Sai–Chiang Rai	I (4)	Good	No bottleneck along these routes; the projects along these routes involve road repairs and expansion of traffic lanes to improve travel speed and safety.
Chiang Rai–Lampang	I (4)	Good	
Lampang–Phisanulok	I (4)	Good	
Phisanulok–Nakhon Sawan	I (4)	Good	
Via Tak			
Lampang–Tak	I (4)	Good	No bottleneck along these routes; the projects along these routes involve road repairs and expansion of traffic lanes to improve travel speed and safety.
Tak–Nakhon Sawan	I (4)	Good	
Nakhon Sawan– Bangkok	I (4)	Good	

PRC = People's Republic of China, Lao PDR = Lao People's Democratic Republic.
Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-2: Kunming–Boten–Oudomxay–Luang Prabang–Vang Vieng–Vientiane–Nong Khai–Udon Thani–Nakhon Ratchasima–Laem Chabang Subcorridor

Table 18 shows the assessment of the road sections of NSEC-2 in the PRC, the Lao PDR, and Thailand. The road sections in the PRC

are the same as NSEC-1. In the Lao PDR component, only two sections are in good condition. The other road sections range from fair to poor. All except one section (Dongdok 4 Junction–Thanaleng) require upgrades. All the road sections in Thailand are Class 1 with 4 lanes and are in good condition.

Table 20: Road transport: Kunming–Boten–Oudomxay–Luang Prabang–Vang Vieng–Vientiane–Nong Khai–Udon Thani–Nakhon Ratchasima–Laem Chabang Subcorridor (NSEC-2)

Section	Road Class/ Traffic Lanes	Road Condition	Remarks
PRC via Lao PDR			
Kunming–Mohan			
Kunming–Yuxi	Primary (4–6)	Good	
Yuxi–Pu’er	Primary (4)	Good	
Pu’er– Mengyang	Primary (4)	Good	
Mengyang–Mengla	Primary (4)	–	Being rebuilt
Mengla–Mohan	Primary (4)	–	Being rebuilt
Lao PDR			
Boten–Thanaleng			
Boten–Nateuy	III (2)	Good	Requires upgrade
Nateuy–Muangsai	III (2)	Good	Requires upgrade

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Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Muang sai–Luang Prabhang	III (2)	Fair/Poor	Requires urgent repairs and upgrades.
Luang Prabhang–Sikeut	III (2)	Fair/Poor	
Sikeut–Dongdok 4 Junction	III (2)	Good/Poor	
Dongdok 4 Junction–Thanaleng	II (4)	Good	
Thanaleng–Thanaleng BC/1FSB	Below III (2)	Poor	Requires urgent repairs and upgrades.
Thailand			
Nong Khai–Laem Chabang			
Nong Khai–Udon Thani	I (4)	Good	No bottleneck along these routes; the projects along these routes involve road repairs and expansion of traffic lanes to improve travel speed and safety.
Udon Thani–Khon Kaen	I (4)	Good	
Khon Kaen–Nakhon Ratchasima	I (4)	Good	
Nakhon Ratchasima–Pranchinburi	I (4)	Good	
Pranchinburi–Laem Chabang	I (4)	Good	

PRC = People's Republic of China, Lao PDR = Lao People's Democratic Republic.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-3: Kunming–Ha Noi–Hai Phong Subcorridor

Table 19 shows the assessment of the road sections of NSEC-2 in the PRC and Viet Nam. All the road sections in the PRC

component of NSEC are of primary class with 4–6 lanes and are in good condition. A new expressway connecting Lao Cai to Ha Noi is Class I with 6 lanes.

The road sections from Ha Noi to Hai Phong are Class I–II and in good condition.

Table 21: Road transport: Kunming–Ha Noi–Hai Phong Subcorridor (NSEC-3)

Section	Road Class/ Traffic Lanes	Road Condition	Remarks
PRC			
Kunming–Hekou			
Kunming–Mile	Primary (4–6)	Good	
Mile–Kaiyuan	Primary (4)	Good	
Kaiyuan–Mengzi	Primary (4)	Good	
Mengzi–Hekou	Primary (4)	Good	
Viet Nam			
Lao Cai–Noi Bai			
Lao Cai–Yen Bai	IV (2)	Good	
Yen Bai–Doan Hung	III (2)	Good	
Doan Hung–Viet Tri	III (2)	Good	
Viet Tri–Vinh Yen	III (2)	Good	
Vinh Yen–Noi Bai (Ha Noi)	II (4)	Good	

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Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Lao Cai–Noi Bai (Ha Noi)*	I/II (6)	Good	Travel time from Lao Cai to Noi Bai reduced from 7 hours to 3.5 hours; 96% of heavy trucks and 79% of cars and buses now use the expressway, thus improving traffic and road conditions along the “old” sections.
Noi Bai (Ha Noi)– Hai Duong	I/II (4)	Good	NH5 was repaved to improve its condition.
Hai Duong–Hai Phong	I/II (4)	Good	

PRC = People’s Republic of China.

* Via expressway.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-4: Nanning–Ha Noi Subcorridor

Table 20 shows the assessment of the road sections of NSEC-4 in the PRC and Viet Nam. All the road sections in the PRC component of NSEC are of primary class with at least 4 lanes and are in good condition. The Nanning–Fangchenggang section has 6–8 lanes. All the road sections in the Viet Nam component are in good condition,

with two sections from Bac Giang to Ha Noi being upgraded to expressways with 4 lanes. Problems that need addressing involve road safety and traffic congestion at the crossroads of these expressways. The rest are Class III roads. Due to the mountainous terrain between Bac Luan and Tien Yen, traffic congestion is a problem during the rainy season and peak hours, as the road has only 2 lanes.

Table 22: Road transport: Nanning–Ha Noi subcorridor (NSEC-4)

Section	Road Class/ Traffic Lanes	Road Condition	Remarks
PRC			
Nanning–Youyiguan			
Nanning–Fusui	Primary (4)	Good	
Fusui–Chongzuo	Primary (4)	Good	
Chongzuo–Ningming	Primary (4)	Good	
Ningming–Pingxiang	Primary (4)	Good	
Pingxiang–Youyiguan	Primary (4)	Good	
Viet Nam			
Lao Cai–Noi Bai			
Huu Nghi–Lang Son City	III (2)	Good	Bac Giang–Lang Son Expressway Project has been delayed due to financial mobilization issues.
Lang Son City–Bac Giang City	III (2)	Good	
Bac Giang City–Bac Ninh City	Expressway (4)	Good	These sections were upgraded to expressways that opened in May 2016. Problems involving road safety and traffic congestion at the crossroads need to be addressed.
Bac Ninh City–Ha Noi	Expressway (4)	Good	
Alternate Route via Hai Phong			
PRC			
Nanning–Dongxing			
Nanning–Fangchenggang	Primary (6–8)	Good	
Fangchenggang–Dongxing	Primary (4)	Good	

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Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Viet Nam			
Bac Luan (Moc Bai)–Ha Long City			
Bac Luan (Moc Bai)– Quang Ha	III (2)	Good	Due to mountainous terrain with only 2 lanes, traffic congestion is a problem during the rainy season and peak hours.
Quang Ha–Tien Yen	III (2)	Good	
Tien Yen–Cam Pha City	III (2)	Good	
Cam Pha City–Ha Long City	III (4)	Good	Some stretches are under construction.
Ha Long City–Uong Bi City	III (4)	Good	An expressway is planned for construction to connect Ha Long and Hai Phong, reducing the travel distance from 70–73 km to 25 km.
Uong Bi City–Hai Phong City	II and III (4)	Good	

PRC = People's Republic of China.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC–5: Road transport: Kunming–Muse–Mandalay–Yangon–Thilawa Subcorridor

Table 21 shows the assessment of the road sections of NSEC–5 in the PRC and Myanmar. All the road sections in the PRC component of NSEC are of primary class with at least 4 lanes and are in good condition. The road sections in the Myanmar component are 2–4 lanes, except for the Bago–Yangon

section, which has 4–6 lanes. The road condition along these sections varies from fair to good. Some parts along the Muse–Kutkai section are ridden with potholes because of high usage by heavy trucks. Some parts that pass through the highest point along this route, between Kutkai and Muse, are damaged by mountain torrent. The Bago bypass road is mainly used by heavy cargo trucks, so the road is frequently damaged.

Table 23: Road transport: Kunming–Muse–Mandalay–Yangon–Thilawa Subcorridor (NSEC-5)

Section	Road Class/ Traffic Lanes	Road Condition	Remarks
PRC			
Kunming–Ruili			
Kunming–Chuxiong	Primary (6)	Good	
Chuxiong–Dali	Primary (4)	Good	
Dali–Baoshan	Primary (4)	Good	
Baoshan–Mangshi	Primary (4)	Good	
Mangshi–Ruili	Primary (4)	Good	
Myanmar			
Muse–Yangon			
Muse–Kukai	(2–4)	Good/Fair	Some parts are ridden with potholes due to the high usage of heavy trucks.
Kukai–Thein Ni	(2–4)	Good/Fair	Some parts are damaged by mountain torrent; passes through the highest point between Kukai and Muse.
Thein Ni–Lashio	(2)	Good	
Lashio–Kyauk Me	(2)	Good	
Kyauk Me–Naung Cho	(2–4)	Good	
Naung Cho–Pyin Oo Lwin	(2–4)	Good	

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Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Pyin Oo Lwin– Mandalay	(4)	Good	
Mandalay–Meikthilar	(4)	Good	Bypass road is planned for construction in Kyauk Me.
Meikthilar–Yamethin	(4)	Good	Road is being expanded; some bridges are under construction.
Yamethin–Nay Pyi Taw	(4)	Good	
Nay Pyi Taw– Taunggoo	(4)	Good/Fair	Some parts are not asphalted and some are badly damaged.
Taunggoo–Bago	(4)	Good.	The Bago bypass road is mainly used by heavy cargo trucks, so the road is frequently damaged; some parts are being widened or repaired.
Bago–Yangon	(4–6)	Good	
Yangon–Thilawa SEZ	(2–4)	Good	

PRC = People's Republic of China.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-6: Road Transport: Mandalay– Tamu subcorridor

Table 22 shows the assessment of the road sections of NSEC-6 in Myanmar. The roads in the two alternative routes have 2–4 lanes in varying conditions from good to poor, with most requiring upgrades. Some parts

cannot be used during the rainy season, and some sections are very steep with the roads covered only with a thin layer of asphalt. Some parts are very narrow because of landslides, and both routes require crossing many tight bailey bridges with a capacity of 15–24 tons.

Table 24: Road transport: Mandalay–Tamu Subcorridor (NSEC–6)

Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Myanmar			
Via Yargyi Road			
Mandalay–Tamu			
Mandalay–Monywa	(2–4)	Good/Fair	Upgrading and expansion are ongoing.
Monywa–Yar Gyi	(2–4)	Fair/Poor	Vehicles have to cross a creek, which causes a delay in the rainy season; vehicles have to wait until the water level goes down. Some parts are rough, and some are only soil roads.
Yar Gyi–Lar Poh	(2–4)	Fair/Poor	Steep roads with some parts covered with only thin layer of asphalt; some parts very narrow due to landslides.
Lar Poh–Kalewa	(2–4)	Poor	This road cannot be used during the rainy season.
Kalewa–Kyigone	(2)	Fair/Poor	Some parts are narrow, making passage difficult for heavy trucks.
Kyigone–Tamu	(2)	Good/Poor	48 narrow bailey bridges with capacity of 15–24 tons have to be crossed.

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Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Via Gangaw Road			
Mandalay–Tamu			
Mandalay–Monywa	(2–4)	Good/Fair	Upgrading and expansion are ongoing.
Monywa–Gangaw	(2–4)	Good/Fair	17 bailey bridges have to be crossed.
Gangaw–Kalay	(2)	Poor	Some parts are in bad condition. Upgrades are required.
Kalay–Tamu	(2)	Good/Fair	48 narrow bailey bridges with capacity of 15–24 tons have to be crossed.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-7: Laem Chabang–Bangkok–Nakhon Ratchasima–Udon Thani–Nakhon Phanom–Takhek–Na Phao–Vuong Ang–Ha Noi Subcorridor

Table 23 shows the assessment of the road sections of NSEC-7 in Thailand, the Lao PDR, and Viet Nam. All the road sections in Thailand are Class I, in good condition,

and mostly consisting of 4 lanes. The road sections in the Lao PDR component are below Class III and in fair condition, but they require urgent repairs and upgrades. All roads in the Viet Nam component are in good condition, with majority being Class II–III. The sections from Ninh Binh to Ha Noi are expressways.

**Table 25: Road transport: Laem Chabang–Bangkok–Nakhon Ratchasima–
Udon Thani–Nakhon Phanom–Takhek–Na Phao–Vuong Ang–Ha Noi
Subcorridor (NSEC-7)**

Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Thailand			
Laem Chabang– Nakhon Phanom			
Laem Chabang– Prachinburi	I (4)	Good	Road is smooth along the entire section; safe, with traffic signs, road marks, guide posts, and guard rail in good condition.
Prachinburi–Nakon Rachasima	I (4)	Good	
Nakon Rachasima– Khon Kaen	I (4)	Good	
Khon Kaen–Udon Thani	I (4)	Good	
Udon Thani–Nakhon Phanom	I (2–4)	Good	
Lao PDR			
Thakek– Na Phao			
Thakek–Muang Mahaxai	Below III (2)	Fair	Requires urgent repairs and upgrades.
Muang Mahaxai–Na Phao	Below III (2)	Fair	

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Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Viet Nam			
Cha Lo–Ha Noi			
Cha Lo–Vung Ang	IV (2); II–III (4)	Good	
Vung Ang–Ha Tinh	II (4)	Good	
Ha Tinh–Vinh City	II (4)	Good	
Vinh City–Thanh Hoa City	II–III (4)	Good	
Thanh Hoa City– Ninh Binh City	II–III (4)	Good	
Ninh Binh City–Phu Ly City	Expressway (4)	Good	
Phu Ly City–Ha Noi	Expressway (4)	Good	

Lao PDR = Lao People's Democratic Republic
Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-8: Vientiane–Paksan–Vinh–Ha Noi Subcorridor

Table 24 shows the assessment of the road sections of NSEC-8 in the Lao PDR and Viet Nam. The road sections in the Lao PDR are

Class III or below with 2 lanes. They vary from fair to poor and require urgent repairs and improvements. All the road sections in the Viet Nam component are in good condition, with road classification ranging from Class II to expressway.

Table 26: Road transport: Vientiane–Paksan–Vinh–Ha Noi subcorridor (NSEC-8)

Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Thailand			
Vientiane–Nam Phao			
Vientiane–Ban Lao	III (2)	Fair	Requires urgent repairs and upgrades.
Ban Lao–Lak Sao	Below III (2)	Poor	
Lak Sao–Nam Phao	Below III (2)	Poor	
Viet Nam			
Cau Treo– Ha Noi			
Cau Treo–Bai Bot– Hong Linh	IV (2)	Good	
Bai Bot–Hong Linh– Vinh City	III (4)	Good	
Vinh City–Thanh Hoa City	II (4)	Good	
Thanh Hoa City– Ninh Binh City	II (4)	Good	
Ninh Binh City–Phu Ly City	Expressway (4)	Good	
Phu Ly City–Ha Noi	Expressway (4)	Good	

Source: ADB. GMS Economic Corridor Assessment Team.

C. Southern Economic Corridor

SEC-1: Dawei–Bangkok–Phnom Penh–HCMC–Vung Tau Subcorridor

Table 25 shows the assessment of the road sections of SEC-1 in Myanmar, Thailand, Cambodia, and Viet Nam. The road sections in the Myanmar component of SEC-1 are of 2 lanes and in poor condition. In March 2018, the Government of Myanmar approved a \$144.54 million/MK 192.72 billion loan from Thailand for the upgrading of these road sections up to the Dawei SEZ. All the road sections in the Thai component are in good condition, consisting of mostly 4-lane Class I highways, except in the Ban Phu Nam Ron–Khanchanaburi section, where there is a bottleneck between the Ban Phu Nam Ron–Htee Khee checkpoint. The road is covered

with red earth and the road surface is rough. This segment is below Class III.

In Cambodia, the road sections between Poipet and Preach Kdam are mostly fair with Class III 2-lane highways. The road sections from Preach Kdam to Bavet are in good condition, especially between Preach Kdam and Phnom Penh. All the road sections in the Viet Nam component are in good condition, but most of the road sections need to be widened to cope with the rapidly increasing volume of traffic, especially between Go Dau and An Suong. The An Suong–Bien Hoa segment is always faced with high traffic density. Because of traffic congestion near Ho Chi Minh City, projects expanding corridor capacity need to be implemented as scheduled.

Table 27: Road transport: Dawei–Bangkok–Phnom Penh–HCMC–Vung Tau Subcorridor (SEC-1)

Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Myanmar			
Dawei SEZ–Htee Khee			
Dawei SEZ–Myitta	(Below III) 2	Poor	The Myanmar government approved a \$144.54 million/K 192.72 billion loan from Thailand in March 2018 for the upgrading of these road sections up to the Dawei SEZ.
Myitta–Sinbyudaing	(Below III) 2	Poor	
Sinbyudaing–Htee Khee	(Below III) 2	Poor	

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Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Thailand			
Ban Phu Nam Ron–Aranyaprathet			
Ban Phu Nam Ron– Khanchanaburi	(I) 2	Good	There is a bottleneck between the Ban Phu Nam Ron checkpoint and Htikhi checkpoint. The road is covered with red earth and the road surface is rough. This segment is classified as Class III.
Khanchanaburi– Bangkok	(I) 4	Good	
Bangkok– Chachoengsao	(I) 4	Good	
Chachoengsao–Sa Kaeo	(I) 4	Good	
Sa Kaeo– Aranyaprathet	(I) 4	Good	
Cambodia			
Poipet–Bavet			
Poipet–Sisophon	II (2)	Good	Bypass at Sisophon of 13.4 km to be completed by 2018.
Sisophon– Battambang	III (2)	Fair	Road is being widened to 4 lanes; bypass at Battambang of 23.1 km to be completed by 2018.
Battambang–Pursat	III (2)	Fair	Road is being widened to 4 lanes; bypass at Pursat to be completed by 2018.

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Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Pursat–Kampong Chhnang	III (2)	Fair	Road is being widened to 4 lanes; bypass at Kampong Chhnang to be completed by 2018.
Kampong Chhnang–Preach Kdam	III (2)	Fair	Road is being widened to 4 lanes; bypass at Preach Kdam to be completed by 2018.
Preach Kdam–Phnom Penh	I (4)	Good	
Phnom Penh–Neak Loeung	II (2)	Good	
Neak Loeung–Svay Rieng	III (2)	Good	
Svay Rieng–Bavet	III (2)	Good	
Viet Nam			
Moc Bai–Vung Tau City			
Moc Bai–Go Dau	III (2)	Good	These road sections need to be widened to cope with the rapidly increasing volume of traffic, especially between Go Dau and An Suong. The An Suong–Bien Hoa segment always has high traffic density. Due to traffic congestion near HCMC, projects for expanding corridor capacity need to be implemented as scheduled.
Go Dau–An Suong (HCMC)	III (2)	Good	
An Suong (HCMC)–			
Intersection AH1/AH17	II (6)	Good	
Intersection AH1/AH17–Ba Ria City	I (4–6)	Good	High traffic density is causing a bottleneck in these sections.
Ba Ria City–Vung Tau City	II/III (4)	Good	

AH = Asian Highway, HCMC = Ho Chi Minh City.

Source: ADB. GMS Economic Corridor Assessment Team.

SEC-2: Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon Subcorridor

Table 26 shows the assessment of the road sections of SEC-2 in Thailand, Cambodia, and Viet Nam. All the road sections in Thailand are Class I, in good condition and mostly consisting of 4 lanes. However, traffic is congested in the intersection entering Suvarnabhumi airport during rush hours. A project adding two more lanes was expected to be completed by the end of 2017. All the sections in Cambodia are

2-lane Class III roads. They are in good condition, except for the Dam Dek–Koh Ke section, which is narrow in market areas. Periodic maintenance, road widening, and side drainage in populated areas are needed to bring this road section to good condition. All the road sections in Viet Nam are good, consisting of mostly Class III, 2–4 lane highways. However, traffic along this segment of SEC-2 is expected to grow rapidly, as it is the main transport route to the sea from the central provinces of Viet Nam and the northern provinces of Cambodia.

Table 28: Road transport: Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon Subcorridor (SEC-2)

Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Thailand			
Ban Phu Nam Ron– Aranyaprathet			
Ban Phu Nam Ron– Khanchanaburi	(I) 2	Good	
Khanchanaburi– Bangkok	(I) 4	Good	
Bangkok– Chachoengsao	(I) 4	Good	Traffic is congested in the intersection to enter Suvarnabhumi airport during rush hours; project adding 2 more lanes is expected to be completed by the end of 2017.
Chachoengsao–Sa Kaeo	(I) 4	Good	
Sa Kaeo– Aranyaprathet	(I) 4	Good	

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Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Cambodia			
Poipet–O Yadav			
Poipet–Sisophon	(III) 2	Good	
Sisophon–Siem Reap	(III) 2	Good	
Siem Reap–Dam Dek	(III) 2	Good	
Dam Dek–Koh Ke	(III) 2	Fair	The road is narrow in market areas. Periodic maintenance, road widening, and side drainage in populated areas are needed to bring this road section to good condition.
Koh Ke–Preah Vihear	(III) 2	Good	
Preah Vihear–Stung Treng	(III) 2	Good	
Stung Treng– Rattanakiri (Ban Lung)	(III) 2	Good	
Rattanakiri (Ban Lung)– O Yadav	(III) 2	Good	
Viet Nam			
Le Thanh–Quy Nhon City			
Le Thanh–Pleiku City	III (2–4)	Good	These road sections have been upgraded, improving road conditions. However, traffic along this corridor is expected to grow rapidly, as it is the main transport route to the sea from the central provinces of Viet Nam and the northern provinces of Cambodia.
Pleiku City–An Khe	III/IV (2)	Good	
An Khe–An Nhon Crossroad	III/IV (2–4)	Good	
An Nhon Crossroad– Quy Nhon City	III (2–4)	Good	

Source: ADB. GMS Economic Corridor Assessment Team.

SEC-3: Bangkok–Trat–Kampot–Ha Tien–Nam Can Subcorridor

Table 27 shows the assessment of the road sections of SEC-3 in Thailand, Cambodia, and Viet Nam. All the road sections in Thailand are Class I, in good condition, and mostly consisting of 4 lanes. However, a bottleneck exists across a distance of 23.5 km in the Trat–Hat Lek section around the intersection to enter Ban Mai Road. The sections in the Cambodian component are

Class III, 2-lane roads in good condition. Pavement-strengthening, resurfacing, and side drainage installation are ongoing in the Veal Rign–Kampot section. The sections in the Viet Nam component consist mainly of Class III, 2-lane roads. Of the five sections, two are in good condition (Ha Tien–Kien Luong and Ca Mau City–Nam Can). The Ha Tien–Kien Luong and Rach Gia City–Min Luong crossroad sections are narrow, in poor condition, and require improvement.

Table 29: Bangkok–Trat–Kampot–Ha Tien–Nam Can subcorridor (SEC-3)

Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Thailand			
Bangkok–Hat Lek			
Bangkok–Rayong	I (4)	Good	
Rayong–Chantaburi	I (4)	Good	
Chantaburi–Trat	I (4)	Good	
Trat–Hat Lek	I (2–4)	Good	There is a bottleneck around the intersection to enter Ban Mai Road involving a distance of 23.5 km.
Cambodia			
Koh Kong–Lork			
Koh Kong–Sre Ambel	(III) 2	Good	
Sre Ambel–Veal Rign	(III) 2	Good	

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Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Veal Rign–Kampot	(III) 2	Good	Pavement-strengthening, resurfacing, and side drainage installation are ongoing.
Kampot–Kampong Trach	(III) 2	Good	
Kampong Trach–Lork	(III) 2	Good	
Viet Nam			
Ha Tien–Ca Mau Southern Tip			
Ha Tien–Kien Luong	III (2)	Poor	Road is narrow; requires improvement.
Kien Luong–Rach Gia City	III (2–4)	Good	
Rach Gia City–Min Luong Crossroad	III/IV (2)	Poor	Road needs further improvement.
Min Luong Crossroad–Ca Mau City	III (2)	Fair	Some stretches need further improvement as road is still narrow.
Ca Mau City–Nam Can	III (2)	Good	Recently upgraded.
Nam Can–Ca Mau Southern Tip	IV (2)	Good	Recently upgraded.

Source: ADB. GMS Economic Corridor Assessment Team.

SEC-4: Sihanoukville–Phnom Penh–Stung Treng–Pakse–Savannakhet Subcorridor

Table 28 shows the assessment of the road sections of SEC-4 in Cambodia and the Lao PDR. In Cambodia, the road sections from Sihanoukville to Kampong Cham are in good condition. Construction of an expressway from Sihanoukville to Phnom Penh is

expected to commence by the end of 2017. However, the road sections from Kratie to Trapeang Kriel where only spot improvements are carried out are in poor condition. The road sections in the Lao PDR from Nong Nokkheane to Savannakhet, which are Class III, require urgent repairs and upgrades.

Table 30: Sihanoukville–Phnom Penh–Stung Treng–Pakse–Savannakhet Subcorridor (SEC-4)

Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Cambodia			
Sihanoukville–Trapeang Kriel			
Sihanoukville– Kampong Speu	(III) 2	Good	Construction of an expressway from Sihanoukville to Phnom Penh is expected to commence by the end of 2017.
Kampong Speu– Thnol Toteung	(III) 2	Good	
Thnol Toteung– Phnom Penh	(I) 4	Good	
Phnom Penh– Skun	(I) 4	Good	
Skun–Kampong Cham	(III) 2	Good	
Kampong Cham– Thbong Khmum	(III) 2	Fair	Pavement-strengthening and resurfacing ongoing.
Thbong Khmum– Kratie	(III) 2	Good	
Kratie–Stung Treng	(III) 2	Poor	Spot improvement is ongoing.
Stung Treng– Trapeang Kriel	(III) 2	Poor	Spot improvement is ongoing.

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Section	Road Class/ Traffic Lanes	Road Condition	Remarks
Lao People's Democratic Republic			
Nong Nokkheane–Savannakhet			
Nong Nokkheane– Pakse	III	Fair	Requires urgent repairs and upgrades.
Pakse–Savannakhet	III	Fair	

Source: ADB. GMS Economic Corridor Assessment Team.

IV. BORDER CROSSING FACILITIES AND CROSS-BORDER TRADE AND TRAFFIC

A. Border Crossing Facilities

There are 25 border crossing points along the GMS economic corridors: (i) three in EWEC, (ii) 14 in NSEC, and eight in SEC. Table 29 lists these border crossing points and summarizes the assessment of border crossing facilities (BCFs) along EWEC and the subcorridors comprising NSEC and SEC. In general, BCFs in the form of customs, immigration, and quarantine facilities and common control areas are in place and well developed in the majority of the border crossings. This is particularly true where the volume of cross-border trade, passenger, and vehicle traffic are relatively high, such as in Ruili–Muse,

Dongxing–Mong Cai, Hekou–Lao Cai, Myawaddy–Mae Sot, Aranyaprathet–Poipet, and Bavet–Moc Bai. Moreover, where cross-border trade and traffic are still limited, the facilities are less developed or in some cases, rudimentary. All border checkpoints along the GMS economic corridors in the PRC are well developed. The same is true in Thailand, except in Hat Lek at the Thai–Cambodia border and Ban Phu Nam Ron at the Thai–Myanmar border connecting to Dawei. BCFs in many border checkpoints in the Lao PDR require improvements to accommodate increasing cross-border trade and traffic.

Table 31: Border Crossing Points Along the Greater Mekong Subregion Economic Corridors

Economic Corridor/Subcorridor	Border Crossing Points	Status of Border Facilities/Remarks
East–West Economic Corridor (EWEC)		
EWEC	Myawaddy (M)–Mae Sot (T)	BCF in place.
	Mukdahan (T)–Savannakhet (L)	BCF in place.
	Dansavanh (L)–Lao Bao (V)	BCF in place.

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Economic Corridor/Subcorridor	Border Crossing Points	Status of Border Facilities/Remarks
North-South Economic Corridor (NSEC)		
NSEC-1 (Kunming–Chiang Rai–Bangkok via Lao PDR or Myanmar)	Mohan (PRC)–Boten (L)	BCF in place in Mohan; need to improve BCF in Boten.
	Houayxay (L)–Chiang Khong (T)	BCF in place.
	Daluo (PRC)–Mongla (M)	BCF in place.
	Tachilek (M)–Mae Sai (T)	BCF in place.
NSEC-2 (Kunming–Boten–Oudomxay–Luang Prabang–Vang Vieng–Vientiane–Nong Khai–Udon Thani–Nakhon Ratchasima–Laem Chabang)	Mohan (PRC)–Boten (L)	BCF in place in Mohan; need to improve BCF in Boten.
	Thanaleng (L)–Nong Khai (T)	Need to establish and improve BCF in Thanaleng; BCF in place in Nong Khai.
NSEC-3 (Kunming–Ha Noi–Hai Phong)	Hekou (PRC)–Lao Cai (V)	BCF in place.
NSEC-4 (Nanning–Ha Noi Subcorridor)	Youyiguan (P)–Huu Nghi (V)	BCF in place.
	Dongxing (PRC)–Mong Cai (V)	BCF in place.
NSEC-5 (Kunming–Muse–Mandalay–Yangon–Thilawa)	Ruili (PRC)–Muse (M)	BCF in place.
NSEC-6 (Mandalay–Tamu)	Tamu (M)–Moreh (India)	BCF in place.
NSEC-7 (Laem Chabang–Bangkok–Nakhon Ratchasima–Udon Thani–Nakhon Phanom–Takhek–Na Phao–Vung Ang–Ha Noi)	Nakhom Phanom (T)–Thakhek (L)	BCF in place in Nakhom Phanom; need to establish and improve BCF in Thakek.
	Na Phao (L)–Chalo (V)	Need to establish and improve BCF in Na Phao.
NSEC-8 (Vientiane–Paksan–Vinh–Ha Noi)	Nam Phao (L)–Cau Treo (V)	Need to establish and improve BCF in Nam Phao.

Economic Corridor/Subcorridor	Border Crossing Points	Status of Border Facilities/Remarks
Southern Economic Corridor (SEC)		
SEC-1 (Dawei–Bangkok–Phnom Penh–HCMC–Vung Tau)	Ban Phu Nam Ron (T) – Htikhi (M)	Checkpoint opened in 2012; construction of a customs office at Ban Phu Nam Ron commenced in 2018; need to improve BCF in Htikhi.
	Aranyaprathet (T) – Poipet (KH)	BCF in place.
	Bavet (KH) – Moc Bai (V)	BCF in place.
SEC-2 (Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon)	Aranyaprathet (T) – Poipet (KH)	BCF in place.
	O Yadav (KH) – Le Thanh (V)	Need to improve BCF in O Yadav; BCF in place in Le Thanh.
SEC-3 (Bangkok–Trat–Kampot–Ha Tien–Nam Can)	Hat Lek (T) – Cham Yearn (KH)	Construction of BCF in Hat Lek deferred due to land acquisition problems; need to improve BCF in Cham Yearn.
	Prek Chak/Lork (KH) – Xa Xia (V)	BCF completed in 2014 in Lork; BCF in place in Xa Xia;
SEC-4 (Sihanoukville–Phnom Penh–Stung Treng–Pakse–Savannakhet)	Nong Nokkheane (L) – Trapeang Kriel (KH)	This is the only official land crossing between Cambodia and the Lao PDR; newly constructed border crossing facilities were inaugurated in January 2017.

BCF = border control facilities consisting of customs, immigration, and quarantine facilities and common control area;
 KH = Cambodia; L = Lao PDR; M = Myanmar; PRC = People's Republic of China; T = Thailand; V = Viet Nam
 Source: ADB. GMS Economic Corridor Assessment Team

B. Cross-Border Trade and Traffic

Not all country reports presented data on cross-border trade, as this depended on the availability of data. The country reports included information on traffic volume along the main corridor routes, but the measures are not comparable and cover different periods. The discussion in this section is, hence, supplemented by material from other sources, and only indicates the main trade routes and border checkpoints where cross-border trade and traffic are largest.⁶

Cross-border trade and vehicular traffic differ significantly among the corridors and subcorridors. Those that connect capitals and major economic centers of the GMS countries, such as Kunming–Bangkok (NSEC-1), Vientiane–Bangkok (NSEC-2), Kunming–Ha Noi–Hai Phong (NSEC-3), Nanning–Ha Noi (NSEC-4), Kunming–Mandalay–Yangon (NSEC-5), and Bangkok–Phnom–Penh–Ho Chi Minh City (SEC-1) constitute the main trade routes with the largest cross-border trade in the GMS.

Cross-border trade is largest in the following border crossings along the GMS economic corridors as shown in the following:

In EWEC

- Myawaddy (Myanmar)–Mae Sot (Thailand)

In NSEC

- Mohan, PRC–Boten, Lao PDR (NSEC-1 and NSEC-2)
- Tachilek, Myanmar–Mae Sai, Thailand (NSEC-1)
- Hekou, PRC–Lao Cai, Viet Nam (NSEC-3)
- Pingxiang, PRC–Lang Son, Viet Nam (NSEC-4)
- Dongxing, PRC–Mon Cai, Viet Nam (NSEC-4)
- Muse, PRC–Ruili, Myanmar (NSEC-5)
- Vientiane, Lao PDR–Nong Khai, Thailand (NSEC-2)

In SEC

- Bavet, Cambodia)–Moc Bai, Viet Nam (SEC-1)
- Poipet, Cambodia)–Aranyaprathet, Thailand (SEC-1)

⁶ ADB. 2016. Review of Configuration of the Greater Mekong Subregion Economic Corridors. Manila; ADB. 2012. Initial Assessments of Road Transport Infrastructure and Transport and Logistics Services for Trade Facilitation in the GMS Countries. Consultant's report. Manila.

The primary cross-border trade routes along the GMS economic corridors are

- Bangkok–Yangon via Mae Sot–Myawaddy (EWEC and NSEC–1)
- Kunming–Bangkok via Lao PDR (NSEC–1)
- Bangkok–Vientiane (NSEC–2)
- Kunming–Ha Noi–Hai Phong (NSEC–3)
- Nanning–Ha Noi via Dongxing–Mong Cai (NSEC–4)
- Kunming–Mandalay via Muse–Ruili (NSEC–5)
- Bangkok–Phnom Penh–Ho Chi Minh City (SEC–1)

V. INVESTMENT AND BUSINESS OPPORTUNITIES

This section highlights the findings of the country reports on investment and business opportunities, focusing on the prospects offered by special economic zones (SEZs) or industrial zones (IZs) and tourist attractions around and along the GMS economic corridors. The country reports contain a more detailed account, including information on the operations of SEZs or IZs and key tourism attractions in the vicinity.

A. East-West Economic Corridor

EWEC covers some of the most diverse areas in the region. Its main characteristics are a relative remoteness from the major economic centers and low population density, especially in the Lao PDR. Many areas along this corridor are still dependent on agriculture. It is the only direct and continuous land route between the Indian Ocean (Andaman Sea) and the South China Sea. EWEC provides the landlocked Lao PDR with access to the sea in Da Nang, Viet Nam. It is at the center of several Indochina crossroads, serving as interchange links to major economic centers.

Examples are Khon Kaen, which connects to Bangkok and Ha Noi, Tak and Phitsanulok with their connection to NSEC, and Savannakhet with its connection to SEC. Investment opportunities in EWEC were identified as follows:⁷

- Agriculture and agro-industry (agro-processing, food industries, livestock products);
- Resource-based manufacturing (wood-based industries, cement, construction materials, granite, fertilizer, ceramics, and glass);
- Labor-intensive industries (garments, footwear, leather products, toys, furniture, handicraft, and jewelry);
- Capital- and technology-intensive industries (electronics, chemicals, agri-equipment, plastic products, manufacture and assembly of parts cars, motorcycles, and light trucks);
- Tourism-related industries; and
- Transport, power, and telecommunications.

⁷ ADB. 2001. Pre-Investment Study for the Greater Mekong Subregion East-West Economic Corridor. Manila; ADB 2010. Strategy and Action Plan for the Greater Mekong Subregion East-West Economic Corridor. Manila.

EWEC passes through two states and three regions of Myanmar: Kayin State, Mon State, Bago Region, Yangon Region, and Ayeyarwady Region. These states and regions have significant economic potential, especially in tourism and value-added manufacturing. All have established IZs to promote economic development in their areas. In Thailand, EWEC passes through Tak, Phitsanulok, Khon Kaen, Kalasin, and Mukdahan provinces. There are two SEZs along this economic corridor in Thailand, one in Mukdahan and the other in Tak. EWEC passes through Savannakhet Province in the

Lao PDR. The Government of the Lao PDR established the Savan–Seno SEZ in 2003 as part of its policy to develop SEZs to help build the country’s industrial foundation while capitalizing on its strategic location. EWEC traverses Quang Tri, Thua Thien–Hue, and Quang Nam provinces in Viet Nam and ends at Da Nang port in Da Nang city. These provinces have also established IZs to attract projects funded by domestic and foreign investors. Table 30 shows the location and activities of SEZs/IZs along and around EWEC in Myanmar, Thailand, the Lao PDR, and Viet Nam.

Table 32: Industrial and Special Economic Zones in EWEC

Province/State/Region	Industrial/Special Economic Zone	Product Lines/Activities/Remarks
Kayin State		
	Hpa-An IZ (3.9 km ²)	Development of this IZ has been delayed due to power outages and farmland disputes; the government launched a new strategy in 2016 that included training of workers, improving infrastructure, and ensuring continuous 24-hour electricity supply.
	Myawaddy IZ (0.8 km ²)	This IZ is under construction; expected to be completed in 2017.
	Phaethon’s	This IZ is still at the planning stage.
Mon State		
	Kapustin IZ (1 km ²)	Enterprises: zinc, barbed wire, ready-mix cement, car accessories, food and drinks, textiles, gold purification, ice, shoes, furniture, and cold storage for seafood.

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Province/State/ Region	Industrial/Special Economic Zone	Product Lines/ Activities/Remarks
Bago		
	Pyay IZ (0.8 km ²)	Food and beverages, construction materials, machinery, and equipment
	Bao IZ	Wood-based industries
	Indegaw IZ	Construction materials
Yangon		
	24 IZs, with Halaing Thar Yar as the largest	Pulse and beans, foodstuffs and factories manufacturing producing, toiletries, garments, and construction materials top the list.
Thilawa		
	Thilawa SEZ	First of its type in Myanmar; located 23 km southeast of Yangon and 30 km from Yangon International Airport; one of the country's main ports (Myanmar International Terminals Thilawa) is right next to the SEZ.
Ayeyarwady		
	Pathein IZ (0.4 km ²)	Garments
	Pathein Industrial City (4.6 km ²)	Being developed for food processing industries, agriculture-based, and forestry-based industries.
	Maubin Industrial Park (1 km ² acres)	Garments
	Myaungmya (0.2 km ²)	Development is slow.
	Hinthada	Development is slow.

Province/State/ Region	Industrial/Special Economic Zone	Product Lines/ Activities/Remarks
Tak		
	Tak SEZ	Agricultural, fishery, and related industries; ceramics; textile, garment and leather industries, furniture, gems and jewelry, medical equipment, automotive, machinery and parts; electrical appliances and electronics; plastic products; medicine; logistics; and tourism-related industries; potential for co-production with Myawaddy IZ.
Mukdahan		
	Mukdahan SEZ	Agricultural, fishery, and related industries; electrical appliances and electronics,; logistics, and tourism-related industries; potential for co-production with Savan-Seno SEZ in Savannakhet.
Savannakhet		
	Savan-Seno SEZ (9.5 km ²)	Services: banking, financial institutions and insurance, tourism promotion services, hotel, resort and restaurant, amusement park, entertainment and sports center. Trade: duty-free shop, border trade, trade exhibition, trade promotion center, and wholesale-retail outlets. Distribution and logistics: transport, distribution service, warehouse, cold storage; Industry: electrical wire, food processing, wood products, textiles, shoes and bags, automobile assembly, and electronics.
Quang Tri		
	South Dong Ha Industrial Zone or IZ (1 km ²)	

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Province/State/ Region	Industrial/Special Economic Zone	Product Lines/ Activities/Remarks
	Quan Ngang IZ (2.1 km ²)	
	Quang Tri South Eastern Economic Zone	Government approved the master plan in 2016. Area 1: manufacturing enterprises, power generation, public utilities, administrative offices, and future development of deep seaport and bonded warehouses. Area 2: spa, tourist center, and services to support Area 1. Area 3: future development of Quang Tri airport and luxury resorts. Area 4: high-tech agro-cultural production and land for future urbanization of Quang Tri.
Thua Thien Hue		
	Phu Bai IZ	
	Phu Da IZ	
	La Son IZ	Well developed; garment and textile area for the central region.
	Tu Ha IZ	
	Phong Dien IZ	Well developed; garment and textile centralized area for the central region.
	Quang Vinh IZ	
	Chan May EZ	Bonded warehouse, industrial parks (IPs), port, urban and tourist resorts areas. IP 1: mechanical manufacturing, transport equipment manufacture, automobile assembly, and factory. IP 2: agro-processing, food processing, high-tech industries, and bio-tech industries.

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Province/State/ Region	Industrial/Special Economic Zone	Product Lines/ Activities/Remarks
Da Nang	Hoa Khanh IZ	Total land area of six IZs = 10.7 km ² ; mainly textile manufacturing and aquaculture processing.
	Da Nang IZ	
	Lien Chieu IZ	
	Hoa Khanh, Hoa Cam IZ	
	Da Nang Aquacultural Service Area	

IZ = industrial zone, SEZ = special economic zone; km² = square kilometer
 Source: ADB. GMS Economic Corridor Assessment Team.

EWEC has a large number and variety of tourist attractions, many of which can be linked to form a “tourism corridor.” Table 31

shows the key tourism sites in the vicinity of EWEC in Myanmar, Thailand, the Lao PDR, and Viet Nam.

Table 33: Tourist Attractions in EWEC

Location	Tourist Attractions	Remarks
Myanmar		
Kayin State	Bayintnyi Cave, Kawcoon Cave, Yathaepyan Cave, Zwegapin mountain, Taungwyne mountain, Shwe Yin Myaw Pagoda, Kyaukkalap Pagoda, Kawkathaung Cave, Saddan Cave, and Kyone Htaw Waterfall.	Kayin State is only five hours’ drive from Yangon, so it is convenient for visitors. Hotel businesses and community-based tourism activities like hiking, rock-climbing, and homestays are promising investment opportunities.

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Location	Tourist Attractions	Remarks
Mon State	Kyaikhtiyo Pagoda, also well-known as Golden Roc; Thanbyuzayat War Cemetery and Death Railway Museum; “Pagoda Amidst Water,” Setse, Yay, and Kabyarwa beach resorts.	Kyaikhtiyo Pagoda is one of the most famous Buddhist pilgrimage sites in Myanmar. Located at an altitude of 3,600 feet, it looks about to fall off the edge of Mount Kyaiktiyo. “Pagoda Amidst Water” is located on a reef about 274 meters from the sea shore.
Bago Region	Wingabaw, Phoekyar, and Myainghaywun Elephant Resort Camps. Moeyungyi Wetland Wildlife Sanctuary	Moeyungyi Wetland Wildlife Sanctuary is home to hundreds of species of water birds.
Yangon Region	Shwedagon Pagoda. Other religious sites worth visiting are Sule Pagoda in downtown area, Chaukhtatgyi Pagoda (Reclining Buddha), and Ngahtatgyi Pagoda. The Colonial architecture exemplified by the Secretariat Office on Theinphyu road, City Hall, Bogyoke Market, St. Mary’s Cathedral (the largest cathedral in Myanmar), Judson Chapel in Yangon University Compound, Emmanuel Baptist Church near City Hall, and Htauk Kyant War Cemetery.	The Shwedagon Pagoda is always the first stop for the majority of tourists. It is not only a sacred religious site for Buddhists but also the cultural site for those who want to observe Myanmar’s cultural heritage.

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Location	Tourist Attractions	Remarks
Ayeyarwady Region	Ngwe Saung and Chaung Tar beach resorts.	Ngwe Saung beach is just 5 hours' drive from Yangon, while it takes around 7 hours to reach Chaung Thar. Both places are accessible by bus or car.
Thailand		
Tak	Thi Lo Su Waterfall Doi Hua Mot Bhumibol Dam Mae Moei National Park Wat Phra Borommathat Umphang Wildlife Sanctuary Doi Muser Crops Research Station Doi Soi Malai Nang Khruan Waterfall Pha Charoen Waterfall Thai-Myanmar Friendship Bridge	Tak has interesting and attractive natural tourist attractions, beautiful scenery, and healthy environment. Tourists can visit all year round.
Mukdahan	Mukdahan Tower on the Mukdahan – Don Tan Road Chao Mae Song Nang Phi Nong Shrine Wat Si Mongkon Keang Ka Bao waterfront Phu Sa Dok Bua National Park Bronze drum at Wat Matchimawas The Princess Mother Park Wat Banpot Kiri (Phu Chor Kor) Tat Ton Waterfall Wat Phudantae or Wat Phuttho Thammatharo Huai Khi Lek reservoir	Chao Mae Song Nang Phi Nong Shrine is one of the venerated places in Mukdahan.

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Location	Tourist Attractions	Remarks
Phitsanulok	Wat Phra Si Rattana Mahathat, locally known as Wat Yai Wat Chedi Yod Thong Wat Chulamani Somdej Phra Naresuan Maharat Shrine Wang Chan Palace Chan or “Wang Chan”	Wat Phra Si Rattana Mahathat is considered the most important temple in Phitsanulok. Wat Ban Song Khon is a Roman Catholic church and one of the biggest in ASEAN.
Khon Kaen	Phra Mahathat Kaen Nakhon, Kaen Nakhon Wat Pa Saeng Arun Ku Praphachai also known as Ku Ban Na Kham Noi Wat Chaisi	Ku Praphachai is an ancient Khmer-style tower constructed around the 13th century during the reign of King Jayavarman VII of the ancient Khmer Empire.
Lao PDR		
Savannakhet	National Protected Areas: Dong Phou Vieng, Phou Xang Hei, Dong Si Thuan	Trekking, wildlife watching.
	Xaiyaphoum Temple, Heuan Hin or Stone House, and Thad Ing Hang.	Xaiyaphoum Temple is the oldest pagoda in town built in 1548; Heuan Hin or Stone House is an outpost of Khmer civilization that dates back 1,000 years.
	Monkey Forest and Don Deang Turtle Lake.	

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Location	Tourist Attractions	Remarks
Viet Nam		
Quang Tri	Dong Ha and historical places in Quang Tri province, such as Quang Tri ancient citadel and Quang Tri cemetery.	
	Khe Sanh township	Site of one of the famous battles of the Viet Nam war.
	Ho Chi Minh trail	Famous trail for supplying food and ammunition from the north to the south during the Viet Nam war.
	Vinh Moc Tunnel	A 2.8km tunnel that used to be a military base of the Viet Nam army during the Viet Nam war.
	Other sites: Cua Tung beach and Ru Linh Relics mountain	
Thua Thien Hue	Hue Imperial City	Hue used to be the imperial city of Viet Nam during the Nguyen Dynasty and is one of the cultural centers of Viet Nam, recognized as a World Heritage site.

Lao PDR = Lao People's Democratic Republic.

Source: ADB. GMS Economic Corridor Assessment Team.

B. North–South Economic Corridor

As noted in Section II, NSEC consists of eight subcorridors along the north–south axis of the GMS, connecting major population and economic centers in the northern and central parts of the subregion. NSEC has vast potential for development. It is endowed with abundant natural resources and is economically diversified along its north–south axis. It has close historical and cultural ties along its national components. NSEC covers some of the least developed and most ecologically sensitive areas in the GMS.

NSEC is a “natural economic corridor” in the GMS: the infrastructure network in the subregion generally has a north–south orientation. It is strategically located, linking the more developed and industrialized economies of the PRC and Thailand. NSEC serves as the main land route for trade between the PRC’s Yunnan Province and Thailand, and provides an important land link opening up sea access to landlocked Yunnan. It is also a direct trade conduit between the southern PRC and northern Viet Nam. The PRC shares borders with the countries of the Association of Southeast Asian Nations (ASEAN) through NSEC. NSEC is, therefore, well positioned to serve as a gateway for ASEAN–PRC trade.

NSEC’s links extend northward: (i) beyond Yunnan Province and Guangxi to the rest of the PRC, and (ii) beyond Myanmar to South Asia via the Tamu (Myanmar)–Moreh (India) border gate. It also extends southward to Malaysia, Singapore, and the rest of Southeast Asia.

The complementarities among the GMS countries provide the underlying impetus for NSEC development. However, the wide diversity in topography, natural resources, structure of production, levels of income, and other factors along the corridor form a basis for optimizing the existing and latent comparative advantages within the NSEC. The northern part of the corridor is composed mostly of mountainous and rolling terrain, interspersed with valleys and plains with scenic landscapes. These places have abundant natural resources, especially mineral and forest resources, as well as a high level of biodiversity. They are generally sparsely populated and are home to many ethnic communities. The income levels in these areas tend to be lower. Poverty incidence tends to be higher than the national averages.

With the exception of Yunnan Province and Guangxi, agriculture contributes a larger proportion of annual production than

industry in the northern regions of NSEC. Population density increases as one moves southward along the corridor to lower elevations. The areas progressively become more industrialized, commercialized, and even highly urbanized, with income levels rising commensurately.

The sectors and subsectors that offer good opportunities for investment in the context of NSEC development are as follows:⁸

- Agriculture and agro-industry, including food processing and contract farming;
- Resource-based industries, including the processing of mineral and forest products, and energy-related industries;
- Light manufacturing industries such as clothing, garments, footwear, paper, accessories, and consumer products;
- Construction materials, including cement, iron, and steel;
- Agricultural machinery and equipment;
- Technology-intensive industries such as automotive parts, electronics, and electronic components;

- Service-based industries such as tourism and logistics; and
- Cottage industries linked to tourism and involving the participation of local communities.

NSEC-1: Kunming–Chiang Rai–Bangkok via Lao PDR or Myanmar Subcorridor and NSEC-2: Kunming–Boten–Oumdoxay–Luang Prabang–Vang Vieng–Vientiane–Nong Khai–Udon Thani–Nakhon Ratchasima–Laem Chabang Subcorridor

The Kunming–Bangkok corridor makes Mohan (PRC) and Boten (Lao PDR) the overland connections between the PRC and the Indochina Peninsula. It is an important part of the PRC–ASEAN Free Trade Area. In connecting the two economies, Mohan and Boten have inherent strengths and roles as international ports involved in regional cooperation. They are very likely to become engines of growth along NSEC-1 and vital platforms for trade, technology, and industrial cooperation in the GMS. The PRC, the Lao PDR, and Thailand have established SEZs in the vicinity of their respective borders along NSEC-1, thus providing opportunities for cross-border cooperation involving trade, production, and services. Table 32 lists the SEZs or IZs in NSEC-1 and NSEC-2, while Table 33 lists the tourist attractions along and around the subcorridors.

⁸ ADB. 2010. Strategy and Action Plan for the North–South Economic Corridor. Manila.

Table 34: Industrial and Special Economic Zones in NSEC-1 and NSEC-2

Country	Province/State/ Region	Industrial/Special Economic Zone	Product Lines / Activities/Remarks
PRC and Lao PDR	Yunnan, PRC Luangnamtha, Lao PDR	Mohan–Boten Cross-border Economic Cooperation Zone	This consists of two areas and 12 groups. The two areas are the Mohan Area of the PRC and the Boten Area of the Lao PDR. The groups consist of (i) in Mohan: Mohan/Shanggang joint inspection group, Boten/Nadeuy joint inspection group, cross-border nature reserve group, cross-border commerce and finance group, cross-border tourism group, cross-border national forest park group, distribution center group, life services group, western import/export trade park group, and eastern import/export trade park group; and (ii) in the Boten Area: national resort group, and trade and logistics group.
Lao PDR	Luangnamtha	Boten SEZ	Agriculture, livestock, manufacturing industries; cultural center, hotel and resort areas; golf and tourism zone; education and public health center; business and trade area; banking and finance; post and telecommunications; warehouse and logistics area.
	Bokeo	Samliem Den Kham SEZ	Agriculture, livestock, manufacturing industries; hotel and residential areas; golf course; education and health center; business and trade area; banking, insurance, and finance; post and telecommunications; restaurants and bars; warehouse, duty-free shop, and duty-free area.

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Country	Province/State/Region	Industrial/Special Economic Zone	Product Lines / Activities/Remarks
	Vientiane	Vientiane Nonthong Industry and Trading Zone (1.1 km ²)	Main investment projects include: Industries — textile, shoe, bicycle, and electronic parts manufacturing. Commerce — retail store, trade center and commercial building. Services — trading center, school, hospital and hotel.
Thailand	Chiang Rai	Chiang Rai SEZ	Covers Mae Sai, Chiang Saen and Chiang Khong districts. Mae Sai: border checkpoint development to support trade and tourism (hotel, convention center, duty-free shop); Chiang Saen: free trade areas, preparation of area for seaport, warehouse, commerce, office and custom; Chiang Khong: trading, tourism, multimodal transport, preparation of area for logistics, commerce, and customs.
	Nong Khai	Nong Khai Special Economic Development Zone	International trading, tourism, and multimodal transport; preparation of area for logistics center, commerce, and tourism. Target industries include: agriculture, fishery, and related industries; textile, garment and leather industries; logistics, and tourism-related industries.

PRC = People’s Republic of China, Lao PDR = Lao People’s Democratic Republic, SEZ = special economic zone.
 Source: ADB. GMS Economic Corridor Assessment Team.

Table 35: Tourist Attractions in NSEC-1 and NSEC-2

Location	Tourist Attractions	Remarks
PRC		
Yunnan Province	Several sites in Kunming, Jinghong, Mongla	Culture (ethnic) and ecotourism
Lao PDR		
Luang Prabang	Xienthong and Mount Pousy Temples	Luang Prabang town is a UNESCO World Heritage site.
Thailand (NSEC-1)		
Chiang Rai	Wat Rong Khun (White Temple)	Privately owned contemporary art exhibit in a Buddhist-style temple
	Phu Chi Fa	Mountain area and forest park
	Tung Royal Villa	Former residence of the princess mother (mother of the Rama 9 King) now serving as a museum
	Wat Phra Kaew	Temple where the sacred Emerald Buddha was enshrined since 1444 before it was relocated to Bangkok
	Wat Pra Sing	

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Location	Tourist Attractions	Remarks
Phitsanulok	Wat Phra Si Rattana Mahathat (Wat Yai)	Built in 1357 and considered the most important temple in Phitsanulok
	Wat Chedi Yod Thong	Famous for its Sukothai-style bud-shaped chedi
	Wat Chulamani	
	Somdej Phra Naresuan Maharat Shrine	Shrine of King Naresuan the Great
	Chan Palace	Residence of several Ayuthaya kings
Nakhon Sawan	Wat Khiriwong	Beautiful scenery of Nakhon Sawan province can be seen from the 4th floor of the pagoda
Bangkok	Grand Palace	
	Wat Arun	
	Temple of the Emerald Buddha	Most sacred Buddhist temple in Thailand
	Wat Saet Ratcha Wira Maha Wihan	
	Wat Benchamabophit Dusitvanaram	One of Bangkok's most beautiful temples

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Location	Tourist Attractions	Remarks
Thailand (NSEC-2)		
Chonburi	Nong Nooch Tropical Botanical Garden	
	Sanctuary of Truth	Religious building in Pattaya filled with Buddhist and Hindu sculpture
	Khao Sam Muk	Panoramic view of Chonburi area can be seen from the hilltop

PRC = People's Republic of China, Lao PDR = Lao People's Democratic Republic.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-3: Kunming–Ha Noi–Hai Phong Subcorridor

NSEC-3 provides a direct trade route between Yunnan Province in the PRC and northern Viet Nam. Main imports from the PRC include chemicals, fertilizer, agro-based products, and machinery and equipment, while exports to the PRC include ores, footwear, and agro-products. Imported and exported commodities at Lao Cai include some commodities produced by SEZs or

IZs in Viet Nam such as mobile phones, machinery and equipment, footwear, and cargo such as timber and ores in transit to the PRC from the Lao PDR. Both countries have established SEZs/IZs on their respective borders, opening up opportunities for cross-border cooperation in areas such as trade, manufacturing, and tourism. Table 34 lists the SEZs/IZs in NSEC-3, while Table 35 shows the tourist attractions along and around the subcorridor.

Table 36: Industrial and Special Economic Zones in NSEC-3

Country	Province/State/Region	Industrial/Special Economic Zone	Product Lines/Activities/Remarks
PRC	Yunnan, PRC	Mohan–Boten Cross-border Economic Cooperation Zone	This consists of two areas and twelve groups. The two areas are the Mohan Area of the PRC and the Boten Area of the Lao PDR. The groups consist of (i) in Mohan: Mohan/Shanggang joint inspection group, Boten/Nadeuy joint inspection group, cross-border nature reserve group, cross-border commerce and finance group, cross-border tourism group, cross-border national forest park group, distribution center group, life services group, western import/export trade park group, and eastern import/export trade park group; and (ii) in the Boten Area: national resort group, and trade and logistics group.
Viet Nam	Lao Cai, Yen Bai, Phu Tho, Vinh Phuc, Ha Noi, Hung Yen, Hai Duong, Hai Phong	Several IZs have been established along this subcorridor	Excluding Ha Noi and Hai Phong, which are also parts of the other NSEC subcorridors, FDI of Viet Nam provinces along this subcorridor reached more than \$16 billion (nearly 20% of total FDI of the country) in 2015.

FDI = foreign direct investment, NSEC = North-South Economic Corridor, PRC = People’s Republic of China, Lao PDR = People’s Democratic Republic.

Source: ADB. GMS Economic Corridor Assessment Team.

Table 37: Tourist attractions in NSEC-3

Location	Tourist Attractions	Remarks
PRC		
Yunnan Province	Several sites in Kunming and Hekou	Culture (ethnic) and ecotourism
Viet Nam		
Lao Cai	Cave of the Fairies; Ancient Stone Field in Sa Pa	Lao Cai is famous for cave and stone carvings. Ancient Stone Field in Sa Pa consists of several stones with ancient images carved on them.
Yen Bai	Several scenic and historical places, including temples	
Phu Tho	Several temples, such as Thuong, Trung, Ha and Au Co temples; Ao Chau Pond, Heaven Pond, and Fairy Spring	Chau Pond has been called the mini Ha Long Bay of Viet Nam.
Vinh Phuc	Tam Dao national park	Well-known for its unique natural beauty with many rare reptiles, including “frog fish.”
Hung Yen	Several temples and pagodas	Festivals in Hung Yen are popular to visitors.
Hai Duong	Several cultural and historical relics; traditional handicraft villages	

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Location	Tourist Attractions	Remarks
Ha Noi	Ba Dinh Square	Ha Noi is known for its centuries-old architecture and rich culture with Southeast Asian, Chinese, and French influences. Many important national historical events in modern history took place in Ba Dinh Square.
	Hoan Kiem Lake	
	The Ancient (Old) Quarter	
	Van Mieu (Temple of Literature) and Quoc Tu Giam (National University)	Dating from 1076, this was part of Asia’s most prestigious center of learning for aristocrats and the children of the mandarins.
Hai Phong	Du Hang Buddhist Temple, Nghe Temple, Hang Kenh Communal House, and the French-influenced Municipal Theatre	Hai Phong is an important international seaport and now considered to be the country’s fastest-developing industrial city.

PRC = People’s Republic of China.
 Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-4: Nanning–Ha Noi subcorridor

NSEC-4 provides a direct trade route between Guangxi in the PRC to northern Viet Nam, being the shortest route from the PRC border to Ha Noi. Cross-border trade through the Huu Nghi border gate (Viet Nam) is substantial (\$7.7 billion in 2016 vs. \$1 billion through the Lao Cai border gate). Top imports from the PRC include machinery and equipment, transport equipment, mobile phone and parts, computers and electrical

appliances, and plastic products. Top exports to the PRC include cassava and cassava products, computers and parts, mobile phones and parts, wood and wood products, and electrical wire and cable. Both countries have established SEZs/IZs on their respective borders, opening up opportunities for cross-border cooperation in areas such as trade, manufacturing, and tourism. Table 36 lists the SEZs/IZs in NSEC-4, while Table 37 shows the tourist attractions along and around the subcorridor.

Table 38: Industrial and Special Economic Zones in NSEC-4

Country	Province/State/Region	Industrial/Special Economic Zone	Product Lines/Activities/Remarks
PRC	Guangxi	Pingxiang–Dong Dang Cross-border Economic Cooperation Zone (10.2 km ² on the PRC side and 13.5 km ² on the Viet Nam side)	The PRC side is divided into a commerce area, tourist area, logistics area, finance area, specialized market area, processing area, and port area. The Viet Nam part of the zone is in the nontariff area of the Lang Son–Dong Dang port economic zone.
		Dongxing–Mong Cai Cross-border Economic Cooperation Zone (10.1 km ² on the PRC side and 13.5 km ² on the Viet Nam side)	The PRC side is divided into a port operation area, tourist attraction area, commerce area, finance area, warehousing and logistics area, border trade area, processing and assembling area, etc. The Viet Nam part of the zone is divided into an international trade center, manufacturing area, transport area, international logistics and warehousing area, and tourist attraction area. It may be expanded when necessary.

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Country	Province/State/Region	Industrial/Special Economic Zone	Product Lines/Activities/Remarks
Viet Nam	Lang Son, Bac Giang, Bac Ninh and Ha Noi	Several IZs have been established along this subcorridor.	Ha Noi had the largest registered capital in 2015 (\$25.5 billion), followed by Bac Ninh (\$11.3 billion), Bac Giang (\$11.5 billion), and Lang Son (\$207 million).
	Bac Ninh	IZs in Bac Ninh	Bac Ninh has attracted around \$11 billion FDI, which is slightly below that in Hai Phong. Besides good infrastructure, Quang Ninh has a large potential in natural resources, aquaculture, and tourism.

FDI = foreign direct investment, IZ = industrial zone, PRC = People’s Republic of China.
 Source: ADB. GMS Economic Corridor Assessment Team.

Table 39: Tourist Attractions in NSEC-4

Location	Tourist Attractions	Remarks
PRC		
Guangxi	Several sites in Nanning, Dong Xing, and surrounding areas	
Viet Nam		
Bac Ninh	Dinh Bang Temple, Dau Pagoda, Dong Ho Village, and Duong River	Many festivals that represent Viet Nam’s traditional culture are held in Bac Ninh.
Bac Giang	Khe Ro Primitive Forest, Suoi Mo Site, Xuong Giang Ancient Citadel, Cam Son Lake, Khuon Than Resort	The province has traditional cultural festivals of the Kinh Bac people, as well as spring festivals of ethnic groups.

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Location	Tourist Attractions	Remarks
Lang Son	Rampart of Mac Dynasty, Doan Citadel Vestige, Chi Lang Defile, Ky Cung and Bac Le temples, Ky Lua Market, To Thi and Mau Son mountains, Tam Thanh, Nhi Thanh grottoes, and Ky Lua and Tam Thanh markets.	The province has many cultural and historical sites.
Quang Ninh	Ha Long Bay, Tuan Chau Island, Co To island, Cua Ong Temple in Hon Gai.	Ha Long Bay is a UNESCO World Heritage site.

PRC = People's Republic of China.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-5: Kunming–Muse–Mandalay–Yangon–Thilawa subcorridor

NSEC-5 is the main trade route between the PRC and Myanmar. Cross-border trade between the two countries at the Muse (PRC)–Ruili (Myanmar) border gate is the largest of all border gates in Myanmar (\$7.8 billion during 2016–2017 representing around two-thirds of the total cross-border trade in Myanmar). The Mandalay–Nay Pyi Taw–

Yangon route is the main trade corridor. Top exports to the PRC are natural gas, sugar, jade, maize, rice, rubber, and diesel, while top imports from the PRC are vehicles and machinery, motorcycles, fertilizer, oranges, aluminum frame, and iron pipes. Table 38 lists the SEZs/IZs in NSEC-5, while Table 39 shows tourist attractions along and around the subcorridor.

Table 40: Industrial and Special Economic Zones in NSEC-5

Country	Province/State/Region	Industrial/Special Economic Zone	Product Lines/Activities/Remarks
PRC	Yunnan	Ruili–Muse Cross-border Economic Cooperation Zone	Including Muse City, 105th Mile Border Trade Zone, and Jiugu City. The core part of the zone covers Jiegao and urban Muse, subject to special customs supervision. The main functional areas of the zone are composed of the 300 km ² barrage area in Ruili and the 300 km ² in Muse, with facilities for processing and assembly, import resource processing, warehousing and logistics, financial services, trade in services, and cross-border cooperation.
Myanmar	Muse	Muse’s Central Business District project	Muse Central Economic Industrial Zone and New Star Light Construction Company Ltd have jointly established businesses in Muse in the following categories: light industries, commodities trading and warehouses, training schools, cultures and education university, leisure and entrainment enterprise, administration and banking, hotels and resorts, transport, environmental protection, international travel agencies, forestry, and hydropower enterprises.
	Mandalay	Mandalay IZ, Myingyan IZ, Meikhtila IZ, and Mandalay Myotha Industrial Park	The industrial park includes specified areas for industrial, warehouse and logistic development, residential development, road and transport, commercial public facilities, and amenities.

IZ = industrial zone, PRC = People’s Republic of China.
 Source: ADB. GMS Economic Corridor Assessment Team

Table 41: Tourist Attractions in NSEC-5

Location	Tourist Attractions	Remarks
PRC		
Yunnan Province	Several sites along the subcorridor in the PRC including Dali	Cultural (ethnic) and ecotourism
Myanmar		
Shan State	Scenic views, natural caves, rivers, and waterfalls	A major tourist attraction is the exploration of the lifestyle, traditions, and culture of ethnic groups.
Mandalay	Bagan and Amarapura temples and ruins, Mount Popa	Mandalay City's 19th century architecture represents the city's romantic side, while the famous Maha Muni image and Kuthodaw Pagoda epitomize its religious side. Visitors can get a glimpse of famous fine gold and silver crafts, wood and marble carving, silk thread weaving and ancient tapestry, and traditions of dance, music and drama in and around Mandalay.
Nay Pyi Taw	Water Fountain Park, Uppatasanti Pagoda, a replica of Yangon's Shwedagon Pagoda, Pyidaungsu Hluttaw (Myanmar's Parliament building), Zoological Garden (Nay Pyi Taw)	

PRC = People's Republic of China.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-6: Mandalay-Tamu Subcorridor

NSEC-6 highlights Myanmar’s important role as a land bridge to South Asia. Currently, cross-border trade between India and Myanmar is small compared with Myanmar’s trade with the PRC and Thailand. However, effective resolution of the bottlenecks in infrastructure, border facilities and formalities, and trade financing will greatly enhance prospects for increased trade and investment in this subcorridor. There is no SEZ/IZ in Tamu, but the region covered by NSEC-6 serves as a major center for trade

and commerce in Myanmar, especially for agriculture products such as beans, pulses, orange, and palm sugar. Production of cotton, noodles, flour, and edible oils is thriving. Monywa supplies 80% of Myanmar’s demand for blankets. Monywa also produces cane and bamboo products, agricultural implements, and bullock carts. Top exports to India are betel nut/areca nut, cigarettes, shoes, plastic bags, and mosquito repellent. Top imports include motorcycles, garden peas, flour, lentil, chick peas, and yam. Table 40 lists the tourist attractions along and around this subcorridor.

Table 42: Tourist Attractions in NSEC-6

Location	Tourist Attractions	Remarks
Myanmar		
Monywa	Thanbuddhay Pagoda	Part of the Mohnyin Forest Monastery retreat, it is said to contain over 500,000 images of Buddha. It is the only pagoda in Myanmar standing with the unique shape of a square temple base of 166 feet on each side. A pair of white elephant figures guards the entrance of the pagoda, instead of lions.

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Location	Tourist Attractions	Remarks
	Twin Taung	There is a natural lake around 200 meters above this area, where Spirulina is found. It is one of the major tourist attractions due to the beautiful scenery around the lake.
	Alaungdaw Kathapa National Park and Alaungdaw Kathapa pagoda	The largest national park in Myanmar, it is well-known for the roaming herds of large Asian elephants. Other wildlife include Burmese brow-antlered and barking deer, various jungle cats such as clouded leopards and civets, giant monitor lizards, and various species of bears.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC 7: Laem Chabang–Bangkok–Nakhon Ratchasima–Udon Thani–Nakhon Phanom–Takhek–Na Phao–Vung Ang–Ha Noi Subcorridor

NSEC-7 connects Bangkok and Ha Noi and serves as another link to the PRC (to Nanning, Guangxi). It shortens the distance from Bangkok to Ha Noi by at least 150 km compared to the route from Bangkok to Ha Noi through EWEC. It provides the

shortest route from the Lao PDR to the maritime gateway at Vung Ang in Viet Nam, and is integral to the Lao PDR's strategy for transforming from a landlocked to a land-linked country. The Lao PDR and Thailand have established SEZs on their borders, opening up opportunities for cross-border cooperation in trade, production, and related services. Table 41 lists the SEZs in NSEC-7, while Table 42 shows tourist attractions along and around the subcorridor.

Table 43: Industrial and Special Economic Zones in NSEC-7

Country	Province/State/Region	Industrial/Special Economic Zone	Product Lines/Activities/Remarks
Thailand	Nakhon Phanom	Nakhon Phanom SEZ	A channel for trade with Viet Nam and the southern PRC with potential to be a transport route to East Asia through Vung Ang seaport in Viet Nam. Target activities: agricultural, fishery and related industries; ceramic products; textile, garment, and leather industries; furniture; gems and jewelry; medical equipment; automotive, machinery, and parts; electrical appliances and electronics; plastic products; medicine; logistics; and tourism-related industries.
Lao PDR	Khammuane	Phoukieu SEZ	Facilities include those for investment projects such as tourism parks and the production and assembly of goods; sports facilities such as golf course and sports complex; transport and shipping services; education institutions and cultural center; and hotel and entertainment such as hotels and entertainment center.
Viet Nam	Provinces along the northern coastal area of Viet Nam	Formosa Economic Zone and Nghi Son Economic Zone	Ha Tinh and Thanh Hoa provinces have attracted the largest amount of FDI through the construction of ports, processing plants, factories, and steel mills. This has increased traffic and trade along this subcorridor. Total amount of FDI of provinces excluding Ha Noi has reached more than \$20 billion as of 2015.

FDI = foreign direct investment, Lao PDR = Lao People’s Democratic Republic, SEZ = special economic zone.
 Source: ADB. GMS Economic Corridor Assessment Team

Table 44: Tourist Attractions in NSEC-7

Location	Tourist Attractions	Remarks
Thailand		
Nakhon Rachasima	Ya Mo	A statue of Thao Suranari, which stands in the center of Nakhon Ratchasima, is a popular object of devotion.
	Prasat Hin Phanomwan. Pagoda	Built in the 15th Buddhist century, it was renovated during 19th and 18th centuries. Originally a Hindu but now a Buddhist ritual site
	Watpa Salawan	A Thai Theravada Buddhist forest temple in downtown Nakhon Ratchasima
Khon Kaen	Phra Mahathat Kaen Nakhon, Kaen Nakhon, The Great Buddha's Relics or The Nine Story Stupa	
	Wat Pa Saeng Arun	
	Ku Praphachai, also known as Ku Ban Na Kham Noi	Ancient Khmer-style tower constructed around the 13th century
	Wat Chaisi	Magnificent mural paintings both on the inside and outside

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Location	Tourist Attractions	Remarks
Udon Thani	Wat Pa Ban Tat	
	Wat Thung Si Mueang	Constructed during the reign of King Rama III to house a replica of Buddha’s footprint
Nakhon Phanom	Phratat Phanom Temple	A 110–kilogram solid gold spire sits atop the pagoda
	Wat Phratat Mahachai	Houses relics of the Lord Buddha and Arhats
	Phra Tat Tauten	
Viet Nam		
Ha Nam	Truc Temple–Ngu Dong Son	Ngu Dong Son consists of five interconnecting stone caves.
	Long Doi Pagoda	
Ninh Binh	Cuc Phuong National Park	Oldest national park in Viet Nam
	Bai Dinh Pagoda	
	Phat Diem stone church	The only stone church in the north of Viet Nam built by the French, with stones placed on top of each other without any adhesive material.

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Location	Tourist Attractions	Remarks
Thanh Hoa	Ho Citadel	Built in the 14th century; a UNESCO World Heritage site.
	Sam Son Beach	
	Bén En National Park	
Nghe An	Cua Lo Beach and Quynh Nghia Beach	
Ha Tinh	National Park of Vu Quang, Ke Go reservoir, Hong Linh Mountain	
	Xuan Thanh, Thien Cam, Thach Hai or Deo Con beaches, and Son Kim Hot Spring	
	Several temples and pagodas	
	Handicraft villages	

Lao PDR = Lao People's Democratic Republic.

Source: ADB. GMS Economic Corridor Assessment Team.

NSEC-8: Vientiane-Paksan-Vinh-Ha Noi Subcorridor

NSEC-8 connects Vientiane in the Lao PDR to Ha Noi in Viet Nam and, like the NSEC-7, provides the Lao PDR with the shortest route

to the sea at Vung Anh in Viet Nam. There is no SEZ on the Lao PDR side. The SEZs on the Viet Nam side are discussed in connection with NSEC-7. Table 43 lists the tourist attractions in NSEC-8 for the Lao PDR and Viet Nam.

C. Southern Economic Corridor

The SEC has considerable potential and excellent prospects for advancement. It has the key ingredients for effectively integrating economic activities within the corridor. The SEC is diverse in income and economic structure, natural resources, and labor markets, creating many complementarities that may be pursued to promote progress. This provides a good base for the development of production networks to be plugged into global value chains. It has the necessary drivers of growth, including markets, agricultural and industrial base, and world-class tourism assets.⁹

The SEC has a strong manufacturing base in Thailand, particularly in its Eastern Economic Corridor (EEC), consisting of Chonburi, Rayong, and Chachoengsao; and in Ho Chi Minh and Vung Tau in Viet Nam. The connection of these manufacturing hubs will give rise to many business opportunities along the SEC for domestic and foreign investors. Many SEC areas also have advantages in agriculture, forestry and fishery production, and processing, which in turn provide other investment opportunities. Manufacturing enterprises can be promoted in areas where supply chains and logistics can be efficiently operated, with FDI in SEZs along the subcorridors spearheading the process.

Cambodia, Thailand, and Viet Nam can attract over 20 million tourists annually,

considering that Thailand is an aviation hub in Southeast Asia, and the three countries offer world-class tourist destinations. The SEC coastline has good potential for tourism growth, which can help generate jobs and raise incomes, especially in the less developed SEC areas of Cambodia and Viet Nam. Indeed, the diverse tourism areas can utilize increased connectivity along the subcorridors to facilitate multi-country and circuit tours.

SEC-1: Dawei-Bangkok-Phnom Penh-HCMC-Vung Tau Subcorridor

This subcorridor is the largest and busiest among the four SEC subcorridors. It is also the most developed subcorridor in Cambodia, with a relatively higher-educated and skilled labor force compared to the other subcorridors. The rapid growth of this subcorridor is expected to continue. Two international airports in Cambodia are located along this subcorridor, in Phnom Penh and Siem Reap, which are also the most attractive tourist destinations in the country. Resources abound for agriculture, especially for the cultivation of rice, cassava, sugarcane, rubber, and various kinds of beans in almost all provinces in this subcorridor. Many garment factories have set their production bases here, particularly in Phnom Penh and Kandal Province. This subcorridor is also the most developed region in Viet Nam, with a per capita GDP that is more than that for Viet Nam as a whole. In March 2018, Myanmar's Parliament approved the

⁹ ADB. 2010. *Strategy and Action Plan for the Greater Mekong Subregion North-South Economic Corridor*. Manila.

construction of a 156.5 km highway with a loan from the Government of Thailand. This road will connect the Dawei SEZ in Myanmar to Bangkok, while the deep seaport will link Thailand, Cambodia, and Viet Nam to India, the Middle East, Europe, and Africa without the need to go around the Strait of Malacca.

Investment opportunities in SEC-1 include the following sectors or subsectors:

- Service industries (finance, banking, health, education and training, business services);
- Oil and gas (production and processing of petroleum oil products);
- Transport (land, seaport, and marine transport services);
- Logistics support (inland container depot and distribution center, cold storage, and warehousing);
- Tourism, including cultural, historical and ecotourism (tourist facilities and services, including hotels, resorts, restaurants, tour operations and transport services, rest areas and recreational facilities);
- Agriculture and agro-industry (rice, sugarcane, cassava, rubber, various types of beans, processed food products);
- Manufacturing (automobiles, electronics, electrical appliances, agricultural machinery, chemicals, plastics, garments, household wares, wooden furniture, sugar industry, biochemical industry, and other light manufacturing industries); and
- Alternative energy (ethanol from sugarcane and cassava).

Table 43 lists the industrial and economic zones along and around SEC-1, while Table 44 shows the tourist attractions along this corridor.

Table 45: Industrial and Special Economic Zones in SEC-1

Country	Province/State/ Region	Industrial/Special Economic Zone	Product Lines / Activities/Remarks
Myanmar	Tanintharyi Region	Dawei SEZ	Largest of its kind in Myanmar; when completed, it will be composed of 3 deep-water seaports, 1 liquified natural gas terminal; 3 heavy industrial zones consisting of coal-fired power plants, steel mills, oil refineries and petrol chemical plants; 1 medium industrial zone consisting of vehicle assembly plants, tire factories and construction material factories; and basic infrastructure like water reservoirs and telecommunications. A 130-km long highway will link Dawei with Bangkok and the GMS, while the deep seaport will link Thailand, Cambodia, and Viet Nam to India, the Middle East, Europe, and Africa without the need to go around the Strait of Malacca.

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Country	Province/State/ Region	Industrial/Special Economic Zone	Product Lines / Activities/Remarks
Thailand	Sa Kaeo	Sa Kaeo Special Economic Development Zone	This EZ is on its first phase. It can be promoted as an area for wholesale–retail trade along and across the border, production base of agro–processing industry, textile, clothes and leather, furniture, accessories, medical devices, electrical and electronic appliances, automotive and parts, plastics, international warehouse, and tourism–related industries.
	Kanchanaburi	Kanchanaburi Special Economic Development Zone	This is an economic center in the west. Target activities include agricultural, fishery, and related industries; ceramic products; textile, garment, and leather industries; manufacture of furniture, gems and jewelry, medical equipment, automotive, machinery and parts, electrical appliances and electronics, plastic products, and medicine; logistics; and tourism–related industries.

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Country	Province/State/Region	Industrial/Special Economic Zone	Product Lines / Activities/Remarks
Cambodia	Banteay Meanchey Svay Reing, Phnom Penh	There are 17 SEZs in the vicinity of this subcorridor in Cambodia: Tai Seng Bavet SEZ, Manhattan (Svay Reing) SEZ, Goldfame Pak Shun SEZ, D&M Bavet SEZ, Phnom Penh SEZ, Poi Pet O’Neang SEZ, P (SEZ) I C, N.L.C SEZ, Hi-Park SEZ, Shandong Sunshell Svay Rieng SEZ, Zhong Jian Jin Bian Jing Ji Te Qu SEZ, Sanco Cambo SEZ, Dragon King Bavet SEZ, Sovannaphum SEZ, Svay Rieng, GIGA Resource SEZ, KANDAL SEZ, and Poipet PP SEZ.	The sectors and/or subsectors with good potential for growth in this subcorridor are Joint Development of Cambodia–Thailand border zone (Poipet in Banteay Meanchey Province), tourism, industrial zones, agriculture (rice, sugarcane, cassava), and agro-industry.
Viet Nam	Ho Chi Minh, Dong Nai and Ba Ria Vung Tau provinces	Several IZs and EZs are located in Ho Chi Minh City, Dong Nai and Ba Ria Vung Tau provinces.	Main flow of business in this subcorridor is generated from shipping and cargo produced at these IZs and SEZs. Ho Chi Minh, Dong Nai, and Ba Ria Vung Tau provinces attracted FDI amounting to \$90 billion in 2015.

EZ = economic zone, FDI = foreign direct investment, IZ = industrial zone, NLC = NLC Import-Export Co. Ltd. SEC = special economic zone, P (SEZ) I C = Pacific (SEZ) Investment Co. Ltd.
 Source: ADB. GMS Economic Corridor Assessment Team.

Table 46: Tourist Attractions in SEC-1

Location	Tourist Attractions	Remarks
Myanmar		
Tanintharyi Region	Myeik Archipelago	Consists of more than 800 untouched islands in the Andaman Sea, inhabited by Salons also known as Sea Gypsies.
	Marine national park in Lampi Island	First marine national park in Myanmar; has great potential for adventure tourism like diving, snorkeling, sailing, beach-combing, and kayaking.
Thailand		
Bangkok	A major tourist destination with many attractions	
Kanchanaburi	Erawan National Park	Known for Erawan Falls, which cascades down six tiers; the area has several caves.
	Sai Yok Noi Waterfall	Most popular attraction of the Sai Yok National Park.
	The Bridge on the River Kwai	Part of the infamous Death Railway, spanning over Kwai Yai River, built by prisoners of World War II under the supervision of the Japanese army. The 415-kilometer railway was built to connect Thailand and Myanmar to secure supplies for the Japanese army.
	Hellfire Pass	The largest rock cutting on the railway as noted above.
	Mon Bridge	Thailand's longest wooden bridge (850 m) and the world's second longest wooden bridge next to the U Bein Bridge in Myanmar.

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Location	Tourist Attractions	Remarks
Sa Kaeo	Sdok Kok Thom	11th century Khmer temple
	Pang Sida National Park	
	Lalu	Known for spectacular rock formations of strange shapes and figures caused by soil erosion.
	Ban Khlong Luk Border Market	
Cambodia		
Battambang and Phnom Penh	Several tourist attractions in Battambang and Phnom Penh	
Viet Nam		
Ho Chi Minh City	Many historical and cultural attractions, as well as facilities for entertainment and shopping; has diverse and flavorful cuisine from all regions of Viet Nam.	
Tay Ninh	Ba Den mountain area (meaning: Lady Black) and other mountains like Pig mountain (Nui Heo), Phoenix Mountain (Nui Phung) and caves	
	Dau Tieng Lake	
	Cao Dai Temple	

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Location	Tourist Attractions	Remarks
Dong Nai	Nam Cat Tien National Park, Dong Nai River, Long An Lake, Suoi Tre Culture Site, Tri An Waterfall, Ma Da, and Sac forest	
Baria–Vung Tau	Has over 100 km seashore with beautiful beaches, lakes, and thermal springs. It also has cultural and historical sites.	This is a large tourist center and destination.

Source: ADB. GMS Economic Corridor Assessment Team.

SEC–2: Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon Subcorridors

The areas traversed by this subcorridor in Cambodia are rich in water, forest, and mineral resources (e.g., bauxite in Monduliri). It has many areas with large potential for hydropower development, in particular Rattanakiri and Monduliri. The growth of ecotourism here is very promising. In Viet Nam, this subcorridor has low population density and relatively large areas of agricultural and forestry land, suitable for industrial tree plantations and commercial crops such as rubber, coffee, sugar-cane, and many varieties of beans. It also has marine resources, and the potential to

be a major seaport serving the provinces in the Tay Nguyen region of Viet Nam and the southern Lao PDR. Binh Dinh Province can develop fishery industries and supply marine products at the Tay Nguyen region, while Gia Lai Province can focus on timber-processing industries and livestock such as cattle and buffalo.

Investment opportunities in SEC–2 include the following sectors or subsectors:

- Fishery industry and marine product processing, including aquaculture;
- Seaport development (Quy Nhon);

- Forestry, including timber processing;
- Ecotourism and cultural tourism (tourist facilities and services, including hotels, resorts, restaurants, tour operations and transport services, rest areas, and recreational facilities);
- Agriculture and agro-industry (industrial tree plantation such as rubber, eucalyptus, and acacia; and commercial crops including coffee, tea, and sugarcane);
- Mining industry (production and processing of mineral products);
- Hydropower development; and
- Livestock (cattle and buffalo).

Table 47 lists the industrial and economic zones along and around SEC-2, while Table 48 shows the tourist attractions along this corridor.

Table 47: Industrial and Special Economic Zones in SEC-2

Country	Province/State/Region	Industrial/Special Economic Zone	Product Lines/Activities/Remarks
Thailand	Sa Kaeo	As in Table 22.	As in Table 22.
Cambodia	Banteay Meanchey, Stung Treng	Four SEZs: Poi Pet O’Neang SEZ, Sanco Cambo SEZ, Poipet PP SEZ, and Try Pheap Ou Ya Dav SEZ	The sectors and/or subsectors with good potential for growth in this subcorridor in Cambodia are Joint Development of Cambodia–Thailand border zone (Poipet), eco and cultural tourism, mineral industry, hydropower, agriculture (rice, rubber, cassava), and agro-industry.
Viet Nam	Gia Lai	Le Thanh SEZ	Due to low level of development, Gia Lai has not attracted much FDI and even had a problem of withdrawal of registered capital in 2015. Even the provinces adjoining Gia Lai in the Central Highland have not attracted much FDI, and thus not able to contribute to cross-border trade and traffic along this subcorridor.

FDI = foreign direct investment, SEZ = special economic zone.
 Source: ADB. GMS Economic Corridor Assessment Team.

Table 48: Tourist Attractions in SEC-2

Location	Tourist Attractions	Remarks
Thailand		
Bangkok	As in Table 25.	As in Table 25.
Sa Kaeo	As in Table 25.	As in Table 25.
Cambodia		
Siem Reap	Angkor Wat temple complex	
	Ton Le Sap (“Great Lake”)	
Stung Treng and Rattanakiri	Several sites with large potential for ecotourism	
Viet Nam		
Gia Lai	Minh Thanh Pagoda; many mountains like Mang Yang Heaven Gate, Ham Rong Mountain; T’Nung (“Great Lake”) Lake	T’Nung Lake was formed from a volcanic crater and is dubbed as the “eyes” of the Gia Lai people in general, and Pleiku city people in particular.
Binh Dinh	Relatively untouched natural sites such as beaches, swamplands, and poplar woods; Ghenh Ran	Ghenh Rang is an unusual landscape where “mountain meets the ocean.”

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Location	Tourist Attractions	Remarks
Kon Tum	Ngok Linh Mountain, Chu Mon Ray Primitive Forest, Dak Tre Tourist Site, and Dak To Hot Spring; historical relics such as Kon Tum Former Prison, Dak Glei Prison, Ho Chi Minh Trail, Dak To, Tan Canh Battle Field	
Dak Lak:	Chu Yang Sin and Yok Don national parks; Gia Long, Krong K'mar, Thuy Tien, and Bay Nhanh waterfalls; Yang Prong Cham Temple-tower and Tam Linh Religious Center	Home to dozens of ethnic minorities; site of majestic rivers, lakes, mountains, and rain forests.

Source: ADB. GMS Economic Corridor Assessment Team.

SEC-3: Bangkok–Trat–Kampot–Ha Tien–Nam Can Subcorridor

Hydropower development in Koh Kong and coastal area development for tourism are the key opportunities along this subcorridor in Cambodia. This subcorridor is engaged mainly in agricultural production and has a large agricultural labor force. In the SEC areas in Viet Nam, Kien Giang and Ca Mau provinces have advantages in rice production and fishery. Prominent landscapes have good potential for tourism growth. The eastern and western parts of Kien Giang and Ca Mau provinces have open access to the sea, with a long coastline, giving them an advantage in expanding marine and fishery processing industries.

Investment opportunities in SEC-3 include the following sectors or subsectors:

- Fishery industry and marine product processing, including aquaculture;

- Coastal and ecotourism (tourist facilities and services, including hotels, resorts, restaurants, tour operations and transport services, rest areas and recreational facilities);
- Agriculture (rice, durian, pepper, fruits and vegetables, processed food products);
- Manufacturing (fertilizer, fishery-related enterprises, glass, textiles and other light manufacturing industries); and
- Alternative energy (biodiesel from palm oil and ethanol from sugarcane).

Table 49 lists the industrial and economic zones along and around SEC-3, while Table 50 shows the tourist attractions along this corridor.

Table 49: Industrial and Special Economic Zones in SEC-3

Country	Province/state/region	Industrial/Special Economic Zone	Product lines / activities /remarks
Thailand	Chachoengsao, Chonburi, and Rayong	Eastern Economic Corridor (EEC);	The implementation plan to develop the EEC consists of four sub-implementation plans for these target areas: (i) potential industries; (ii) communications and logistics; (iii) urbanization, public utilities, urban environment, tourism, and public health, and (iv) management. Target industries in the area consist of Super Cluster industries (e.g., automotive and parts, electrical appliances, electronics and telecommunications equipment, petrochemicals and chemicals, food industries, medical hub, agro-processing, textile, and garments); and 10 target industries (e.g., next-generation automotive, smart electronics, medical and wellness tourism, biotechnology, robotics, aviation and logistics, biofuels, and biochemicals).
	Trat	Trat Special Economic Development Zone	The zone was designed as an international trade and logistics hub, with tourism base in the area and link to Koh Kong SEZ in Cambodia in FDI projects such as Korean car factory (Hyundai), volleyball factory (Mikasa), and factory producing electric wire for cars (Yazaki) from Japan.

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Country	Province/state/region	Industrial/Special Economic Zone	Product lines / activities /remarks
Cambodia	Koh Kong, Kampot	Eight SEZs namely Kampot SEZ, Neang Kok Koh Kong SEZ, Suoy Chheng SEZ, Oknha Mong SEZ, Kiri Sakor Koh Kong SEZ, RATANA SEZ, Chhak Kampongsaom SEZ and Stung Hav SEZ are in the vicinity of this subcorridor.	The sectors and/or subsectors in the subcorridor with good potential for growth are agriculture (land area available in Kampot province for agriculture crops such as rice, durian, pepper, and vegetables); joint development of Cambodia–Thailand border zone (Koh Kong Province); industrial zones, and tourism on the beach areas along the coast.
Viet Nam	Kien Giang and Ca Mau	None.	Due to their location that is far from major economic centers in Viet Nam like Ho Chi Minh City and Can Tho, poor infrastructure, the absence of any seaport, and low incomes, these provinces have not been able to attract a large amount of FDI. The largest has been in Kien Giang at around \$3 billion as of 2015, which was the same level in the previous 2 years.

FDI = foreign direct investment, SEZ = special economic zone.
Source: ADB. GMS Economic Corridor Assessment Team.

Table 50: Tourist Attractions in SEC-3

Location	Tourist Attractions	Remarks
Thailand		
Bangkok	As in Table 25.	As in Table 25.
Sa Kaeo	As in Table 25.	As in Table 25.
Cambodia		
Siem Reap	Angkor Wat temple complex	
	Ton Le Sap (“Great Lake”)	
Stung Treng and Rattanakiri	Several sites with large potential for ecotourism	
Viet Nam		
Kien Giang	Ha Tien and Phu Quoc island and historically famous islets like Chong, Chem, and Phu Tu; Mui Nai beach; and U Minh forest. Other destinations are U Minh Thuong National Park; Ha Tien and Hon Dat town; and Hon Tre, Lai Son, An Son, Nam Du, Hai Tac and Hon Nghe islets.	Kien Giang Province has greater tourist potential than most of the other Mekong Delta provinces.
Ca Mau	Ca Mau has bird parks, swamplands, channels, and forests. U Minh National Park is the habitat of many unique animals and plants. Other most visited destinations are the Tan Hung Temple and Quan Am Pagoda.	Located at the end point of the S-shaped Viet Nam, Ca Mau Cape is the only place in the country where people can see both the day’s sunrise and sunset over the ocean.

Source: ADB. GMS Economic Corridor Assessment Team.

SEC-4: Sihanoukville–Phnom Penh–Stung Treng–Pakse–Savannakhet Subcorridor

This subcorridor includes a coastal area (Sihanoukville) with white sand, beautiful beaches, and islands. It has a deep seaport in Sihanoukville and many SEZs located along the line. The Gulf of Cambodia in the vicinity of Sihanoukville has mineral resources such as oil and gas. Potential exists for hydropower development, especially in Kratie and Mondulhiri. The areas covered by the SEC in the Lao PDR have abundant fertile agricultural and forest areas which, combined with relatively low labor cost, provide a competitive edge in the production of cash crops such as rice, coffee, tea, fruit, and organic agricultural products, as well as in the processing of agricultural and forest products. Long-term land concessions can be granted to investors to further reinforce this advantage. The presence of minerals and large water resources is also a major strength, making the region suitable for investments in mineral processing industries and power generation.

Investment opportunities in SEC-4 include the following sectors or subsectors:

- Coastal zone development (Sihanoukville);
- Agriculture and agro-industry (rice, coffee, tea, fruits and vegetables, palm oil plantation, tapioca, rubber, cassava);
- Mineral industry (mining and processing of mineral products);
- Oil and gas (Sihanoukville);
- Seaport development (Sihanoukville); and
- Hydropower development.

Table 51 lists the industrial and economic zones along and around SEC-4, while Table 52 shows the tourist attractions along this corridor.

Table 51: Industrial and Special Economic Zones in SEC-4

Country	Province/State/Region	Industrial/Special Economic Zone	Product Lines / Activities/Remarks
Cambodia	Sihanoukville, Kampong Speu, Phnom Penh, Skun, Kampong Cham, Stung Treng	15 SEZs are within the vicinity of this subcorridor: Thary Kampong Cham SEZ, Kampong Saom SEZ, S.N.C SEZ, Stung Hav SEZ, Sihanoukville SEZ 1, Sihanoukville SEZ 2, Sihanoukville Port SEZ, H.K.T SEZ, UBE Snoul SEZ, Tian Rui Agricultural Trade SEZ, Phnom Penh SEZ, Oknha Mong SEZ, KANDAL SEZ, RATANA SEZ, Chhak Kampongsaom SEZ.	The sectors and/or subsectors with good potential for growth in this subcorridor are coastal zone development (Sihanoukville); agriculture and agro-industry (palm oil plantation, tapioca, rubber, cassava); mineral industry (oil and gas in Sihanoukville); and hydropower.
Lao PDR	Savannakhet	As in Table 32.	As in Table 32.

Lao PDR = Lao People's Democratic Republic, SEZ = special economic zone..
Source: ADB. GMS Economic Corridor Assessment Team.

Table 52: Tourist Attractions in SEC-4

Location	Tourist Attractions	Remarks
Cambodia		
Phnom Penh	As in Table 25.	As in Table 25.
Sihanoukville	White sand beaches and islands	
Lao PDR		
Champasak	Khone Waterfalls; Vat Phou temple complex; villages of cultural communities; Vat Phou temple complex.	Khone Waterfalls is the largest by volume in Southeast Asia. Vat Phou temple complex, a UNESCO World Heritage Site, is one of Southeast Asia's best examples of both early and classic Khmer architecture dating from the 7th to the 12th centuries.
Saravane	Villages of cultural communities and several natural attractions (e.g., Tad Lo Waterfall); Pakxong town; Bolvaen Plateau.	Saravane is home to many kinds of tropical vegetation. Pakxong is a base for day trips to the region's coffee and tea plantations. Bolvaen Plateau is famous for its cool climate and world-class production of Arabica coffee.
Savannakhet	As in Table 31.	
Khammouane	Several caves, especially, Buddha Cave or Nong Pa Fa; National Biodiversity Conservation Protected Areas (ecotourism); French-style houses	

Source: ADB. GMS Economic Corridor Assessment Team.

VI. OVERALL ASSESSMENT AND PROPOSED CLASSIFICATION OF ECONOMIC CORRIDORS

A. Assessment

Table 51 presents a summary of the key findings of the assessment of EWEC, the eight NSEC subcorridors and the four SEC subcorridors covering the (i) physical condition of corridor roads, (ii) availability and adequacy of border control facilities (BCF), and (iii) economic potential indicated by the existence and operation of industrial or special economic zones (SEZs) and the significance of cross-border trade.

All corridor roads in EWEC are in good condition except those in the Lao PDR, which range from fair to good and require urgent repairs and upgrades. In NSEC, most of the corridor roads are in good condition except for the following that require repairs and/or upgrades: (i) Myanmar section in NSEC-1, (ii) the Lao PDR sections in NSEC-2, (iii) a few sections in Myanmar in NSEC-5 frequently damaged by heavy trucks, (iv) Myanmar roads in NSEC-6, and (v) the Lao PDR sections in NSEC-8. In SEC, most of the roads are also in good condition except

for the following, which require repairs and/or upgrades: (i) Myanmar section in SEC-1, (ii) one section in Cambodia in SEC-2, and (iii) several sections in Cambodia and the Lao PDR in SEC-4.

The corridor roads in the PRC are all classified as primary except for the sections between Jinghong and Daluo, which are Class II; these are being rebuilt. Most of the corridor roads in Thailand are classified as Class I with one classified as primary. The corridor roads in Viet Nam range from Class II to III, with a few classified as Class I (expressway). In the Lao PDR, all corridor roads are classified as Class III with most requiring repairs and/or upgrades. All the corridor roads in Cambodia are classified as Class III except for the Thnol Toteung-Phnom Penh, and Phnom Penh-Skun sections in SEC-4, which are classified as Class I. Corridor roads in Myanmar range from Class II to III, and a few have 4 lanes and are classified as Class I. Appendix 2 show maps of economic corridor routes in each GMS country with road class and road condition overlay.

All border crossing facilities are in place in EWEC (i.e., they are established and found to be adequate). In NSEC, most of the border crossing facilities are in place except those in the following border gates where border crossing facilities, including common control areas, need to be established and/or improved: Boten (NSEC-1), Thanaleng

(NSEC-2), Thakhek (NSEC-7), and Nam Phao (NSEC-8) in the Lao PDR. In SEC, border crossing facilities are in place except in Ban Phu Nam Ron (Thailand) and Htee Khee (Myanmar) in SEC-1, and Hat Lek (Thailand) and Cham Yearn (Cambodia) in SEC-3.

Table 53: Summary of Assessment of Economic Corridors

Economic Corridor/ subcorridor	Roads	Border Facilities	SEZs/IZs/Remarks
EWEC	<p>Myanmar: Class II in good condition (Thaton bypass road needed);</p> <p>Thailand: Class I in good condition (bottleneck between Lom Sak and Khon Kaen districts covering 43km);</p> <p>Lao PDR: Class III from fair to good (requires urgent repairs and upgrades);</p> <p>Viet Nam: mostly Class III in good condition.</p>	BCF in place.	Several SEZs or IZs are established along this corridor in all countries, including SEZs in the Myanmar–Thailand, and Thailand–Lao PDR borders. Several and varied tourist attractions in EWEC can be part of multi-country or circuit tours. Cross-border trade in Myawaddy–Mae Sot is one of the largest in the GMS.

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Economic Corridor/ subcorridor	Roads	Border Facilities	SEZs/IZs/Remarks
NSEC-1	<p>PRC: primary roads in good condition; Lao PDR: Class III in good condition but requires upgrading; Myanmar: some sections are classified as poor and occasionally closed due to safety concerns; Thailand: Class I in good condition.</p>	<p>BCF in place except in Boten (Lao PDR), which requires improvement.</p>	<p>SEZs are established in the PRC-Lao PDR and Lao PDR-Thailand borders with good prospects for cross-border cooperation. Many and varied tourist attractions. Cross-border trade in Mohan-Boten is one of the largest in the GMS.</p>
NSEC-2	<p>PRC: primary roads in good condition; Lao PDR: Class III except for one section; only 3 of 7 sections in good condition, 2 sections require upgrades, 4 sections require repairs and upgrades; Thailand: Class I, all in good condition.</p>	<p>BCF in place except in Boten and Thanaleng (Lao PDR) where improvement is needed.</p>	<p>SEZs are established in the PRC-Lao PDR, Lao PDR-Thailand borders with good prospects for cross-border cooperation. Many and varied tourist attractions. Cross-border trade in Mohan-Boten and Vientiane-Nong Khai are two of the largest in the GMS.</p>
NSEC-3	<p>PRC: primary roads in good condition; Viet Nam: mostly Class II with an expressway (Lao Cai-Noi Bai), all in good condition.</p>	<p>All BCFs in place.</p>	<p>SEZs have been established along this corridor and in the PRC-Viet Nam borders; SEZs in Viet Nam have attracted substantial FDI. Many and varied tourist attractions. Cross-border trade in Hekou-Lai Cai is one of the largest in the GMS.</p>

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Economic Corridor/ subcorridor	Roads	Border Facilities	SEZs/IZs/Remarks
NSEC-4	<p>PRC: primary roads in good condition;</p> <p>Viet Nam: Class III with 2 expressways in good condition (due to mountainous terrain with only 2 lanes, traffic congestion in three sections is a problem during the rainy season and peak hours).</p>	BCF in place.	SEZs have been established along this corridor and in the PRC–Viet Nam borders; SEZs in Viet Nam have attracted substantial FDI. Many and varied tourist attractions. Cross-border trade in Dongxin–Mong Cai is one of the largest in the GMS and the largest in Viet Nam.
NSEC-5	<p>PRC: primary roads in good condition;</p> <p>Myanmar: 2–4 lanes, 11 out of 14 sections in good condition with 3 from good to fair (some sections frequently damaged by heavy trucks).</p>	BCF in place.	SEZs have been established in the PRC–Myanmar border. Cross border cooperation being pursued. Cross border trade in Ruili (PRC)–Muse (Myanmar) border gate is the largest in Myanmar. Tourist attractions include cultural and ecotourism sites. Cross-border trade in Muse–Ruili is the largest in Myanmar, and one of the largest in the GMS.

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Economic Corridor/ subcorridor	Roads	Border Facilities	SEZs/IZs/Remarks
NSEC-6	<p>Myanmar: most of the roads are of 2 lanes and in fair or poor condition requiring upgrades (some sections are narrow, some cannot be used during the rainy season; many bailey bridges with limited tonnage have to be crossed).</p>	<p>BCF in place.</p>	<p>No SEZ or IZ exists in Tamu, but the area covered by NSEC 6 serves as major center for trade and commerce, especially for agriculture products. Cross-border trade is still small. Some tourist attractions involve cultural heritage and ecotourism.</p>
NSEC-7	<p>Thailand: Class I in good condition; Lao PDR: Class III in fair condition requiring urgent repairs and upgrades; Viet Nam: mostly Classes II-III in good condition.</p>	<p>BCF in place in Nakhom Phanom (Thailand); need to establish and improve BCF in Thakhek (Lao PDR).</p>	<p>SEZs are established in the Thai-Lao PDR and Lao PDR-Viet Nam borders. Substantial FDI attracted by Viet Nam's northern coastal provinces along this subcorridor. Several tourist attractions involve cultural heritage and ecotourism.</p>
NSEC-8	<p>Lao PDR: one section Class III, two sections below Class III, from fair to poor condition, requiring urgent repairs and upgrades. Viet Nam: Class II-III with 2 expressways all in good condition.</p>	<p>BCF in place in Cau, Treo; need to establish and improve BCF in Nam Phao (Lao PDR).</p>	<p>Substantial FDI attracted by Viet Nam's northern coastal provinces along this subcorridor. Several tourist attractions involve cultural heritage and ecotourism.</p>

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Economic Corridor/ subcorridor	Roads	Border Facilities	SEZs/IZs/Remarks
SEC-1	<p>Myanmar: 2 lanes, below Class III, all in poor condition, requiring upgrades;</p> <p>Thailand: Class I all in good condition (there is a bottleneck between the Ban Phu Nam Ron checkpoint and Htee Khee checkpoint, road segment is classified as Class III);</p> <p>Cambodia: mostly Class III with 5 sections in good and 4 sections in fair condition (roads are being widened in 4 sections).</p>	<p>BCF in place except in Ban Phu Nam Ron (Thailand)–Htee Khee (Myanmar); construction of a customs office at Ban Phu Nam Ron commenced in 2017; need to improve BCF in Htee Khee.</p>	<p>Largest among the four SEC subcorridors and the most developed in Cambodia. Several SEZs and industrial zones (IZs) were established in this subcorridor including those at the borders. Main flow of business is generated from shipping and cargo produced at these IZs and SEZs. Ho Chi Minh, Dong Nai, and Ba Ria Vung Tau provinces attracted FDI amounting to \$90 billion in 2015. Cross-border trade in Poipet–Aranyaprathet and Bavet–Moc Bai are two of the largest in the GMS.</p>
SEC-2	<p>Thailand: Class I in good condition (traffic is congested in the intersection to enter Suvarnabhumi airport during rush hours);</p> <p>Cambodia: all Class III, all in good except for one in fair condition;</p> <p>Viet Nam: Class III–IV in good condition.</p>	<p>Need to improve BCF in O Yadav (Cambodia); BCF in place in Le Thanh (Viet Nam).</p>	<p>Areas traversed by this subcorridor are rich in water, forest, and mineral resources, especially in Cambodia. SEZs have been established along this subcorridor with the most number in Cambodia. Due to low level of development, Gia Lai (Viet Nam) has not attracted much FDI. Cross-border trade in the O Yadav–Le Thanh border is still relatively small.</p>

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Economic Corridor/ subcorridor	Roads	Border Facilities	SEZs/IZs/Remarks
SEC-3	<p>Thailand: Class I in good condition; Cambodia: Class III in good condition; Viet Nam: Class III-IV with only 2 of 6 sections in good condition.</p>	<p>Construction of BCF in Hat Lek (Thailand) deferred due to land acquisition problems; need to improve BCF in Cham Yearn (Cambodia); BCF in place in Lork (Cambodia) and Xa Xia.</p>	<p>Several SEZs/IZs are established along this subcorridor, with the most comprehensive being the Eastern Economic Corridor in Thailand. Prominent landscapes have good potential for tourism growth.</p>
SEC-4	<p>Cambodia: mostly Class III with six sections of 11 in good condition and the rest from fair to poor condition; Lao PDR: Class III in fair condition requiring urgent repairs and upgrades.</p>	<p>New BCF inaugurated in January 2017.</p>	<p>15 SEZs are established in Cambodia in the vicinity of this subcorridor; the one in the Lao PDR is Savan Seno SEZ in Savannakhet. Tourist attractions include cultural heritage and ecotourism sites.</p>

BCF= border crossing facilities, FDI = foreign direct investment, GMS = Greater Mekong Subregion, IZ = industrial zone, Lao PDR = Lao People’s Democratic Republic, PRC = People’s Republic of China, SEZ = special economic zone.
 Source: ADB. GMS Economic Corridor Assessment Team.

GMS countries have established many SEZs or IZs to promote domestic and FDI, stimulate the development of domestic industries, create jobs, and increase incomes not only in their localities but also in neighboring areas through forward and backward linkages. They see this approach as helpful to spread the benefits of growth to the countryside, especially in rural areas that are disadvantaged by their remoteness from the major economic centers. *GMS* governments offer to investors incentives that include mainly a fast-tracked approval process, availability and reliability of infrastructure and utilities, fiscal incentives, permission to own land in the zone or industrial estate and to bring in foreign workers, and to remit foreign currency.

Most SEZs or IZs are located along or around the economic corridors to take advantage of connectivity domestically as well as externally with the other *GMS* countries. SEZs and IZs are established in almost all border areas of the *GMS* countries along EWEC, NSEC, and SEC. This enables the pursuit of cross-border cooperation in areas such as production, trade and investment, finance, and infrastructure development.

B. Proposed Classification of *GMS* Economic Corridors

The Review of Configuration of the *GMS* Economic Corridors proposed that a

classification of the economic corridors be adopted to guide investment programming for the development of the *GMS* economic corridors.¹⁰ This proposed classification will be useful in prioritizing interventions for *GMS* corridor development, as there are now 13 routes or subcorridors making up the *GMS* economic corridor network — one in EWEC, eight in NSEC, and four in SEC.

It is necessary to prioritize interventions for each corridor or subcorridor because resources are limited. For example, if certain corridors have poor road conditions and/or bottlenecks along the way, the main focus would be on improving transport infrastructure — primarily hardware. In corridors or subcorridors where road conditions are good and function well, the primary focus would be on transport and trade facilitation, urban development, enterprise development, and investment promotion — primarily software. Table 54 shows how such a classification system may be designed, using the state of transport infrastructure and implementation of transport and trade facilitation measures (TTF) as the principal bases for determining to which category the corridors and/or subcorridors belong.

Table 55 shows the results of applying the proposed classification system based on the findings of the assessment for each *GMS* economic corridor and/or subcorridor. The lowest is Category 1, where cross-border

¹⁰ ADB. 2018. *Review of the Configuration of the Greater Mekong Subregion Economic Corridors*. Manila.

connection/s have been established but many road sections are in poor condition and require substantial repairs and/or upgrades. The highest is Category 5, where transport infrastructure is complete and functions well along the full length of the corridor and/or subcorridor, and where major sections serve as trade and transit corridors with TTF measures fully implemented. EWEC is classified as Category 3. Of the eight NSEC subcorridors, two are classified as Category 4; three, as Category 3; two, as Category 2; and the Mandalay–Tamu Subcorridor, the lowest, as Category 1. Among the four SEC Subcorridors, SEC–1 is classified as Category 4 and the rest, Category 2.¹¹

Another classification can be adopted by the GMS countries to monitor and evaluate progress in transforming transport into economic corridors. For this purpose, a grading system could be used with indicators such as

- State of transport infrastructure and BCFs along the corridor and/or subcorridor;

- Time and cost of crossing borders along the corridor and/ or subcorridor;
- Value and volume of cross-border trade;
- Cross-border traffic (cargo and passenger) in key border crossings;
- Number of tourist arrivals in tourist attractions along or around the corridor and/or subcorridor;
- Value of investments made in SEZs or IZs along and around the corridor subcorridor; and
- Operations of SEZs/IZs along and around the corridor and/or subcorridor.

These indicators can be weighed and subsequently consolidated as a single rating for a corridor and/or subcorridor. This classification system requires much more information than what is gathered in the assessment. Accordingly, a separate exercise should be undertaken using various sources of information, including the assessment.

¹¹ These categories 1 to 5 do not necessarily correspond but are related to the stages of economic corridor development discussed in P. Srivastava. 2011. *Regional Corridor Development in Regional Cooperation. ADB Working Paper Series No. 258*. Manila (Stage 1: Transport Corridor; Stage 2: Transport and Trade Facilitation Corridor; Stage 3: Logistics Corridor; Stage 4: Urban Development Corridor; and Stage 5: Economic Corridor).

Table 54: Proposed Classification of Economic Corridors and Corresponding Priority for Interventions

Category	Characteristics	Priority Focus of Interventions
1	Cross-border connection/s established, but many road sections are in poor condition and require substantial repairs and/or upgrades.	Physical connectivity — improvement of transport infrastructure.
2	Cross-border connection/s established, but a few sections are in poor condition and require repairs and/or upgrades.	Physical connectivity — improvement of transport infrastructure + improvement of BCF + initiation of TTF measures.
3	Cross-border connection/s established, but a few sections require repairs and/or upgrades; TTF measures are being put in place.	Physical connectivity — improvement of transport infrastructure + improvement of BCF + TTF + facilitation of logistics services + border/corridor towns.
4	Cross-border connection/s established, transport infrastructure in good condition and functioning well along the full length of the corridor/subcorridor; TTF measures partially implemented.	Improvement of BCF + TTF + facilitation of logistics services + border/corridor towns development + investment promotion and enterprise development.
5	Transport infrastructure completed and functioning well along the full length of the corridor and/or subcorridor; major sections serving as trade and transit corridor with TTF measures fully implemented.	Further streamlining of rules, regulations, and procedures involving transport, trade and investment + strengthening multimodal links + expanding urban–rural linkages along and around the corridor.

BCF = border crossing facilities, TTF = transport and trade facilitation.

Source: ADB. GMS Economic Corridor Assessment Team.

Table 55: Sample Application of the Proposed Classification of Economic Corridors

Corridor/Subcorridor	Level	Remarks
East-West Economic Corridor (EWEC)		
EWEC	3	Road sections in the Lao PDR require improvement.
North-South Economic Corridor (NSEC)		
NSEC-1: Kunming-Chiang Rai-Bangkok via Lao PDR or Myanmar corridor.	3	Road sections in Myanmar require improvement.
NSEC-2: Kunming-Boten-Oudoxay-Luang Prabang-Vang Vieng-Vientiane-Nong Khai-Udon Thani-Nakhon Ratchasima-Laem Chabang corridor	3	Road sections from Boten to Luang Prabang and Vientiane require improvement.
NSEC-3: Kunming-Ha Noi-Haiphong corridor	4	
NSEC-4: Nanning-Ha Noi corridor	4	
NSEC-5: Kunming-Muse-Mandalay-Yangon-Thilawa corridor	3	Some road sections in Myanmar require improvement.
NSEC-6: Mandalay-Tamu corridor	1	Several road sections from Mandalay to Tamu require substantial improvement.
NSEC-7: Laem Chabang -Bangkok-Nakhon Ratchasima-Udon Thani-Nakhon Phanom-Takhek-Na Phao-Vuong Ang-Ha Noi corridor	2	Road sections in Lao PDR and some sections in Viet Nam require improvement.
NSEC-8: Vientiane-Paksan-Vinh-Ha Noi corridor	2	Some road sections in the Lao PDR and Viet Nam require improvement.

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Corridor/Subcorridor	Level	Remarks
Southern Economic Corridor (SEC)		
SEC-1: Dawei–Bangkok–Phnom Penh–HCMC–Vung Tau corridor	4	Only the road section from the Thai–Myanmar border to Dawei requires improvement.
SEC-2: Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon corridor	2	Some road sections in Cambodia from Siem Reap to the border with Viet Nam require improvement.
SEC-3: Bangkok–Trat–Kampot–Ha Tien–Nam Can corridor	2	Road sections in Cambodia and Viet Nam require improvement.
SEC-4: Sihanoukville–Phnom Penh–Stung Treng–Pakse–Savannakhet Subcorridor	2	Road sections from Stung Treng to Pakse and Savannakhet require improvement.

Lao PDR = Lao People's Democratic Republic.

Source: ADB. GMS Economic Corridor Assessment Team.

VII. CONCLUSION

A DB conducted the assessment to collect and consolidate data that will help guide future efforts in GMS economic corridor development. This study presents information that will be useful in (i) increasing knowledge and appreciation of the state of each of the GMS economic corridors and/or subcorridors; (ii) identifying gaps and bottlenecks that need to be addressed, along with corresponding priorities; and (iii) providing a benchmark for monitoring the progress in developing GMS economic corridors. Although the primary focus is on road infrastructure and border crossing facilities, this study also gathered data on cross-border traffic and trade, SEZs and IZs, and tourist attractions to show the economic potential and investment opportunities along and around the GMS economic corridors and subcorridors.

The output of this study consists of six country reports and an integrative summary. The country reports contain a detailed and comprehensive account of the status of the economic corridors and/or subcorridors in the six countries, with photographs of key facilities. The overall conclusion that emerges from the reports is that, indeed, much has been accomplished in establishing physical connectivity in EWEC, NSEC, and SEC.

There is no longer any missing link. However, several sections along the corridors and/or subcorridors require repair and upgrades. Also, more efforts are needed to ease bottlenecks that have evolved.

Improvements in connectivity have reinforced the operation of SEZs and IZs along the corridors and subcorridors, facilitating transport of required inputs and the goods they produce. Cross-border cooperation has also been enhanced with the establishment of SEZs at the borders of neighboring countries. Better connectivity has improved visitor access to tourist attractions along and around the economic corridors and/or subcorridors.

Most of the recommendations of the country reports are country- and corridor-specific, but some concern GMS economic corridors as a whole. These include:

- Expediting the implementation of ongoing and planned road or other transport projects to ease traffic sooner and ensure full and smoother access through the corridors subcorridors;
- Establishing and/or improving border facilities — such as logistics centers,

bonded warehouses, cargo yards, and equipment for facilitating border clearance — to support cross-border trade;

- Harmonizing road infrastructure standards such as road design and axle load limits;
- Implementing the single window inspection and single-stop-inspection scheme in more border gates;
- Intensifying efforts to enable transit cargo to go through the corridors and/or subcorridors;
- Accelerating the implementation of the GMS Cross-border Transport Facilitation Agreement (CBTA), including new economic corridor routes in the CBTA;

- Strengthening the links among the different modes of transport through the development of intermodal connections; and
- Establishing a database for the transport infrastructure of GMS economic corridors, covering all modes (road, rail, and inland waterways) and nodes (dry ports, inland container depots, ports, and airports) of transport.

On the whole, the country reports confirm that the GMS countries have firmly built the foundation for vibrant GMS economic corridors. However, full benefits can be obtained only if the requisite next steps are taken to strengthen this foundation and transform transport corridors into fully functioning economic corridors.

APPENDIX 1: IMPROVING AND AMENDING THE GREATER MEKONG SUBREGION ECONOMIC CORRIDORS GEOGRAPHIC INFORMATION SYSTEM DATABASE

Background

In 2016, a geographic information system (GIS) specialist prepared a set of spatial database covering the Greater Mekong Subregion (GMS) economic corridors (ECs) and transport corridors (TCs). The data sets included information on railways (existing, under construction, and planned), border economic zones, important tourist sites, Mekong Tourism Coordination Office (MTCO) travel routes, UNESCO world heritage sites, and transmission lines and nodes. They were based on national data (where available) and corroborated by other sources of information, e.g., published maps, official reports, and expert's review.

In 2017, ADB conducted a detailed assessment of the GMS economic corridors in each of the GMS countries. The draft country reports on the assessment became available in October 2017, and are the most recent and more comprehensive source of information on the GMS economic corridors. They are not only important references on the state of development of the economic corridors, but also sources of information on road attributes of the corridors not previously available in consolidated form.

Several differences were found between the earlier GMS EC GIS data sets and those in the country reports. ADB undertook efforts to update the GMS EC GIS file to build on the most recent and more accurate spatial information available. This note summarizes the steps followed in this process, and the results. ADB clarified information gaps, inconsistencies, and inaccuracies with the GMS Secretariat. ADB will make further updates and refinements to the GMS EC GIS data sets to incorporate additional information generated, and to take into account further developments along and around the GMS ECs.

Input data

As a first step, ADB collected the most recent national and public domain road data for the GMS. After careful review and consideration of the need for spatial and thematic compatibility across GMS countries, ADB decided to use Open Street Map (OSM) data as of January 2018 as the base for the improved EC GIS data set.

Due to some gaps and inconsistencies in the country reports, the ADB team decided

to tag the roads that are GMS ECs and TCs, rather than to extract roads from the OSM data. This has the advantage of easily making corrections or amendments by re-tagging features at a later stage. This has slowed down the handling of the data sets, however, as the files remain large, especially for Thailand and Viet Nam.

The OSM data come with some basic information on road class (“class,” not AH standard), road number (“name” and “ref,” national), features (bridge, tunnel) and speed (“maxspeed,” although it contains very little information). They do not have information on AH-compatible road class (I, II, III), road surface, number of lanes, and road condition. These information are available from the country reports in varying degrees.

There were four steps in the selection and verification of EC roads from the OSM data: (i) filtering out national roads that are part of an EC (selected by attribute using “name” and “ref” fields in OSM dataset); (ii) visually comparing filter selection with the alignment shown in the maps and sketches of the country reports, and manually making corrections, as necessary; (iii) double-checking with the alignment described in the text of the country reports, which often describe in more detail particular junctions and other features; and (iv) double-checking with other sources of information (national data, Google Maps). As a result, most roads could be identified reliably and tagged. The improvements over the old EC GIS file are discussed below.

Improvements over the previous GMS Economic Corridor GIS data set

More accurate economic corridor routing

First and foremost, the information on the GMS ECs in the country reports is significantly more detailed and comprehensive than in earlier available documents. This helped clarify and correct uncertainties on EC routing compared to the old EC GIS file. Figure A1.1 shows several smaller and larger routing corrections.

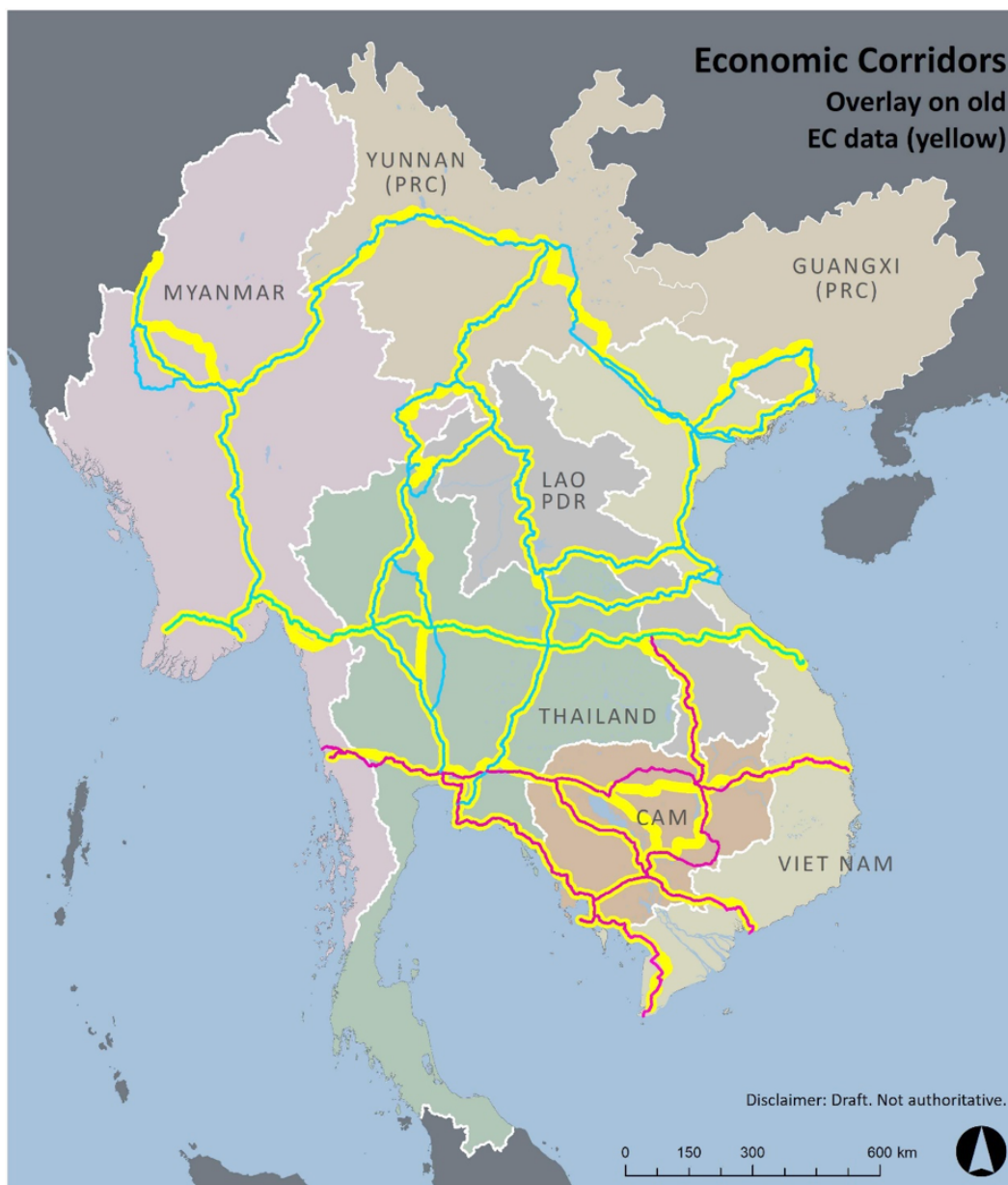
Improved geometric accuracy

Apart from EC correcting routing inaccuracies, the OSM dataset also has improved geometric accuracy. Roads are now positioned correctly in comparison to landscape features such as terrain and rivers, even if used at higher zoom levels, which increases the options for using this dataset for subnational and local maps. Figure A1.2 shows an example.

Less generalization and more spatial detail

The OSM data are less generalized than many of the national road datasets used as a base for developing the earlier EC GIS data. Urban areas and large junctions, especially in mountainous terrain, contain more spatial detail. Figure A1.3 gives examples.

Figure A1.1: Routing Corrections in the Greater Mekong Subregion Economic Corridors



New EC GIS dataset (NSEC=blue, EWEC=green, SEC=pink) overlaid on old EC dataset (yellow) to show routing inaccuracies (choice of wrong roads) in earlier dataset.
Source: ADB. GMS Economic Corridor Assessment Team.

**Figure A1.2: Example of Improved Geometric Accuracy:
NSEC Around Ha Noi**



Blue=new GIS file, yellow=old GIS file
Source: ADB. GMS Economic Corridor Assessment Team.

Apart from the spatial improvements, the new EC GIS file has several road features mapped that were not included in the earlier GIS file, including the (i) name of EC subcorridor, (ii) road class, (iii) road type, (iv) road condition, and (v) number of lanes. The complete list of attribute fields added to the OSM files is as follows:

“ADB”: 1 = EC or transport corridor,
0 = not EC or transport corridor

“EC”: 1 = EC, 0 = not EC

“EC_MAIN”: Name of the EC, e.g. EWEC,
NSEC, SEC

“EC_SUB”: Name of the EC subcorridor
(e.g., NSEC-1, SEC 3)

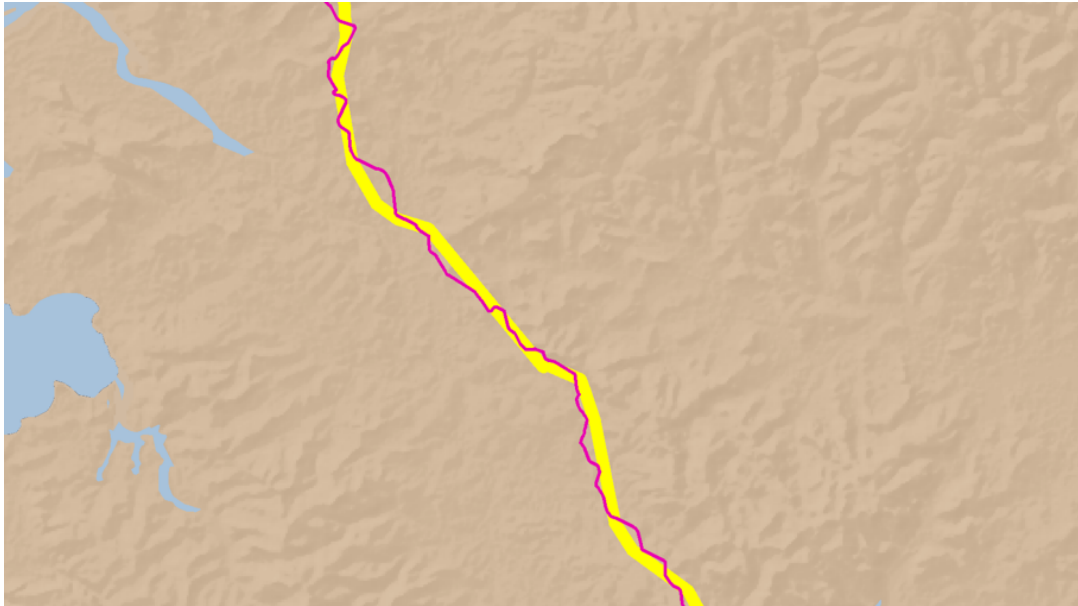
“TC”: 1 = transport corridor, 2 = not transport
corridor

“TC_NAME”: Name of the transport
corridor, e.g., Western corridor, etc.

“START”: start node of the EC section

“END” : end node of the EC section	“LANE_MAX” : maximum number of lanes in EC section
“RD_NAME” : road name or number as per national reports	“SURFACE” : road surface (A = asphalt, AC = asphalt/concrete, DBST = double bitumen surface treatment or bitumen, SG = soil and gravel)
“RD_CLASS” : AH road class I, II, III	
“LANE_MIN” : minimum number of lanes in EC section	“CONDITION” : physical condition (good, fair, poor)

**Figure A1.3: Examples of Sections With More Spatial Detail:
SEC Near Koh Kong**



Pink=new GIS file, yellow=old GIS file
Source: ADB. GMS Economic Corridor Assessment Team.

SEC in Phnom Penh



SEC in Phnom Penh (pink=new GIS file, yellow=old GIS file)
More thematic depth and detail.
Source: ADB. GMS Economic Corridor Assessment Team.

APPENDIX 2: MAPS OF ECONOMIC CORRIDOR ROUTES IN THE GREATER MEKONG SUBREGION COUNTRIES WITH ROAD CLASS AND ROAD CONDITION OVERLAY

Figure A2.1: Road Class: Economic Corridor Routes in Cambodia



Lao PDR = Lao People's Democratic Republic
 Source: ADB, GMS Economic Corridor Assessment Team.

Figure A2.2: Road Condition: Economic Corridor Routes in Cambodia



Lao PDR = Lao People’s Democratic Republic
 Source: ADB. GMS Economic Corridor Assessment Team.

Figure A2.3: Road Class: Economic Corridor routes in the People's Republic of China



Lao PDR = Lao People's Democratic Republic, PR = People's Republic.
Source: ADB. GMS Economic Corridor Assessment Team.

Figure A2.4: Road Condition: Economic Corridor Routes in the People’s Republic of China



Lao PDR = Lao People’s Democratic Republic, PR = People’s Republic.
Source: ADB. GMS Economic Corridor Assessment Team.

Figure A2.5: Road Condition: Economic Corridor Routes in the Lao People’s Democratic Republic



Lao PDR = Lao People’s Democratic Republic
Source: ADB. GMS Economic Corridor Assessment Team.

Figure A2.6: Road Condition: Economic Corridor Routes in Cambodia



Lao PDR = Lao People’s Democratic Republic
 Source: ADB. GMS Economic Corridor Assessment Team.

Figure A2.7: Road Class: Economic Corridor Routes in Myanmar



Lao PDR = Lao People’s Democratic Republic, PR = People’s Republic, TBD = To be determined.
 Source: ADB. GMS Economic Corridor Assessment Team.

Figure A2.8: Road Condition: Economic Corridor Routes in Myanmar



Lao PDR = Lao People’s Democratic Republic, PR = People’s Republic, TBD = To be determined.
 Source: ADB. GMS Economic Corridor Assessment Team.

Figure A2.10: Road Condition: Economic Corridor Routes in Thailand



Lao PDR = Lao People’s Democratic Republic, TBD = To be determined.
 Source: ADB. GMS Economic Corridor Assessment Team.

About the Assessment of Greater Mekong Subregion Economic Corridors

The transformation of transport corridors into economic corridors has been at the center of the Greater Mekong Subregion (GMS) Economic Cooperation Program since 1998. The Asian Development Bank (ADB) conducted the Assessment of Greater Mekong Subregion Economic Corridors (the Assessment) to guide future investments and provide benchmarks for improving the GMS economic corridors. The Assessment reviews the state of the GMS economic corridors, focusing on transport infrastructure, particularly road transport, cross-border transport and trade, and economic potential. This assessment consists of six country reports and an integrative report initially presented in June 2018 at the GMS Subregional Transport Forum.

About the Greater Mekong Subregion Economic Cooperation Program

The GMS consists of Cambodia, the Lao People's Democratic Republic, Myanmar, the People's Republic of China (specifically Yunnan Province and Guangxi Zhuang Autonomous Region), Thailand, and Viet Nam. In 1992, with assistance from the Asian Development Bank and building on their shared histories and cultures, the six countries of the GMS launched the GMS Program, a program of subregional economic cooperation. The program's nine priority sectors are agriculture, energy, environment, human resource development, investment, telecommunications, tourism, transport infrastructure, and transport and trade facilitation.

About the Asian Development Bank

ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 67 members—48 from the region. Its main instruments for helping developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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