



ASSESSMENT OF GREATER MEKONG SUBREGION ECONOMIC CORRIDORS

VIET NAM

10TH ECONOMIC CORRIDORS FORUM
13 DECEMBER 2018



ASSESSMENT OF GREATER MEKONG SUBREGION ECONOMIC CORRIDORS

VIET NAM

10TH ECONOMIC CORRIDORS FORUM
13 DECEMBER 2018



Photos on the 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 publication, “\$” refers to United States dollars.

GMS SECRETARIAT

Southeast Asia Department

Asian Development Bank

Fax: +63 2 636 2226

E-mail: gms@adb.org

Web addresses:

<http://www.adb.org/countries/gms/main>

<https://www.greatermekong.org/>

CONTENTS

Figures and Tables	vii
Abbreviations	x
I. Introduction	1
II. Overview of Greater Mekong Subregion Economic Corridors in Viet Nam	3
A. East–West Economic Corridor	3
B. North–South Economic Corridor	6
1. Kunming–Ha Noi–Hai Phong Subcorridor (NSEC–3)	6
2. Nanning–Ha Noi Subcorridor (NSEC–4)	8
3. Laem Chabang–Bangkok–Nakhon Ratchasima–Udon Thani–Nakhon Phanom–Takhek–Na Phao–Vung Ang–Ha Noi Subcorridor (NSEC–7)	11
4. Vientiane–Paksan–Vinh–Ha Noi Subcorridor (NSEC–8)	13
C. Southern Economic Corridor	15
1. Dawei–Bangkok–Phnom Penh–Ho Chi Minh City–Vung Tau Subcorridor (SEC–1)	15
2. Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon Subcorridor (SEC–2)	19
3. Bangkok–Trat–Kampot–Ha Tien–Nam Can Subcorridor (SEC–3)	20
III. Assessment of Transport Infrastructure	23
A. East–West Economic Corridor	23
B. North–South Economic Corridor	27
1. Kunming–Ha Noi–Hai Phong Subcorridor (NSEC–3)	27
2. Nanning–Ha Noi Subcorridor (NSEC–4)	33
3. Laem Chabang–Bangkok–Nakhon Ratchasima–Udon Thani–Nakhon Phanom–Takhek–Na Phao–Vung Ang–Ha Noi Subcorridor (NSEC–7)	39
4. Vientiane–Paksan–Vinh–Ha Noi Subcorridor (NSEC–8)	42

C. Southern Economic Corridor	44
1. Dawei–Bangkok–Phnom Penh–Ho Chi Minh City–Vung Tao Subcorridor (SEC–1)	44
2. Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon Subcorridor (SEC–2)	47
3. Bangkok–Trat–Kampot–Ha Tien–Nam Can Subcorridor (SEC–3)	49
IV. Border Crossing Facilities and Cross-border traffic	52
A. East–West Economic Corridor	52
B. North–South Economic Corridor	53
1. Lao Cai–Ha Noi–Hai Phong Subcorridor (NSEC–3)	53
2. Nanning–Ha Noi Subcorridor (NSEC–4)	55
3. Laem Chabang–Bangkok–Nakhon–Ratchasima–Udon Thani–Nakhon Phanom–Takhek– Naphao–Vung Ang–Ha Noi Subcorridor (NSEC–7)	58
4. Vientiane–Paksan–Vinh–Ha Noi Subcorridor (NSEC–8)	60
C. Southern Economic Corridor	60
1. Dawei–Bangkok–Phnom Penh–Ho Chi Minh City–Vung Tau Subcorridor (SEC–1)	60
2. Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon Subcorridor (SEC–2)	62
3. Bangkok–Trat–Kampot–Ha Tien–Nam Can Subcorridor (SEC–3)	63

V. Investment and Business Opportunities	64
A. East–West Economic Corridor	64
B. North–South Economic Corridor	69
1. Kunming–Lao Cai–Ha Noi– Hai Phong Subcorridor (NSEC–3)	69
2. Nanning–Ha Noi Subcorridor (NSEC–4)	75
3. Laem Chabang–Bangkok–Nakhon–Ratchasima–Udon Thani–Nakhon Phanom–Thakhek–Na Phao–Vung Ang–Ha Noi Subcorridor (NSEC–7)	80
4. Vientiane–Paksan–Vinh–Ha Noi Subcorridor (NSEC–8)	84
C. Southern Economic Corridor	85
1. Dawei–Bangkok–Phnom Penh–Ho Chi Minh City–Vung Tau Subcorridor (SEC–1)	85
2. Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon Subcorridor (SEC–2)	88
3. Bangkok–Trat–Kampot–Ha Tien–Nam Can Subcorridor (SEC–3)	91
VI. Overall Assessment of the Viet Nam Component of the GMS Economic Corridors	93
A. East–West Economic Corridor	93
B. North–South Economic Corridor	93
C. Southern Economic Corridor	94

FIGURES AND TABLES

Figures

1	New Configuration of the Greater Mekong Subregion Economic Corridors	2
2	The Viet Nam Component of East–West Economic Corridor	4
3	The Viet Nam Component of North–South Economic Corridor 3	6
4	The Viet Nam Component of North–South Economic Corridor 4 (Nanning–Ha Noi)	9
5	The Viet Nam Component of North–South Economic Corridor 4 (Nanning–Fangcheng–Mong Cai– Ha Long–Hai Phong)	11
6	The Viet Nam Component of North–South Economic Corridor 7	13
7	The Viet Nam Component of North–South Economic Corridor 8	15
8	The Viet Nam Component of Southern Economic Corridor 1	17
9	The Viet Nam Component of Southern Economic Corridor 2	19
10	The Viet Nam Component of Southern Economic Corridor 3	21
11	Hai Phong–Ha Long Expressway Route	38
12	Agreed Route for Proposed Expressway, Vientiane to Ha Noi	43
13	Proposed Route, Vung Ang–Tan Ap (Viet Nam)– Thakhek Vientiane (Lao People’s Democratic Republic) Railway Line	43

Tables

1	Basic Information on the Viet Nam Component of EWEC	5
2	Basic Information on the Viet Nam Component of NSEC–3	7
3	Basic Information on the Viet Nam Component of NSEC–4 (Nanning–Hanoi)	10
4	Basic Information on the Viet Nam Component of NSEC–4 (Nanning–Fangcheng–Mong Cai–Ha Long–Hai Phong)	12
5	Basic Information on the Viet Nam Component of NSEC–7	14
6	Basic Information on the Viet Nam Component of NSEC–8	16

7	Basic Information on the Viet Nam Component of SEC-1	18
8	Basic Information on the Viet Nam Component of SEC-2	20
9	Basic Information on the Viet Nam Component of SEC-3	22
10	Estimated Traffic Volume with Expressway	24
11	Traffic Forecast for Some Sections Along NSEC-3	30
12	Rail Traffic Along Ha Noi–Lao Cai Section	32
13	Rail Traffic Along Ha Noi–Hai Phong Section	32
14	Traffic Forecast for Some Sections Along NSEC-4	34
15	Volume of Cargo and Passengers Transported by Rail, Ha Noi to Dong Dang (Lang Son Province)	35
16	Traffic Forecast for Particular Sections with Expressway	41
17	Traffic Forecast for Particular Sections Along SEC-1	46
18	Traffic Forecast for NH19, Quy Nhon to Pleiku	49
19	Vehicles Crossing the Lao Bao–Densavanh Border	53
20	Passengers Crossing the Lao Bao–Densavanh Border	54
21	Vehicles Crossing Lao Cai and Kim Thanh Border Gates (Lao Cai Province), 2013–2016	55
22	Vehicles Crossing Huu Nghi Border (Lang Son Province) 2013–2016	56
23	Passengers Passing Through the Huu Nghi Border	57
24	Volume of Cargo and Passengers Transported by Railways, Ha Noi to Dong Dang (Lang Son Province), 2012–2016	57
25	Cross-Border Traffic at Mong Cai (Quang Ninh Province), 2013–2016	59
26	Cross-Border Traffic at Cha Lo Border Gate	60
27	Vehicles Passing Through Cau Treo (Viet Nam) and Nam Phao (Lao People’s Democratic Republic)	61
28	Vehicles Passing Through the Moc Bai Border Gate	62
29	Cross-Border Cargo Through the Lao Bao Border Gate	64
30	Volume of Major Import Commodities at the Lao Bao Border Gate	65
31	Volume of Major Export Commodities at the Lao Bao Border Gate	65
32	Foreign Direct Investment Projects Licensed by Province (EWEC)	67
33	Volume of Cross-Border Trade by Road Between Viet Nam and the People’s Republic of China	69
34	Main Export Commodities at Dong Dang Road Border Gate	70
35	Main Import Commodities at Dong Dang Road Border Gate	70

36	Turnover of Imports and Exports Through the Lao Cai Border Gate	71
37	Volume of Import-Export Cargo by Rail, Ha Noi to the People's Republic of China	71
38	Main Commodities Exported from Viet Nam to the People's Republic of China via the Railway Border Gate	72
39	Commodities Transported by Rail as Temporary Imports and Exports	72
40	Foreign Direct Investment Projects Licensed by Province (NSEC-3)	73
41	Volume and Turnover of Trade Between Viet Nam and the People's Republic of China	76
42	Turnover of Five Main Imports From the PRC to Viet Nam	77
43	Turnover of Five Main Exports from Viet Nam to the People's Republic of China	77
44	Foreign Direct Investment Projects Licensed by Province (Nanning-Hanoi)	78
45	Turnover of Imports and Exports Through the Mong Cai Border Gate	79
46	Foreign Direct Investment Projects Licensed by Province (Nanning-Fang Cheng-Mong Cai-Hai Phong)	80
47	Volume and Turnover of Imports and Exports at the Cha Lo Border Gate	81
48	Main Export Commodities at the Cha Lo Border Gate	81
49	Main Import Commodities at the Cha Lo Border Gate	82
50	Foreign Direct Investment Projects Licensed by Province (NSEC-7)	82
51	Volume and Turnover of Imports and Exports at the Cau Treo Border Gate	84
52	Turnover of Imports and Exports at the Moc Bai Border Gate	85
53	Main Commodities Exported from Viet Nam to Cambodia	86
54	Main Commodities Imported to Viet Nam from Cambodia	88
55	Foreign Direct Investment Projects Licensed by Province (SEC-1)	88
56	Volume and Turnover of Imports and Exports at the Le Thanh Border Gate	89
57	Foreign Direct Investment Projects Licensed by Province (SEC-2)	89
58	Turnover of Imports and Exports at the Xa Xia Border Gate	91
59	Foreign Direct Investment Projects Licensed by Province (SEC-3)	92

ABBREVIATIONS

ADB	Asian Development Bank
AFD	French Development Agency
AH	Asian Highway
ASEAN	Association of Southeast Asian Nations
BOT	build–operate–transfer
BT	build–transfer
CBTA	Cross-Border Transport Facilitation Agreement
DWT	dead weight ton
EDCF	Korea Economic Development Cooperation Fund
EWEC	East–West Economic Corridor
EZ	economic zone
FDI	foreign direct investment
GDP	gross domestic product
GMS	Greater Mekong Subregion
ha	hectare
HCMC	Ho Chi Minh City
IZ	industrial zone
JBIC	Japan Bank for International Cooperation
JICA	Japan International Cooperation Agency
km	kilometer
kph	kilometer per hour
KOICA	Korean International Cooperation Agency
m	meter
NH	National Highway
NSEC	North–South Economic Corridor
NSEC–3	Kunming–Ha Noi–Hai Phong Subcorridor
NSEC–4	Nanning–Ha Noi Subcorridor
NSEC–7	Leam Chabang–Bangkok–Nakhon Ratchasima–Udon Thani– Nakhon Phanom–Takhek–Na Phao–Vung Ang–Ha Noi Subcorridor

NSEC-8	Vientiane–Paksan–Vinh–Ha Noi Subcorridor
ODA	official development assistance
OSZD	Organization for Cooperation of Railways
PCU	passenger car unit
PRC	People’s Republic of China
PPP	public–private partnership
ROK	Republic of Korea
SEC	Southern Economic Corridor
SEC-1	Dawei–Bangkok–Phnom Penh–HCM City–Vung Tau Subcorridor
SEC-2	Bangkok–Siem Reap–Stung Treng–Pleiku–Quy Nhon Subcorridor
SEC-3	Bangkok–Trat–Kampot–Ha Tien–Nam Can Subcorridor
SKRL	Singapore Kunming Rail Link
TDSI	Transport Development Strategic Institute of the Ministry of Transport
VEC	Viet Nam Expressway Corporation
VITRANSS	National Transport Development Strategy Project in Viet Nam
VND	Viet Nam Dong
VNR	Viet Nam Railways Corporation

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), Liu Zengjun (People's Republic of China), Sengsavang Phandanouvong (Lao People's Democratic Republic), Phyo Kyaw Thu (Myanmar), Pawat Tantrongjita (Thailand), and Pham Thanh Tung (Viet Nam). Cuong Minh Nguyen (GMS Secretariat) provided overall guidance and coordinated with the GMS countries while Cira Rudas (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.

All photos except those on the cover were taken by Pham Thanh Tung.

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 trans-national movement of people, goods, services, capital, and information. They are key to promoting economic integration in the GMS. The East–West Economic Corridor (EWEC), North–South Economic Corridor (NSEC), and Southern Economic Corridor (SEC) have been designated as flagships of the GMS program.

Viet Nam shares borders with the People’s Republic of China (PRC) in the north, the Lao People’s Democratic Republic (Lao PDR) in the northwest, and Cambodia in the southwest. All the GMS economic corridors include Viet Nam, linking the country not only to the PRC, the Lao PDR, and Cambodia, but also to Myanmar and Thailand. The Asian Development Bank undertook a review of the configuration of the economic corridors in 2016 to take into account the opening up of Myanmar, and to ensure that: (i) there is a close match between corridor routes and trade flows; (ii) GMS capitals and major urban centers are connected; and (iii) the corridors are linked with maritime gateways.

At the 21st GMS Ministerial Conference held in Chiang Rai, Thailand from 30 November to 1 December 2016, the GMS Ministers endorsed the recommended changes in the configuration of the economic corridors. The recommendations addressed the following gaps: (i) limited involvement of the Lao PDR and Myanmar in EWEC and NSEC; (ii) absence of Yangon, Nay Pyi Taw, and Vientiane in any economic corridor; and (iv) omission of the principal cross-border trade routes between the PRC and Myanmar; Myanmar and Thailand; and the PRC, Lao PDR, and Thailand in the economic corridors.¹ Figure 1 shows the new configuration of the GMS economic corridors.

The new configuration of the GMS economic corridors underscored the need for an assessment of the state of the corridors to guide future investments and other interventions for development. This report presents the findings of the assessment of the Viet Nam 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). Observations on the physical condition of the roads in the GMS economic corridors in Viet Nam are based on the field survey conducted in June 2017.

¹ 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



Source: ADB. 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 VIET NAM

There are 13 economic corridor routes in the Greater Mekong Subregion (one in East-West Economic Corridor [EWEC], eight in the North-South Economic Corridor [NSEC], and four in the Southern Economic Corridor [SEC]). Eight of these traverse Viet Nam: (i) EWEC; (ii) Kunming-Ha Noi-Hai Phong Subcorridor (NSEC-3); (iii) Nanning-Hanoi Subcorridor (NSEC-4); (iv) Laem Chabang-Bangkok-Nakhon Ratchasima-Udon Thani-Nahon Phanom-Takhek-Na Phao-Vung Anh-Hanoi Subcorridor (NSEC-7); (v) Vientiane-Paksan-Vinh-Hanoi Subcorridor (NSEC-8); (vi) Dawei-Bangkok-Phnom Penh-Ho Chi Minh City-Vung Tau Subcorridor (SEC-1); (vii) Bangkok-Siem Reap-Stung Treng-Pleiku-Quy Nhon Subcorridor (SEC-2); and (viii) Bangkok-Trat-Kampot-Ha Tien-Nam Can Subcorridor (SEC-3).

A. East-West Economic Corridor

EWEC is the longest land route linking the Andaman Sea in the Indian Ocean to the Eastern Sea. It stretches about 1,450

kilometers (km) from the Mawlamyine Sea in the Indian Ocean to the port of Da Nang. In Viet Nam, EWEC begins from the Lao Bao border crossing point running via national highway 9 (NH9) and NH1A. It then traverses Quang Tri, Thua Thien-Hue, and Quang Nam provinces, and ends at the port in Da Nang city. Figure 2 shows a map, while Table 1 contains basic information on EWEC in Viet Nam.

Border Crossing Points: Lao Bao (Viet Nam) and Densavanh (Lao People's Democratic Republic).

Interchange / Intersection Nodes:

(i) Section from Lao Bao border gate to Dong Ha City-Khe Sanh, Dakrong, Cam Lo intersection with Ho Chi Minh City road; Dong Ha intersection with NH1A; and (ii) Section from Dong Ha to Da Nang-Hue interchange between NH1A and urban roads.

Tourist Nodes: Khe Sanh, Dac Krong, Quang Tri town, Hue City, Lang Co town, and Da Nang City.

Figure 2: The Viet Nam Component of the East-West Economic Corridor



Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Table 1: Basic Information on the Viet Nam Component of the EWEC

Starting Point	End Point	Route	Distance (km)	Traffic Lanes Road Classification
Lao Bao	Khe Sanh	NH9	21	2 lanes (Class III)
Khe Sanh	Dac Krong	NH9	24	2 lanes (Class III)
Dac Krong	Cam Lo	NH9	23	2 lanes (Class III)
Cam Lo	Dong Ha	NH9 (AH16)	15	4 lanes (Class III)
Lao Bao	Dong Ha	NH9 (AH16)	83	
Dong Ha	Quang Tri	NH1A (AH1)	15	4 lanes (Class II)
Quang Tri	Hue City (Thua Thien– Hue province)	NH1A (AH1)	57	4 lanes (Class II)
Hue (Thua Thien–Hue province)	Lang Co	NH1A (AH1)	73	4 lanes (Class II)
Lang Co	Da Nang Port (Da Nang City)	NH1A (AH1)	34	4 lanes (Class II)
Total Distance			262	

AH = Asian Highway, km = kilometer, NH = national highway.

Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

B. North-South Economic Corridor

1. Kunming-Ha Noi-Hai Phong Subcorridor (NSEC-3)

In Viet Nam, NSEC-3 starts from the Lao Cai border gate, traverses Lao Cai, Yen Bai, Phu Tho, Vinh Phuc, Ha Noi, Hung Yen, Hai Duong, and ends at the Hai Phong port.

This subcorridor has two main sections: Lao Cai-Ha Noi and Ha Noi-Hai Phong. The Lao Cai-Ha Noi section runs mainly through two highways, NH 70 and NH2, registered as Asian Highway (AH) 14 in the Trans-Asian Highway Network with a length of about 300 km. The Ha Noi-Hai Phong section runs 125 km through NH5 and ends at Hai Phong (Dinh Vu port). Figure 3 shows a map, while Table 2 contains basic information on NSEC-3 in Viet Nam.

Figure 3: The Viet Nam Component of North-South Economic Corridor 3



Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Table 2: Basic Information on the Viet Nam Component of NSEC-3

Starting Point	End Point	Route	Distance (km)	Traffic Lanes/ Road Classification
Lao Cai (323 km) (Ho Kieu II bridge) Lao Cai (Kim Thanh bridge)	Yen Bai	NH70 (AH 14)	153	2 lanes (Class IV)
Yen Bai	Doan Hung township (end of NH70)	NH70 (AH14)	42	2 lanes (Class III)
Doan Hung	Viet Tri City	NH2A (AH14)	46	4 lanes (Class II)
Viet Tri	Vinh Yen City	NH2A (AH14)	31	4 lanes (Class II)
Vinh Yen City	Noi Bai (Ha Noi)	NH2A (AH14)	28	4 lanes (Class II)
Sub-total distance from Lao Cai to Noi Bai (Ha Noi)		via AH14 via CT04	300 264	
Noi Bai (Ha Noi)	Hai Duong city (Hai Duong province)	NH5 (AH14) or via CT04 (5B)	58/76	4/6 lanes (Class I and II) or 6 lanes, CT04
Noi Bai (Ha Noi)	Ha Noi City center	Urban road	31	
Noi Bai (Ha Noi)	Hai Duong city (Hai Duong province)	NH5 (AH14)	76	4 lanes (Class I and II)

continued on next page

continued Table 2

Starting Point	End Point	Route	Distance (km)	Traffic Lanes/ Road Classification
Hai Duong City	Hai Phong City	NH5 (AH14)	49	4 lanes (Class I and II)
Sub-Total distance from Noi Bai (Ha Noi) to Hai Phong		- via NH5 (AH14) - via link road and CT04 (5B)	125/139	
Total distance from Lao Cai to Hai Phong		- via AH14 - via CT05 and CT04 (5B) and link roads	425 403	

AH = Asian Highway, CT = expressway route, km = kilometer, NH = national highway.

Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Border Crossing Points: Lao Cai (Viet Nam) and Hekou (People's Republic of China); and Kim Thanh (for road transport), and Lao Cai railway station (Viet Nam) and Son Yieu (PRC) for railways.

Intersections: Yen Bai, Doan Hung, Viet Tri, Vinh Yen, Noi Bai, Hai Duong, and Hai Phong.

Industrial Nodes: Yen Bai, Viet Tri, Vinh Yen, Noi Bai, Hai Duong, and Hai Phong.

Tourist Nodes: Lao Cai, Yen Bai, Doan Hung, and Hai Phong.

2. Nanning-Ha Noi Subcorridor (NSEC-4)

a. Nanning-Ha Noi Route

The Nanning-Ha Noi route of NSEC-4 starts from the Huu Nghi border crossing point

running via NH1A registered as AH14 under the Trans-Asian Highway Network, and ends at Ha Noi ring road.

It traverses Lang Son, Bac Giang, and Bac Ninh provinces and Ha Noi with a total distance of 167 km. Figure 4 shows a map of NSEC-4 (Nanning-Ha Noi route), while Table 3 contains basic information on NSEC-4 (Nanning-Ha Noi route).

Border Nodes: Huu Nghi (Viet Nam) and You Yi Guan (China).

Intersection or Interchange Nodes: Lang Son, Bac Giang, Bac Ninh, Ha Noi.

Industrial Nodes: Bac Giang, Bac Ninh, Ha Noi, and Lang Son.

Tourist Nodes: Lang Son, Bac Giang, Bac Ninh, Ha Noi.

Figure 4: The Viet Nam Component of North–South Economic Corridor 4 (Nanning–Ha Noi)



Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

b. Nanning–Fangchenggang–Mong Cai–Ha Long–Hai Phong Route

This route of NSEC–4 is an important link between the northern provinces of Viet Nam and the Guangxi Zuang Autonomous Region of the PRC. Under a bilateral framework of cooperation, the Hai Phong–Quang Ninh corridor is defined as the economic belt in the Governmental Level Initiative between Viet Nam and the PRC (“Two Corridors

and One Economic Belt”), for which infrastructure projects and programs were established to speed up trade, tourism, and economic development along this route between the two countries. Quang Ninh is one of the fastest growing cities in Viet Nam. It is rich in natural resources and nature-based tourist potential, especially Ha Long Bay, one of the world’s most beautiful.

In Viet Nam, this route starts at Bac Luan (Mong Cai City) and traverses Quang Ha and cities and towns of Quang Ninh Province such as Tien Yen, Cam Pha, Ha Long, and Uong Bi.

It ends at Hai Phong port, and has a distance of 219 km. Figure 5 shows a map of NSEC-4 (Nanning–Ha Noi), while Table 4 contains basic information on NSEC-4 (Nanning–Ha Noi).

Table 3: Basic Information on the Viet Nam Component of NSEC-4 (Nanning–Ha Noi)

Starting Point	End Point	Route	Distance (km)	Traffic Lanes/ Road Classification
Huu Nghi border gate	Lang Son City (Lang Son province)	NH1A	15	2 lanes (Class III)
Lang Son City (Lang Son province)	Bac Giang City (Bac Giang province)	NH1A	103	2 lanes (Class III)
Bac Giang City (Bac Giang province)	Bac Ninh City (Bac Ninh)	CT01	20	4 lanes expressway
Bac Ninh City (Bac Ninh province)	Ha Noi	CT01 via Thanh Tri bridge, crossing NH5	31	4 lanes expressway
Total Distance			167	

CT01 = expressway route no. 1, km = kilometer, NH = national highway.

Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Border Nodes: Bac Luan border gate (Viet Nam) and Dongxing border gate (PRC).

Intersection Nodes: Tien Yen, Uong Bi.

Industrial Nodes: Cam Pha, Ha Long, Uong Bi, and Hai Phong.

Tourist Nodes: Ha Long City, Hai Phong, and Mong Cai.

Figure 5: The Viet Nam Component of North–South Economic Corridor 4 (Nanning–Fangcheng–Mong Cai–Ha Long–Hai Phong)



Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

3. *Leam Chabang–Bangkok–Nakhon Ratchasima–Udon Thani–Nakhon Phanom–Takhek–Na Phao–Vung Ang–Ha Noi Subcorridor (NSEC-7)*

In Viet Nam, NSEC-7 starts at the Cha Lo border gate. It runs through Quang Binh, Ha Tinh, Nghe An, Thanh Hoa, Ninh Binh,

and Ha Nam, and ends at the Ha Noi ring road with a distance of about 771 km. The section from the Cha Lo border to Vung Ang port is registered under the Trans-Asian Highway Network as AH131. From Cha Lo to Ha Noi, the distance is between 532 and 583 km. Figure 6 shows a map of NSEC-7, while Table 5 contains basic information on NSEC-7.

**Table 4: Basic Information on the Viet Nam Component of NSEC-4
(Nanning-Fangcheng-Mong Cai-Ha Long-Hai Phong)**

Starting Point	End Point	Route	Distance (km)	Traffic Lanes/ Road Classification
Bac Luan Border gate (Mong Cai)	Quang Ha town	NH18	18	2 lanes (Class III)
Quang Ha town	Tien Yen town	NH18	48	2 lanes (Class III)
Tien Yen town (Quang Ninh province)	Cam Pha City (Quang Ninh province)	NH18	52	2 lanes (Class III)
Cam Pha City (Quang Ninh province)	Ha Long City	NH18	28	4 lanes (Class III)
Ha Long City	Uong Bi City	NH18	41	4 lanes (Class III)
Uong Bi City	Hai Phong City (via Quan Toan)	NH10, NH5	32	4 lanes (Class III and II)
Total Distance			219	

km = kilometer, NH = national highway.

Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Due to an added route on AH131 from the Cha Lo border gate to Vung Ang port, there are now two different ways to reach Vung Ang from Cha Lo. The old AH131 route starts in Cha Lo via NH 12A, and intersects Ba Don on NH1A in Quang Binh province. The newly designated AH131 route consists of a part of the old route NR12A (AH131) starting from Cha Lo, and a section of the upgraded NH12C, with a distance of 126.6 km.

It intersects Ky Anh along NH1A in the Ha Tinh province. The distance between Ba Don and Ky Anh on NH1A is 56.2 km.

From Vung Ang to Ha Noi, NH1A was recently widened to Class III and II (four lanes with separator). It now has bypass roads of either two or four lanes to divert through-traffic out of the cities and big towns.

Figure 6: The Viet Nam Component of North-South Economic Corridor 7



Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Border Nodes: Cha Lo (Viet Nam) and Na Phao (Lao PDR).

Intersection Nodes: Ba Don and Ky Anh.

Industrial Nodes: Vung Ang (Ha Tinh), Thanh Hoa, and Ha Noi.

Tourist Nodes: Dong Hoi (Quang Binh Province), Ha Tinh, Nghe An, Thanh Hoa, Ninh Binh, Ha Nam, and Ha Noi

4. Vientiane-Paksan-Vinh-Ha Noi Subcorridor (NSEC-8)

This subcorridor starts from the Cau Treo border crossing and runs along NH8 with a distance of 85.3 km. It intersects NH1A at Bai Vot near Hong Linh town, and from there goes to Vinh City, then further northward to Ha Noi. NSEC-8 traverses Nghe An, Thanh Hoa, Ninh Binh, Ha Nam and Ha Noi. The route from Cau Treo to Vinh is registered as AH15 in the Trans-Asian Highway network. This subcorridor is about 416 km long. Figure 7 shows the configuration of NSEC-8, while Table 6 contains basic information on NSEC-8.

Table 5: Basic Information on the Viet Nam Component of NSEC-7

Starting Point	End Point	Route	Distance (km)	Traffic Lanes/ Road Classification
Cha Lo border gate (new route)	Vung Ang port, via Ky Anh township (Ha Tinh province)	NH12A and NH12C (AH131)	136.6	2 lanes (lower than Class III)
Cha Lo border gate (old route)	Vung Ang port, via Ba Don township, (Quang Binh province)	NH12A and NH1A	121.5 + 56.2 (total 177.7)	2 lanes (12A Class IV) 4 lanes (1A Class III and II)
Vung Ang	Ha Tinh City (Ha Tinh province)	NH1A (AH1)	59.0	4 lanes (Class II)
Ha Tinh	Ha Tinh Vinh City (Nghe An province)	NH1A (AH1)	56.4	4 lanes (II Class)
Vinh City (Nghe An Prov.)	Thanh Hoa city (Thanh Hoa province)	NH1A (AH1)	139.0	4 lanes (Class II)
Thanh Hoa city (Thanh Hoa Prov.)	Ninh Binh City (Ninh Binh province)	NH1A (AH1)	60.2	4 lanes (Class II)
Ninh Binh City (Ninh Binh Prov.)	Phu Ly City (Ha Nam province)	NH1A or via (CT01)	33.8/32.0	4 lanes (Class II) or 4 lanes (CT01)
Phu Ly City (Ha Nam Prov.)	Ha Noi	NH1A or via (CT01)	57.2/62.2	4 lanes (Class II) or 4 lanes (CT01)
Total Distance			532.2 (new route) and 583.0 (old route) via NH1A	

AH = Asian Highway, CT01 = expressway route no. 1, km = kilometer, NH = national highway.
Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Figure 7: The Viet Nam Component of North–South Economic Corridor 8



Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Border Nodes: Cau Treo (Viet Nam) and Nam Phao (the Lao PDR).

Intersection Nodes: Ba Vot (Hong Linh), Vinh, Thanh Hoa, Ninh Binh, and Phu Ly.

Industrial Nodes: Thanh Hoa, Ninh Binh, Phu Ly, and Ha Noi.

Tourist Nodes: Vinh, Thanh Hoa, Ninh Binh, Phu Ly, and Ha Noi.

C. Southern Economic Corridor

1. Dawei–Bangkok–Phnom Penh–Ho Chi Minh City–Vung Tau Subcorridor (SEC-1)

In Viet Nam, SEC-1 starts from the Moc Bai border crossing. It runs via NH 22, NH1A, and NH51, and traverses Tay Ninh province, Ho Chi Minh City, Dong Nai province, and Ba Ria–Vung Tau province. SEC-1 ends at Ba Ria–Vung Tau province. The subcorridor is about 181 km. long. Figure 8 shows the configuration of SEC-1, while Table 7 contains basic information on SEC-1.

Table 6: Basic Information on the Viet Nam Component of NSEC-8

Starting Point	End Point	Route	Distance (km)	Traffic Lanes/ Road Classification
Cau Treo	Bai Vot-Hong Linh township	NH8 (AH15)	85.3	2 lanes (Class IV)
Bai Vot-Hong Linh township	Vinh City (Nghe An province)	NH1A (AH1)	20.5	4 lanes (Class III)
Vinh City (Nghe An province)	Thanh Hoa city (Thanh Hoa province)	NH1A (AH1)	139.0	4 lanes (Class II)
Thanh Hoa city (Thanh Hoa province)	Ninh Binh city (Ninh Binh province)	NH1A (AH1)	60.2	4 lanes (Class II)
Ninh Binh city (Ninh Binh province)	Phu Ly city (Ha Nam province)	NH1A or via (CT01)	33.8/ 32.0	4 lanes (Class II) or 4 lanes (CT01)
Phu Ly city (Ha Nam province)	Ha Noi Capital city	NH1A or via (CT01)	57.2/62.2	4 lanes (Class II) or 4 lanes (CT01)
Total Distance			416.0	

AH = Asian Highway; CT01 = expressway route no. 1, km = kilometer, NH = national highway.

Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Figure 8: The Viet Nam Component of Southern Economic Corridor 1



Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Table 7: Basic Information on the Viet Nam Component of SEC-1

Starting Point	End Point	Route	Distance (km)	Traffic Lanes/ Road Classification
Moc Bai border gate (Tay Ninh province)	Go Dau township (Tay Ninh)	NH22 (AH1)	10.0	2 lanes (Class II)
Go Dau township (Tay Ninh)	An Suong Intersection (Ho Chi Minh City)	NH22 (AH1)	48.0	4 lanes (Class III)
An Suong Intersection (Ho Chi Minh City)	Intersection between AH1 and AH17 at Bien Hoa (Dong Nai province) via Ha Noi primary road	Xa lo Ha Noi/ Dai Han or NH1A (AH1)	31.0	6 lanes (Class II)
Intersection between AH1 and AH17 via Ha Noi primary road	Ba Ria City (Ba Ria-Vung Tau province)	NH51 (AH17)	77.6	4/6 lanes (Class I)
Ba Ria City (Ba Ria-Vung Tau province)	Vung Tau City (Ba Ria-Vung Tau province)	NH51 (AH17)	14.0	4 lanes (Class II and III)
Total Distance			180.6	

AH = Asian Highway, km = kilometer, NH = national highway.

Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Border Nodes: Moc Bai (Viet Nam) and Ba Vet (Cambodia).

Industrial Nodes: Go Dau (Tay Ninh), Ho Chi Minh City, and Vung Tau.

Intersection Nodes: Go Dau, An Suong (Ho Chi Minh City), Bien Hoa (interchange), Ba Ria, and Vung Tau.

Tourist Nodes: Tay Ninh, Ho Chi Minh City, and Vung Tau.

2. Bangkok-Siem Reap-Stung Treng-Pleiku-Quy Nhon Subcorridor (SEC-2)

In Viet Nam, SEC-2 starts from the Le Thanh border gate with Cambodia. It has a distance

of 234 km and passes through the Gia Lai and Binh Dinh provinces in the Central Highland, ending at Quy Nhon port in Binh Dinh province. Figure 9 shows the configuration of SEC-2, while Table 8 contains basic information on SEC-2.

Figure 9: The Viet Nam Component of Southern Economic Corridor 2



Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Table 8: Basic Information on the Viet Nam Component of SEC-2

Starting Point	End Point	Route	Distance (km)	Traffic Lanes/ Road Classification
Le Thanh border gate	Pleiku city (Gia Lai province)	NH19	74	2/4 lanes (Class III)
Pleiku City (Gia Lai province)	An Khe town (Gia Lai province)	NH19	93	2 lanes (Class IV and III)
An Khe town (Gia Lai province)	Ghenh Intersection of An Nhon town (Binh Dinh province)	NH19	43	2/4 lanes (Class IV and III)
Crossroad of An Nhon township (Binh Dinh province)	Quy Nhon City (Binh Dinh province)	NH19	24	2/4 lanes (Class III)
Total Distance			234	

km = kilometer, NH = national highway.

Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Border Crossing Points: Le Thanh (Viet Nam) and O-Yadov (Cambodia).

Interchange or City Nodes: Pleiku City, An Khe, and An Nhon towns.

Tourist Nodes: Pleiku City and Quy Nhon.

3. Bangkok-Trat-Kampot-Ha Tien-Nam Can Subcorridor (SEC-3)

In Viet Nam, SEC 3 starts from the Ha Tien border gate (previously named Xa Xia

border gate) in Kien Giang province. It traverses two provinces, Kien Giang and Ca Mau.

This subcorridor consists of four main road sections: from Ha Tien border gate via NH80 to Rach Soi; from Rach Soi via NH61, NH63 to Ca Mau City; from Ca Mau via NH1A to the southern tip of Nam Can. The distance from the Ha Tien border to Ca Mau is about 360 km. Figure 10 shows the configuration of SEC-3, while Table 9 contains basic information on SEC-3.

Table 9: Basic Information on the Viet Nam Component of SEC-3

Starting Point	End Point	Route	Distance (km)	Traffic Lanes/ Road Classification
Ha Tien border gate, Ha Tien town	Kien Luong township	NH80	25.6	2 lanes (Class III)
Kien Luong township (Kien Giang province)	Rach Gia City (Kien Giang province)	NH80	89.6	2/4 lanes (Class III)
Rach Gia City (Kien Giang province)	Minh Luong township (Kien Giang province)	Via bypass road No. 80 of Rach Gia city and a small segment of No.61	27.0	2 lanes (Class IV)
Minh Luong crossroad	Ca Mau City	NH63	110.0	2 lanes (Class IV and III)
Ca Mau City (Ca Mau province)	Nam Can township	NH1A	50.0	2 lanes (Class III)
Nam Can	Ca Mau s outhern tip	Ho Chi Minh road	58.0	2 lanes (Class IV)
Total Distance			360.2	

Source: Asian Development Bank, Greater Mekong Subregion Economic Corridor Assessment Team.

Border Crossing Points: Ha Tien (Viet Nam) and Trat (Cambodia).

Tourist Nodes: Ca Mau, Nam Can, and southern tip of Ca Mau.

Intersections and City and Township

Nodes: Kien Luong, Rach Gia City, Minh Luong, Ca Mau City, and Nam Can.

III. ASSESSMENT OF TRANSPORT INFRASTRUCTURE

The Government of Viet Nam prioritized the development of infrastructure with emphasis on transport infrastructure, especially during 2011–2016. Investment in road transport infrastructure accounted for the major share of investment among the different modes of transport in Viet Nam.

National Highway No. 1A (NH1A) from the Huu Nghi border gate (Lang Son province) to Nam Can (Ca Mau province), which is more than 2,300 kilometers (km) long, is the backbone of the transport system in Viet Nam, with a rapidly growing volume of traffic. Hence, rehabilitation and upgrading is a high priority. So far, almost the entire length of NH1 has been widened to four lanes for automobiles and two lanes for mixed traffic, about 20.5 meters (m) wide provided with solid median. Bypass roads have been or will be constructed around most of the important cities and towns to relieve traffic congestion and improve road safety. Moreover, investments have been made to improve all highways along the economic corridors, and to accommodate rapidly increasing traffic arising from growth in trade and tourism. This will also help promote border provinces usually located far from the big cities, with many less developed areas.

A. East–West Economic Corridor

Road Transport Infrastructure

As described in Chapters I and II, the East–West Economic Corridor (EWEC) in Viet Nam starts at the Lao Bao border gate; runs via NH9 and NH1A through Quang Tri, Thua Thien Hue, and Quang Nam provinces; crosses the cities of Dong Ha, Hue, Da Nang, and ends at Da Nang port.

Road transport infrastructure along this corridor received an upgrade to Class III with two lanes in the early 2000s, including the construction of the Hai Van tunnel. However, some constraints remain, such as the increase in the volume of traffic along NH1A, and traffic interruption in sections between Hue and Da Nang due to flooding and landslides during the typhoon season. The increase in traffic has resulted in congestion and higher incidence of road crashes in major cities and towns. Infrastructure development therefore included investments to further improve the road transport infrastructure along this economic corridor.

The Asian Development Bank (ADB) provided financial assistance in the early 2000s to upgrade the NH9 from the Lao Bao

border to NH1A at Dong Ha, traversing Khe Sanh, Dakrong, and Cam Lo. The corridor was later improved to Class III (level terrain), with two lanes and a road width averaging 9 m to 16 m. Some segments passing through towns like Dakrong and Cam Lo, as well as tourist spots like Khe Sanh, were widened to four lanes and a road width of 14 m to 23 m. The entire NH9 is well-maintained and in good condition.

The NH1A section from Dong Ha to Hue and from Hue to Da Nang is wider and upgraded to Class III and II, with four lanes for automobiles and two lanes for mixed traffic. This road is about 14 m to 22 m wide. The approach roads leading to Phuoc Tuong, Phu Gia, and Hai Van tunnels still have two lanes, but these are being upgraded to four lanes. During the past years, the cities of Dong Ha and Hue, along with Quang Tri and other major towns from Hue to Da Nang were provided two-lane bypass roads.

The government funded most of the upgrading and expansion. However, build-operate-transfer (BOT) contracts to construct bypass roads or tunnels, such as the Phuoc Tuong and Phu Gia tunnel projects, were awarded to encourage private sector participation.

Traffic increased in various sections of NH1 after they were widened and upgraded to four lanes. For instance, the Nga Ba Hue–Da Nang section saw a rise from 43,000 passenger car units (PCU)/day in 2014, to 48,192 PCU/day in 2015. Traffic volume averaged 15,000–20,000 PCU/day along the corridor via NH1A. At Cam Lo along NH9, traffic count reached 3,174 PCU/day.

Table 10 shows estimates by the Transport Development Strategic Institute (TFSI) of the Ministry of Transport (MOT) of traffic volume along the major sections of EWEC, assuming the availability of expressways along these sections.

Table 10: Estimated Traffic Volume with Expressway
PCU/Day

Main Sections	2011	2020	2030	Growth Rate 2011–2020 %	Growth Rate 2021–2030 %
Lao Bao–Cam Lo	4,987.0	6,990.4	10,652.0	3.8	4.3
Cam Lo–Dong Ha	3,174.0	6,111.0	10,047.6	7.6	5.1
Dong Ha–Hue	11,424.0	19,824.0	11,417.0	6.3	– 5.4
Hue–Da Nang	12,832.0	19,027.0	13,036.0	4.5	– 3.7

PCU/day = passenger car unit per day

Source: Report on proposed changes in the Master Plan for Transport Development until 2020 and Vision up to 2030 by the Transport Development Strategic Institute.

Some important projects such as upgrading the NH1A road, expanding the Hai Van tunnel, and building the Phuoc Tuong and Phu Gia tunnels have been implemented to ease constraints along EWEC. However, the condition of the Hue–Da Nang section still poses a problem. Traffic here is often interrupted by flooding in typhoon season. More efforts, including the construction of new routes, are needed to address this and to accommodate future traffic.

Ongoing Projects

Xa Ot border bridge no 2. Two new modular bridges are being built adjacent to the existing two-lane Xa Ot bridge at the Lao Bao border area. This will improve accessibility and provide more space for increasing cross-border traffic. The total cost is about VND33 billion. The project began in early 2017. It is expected to be completed in 2018.

La Son–Tuy Loan road upgrading project (87 km long). This road section used to be part of Ho Chi Minh highway from La Son (Phu Loc district in Thua Thien Hue province) to the starting site of the ongoing Da Nang–Quang Ngai Expressway. The World Bank and Japan Bank for International Cooperation co-financed this project, which cost VND11,500 billion. The project began in 2015 and is expected to be completed in 2018. In the first phase, this highway will be upgraded to Class III (level terrain), with a road base width of 12 m, travel surface width of 11 m, and speed of 60–80 kph. This road can be regarded as a “primary road” component of the North–South expressway network implemented in the country. It will

help avoid traffic interruption along the Hue–Da Nang section during typhoon season. A new tunnel and several viaducts will also be constructed along this route. In the second phase, this highway will be widened to a four-lane expressway with a road base width of 24 m and travel surface width of 22 m.

Hai Van Tunnel No. 2 project. This project is divided into two phases. The first phase consists of the periodic repair of the Hai Van tunnel and upgrades of the North and South approach bridges into four lanes. The second phase started in June 2017 where the existing Hai Van evacuation tunnel is enlarged and made into two lanes. Total cost is VND7,200 billion. It is being implemented in through a BOT contract and scheduled to be completed by 2020.

Proposed Projects

Cam Lo–La Son four-lane expressway (98km long). This is part of the North–South expressway starting from Cam Lo via Ho Chi Minh highway to La Son (the Starting Point of the La Son–Tuy Loan expressway project now under construction). The government has approved this project, which is waiting for budget allocation. Total cost is estimated at VND31,360 billion for a four-lane expressway. Construction timeline is between 2020–2030.

Upgrading 10.9 km approach segment of NH15D to La Lay international border gate of Quang Tri. This segment has the worst condition in the approach to La Lay border, which is the second international border checkpoint with the Lao People’s

Democratic Republic (Lao PDR) opened by the two governments in 2015. This border checkpoint and new route can be an alternative to EWEC, as it links to Pakse at the heart of the southern part of the Lao PDR, and Udon Thani, a large province of Thailand (more details on this route below).

Cam Lo–Lao Bao expressway. The Master Plan for Transport Development until 2020 and Vision up to 2030 defines and includes this project.

Railway

A North–South railway line passes through Quang Tri, Thua Thien Hue, and Da Nang. Stations are located in these provinces and Da Nang, but there is no rail link to the Lao Bao border. The share of railway traffic compared to road traffic is moderate. Some low-valued commodities, like cement, clinker, or coal, are carried by railway for end users then transported by road for export through the corridor. Due to poor handling facilities at stations and time consumption, most cross-border traffic of passengers and cargo is conducted by road.

The Association of Southeast Asian Nations (ASEAN) Transport Cooperation Plan calls for a study on a future railway line from Cua Viet port (Dong Ha City) to Savanakheth (Lao PDR). This study has not yet been carried out. A feasibility study for a rail link from Cua Viet port to Lao Bao, with a total length of 114 km, is being considered under the long-term plan for railway development in Viet Nam. This rail link could meet future traffic demand and reduce road traffic along the Lao Bao–Dong Ha section, especially for

the transport of heavy commodities such as construction materials, minerals, ores, etc.

Ports

Cua Viet port. This port, which is 15 km from Dong Ha city has an area of 42,000 square meters (m²), a cargo yard of 7,200 m², two warehouses of 970 m², and two wharves 64 m long. Water depth is 6.5 m, capable of receiving 10,000 dead weight ton (DWT) vessels. The port has an annual capacity of 700,000 tons. Port capacity is limited. In the absence of a rail link, the port serves mainly local import and export rather than cross-border trade.

My Thuy port. This is newly included in the group of ports in the central region for future development into a deep seaport.

Chan May (Thua Thien Hue) port. This is a deep seaport capable of receiving vessels up to 50,000 DWT and 225,282 cruise vessels with a water depth of 12 m. Port throughput capacity is 2.6 million tons. There is no rail connection yet. In 2015, the port handled more than 1.6 million tons and 60,000 passengers.

Da Nang port. This complex deep seaport is in the city of Da Nang. It is the third largest port system in Viet Nam consisting of the Tien Sa, Son Tra, Lien Chieu, and Tho Quang functional ports, with a total throughput capacity of 6.5 million tons. As Da Nang port is a gateway port along the EWEC, there is a plan to expand it focusing on container services, cruise vessels, and logistics, with a total capacity of 10,000 million tons per year

and 450,000 twenty-foot equivalent units (TEU) per year.

Airports

Phu Bai airport in Hue City. This airport received a recent upgrade. It has a capacity of 1.5 million passengers but, in 2016, passengers numbered more than 1.57 million. The growth rate of traffic in this airport was 11% to 13% during 2011–2016; hence, expansion is urgently needed to cater to future traffic.

Da Nang International Airport. An upgrade in 2011 brought capacity up to 5 million passengers per year. By 2015, traffic volume had exceeded 5 million, with traffic increasing by 15% per year since. In 2015, an upgrade to the international terminal brought capacity up to 4 million to 6 million passengers per year. This was an urgent need in preparation for the Asia-Pacific Economic Cooperation Summit Meeting held at the end of 2017.

Future traffic trend. According to studies made by the Transport Development Strategic Institute, road transport still accounts for the major share among the different modes of transport on this corridor. However, the number of passengers travelling on this corridor is likely to decline due to the high growth rate of air traffic between the provinces of Viet Nam and the main cities of the Lao PDR, especially with the extensive participation of low-cost air carriers like Vietjet Air and Jetstar Pacific. These airlines have opened international routes from the Hue and Da Nang airports to various cities of the Lao PDR.

Summary Assessment of Road Transport Infrastructure

The existing infrastructure, particularly road transport, is in good condition. No urgent repairs are required.

Together with ongoing and planned projects, the transport infrastructure in this corridor is sufficient to handle present and future traffic demand and ensure through-traffic in all seasons.

B. North-South Economic Corridor

1. Kunming-Ha Noi-Hai Phong Subcorridor (NSEC-3)

Road Transport Infrastructure

Lao Cai-Ha Noi section. This section passes through the NH70 and NH2 highways registered as Asian Highway No. 14 (AH14) in the Trans-Asian Highway Network. It crosses Yen Bai, Phu Tho, Vinh Phuc, and Ha Noi. Most provinces along this section are located in the northern midlands consisting of mountainous areas and complicated terrain.

National Highway No. 70 (NH70). This starts from the Ho Kieu II bridge border point (Lao Cai) between Viet Nam and the People's Republic of China (PRC) and ends at the Doan Hung crossing-point with NH2. It is 197 km long and was built before 1975 as a Class VI road (mountainous level). The road was widened in 2009, turning it into Class IV and III (mountainous level), with two lanes and a road width ranging from 5.5–11 m, except for some stretches near cities and

towns like Lao Cai, Yen Bai, and Doan Hung (Phu Tho) where it has four lanes and a road width of 14–22.5 m. The topography causes this highway to roll and wind with many curves, steep gradients, and weak bridges. It was regarded as “the only way” to Lao Cai. Severe problems include high traffic accidents, deteriorating road conditions from the overloading of trucks, and landslides during rainy season. Before the opening of the Ha Noi–Lao Cai expressway, traffic volume sometimes reached nearly 4,000 PCU/day, far beyond the road’s capacity. Addressing accidents and restoring traffic took nearly 20 hours. NH70 is well maintained and has a fairly good surface, since most traffic has been diverted to the expressway.

NH2. This starts from Doan Hung (Phu Tho province) runs via Viet Tri City and Vinh Yen City, and ends at Noi Bai (crossroad with NH18 and NH3), with a length of 109 km. A subsection 28 km long from Vinh Yen to Noi Bai crossroad received an upgrade in 2008 in the form of a BOT contract, expanding it to four lanes Class II and a road width of 23 m (road base of 28 m to 30 m). A link segment from Bac–Thang Long–Noi Bai, part of NH3 (the ending point of Lao Cai–Ha Noi expressway) to NH5, with a length of 20 km, received a recent upgrade to four lanes Class I, and became part of Ha Noi urban road.

Ha Noi–Hai Phong section. This passes through Ha Noi, Hung Yen, Hai Duong, and Hai Phong City in the Red River delta area (flat terrain). It is 113 km long and runs via NH3 and NH5, starting from Noi Bai and ending at Dinh Vu port. The subsection from

km post 0 to km post 11+135 received an upgrade to a four-lane urban road managed by Ha Noi City. An upgrade to the subsection from km post 11+ 135 to km post 92+ 460 improved it to Class II with a travelled surface width of 21 m.

The subsection from Quan Toan (km post 92+460) to Dinh Vu port (km post 113+252), Hai Phong City was upgraded to urban road standard. The Japan Bank for International Cooperation funded the upgrade of NH5, which was completed in 2004.

Following the upgrade, the volume of traffic increased sharply, and since then several factories have been set up along this highway. Traffic jams often occurred. Before the Ha Noi–Hai Phong expressway opened, traffic volume reached 54,163 PCU/day at the entrance of Ha Noi, 48,209 PCU/day near Hai Duong, and 60,344 PCU/day at the entrance of Hai Phong. The Vietnam Infrastructure Development and Financing Investment (VIDIFI) BOT company, which is the investor in the Ha Noi–Hai Phong expressway, recently repaved NH5. This road section is in good condition.

Expressways Along this Subcorridor

Ha Noi–Lao Cai expressway (registered as CT05). This expressway, registered as CT05, starts in Noi Bai and ends at Kim Thanh border bridge (Lao Cai). It is 264 km long. ADB funded the construction, and the expressway opened in December 2015. After 2 years of operation, traffic volume reached about 18,000 PCU to 19,000 PCU daily and will tend to increase further, as this

is the backbone to northwestern Viet Nam. An estimated 96% of heavy trucks and 79% of cars and buses have been diverted to this expressway since it opened.

The expressway has reduced travel time from Noi Bai to Lao Cai from 7.0 to 3.5 hours. The Viet Nam Expressway Development Corporation estimated the savings in transport operations to be approximately 20% to 25% of total cost, and evaluated this project as cost effective and efficient. It has not only provided fast and safe travel, but also reduced traffic congestion on most adjoining roads. It also helped develop provinces in the northern midland and mountainous areas, such as Tuyen Quang and Cao Bang provinces. This expressway is now preferred over NH70 and NH2 when travelling from Lao Cai to Ha Noi and vice versa.

Ha Noi to Hai Phong expressway.

Registered as CT04 or called NH5B, this expressway begins at Ha Noi (near Thanh Tri bridge) and ends at Dinh Vu (Hai Phong City). It is 105.5 km long. CT04 has operated since the end of 2015. It is the first six-lane expressway in Viet Nam invested in the form of BOT by VIDIFI. The average daily traffic volume is about 12,000 PCU to 15,000 PCU and said to absorb about 50% of total traffic along this section. The CT04 has helped alleviate overloading and avoid traffic accidents on NH5. However, considering that this is a modern expressway with high capacity, traffic diversion from other highways seems not to have met expectations. More measures and efforts are needed to divert traffic from NH5 to make this expressway more efficient. Drivers continue to use NH5, and congestion and

overloading remain on this and surrounding highways. Factors contributing to the problem include: (i) seemingly too high toll rates imposed on CT04 compared to those on NH5 and alternative routes; (ii) most points of origin and destination for cargo are located on NH5; (iii) further improvements on road links from CT04 to NH5 and other roads are necessary; and (iv) axle load limits are not strictly enforced along NH5 and other highways.

Ongoing Projects

Lao Cai-Sa Pa expressway project. The Noi Bai-Lao Cai expressway project to Sapa town was approved by the Prime Minister of Viet Nam in August 2018. This project done through BOT will cover two roads. 29 km of NH4D will be rehabilitated from km post 108 at Sapa town to end of km post 137+035 at Lao Cai City. The new provincial road 155 (25 km), which runs parallel to NH4D will also be constructed. Total investment will be VND 2,510 billion. From 2018 to end-2020, mains works will focus on land clearance, construction of provincial road 155 from the interchange with Noi Bai-Lao Cai expressway to NH4D at km post 117+550.

Continued implementation of the remaining components of Noi Bai-Lao Cai expressway project.

This involves (i) widening of the remaining section from two to four lanes; and (ii) construction of the remaining interchange of the Ha Noi-Lao Cai expressway. The Viet Nam Expressway Corporation is implementing the project, with financial assistance from ADB in the second phase.

Despite available expressways along this subcorridor, forecasts indicate that traffic demand will continue to increase because

of expanding cross-border trade, tourism, and socio-economic growth in provinces along and adjoining this Subcorridor (Table 11).

Table 11: Traffic Forecast for Some Sections Along NSEC-3
PCU/Day

Main Sections	2011	2020	2030	Growth Rate 2011–2020 %	Growth Rate 2021–2030 %
Ha Noi–Vinh Phuc (NH2)	25,052.0	37,285.0	63,942.0	4.5	5.5
Vinh Phuc–Phu Tho (NH2)	16,298.0	28,616.0	45,951.0	6.5	4.9
Doan Hung–Yen Bai (NH70)	5,374.0	7,991.0	14,116.9	4.5	5.9
Yen Bai–Lao Cai (NH70)	2,310.0	3,579.0	6,121.2	5.0	5.5
Ha Noi–Hung Yen	69,341.0	87,724.0	139,665.0	2.6	4.8
Hung Yen–Hai Phong	43,231.0	52,412.0	83,318.0	2.2	4.7

NH = national highway, PCU/day = passenger car unit per day.
Source: Government of Viet Nam, Ministry of Transport.

Based on this traffic forecast, future plans for the highways running side by side with the expressways along this subcorridor will involve: (i) upgrading the entire NH70 into Class III with two lanes; (ii) maintaining NH2 from Noi Bai to Vinh Yen at Class II, with four lanes including the bypass roads, and widening of the Vinh Yen to Viet Tri stretch into Class II with four lanes, while keeping the remaining sections at Class III with two lanes; and (iii) maintaining NH5 at Class II with four lanes.

Summary Assessment of Road Transport Infrastructure

Road transport infrastructure in this subcorridor is generally adequate and in good condition. Further improvements in the existing road infrastructure, such as the second phase of the Ha Noi–Lao Cai expressway, will be carried out as planned.

Railways

There are two railway lines from Ha Noi to Hai Phong and from Ha Noi to Lao Cai with Ha Noi as railway junction. The total distance from Lao Cai to Hai Phong by rail is 395.3 km.

The Lao Cai–Ha Noi railway line, starting from Lao Cai and ending at Gia Lam station, is of meter gauge and single track with a length of 293.5 km. The geography of northwestern Viet Nam is of mountains and steep terrain, so rail accounted for the major transport on this corridor for both passenger and cargo, especially when highway capacity was still limited. This railway line is important, as it is a part of the Singapore–Kunming Railway Link project of the ASEAN.

Before 2002, this line served as the cross-border railway link between Viet Nam and the PRC (Ha Noi–Kunming) through the meter gauge system. It partly handled import and export cargo and passengers from Viet Nam to the PRC’s Yunnan Province, and vice versa. Safety problems and low capacity caused the railway line from Kunming to Hekou (PRC) to close in 2002. The PRC subsequently built a double track standard gauge line (1,435 millimeters) from Kunming to Hekou, completed in the late 2000s. These circumstances, particularly the gauge difference, have prevented the resumption of cross-border railway traffic from Ha Noi to Kunming.

ADB and the French Development Agency provided financial assistance for recent upgrades and rehabilitation to this important line. Track improvement and extension of station sidings were carried out, to increase

carrying capacity and to improve safety. Signaling and telecommunication systems were also upgraded with funding from the PRC’s official development assistance. Counterpart funding came from the Government of Viet Nam.

Since the Ha Noi–Lao Cai expressway opened, traffic has been diverted from NH70 and NH2 (in the old corridor route). The same is true for rail traffic. Passengers and cargo from Ha Noi to Lao Cai have been decreasing in the last five years (Table 12). Railway traffic on this line is likely to drop further if changes in railway management and operation are not implemented. Nevertheless, growing cross-border trade and tourism indicate that the Lao Cai–Ha Noi railway line still plays an important role as a safe mode of mass transport.

Ha Noi– Hai Phong railway line. This 101.7-kilometer long line starts in Gia Lam station (5.5 km north of Ha Noi) and ends at the Hai Phong station. It has a single track meter gauge and runs through flat topography except for a short stretch with a 0.6% gradient. Average speed is 50 kph, with a maximum of 70 kph in most of the line sections. The share of cargo transported by this railway line is smaller than that transported by road between Hai Phong and Ha Noi, because of a lack of handling facilities at stations and of “door to door” services offered to consignors. Although this line is almost parallel with NH5, it is expected to still play an important role for cargo transport between Ha Noi and Hai Phong since it passes through the most populated part of this subcorridor with many industrial complexes (Table 13).

Table 12: Rail Traffic Along Ha Noi–Lao Cai Section

Year	2012	2013	2014	2015	2016
Volume of Cargo (ton)	2,499,047	2,371,974	2,491,646	2,305,476	1,614,815
Number of Passengers	3,258,536	3,266,943	2,642,005	1,387,265	1,260,387

Source: Viet Nam Railway Corporation.

Table 13: Rail Traffic Along Ha Noi–Hai Phong Section

Year	2012	2013	2014	2015	2016
Volume of Cargo (ton)	411,930	517,715	645,178	604,314	472,794
Number of Passengers	1,409,267	1,305,796	1,321,146	1,342,647	1,246,473

Source: Viet Nam Railway Corporation.

Inland Waterways

The inland waterway in this subcorridor is only navigable up to Viet Tri from Hai Phong and Ha Noi. It mainly transports goods such as coal and construction materials. Shallow water allows it to accommodate only tug boats with a capacity of 1,200 tons to 2,000 tons, and self-propelled barges, depending on the season of the year.

Airports

Noi Bai International Airport. The airport is 35 km from Ha Noi City center. An upgrade

provided a new international passenger terminal with a capacity of 10 million passengers per year.

Total throughput capacity is 20 million to 25 million passengers per year. In 2016, the Noi Bai International Airport handled nearly 20 million passengers. A planned expansion will increase the airport's capacity to 50 million passengers per year during 2020–2030.

Cat Bi International Airport. This is 5 km from Hai Phong City center. It has a capacity of 4 million passengers per year. In 2016,

Cat Bi International Airport handled over 1.3 million passengers. The volume of traffic has grown 30% per year in the last few years.

2. Nanning-Ha Noi Subcorridor (NSEC-4)

a. Nanning-Ha Noi Route

Road Transport Infrastructure

This subcorridor starts at the Huu Nghi border, and traverses Lang Son, Bac Giang, and Bac Ninh via NH1A. It ends in Ha Noi and has a length of 167 km. In the early 2000s NH1A received an upgrade to Class III and IV with a road width of 10 m to 20 m. NH1A is one of the most important corridors linking Viet Nam to the PRC, constituting the shortest route from Ha Noi to the PRC border. Considering the rapid growth of traffic, ADB helped the Government of Viet Nam in 2010 to conduct a feasibility study and to finance the construction of an expressway from Ha Noi to the Huu Nghi border gate.

Traffic demand has increased sharply, especially on the road section near Ha Noi. Traffic count reached 30,000 PCU to 40,000 PCU per day. The private sector was encouraged to invest in projects along the subcorridor. The busiest sections of NH1A from Ha Noi to Bac Giang and from Bac Giang to Lang Son are now expressways, upgraded under a BOT contract. As part of the contract, investors repaved the road section from Bac Giang to Lang Son and from Lang Son to Dong Dang. They were allowed

to collect tolls to recover their investment.

In 2015, traffic volume in Bac Giang and Lang Son was 9,015 PCU/day (at km post 21+750) and 7,608 PCU/day (at km post 94+950).

Completed and Ongoing Projects

Ha Noi-Bac Giang expressway project.

This project starts in Bac Giang (km post 113+985 NH1A) and ends in Gia Lam (Ha Noi km post 159+100). It is 45.8 km long. The private sector implemented it in the form of a BOT contract, with a cost of VND4,213 billion. The expressway opened in May 2016, but problems have arisen since then, as this expressway was built only on the existing NH1A, with some upgrading, and with permissible speed up to 100 kph. Frequent traffic accidents occur because of the joint use by vehicles and motorcycles, and the lack of collector roads. Also, traffic congestion persists because the main crossroads were not provided with flyovers. The private investors were requested to complete the remaining components to address these problems, and especially to improve road safety.

Bac Giang-Lang Son expressway project.

Implementation of this project was in the form of a BOT contract. The 63-km long project has two components: (i) constructing an expressway on a new route, with four lanes plus two emergency lanes and a road width of 25 m and speed of 100 kph; and (ii) upgrading the existing NH1A section from Bac Giang to Dong Dang, with a cost of VND12,000 billion. The project was started in April 2016, and had been expected to be completed by 2018.

Financing difficulties have caused delays. There is no confirmed date of completion.

Planned Projects

Lang Son–Dong Dang expressway project.

ADB approved financing to build the remaining 45–kilometer section from Lang Son to Huu Nghi Border Point. Project cost is about \$445 million.

Traffic Forecast

Traffic volume along this subcorridor is projected to continue increasing, because of the establishment and operation of many industrial parks, and growing cross-border trade (Table 14).

Based on this forecast, NH1A is planned for upgrade and will be maintained at Class III and II, with four lanes for automobiles and

two lanes for mixed traffic, even with the presence of expressways.

Summary Assessment of Road Transport Infrastructure

NH1A on this subcorridor is generally in good condition and able to handle present traffic, which consists of heavy trucks, trailers, and motorcycles. This traffic mix and heavy load has led to traffic congestion, a high incidence of road crashes, and rapid deterioration of road surface. In the near future, it will be necessary to construct and upgrade sections—from Bac Giang to Lang Son, and the Lang Son–Huu Nghi border section—to expressway standards, to accommodate and facilitate increasing traffic. It is necessary to consider improving other highways in Lang Son Province besides the Ha Noi–Dong Dang expressways, to meet growing cross-border traffic and trade, and to make efficient use of the completed expressway.

Table 14. Traffic Forecast for Some Sections Along NSEC-4
PCU/Day

Main Sections	2011	2020	2030	Growth Rate 2011–2020 %	Growth Rate 2021–2030 %
Lang Son–Bac Giang	7,227	5,148	8,499	-3.7	5.1
Bac Giang–Bac Ninh	25,667	30,309	42,474	1.9	3.4
Bac Ninh–Ha Noi	32,610	31,896	69,381	-0.2	8.1

PCU/day = passenger car unit per day.

Source: Transport Development Strategy Institute of the Ministry of Transport.

Railway

A railway line runs from Ha Noi to Dong Dang, with a length of 166 km. It is a single track and has a mixed gauge (meter and standard gauge), starting from Gia Lam (Ha Noi) station to the Dong Dang border railway station. Rail traffic on the Ha Noi–Lao Cai–Kunming route was suspended in 2002, leaving this line as the only cross-border railway link between Viet Nam and the PRC on which international rail service is still carried out under the rules and regulations of the Organization for Cooperation of Railways, an international railway organization.

This line serves domestic and international traffic, with two cross-border trains running to the PRC and back every week. Besides the Huu Nghi international road border gate,

the Dong Dang railway station is designated as an International Railway Border Gate with Pinxiang International Railway Border Gate as its counterpart in Guangxi (PRC).

Before 1975 when there was limited access to foreign countries by air, this line served as the land-based cross-border route for passengers and cargo between Viet Nam, the PRC, and other countries in Europe. Today it serves mainly domestic traffic. Railway traffic volume has been declining compared to road transport (Table 15). It appears that the more roads are built, the lower railway traffic tends to be.

Inland Waterway

There is no inland waterway along this subcorridor.

Table 15: Volume of Cargo and Passengers Transported by Rail, Ha Noi to Dong Dang (Lang Son Province)

Year	2012	2013	2014	2015	2016
Volume of Cargo (ton)	839,048	702,068	710,735	621,390	450,114
Number of Passengers	223,287	201,159	170,234	149,379	138,033

Source: Viet Nam Railway Corporation.

b. Nanning–Fangcheng–Mong Cai–Hai Phong route

Road Transport Infrastructure

In Viet Nam, this subcorridor starts at the Mong Cai border in Quang Ninh province

(Viet Nam) and Dong Xing in Guangxi (PRC). It traverses Hai Hai (Quang Ha district), Tien Yen, Cam Pha, Ha Long, and Uong Bi, and ends at Hai Phong. It has two distinct sections.

Mong Cai–Ha Long section. This section runs from the Bac Luan border (Mong Cai), through Quang Ha, Dam Ha, Tien Yen, Cam Pha, and Ha Long via NH18, with a distance of 146 km. The Mong Cai–Mong Duong (Cam Pha City) subsection received an upgrade to Class III (mountainous level) with a road width of 16.5 m. The Cam Pha–Ha Long subsection also saw an upgrade to Class III, with a road width of 23 m to 24 m. Some stretches are still under construction. The road surface is asphalt concrete. In general, road condition is good, but cargo transport is hampered, especially during peak hours and during the rainy season, because the road from Mong Cai to Cam Pha goes through mountainous terrain with only two lanes. Traffic is recorded at 6,356 PCU/day to 7,265 PCU/day at Mong Cai; 7,734 PCU/day to 10,417 PCU/day at Tien Yen; 20,201 PCU/day to 26,576 PCU/day at Cam Pha, and 24,157 PCU/day to 36,984 PCU/day at Ha Long (as of 2015 and 2016).

Ha Long–Hai Phong section. Three routes go to Hai Phong from Ha Long City. Route 1 runs from Ha Long City to Uong Bi (41 km), via NH18; from Uong Bi to Quan Toan via NH10 (24 km), and a short 8 km stretch of NH5 to Hai Phong center. Traffic between Ha Long and Hai Phong mainly passes through this route. Total distance is 73 km. Travelled road surface width is 23 m to 24 m, with four lanes. Road condition is good. Route 2 runs from Ha Long City to Quang Yen (50 km), and from Quang Yen to Hai Phong through the Pha Rung ferry (20 km). The distance is 70 km.

The road along this section is narrow and requires a ferry crossing. There is minimal traffic along this route. Route 3 involves the construction of a new expressway connecting Ha Long and Hai Phong, with a distance of only 25 km (more details can be found in item “Ongoing Projects” on page 37).

The Ha Long–Hai Phong section via Route 1 passes through NH18, NH10, and a small stretch of NH5. These roads received upgrades to Class III with a road width of 23 m to 24 m. Traffic volume was 31,500 PCU/day near Uong Bi on NH18, and 22,215 PCU/day on NH10. Road infrastructure is in good condition.

Completed Projects

The 120-kilometer section from Mong Duong (Cam Pha City) to Mong Cai City received an upgrade, completed in 2012.

Viet Nam and the PRC shared the construction cost for the Bac Luan border bridge No. 2 and its approach road, completed in 2016. This bridge will be connected to the expressway system from Hai Phong to Mong Cai, and is expected to soon become another border gate mainly for import and export cargo. This approach is similar to the one in Lao Cai, where the Kim Thanh border gate handles mainly cross-border cargo.

Ongoing Projects

Hai Phong–Ha Long expressway project: This project (Route 3), which began construction in September 2014, was

completed and inaugurated on 1 September 2018 at a cost of VND13,693 billion. It will shorten travel distance from Hai Phong to Ha Long to only 25 km. The expressway connects to the Ha Noi–Hai Phong expressway at its end–point (Figure 11).

The project was divided into two components. The first involved construction of a cable–stayed type bridge crossing Bach Dang River in Hai Phong, at a cost of VND7,277 billion. The length of the bridge and approach roads is 5.4 km. The project was implemented in the form of a BOT contract with investors from Japan and Viet Nam. The second component covered construction of a four–lane, 25.5–meter wide road, with a designed speed of 100 kph, connecting to the Bach Dang Bridge. This was funded by the local government, with a budget of VND6,416 billion.

Ha Long–Van Don expressway project.

Construction began in 2014. The project consists of two components. The first is the construction of a 59–kilometer expressway with four lanes, travelled surface width of 16.5 m, road base width of 24.5 m, and a designed speed of 100 kph. The second component covers the repair of a 31.25–kilometer road section from Ha Long City to Mong Duong, and upgrading it to Class III with travelled surface width of 15.0 m, and road base width of 24.5 m. This is being implemented as a public–private partnership with a cost of VND13 billion. Private investors accounted for VND10,062 billion. The project will be completed at the end of 2018.

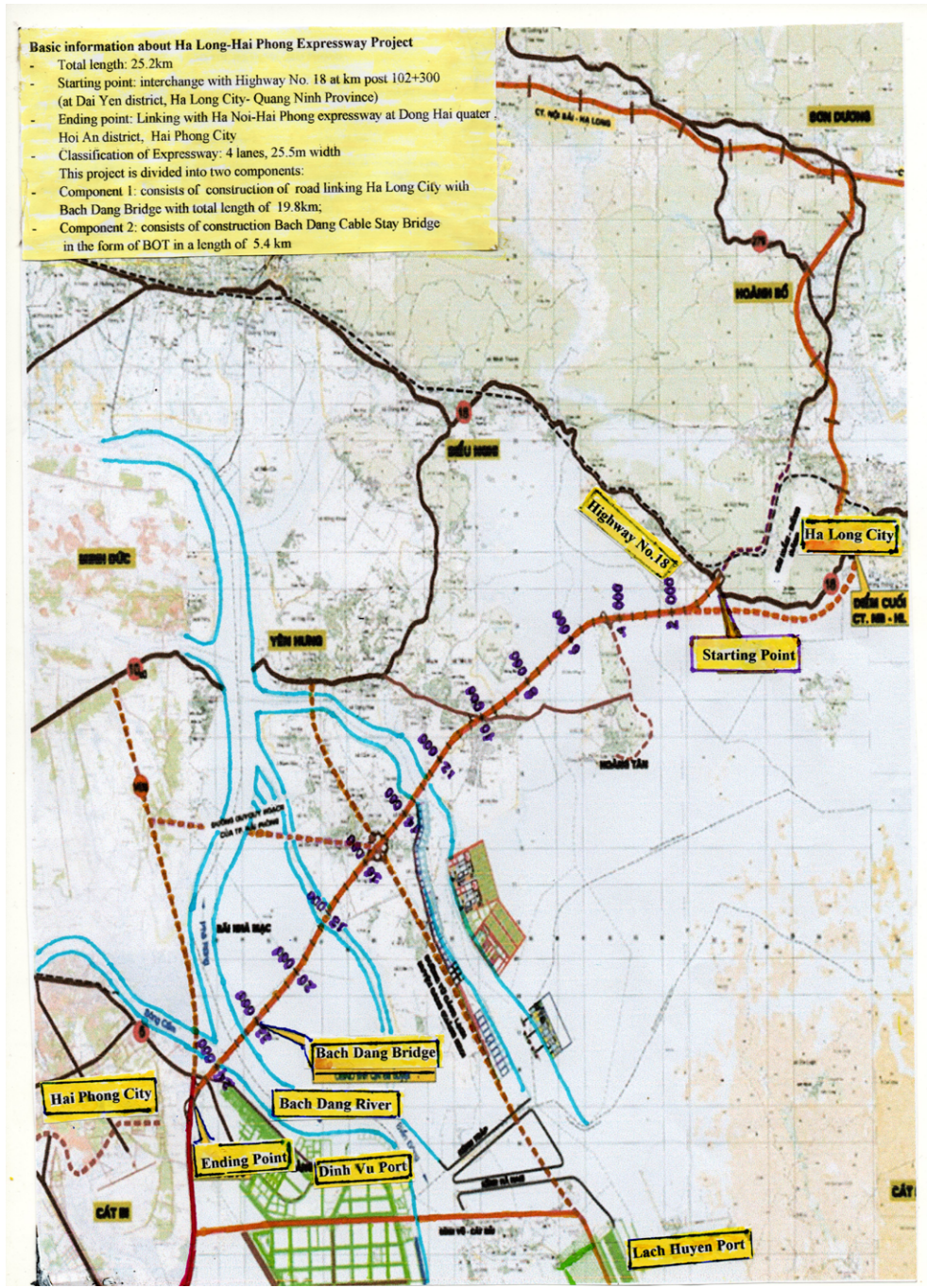
Van Don–Mong Cai expressway project.

A feasibility study is being conducted. The project will involve construction the of an 81–kilometer expressway with specifications similar to the other expressway projects. Cost is estimated at VND16,000 billion. It will be implemented in the form of a BOT contract. The project is planned to start at the end of 2017 and completed by 2020.

Cau Phao (temporary bridge). So far, Bac Luan Bridge No. 2, completed in 2016, still needs other related infrastructure such as approach roads. A section from Van Don to Mong Cai to link with this bridge is still missing. The Cau Phao project is a temporary measure to reduce congestion at the Bac Luan border gate. Construction started in January 2017 and opened for traffic in December 2017. The temporary bridge is 114 m long across Ka Long border river at Mong Cai, accommodating a two–lane, 12–meter wide road. This was carried out in the form of a BOT contract at a cost of VND160 billion. In addition, a nearby international container depot will be established to support customs clearance of import and export cargo between Viet Nam and the PRC at Mong Cai.

In a few years, when all ongoing projects are completed, Quang Ninh province will have a very good road transport network and other transport infrastructure to support socioeconomic growth and tourism in the province and in Hai Phong, and to facilitate cross–border trade and traffic.

Figure 11: Hai Phong–Ha Long Expressway Route



Source: Government of Viet Nam, Ministry of Transport.

Summary Assessment of Road Transport Infrastructure

NH18 and NH10 are adequate and in good condition to meet current traffic. Together with the soon to be completed ongoing projects in Quang Ninh and Hai Phong, the road infrastructure is adequate for future growth in traffic.

Railway

A railway line runs from Ha Noi to Ha Long via Kep. The Yen Vien to Cai Lan port section received an upgrade to a mixed gauge (1435 mm/1000 mm) system. Within it is a 64 km segment connecting Dong Trieu to Uong Bi and Ha Long. Railway transport carries some amount of cargo from coal mines in Quang Ninh to Ha Noi and to provinces in the northern delta, but few passengers. Most passenger traffic to Quang Ninh is by road, since the distance by rail is much longer and not as convenient as road transport.

Airport

Van Don Airport is located 50 km from the center of Ha Long City. The runway is 3,600 m long and is designed to accommodate all types of modern aircrafts. The passenger terminal has an initial capacity of 2.5 million and 10,000 ton of cargo. There are plans to expand it to 5 million people and 51,000 tons of cargo after 2030. The airport is almost complete with test operations conducted starting in July 2018. Commercial operation is planned to start by December 2018. The Law on Special Economic Zones and the establishment of the Van Don SEZ are expected to be approved in 2019.

Ports

The five ports in Quang Ninh include Cai Lan deep seaport. Cai Lan port has a capacity of 8 million tons and can handle vessels of up to 50,000 dead weight tons (DWT) and 5,000 twenty-foot equivalent units (TEU) container vessels. The Hai Phong port has a capacity of 45 million tons. The Lach Huyen deep seaport in Hai Phong is under construction and will accommodate vessels up to 100,000 DWT. These ports will help make import and export trade on this subcorridor more efficient.

3. *Leam Chabang-Bangkok-Nakhon Ratchasima-Udon Thani-Nakhon Phanom-Takhek-Na Phao-Vung Ang-Ha Noi Subcorridor (NSEC-7)*

Road Transport Infrastructure

This subcorridor starts from the Cha Lo border gate (Quang Binh province), passes through NH 12A or 12C, intersects NH1A on the way to Vung Ang (Ha Tinh province), and runs through Quang Binh, Ha Tinh, Nghe An, Thanh Hoa, and Ha Nam via NH1A. It ends in Ha Noi.

Old route NH12A: NH12A begins at Ba Don along NH1A (km post 621+100 NH1A) in Quang Binh province. It merges with NH12C and Ho Chi Minh Highway at Dong Le market town, Hong Hoa crossroad-Nga Ba Pheo (km post 898+050) up to Khe Ve cross road (km post 873+400). It then turns west on the NH12A until the Cha Lo border gate.

This route passes through the Truong Son mountain range, so the road winds and rolls with many curves and a steep gradient of about 20 km. NH12A was upgraded to Class IV and III (mountainous terrain) with a road width of 7 m to 10 m, except for some stretches near market towns, which received an upgrade to Class IV and III (level terrain). An upgrade to Class II improved a small 3 km section that runs through Ba Don. NH12A is in good condition. The total distance is 136.6 km.

New route NH12C: NH12C starts at Vung Ang port along NH1A (km post 573+420 NH1A) in Ha Tinh province. It runs on the same route as NH1A, with a distance of about 8 km in the vicinity of Ky Anh. From there it turns west in a new route, NH12C (upgraded from Ho Chi Minh trail), that runs up to Dong Le market town where it merges with NH12A to the Cha Lo border gate. A new route from Dong Hoa market town to Vung Ang, NH12C, was upgraded to Class III (mountainous terrain) and III (level terrain) for a stretch of 10 km near Ky Anh. NH12C is in good condition. This new route, which contains NH12A and NH12C, is registered as AH131. It has a distance of 121.5 km.

From Vung Ang to Ha Noi, this subcorridor runs along NH1A, which was recently widened and upgraded to Class III of either two or four lanes and a road width from 12.0 m to 19.5 m. Most cities and major towns along NH1A have been provided with bypass roads to avoid through traffic. Traffic on NH1A has seen a high increase in the last 5 years. The average is more than 15,000 PCU/day, with sections having traffic volume

recorded in 2015 as: (i) 36,685 PCU/day at Ha Trung (Thanh Hoa) km post 299+260 NH1A, (ii) 31,083 PCU/day at Ben Thuy (Nghe An) km post 467+300 NH1A, and (iii) 20,537 PCU/day at Hong Linh (Ha Tinh) km post 482+500 NH1A.

Although NH1A recently saw an upgrade to Class III and II, problems remain in meeting traffic demand and reducing road crashes. The highway carries both vehicles and motorcycles, exacerbating road congestion, especially at intersections. Traffic volume has increased by 10% to 12% per year in the last 5 years. Traffic volume in the Ha Noi–Vinh section and at the entrance to the major cities has reached 18,000 PCU/day. According to the traffic forecast of the National Transport Development Strategy Project in Viet Nam (VITRANSS), traffic volume along NH1A will increase four- to fivefold for passengers and three- to fourfold for cargo during 2020–2030 (Table 16). This is one reason for the government’s approval of the North–South expressway network, for which some projects have been implemented and put into operation, and others are in the construction or preparation stage.

Based on current and future traffic, new projects will be required to improve road capacity and remove constraints along this subcorridor. Priority should be given to upgrading NH12A to Class III of the 35 km stretch approaching the Cha Lo border gate. Estimated cost is about VND665 billion. In general, NH12A and NH12C are in good condition, but improvements will be required in the future.

Table 16: Traffic Forecast for Particular Sections with Expressway
PCU/day

Main Sections	2011	2020	2030	Growth Rate 2011–2020 (%)	Growth Rate 2021–2030 (%)
Phap Van (Ha Noi)–Cau Gie		84,119	101,142		
Cau Gie –Ninh Binh	40,734	51,779	68,924	2.7	2.9
Ninh Binh–Thanh Hoa	23,038	19,959	21,098	-1.6	0.6
Thanh Hoa–Vinh (Nghe An province.)	16,008	11,440	13,029	-3.7	1.3
Vinh (Nghe An province.) to Ha Tinh	15,448	18,311	25,764	1.9	3.5
Ha Tinh–Quang Binh		14,208	39,159		10.7

PCU = passenger car unit.
Source: Transport Development Strategy Institute.



Traffic access. Vehicles find it difficult to overtake in this narrow section near Cha Lo border.
Photo credit: Pham Thanh Tung.

Road Projects

Completed expressway. Phap Van–Cau Gie (30 Km) and Cau Gie–Ninh Binh (50 km) have been put into operation.

Expressway Projects in the Preparation Stage

The 75-kilometer Ninh Binh–Thanh Hoa and the 160-kilometer Thanh Hoa–Ha Tinh projects are being prepared. Mechanisms for funding and construction are being studied.

For the Ha Noi–Vientiane expressway project, Viet Nam conducted a pre-feasibility study for the most direct route between Vientiane and Ha Noi as part of a bilateral cooperation agreement with the Lao PDR. Both sides agreed on the route's alignment, running from Vientiane to Paksan, Vieng Thong (road No.13), Nam On, on to Thanh Thuy (the border gate in Viet Nam), Vinh, and further to Ha Noi (Figure 12). The distance is more than 600 km. The two countries agreed to cooperate in obtaining the funds for a feasibility study and for construction.

Railway

No railway line exists from Viet Nam to the Lao PDR.

Proposed Railway Project

Viet Nam–Lao PDR rail link project.

The Government of the Republic of Korea (ROK) gave technical assistance for a feasibility study completed in 2017 under the ASEAN–ROK Transport Cooperation

framework. The two governments approved this as a top priority project to improve transport connectivity between Viet Nam and the Lao PDR. The study followed the Singapore–Kunming–Rail Link initiative of ASEAN for Route 1 or the Eastern Railway Line, which determined the start of the spur line in Vung Ang port. The Viet Nam component of the line then goes through Tan Ap station–Mu Gia Pass, with a length of 119 km; and from Mu Gia to Thakhek and further to Vientiane. The total length is 466 km (Figure 13).

4. *Vientiane–Paksan–Vinh–Ha Noi Subcorridor (NSEC-8)*

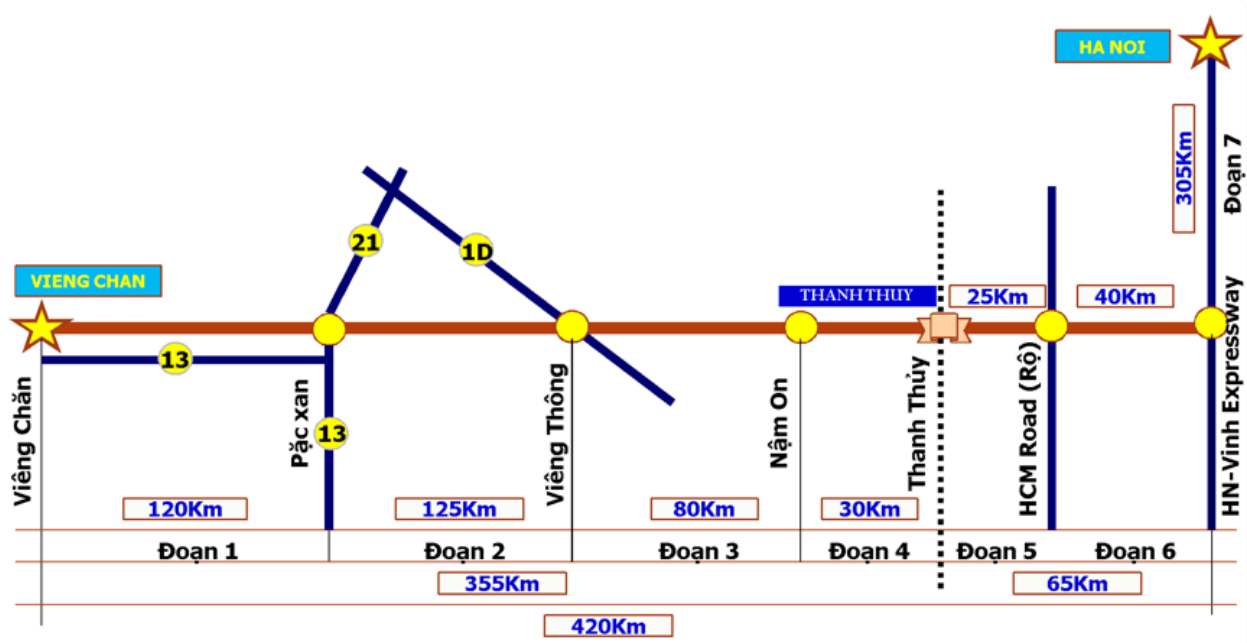
Road Transport Infrastructure

NSEC-8 in Viet Nam traverses the same provinces and cities as the NSEC-7, as both run via NH8 and NH1A.

NH8A is registered as AH15 under the Trans-Asian Highway network and the ASEAN Interstate Transport Agreement framework. It starts at Cau Treo and ends at Hong Linh, with a length of 85.3 km from where it intersects NH1A. From here the subcorridor runs right through NH1A to Vinh and to Ha Noi on the same route as NSEC-7, with a total distance of 461 km.

NH8A received an upgrade to Class IV (mountainous terrain) and some stretches near towns to Class III, with a road width of 6 m to 15 m, before 2000. At that time the road was considered as the most well-maintained, with good surface and the best route from Viet Nam to the Lao PDR.

Figure 12: Agreed Route for the Proposed Expressway, Vientiane to Ha Noi



Source: Government of Viet Nam, Ministry of Transport.

Figure 13: Proposed Route, Vung Ang–Tan Ap (Viet Nam)–Thakhek (Lao PDR)–Vientiane Railway Line



Source: Government of Viet Nam, Ministry of Transport.

Traffic volume recorded in 2015 was 20,386 PCU/day at Hong Linh town on NH1A, and 3,134 PCU/day at Pho Chau town on NH8A.

Similar to other Subcorridors from Viet Nam to the Lao PDR, NH8A winds and rolls with many curves and steep gradients, especially as it approaches the border. Because it is the shortest route from Ha Noi to Vientiane, traffic volume was very high during 2005–2008. The heavy load of trailers, and trucks carrying logs; landslides during typhoon season, and, above all, poor maintenance, have resulted in considerable deterioration of the road (Figure 16).

The government funded repairs and upgrades to a 37 km long section of NH8A (km post 0 to km post 37) from Hong Linh to Pho Chau (Huong Son district) before 2010. In 2014, the Ministry of Transport approved a project to rehabilitate and upgrade NH8A from km post 37 to the Cau Treo Border point (km post 85+300). Only VND230 billion to VND600 billion was reportedly allocated for the first phase of this project. Financial constraints caused the project's suspension in 2016. Stretches of about 5 km from Pho Chau to Tay Son district were badly damaged and required immediate repair. The section from Tay Son to Cau Treo border, with a length of 30 km, needs proper maintenance. The road surface is not in good condition, adversely affecting road safety and hindering cross-border movement of goods and passengers.

Proposed Projects

The need to rehabilitate and upgrade NH8A is urgent, to meet safety and traffic requirements. A project has already been

approved. Its continued implementation should be prioritized so that immediate repairs are undertaken on badly damaged stretches, especially from Pho Chau to Cha Lo border (about 38.3 km). This will ensure road safety and smoother travel.

Summary Assessment of Road Transport Infrastructure

Except for NH8A, road infrastructure along this subcorridor is in good condition.

Railway

The North–South railway line runs across Ha Tinh province, but there is no rail link to the Cau Treo border. Similar to the other subcorridors, the share of railways in cross-border traffic is small.

Inland Waterway

No inland waterway exists along this subcorridor.

C. Southern Economic Corridor

1. Dawei–Bangkok–Phnom Penh–Ho Chi Minh City–Vung Tao Subcorridor (SEC-1)

Road Transport Infrastructure

SEC-1 starts in Viet Nam from the Moc Bai international border gate in Tay Ninh. It traverses Ho Chi Minh City, Binh Duong, and Ba Ria–Vung Tau province, with a distance of 180.6 km. It passes through NH22, NH1A, and NH51. The road is



Road hazard. Badly damaged sections near Tay Son is in need of immediate improvements.
Photo credit: Pham Thanh Tung.

registered as AH1 (NH22 and NH1A sections), and AH17 (NH51 section) under the Asian Highway Network.

This is a very important route, the shortest connecting Ho Chi Minh and Phnom Penh in Cambodia. Besides the Moc Bai international border gate, Tay Ninh has another one in Xa Mat. The two border gates give the subcorridor the highest traffic density from An Suong in Ho Chi Minh to Go Dau, more than any other route between Viet Nam and Cambodia.

Moc Bai International Border Gate (Tay Ninh Province) to An Suong intersection (Ho Chi Minh City). This section passes through NH22. It is 59 km long and runs from the Moc Bai border gate via Go Dau town and the An Suong intersection in the outskirts of Ho Chi Minh. The road from Moc Bai to Go

Dau (in Tay Ninh province) got an upgrade to Class III, and from Go Dau to An Suong (Ho Chi Minh City) to Class II, with 2 lanes and a traveled surface width of 16 m to 18 m. Road condition is good; however, traffic congestion persists at the section between Go Dau and An Suong.

In 2013, traffic volume reached 32,210 PCU/day on NH22 at An Suong (km post 30+900), and 1,942 PCU/day near the Moc Bai border gate. The road is good but needs to be widened to cope with the high growth in traffic volume, especially between Go Dau and An Suong.

An Suong to Bien Hoa section. NH22 intersects NH1A at An Suong and serves as a ring road of Ho Chi Minh City. It is classified as Class I with four to six lanes. The traffic density is very high most of the time.

Bien Hoa to Ba Ria City and Ba Ria City to Vung Tau sections. These sections run via NH51, upgraded to Class I and II with six lanes. Traffic volume reached 47,409 PCU/day in 2015.

Traffic forecast shows that traffic volume will continue to increase along this subcorridor even with available expressways (Table 17).

Road Projects

Expressway from Ho Chi Minh City to Moc Bai (Viet Nam Border Gate), Bavet (Cambodian Border Gate) and Phnom Penh. Viet Nam’s Ministry of Transport and Cambodia’s Ministry of Public Works and Transport signed a memorandum of understanding on 25 April 2017 in Phnom Penh to jointly carry out further

improvements to an expressway from Ho Chi Minh City to Phnom Penh.

The Japan International Cooperation Agency supported a completed feasibility study for the Cambodia component, while consultants from Viet Nam completed a pre-feasibility study for the Viet Nam component. The project cost is estimated at about \$650 million for the total length of nearly 200 km (65 km in Viet Nam and 130 km in Cambodia). Both sides agreed to cooperate further in defining the scope of work, technical specifications, and connecting points, and in obtaining funding for project implementation. The Korean International Cooperation Agency has reportedly agreed to give financial assistance for the feasibility study for the Viet Nam component.

Table 17: Traffic Forecast for Particular Sections Along SEC-1
PCU/day

Main Sections	2011	2020	2030	Growth Rate 2011-2020 %	Growth Rate 2021-2030 %
Xa Mat International border gate (on NH22B) to Go Dau (Tay Ninh province)	5,764.0	10,231.0	14,812.0	6.6	3.2
Go Dau-An Suong, Ho Chi Minh City (on NH22)	33,383.0	52,784.2	87,618.0	6.6	5.2
Bien Hoa (Dong Nai province)-Ba Ria-Vung Tau (province)	47,409.0	52,784.2	91,175.5	3.2	3.7

NH = national highway, PCU/day = passenger car unit per day.
Source: Government of Viet Nam, Ministry of Transport.

NH22 road expansion project. An urgent need is to improve a 7 km stretch near the Trang Bang industrial park (from Suoi Sau to crossroad with provincial road No. 782). Severe traffic congestion calls for this section to be widened and upgraded to Class I with 8 lanes and a road base width of 40 m. The remaining section, from Suoi Sau to the Moc Bai border (21 km), needs to be upgraded to Class II and I with 4 to 6 lanes to meet future traffic demands.

Expressway from Bien Hoa to Ba Ria-Vung Tau. A pre-feasibility study is complete. The private sector is invited to invest in this project.

Summary Assessment of Road Transport Infrastructure

In general, all sections are in good condition and no immediate repair is required. However, in view of congestion along NH22 near Ho Chi Minh, the proposed projects for improving corridor capacity need to be implemented as scheduled.

Railway

There is no railway along this subcorridor. Some railway projects related to this subcorridor have been prepared in accordance with the master plan for railway development.

Bien Hoa-Vung Tau railway project.

A pre-feasibility study for building a new railway line from Bien Hoa to Vung Tau has been completed.

Railway links from Ho Chi Minh to Phnom Penh. This is a bilateral project between

Viet Nam and Cambodia. Feasibility studies for the railway route in both Cambodia and Viet Nam were completed in late 2010. Both sides designated border points for rail connections. No further progress has been made because of financial constraints.

Inland Waterways

Rivers and canals line the section from Ho Chi Minh to Moc Bai. However, inland waterways mainly serve domestic traffic in Tay Ninh province. These require further work to improve navigability. River ports need to be built, and adequate handling facilities installed, to allow the waterways to absorb some of the road traffic on this section.

2. Bangkok-Siem Reap-Stung Treng-Pleiku-Quy Nhon Subcorridor (SEC-2)

Road Transport Infrastructure

This subcorridor traverses Gia Lai and Binh Dinh provinces via NH19. It starts at the Le Thanh international border gate in Gia Lai province and ends at Quy Nhon City. The distance is about 234 km. This important subcorridor links the highland provinces of Viet Nam and the northeastern provinces of Cambodia to the Eastern Sea. Most sections run through mountainous areas and complex terrains, with many winding roads and steep gradients.

The entire NH19 was upgraded to Class III (mountainous level) in the mid 2000s. It was damaged heavily in the last several years from overloading and inadequate road maintenance. It also has a high rate of road crashes. Severe damage is seen in the

following segments of NH19: (i) from km post 17+027 to km post 51+152, (ii) km post 90 to km post 131+300, (iii) km post 51+152 to km post 90+00, and (iv) km post 131+300 to km post 168+00.

To improve road condition and transport, the Government of Viet Nam is seeking investments from the private sector, as well as financial support from international financing institutions.

NH19 contains the following main sections:

Section 1. This section starts from the Le Thanh border (kilometer post 243+00) and runs a distance of 75 km to Pleiku city (kilometer post 168+00). An upgrade improved this section to Class III (mountainous terrain), with 2 to 4 lanes and a road width of 7 m to 15 m. It is in fairly good condition. Traffic volume is 1,495 PCU/day to 2,000 PCU/day.

Section 2. This runs from Pleiku city to An Khe town (Gia Lai), and from An Khe to An Nhon (Binh Dinh province). It intersects NH1A at Dieu Tri, and has a distance of 151 km. An upgrade improved this section to Class III (mountainous terrain) with 2 to 4 lanes and a road width of 7 m to 21 m. Two segments—from km post 131+300 to kilometer post 108+00 (23.1 km long),

and from km post 51+152 to 17+027 (34 km)—were badly damaged, and repaired and upgraded under the BOT scheme. The first segment received an upgrade to Class III (mountainous terrain), with 4 lanes and

a road width of 15 m; the second saw an upgrade to Class III with 2 lanes and a road width of 11 m. Traffic volume ranges from 4,910 PCU/day to 6,000 PCU/day.

Section 3. This section begins in An Nhon town and runs to Quy Nhon port via the intersection at Dieu Tri in Binh Dinh (km post 17+00), where it meets NH1. It has a distance of 24 km. A recent upgrade improved this section to Class III, with a road width of 11 m. This is part of the urban road of Quy Nhon, and is in good condition. Traffic volume is 10,924 PCU/day to 18,599 PCU/day.

Traffic forecast shows that traffic will increase along this subcorridor, as it is the main transport route of the midland provinces of Viet Nam and the northern provinces of Cambodia to the sea (Table 18).

Ongoing Projects

Central Highland Connectivity

Improvement project. The World Bank in mid-2017 approved this project to improve NH19, at a cost of \$150 million, of which 3.85 million will be counterpart funding from Viet Nam. The project will repair damaged stretches, and strengthen traffic safety along the entire NH19. Project components are: (i) improvement of three segments—km post 51+152 to km post 67+00 (16 km), km post 131+300 to km post 167 (36 km) and km post 180+00 to km post 247+00 (67 km); and construction of a 10 km bypass road in An Khe town and an 18 km bypass road in Pleiku City. The project is expected to begin in 2019 and completed in 2022.

Table 18: Traffic Forecast for NH19, Quy Nhon City to Pleiku City
PCU/day

Road Sections	2011	2020	2030	Growth Rate 2011–2020 %	Growth Rate 2021–2030 %
Quy Nhon–An Khe town	6,011	10,044	16,826.4	5.7	5.3
An Khe–Pleiku	6,011	10,044	16,826.4	5.7	5.3

PCU/day = passenger car unit per day.
Source: Transport Development Strategy Institute.

According to the Master Plan for Road Transport up to 2020 and Vision to 2030, NH19 will be upgraded to Class III with 2 lanes, except the 17 km section in Quy Nhon City which is to be upgraded to Class II with 4 to 6 lanes.

Summary Assessment of Road Transport Infrastructure

Some stretches that were recently upgraded remain in good condition. However, the entire subcorridor has not yet reached the required technical standard to meet traffic demand. Hence, NH19 needs further improvement for it to achieve a uniform standard for the entire route. In addition, measures are needed to ensure traffic safety and facilitate the movement of goods and people from central highland provinces to the sea, and vice versa.

Railway

There is no railway along this corridor.

Inland Waterway

There is no inland waterway along this corridor.

3. Bangkok–Trat–Kampot–Ha Tien–Nam Can Subcorridor (SEC-3)

Road Transport Infrastructure

SEC-3 traverses Kien Giang and Ca Mau provinces, starting at the Ha Tien international border gate and ending at Nam Can southern tip. The distance is 362 km.

SEC-3 has five sections.

Ha Tien border–Kien Luong: This passes through NH80, and was upgraded to Class III, IV, and V with two lanes and a road width of 6 m to 9 m. The road surface is bituminous macadam and asphalt concrete, varying in segments. In 2013, traffic volume on NH80 near the Ha Tien border (km post 215+270 to km post 211+00) was

940 PCU/day. Near Minh Luong town (km post 149+00 and km post 190+00), it was 1,959 PCU/day. The road is generally narrow and in poor condition. This road needs to be improved for future traffic.

Kien Luong–Rach Gia City section. This traverses NH80. An upgrade improved it to Class IV and III with 2 lanes and 4 lanes at Rach Gia City. The section has a road width of 9 m to 14 m. Road surface is bituminous macadam and concrete asphalt. This section is in good condition.

Rach Gia–Minh Luong section. This goes through NH80 and NH61. It is classified as Class IV, with 2 lanes and a road width of 9 m. It is paved with bituminous macadam. Traffic volume is 2,483 PCU/day.

Despite repairs, road condition remains poor and in need of improvement.

Minh Luong–Ca Mau section. This passes through NH63. Repairs upgraded it to Class III, IV, and V with 2 lanes and a road width of 5.5 m to 7.0 m, except near Ca Mau City (km post 110+010 to km post 114+629 NH63) where it has 4 to 6 lanes and a road width of 15 m to 22 m. Road surface is bituminous macadam for the most part, and asphalt concrete for a segment of about 6 km near Ca Mau City. Traffic volume is 4,617 PCU/day on the approach road to Ca Mau City (km post 110+010). Road condition is good, but some stretches are narrow and need to be improved.

Ca Mau–Nam Can section. This runs through NH1, and received an upgrade to

Class III with 2 lanes. The road surface is nearly all asphalt concrete except on a small segment of bituminous macadam. Road surface width is 8 m to 24 m. Road condition is quite good because of recent upgrades. Traffic volume near Ca Mau City is 16,000 to 20,000 PCU/day (km post 2,250+ 00).

Nam Can–Ca Mau Southern Tip. This recently built (2015–2016) part of Ho Chi Minh highway has two lanes (Class III), an asphalt concrete surface, and a road width of 6 m to 9 m. Traffic volume is more than 2,000 PCU/day. The road is in good condition.

Traffic is moderate except for sections near big cities like Ca Mau and Rach Gia. Roads and bridges need to be revamped to accommodate future traffic, expected to increase upon completion of road infrastructure along other corridors from Ho Chi Minh City and other cities in the Mekong Delta. The second phase of the ADB–assisted Southern Coastal Corridor Project will be implemented soon. This will enhance road and bridge infrastructure, as well as border facilities.

Completed and Ongoing Projects

ADB, the Korea Economic Development Cooperation Fund, and the Government of Australia funded the first phase of the

Southern Coastal Corridor Project, completed in 3 years in February 2015.

The project cost \$389 million, and rehabilitated sections of NH80 and NH63. Two big bridges were built across

Cai Lon and Cai Be rivers. The project also covered the construction of a 21-kilometer long bypass road in Rach Gia city; 22 small bridges totaling a distance of 3,234 m; two interchanges at Rach Gia and Cai San; and a section (Class III) of the Minh Luong–Cai San road. This project has cut travel time, and helped spur socioeconomic growth in Kien Giang and Ca Mau.

Preparations are underway for the second phase, estimated at about \$369 million. This phase will enhance remaining road sections of NH80 and NH63 and facilities at the Ha Tien border gate.

Summary Assessment of Road Transport Infrastructure

Road transport infrastructure between Kien Giang and Camau provinces has seen substantial upgrade. However, further work is required to improve this subcorridor and link it with the road system in the Cuu Long River Delta. Phu Quoc island in Kien Giang province is a most attractive investment

destination; hence, other infrastructure such as port and border facilities, and bonded warehouses will be needed. These will help turn the subcorridor into a logistics and land and/or maritime link between Phu Quoc and the neighboring provinces of Cambodia

Railway

No railway line exists along this corridor.

Inland Waterway

Despite a network of canals and rivers, inland water mainly serves local transport of cargo between districts and towns.

Maritime Transport

Coastal shipping can play an important role in the future, transporting people and goods. The ASEAN Framework of Transport Cooperation has a program to promote a regular coastal shipping route through Thailand, Cambodia, and Viet Nam.

IV. BORDER CROSSING FACILITIES AND CROSS-BORDER TRAFFIC

A. East-West Economic Corridor

Border Crossing Facilities

The Lao Bao and Densavanh border checkpoints between Viet Nam and the Lao People's Democratic Republic (Lao PDR) have inspection facilities and common control areas in accordance with the Greater Mekong Subregion (GMS) Cross-Border Transport Facilitation Agreement (CBTA). These were the first border checkpoints in the GMS to implement the "single stop, single inspection" (SSSI) scheme under the CBTA. Since the scheme started in 2015, customs, quarantine, and immigration clearance for passengers and cargo have been exercised only at the inward border checkpoint. These border checkpoints have most of the other required facilities for transport and trade facilitation, except for container scanners.

These pilot border checkpoints in the GMS received considerable attention and efforts from the Governments of Viet Nam and the Lao PDR to ensure successful implementation of the SSSI scheme. Border operation from 7 a.m. to 10 p.m. facilitates cross-Border trade and transport. Customs and other officers are well-trained, educated, and proficient in conducting formalities in line with the CBTA and the laws and regulations of Viet Nam and the Lao PDR.

Clearance time was further reduced because advance customs clearance can now be done online.

A Decision of the Prime Minister of Viet Nam established the Lao Bao Border Economic Zone in 1998. After five years, the zone expanded into the Lao Bao Special Trade and Economic Zone. This is the first model established in Viet Nam comprising different features: it functions as an industrial zone with a special customs bonded area, and as an economic zone with a special operating mechanism. In the 15 years since 2003, about 400 enterprises have set up their businesses in the Lao Bao Special Trade and Economic Zone, which has an area of 262 hectares (ha), compared to the initial 12 enterprises in 1998. A total of 57 projects involve local and foreign investors. Business establishments increased from 1,000 in 1998 to 2,600 in 2015, creating 4,500 jobs.

The zone contributes substantially to the gross domestic product of the province. However, recent changes in tax policy applied on the border economic zone have adversely affected business operations at Lao Bao, with some establishments incurring deficits and even facing bankruptcy.

Cross-Border Traffic

Under the bilateral road transport agreement between Viet Nam and the Lao PDR, no limit

is set on the number of vehicles crossing the borders. Vehicles from one territory are free to enter the other and allowed to stay up to 30 days. The main designated cargo traffic route from Viet Nam through Lao Bao–Densavanh (Da Nang Port–Lao Bao–Densavanh–Savanakhet City (the Lao PDR) is 454 kilometers (km) long. Policies and bilateral transport and trade agreements are quite open and facilitate the cross-Border transport of goods and people through all checkpoints between Viet Nam and the Lao PDR.

Passengers and cargo passing through this border have increased in the last 6 years (Tables 19 and 20).

The figures in Table 19 refer to the number of vehicles passing through the borders. They have not been converted to passenger car units. During consultations on the field, border officers indicated that the increase was due more to passengers crossing rather than cargo. They also reported that traffic through the Lao Bao border decreased after 2016.

Table 19: Vehicles Crossing the Lao Bao–Dansavanh Border, 2011– 2016

Year	Number of Inbound Vehicles	Number of Outbound Vehicles	Total
2011	33,966	33,917	67,883
2012	31,118	31,357	62,475
2013	38,274	38,685	76,959
2014	44,279	44,726	89,005
2015	49,051	48,153	97,204
2016	51,111	49,879	100,990

Source: Government of Viet Nam, Quang Tri Customs Office.

B. North–South Economic Corridor

1. Lao Cai–Ha Noi–Hai Phong Subcorridor (NSEC–3)

Border Crossing Facilities

The Lao Cai international border gate has an area of 6.8 ha, and is located at Ho Kieu

bridge crossing on the Nam Thi river border. It has good infrastructure and well–equipped facilities as a result of a recent upgrade. The border gate is open from 7:00 a.m. to 7:30 p.m. for cargo, and 7:00 a.m. to 4:30 p.m. for passengers. The SSSI scheme has not yet been applied at this border gate. Instead, the “two countries, one inspection” or single window inspection (SWI) scheme is being implemented. Online customs clearance has

Table 20: Passengers Crossing the Lao Bao–Dansavanh Border, 2011–2016

Year	Number of Passengers Passing the Lao Bao border		Total
	Outbound	Inbound	
2011	161,886	152,326	314,212
2012	140,732	232,927	373,659
2013	378,295	364,248	742,543
2014	394,553	388,792	783,345
2015	402,427	426,295	828,722
2016	365,176	355,010	720,186

Source: Government of Viet Nam, Quang Tri Customs Office.

helped facilitate cross-border traffic. The Lao Cai border economic zone, established in 1998, has an area of 5,000 ha. Since then it has expanded to 7,900 ha, and attracted 279 investment projects and nearly 2,000 businesses with a total registered capital of \$1,026 million. Because of increased cross-Border trade and traffic through Lao Cao, the Kim Thanh bridge was constructed, linking the Ha Noi–Lao Cai expressway to new border facilities mainly for handling cargo transported by vehicles along the expressway. Besides these road border checkpoints, a railway border checkpoint near the Ho Kieu railway bridge was also set up where the railway line from Ha Noi to the Lao Cai ends. This line used to be the cross-Border railway link between the People’s Republic of China (PRC) and Viet Nam.

Cross-Border Traffic

The PRC and Viet Nam amended their Bilateral Road Transport Agreement in 2012, allowing vehicles of both countries to enter each other’s territory through designated borders and routes. However, trucks have to unload their cargo at designated points near the border, instead of going to the cargo’s destination, except in some special cases. This is because rules require transport operators to deposit a sum of money and appoint a counterpart to guard against misconduct while the transport operators are traveling inside the other party’s territory. This requirement hinders the smooth and efficient conduct of cross-border traffic and trade. Both parties have good and harmonized infrastructure, so the issue requires a mutually acceptable resolution.

The PRC and Viet Nam have held consultations, and have discussed various initiatives to introduce cost-effective measures to facilitate the cross-border movement of cargo and passengers.

Table 21 shows the number of vehicles crossing the Lao Cai and Kim Thanh border gates. About 1.5 million passengers cross the Lao Cai border gate every year.

2. Nanning-Ha Noi Subcorridor (NSEC-4)

a. Nanning-Hanoi Route

Border Crossing Facilities

The Huu Nghi (Viet Nam)-Youyiguan (PRC) international border gates are the Border Crossing Points on this route.

They are open daily from 7 a.m. to 7 p.m. for passengers, and from 7:00 a.m. to 6:00 p.m. for cargo.

Huu Nghi upgraded its facilities in the late 2000s, when cross-Border trade and passenger traffic were still low. Traffic increased in the ensuing years, and facilities became inadequate for efficient handling of traffic volume. Investments were made to augment the facilities, including the building of a cargo yard and access road to the border gate. These measures aimed to meet the new traffic and trade requirements under the master plan for expanding and modernizing the Huu Nghi international border area. However, border control facilities need further improvements to meet future demands.

Border facilities were recently enhanced with financial assistance from the Asian

Table 21: Vehicles Crossing Lao Cai and Kim Thanh Border Gates (Lao Cai Province), 2013-2016

Type of Vehicles	2013		2014		2015		2016	
	Outbound from Viet Nam	Inbound from the PRC	Outbound from Viet Nam	Inbound from the PRC	Outbound from Viet Nam	Inbound from the PRC	Outbound from Viet Nam	Inbound from the PRC
Bus	2	962	2	630	4	0	30	2
Trucks	48,899	40,476	24,176	45,333	25,682	56,345	42,102	58,672
Total	48,901	41,438	24,178	45,963	25,686	56,345	42,132	58,674

PRC = People's Republic of China.
Source: Government of Viet Nam, Lao Cai Customs Office.

Development Bank (ADB) and counterpart funding from the Government of Viet Nam.² The improvements included: (i) a new border office, (ii) an expanded 1.8-kilometer approach road, and a separate road 700 meters (m) long and 45 m wide for handling import and export cargo; (iii) a 20,000 square-meter parking and cargo yard, and (iv) expanded roads to facilitate movement of goods and people passing through the Dong Dang border. Border points aside from the Huu Nghi international border gate are in Lang Son, which handles import and export cargo; and Tan Thanh, which specializes in import and export and other nonquota export and import between the PRC and Viet Nam.

Cross-Border Traffic

Table 22 shows the volume of cross-border traffic at the Huu Nghi border from 2013–2016. Inbound and outbound traffic posted significant increases during this period. The same is true for inbound and outbound passengers passing through this border gate (Table 23).

In addition to road traffic, the railway line along this corridor contributes to the international cross-border traffic between the PRC and Viet Nam at Dong Dang (Viet Nam) and Pingxiang (PRC) (Table 24).

Table 22: Vehicles Crossing Huu Nghi Border (Lang Son Province) 2013–2016

Type of Vehicles	2013		2014		2015		2016	
	Outbound from Viet Nam	Inbound from the PRC	Outbound from Viet Nam	Inbound from the PRC	Outbound from Viet Nam	Inbound from the PRC	Outbound from Viet Nam	Inbound from the PRC
Bus	2	370	0	219	0	721	1,467	724
Trucks	3,531	21,929	10,529	31,400	20,105	83,929	24,462	99,146
Total	3,533	22,199	10,529	31,619	20,105	84,650	25,929	99,870

PRC = People's Republic of China.

Source: Government of Viet Nam, General Directorate of Highways.

² A new border office is being constructed under the ADB-funded project “Comprehensive Socioeconomic Urban Development in Viet Tri, Hung Yen, and Dong Dang”.

Table 23: Passengers Passing Through the Huu Nghi Border, 2011–2016

Year	2011	2012	2013	2014	2015	2016
Number of Passengers	791,522	749,588	807,997	667,121	703,463	937,879

Source: Viet Nam Railway Corporation.

Table 24: Volume of Cargo and Passengers Transported by Railways, Ha Noi to Dong Dang (Lang Son Province), 2012–2016

Year	2012	2013	2014	2015	2016
Cargo	839,048	702,068	710,735	621,390	450,114
Passengers	223,287	201,159	170,234	149,379	138,033

Source: Viet Nam Railway Corporation.

Passengers crossing Huu Nghi–Yoyiguan borders by road and rail exceed one million per year. As in the Lao Cai border, trucks of either party bring cargo to the cargo yards located near the border, and unload their cargo at designated border checkpoints. A few buses from the PRC run daily to Ha Noi and vice versa, but passenger transport is still limited.

Cross-Border transport of goods via train are subject to customs inspection at the Dong Dang railway station or at the Gia Lam railway

station (Ha Noi) where there are customs facilities. Transit cargo can be kept at bonded warehouses near railway stations in Dong Dang and Gia Lam.

b. Nanning–Fangcheng–Mong Cai–Ha Long–Hai Phong Route

Border Crossing Facilities

Border gates between Viet Nam and the PRC on this route are in Mong Cai–Dong Xing. All necessary border facilities for cargo

and passenger clearance have been in place and functional since the 2000s. The border gate is open from 7:00 a.m. to 7:00 p.m. for passengers and 7:00 a.m. to 8:00 p.m. for cargo. Increased cross-border traffic and tourism have caused congestion at the Mong Cai international border gate. Hence the Governments of the PRC and Viet Nam have decided to build Bac Luan bridge No. 2. This new border gate will be used for import and export cargo. Until this bridge is connected to the expressway from Ha Long to Mong Cai, a temporary Cau Phao bridge now being constructed will help process import and export cargo. An international container depot will be established near the Cau Phao bridge.

Like the Lao Cai and Lang Son border points, Mong Cai has a border economic zone. In 2015, the government approved the master plan for future development of the Mong Cai border economic zone into an area of 121,197 ha covering some districts of Quang Ninh province. This economic zone, “Mong Cai Border Economic Zone—an Open Gateway to the World,” has a functional border service area, financial center industrial park, and a newly developed urban area. The government focused its investments on nine key border economic zones, including the one in Mong Cai.

Cross-Border Traffic

Traffic volume along this route is high, particularly for trucks carrying cargo (Table 25). A major part of traffic volume is transit cargo from Hai Phong port, for delivery to Ha Noi and adjoining provinces.

About 1.5 million people passed through this border checkpoint every year from 2011– 2016, including people from more than 1,000 firms doing business on both sides. In 2016 and the first half of 2017, there was a big jump in tourists passing the border from the PRC, with about 5,000 tourists crossing Mong Cai every day to visit Ha Long Bay and other places in Viet Nam. Quang Ninh is the pilot province and the only one in Viet Nam authorized by the government since 2016 to accept cross-border traffic of private cars within Mong Cai and Dongxing cities. A bus transport line from Nanning, Dongxing (PRC) to Ha Long City and back has been running since 2012.

Like other border checkpoints between the PRC and Viet Nam, trucks carrying cargo only cross the border and load or unload their cargo at designated areas.

3. *Leam Chabang-Bangkok-Nakhon-Ratchasima-Udon Thani-Nakhon Phanom-Takhek-Naphao-Vung Ang-Ha Noi Subcorridor (NSEC-7)*

Border Crossing Facilities

Viet Nam set up border facilities at Cha Lo in early 2001. A border economic zone also exists in the Cha Lo area. Financial constraints and geography have limited the growth of the border economic zone. However, to meet the demands of growing traffic, the government approved a master plan for the Cha Lo economic zone, and efforts are under way to upgrade transport infrastructure and border facilities, including the construction of cargo areas,

Table 25: Cross-Border Traffic at Mong Cai (Quang Ninh province), 2013–2016

Type of vehicles	2013		2014		2015		2016	
	Outbound from Viet Nam	Inbound from the PRC	Outbound from Viet Nam	Inbound from the PRC	Outbound from Viet Nam	Inbound from the PRC	Outbound from Viet Nam	Inbound from the PRC
Bus	2	59	20	22	10	10	2	14
Trucks	4,802	7,356	5,464	7,863	6,854	6,493	6,913	10,176
Total	4,804	7,415	5,484	7,885	6,864	6,503	6,915	10,190

PRC = People’s Republic of China.

Source: Government of Viet Nam, Directorate for Roads of Viet Nam.

functional areas, non-tariff areas, etc. The border gate is open from 7:00 a.m. to 7:30 p.m. or, in exceptional cases, up to 10:00 p.m. The SSSI scheme has not yet been implemented here because of inadequate border facilities.

Cross-Border Traffic

Roads connecting the Cha Lo border gate to NH1, NH12A, and NH12C have been upgraded. Other completed projects are the road that links the Cha Lo border gate to Thakhek (Lao PDR), and the third friendship bridge between the Lao PDR and Thailand. As a result, traffic volume in cross-border trade through the Cha Lo border gate has grown significantly (Table 26). Transit traffic here is worth noting. Transit of ores mined by a foreign company in the Lao PDR, as well as cargo from Thailand, are regularly transported

through this border gate to a third country, instead of going through the port in Thailand. This is because this subcorridor is the shortest route connecting the northeastern provinces of Thailand and Lao PDR to the seaports in Viet Nam such as Vung Ang and Hon La.

Bilateral cooperation between the Government of Viet Nam and the Government of the Lao PDR led to the recent installation of a petroleum pipeline from Vung Ang to the Lao PDR. Traffic from Viet Nam to the Lao PDR along this border consists of heavy trucks and trailers, and road capacities in the Lao PDR differ from those in Viet Nam. Cargo on trucks coming from the Lao PDR reportedly have to be unloaded in a parking area about 5 km from the Cha Lo border, to avoid violating traffic regulations upon entry into Viet Nam.

Table 26: Cross-Border Traffic at Cha Lo Border Gate

Volume	2011	2012	2013	2014	2015	2016
Number of Vehicles	65,178	50,300	59,543	75,145	69,708	144,896
Number of Passengers	285,000	301,000	413,612	505,247	502,945	474,401

Source: Government of Viet Nam, Quang Binh Customs Department.

4. Vientiane-Paksan-Vinh-Ha Noi Subcorridor (NSEC-8)

Border Crossing Facilities

The Cau Treo border is in Ha Tinh province. Border facilities were upgraded in early 2000, but still lacking are necessary functional facilities such as bonded warehouses and a cargo yard. A border economic zone was created in 1998. Like other border gates between Viet Nam and the Lao PDR, the Cau Treo gate is open daily from 7:00 a.m. to 7:30 p.m. Border facilities remain poor because the local economy is not yet well developed, and the zone is far from communities living in Viet Nam and the Lao PDR. A pending upgrade of NH8 and changes in trade policy have also adversely affected the movement of people and goods along this Subcorridor.

Cross-Border Traffic

Traffic volume has increased over the years, but not as much as the Cha Lo border gate (Table 27).

C. Southern Economic Corridor

1. Dawei-Bangkok-Phnom Penh- Ho Chi Minh City-Vung Tau Subcorridor (SEC-1)

Border Facilities

The Moc Bai border crossing point is an international border gate in Tay Ninh province, and the biggest of all border gates between Viet Nam and Cambodia. Its counterpart across the border is the Bavet border gate in Svay Rieng province, Cambodia. Moc Bai handles a high volume of cross-border traffic and trade. In 2005, with ADB support, Viet Nam augmented border facilities and the NH22 to provide better access from Ho Chi Minh to Phnom Penh. The SSSI scheme has not been applied here because of the lack of a common cargo area.

A substantial increase in traffic volume through Moc Bai in the last 15 years has rendered border facilities inadequate, and caused long queues of cargo trucks

Table 27: Vehicles Passing Cau Treo (Viet Nam) and Nam Phao (Lao PDR)

Year	Cross-Border Traffic		Total
	Number of Inbound Vehicles	Number of Outbound Vehicles	
2011	19,216	19,865	39,081
2012	23,319	23,013	46,332
2013	27,302	28,097	55,399
2014	40,358	39,418	79,776
2015	46,197	41,772	87,969
2016	47,288	47,398	94,686

Lao PDR = Lao People’s Democratic Republic.
 Source: Government of Viet Nam, Directorate for Roads of Viet Nam.

trying to secure border clearance. Some border facilities are being enhanced to accommodate present traffic. Viet Nam and Cambodia have had several meetings about applying the SSSI scheme, but without any concrete results so far.

Moc Bai is one of the borders that have had an economic zone since the early 2000s. This zone has contributed to the income of Tay Ninh province through the years. More recently, as with other border economic zones in Viet Nam, business turnover from the Moc Bai border economic zone has dropped sharply because of changes in trade and tax policy in 2014. Established companies have had to either reduce or change their business operations.

Cross-Border Traffic

Under a bilateral transport agreement between Viet Nam and Cambodia, vehicles from either party are allowed deep into the other territory to deliver cargo and passengers. However, unlike cross-border traffic between Viet Nam and the Lao PDR, the number of vehicles passing through this border is based on a quota of 500 vehicles per year granted to each party. Regular passenger transport routes run between Ho Chi Minh City, Phnom Penh, and Siem Reap, contributing to tourism growth in the two countries. Table 28 shows the number of vehicles passing through the Moc Bai border gate.

Table 28: Vehicles Passing Through Cau Treo (Viet Nam) and Nam Phao (Lao PDR)

Year	Cross-Border Traffic		Total
	Number of Inbound Vehicles	Number of Outbound Vehicles	
2013	2,998	3,022	6,020
2014	29,763	31,584	61,347
2015	31,722	31,879	63,601
2016	35,323	32,558	67,881

Lao PDR = Lao People's Democratic Republic.

Source: Government of Viet Nam, Quang Binh Customs Department.

About 2,000 passengers go through the border number every day, of which one-third are tourists from third countries. Added to this is an annual average of 500,000 people who travel from Ho Chi Minh City to shop in Moc Bai and visit tourist spots in Tay Ninh.

2. Bangkok-Siem Reap-Stung Treng-Pleiku-Quy Nhon Subcorridor (SEC-2)

Border Crossing Facilities

The Le Thanh border gate is located in Duc Co district, about 75 km from Pleiku city. The low income level in provinces in the highland area poses financial constraints on Gia Lai and neighboring provinces in Cambodia, and thus hinders improvements to border-related infrastructure. To address this problem, the Government of Viet Nam provided financial assistance to reconstruct NH78 in Ratanakari, Cambodia, completed in 2007.

A remaining stretch of 400 m linking the Le Thanh border gate to Oyadav in Cambodia completed at the end of 2005 was expected to promote cross-border traffic on this subcorridor. Cross-border traffic at the Le Thanh border gate (Viet Nam) and Oyadav (Cambodia) officially opened in July 2017. Border facilities are now being built and upgraded.

Cross-Border Traffic

As described in the previous section, cross-border traffic at Le Thanh is minimal and mainly interstate transport performed by local provinces. The situation persist despite a bilateral transport agreement between Viet Nam and Cambodia; and a trilateral transport agreement among Viet Nam, Cambodia, and the Lao PDR, which allow transit traffic through and among the three countries. Other contributing factors are a lack of border facilities, poor transport

infrastructure along NH19, and few attractive investments in this area. More fundamentally, the long distance between the Le Thanh border economic zone and commercial centers and big cities, and the low economic level of Gia Lai in Viet Nam and Ratanakari in Cambodia, are hindrances to the expansion of cross-border traffic along this subcorridor.

3. Bangkok-Trat-Kampot-Ha Tien-Nam Can Subcorridor (SEC-3)

Border Crossing Facilities

The Ha Tien border gate is 7 km from Ha Tien town. Viet Nam upgraded it to an international border gate in 2009. There is a plan to establish a border economic zone with an area of 65.24 ha, consisting of border working offices, international and local trade centers, bank offices, hotels, warehouses, bonded areas for warehouses, and industrial areas for agricultural and aquacultural processing. This plan includes building a

four-lane road leading to the border gate. A lack of finances, however, has led to only partial implementation of this plan.

Cross-Border Traffic

On 5 October 2009, the Ministry of Transport of Viet Nam and the Ministry of Public Works and Transport of Cambodia inaugurated the border checkpoints in Ha Tien (Viet Nam) and Lok (Cambodia). This has generated some cross-border traffic, but mainly local traffic between the provinces. A bus route runs through the border checkpoints in Ha Tien, Kampot, Sihanoukville, and Phnom Penh. Traffic through the Ha Tien border gate is still quite minimal because the area is so remote from commercial centers such as Can Tho and Ho Chi Minh. Also, inadequate border facilities and poor connecting roads remain a problem. With ongoing infrastructure upgrades in Kien Giang and Ca Mau provinces, there has been a perceptible though modest increase in traffic.

V. INVESTMENT AND BUSINESS OPPORTUNITIES

A. East-West Economic Corridor

1. Cross-Border Trade

Table 29 shows the volume and turnover of cargo at the Lao Bao border gate from 2011 to 2016. The growth rate varies from year to year, but data indicate that the volume of exports and imports combined increased by around 50% from 2011 to 2016. This increase is a result of

growth in the volume of exports, since the volume of imports declined during this period. The data show export and import turnover was cut in half from 2011 to 2016, with a decline in both export and especially import turnover. The main import commodities are rubber, metal articles, and ores and minerals (Table 30), while main export commodities are fibers and yarn, steel, gasoline and oil products, and chemical fertilizer (Table 31).

Table 29: Cross-Border Cargo Through the Lao Bao Border Gate

Year	Volume of Exports (tons)	Volume of Imports (tons)	Total (tons)	Export Turnover (\$ million)	Import Turnover (\$ million)	Total (\$ million)
2011	218,868	476,459	695,327	157,500	406,931	564,431
2012	225,826	454,726	680,552	177,791	377,952	555,743
2013	334,288	690,678	1,024,966	211,804	555,352	767,156
2014	149,621	140,934	290,555	67,091	125,029	192,120
2015	235,067	526,399	761,466	85,753	294,484	380,237
2016	798,983	248,171	1,047,154	127,213	131,676	258,889

Source: Government of Viet Nam, Quang Tri Customs Department.

Table 30: Volume of Major Import Commodities at the Lao Bao Border Gate
(ton)

Year	Type of Commodities Imported from the Lao PDR to Viet Nam		
	Rubber	Metal Articles	Ores and Minerals
2011	990	8,750	417,740
2012	1,210	8,160	440,770
2013	8,830	3,740	515,070
2014	11,290	3,660	142,080
2015	8,530	1,170	177,060
2016	6,090	4,350	124,320

Lao PDR = Lao People's Democratic Republic.
Source: Government of Viet Nam, Quang Tri Customs Department.

Table 31: Volume of Major Export Commodities at the Lao Bao Border Gate
(ton)

Year	Type of Commodities Exported from Viet Nam to the Lao PDR		
	Fibers and Yarn	Steel	Gasoline and Oil of All Kinds
2011	657	5,213	29,550
2012	530	9,480	36,769
2013	710	7,695	32,549
2014	560	5,380	19,100
2015	400	5,480	41,430
2016	460	5,430	45,930

Lao PDR = Lao People's Democratic Republic.
Source: Government of Viet Nam, Quang Tri Customs Department.

2. Economic and Industrial Zones

Quang Tri

The South Dong Ha industrial zone (IZ) with an area of 99 ha in the center of Dong Ha City, and the Quan Ngang IZ with 205 ha were established in the Lao Bao border economic and trade area. They have attracted 45 projects funded by local and foreign investors with a registered capital of VND4.550 billion. So far, licenses have been granted to 15 projects that can provide 600 jobs to local people.

In 2016, the government approved the master plan for establishing a Quang Tri South Eastern Economic Zone. The plan defined four areas performing specific functions. Area 1 (11,469 ha) is the core of the economic zone (EZ), and contains industrial manufacture, power generation, public utilities, administrative offices, and, in the future, deep seaport and bonded warehouses. Area 2 (2,221 ha) is located northeast of the Cua Viet river mouth, and contains tourism and services to support Area 1. Area 3 (3,400 ha) lies northwest of Cua Viet, and is the future site of the Quang Tri airport and luxury resorts. Area 4 (6,702 ha) is on the west side of this EZ, and contains high-tech agro production and land for the future urbanization of Quang Tri.

The La Lay border economic area lies between the central provinces of Viet Nam and Salavan province and the southern part of the Lao People's Democratic Republic (Lao PDR). The new La Lay border gate is

expected to promote partnership between the provinces in the Lao PDR and Viet Nam, and to improve border security in the area. It will also facilitate transport along EWEC, which runs through parts of the Lao PDR, Myanmar, Thailand, and Viet Nam.

Annual import and export turnover through the gate is projected to reach \$460 million by 2020, providing an added value of \$13 million to the area's service and production sectors. The local government of Quang Tri has submitted a proposal to develop the La Lay border area, anticipating that the new border economic area could be a significant trading spot between the Lao PDR provinces of Salavan, Champasak, Sekong and Attapeu, and the Thai provinces of Udon Ratchathani and Amnat Charoen.

Hue

There are six IZs in operation: Phu Bai, Phu Da, La Son, Tu Ha, Phong Dien, and Quang Vinh in Thua Thien Hue province. The People's Committee of Thua Thien Hue invested in the development of these IZs, and also promulgated various policies to attract investments. Two of these IZs, Phong Dien and La Son, are well-developed, with plans to set up a garment and textile hub for the central region. As of 2015, there are 99 projects with a registered capital of VND23,592 billion. Of these projects, 75 have local investors, while 24 have foreign investors. So far, VND9,398 billion have been paid up, accounting for 40% of the total registered capital. In 2016, the IZs attracted VND3,000 billion (\$150 million) with an output valued at VND13,200 billion.

The Chan May (Thua Thien Hue) EZ is located south of Hue. Chan May Lang Co has an area of 27,108 ha covering Lang Co town and some districts of Phu Loc. The Chan May deep seaport, capable of receiving vessels up to 50,000 dead weight ton and cruise vessels up to 325,000 gigaton and of serving the EWEC, is located in this EZ. The government-approved master plan for the development of Chan May Lang Co consists of five zones functioning as bonded warehouses (670 ha); industrial parks (560 ha); Chan May port site, Chan May urban area, and tourist resorts area (100.5 ha).

The industrial area is divided into two industrial parks. The first, with 400 ha, will promote investments in mechanical manufacturing, transport equipment manufacture, automobile assembly, and green industry. The second, with 160 ha, will promote investments in agroprocessing, food processing, high-tech industry, and biotech industry.

Da Nang

The An Don IZ, renamed Da Nang IZ, was the first IZ in the area established in 1993. There are now six IZs in Da Nang with a total of 1,066.52 ha: Hoa Khanh, Da Nang, Lien Chieu, the newly expanded Hoa Khanh, Hoa Cam, and the Da Nang aquacultural service area. As of the end of 2016, the Da Nang IZs have attracted 419 projects, of which 319 have been invested in by local investors and 100 by foreign investors. These projects occupy 85% of the land and employ more than 74,000 workers from this province and adjoining ones. Majority of the workers are employed in textile manufacturing and aquaculture processing.

All provinces along this subcorridor have attracted investments totaling \$6,701.3 billion in registered capital. Products processed and manufactured here contribute to the trade traffic along this subcorridor (Table 32).

Table 32: Foreign Direct Investment Projects Licensed by Province (EWEC)*

Name of Province	Number of Projects			Total Registered Capital (\$ million)		
	2013	2014	2015	2013	2014	2015
Quang Tri	18	20	21	80.2	84.7	85.6
Thua Thien Hue	74	83	86	2,261.0	2,305.5	2,592.2
Da Nang	280	311	373	3,894.0	3,736.2	4,023.5
Total	372	414	480	6,235.2	6,126.4	6,701.3

* As of 31 December of the subject year.

Source: Statistical Yearbook, General Statistics Office.

3. Tourist Attractions

Quang Tri, Thua Thien Hue, and Da Nang City are abundant with natural and cultural tourism assets. The number of tourists has increased considerably in this part of central Viet Nam, especially in Hue and Da Nang. In 2015, Hue and Da Nang received more tourists than any other destination in the EWEC in Viet Nam.

Quang Tri

Dong Ha and Quang Tri Ancient Citadel.

Dong Ha is a city in Quang Tri on the junction of NH1 and NH9. It is a convenient place to stay and for visiting historical places in the province such as the Quang Tri ancient citadel and the Quang Tri cemetery.

Khe Sanh, Ho Chi Minh trail, Vinh Moc tunnel. Khe Sanh township is along NH9, and is the site of a well-known battle in the war in Viet Nam. Close to Khe Sanh, the Ho Chi Minh trail was a famous supply chain of food and ammunition from the north to the south. Visitors today see not only how the trail looks, but also how supplies were transported even under constant bombing. Vinh Moc is a 2.8 km tunnel previously used by the Viet Nam army to defend Con Co Island during the war. Other tourist spots in Quang Tri province are Cua Tung beach, Dakrong Beauty Spot, and Ru Linh relics mountain.

Hue

Hue Imperial City. Hue used to be the imperial city during the Nguyen Dynasty, and is one of the cultural centers of Viet Nam.

It is a UNESCO World Heritage site. Many old structures, old canals, furniture, old pagodas, and imperial tombs of royal kings and royal family members have survived.

Every year, Hue holds colorful festivals and tours, attracting many tourists who travel by air, road, and by caravan via EWEC. Other popular tourist spots in Hue are the Thien Mu Pagoda, Hon Chen temple, Thien An hill, Vong Canh hill, Hue Royal Art Museum, Dong Ba market, Huong river, Ngu Binh mountain, and Bach Ma National park.

Da Nang

Da Nang. The city lies on a peninsula, at the point where the Han river flows into the East Sea. Da Nang is the biggest economic and trade center in the central region of Viet Nam, and a popular tourist destination with many beautiful beaches and famous natural attractions. Da Nang is conveniently located for tourists to stay in before visiting surrounding world heritage sites such as the Hue Imperial City, Hoi An ancient town, and the My Son sanctuary.

Cham Museum. The Cham Museum, built in the French era, contains the largest collection of Cham Arts from the 15th century to the 17th century.

Ngu Hanh Son (Five Element Mountains).

This tourist attraction is about 8 km from Da Nang. There are six high mountains lying between cloud and sea with names given by Minh Mang King (1820–1840) to represent the five elements—iron, wood, water, fire (positive and negative), and earth.

Many old temples and pagodas in Ngu Hanh Son provide good views of the sea.

Ba Na and Nui Chua tourist resort. Ba Na is 1,487 m above sea level, and about 40 km southwest of Da Nang. It has a flat area, like a small plateau atop the mountain, with cool temperature all year round. Discovered by the French in the 18th century, this site is popular as a spiritual haven for tourists.

B. North-South Economic Corridor

1. Kunming-Ha Noi- Hai Phong Subcorridor (NSEC-3)

Cross-Border trade

Table 33 shows the volume of cross-Border trade by road between Viet Nam and the

PRC at the Lao Cai border gate, while Tables 34 and 35 list the main export and import commodities at this border gate.

Some commodities traded include those produced in IZs in Viet Nam such as mobile phones, machinery, and equipment. They also include transit cargo such as timber and ores from the Lao PDR to the PRC (Table 36).

Table 37 shows the volume of import and export cargo by rail from Ha Noi to the PRC through Lao Cai. Table 38 lists the main commodities exported from Viet Nam to the PRC via the railway border gate in Lao Cai. Certain commodities carried by rail are loaded at Hai Phong port (Table 39). This indicates that (i) some cross-border trade is conducted by different modes of transport; and (ii) transport of cargo involves longer distances as a result of improved transport infrastructure in the subcorridor.

Table 33: Volume of Cross-Border Trade by Road Between Viet Nam and the People's Republic of China at the Lao Cai Border Gate

Year	Volume of Import (tons)	Volume of Export (tons)	Total (tons)	Export Turnover (\$ million)	Import Turnover (\$ million)	Total (\$ million)
2011	835,350	833,520	1,668,870	292.85	84.46	377.31
2012	497,710	32,470	530,180	344.11	115.89	460.00
2013	739,660	1,243,690	1,983,350	382.49	152.46	534.95
2014	863,810	366,620	1,230,430	407.25	142.68	549.93
2015	972,630	243,560	1,216,190	457.45	103.90	561.35
2016	636,560	1,139,030	1,775,590	346.72	152.26	498.98

Source: Government of Viet Nam, Lao Cai Custom Department.

Table 34: Main Export Commodities at Dong Dang Road Border Gate

Commodities	Volume	Unit	Value (\$)
Ores of Different Kinds	3,337,397	tons	132,261,220
Footwear	9,667,922	pairs	19,420,583
Agro-products	180,809	tons	471,875,522

Source: Government of Viet Nam, Lao Cai Customs Department.

Table 35: Main Import Commodities at Dong Dang Road Border Gate

Commodities	Volume	Unit	Value (\$)
Chemical Fertilizers	1,740,511	tons	1,899,813,178
Chemicals	500,847	tons	186,153,885
Agro-products	674,623	tons	306,911,324
Machinery and Equipment	Nil	sets	537,061,461

Source: Government of Viet Nam, Lao Cai Customs Department.

Table 36: Turnover of Imports and Exports Through the Lao Cai Border Gate*
(ton)

Year	Volume of Import	Volume of Export	Total
2011	724.4	882.8	1,607.2
2012	705.3	495.6	1,200.9
2013	774.4	1,137.5	1,911.9
2014	631.9	1,116.7	1,748.6
2015	1,021.1	897.4	1,918.5
2016	690.8	369.2	1,060.0

Note: Data include temporary import and export cargo.

Source: Government of Viet Nam, Lao Cai Customs Department.

**Table 37: Volume of Import and Export Cargo by Rail,
Ha Noi to the People's Republic of China Through Lao Cai**

Volume	2013		2014		2015		2016	
	Quantity (ton)	Growth Rate %	Quantity (ton)	Growth Rate %	Quantity (ton)	Growth Rate %	Quantity (ton)	Growth Rate %
Import	8,715	79	13,264	52	266,353	190.8	227,323	-15
Export	1,039	2,374	1,070	3	100,050	925.0	158,675	58
Total	9,754	99	14,334	47	366,403	245.6	385,998	5

PRC = People's Republic of China.

Source: Lao Cai Customs Department.

Table 38: Main Commodities Exported from Viet Nam to the People’s Republic of China via the Railway Border Gate

Commodities	Volume (ton)	Value (\$)
Gold Phosphorus	819,424.89	632,044,546
Ores of Different Kinds	182,289.00	18,132,989

Source: Lao Cai Customs Department.

Table 39: Commodities Transported by Rail as Temporary Imports and Exports

Commodities	Volume (ton)	Value (\$)
Refrigerated Items	26,241	71,941,764
Dried Articles	26,241	33,111,489
Coffee Bean	10,409	20,751,818
Sugar Cane	656,829	63,286,766

Source: Lao Cai Customs Department.

Economic and Industrial Zones

With better infrastructure, most provinces along this subcorridor, including those in the northern midland like Lao Cai and Yen Bai, have attracted a substantial amount of foreign direct investment (FDI). Excluding Ha Noi and Hai Phong—which are also parts of other subcorridors—FDI along this subcorridor reached more than \$16 billion in 2015, accounting for nearly 20% of all FDI in the country (Table 40). This has generated jobs, helped change the structure of provincial economies, and increased trade along the subcorridor.

Tourist Attractions

Ha Noi. The capital of Viet Nam, is known for centuries–old architecture and a culture rich with influences from France, the PRC, and Southeast Asia. Ha Noi is home to a large number of must–see attractions. Museums and pagodas can be found throughout the city. Hoan Kiem Lake serves as the center from which other tourist attractions are reached.

Ba Dinh square. Adjacent to the Ho Chi Minh complex is Ba Dinh square, where many important national events in modern history

Table 40: Number of Foreign Direct Investment Projects Licensed by Province (NSEC-3)*

Province	Number of Projects			Total Registered Capital (\$ million)		
	2013	2014	2015	2013	2014	2015
Lao Cai	35	35	30	875.1	876.7	838.6
Yen Bai	22	23	22	123.5	139.7	207.4
Phu Tho	85	95	101	501.7	522.6	632.8
Vinh Phuc	166	210	268	2,774.2	3,181.7	3,781.5
Ha Noi	2,702	3,051	3,467	22,404.0	23,824.7	25,490.9
Hung Yen	273	327	372	2,301.9	2,837.5	3,443.5
Hai Duong	288	327	376	5,966.3	6,539.3	7,385.2
Hai Phong	392	452	513	9,978.5	11,281.2	11,651.3
Total	3,963	4,520	5,149	44,925.2	49,203.4	53,431.2

Note: Data are as of 31 December of the subject year.
Source: Statistical Year Book, General Statistics Office (Viet Nam).

took place. The French developed the square, originally called “Round Point Puginier.” Here, on 2 September 1945—Viet Nam’s National Day—Ho Chi Minh read the Viet Nam Independence Declaration, affirming as the French and the United States had that “All men are created equal... endowed by their Creator with certain inalienable Rights; among these are Life, Liberty, and the pursuit of Happiness.”

Ba Dinh square today is one of the few remaining pristine areas of Ha Noi. Parades and commemorations of veterans take place here. The square is peaceful in daytime,

but at night it transforms into a popular gathering place for local families, the elderly, and friends. A visit to Ba Dinh square can be combined with a trip to the Ho Chi Minh mausoleum, Ho Chi Minh museum, and One-Pillar Pagoda for a whole day or half-day tour.

Hoan Kiem Lake. Although not at the city’s geographical center, Hoan Kiem Lake remains the very heart of life in Ha Noi after the city’s expansion into a major metropolitan area in 2009. According to a 15th-century legend, a giant turtle presented Emperor Le Loi with a magic sword to defeat invaders. The Emperor

fulfilled his part of the pact by returning the sword to the turtle after a glorious victory in battle. Hence the lake's name, Hoan Kiem, meaning "restored sword."

The Ancient Quarter. In the chaotic Ancient Quarter, narrow streets are arranged roughly by trade. The area has many little temples, including Bach Ma, which honors a legendary horse. The Dong Xuan market sells household goods and street food. Some of the 36 streets making up the Ancient Quarter still offer only a single commodity. One of the best is Hang Quat, with an incredible array of lacquered wood candle sticks, bowls, picture frames, religious shrines, and decorative pieces. Practically every item is painted in some combination of red, white, and gold. Silk made in Viet Nam is among the world's finest. Hang Gai (thread street) has been home to some of Ha Noi's best silk shops for centuries.

Van Mieu (Temple of Literature) and Quoc Tu Giam (National University). Hidden from the metropolis behind high stone walls and ancient frangipani trees are some of Viet Nam's most magnificent religious structures and historical treasures. Great pools filled with blooming lotus have names like "Well of Heavenly Clarity." Dating back to 1076, this was part of Asia's most prestigious center of learning for aristocrats and the children of mandarins. The focal point is the sanctuary dedicated to Confucius, which is filled with elaborate Chinese reliquary. Costumed women hold performances of traditional folk music during public hours.

Hai Phong. This area is the "real" Viet Nam for many visitors. It is a reminder of how Ha Noi was as Viet Nam's capital many years ago. It is only about two and a half hours away by bus. Hai Phong is also known as a tourist hub and has good hydrofoil and ferry links to Ha Long Bay, Cat Ba Island and many nearby popular islets. In the past, this was an important international seaport; today it is the country's fastest developing industrial city. It has its share of attractions, such as the Du Hang Buddhist temple, Nghe temple, Hang Kenh communal house, and the French-influenced municipal theater. The popular Do Son beach casino is some 20 km from Hai Phong. This is a resort town well-liked by domestic tourists, many of whom come to watch the *choi trau* (Do Son buffalo-fighting festival) that draws in large crowds of 25,000 spectators every year.

Lao Cai. This is a province in the northern highland famous for cave and stone, and is the site of the Cave of the Fairies, known for the legend of three daughters of the king of heaven. The famous Ancient Stone Field in Sa Pa lies between rice terraces and has stones carved with ancient images. It has an area of 8 square kilometers in Muong Hoa valley, Lao Cai.

Yen Bai. The large forest range in Yen Bai supplies valuable pomu, lat hoa, and cho chi wood, and special products such as Van Yen cinnamon, Suoi Giang tea, and Tu Le glutinous rice. The province is also home to the well-known stone pit in Luc Yen. Yen Bai has the artificial Thac Ba Lake, a scenic

and historical place. The lake surrounds 1,331 hill-islands, and has varied vegetation cover and a diverse ecology. The Mong Son Grotto, home of the Yen Bai Party Committee during the anti-American resistance, stands in the middle of the lake. Visitors can relax in the lake, climb the mountain, and explore the forests. Tourists are also attracted to the temples in Dong Cuong—where archaeologists have found many remains of the Son Vi culture—and in Dai Cai, covered by many green trees and scenic riverside roads.

Phu Tho. This place has long been famous for the Hung temple area, a place of worship of 18 Hung Kings who are considered Vietnamese ancestors. This area has other, smaller temples in Thuong, Trung, and Ha, among others. Most notable is the Au Co temple for worshippers of Au Co, said to be the mother of all Viet Nam people. Phu Tho is well-known for Ao Chau Pond, known as the mini-Ha Long Bay of Viet Nam. The Heaven Pond and Fairy Spring are other interesting places to visit.

Vinh Phuc. The national park, Tam Dao, is noted for being home to rare reptiles, especially the “frog fish.” Tam Dao’s climate is one of the finest in Viet Nam, with scenery suitable for wedding and fashion photography.

Hung Yen. This area is known for the Pho Hien relic complex, home to the temples of Van Mieu, Mau, and Hien, and the Chuong pagodas. Other popular sites are the

Kim Chung, Huong Lang, Thai Lac, Ne Chau pagodas, Chu Dong Tu, Phuong Hoang, Dau An, and the Da Hoa temples. Many famous people in Viet Nam live in Hung Yen. Visitors to the area can enjoy traditional music such as cheo, a dao, and trong quan. They can also take part in hamlet festivals in Chu Dong Tu, Tu Phap, An Xa Village, Ghenh Temple, Co Le, and Tho Hoang.

Hai Duong. The cultural and historical attractions here include Phuong Hoang, Kinh Chu, An Phu sites, Con Son, Thanh Mai pagodas, Nguyen Trai, Cao, the Kiep Bac temples, Gieng Ngoc (Pearl Well), and Thach Ban (Flagstone), of which Con Son–Kiep Bac are the most popular. The province’s pride is its traditional handicraft villages that showcase Chu Dau pottery, Chau Khe gold, Dong Dao carvings, Ke Sat Dry pancakes, and Hai Duong green bean cake. Folk songs like the ca tru, cheo, and xam originated here. Chi Lang Nam Stork Village is home to white and black fiery storks, herons, and egrets.

2. Nanning-Ha Noi Subcorridor (NSEC-4)

a. Nanning-Ha Noi Route

Cross-Border Trade

A substantial amount of cross-Border trade passes through the Huu Nghi Border Gate (Table 41), being the shortest route from Ha Noi to the border with the PRC.

Table 41: Volume and Turnover of Trade Between Viet Nam and the People’s Republic of China at the Huu Nghi Border Gate

Year	Volume of Import (tons)	Volume of Export (tons)	Total (tons)	Import Turnover (\$ million)	Export Turnover (\$ million)	Total (\$ million)
2011	15,650	474,230	489,880	1,251.42	287.74	1,539.16
2012	28,470	408,000	436,470	1,526.37	446.04	1,972.41
2013	20,130	232,630	252,760	3,538.91	373.94	3,912.85
2014	25,040	383,730	408,770	5,111.39	496.21	5,607.60
2015	35,340	133,880	169,220	6,278.48	636.49	6,914.97
2016	42,420	19,400	61,820	5,634.48	1,437.53	7,072.01

Source: Government of Viet Nam, General Department of Customs of Viet Nam.

The volume of cargo does not reflect the real traffic on this route, since the volume of many commodities is neither quantified nor available. Thus, data on turnover of imports and exports are more reflective of the situation. These statistics do not include agricultural products such as rice, vegetables, and fresh fruits mainly imported and exported through the Le Thanh border gate.

Even if the border gate in Dong Dang handles mainly passengers and other commodities, the turnover of imports and exports in the Dong Dang border is still the largest among all Border Crossing Points between Viet Nam

and the PRC. Table 42 and Table 43 show the turnover of the main imports and exports of Viet Nam to the PRC.

Economic and Industrial Zones

Table 44 shows the number and amount of registered capital in the provinces along this route in NSEC-4. The number of projects and value of registered capital are substantially greater in the provinces nearer Ha Noi, with the numbers for Bac Ninh province being much higher than Lang Son and Bac Giang provinces.

Table 42: Turnover of Five Main Imports from the People's Republic of China to Viet Nam at the Huu Nghi Border Gate
(\$ million)

Commodities	2011	2012	2013	2014	2015	2016
Machinery and equipment	663.20	528.72	664.48	1,089.03	1,514.54	1,770.21
Transport equipment	162.16	129.47	154.42	484.23	971.39	394.06
Mobile phones and parts	663.20	528.72	1,991.96	2,387.19	2,081.46	1,667.45
Computer and electrical appliances	115.03	197.86	285.95	417.39	677.36	549.85
Plastic products	12.50	11.80	25.84	51.91	105.61	249.03

Source: Government of Viet Nam, General Department of Customs of Viet Nam.

Table 43: Turnover of Five Main Exports from Viet Nam to the People's Republic of China at the Huu Nghi Border Gate
(\$ million)

Commodities	2011	2012	2013	2014	2015	2016
Cassava and cassava products	174.51	170.92	96.48	155.31	45.75	1.15
Computer and parts	11.65	142.67	109.10	40.93	43.76	509.52
Mobile phones and parts		55.82	55.07	46.83	156.10	341.41
Wood and wood products	0.28	3.75	38.27	44.53	40.68	60.29
Electrical wire and cable	10.58	2.82	43.66	97.79	159.81	220.45

PRC = People's Republic of China.

Source: Government of Viet Nam, General Department of Customs of Viet Nam.

Table 44: Number of Foreign Direct Investment Projects Licensed by Province (Nanning–Hanoi)

Province	Number of Projects			Total Registered Capital (\$ million)		
	2013	2014	2015	2013	2014	2015
Lang Son	31	31	36	192.8	192.8	207.0
Bac Giang	128	168	229	1,832.3	2,151.5	2,459.0
Bac Ninh	416	566	721	5,890.9	7,668.6	11,328.3
Ha Noi	2,702	3,051	3,467	22,404.0	23,824.7	25,490.9
Total	3,277	3,816	4,453	46,810.7	33,837.6	39,485.2

Note: Data are as of 31 December of the subject year.
Source: Statistical Year Book, General Statistics Office.

Tourist Attractions

Ha Noi. The Kunming–Ha Noi–Hai Phong subcorridor section (page 72) has information on tourist attractions in Ha Noi.

Bac Ninh. This place is renowned as the home of Quan Ho, a north Viet Nam folk music style, and many festivals representing Viet Nam’s traditional culture. These often take place during the Spring Festival from February to March, attracting visitors from all over the country. Bac Ninh is 80 km away from Ha Noi, and has stunning scenery and a peaceful ambiance ideal for family picnics and backpacking excursions. The Dinh Bang temple, Dau pagoda, Dong Ho village, and Duong river are the region’s most famous heritage sites.

Bac Giang. This province has many beautiful natural attractions, such as the protected Khe Ro primitive forest, Suoi Mo site, Cam Son lake, and the Khuon Than resort. The Xuong Giang ancient citadel is also found here. The province holds traditional festivals of the Kinh Bac people, as well as the spring festivals of other ethnic groups.

Lang Son. This area has potential for mineral, forestry, tourism, and commerce. Star aniseed (hoa hoi) is a specialty. The province is proud of many cultural and historical vestiges, including the rampart of Mac Dynasty, Doan citadel vestige, Chi Lang defile, and the Ky Cung and Bac Le temples. The Ky Lua market, To Thi and Mau Son mountains, Tam Thanh, and the Nhi Thanh grottoes also attract many

visitors every year. Many visitors come to Ky Lua and Tam Thanh markets to shop because the goods are abundant and cheap. Visitors also enjoy special dishes, like roast duck, roast pig, Mau Son wine, and lam rice.

b. Nanning–Fang Cheng–Mong Cai–Hai Phong Route

Cross-Border Trade

Import and export turnover at the Mong Cai border gate averaged \$1.4 billion per year during 2011–2016 (Table 45). Part of the cargo consists of commodities that enter Hai Phong port for re-export to the PRC.

Economic and Industrial Zones

Excluding Hai Phong, Quang Ninh alone has attracted more than \$11 billion in FDI in 2015 (Table 46). Aside from having good

infrastructure, the province is rich in natural resources, water and marine resources, and tourism assets. These attract substantial FDI, which have helped boost the economy of the province.

Tourist Attractions

Hai Phong. The Kunming–Ha Noi–Hai Phong subcorridor section (page 74) has information on tourist attractions in Hai Phong.

Quang Ninh: This is a coastal province in northeastern Viet Nam, and a major tourist destination. Home to Ha Long Bay, one of the first UNESCO heritage sites in Viet Nam, Quang Ninh also has a white sand beach on Tuan Chau island, which may be reached by road straight from the town and has many recreational services for visitors.

Table 45: Turnover of Imports and Exports Through the Mong Cai Border Gate

Year	Turnover of Imports (\$ million)	Turnover of Exports (\$ million)	Total (\$ million)
2011	603.22	1,020.49	1,623.71
2012	462.58	614.32	1,076.90
2013	308.73	669.51	978.24
2014	348.84	918.05	1,266.89
2015	454.33	1,085.15	1,539.48
2016	419.15	966.15	1,385.30

Source: Government of Viet Nam, General Department of Customs of Viet Nam.

Table 46: Number of Foreign Direct Investment Projects Licensed by Province (Nanning–Fang Cheng–Mong Cai–Hai Phong)

Province	Number of Projects			Total Registered Capital (\$ million)		
	2013	2014	2015	2013	2014	2015
Quang Ninh	104	113	721	4,590.6	5,237.0	11,328.3
Hai Phong	392	452	513	9,978.5	11,281.2	11,651.3
Total	496	565	1,234	14,569	16,518.2	22,980

Note: Data are as of 31 December of the subject year.

Source: Statistical Year Book, General Statistics Office (Viet Nam).

More adventurous travelers may take a trip to the pristine Co To island. Although still undeveloped, it is home to the Coto Lighthouse (built under French time in 19th century), the Love Road (2 km long road lined with beautifully high pine trees) and a statue and memorial house of late President Ho Chi Minh). The Cua Ong temple in Hon Gai is another popular site, the place of worship of Tran Quoc Tuan's son, Tran Quoc Tang, who is considered the god of all Quang Ninh people.

3. Laem Chabang–Bangkok–Nakhon–Ratchasima–Udon Thani–Nakhon Phanom–Thakhek–Na Phao–Vung Ang–Ha Noi Subcorridor (NSEC-7)

Cross-Border Trade

While the volume of imports and exports did not increase significantly during 2011–2016, the corresponding turnover saw continuous

growth over the same period, from just \$108 million in 2011 to over \$1 billion in 2016 (Table 47). Tables 48 and 49 show the main import and export commodities through the Cha Lo border gate.

Economic and Industrial Zones

All provinces along this subcorridor are located in the northern coastal area of Viet Nam. Some central provinces whose economies were lagging in the 1990s have attracted substantial FDI that contributed greatly to socio-economic growth in these provinces. Ha Tinh and Thanh Hoa provinces attracted the largest amount of FDI in industrial development. The construction of ports, processing plants, factories, and steel mills helped advance these provinces' economies and increased cross-border traffic and trade along this subcorridor. The total FDI in provinces along this subcorridor, excluding Ha Noi, reached more than \$20 billion as of 2015.

Table 47: Volume and Turnover of Imports and Exports at the Cha Lo Border Gate

Year	Volume of Export (ton)	Volume of Import (ton)	Total (ton)	Import Turnover (\$ million)	Export Turnover (\$ million)	Total (\$ million)
2011	19,310	486,100	505,410	30.26	77.73	107.99
2012	41,140	428,460	469,600	53.22	88.92	142.14
2013	52,930	511,190	564,120	115.23	194.99	310.22
2014	21,810	616,110	637,920	564.81	365.26	930.07
2015	35,320	473,680	509,000	586.19	402.28	988.47
2016	43,480	481,810	525,290	439.92	569.66	1,009.58

Source: Directorate for Customs of Viet Nam.

Table 48: Main Export Commodities at the Cha Lo Border Gate (\$ million)

Commodities	2011	2012	2013	2014	2015	2016
Steel of all kinds	7.80	19.54	21.89	13.90	19.39	20.85
Gasoline and oil	7.56	15.19	22.35	1.48	1.82	2.41
Computer and electronic articles	0.11		0.52	8.11	40.57	27.37
Article of steel and metal	1.02	1.32	2.69	5.72	9.26	7.79
Transport equipment and parts	0.02	0.19	10.81	5.32	1.92	3.46

Source: Government of Viet Nam, Directorate for Customs of Viet Nam.

Table 49: Main Import Commodities at the Cha Lo Border Gate
(\$ million)

Commodities	2011	2012	2013	2014	2015	2016
Fruits and vegetables	6.78	7.23	24.10	77.39	170.87	370.20
Machinery and equipment	0.20	0.08	8.10	94.94	87.19	35.58
Ores and minerals	483.96	394.31	440.76	529.83	338.41	342.53
Fertilizer	1.41	15.56	26.49	24.15	36.35	32.42
Wood and wood products	50.41	36.32	77.27	53.95	23.89	8.44

Source: Government of Viet Nam, Directorate for Customs of Viet Nam.

Table 50: Foreign Direct Investment Projects Licensed by Province
in North-South Economic Corridor 7

Province	Number of Projects			Total Registered Capital (\$ million)		
	2013	2014	2015	2013	2014	2015
Quang Binh	6	12	12	34.8	94.1	109.1
Ha Tinh	52	59	64	10,611.7	10,653.9	11,265.0
Nghe An	38	41	69	1,569.5	1,580.5	1,640.6
Thanh Hoa	47	56	71	10,084.9	10,276.0	10,409.1
Ninh Binh	34	38	51	1,023.5	1,089.8	1,206.5
Ha Nam	79	112	165	647.3	944.2	1,438.5
Ha Noi	2,702	3,051	3,467	22,404.0	23,824.7	25,490.9
Total*	256	318	432	23,971.7	24,640.5	26,068.8

Note: Data are as of 31 December of the subject year.
The total excludes figures for Ha Noi that are already included in Table 40.
Source: Statistical Year Book, General Statistics Office (Viet Nam).

Tourist Attractions

Ha Noi. The Kunming–Ha Noi–Hai Phong subcorridor section (page 72) has information on tourist attractions in Ha Noi.

Ha Nam. Truc Temple–Ngu Dong Son is in Quyen Son village, in the Thi Son commune, Kim Bang district, about 7 km from Phu Ly district along National Route 21A. Legend says that after defeating invaders, Ly Thuong Kiet and his troops stopped here to celebrate their victory. Later, to commemorate him, the locals built a temple at the foot of the Cam mountain and called it the Truc temple.

The mountain has five interconnected caves with a depth of 100 m. Long Doi pagoda, built during the reign of King Le Thanh Tong, is on Doi mountain, 79 m above sea level. This is in the Doi Son commune of the district of Duy Tien, about 50 km from Ha Noi. The panoramic view of Doi mountain has been described as looking like a huge dragon lying on the low plain. The Doi pagoda, originally built in the mid–eleventh century, was restored and expanded in 1118 during the reign of King Ly Nhan Tong.

Ninh Binh. This place has Viet Nam’s oldest national park, Cuc Phuong, 100 km from Ha Noi. The park is home to a wide range of flora and fauna, and is one of the best places in the country for hiking, giving guests fresh air and natural scenery that the city cannot offer. The Bai Dinh area is another treasure. It is a complex of pagodas, park, and a lake system, with ample car parking area. The Phat Diem stone church is the most famous site, the only stone church in the north of Viet Nam, built by the French with stones placed

atop one another without the use of adhesive materials.

Thanh Hoa. The Ho citadel and Sam Son beach are the most well-known sites here, but other attractions are Ba Trieu pagoda, Holy Fish pond, and Ben En national park. The 600-year-old Ho citadel was built in the 14th century by Ho Quy Ly using giant stones with sophisticated carvings. Three parabolic gates at the entrance have similar heights (5.82 m at the central gate, 5.75 m at the other gates). The front gate is the highest wall at more than 10 m. UNESCO recognized the citadel as a world heritage site in June 2012.

Sam Son. This place is a resort town with a long, white sand beach. Ben En national park is home to the Ngouc cave, wild animals like gibbons and elephants, and Song Muc lake, which is dotted with islands. In the Pu Luong nature reserve, craggy limestone mountains serve as the background to rice fields and traditional stilt-house villages.

Nghe An. This is the native land of president Ho Chi Minh, and the Starting Point of the “Legacy Route of Central Region.” It has many beautiful beaches such as Cua Lo and Quynh Nghia. The biodiversity conservation area in the west of Nghe An has many primary forests and attractive ecological sites.

Ha Tinh. The province has many ecological attractions, including the national park of Vu Quang, Ke Go reservoir, and Hong Linh mountain. There are also beaches for relaxation in Xuan Thanh, Thien Cam, Thach Hai, Deo Con, and in the Son Kim hot spring area.

Ha Tinh has preserved many cultural sites, including the Cua Dieu tower; the Huong Tich, Bich Chau, and Yen Lac pagodas; and the Tam Lang and Chieu Trung temples. Some villages are well-known for handicrafts: Van Cham and Minh Long (iron), Duc Lam (copper), Cam Trang (pottery), and Thai Yen (wood). Historical places include the monument of Tran Phu, first general secretary of the Vietnamese Communist Party, and the Dong Loc road junction with a monument.

Quang Binh: Quang Binh has famous beaches with palm trees and white sand. It is also well-known for the Dong Hoi temple, a star-shaped fortress built by the Minh Mang emperor to protect Hue. Today Dong Hoi stands as a symbol of the bravery of the Viet Nam people in the face of struggle.

The Phong Nha and Son Doong caves are most treasured in Quang Binh, which has the longest grotto in Asia. Another site to visit is the Van La tunnel built in 1966, used as a bomb shelter during the war.

4. Vientiane-Paksan-Vinh-Ha Noi Subcorridor (NSEC-8)

Cross-Border Trade

The volume and turnover of imports and exports at the Cau Treo border gate has remained relatively small, although the import-export turnover increased significantly from 2011 to 2014 (Table 51).

Table 51: Volume and Turnover of Imports and Exports at the Cau Treo Border Gate

Year	Volume of Import (ton)	Volume of Export (ton)	Total (ton)	Import Turnover (\$ million)	Export Turnover (\$ million)	Total (\$ million)
2011	130,000	26,210	156,210	25.23	81.33	106.56
2012	160,000	50,140	210,140	43.08	112.51	155.59
2013	30,000	64,350	94,350	53.4	111.38	164.78
2014	20,980	210,130	231,110	108.41	154.54	262.95
2015	41,120	211,340	252,460	86.69	167.29	253.98
2016	24,580	149,380	173,960	59.1	174.16	233.26

Source: Government of Viet Nam, Directorate for Customs of Viet Nam.

Economic and Industrial Zones

Ha Tinh and Thanh Hoa attract substantial FDI, the largest ones being the Formosa Economic Zone, invested in by Taipei, China, and the Nghi Son Economic Zone, mainly invested in by Japan. These zones have increased the turnover of imports and exports through the Cha Lo and Cau Treo borders, as well as ports along this subcorridor.

Tourist Attractions

Information on tourist attractions in the area can be found in the previous section (pages 83–84).

C. Southern Economic Corridor

1. Dawei-Bangkok-Phnom Penh-Ho Chi Minh City-Vung Tau Subcorridor (SEC-1)

Cross-Border Trade

The turnover of imports and exports has increased continuously, from \$150.9 million in 2011 to \$536 million in 2016, or a growth of three and a half times in six years (Table 52). Shipping and goods produced in the IZs and EZs in Ho Chi Minh, Dong Nai, and Ba Ria Vung Tau provinces generate the main flow of business. The major exports and commodities are shown in Tables 53 and 54.

Table 52: Turnover of Imports and Exports at the Moc Bai Border Gate

Year	Turnover of Imports (\$ million)	Turnover of Exports (\$ million)	Total (\$ million)
2011	6.74	144.20	150.94
2012	11.47	198.14	209.61
2013	15.18	317.77	332.95
2014	22.20	405.57	427.77
2015	38.77	428.89	467.66
2016	43.33	492.83	536.16

Note: Complete data not available.

Source: Government of Viet Nam, Directorate for Customs of Viet Nam.

Table 53: Main Commodities Exported from Viet Nam to Cambodia

Year	Commodities	Value (\$ million)
2014	Alloyed wires uncoated	17.0
	Sports shoes	14.5
	Mixed liquidized gas (butane and propane)	15.3
2015	Power drinks	64.2
	PP chopping Board	61.1
	Sport shoes	8.2
2016	Mix liquidized gas (LPG, butane, and propane)	49.3
	Sports shoes	64.6
	Air drying machine	12.4

LPG = liquefied petroleum gas.

Source: Government of Viet Nam, Directorate for Customs of Viet Nam.

Economic and Industrial zones

Ho Chi Minh City and the provinces along this subcorridor in Viet Nam attracted FDI with total registered capital of more than \$90 billion as of 2015, with the largest number of projects and registered capital in Ho Chi Minh City (Table 55). The projects are located mostly in the economic and industrial zones along this subcorridor.

Tourist Attractions

Ho Chi Minh City. This is the flagship city of Viet Nam in terms of economic development

and international exposure. Imposing high-rise buildings, shopping centers, restaurants, café shops, and bars abound in the central area of District 1. Chinatown in District 5 offers a contrast with colorful lanterns and exotic shop-houses dating back at least 40 years. Historical heritage sites such as Dinh Thong Nhat and Bao Tang Cach Mang Viet Nam allow one to step into the epic history of Gia Dinh or Sai Gon. Ho Chi Minh boasts of a diverse and flavorful cuisine. Food from all regions can be found here.

Tay Ninh. Famous in this southern province is the Ba Den (meaning “Lady Black”)

Table 54: Main Commodities Imported to Viet Nam from Cambodia

Year	Commodities	Value (\$ million)
2014	Heel-semi finished shoe parts	14.8
	Leather of all kinds	1.9
	Cloth of all kinds (44-inch wide)	2.6
2015	Rubber	1.5
	Leather of all kinds	9.0
	Cloth of all kinds (44-inch wide)	4.3
2016	Midsole (shoe parts)	10.6
	Leather of all kinds	7.2
	Cloth of all kinds (44-inch wide)	5.7

Source: Government of Viet Nam, Directorate for Customs of Viet Nam.

Table 55: Number of Foreign Direct Investment Projects Licensed by Province in Southern Economic Corridor 1

Province	Number of Projects			Total Registered Capital (\$ million)		
	2013	2014	2015	2013	2014	2015
Tay Ninh	214	236	237	2,007.5	2,754.8	3,146.3
Ho Chi Minh City	4,809	5,271	5,886	34,852.3	38,275.8	42,366.8
Dong Nai	1,162	1,241	1,350	19,336.2	21,645.8	20,425.9
Ba Ria Vung Tau	294	303	322	26,502.3	26,810.2	27,766.8
Total	6,479	7,051	7,795	82,698.3	89,486.6	93,705.8

Note: Data are as of December 31 of the subject year.
Source: Statistical Year Book, General Statistics Office (Viet Nam).

area with many mountains like Nui Heo (“Pig”) and Nui Phung (“Phoenix”), and a variety of caves such as Thanh Long, Ong Ho, Ba Co, and Ba Tuan. This complex is suitable for camping or photography tours. Dau Tieng has a tranquil lake that is considered a border of the province. The Cao Dai temple is also well-known, even though Caodaiism is not a popular religion.

Dong Nai. This province has big industrial zones, factories, and handicraft villages such as Tan Van (pottery) and Hoa (stone carving). It is home to immense coffee and rubber farms and the Nam Cat Tien national park. Tourists can take ecological tours in the forests and orchards of My Quoi, Thanh Hoi, Tan Trieu, Pho, and the Ong islets. Other attractions in the province are the Dong Nai river, Long An lake, Suoi Tre culture site, Tri An waterfall, and the Ma Da and Sac forests.

Ba Ria-Vung Tau Province. This province is a large tourist center with over 100 km of coastline of beautiful beaches, and with many lakes and thermal springs. The offshore area’s two important resources are petrol and seafood. Beaches in Vung Tau city are Thuy Van, Chi Linh, Back, Front, and Dau. Long Dien district has Long Hai beach, and Xuyen Moc district is the site of Ho Tram and Ho Coc beaches. On Con Dao island, tourists swim in the beaches of Dam Trau, Hon Cau, and Hon Tre, and climb up Thanh Gia and Nho mountains. Tourists rejuvenate at Binh

Chau hot spring where the temperature reaches 80°C.

Other popular places are the communal house of Dao Ong Tran, Ben Da church, Bach Dinh vestige, Long Phuoc tunnels, Minh Dam revolutionary area, and a hundred Buddhist pagodas and temples. The Con Dao national park is a dense forest with rich flora and fauna located 90 km south of Vung Tau. Visitors also play golf and join traditional festivals in Dinh Co and Nghinh Ong (Welcoming the Lord Whale Festival). The dog races in Lam Son stadium in Vung Tau city attract spectators every Saturday.

2. Bangkok-Siem Reap-Stung Treng-Pleiku-Quy Nhon Subcorridor (SEC-2)

Cross-Border Trade

While the volume and turnover of imports and exports at the Le Thanh border gate registered increased from 2011 to 2016, they remained relatively small (Table 56).

The main exports are diesel oil and gasoline, chemical fertilizer, plastic products, machinery and tools, chemicals, confectionary and cereal products. The main imports are wood and wood products, cashew nut, rubber, and soybeans.

Table 56: Volume and Turnover of Imports and Exports at the Le Thanh Border Gate

Year	Volume of Import (ton)	Volume of Export (ton)	Total (ton)	Import Turnover (\$ million)	Export Turnover (\$ million)	Total (\$ million)
2011	8.69	25.94	34.63	18.26	22.76	41.02
2012	17.68	42.52	60.20	49.55	38.61	88.16
2013	12.84	50.70	63.54	41.16	44.23	85.39
2014	31.23	31.33	62.56	67.68	37.55	105.23
2015	34.79	43.00	77.79	117.70	37.62	155.32
2016	31.93	51.50	83.43	119.66	25.58	145.24

Source: Government of Viet Nam, Directorate for Customs of Viet Nam.

Table 57: Number of Foreign Direct Investment Projects Licensed by Province in Southern Economic Corridor 2

Province	Number of Projects			Total Registered Capital (\$ million)		
	2013	2014	2015	2013	2014	2015
Gia Lai	11	11	5	80.3	80.3	9.7
Binh Dinh	57	66	59	1,608.8	1,750.3	1,761.8
Kon Tum	2	3	2	67.1	70.3	70.2
Dak Lak	5	6	13	146.4	150.2	200.3
Total	75	86	79	1,902.6	2,050.1	2,042.0

Note: Data are as of December 31 of subject year.

Source: Statistical Year Book, General Statistics Office (Viet Nam).

Economic and Industrial Zones

Total FDI in the provinces of the central highland along this subcorridor is quite small, especially in Gia Lai (Table 57), where the low level of development has kept the province from attracting much FDI. Gia Lai even faced the problem of a major part of the registered capital being withdrawn in 2015. These provinces have therefore not contributed significantly to cross-Border trade and traffic on this subcorridor.

Tourist Attractions

Gia Lai. Gia Lai has diverse natural and man-made sceneries. It has a primitive forest with rich flora and fauna, spectacular waterfalls, streams and lakes like Bien Ho (Sea Lake), and many mountains like Mang Yang Heaven Gate and Ham Rong. A vast forest land is planted with rubber, tea, and coffee. Thac Ba (Yen Bai) is one of the largest artificial lakes in Viet Nam. The natural and mystic T’Nung Lake (Great Lake) is a beautiful site formed from a volcanic crater, and is dubbed the “eyes” of Gai Lai’s people, particularly those from Pleiku city. T’Nung Lake has yielded many archaeological relics now exhibited in the provincial museum, attesting to the long and rich history of Gia Lai.

Binh Dinh. This place is home to Quang Trung, a revered king who rose from a humble background, and the Binh Dinh Gia, the world-renowned traditional martial art. Binh Dinh is also where the

Ancient Champa empire’s remains are preserved. The province’s beaches, swamplands, and poplar woods are mostly untouched, and their natural beauty has made Binh Dinh an attractive destination for both local and foreign tourists alike. A must-see tourist spot is Ghenh Rang, where mountains slope down to the ocean, giving a rare and spectacular view.

Kon Tum. Visitors to Kon Tum enjoy landscapes like the Ngok Linh mountain, Chu Mon Ray primitive forest, the Dak Tre tourist site, and Dak To hot spring. Of historical interest are the former prisons in Kon Tum and Dak Glei, the Ho Chi Minh Trail, and the battlefields of Dak To and Tan Canh. Beautiful wooden stilt houses in Ba Na villages and the communal house in Nha Rong are unique to villages north of the central highlands.

Dak Lak. Located on the Tay Nguyen plateau, Dak Lak has majestic rivers, lakes, mountains, and rain forests. It is a place where natural beauty is revered and preserved, and has become home to many ethnic minorities recognized for their tradition of nature worship. Two of the country’s important national parks are here: Chu Yang Sin and Yok Don. The grand waterfalls in Gia Long, Krong K’mar, Thuy Tien, and Bay Nhanh are top natural attractions. The Yang Prong Cham temple-tower and Tam Linh religious center are cultural sites worthy of exploration. Dak Lak is a place where ethnic people have domesticated elephants; hence, elephant rides are another leisure activity.

3. Bangkok-Trat-Kampot-Ha Tien-Nam Can Subcorridor (SEC-3)

Cross-Border Trade

The Ha Tien border is far from major economic and trade centers like Can Tho or Ho Chi Minh, so commodities traded through the border are those exchanged mainly between local provinces. Poor infrastructure, unavailability of any deep seaport, and low

income resulting from being at the far end of the Cu Long river delta are factors that have contributed to the low volume and turnover of trade and business activities (Table 58) along this subcorridor.

Viet Nam's main imports at the Ha Tien border consist of wood and wood products, fish, and machinery, and tools in small quantities. Main exports to Cambodia are confectionary, cereals, wooden furniture, chemicals, plastic products, paper products, and machinery and equipment.

Table 58: Turnover of Imports and Exports at the Xa Xia Border Gate

Year	Turnover of Imports (\$ million)	Turnover of Exports (\$ million)	Total (\$ million)
2011	0.177	80.86	81.037
2012	3.862	95.37	99.232
2013	0.338	99.08	99.418
2014	0.064	25.52	25.584
2015	0.026	25.62	25.646
2016		10.62	10.62

Source: General Department of Customs of Viet Nam.

Economic and Industrial Zones

Table 59 shows that the amount of FDI in Kien Giang province reached nearly \$3 billion in 2015.

However, much of this consists of FDI into Phu Quoc island, so the growth in FDI has so far not contributed to cross-border trade and traffic along this subcorridor.

Tourist Attractions

Kien Giang. Kien Giang is blessed with the beautiful scenery of Ha Tien and Phu Quoc island, and has famous tourist spots like the Chong, Chem, and Phu Tu islets, as well as Mui Nai beach and the U Minh forest. Kien Giang province has greater tourist potential than most other Mekong Delta provinces. It has become a popular destination for tourists eager to experience historical, cultural, ecological, and marine tourism. In the first half of 2017, Kien Giang earned more than VND2.2 trillion (around \$97 million) from tourism, up 20% from the same period in 2016. Phu Quoc island drew in nearly a million holiday-makers, of whom around 200,000 are international tourists, up 77% from the same period in 2016. Other destinations like

the U Minh Thuong national park, Ha Tien and Hon Dat towns, and the Hon Tre, Lai Son, An Son, Nam Du, Hai Tac and Hon Nghe islets have attracted crowds of vacationers.

Ca Mau. Ca Mau is located at the southern End Point of S-shaped Viet Nam. Ca Mau Cape, 180 km from Ca Mau City, is the only place in Viet Nam where people can have an unobstructed ocean view of both sunrise and sunset. In Ca Mau – dotted with bird parks, swamplands, channels, and forests – man and nature exist in harmony. U Minh national park sits right beside the Gulf of Thailand and is the habitat of rare plants and animals. Cultural heritage sites like the Tan Hung temple and Quan Am pagoda are also popular among visitors.

Table 59: Number of Foreign Direct Investment Projects Licensed by Province Southern Economic Corridor 3

Province	Number of Projects			Total Registered Capital (\$ million)		
	2013	2014	2015	2013	2014	2015
Kien Giang	34	38	38	2,915.6	2,925.1	2,957.6
Ca Mau	8	9	9	785.6	788.6	789.5
Total	42	47	47	3,701.2	3,713.7	3,747.1

Note: Data are as of December 31 of subject year.
Source: Statistical Year Book, General Statistics Office (Viet Nam).

VI. OVERALL ASSESSMENT OF THE VIET NAM COMPONENT OF EWEC, NSEC, AND SEC

A. East–West Economic Corridor

In general, transport infrastructure—road, railways, ports and airports—is adequate for current and future traffic and to ensure all weather through-traffic along this corridor in Viet Nam. There are provisions for future expansion and development. It will be necessary in the long-term to establish rail links to the border to ease road traffic and reduce transportation costs. It will also be important to provide good links between existing roads and future expressways for a more efficient transport system.

Da Nang City and Hue City can maximize their substantial tourism potential by organizing regular cross-Border tours by road jointly with the Lao PDR and Thailand. Better infrastructure in the EZs and IZs along this corridor in Viet Nam can generate demand and supply of goods across borders and enhance cross-border traffic and trade. More facilities are needed to support multi-modal transport: logistics centers, and border facilities like bonded warehouses, cargo yards, and equipment for facilitating border clearance. More efforts are also required to allow and expand transit cargo not only along the East–West Economic Corridor but also along all the Greater Mekong Subregion (GMS) economic corridors.

B. North–South Economic Corridor

The North–South Economic Corridor (NSEC) has a comprehensive transport network, particularly road transport infrastructure along the subcorridors in the Red River Delta region and provinces in the northern midlands and mountainous areas, with expressways along the subcorridors.

Projects in the pipeline should be implemented in a timely manner, to complement and avoid overloading existing infrastructure.

Increased initiative and cooperation are needed to upgrade transport infrastructure along corridors and subcorridors, allowing them to meet the technical standards and harmonizing them not only within Viet Nam but also with the other GMS countries. It is necessary to accelerate efforts to facilitate cross-Border transport and trade, especially the exchange of traffic rights and the crossing of cargo trucks without transshipment.

The substantial increase in foreign direct investment in manufacturing and processing has created much potential for increasing cross-Border trade along the subcorridors, and has contributed to the increased share of

gross domestic product of the provinces along the subcorridors and to the growth of imports and exports in terms of volume as well as turnover.

Many tourist destinations have been developed to attract more visitors via road transport. Ha Long Bay in Quang Ninh province, the natural caves at Phong Nha and Ke Bang in Quang Binh province, and beautiful beaches along NSEC-7 and NSEC-8 are but some of the most popular places.

C. Southern Economic Corridor

Infrastructure along the Southern Economic Corridor (SEC) subcorridors in Viet Nam are either overloaded and/or congested (as exemplified by SEC-1) or incomplete and unsynchronized (as in SEC-2 and SEC-3).

More upgrades will be needed in the near future.

Great potential for tourism exists along the subcorridors, but increased efforts and investments are needed to attract more visitors.

Except for SEC-1, cross-Border trade and traffic remain minimal. No transit cargo passes along SEC-2 and SEC-3. More efforts and investment are required to improve infrastructure at border economic zones and other economic and industrial zones. As seen from the experience with SEC-1, these economic and industrial zones have the potential to contribute significantly to growth in cross-border traffic and trade along SEC-2 and SEC-3.

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 this assessment to guide future investments and provide benchmarks for improving the GMS economic corridors. This 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, 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 its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

GMS SECRETARIAT

Southeast Asia Department

Asian Development Bank

6 ADB Avenue, Mandaluyong City

1550 Metro Manila, Philippines

Fax: +63 2 636 2226

E-mail: gms@adb.org

Web addresses:

<http://www.adb.org/countries/gms/main>

<https://www.greatermekong.org/>