



# ASSESSMENT OF GREATER MEKONG SUBREGION ECONOMIC CORRIDORS

***PEOPLE'S REPUBLIC OF CHINA***

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10TH ECONOMIC CORRIDORS FORUM  
13 DECEMBER 2018



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Photos on the front cover (left to right):

Aerial view of Danang Port. This 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 report, “\$” refers to United States dollars.

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# ABBREVIATIONS

ADB	–	Asian Development Bank
EWEC	–	East–West Economic Corridor
GMS	–	Greater Mekong Subregion
km	–	kilometer
km <sup>2</sup>	–	square kilometer
kph	–	kilometer per hour
Lao PDR	–	Lao People’s Democratic Republic
m	–	meter
m <sup>2</sup>	–	square meter
NSEC	–	North–South Economic Corridor
NSEC-1	–	Kunming–Bangkok Subcorridor
NSEC-2	–	Kunming–Boten–Vientiane–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
PCU	–	passenger car unit
PRC	–	People’s Republic of China
SEC	–	Southern Economic Corridor
SEZ	–	special economic zone

The Assessment of Greater Mekong Subregion (GMS) 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 (PRC), Pawat Tantrongjita (Thailand), and Pham Thanh Tung (Viet Nam). Cuong Minh Nguyen of the GMS Secretariat provided overall guidance and coordinated with the GMS countries, while Cira Rudas and Rowena Sancio (GMS Secretariat) assisted in finalizing the reports. Concerned ministries and agencies in the GMS countries extended valuable cooperation and support in the conduct of the assessment.

# I. INTRODUCTION

The development of transport corridors as economic corridors has been at the center of the Greater Mekong Subregion (GMS) Program since the GMS countries adopted the economic corridor approach in 1998. Economic corridors are geographically defined areas that facilitate the national and transnational movement of people, goods, services, capital, and information. They are key instruments for promoting economic integration in the GMS. Along this line, the East–West Economic Corridor (EWEC), North–South Economic Corridor (NSEC), and Southern Economic Corridor (SEC) were designated as flagships of the GMS Program.

A review of the configuration of the economic corridors was conducted in 2016 to take into account the opening up of Myanmar and ensure that (i) there is a close match between corridor routes and trade flows, (ii) GMS capitals and major urban centers are connected to each other, and (iii) the corridors are linked with maritime gateways.

At the 21st GMS Ministerial Conference in Chiang Rai, Thailand, on 30 November–1 December 2016, the GMS ministers endorsed the recommended changes

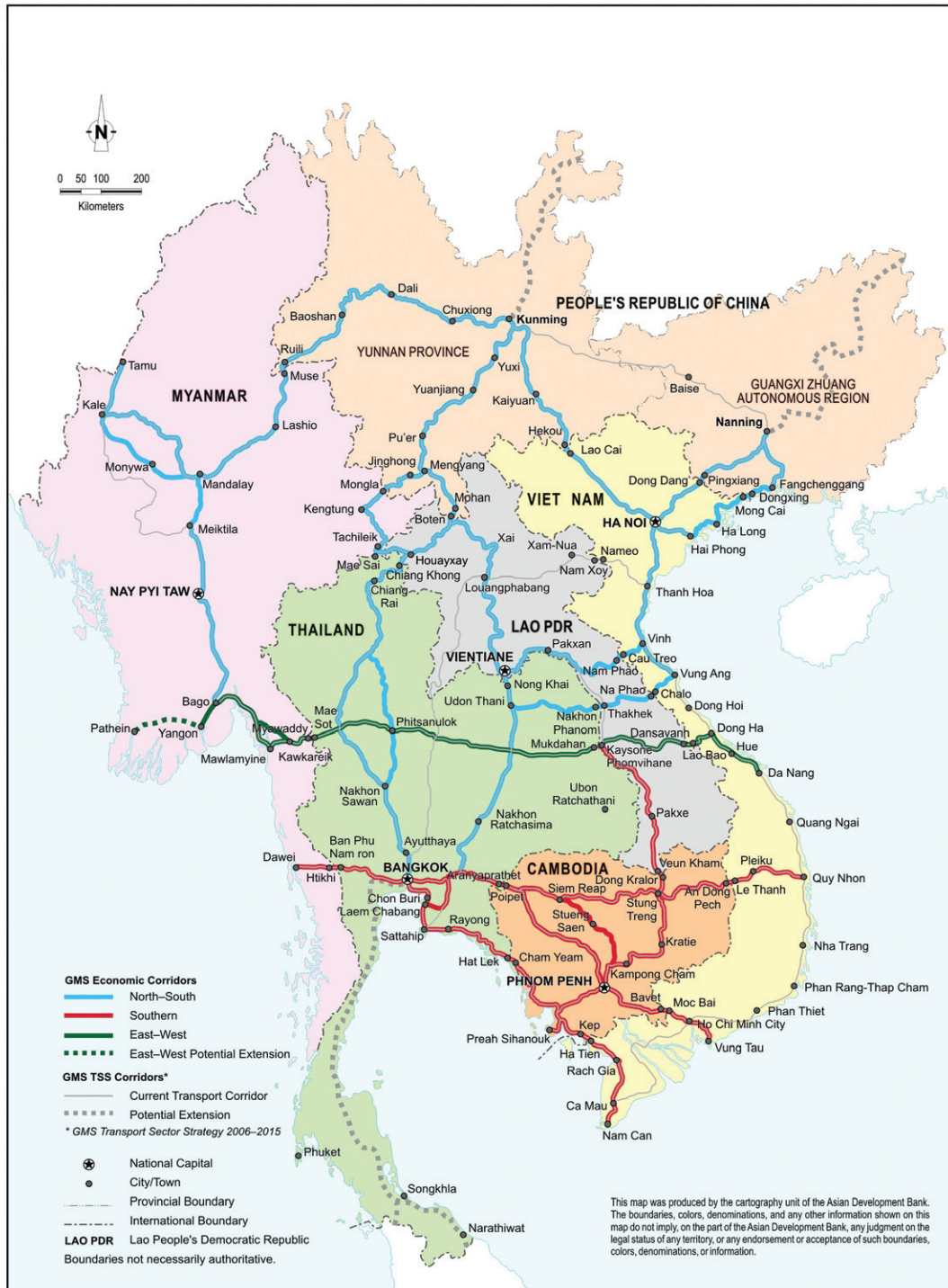
in the configuration of the economic corridors which addressed the following gaps: (i) limited involvement of the Lao People’s Democratic Republic (Lao PDR) and Myanmar in EWEC and NSEC; (ii) absence of Yangon, Nay Pyi Taw, and Vientiane in any economic corridor; and (iii) omission of the principal cross-border trade routes between the People’s Republic of China (PRC) and Myanmar; Myanmar and Thailand; and Lao PDR, the PRC, and Thailand in the economic corridors.<sup>1</sup> Figure 1 shows the new configuration of the GMS economic corridors.

The adoption of a new configuration of the GMS economic corridors underscored the need to conduct an assessment of the state of development of the corridors to guide future investments and other interventions for their development. This report presents the findings of the assessment of the PRC component of the GMS economic corridors focusing on (i) the status and physical condition of transport infrastructure and cross-border facilities, with emphasis on road transport; (ii) cross-border transport and trade; and (iii) economic potential (special economic zones, tourist attractions, and investment opportunities along and around the economic corridors).

<sup>1</sup> Asian Development Bank. 2018. *Review of Configuration of Greater Mekong Subregion Economic Corridors*. Manila. <https://www.adb.org/documents/review-configuration-gms-corridors>.



Figure 1: New Configuration of the Greater Mekong Subregion Economic Corridors



GMS = Greater Mekong Subregion, TSS = Transport Sector Strategy, 2006–2015.

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

## II. OVERVIEW OF GREATER MEKONG SUBREGION ECONOMIC CORRIDORS IN THE PEOPLE'S REPUBLIC OF CHINA

The GMS NSEC comprises five subcorridors in the PRC:

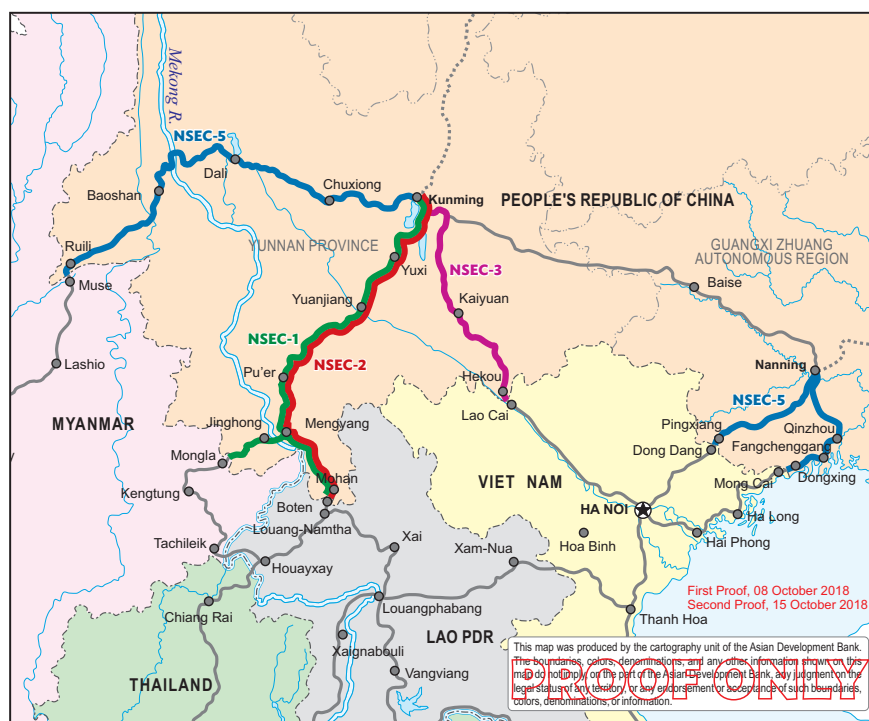
- (i) NSEC-1: Kunming–Bangkok Subcorridor;
- (ii) NSEC-2: Kunming–Boten–Vientiane–Laem Chabang Subcorridor;
- (iii) NSEC-3: Kunming–Ha Noi–Hai Phong Subcorridor;
- (iv) NSEC-4: Nanning–Ha Noi Subcorridor; and
- (v) NSEC-5: Kunming–Muse–Mandalay–Yangon–Thilawa Subcorridor

Figure 2 shows the configuration of these subcorridors. Table 1 provides basic information on the PRC component of NSEC-1 to NSEC-5.

### A. Kunming–Bangkok Subcorridor

The NSEC-1 subcorridor connects Kunming to Bangkok and is an integral part of the PRC's Indochina Peninsula Economic Corridor, one of the six corridors in the PRC's Belt and Road Initiative. The subcorridor has two alternative routes: (i) Kunming–Jing Hong–Daluo–Bangkok (via Myanmar), and (ii) Kunming–Jing Hong–Mohan–Bangkok (via the Lao PDR). The latter route overlaps with the PRC component of the Kunming–Boten–Vientiane–Laem Chabang Subcorridor (NSEC-2).

**Figure 2: Configuration of Greater Mekong Subregion Economic Corridors in the People's Republic of China**



Source: ADB. GMS Economic Corridor Assessment Team.

**Table 1: Basic Information on the People’s Republic of China Components of the Greater Mekong Subregion North–South Economic Corridor, Kunming–Bangkok Subcorridor to Kunming–Muse–Mandalay–Yangon–Thilawa Subcorridor)**

Subcorridor	End Points	Distance (km)	Provinces and Major Cities and/or Towns Traversed	Road or Route Traversed	Border Crossing Point
Kunming–Bangkok Subcorridor (NSEC-1)	Kunming–Daluo	628	Yunnan Kunming, Yuxi, Pu’er, Jinghong	G8511, G219, S333	Daluo
Kunming–Boten–Vientiane–Laem Chabang Subcorridor (NSEC-2)	Kunming–Mohan	675	Yunnan Kunming, Yuxi, Pu’er, Jinghong	G8511	Mohan
Kunming–Hanoi–Haiphong Subcorridor (NSEC-3)	Kunming–Hekou	400	Yunnan Kunming, Mile, Kaiyuan, Mengzi	G80, G8011	Hekou
Nanning–Youyiguan–Hanoi Subcorridor (NSEC-4)	Nanning–Youyiguan	195	Guangxi Nanning, Fusui, Pingxiang, Ningming	G7211	Youyiguan
Nanning–Dongxing–Hanoi Subcorridor (NSEC-4)	Nanning–Dongxing	185	Guangxi Nanning, Fangchenggang, Dongxing	G75, G7511	Dongxing
Kunming–Muse–Mandalay–Thilawa Subcorridor (NSEC-5)	Kunming–Ruili/Wanding	704	Yunnan Kunming, Chuxiong, Dali, Baoshan, Mangshi	G56	Ruili

Source: ADB. GMS Economic Corridor Assessment Team.

Figure 3 shows the configuration of the PRC component of NSEC-1.

**End Points, Provinces, Major Cities and/or Towns Traversed**

The entire corridor is in Yunnan Province, stretching from Kunming, the capital city of Yunnan, to Daluo in the border between the PRC and Myanmar. It mainly traverses Yuxi City, Pu’er City, Jing Hong City, and Menghai County.

**Distances**

The corridor is 628 kilometers (km) long. The length of the Kunming–Yuxi section is 70 km; Yuxi–Pu’er section, 320 km; Pu’er–Mengyang section, 97 km; Mengyang–Jinghong section, 18 km; Jinghong–Menghai section, 54 km; and Menghai–Daluo section 69 km.

**Figure 3: Configuration of the People’s Republic of China Component of Kunming–Bangkok Subcorridor**



Source: ADB. GMS Economic Corridor Assessment Team.

**Roads or Routes Traversed**

NSEC-1 passes through the following roads: G8511, G219, and S333.

**Border Crossing Points**

The border crossing points in this subcorridor are Daluo in the PRC and Mongla in Myanmar.

**B. Kunming–Boten–Vientiane–Laem Chabang Subcorridor**

The NSEC-2 subcorridor connects Kunming to Vientiane in the Lao PDR and Laem Chabang in Thailand. It is an integral part of the PRC's Indochina Peninsula Economic Corridor, one of the six corridors in the PRC's Belt and Road Initiative. Figure 4 shows the configuration of the PRC component of NSEC-2.

**End Points, Provinces, Major Cities and/or Towns Traversed**

The entire subcorridor is in Yunnan Province, stretching from Kunming, the capital city of Yunnan, to Mohan in the border between the PRC and the Lao PDR. It mainly traverses Yuxi City, Pu'er City, Jinghong City, and Mengla County.

**Distances**

The subcorridor is 675 km long. The length of the Kunming–Yuxi section is 346 km; Yuxi–Pu'er section, 65 km; Pu'er–Mengyang section, 97 km; Mengyang–Mengla section, 105 km; and Mengla–Mohan section, 62 km. The Mengyang–Mohan section is being rebuilt.

**Roads or Routes Traversed**

NSEC-2 passes through G8511.

**Border Crossing Points**

The border crossing points in this subcorridor are Mohan in the PRC and Boten in the Lao PDR.

**C. Kunming–Ha Noi–Hai Phong Subcorridor**

The NSEC-3 subcorridor connects Kunming to Ha Noi and Hai Phong in Viet Nam. It is an integral part of the PRC–Indochina Peninsula Economic Corridor, one of the six corridors included in the PRC's Belt and Road Initiative. Figure 5 shows the configuration of the PRC component of NSEC-3.

**Figure 4: Configuration of the People's Republic of China Component of Kunming–Boten–Vientiane–Laem Chabang Subcorridor**



Source: ADB. GMS Economic Corridor Assessment Team.

**Figure 5: Configuration of the People's Republic of China Component of Kunming–Ha Noi–Hai Phong Subcorridor**



Source: ADB. GMS Economic Corridor Assessment Team.

### End Points, Provinces, Major Cities and/or Towns Traversed

The entire corridor is in Yunnan Province, stretching from Kunming, the capital city of Yunnan, to Hekou in the border between the PRC and Viet Nam. It mainly traverses Mile City, Kaiyuan City, Mengzi City, and Hekou County.

### Distances

The corridor is 400 km long. The length of the Kunming–Mile City section is 120 km; Mile City–Kaiyuan City section, 90 km; Kaiyuan City–Mengzi City section, 40 km; and Mengzi City–Hekou County section, 150 km.

### Roads or Routes Traversed

NSEC-3 passes through G80, G8011, and the Kunming–Hekou railway line.

### Border Crossing Points

The border crossing points in this subcorridor are Hekou in the PRC and Lao Cai in Viet Nam.

## D. Nanning–Ha Noi Subcorridor

The NSEC-4 subcorridor connects Nanning in the Guangxi Zhuang Autonomous Region to Ha Noi in Viet Nam. It is also an integral part of the PRC–Indochina Peninsula Economic Corridor, one of the six economic corridors included in the PRC's Belt and Road Initiative. It has two alternative routes: (i) Nanning–Youyiguan–Ha Noi; and (ii) Nanning–Dongxing–Ha Noi. Figure 6 shows the configuration of the PRC component of NSEC-4.

### 1. Nanning–Youyiguan (Youyi–Ha Noi)

#### End Points, Provinces, Major Cities and/or Towns Traversed

The entire route is in Guangxi Zhuang Autonomous Region, stretching from Nanning, the capital city of Guangxi, to Youyiguan in the border between the PRC and Viet Nam. It mainly traverses Fusui County, Chongzuo City, Ningming County, and Pingxiang City.

**Figure 6: Configuration of the People's Republic of China Component of Nanning–Ha Noi Subcorridor**



Source: ADB. GMS Economic Corridor Assessment Team.

### Distances

The subcorridor is 195 km long. The length of the Nanning–Fusui section is 45 km; Fusui–Chongzuo section, 62 km; Chongzuo–Ningming section, 44 km; Ningming–Pingxiang section, 29 km; and Pingxiang–Youyiguan section, 15 km.

### Roads or Routes Traversed

NSEC-4 passes through G7211 and the Nanning–Pingxiang railway line.

### Border Crossing Points

The border crossing points on this route in NSEC-4 are Youyiguan in the PRC and Huu Nghi in Viet Nam. The railway crossing points are Pingxiang in the PRC and Dong Dang in Viet Nam.

### 2. Nanning–Dongxing (Mong Cai–Ha Noi)

#### End Points, Provinces, Major Cities and/or Towns Traversed

The entire route is in Guangxi Zhuang Autonomous Region, stretching from Nanning, the capital city of Guangxi, to Dongxing in the border between the PRC and Viet Nam. It mainly traverses Fangchenggang City.

**Distances**

The corridor is 185 km long. The Nanning–Fangchenggang section is 102 km long and Fangchenggang–Dongxing section is 83 km long.

**Roads or Routes Traversed**

This route passes through G75, G7511, and the Nanning–Qinzhou–Fangchenggang railway line.

**Border Crossing Points**

The border crossing points on this route are Dongxing in the PRC and Mong Cai in Viet Nam.

**E. Kunming–Muse–Mandalay–Yangon–Thilawa**

The NSEC-5 subcorridor connects Kunming with Mandalay, Yangon, and Thilawa in Myanmar. It is an integral part of the PRC–Indochina Peninsula Economic Corridor, one of the six corridors in the PRC’s Belt and Road Initiative. Figure 7 shows the configuration of the PRC component of NSEC-5.

**End Points, Provinces, Major Towns and/or Cities Traversed**

The entire corridor is in Yunnan Province, stretching from Kunming, the capital city of Yunnan, to Ruili, a border crossing point between the PRC and Myanmar. It mainly traverses Chuxiong City, Dali City, Boshan City, and Mangshi.

**Distances**

The subcorridor is 704 km long. The length of the Kunming–Chuxiong section is 152 km; Chuxiong–Dali section, 157 km; Dali–Boshan section, 185 km; Baoshan–Mangshi section, 140 km; and Mangshi–Ruili/Wanding section, 70 km long.

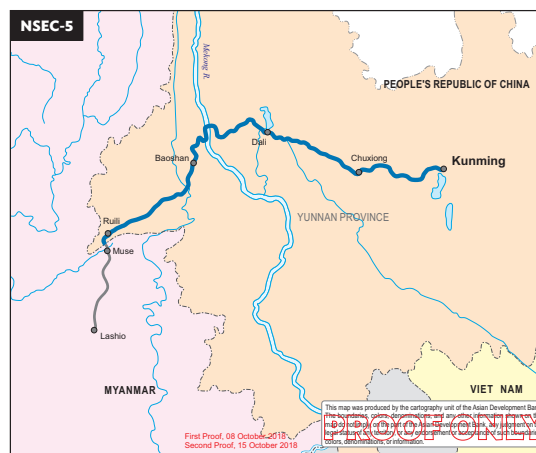
**Roads or Routes Traversed**

This subcorridor passes through G56.

**Border Crossing Points**

The border crossing points in this subcorridor are Ruili in the PRC and Muse in Myanmar.

**Figure 7: Configuration of the People’s Republic of China Component of Kunming–Muse–Mandalay–Yangon–Thilawa Subcorridor**



Source: ADB. GMS Economic Corridor Assessment Team.

# III. ASSESSMENT OF ROAD TRANSPORT INFRASTRUCTURE

The assessment of the state of road transport infrastructure in the PRC component of NSEC-1 to NSEC-5 is summarized in Table 2. Observations regarding the physical condition of the roads along these subcorridors are based on the field survey conducted in June 2017.

## A. Kunming–Bangkok Subcorridor

The NSEC-1 subcorridor consists of the Kunming–Mengyang section of expressway G8511, the Mengyang–Menghai section of national highway G219, and the Menghai–Daluo section of provincial highway S333.

All parts of G8511 from Kunming to Mengyang are two-way expressways with the Kunming–Gaocang section having six lanes and the other sections, four lanes. The width of the roadbed is 21.5–27.0 meters (m), while that of the pavement is 20–23 m. Speed limit is 60–100 kilometers per hour (kph). The level of technology applied is high, and the roads are well maintained. The average daily volume of traffic on the roads was about 24,000 passenger car units (PCUs) in 2016.

All parts of G219 from Mengyang to Jinghong are two-way expressways with four lanes. The width of the roadbed is 22.5 m, while that of the pavement is 21.5 m. Speed limit is 80 kph. The average daily volume of traffic on the roads was about 15,000 PCUs in 2016.

Most parts of the national highway G219 from Jinghong to Menghai are Class 2 roads with two lanes. The width of the roadbed is 20 m, while that of the pavement is 18 m. Speed limit is 60 kph. The average daily volume of traffic on the roads was about 14,000 PCUs in 2016.

Most parts of the provincial highway S333 from Menghai to Daluo are Class 2 roads with two to four lanes. The width of the roadbed and pavement is 12–21 m, and the speed limit is 60 kph. The average daily volume of traffic on the roads was about 5,300 PCUs in 2016.

Four-lane expressways between Jinghong and Daluo are being built. The speed limit is designed to be 80 kph. The roads are expected to be completed and opened to traffic before 2020.

## B. Kunming–Boten–Vientiane–Laem Chabang Subcorridor

The NSEC-2 subcorridor covers the Kunming–Mohan section of expressway G8511, the Kunming–Mohan Expressway. The section from Kunming to Mengyang was rebuilt and opened to traffic as mentioned above. The section from Mengyang to Mohan is being rebuilt. The new road is expected to be about 167 km long, traversing Caiyanghe, Mengla, and Shangyong, and ending at Mohan. It will be a two-way road with four lanes, with a roadbed width of 24.5 m and speed limit of 80 kph.

The Yuxi–Mohan railway is a critical section of the PRC–Lao PDR Railway. It is being built and will be completed before 2022.

## C. Kunming–Ha Noi–Hai Phong Subcorridor

The NSEC-3 subcorridor consists of the Kunming–Mile section of expressway G80, the Mile–Hekou section of expressway G8011, and the Kunming–Hekou railway line.

The entire Kunming–Mile section of G80 is an expressway. The two-way road from Kunming to Banjiehe is 73 km long, and has six lanes with a roadbed width of 26 m, pavement width of 22 m, and speed limit of 100 kph. The two-way road from Banjiehe to Mile extends 58 km and has four lanes, with a roadbed width of 26 m, pavement width of 23.5 m, and speed limit of 100 kph. The average daily volume of traffic on the expressway was 27,000 PCUs in 2016.

The Mile–Hekou section of G8011 is a two-way road with four lanes. The width of the roadbed is 22.5–26 m,

**Table 2: Summary of Assessment of Road Transport Infrastructure in the People's Republic of China  
Components of the North-South Economic Corridor**

Section/s	Length (km)	Road or Route Traversed	Road Class/Traffic Lanes	Condition/VOT (PCU/d)	Ongoing or Planned Project, if any
<b>Kunming–Bangkok Subcorridor (NSEC-1)</b>					
Kunming–Yuxi	70	G8511	Primary/4-6	Good/30,941	
Yuxi–Pu'er	320	G8511	Primary/4	Good/9,023	
Pu'er–Mengyang	97	G8511	Primary/4	Good/7,492	
Mengyang–Jinghong	18	G219	Primary/4	Good/14,946	
Jinghong–Menghai	54	G219	Class 2	Good/13,820	Expressway being built
Menghai–Daluo	69	S333	Class 2	Good/5,321	Expressway being built
<b>Kunming–Boten–Vientiane–Laem Chabang Subcorridor (NSEC-2)</b>					
Kunming–Yuxi	70	G8511	Primary/4-6	Good/30,941	
Yuxi–Pu'er	320	G8511	Primary/4	Good/9,023	
Pu'er–Mengyang	97	G8511	Primary/4	Good/7,492	
Mengyang–Mengla	105	G8511	Primary/4	Good	Being rebuilt
Mengla–Mohan	62		Primary/4	Good	Being rebuilt
<b>Kunming–Ha Noi–Hai Phong Subcorridor (NSEC-3)</b>					
Kunming–Mile	180	G80	Primary/4-6	Good/27,384	
Mile–Kaiyuan	90	G80/G8011	Primary/4	Good	
Kaiyuan–Mengzi	40	G8011	Primary/4	Good/4,428	
Mengzi–Hekou	150				
<b>Nanning–Ha Noi Subcorridor (NSEC- 4): Dongxing</b>					
Nanning–Fangchenggang	102	G75	Primary/6-8	Good/21,000	
Fangchenggang–Dongxing.	83	G7511	Primary/4	Good/5,500	
<b>Nanning–Ha Noi Subcorridor (NSEC- 4): Youyiguan</b>					
Nanning–Fusui	45	G7211	Primary/4	Good/10,000	
Fushui–Chongzuo	62				
Chongzuo–Ningming	44				
Ningming–Pingxiang	29				
Pingxiang–Youyiguan	15				
<b>Kunming–Muse–Mandalay–Yangon–Thilawa Subcorridor (NSEC-5)</b>					
Kunming–Chuxiong	152	G56	Primary/6	Good/21,814	
Chuxiong–Dali	157		Primary/4		
Dali–Baoshan	185				
Baoshan–Mangshi	140				
Mangshi–Ruili	70				

km = kilometers; PCU/d = passenger car unit/day; VOT = volume of traffic.

Source: ADB. GMS Economic Corridor Assessment Team; Transport Planning and Research Institute, MOT, PRC. VOT Manual of National Trunk Highway (2016). Beijing.



while the width of the pavement is 21.5–23.5 m. Speed limit is 80–120 kph. The average daily volume of traffic on the expressway was about 4,000 PCUs in 2016. The Kunming–Hekou railway, with a total length of 464 km, is a meter (narrow) gauge railway connecting to the railway in Viet Nam. The Kunming–Yuxi section is 88 km long. It is a double electrified railway, with a passenger train speed target of 200 kph.

## **D. Nanning–Ha Noi Subcorridor**

### **1. Nanning–Youyiguan (Youyi–Ha Noi)**

The roads along this route are G7211 and all are four-lane expressways with a roadbed width of 26–28 m, pavement width of 21.5–24.5 m, and speed limit of 80–100 kph. The level of technology applied is high and the roads are well maintained. The average daily volume of traffic on the roads was about 10,000 PCUs in 2016.

The railways are single-track, and the trains are driven by diesel locomotives. During the 13th Five-Year Plan period (2016–2020), a double-track high-speed railway will be built between Nanning and Pingxiang, and the speed of trains will be up to 250 kph.

### **2. Nanning–Dongxing (Mong Cai–Ha Noi)**

The roads along this route are all expressways. The roads between Nanning and Fangchenggang are G75 and have six to eight lanes, with a roadbed width of 33.5–42 m, pavement width of 32.5–42 m, and speed limit of 120 kph. The average daily volume of traffic on the roads was about 21,000 PCUs in 2016. The roads between Fangchenggang and Dongxing are G7511 and have four lanes, with a roadbed width of 26 m,

pavement width of 24.5 m, and speed limit of 100 kph. The average daily volume of traffic on the roads was about 5,500 PCUs in 2016. As a whole, the level of technology applied is high and the roads are well maintained.

The Nanning–Qinzhou–Fangchenggang railway is divided into two sections. The Nanning–Qinzhou section is a Class 1 national double-track railway. It is part of the coastal railway system in Guangxi, with the new lines for passengers and the old lines for goods. The Qinzhou–Fangchenggang section is also a Class 1 national double-track railway which is mainly for goods and, to a limited extent, passengers. A railway will be built between Fangchenggang and Dongxing during the 13th Five-Year Plan period. It is planned to be a Class 1 national single-track railway featuring electric traction and a speed of up to 160 kph.

## **E. Kunming–Muse–Mandalay–Thilawa Subcorridor**

The NSEC-5 subcorridor covers the Kunming–Ruili section of expressway G56.

The Kunming–Anning section, extending 22 km, is a two-way road with six lanes, and a roadbed width of 33.5 m, pavement width of 29.5 m, and speed limit of 100 kph. The Anning–Chuxiong section, extending 130 km, is a two-way road with six lanes, with a roadbed width of 26 m, pavement width of 22–25 m, and speed limit of 100 kph. The Chuxiong–Ruili section that traverses Dali and Baoshan, extending 395 km, is a two-way road with four lanes with a roadbed width of 22.5–24.5 m, pavement width of 20–21.5 m, and speed limit of 80 kph. The average daily volume of traffic on the roads was 21,000 PCUs in 2016.

## IV. BORDER CROSSING FACILITIES AND FLOW OF PEOPLE, GOODS, AND VEHICLES

**B**order crossing points connect the PRC with other GMS countries. They are important to economic and trade exchanges, as well as openness and bilateral cooperation.

### A. Daluo (Kunming–Bangkok Subcorridor)

The joint inspection building within NSEC-1, built with an investment of CNY8.58 million, has a floor space of 4,447 square meters (m<sup>2</sup>). It has such facilities as public security authorities' service hall, goods-checking yard, entrances and exits for vehicles, gateway landscaping, border crossing square, leisure and business centers, parking lots, and other facilities. This is the border checkpoint where people and goods enter or exit, and customs inspection, plant and animal quarantine inspection, and other entry and exit formalities are conducted.

### B. Mohan (Kunming–Boten–Vientiane–Laem Chabang Subcorridor)

There has been a substantial development in Mohan, within NSEC-2, with infrastructure vastly improved, auxiliary facilities being put in place, and industries



**Mohan Border Crossing Facilities.** China Customs building in Mohan at the Lao PDR-PRC border. Photo credit: Li Guoliang

being established. A large number of construction projects have been completed and put into operation, such as the new joint inspection building, goods-checking yard, Golden Peacock International Transport Center, Yunwei Xishuangbanna Dawei Business Center, western goods yard, and Wuguo Trade City. Imports through Mohan mainly comprise electronics, metal molds, timber, fruits, and such imports, while exports mainly include electronics, machinery, and others.

### C. Hekou (Kunming–Ha Noi–Haiphong Subcorridor)

The Nanxihe Highway Bridge and Honghe Highway Bridge were built for the Hekou border crossing point (in NSEC-3) based on the approval of higher authorities (see the Ruili Border Crossing Facilities: Clearance Gate photo). Both bridges were designated to be part of the area where a joint inspection building offering customs clearance, entry and exit inspection, and other services was built to facilitate and manage the flow of people, vehicles, and goods between the PRC and Viet Nam. The service personnel working in the joint inspection building include staff members of customs, quarantine, frontier, and international road transport authorities.

The Beishan International Goods Yard serving the Honghe Highway Bridge covers a total area of about 770,038 m<sup>2</sup> and has two functions: (i) customs clearance of import and export of goods; and (ii) delivery of fast joint inspection services for importers and exporters. Currently, there is a joint inspection building, the H986 system (mobile containers and vehicles inspection system), customs clearance center, and model police office, as well as dedicated passageways for the goods yard, radiation detection passageway, import and export inspection area, high or low voltage transformer and distribution facilities, cold storage component of cold chains, car disinfection dispensary, and other auxiliary facilities. There are six exit gateways and six entry gateways

in the customs clearance center, which can well meet the needs of vehicles traveling between the two countries.



**Hekou Border Crossing Facilities.** National Gate in Hekou, Yunnan Province on the border of Viet Nam and PRC. Photo credit: Li Guoliang

To ensure the efficient use of the two bridges, the local governments of the PRC and Viet Nam have decided to use the Nanxihe Highway Bridge for passenger vehicles, and the Honghe Highway Bridge for freight vehicles.

#### **D. Youyiguan (Nanning–Ha Noi)**

The facilities for passengers within NSEC-4 mainly include the passenger joint inspection building, passenger service center, passenger corridor, and border crossing square. The facilities for goods mainly include the joint inspection building, inspection area, dedicated passageways, gates, electronic monitoring system, and duty-free rooms, covering a total area of about 546,694 m<sup>2</sup>. The standard workshops have a floor space of 13,715 m<sup>2</sup> while the container yard covers an area of 40,000 m<sup>2</sup>.

The service capacity of this border crossing point can be seen in three aspects: (i) The service system targeting businesses has been improving. The joint

inspection building accommodates staff members of relevant authorities such as the Management Committee and Service Center of the Free Trade Zone, customs inspection, quarantine inspection, border inspection, and international road transport administration. Besides the joint inspection building, there are office spaces for customs brokers or companies operating in the zone equipped with sound security facilities. The Free Trade Zone Service Center is designed to provide one-stop services for companies planning to operate in the zone, including completing necessary procedures, and facilitating the building of premises, employee recruitment, and business operation. A full range of service facilities have been put in place, including banking, customer broker, logistics, telecommunication, and other services. Water and power supply are ensured and road transport is convenient so businesses and drivers do not have to worry about daily necessities or traffic problems.

In 2016, 2.037 million tons of goods and 1.262 million passengers traveled across the Youyiguan border crossing point. Exported goods were mainly sundry goods, machinery and parts, chemical fiber products, and cotton textiles, while imported goods were mainly rosewood furniture and fruits.

#### **E. Pingxiang (Nanning–Ha Noi)**

There are three types of tracks in Pingxiang within NSEC-4. Import and export of goods do not need to be reloaded at the border crossing point and the goods in trains for international bulk transport do not need to be moved to new vehicles. The passenger joint inspection building has a floor space of 2,600 m<sup>2</sup> as well as four entrances or exits. The freight service area covers an area of 50,000 m<sup>2</sup>. Two pairs of international passenger trains now run between the PRC and Viet Nam.

In 2016, 275,000 tons of goods and 72,000 passengers traveled across the Pingxiang border crossing point. Currently, a pair of international passenger trains runs between Nanning and Ha Noi or Gia Lam, and three freight trains run between the PRC and Viet Nam. Exported goods mainly include steel, automobile and motorcycle parts, and chemicals, while imported goods mainly include tea leaves, iron ores, and rice.

## F. Dongxing (Nanning–Ha Noi)

The Dongxing border crossing point within NSEC-4 is a Class 1 international port of entry or exit in the PRC on Xinhua Street of Dongxing City. This crossing point is connected to Viet Nam's Mong Cai crossing point by the Beilunhe Bridge (see the next photo). The Dongxing crossing point is equipped with adequate facilities such as inspection port, auxiliary rooms, goods-checking yard, and roads. The passenger inspection hall has a floor space of 5,241 m<sup>2</sup> and 24 inspection gates (including eight self-service ones), allowing for clearance of 20,000 people every day. There is also a national gateway square, a high-rise building complex, an underground parking lot, roads, and related facilities.



**Beilunhe Bridge.** People and a heavy vehicle are crossing the bridge on the PRC side. Photo credit: Liu Zengjun.

In 2016, 376,200 tons of goods and 17,103 vehicles traveled across the Dongxing crossing point. Export of goods mainly include textiles, machinery, dried food, electric cables, and plastic products, while import of goods include rubber, rosewood, seafood, dried fruits, sweets, and cotton yarn. Seafood is a major category of goods in border trade, with many businessmen from Viet Nam involved in the export of seafood to the PRC. About 500 tons of seafood is exported from Viet Nam every day.

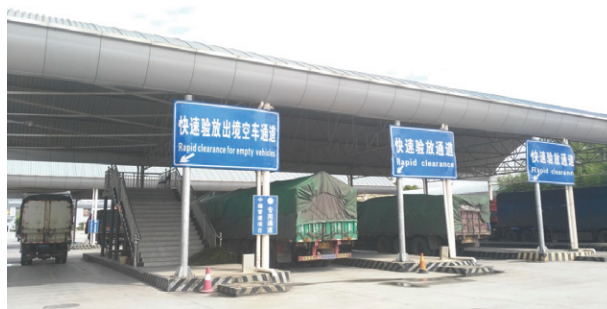
One-stop services are provided at this crossing point. Transport administration, customs inspection, border inspection, quarantine inspection, and other authorities work together to facilitate the entry or exit of transport companies' vehicles, thus, improving clearance efficiency significantly and easing traffic congestion at the crossing point.

## G. Ruili (Kunming–Muse–Mandalay–Yangon–Thilawa)

The Ruili border crossing point is the largest inland port of entry or exit in the PRC in volume of trade with Myanmar. With supporting infrastructure, the flow of goods, people, and vehicles is well developed (see the next two photos). The first phase of the development of the area commenced in December 2000 and was completed on 20 February 2003, involving an investment of CNY18.287 million. The center handles the delivery of services, such as passenger and goods inspection, and the management of goods yard and border trade and, thus, plays a central role in controlling the cross-border flow of people, goods, and vehicles.



**Ruili Border Crossing Facilities.** Customs including its anti-smuggling division, quarantine inspection, frontier inspection, foreign affairs and the municipal port office are all in the Joint Inspection Center in Ruili. Photo credit: Liu Zengjun.



**Ruili Border Crossing Facilities.** The clearance gates at Ruili has one passage for empty vehicles and one for loaded vehicles. Photo credit: Liu Zengjun.

The relevant authorities operating the Ruili crossing point include customs and its anti-smuggling division, quarantine inspection bureau, frontier inspection station, Jiegao border defense station, border defense

brigade, Jiegao foreign affairs division, municipal bureau of commerce, and municipal port office. A border crossing management model featuring law-based operation, effective regulation, entry and exit facilitation, quality service, and high efficiency has been established.

Table 3 below summarizes information on the flow of people, goods, and vehicles at all border crossing points in the PRC component of NSEC-1 to NSEC-5 during 2012–2016.

**Table 3: Flow of People, Goods and Vehicles at Border Crossing Points, 2012–2016**

Border Crossing Point	Indicators	2012	2013	2014	2015	2016
Daluo	Goods (x10,000 tons)	5.24	4.65	7.72	5.81	5.62
	People (x10,000)					
	Vehicles	3,285	2,631	4,289	3,862	3,751
Mohan	Goods (x10,000 tons)	49.5	44.48	117.14	96.96	104.69
	People (x10,000)	13.85	10.72	16.05	32.59	45.73
	Vehicles	102,057	92,536	165,398	200,203	181,277
Hekou	Goods (x10,000 tons)	100.17	221.24	191.77	167.78	153.01
	People (x10,000)					
	Vehicles	53,723	80,635	55,430	67,910	72,346
Dongxing	Goods (x10,000 tons)	22.7	18.51	20.68	26.79	37.62
	People (x10,000)	375	443	634	609	716
	Vehicles	10,923	12,220	13,369	13,387	17,103
Youyiguan	Goods (x10,000 tons)	105	106	204	107	204
	People (x10,000)	95	96	128	102	126
	Vehicles	38,447	52,865	86,885	108,041	108,453
Pingxiang	Goods (x10,000 tons)	72	67	61	37	28
	People (x10,000)	2.8	5.6	3	5.7	7.2
	Vehicles					
Ruili	Goods (x10,000 tons)	114.17	155.32	178.88	191.43	134.00
	People (x10,000)	180.75	143.29	136.72	142.65	99.86
	Vehicles	65,324	73,642	75,465	84,350	71,444

Source: Department of Transport, Guangxi; Department of Transport, Yunnan Province.

## V. INVESTMENT AND TOURISM

### A. Kunming–Bangkok and Kunming–Boten–Vientiane–Laem Chabang Subcorridors

The Kunming–Bangkok Expressway in NSEC-1 and NSEC-2 makes Mohan and Boten the overland connections between the PRC and the Indochina Peninsula. They are critical points of regional transport routes which are important parts of the PRC–Association of Southeast Asian Nations (ASEAN) Free Trade Area. Besides serving as the link between the PRC and Southeast Asia, Mohan and Boten also functions as international ports for enhancing regional cooperation and integration. They are very likely to become engines of growth along the Kunming–Bangkok subcorridor and important centers for trade, technology, and industrial cooperation in the GMS.

The Mohan–Boten Cross-Border Economic Cooperation Zone 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 twelve groups include six cross-border collaboration groups (Mohan retreat joint inspection group, Boten retreat joint inspection group, cross-border nature reserve group, cross-border commerce and finance group, cross-border tourism group, and cross-border national forest park group); four groups in the Mohan Area (distribution center group, life services group, western import and export trade park group, and eastern import and export trade park group); and two groups in the Boten Area (national resort group, and trade and logistics group).

### B. Kunming–Ha Noi–Hai Phong Subcorridor

The Hekou–Lao Cai Cross-Border Economic Cooperation Zone in NSEC-3 is in the areas where the Hekou County in the PRC borders Bat Xat County and Lao Cai City in Viet Nam. The entire zone is fenced and covers an area of 21 square kilometers (km<sup>2</sup>), including 11 km<sup>2</sup> on the PRC side and 10 km<sup>2</sup> on Viet

Nam side. The two sides are connected by the Honghe Highway Bridge. The fenced area of the PRC side is near the Basa Farm of Hekou, adjacent to national highway G326 and expressway G8011 in the east, and extending to Honghe in the west, Hekou Farm's No. 22 Unit in the south, and Basa Farm's Xiaohoukou No. 1 Unit in the north. The fenced area on Viet Nam side is in Bat Xat County, with Honghe in the east, Bat Xat highway in the west, Jincheng Business Area in the south, and Yizishe in the north.

The building of the zone began on 19 April 2014. Roads on Viet Nam side are all open to traffic. Phase I of Basa area's road network involved a total investment of CNY390 million. The construction of one north–south road and five west–east roads commenced in April 2014 at a cost of CNY154 million. The rebuilding of the Class 1 Basa–Hekou highway was undertaken at a cost of CNY371 million. This road is now open to traffic. In the first half of 2016, two investment projects were initiated with a total investment of CNY8.5 billion. One of them was the CNY6 billion Hekou Huike Electronics Park carried out by Huike Electronics (Shenzhen) Co., Ltd. The other was implemented by Yunnan Provincial Energy Investment Group Co., Ltd. with an investment of CNY2.5 billion. The projects involve the development of an industrial park and establishment of modern services and energy industries, such as cross-border logistics, finance, power grid, natural gas, and energy resource distribution in Hekou.

### C. Nanning–Ha Noi Subcorridor

#### 1. Economic Development Zones

The Dongxing–Mong Cai Cross-border Economic Cooperation Zone in NSEC-4 is near the new bridge crossing the Beilun River that connects the PRC and Viet Nam. It covers a total area of 23.6 km<sup>2</sup>, of which 10.1 km<sup>2</sup> is on the PRC side and 13.5 km<sup>2</sup> is on Viet Nam side. The PRC part of the zone is divided into port operation area, tourist attraction area, commerce area, finance area, warehousing and logistics area,

border trade area, and processing and assembling area. 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.

The Pingxiang–Dong Dang Cross-Border Economic Cooperation Zone is located at the junction of Pingxiang City, Guangxi on the PRC side and Dong Dang, Lang Son Province on Viet Nam side. It covers a total area of 23.7 km<sup>2</sup>, of which 10.2 km<sup>2</sup> is on the PRC side and 13.5 km<sup>2</sup> is on Viet Nam side. The PRC part of the zone is divided into commerce area, tourist area, logistics area, finance area, specialized market area, processing area, and port area. Viet Nam part of the zone is in the nontariff area of the Lang Son–Dong Dang port economic zone.

## 2. Tourism

Cross-border tourism has prospered, thanks to the launch of Dongxing–Mong Cai cross-border road trip program. In September 2016, the PRC and Viet Nam signed the Minutes of Meeting on Promoting Dongxing–Mong Cai Cross-border Road Trips and agreed to launch a road trip program in October of the same year. According to the agreement, residents of the two countries can participate in the program in groups and there are clear provisions about the tourist routes, ports of entry and exit, and the length and scope of stay in the foreign country. Launched on 29 October 2016, the program has involved 116 cars in road trips. The road trip program is expected to give a big boost to the development of tourism in Dongxing and Mong Cai, as well as more widely in both countries.

## D. Kunming–Muse–Mandalay–Yangon–Thilawa Subcorridor

The Ruili–Muse Cross-Border Economic Cooperation Zone covers 1,020 km<sup>2</sup> in the Ruili City (including Wanding) and 300 km<sup>2</sup> in Myanmar (including Muse

City, 105th Mile Border Trade Zone, and Jiugu City). There are about 300,000 people in the zone, of which about 160,000 are from the PRC and about 130,000 are from Myanmar. The core part of the zone covers Jiegao and urban Muse, and it is subject to special customs supervision. The main functional areas of the zone are composed of the 300 km<sup>2</sup> barrage area in Ruili and the 300 km<sup>2</sup> in Muse, with facilities for processing and assembling, import resource processing, warehousing and logistics, financial services, trade in services, and cross-border cooperation.

The development of the cross-border economic cooperation zone is divided into three phases. In the first phase, the 1.92 km<sup>2</sup> Jiegao Border Trade Zone which is subject to special customs supervision, is connected to the 2 km<sup>2</sup> White Elephant Area of Muse in Myanmar. This creates a 4 km<sup>2</sup> cross-border cooperation center between the PRC and Myanmar, focusing on commerce, bonded warehousing, resource processing, cross-border tourism, and international conferences and exhibitions. The 1.5 km<sup>2</sup> Wangding Border Trade Zone will also be connected to the 1.5 km<sup>2</sup> Luanying Village, Jiugu, Myanmar, creating a 3 km<sup>2</sup> cross-border industrial area between the two countries, focusing on processing and assembling for import and export.

In the second phase, the two sides work together on the 600 km<sup>2</sup> main functional areas of the zone composed of 300 km<sup>2</sup> in Ruili and 300 km<sup>2</sup> in Muse, to develop commerce, import and export processing, cross-border tourism, international conferences and exhibitions, cross-border settlement, and investment facilitation. In the third phase, the two sides work together on building a cross-border economic cooperation zone covering an area of 1,320 km<sup>2</sup> (1,020 km<sup>2</sup> in the PRC and 300 km<sup>2</sup> in Myanmar) and involving about 300,000 people. It will be a comprehensive cooperation zone consisting of trade area, logistics area, conference and exhibition area, resource exploration and processing area, cross-border tourism area, with cultural exchanges, ecological preservation, financial innovation, drug control, and HIV/AIDS prevention as additional components.

## VI. ISSUES AND RECOMMENDED ACTIONS

### A. Expediting Road Construction

The G219 and S333 sections of the Kunming–Bangkok Subcorridor (NSEC-1) are not yet expressways, while the G8511 Mengyang–Mohan section of the Kunming–Boten–Vientiane–Laem Chabang Subcorridor (NSEC-2) is being rebuilt. It is recommended that the construction of the roads be expedited so they can be opened to traffic sooner and, thus, allow full access to expressways along the economic corridors.

### B. Boosting Transport Facilitation

International road transport is still limited in the GMS, taking place mainly around border areas. Coverage has yet to be expanded, as the implementation of the Cross-Border Transport Facilitation Agreement (CBTA) is still inadequate, notwithstanding the adoption of an “Early Harvest” arrangement. The vehicles of the PRC and Thailand still need to go through the Lao PDR to reach the other country, requiring the reloading of goods two times. The

Kunming–Bangkok road link is open to traffic, but people and goods cannot move smoothly. The PRC and Viet Nam have signed a motor transport agreement with multiple transport routes for passengers and goods, but the passenger lines have not yet been opened, and most routes for goods require reloading at the crossing point. The PRC and Myanmar have yet to sign a motor transport agreement, so the main forms of cross-border transport is in border trade and exchanges between residents in border areas.

To address the problems, the countries concerned should make the effort to enter into, improve, or revise related agreements, such as the PRC–Laos Motor Transport Agreement and its protocol, the PRC–Myanmar Motor Transport Agreement, the PRC–Myanmar International Motor Transport Licensing System, and the CBTA. Moreover, efforts should be intensified to promote “one-stop services”, improve and simplify the customs clearance system, and establish a land crossing clearance model that integrates customs, frontier, and quarantine inspection for vehicles.



## **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 GMS 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 (GMS)**

The GMS consists of Cambodia, the Lao People's Democratic Republic, Myanmar, 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 its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

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