



ASSESSMENT OF GREATER MEKONG SUBREGION ECONOMIC CORRIDORS

LAO PEOPLE'S DEMOCRATIC REPUBLIC

10TH ECONOMIC CORRIDORS FORUM
13 DECEMBER 2018



ASSESSMENT OF GREATER MEKONG SUBREGION ECONOMIC CORRIDORS

LAO PEOPLE'S DEMOCRATIC REPUBLIC

10TH ECONOMIC CORRIDORS FORUM
13 DECEMBER 2018



Photos on the front cover (left to right):

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

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

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

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/>

Note: In this report “\$” refers to United States dollars.

ADB recognizes “China” as the People’s Republic of China and “Laos” as the Lao People’s Democratic Republic.

CONTENTS

I. Introduction	1
II. Greater Mekong Subregion Economic Corridors in the Lao People’s Democratic Republic	3
A. East–West Economic Corridor	3
B. North–South Economic Corridor	7
C. Southern Economic Corridor	17
III. Road and Related Transport Development in the GMS Economic Corridors in the Lao People’s Democratic Republic	22
A. State of Road Transport	22
B. Traffic Volume along the Major National Highways	22
C. Related Transport Development	24
IV. Border Facilities	32
A. International Border Crossing Points	32
B. Traffic Volume at the Border Crossing Points in the Lao People’s Democratic Republic	34
V. Investment and Business Opportunities	36
A. Special Economic Zones	36
B. Tourist Attractions	44
VI. Overall Assessment and Recommendations	48
A. Assessment	48
B. Recommendations	50

FIGURES AND TABLES

FIGURES

1	New Configuration of the Greater Mekong Subregion Economic Corridors	2
2	Greater Mekong Subregion Economic Corridor Routes in the Lao People’s Democratic Republic	5
3	Configuration of Greater Mekong Subregion Economic Corridors in the Lao People’s Democratic Republic	6
4	East–West Economic Corridor Nodes and Distances in the Lao People’s Democratic Republic	7
5	East–West Economic Corridor in the Lao People’s Democratic Republic	8
6	North–South Economic Corridor-1 in the Lao People’s Democratic Republic	10
7	North–South Economic Corridor-1 Nodes and Distances in the Lao People’s Democratic Republic	11
8	North–South Economic Corridor-2 in the Lao People’s Democratic Republic	12
9	North–South Economic Corridor-2 Nodes and Distances in the Lao People’s Democratic Republic	13
10	North–South Economic Corridor-7 in the Lao People’s Democratic Republic	16
11	North–South Economic Corridor-7 Nodes and Distances in the Lao People’s Democratic Republic	17
12	North–South Economic Corridor-8 in the Lao People’s Democratic Republic	18
13	North–South Economic Corridor-8 Nodes and Distances in the Lao People’s Democratic Republic	19
14	Southern Economic Corridor-4 in the Lao People’s Democratic Republic	20
15	Southern Economic Corridor-4 Nodes and Distances in the Lao People’s Democratic Republic	21
16	Railway Alignment in the Lao People’s Democratic Republic	24
17	Dry Ports in the Lao People’s Democratic Republic	27
18	Existing Waterway Routes and River Ports along the Mekong River in the Lao People’s Democratic Republic	30

19	Waterway Corridors in the Upper Part of the Mekong River in the Lao People’s Democratic Republic	31
20	Existing and Proposed Special Economic Zones	38
21	Location of the Savan–Seno Special Economic Zone	39
22	Location of the Boten Special Economic Zone	41
23	Location of Samliem Den Kham Special Economic Zone	42
24	Location of Phoukhiao Nakhon Special Economic Zone	43
25	Location of Vientiane Nonthong Industry and Trading Zone	45
26	Top Tourist Destinations in the Lao People’s Democratic Republic	46

TABLES

1	GMS Economic Corridors and Subcorridors and Their Routes in the Lao People’s Democratic Republic	4
2	Basic Information on the Lao PDR Component of EWEC, NSEC-1, NSEC-2, NSEC-7, NSEC-8, and SEC-4	9
3	Volume of Traffic along the Major Highways	23
4	Railway Network Plan in the Lao People’s Democratic Republic	25
5	Traffic Volume at the Major Border Crossing Points in the Lao People’s Democratic Republic	35
6	Existing and Planned Special Economic Zones in the Lao People’s Democratic Republic	37
7	Tourist Checkpoints in the Lao People’s Democratic Republic	47

ABBREVIATIONS

ADB	Asian Development Bank
AH	Asian Highway
BC	border crossing
CBTA	Cross-Border Transport Facilitation Agreement
CIQ	customs, immigration and quarantine
CCA	common control area
EWEC	East–West Economic Corridor
ETC	Electronic Toll Road Collector
FSB	Friendship Bridge
GMS	Greater Mekong Subregion
km	kilometer
Lao PDR	Lao People’s Democratic Republic
PRC	People’s Republic of China
NR	National Road
NSEC	North–South Economic Corridor
NSEC-1	Kunming–Chiang Rai–Bangkok via Lao PDR or Myanmar Subcorridor
NSEC-2	Kunming–Boten–Oudomxay–Luang Prabang–Vang Vieng–Vientiane– Nong Khai–Udon Thani–Nakhon Ratchasima–Laem Chabang Subcorridor
NSEC-7	Laem Chabang–Bangkok–Nakhon Ratchasima–Udon Thani–Nakhon Phanom–Thakek–Na Phao–Vung Ang–Ha Noi Subcorridor
NSEC-8	Vientiane–Paksan–Vinh–Ha Noi Subcorridor
RMF	Road Maintenance Fund
SEC	Southern Economic Corridor
SEC-4	Sihanoukville–Phnom Penh–Strung Treng–Pakse–Savannakhet Subcorridor
SEZ	special economic zone
SSI	single stop inspection
SWI	single window inspection

The Assessment of Greater Mekong Subregion (GMS) Economic Corridors consists of six country reports and an integrative report prepared by a study team composed of Filologo Pante, Jr. (team leader), Josephine Duque-Comia of the GMS Secretariat, Hir Samnang (Cambodia), Sengsavang Phandanouvong (Lao People's Democratic Republic), Phyo Kyaw Thu (Myanmar), Liu Zengjun (People's Republic of China), Pawat Tantrongjita (Thailand), and Pham Thanh Tung (Viet Nam). Cuong Minh Nguyen of the GMS Secretariat provided overall guidance and coordinated with GMS countries while Cira Rudas 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 pictures, except those on the cover, are by Sengsavang Phandanouvong.

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 instruments for promoting economic integration in the GMS. Along this line, the East–West Economic Corridor (EWEC), North–South Economic Corridor (NSEC), and Southern Economic Corridor (SEC) were designated as flagships of the GMS Program.

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

At the 21st GMS Ministerial Conference 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.

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

The adoption of a new configuration of the GMS economic corridors underscores the need to assess the state of development of the corridors to guide future investments and other interventions. This report presents the findings of the assessment of the Lao PDR component of the GMS economic corridors and focuses 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). The observations regarding the physical condition of the roads in the GMS economic corridors in the Lao PDR 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: Asian Development Bank. 2018. *Review of Configuration of Greater Mekong Subregion Economic Corridors*. Manila. <https://www.adb.org/documents/review-configuration-gms-corridors>.

II. GREATER MEKONG SUBREGION ECONOMIC CORRIDORS IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

The Lao People's Democratic Republic (Lao PDR) has actively participated in and strongly supported the Greater Mekong Subregion (GMS) Program, particularly in pursuing GMS economic corridor development to achieve economic integration in the subregion. This stance is very much in line with the country's Eighth National Socio-Economic Development Plan, which "emphasizes that the Lao PDR should participate in regional and international integration with strong ownership to benefit all people and enhance favorable conditions for regional and international integration."

There are 13 GMS economic corridor routes or subcorridors of which six traverse the territory of the Lao PDR (Table 1, Figures 2 and 3).

A. East-West Economic Corridor

The East-West Economic Corridor (EWEC) runs from Yangon-Thilawa and Mawlamyine in Myanmar to Da Nang in Viet Nam via Thailand and the Lao PDR. EWEC in the Lao PDR starts from the Savannakhet border crossing (BC) at the 2nd Mekong Friendship Bridge, and ends at the Dansavanh BC, with a total length of 241 kilometers (km) (Figures 4 and 5).

Basic information on the Lao PDR component of EWEC, including distances between sections, roads traversed, road class, and road condition are summarized in Table 2.

Commercial Nodes: Dansavanh, Seno, Savannakhet

Border Nodes and Crossing Points:

(i) Savannakhet, Lao PDR–Mukdahan (2nd Friendship Bridge border crossing point); and (ii) Dansavanh, Lao PDR–Lao Bao, Viet Nam. The Savan–Seno Special Economic Zone, and a dry port/inland clearance depot have been established in Savannakhet.

Interchange Nodes: Seno to Vientiane via NR13S/AH11 (469 km); and Seno to Champasak via NR13S/AH11 (248 km) interchange 32 km from Savannakhet BC.

Tourism Nodes: Savannakhet, Kaysone Phomvihane, Seno, Muang Phin, Dansavanh.

Table 1: GMS Economic Corridors and Subcorridors and Their Routes in the Lao People’s Democratic Republic

Economic Corridors and Subcorridors	Routes in the Lao PDR
EWEC	EWEC
Mawlamyine/Yangon–Da Nang via Thailand and Lao PDR	Savannakhet–Dansavanh (NR9/AH16)
NSEC	NSEC
NSEC-1: Kunming–Chiang Rai–Bangkok via Lao PDR or Myanmar Subcorridor	NSEC-1: Boten–Houayxay (NR3/AH3–NR13N)
NSEC-2: Kunming–Boten–Oudomxay–Luang Prabang–Vang Vieng–Vientiane–Nong Khai–Udon Thani–Nakhon Ratchasima–Laem Chabang Subcorridor	NSEC-2: Boten–Thanaleng (NR13N–NR450/AH12)
NSEC-3: Kunming–Ha Noi–Hai Phong Subcorridor	
NSEC-4: Nanning–Ha Noi Corridor	
NSEC-5: Kunming–Muse–Mandalay–Yangon–Thilawa Subcorridor	
NSEC-6: Mandalay–Tamu Subcorridor	
NSEC-7: Laem Chabang–Bangkok–Nakhon Ratchasima–Udon Thani–Nakhon Phanom–Thakek–Na Phao–Vung Ang–Ha Noi Subcorridor	NSEC-7: Thakek–Na Phao (NR12/AH131)
NSEC-8: Vientiane–Paksan–Vinh–Ha Noi Subcorridor	NSEC-8: Vientiane–Nam Phao (NR13S–8/AH15)
SEC	SEC
SEC-1: Dawei–Bangkok–Phnom Penh–Ho Chi Minh City–Vung Tau Subcorridor	
SEC-2: Bangkok–Siem Reap–Strung Treng–Pleiku–Quy Nhon Subcorridor	
SEC-3: Bangkok–Trat–Kampot–Ha Tien–Nam Can Subcorridor	
SEC-4: Sihanoukville–Phanom Phenh–Strung Treng–Pakse–Savannakhet Subcorridor	SEC-4: Pakse–Savannakhet (NR13S/AH11)

AH = Asian Highway, EWEC = East–West Economic Corridor, Lao PDR = Lao People’s Democratic Republic, NR = national road, NSEC = North–South Economic Corridor, SEC = Southern Economic Corridor.

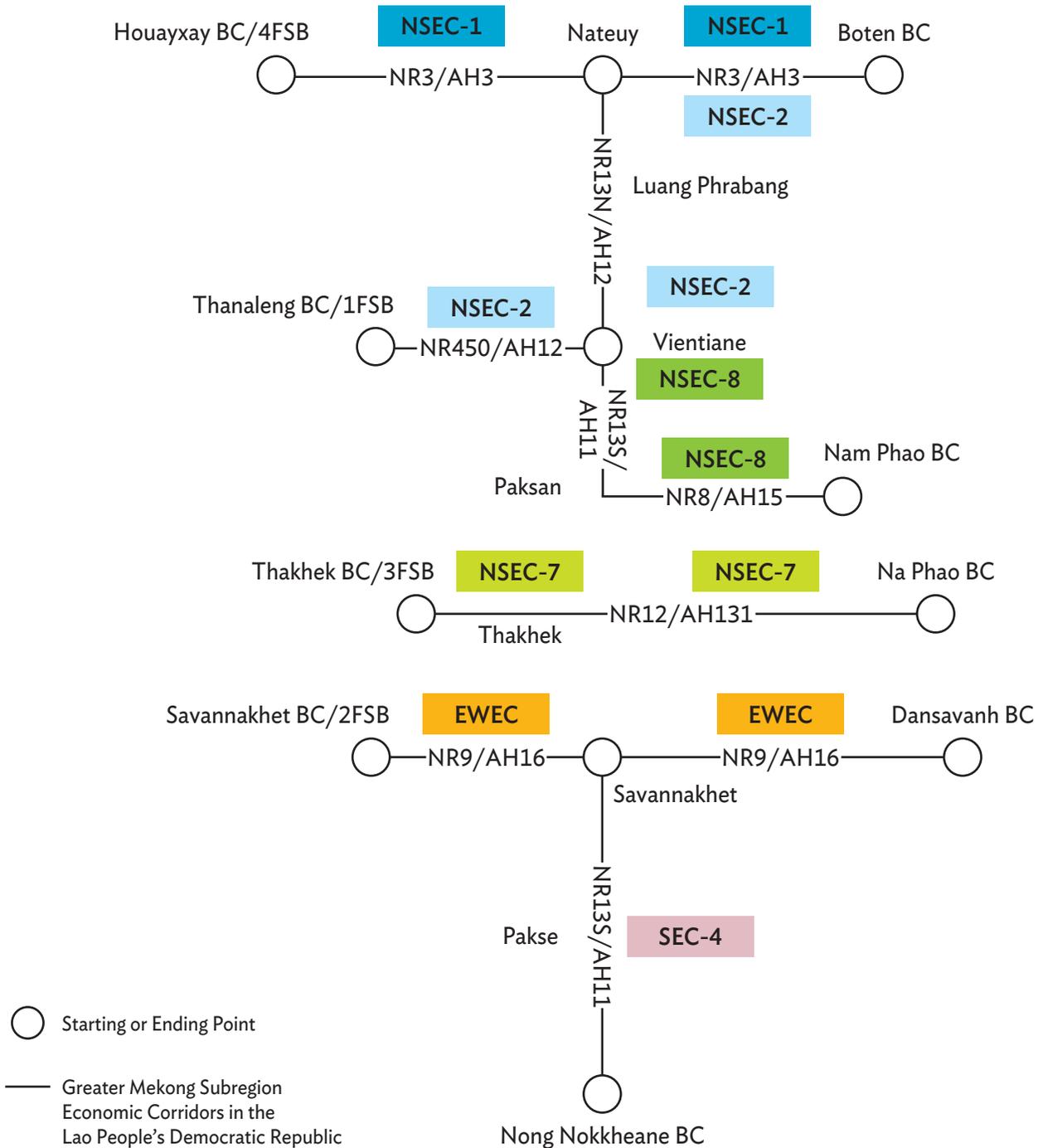
Source: ADB. GMS Economic Corridor Assessment Team.

Figure 2: Greater Mekong Subregion Economic Corridor Routes in the Lao People's Democratic Republic



Source: ADB. GMS Economic Corridor Assessment Team.

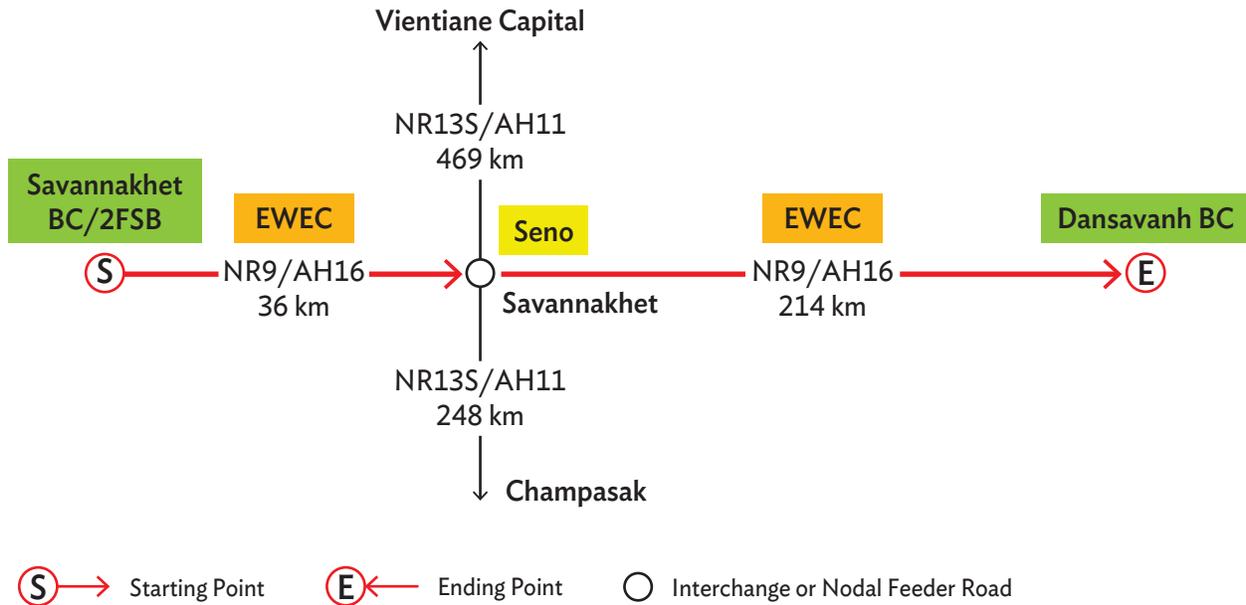
Figure 3: Configuration of Greater Mekong Subregion Economic Corridors in the Lao People’s Democratic Republic



AH = Asian Highway, BC = border crossing, EWEC = East–West Economic Corridor, FSB = friendship bridge, NR = national road, NSEC = North–South Economic Corridor, SEC = Southern Economic Corridor.

Source: ADB. GMS Economic Corridor Assessment Team.

Figure 4: East-West Economic Corridor Nodes and Distances in the Lao People's Democratic Republic



AH = Asian Highway, BC = border crossing, EWEC = East-West Economic Corridor, FSB = friendship bridge, km = kilometer, NR = national road.

Source: ADB. GMS Economic Corridor Assessment Team.

B. North-South Economic Corridor

As mentioned above, the North-South Economic Corridor (NSEC) has four subcorridors in the Lao PDR: (i) Kunming-Chiang Rai-Bangkok via Lao PDR or Myanmar Subcorridor (NSEC-1); (ii) Kunming-Boten-Oudomxay-Luang Prabang-Vang Vieng-Vientiane-Nong Khai-Udon Thani-Nakhon Ratchasima-Laem Chabang Subcorridor (NSEC-2); (iii) Laem Chabang-Bangkok-Nakhon Ratchasima-Udon Thani-Nakhon Phanom-Thakhek-Na Phao-Vung Ang-Ha Noi Subcorridor (NSEC-7); and Vientiane-Paksan-Vinh-Ha Noi Subcorridor (NSEC-8).

1. North-South Economic Corridor-1

NSEC-1 in the Lao PDR starts from the Boten BC with the People's Republic of China (PRC) in Luang Namtha Province and ends in the Houayxay BC border crossing point at the 4th Mekong Friendship Bridge with Thailand in Bokeo Province (Figures 6 and 7). The total distance between Boten and Houaxay is 251 km and consists of two sections: (i) Boten-Nateuy (19 km); and Nateuy to Houaxay (232 km). The Boten-Nateuy section in NSEC-1 overlaps with that in NSEC-2. Basic information on the Lao PDR component of NSEC-1, including distances between sections, roads traversed, road class, and road condition are summarized in Table 2.

Figure 5: East-West Economic Corridor in the Lao People's Democratic Republic



Source: ADB. GMS Economic Corridor Assessment Team.

Table 2: Basic Information on the Lao PDR Component of EWEC, NSEC-1, NSEC-2, NSEC-7, NSEC-8, and SEC-4

Province	Route No.		Section No.	Section Length (km)	AH Design Standard	Traffic Lanes	Starting Point	End Point	Road Condition	Requiring Urgent Repair	Requiring Upgrading
	National	GMS-EC									
Savannakhet	NR9	EWEC	1	32	III	2	Savannakhet Border CB/2FSB	Seno	Fair	Yes ^a	Yes ^b
	NR9	EWEC	2	209	III	2	Seno	Dasavanh BC	Good	No	Yes ^b
SEC-4: 408 km											
Champasak	NR13S	SEC-4	1	160	III		Nong Nokkheane BC	Pakse	Fair	Yes ^a	Yes ^b
Champasak/Savannakhet	NR13S	SEC-4	2	248	III		Pakse	Savannakhet	Fair	Yes ^a	Yes ^b
NSEC-7: 150 km											
Khammouan	NR12	NSEC-7	1	1	II	4	Thakhek BC/3FSB	Thakek	Good	No	No
	NR12	NSEC-7	2	50	Below III	2	Thakek	Muang Mahaxai	Fair	Yes ^a	Yes ^c
	NR12	NSEC-7	3	99	Below III	2	Muang Mahaxai	Na Phao BC	Fair	Yes ^a	Yes ^c
NSEC-8: 386 km											
Vientiane/Bolikhamesai	NR13S	NSEC-8	1	250	III	2	Vientiane	Ban Lao	Fair	Yes ^a	Yes ^b
Bolikhamesai	NR8	NSEC-8	2	100	Below III	2	Ban Lao	Lak Sao	Poor	Yes ^a	Yes ^c
	NR8	NSEC-8	3	36	Below III	2	Lak Sao	Nam Phao BC	Poor	Yes ^a	Yes ^c
NSEC-2: 701 km											
Luang Namtha	NR3	NSEC-2	1	19	III	2	Boten BC	Nateuy	Good	No	Yes ^b
Luang Namtha/Oudomsai	NR13N	NSEC-2	2	84	III	2	Nateuy	Muangsay	Good	No	Yes ^b
Oudomsai/Luang Prabang	NR13N	NSEC-2	3	194	III	2	Muangsay	Luang Phrabang	Fair/Poor	Yes ^a	Yes ^b
Luang Prabang/Vientiane	NR13N	NSEC-2	4	371	III	2	Luang Phrabang	Sikeut	Fair/Poor	Yes ^a	Yes ^b
Vientiane	NR13N	NSEC-2	5	12	III	2	Sikeut	Dongdok 4-Junction	Good/Poor	Yes ^a	Yes ^b
	NR450	NSEC-2	6	20	II	4	Dongdok 4-Junction	Thanaleng	Good	No	No
	-	NSEC-2	7	1	Below III	2	Thanaleng	Thanaleng BC/1FSB	Poor	Yes ^a	Yes ^b
NSEC-1: 251 km											
Luang Namtha	NR13N	NSEC-1	1	19	III	2	Boten BC	Nateuy	Good	No	Yes ^b
Luang Namtha/Bokeo	NR13N	NSEC-1	2	232	III	2	Nateuy	Houaxay BC	Good	No	Yes ^b
Total Distance of GMS Economic Corridors in the Lao PDR: 2,137 km											

AH = Asian Highway, BC = border crossing, EC = economic corridor, EWEC = East-West Economic Corridor, FSB = friendship bridge, km = kilometer, Lao PDR = Lao People's Democratic Republic, NR = national road, NSEC = North-South Economic Corridor, SEC = Southern Economic Corridor.

^a for the whole section; ^b for the whole section in Class II; ^c for the whole section in Class III.

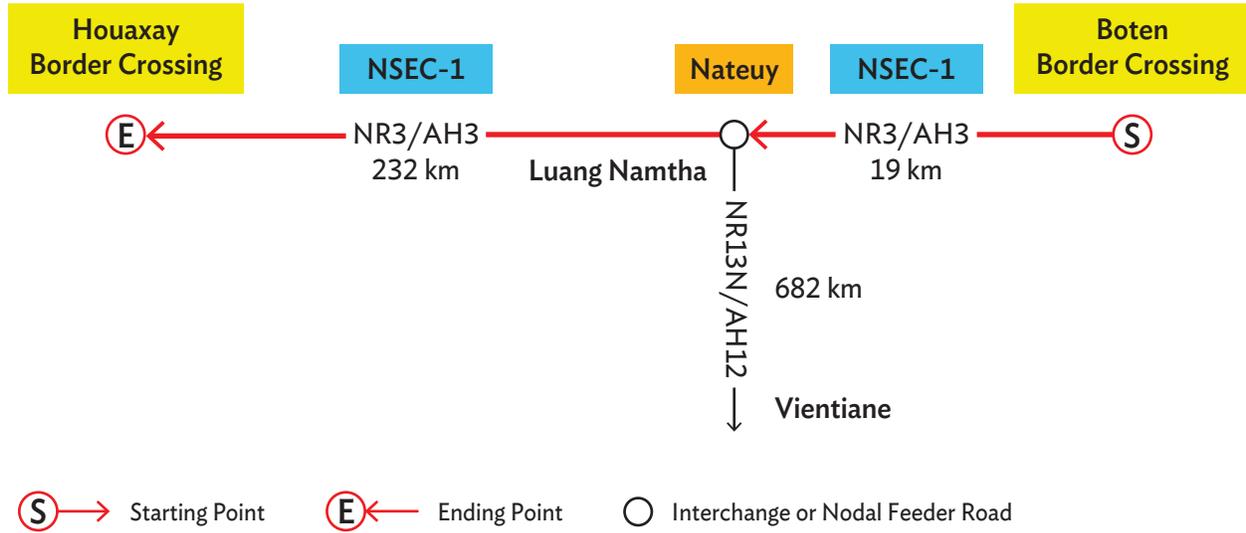
Source: ADB, GMS Economic Corridor Assessment Team.

Figure 6: North-South Economic Corridor-1 in the Lao People’s Democratic Republic



Source: ADB. GMS Economic Corridor Assessment Team.

Figure 7: North-South Economic Corridor-1 Nodes and Distances in the Lao People's Democratic Republic



AH = Asian Highway, km = kilometer, NR = national road, NSEC = North-South Economic Corridor.

Source: ADB. GMS Economic Corridor Assessment Team.

Commercial Nodes: Luang Namtha and Bokeo.

Border Nodes and Crossing Points:

- (i) Boten, Lao PDR–Mohan, PRC; and
- (ii) Houaxay, Lao PDR–Chiang Khong, Thailand. The Government of the Lao PDR has established special economic zones (SEZs) in Luangnamtha and Bokeo provinces. A dry port in Houaxay, Bokeo province will also be established.

Interchange Node: Intersection of NR3/AH3 and NR13/AH12 at Nateuy, 19 km from Boten.

Tourism Nodes: Luang Namtha and Bokeo.

2. North-South Economic Corridor-2

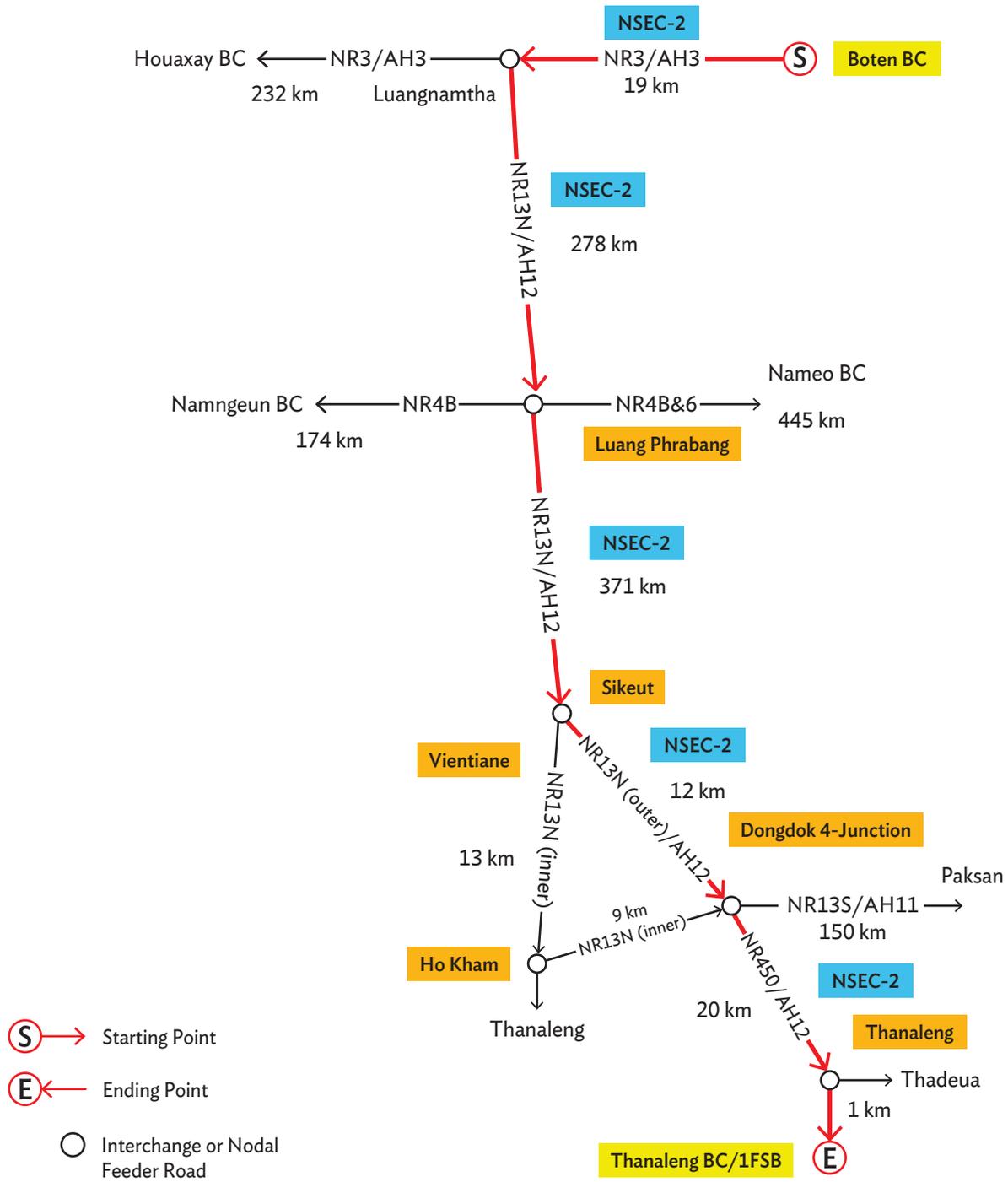
NSEC-2 in the Lao PDR stretches from Kunming in the PRC to Laem Chabang in Thailand via the Lao PDR (Figure 8). It starts from the Boten BC in Luang Namtha Province, goes through Nateuy, Oudomxai, Muangsai, Luang Prabang, and Sikeut before reaching the Thanaleng BC at the 1st Mekong Friendship Bridge in Vientiane (Figure 9). Consisting of seven sections, it has a total length of 701 km. Basic information on the Lao PDR component of NSEC-2, including distances between sections, roads traversed, road class, and road condition are summarized in Table 2.

Figure 8: North-South Economic Corridor-2 in the Lao People’s Democratic Republic



Source: ADB. GMS Economic Corridor Assessment Team.

Figure 9: North-South Economic Corridor-2 Nodes and Distances in the Lao People's Democratic Republic



AH = Asian Highway, BC = border crossing, FSB = friendship bridge, km = kilometer, NR = national road, NSEC = North-South Economic Corridor.

Source: ADB. GMS Economic Corridor Assessment Team.

Commercial Nodes: Luang Namtha, Oudomxai, Luang Prabang, and Vientiane.

Border Nodes and Crossing Points:

(i) Boten, Lao PDR–Mohan, PRC; and Thanaleng, Lao PDR–Nong Khai, Thailand. The Lao PDR Government has established SEZs in Boten, Luang Namtha, and Vientiane. Dry ports will also be established in Nateuy, Luang Namtha, Muangsai, Oudomxai, Luang Prabang, Thanaleng, and Vientiane.

Interchange Nodes: (i) Intersection of NR3/AH3 and NR13/AH12 at Nateuy, 19 km from Boten (as in NSEC-1); (ii) intersection of NR13/AH12 and NR4B

going to Namgeun BC with Thailand and NR4886 going to Nameo BC with Viet Nam; and (iii) Dongdok-4 Junction (intersection of AH12 and NR13N and NR13S) heading toward the Thanaleng BC. The 1-kilometer stretch between the Thanaleng Bonded Warehouse and Thanaleng Border Crossing Point at the 1st Mekong Friendship Bridge is in very poor condition and needs urgent upgrading.

Tourism Nodes: Luang Namtha, Oudomxai, Houaphanh, Luang Prabang, Vang Vieng, and Vientiane.



Condition of the Section on AH12 (1 km) from the Thanaleng BC to the Thanaleng Customs Bonded Warehouse.

3. North–South Economic Corridor-7

NSEC-7 in the Lao PDR starts from the Thakhek BC at the 3rd Mekong Friendship Bridge and ends at the Na Phao BC, with a total length of 150 km (Figures 10 and 11). Basic information on the Lao PDR component of NSEC-7, including distances between sections, roads traversed, road class, and road condition is summarized in Table 2.

Commercial Nodes: Thakhek, Muang Mahaxai, and Khammouane.

Border Nodes and Crossing Points:

(i) Thakhek, Lao PDR–Nakhon Phanom, Thailand; and (ii) Na Phao, Lao PDR–Chalo, Viet Nam. The government has established the Phoukhiao Nakhon Specific Economic Zone in Khammouane. A dry port in Khammouane will also be established.

Interchange Nodes: Interchange between NR12/AH131 (1 km from Thakhek) and NR13S/AH11 to Paksan (203 km) and NR13S/AH11 to Savannakhet (116 km); and (ii) interchange between NR12/AH131 (51 km from Thakhek) and NR1E to Nakay as a feeder road connection to NR8/AH15.

Tourism Nodes: Thakhek, Muang Mahaxai, and Khammouane.

4. North–South Economic Corridor-8

NSEC-8 in the Lao PDR starts from Vientiane and ends in Nam Phao BC between the Lao PDR and Viet Nam, with a total length of 386 km. It traverses Ban Lao and Lak Sao (Figures 12 and 13). Basic information on the Lao PDR component of NSEC-8, including distances between sections, roads traversed, road class, and road condition is summarized in Table 2.

Commercial Nodes: Vientiane, Paksan, Lak Sao, and Borikhamxai.

Border Nodes and Crossing Points:

Nam Phao (Lao PDR)–Cao Treo (Viet Nam). The government plans to establish a dry port in Lak Sao, Boriikhamxai Province.

Interchange Nodes: Interchange at Ban Lao between NR13S/AH11 (250 km from Vientiane) and NR8/AH15; and at Lak Sao between NR8/AH15 and NRiE to Nakay serving as a feeder road connection to NR12/AH131.

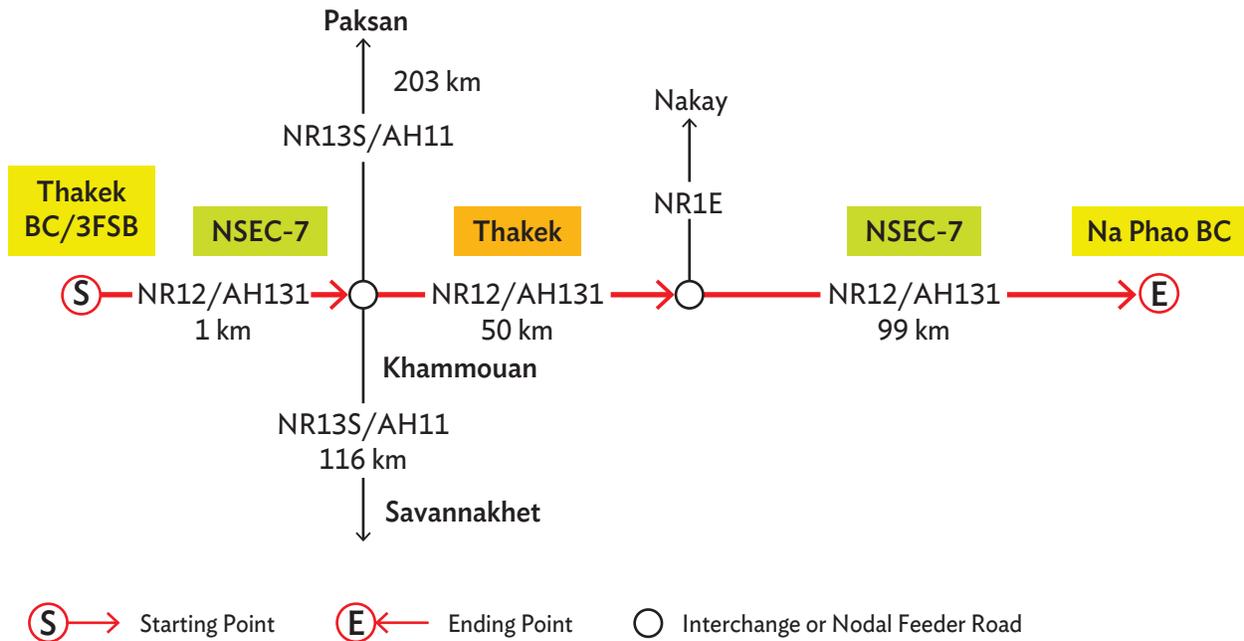
Tourism Nodes: Vientiane, Muang Thaphabath, and Borikhamxai.

Figure 10: North-South Economic Corridor-7 in the Lao People’s Democratic Republic



Source: ADB. GMS Economic Corridor Assessment Team.

Figure 11: North–South Economic Corridor-7 Nodes and Distances in the Lao People's Democratic Republic



AH = Asian Highway, BC = border crossing, FSB = friendship bridge, km = kilometer, NR = national road, NSEC = North–South Economic Corridor.

Source: ADB. GMS Economic Corridor Assessment Team.

C. Southern Economic Corridor

As noted above, the Southern Economic Corridor (SEC) has four subcorridors, one of which traverses the Lao PDR: SEC-4 (Sihanoukville–Phnom Penh–Strung Treng–Pakse–Savannakhet Subcorridor). SEC-4 in the Lao PDR starts from the Nong Nokkheane BC in Champasak Province and ends in Savannakhet with a total length of 408 km (Figures 14 and 15). Basic information on the Lao PDR component of SEC-4, including distances between sections, roads traversed, road class, and road condition is summarized in Table 2.

Commercial Nodes: Champasak and Savannakhet.

Border Nodes and Crossing Points: Nong Nokkheane (Lao PDR)–Trapeang Kriel Cambodia). The government plans to establish a dry port in Pakse, Champasak.

Interchange Nodes: Intersection between NR13S/AH11 and NR18/AH132 to the Vangtao BC (with Thailand); and Intersection between NR13S/AH11 and NR18/AH132 to Phoukiao BC (with Viet Nam).

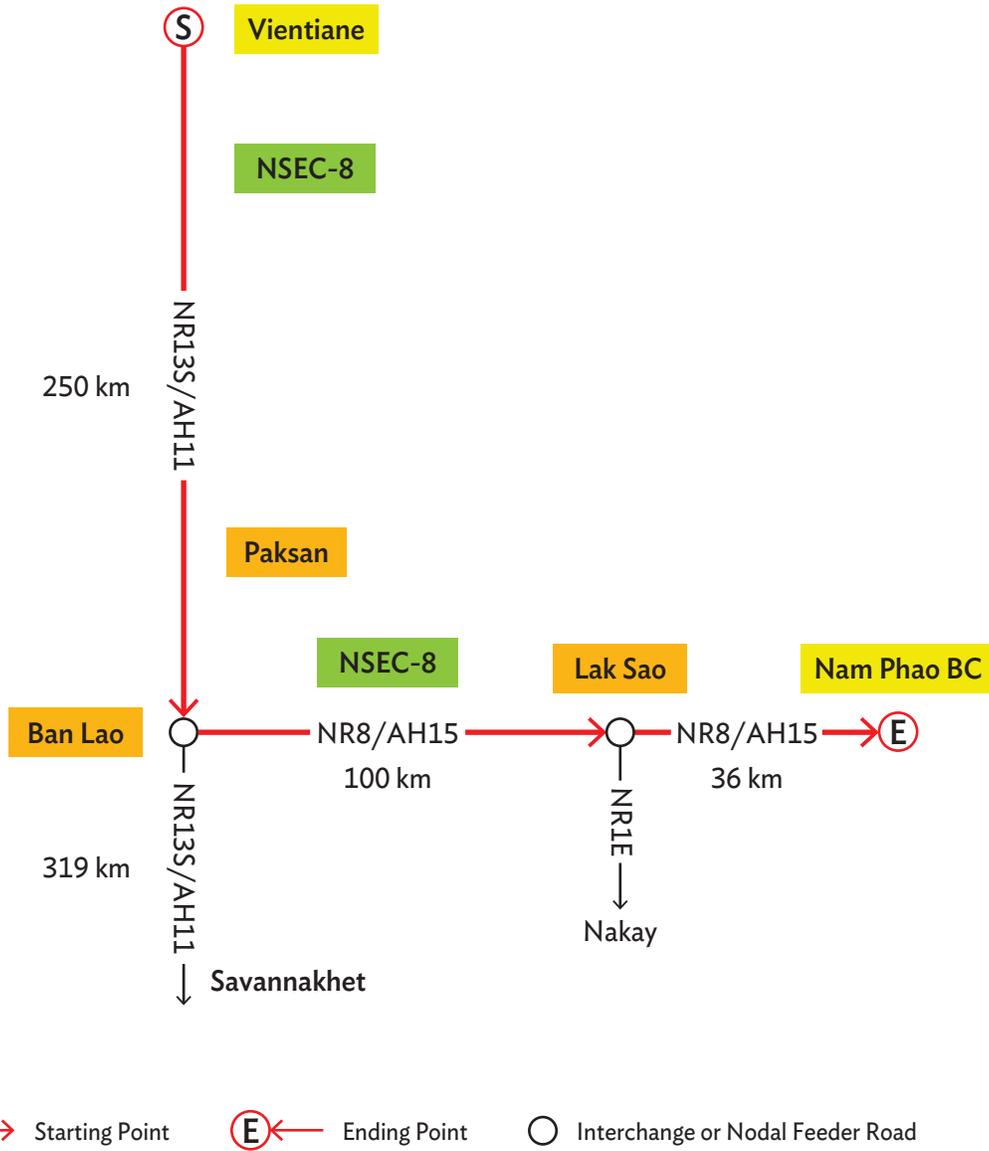
Tourism Nodes: Champasak and Savannakhet.

Figure 12: North-South Economic Corridor-8 in the Lao People’s Democratic Republic



Source: ADB. GMS Economic Corridor Assessment Team.

Figure 13: North-South Economic Corridor-8 Nodes and Distances in the Lao People's Democratic Republic



AH = Asian Highway, BC = border crossing, km = kilometer, NR = national road, NSEC = North-South Economic Corridor.

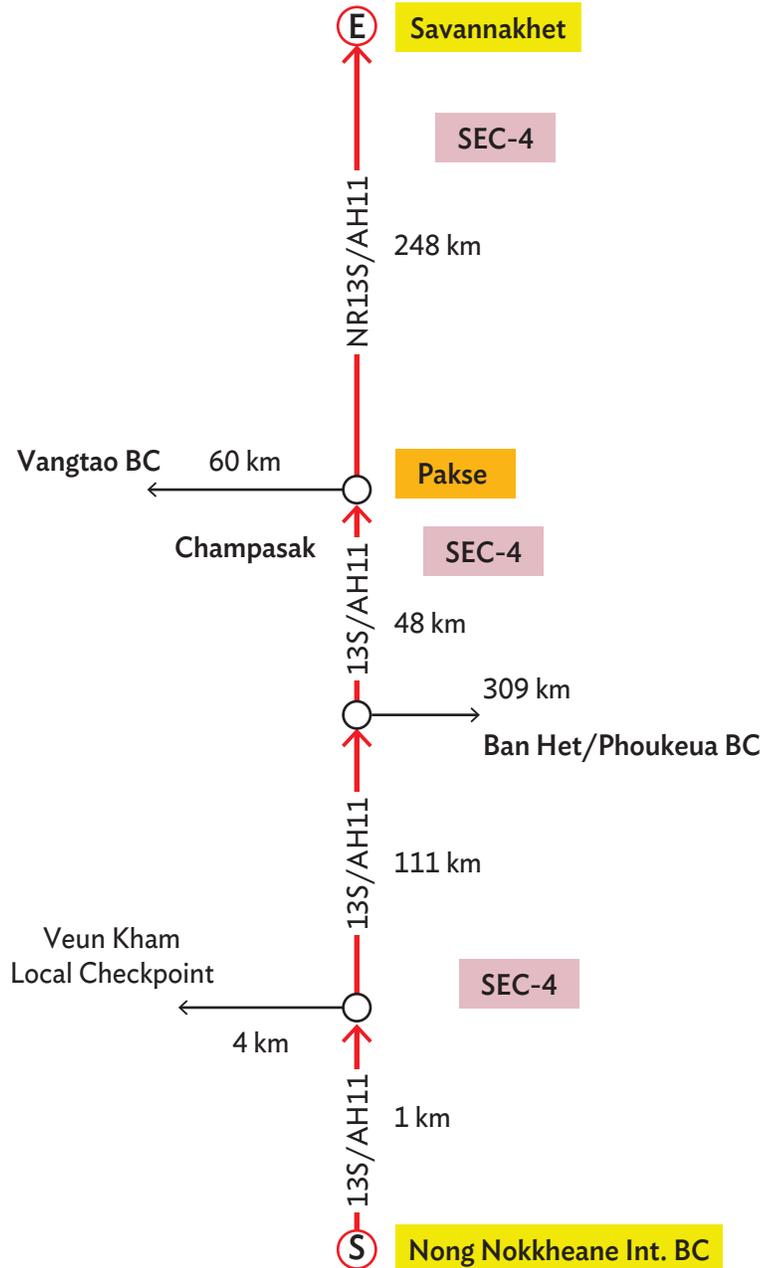
Source: ADB. GMS Economic Corridor Assessment Team.

Figure 14: Southern Economic Corridor-4 in the Lao People's Democratic Republic



Source: ADB. GMS Economic Corridor Assessment Team.

Figure 15: Southern Economic Corridor-4 Nodes and Distances in the Lao People's Democratic Republic



S → Starting Point
 E ← Ending Point
 ○ Interchange or Nodal Feeder Road

AH = Asian Highway, BC = border crossing, km = kilometer, NR = national road, SEC = Southern Economic Corridor.

Source: ADB. GMS Economic Corridor Assessment Team.

III. ROAD AND RELATED TRANSPORT DEVELOPMENT IN THE GMS ECONOMIC CORRIDORS IN THE LAO PEOPLE'S DEMOCRATIC REPUBLIC

A. State of Road Transport

Table 2 puts together information on the state of roads along the Lao People's Democratic Republic (Lao PDR) component of the East–West Economic Corridor (EWEC), North–South Economic Corridor (NSEC)-1, NSEC-2, NSEC-7, NSEC-8, and Souther Economic Corridor-4, which provide the following for each major section: route or road number, length, road classification based on Asian Highway standards, number of traffic lanes, road condition, and note indicating the need for maintenance and/or upgrading.

The roads in all sections are class III or below class III with two lanes, except for relatively short stretches in Vientiane and Thakek that have four lanes. There are five sections that are below class III (Thakek–Muang Mahaxai, Muang Mahaxai–Na Phao, Ban Lao–Lak Sao, Lak Sao Nam Phao, and Thanaleng–Thanaleng border crossing [BC]). The condition of the roads in EWEC ranges from good to fair; NSEC-1, good; NSEC-2, good to poor; NSEC-7, good to fair; NSEC-8, fair to poor; and SEC-4, fair. The roads in all EWEC, NSEC, and SEC subcorridors were further noted as requiring regular maintenance, with all except for three sections also requiring upgrading.

B. Traffic Volume along the Major National Highways

Many bridges across the Mekong River and major national highways have been built and upgraded since the government launched its strategy of moving from a landlocked to a land-linked country. As a result, the volume of traffic of both freight and passenger vehicles across the Lao PDR has continuously increased, especially along the routes linking the People's Republic of China (PRC), Thailand, and Viet Nam via the Lao PDR. Table 3 shows the volume of cargo trucks and buses per month along the major national highways.

National Highway No. 3 (NR3/AH3):

This highway connects Boten at the Lao PDR–PRC border to Houaxay at the Lao PDR–Thailand border. The freight and passenger volume along this route is about 6,500 vehicles per month for freight and 120 vehicles per month for passengers.

National Highway No. 9 (NR9/AH16):

This highway connects Savannakhet at the Lao PDR–Thailand border to Dansavanh at the Lao PDR–Viet Nam border. The freight and passenger volume along this route are about 6,000 vehicles per month for freight and 200 vehicles per month for passengers.

Table 3: Volume of Traffic along the Major Highways

Provinces Traversed	Route Number	Traffic Volume by Vehicle Type per Month		
		Truck/Trailer	Bus/Vans	Total
Luangnamtha, Bokeo	NR3/AH3	6,500	120	6,620
Savannakhet	NR9/AH16	6,000	200	6,200
Khammouane	NR12/AH131	5,283	102	5,385
Borikhamsai	NR8/AH15	1,796	184	1,980
Luangnamtha, Oudomxai, Luang Prabang, Vientiane, Vientiane Capital/Vientiane	NR13N/AH12	6,490	1,600	8,090
Vientiane, Borikhamsai, Khammouane, Savannakhet, Champasak	NR13S/AH11	8,145	3,290	11,435

AH = Asian Highway, NR = national road.

Source: ADB. GMS Economic Corridor Assessment Team.

National Highway No. 12 (NR12/AH131):

This highway connects Thakhek at the Lao PDR–Thailand border to Na Phao at the Lao PDR–Viet Nam border. The freight and passenger volume along this route are approximately 5,283 vehicles per month for freight and 102 vehicles per month for passengers.

National Highway No. 8 (NR8/AH15):

This highway connects NR13S at Ban Lao, Borikhamsai to Nam Phao at the Lao PDR–Viet Nam border. The freight and passenger volume along this route are about 1,796 vehicles per month for freight and 184 vehicles per month for passengers.

National Highway No. 13N (NR13N/AH12):

This highway connects NR3 at Nateuy, Luangnamtha to Vientiane. The freight and passenger volume along this route are about 6,490 vehicles per month for freight and 1,600 vehicles per month for passengers.

National Highway No. 13S (NR13S/AH11):

This highway connects NR13N in Vientiane to Nongnokkeane, Champasak at the Lao PDR–Cambodia border. It is the longest route and has the highest volume of traffic in the Lao PDR. The freight and passenger volume along this route are about 8,145 vehicles per month for freight and 3,290 vehicles per month for passengers.

C. Related Transport Development

1. Railway Development

At present, the only railway line in the Lao PDR is the 3.5 km line running from Nong Khai to Thanaleng (Lao PDR) through the 1st Mekong Friendship Bridge, which is operating only for passengers.

However, the government has prepared a Railway System Development Plan based on East Asia’s Express Railway System Development Plan (EADP). Figure 16 shows the planned alignment of the railway network. The Lao PDR is also implementing a multimodal transport strategy, especially between road and rail transport to support cross border traffic.

Figure 16: Railway Alignment in the Lao People’s Democratic Republic



LAN = lane, PRC = People’s Republic of China.
 Source: Railway Management Authority of Lao PDR.

Table 4: Railway Network Plan in the Lao People's Democratic Republic

Line	Route	Length (km)	Remarks
LAN 1	Nong Khai (Thailand)–Friendship Bridge–Thanaleng (Lao PDR)–Vientiane	18	3.5 km, existing Route Nongkhai–Thanaleng; construction of 14-kilometer Thanaleng–Vientiane section is ongoing, to be completed in 2019.
LAN 2	Vientiane–Paksan–Thakhek	306	Feasibility study (FS) completed.
LAN 3	Thakhek–Mu Dia (Viet Nam)	123	FS completed.
LAN 4	Vientiane–Luang Prabang–Oudomxai–Boten (Lao PDR)–Mohan (PRC)	414	Under construction, to be completed in 2021.
LAN 5	Savannakhet–Pakse–Vang Tao (Thailand)	252	Pre-FS completed.
LAN 6	Savannakhet–Lao Bao (Viet Nam)	215	FS completed.
LAN 7	Savannakhet–Mukdahan (Thailand)	7	
Total		1,335	

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

Source: ADB. GMS Economic Corridor Assessment Team.

The railway lines passing through the Lao PDR under the EADP consist of seven lines with a total length of about 1,333.5 km as follows (Table 4):

LANE 1 starts from Nong Khai (Thailand) and heads toward Thanaleng (Lao PDR and Vientiane). It has a total distance of 17.5 km. The 3.5-kilometer Nong Khai–Thanaleng section is already operational. Construction of the 14-kilometer Thanaleng–Vientiane section was started at the end of 2017 to be completed in 2019.

LANE 2 runs from Vientiane to Thakhek via Paksan with a total length of 306 km. The feasibility study for this project has been completed.

LANE 3 connects Thakhek in the Lao PDR to Mu Dia in Viet Nam. It has a total length of 123 km. The feasibility study for this project has been completed.

LANE 4 (Laos–China Railway Project), which is top priority, connects Vientiane to Boten at the Lao PDR–PRC border via Luang Prabang and Oudomxai. It has a total length of 414 km. The line is under construction and is expected to be completed by the end of 2021.

LANE 5 connects Savannakhet to the Vang Tao (Lao PDR)–Chongmek (Thailand) border crossing through Pakse. It has a total length of 252 km. Pre-feasibility study has been completed.

LANE 6 connects Savannakhet to the Dansavanh (Lao PDR)–Lao Bao (Viet Nam) border crossing. It has a total length of 214 km. The feasibility study for this project has been completed.

LANE 7 connects Savannakhet in the Lao PDR to Mukdahan in Thailand. It is only 7 km long.

2. Dry Port Development

Dry port development in the Lao PDR is a key component of the national transport development strategy. The government has signed and officially endorsed the United Nations Economic and Social Commission for Asia and the Pacific Intergovernmental Agreement on Dry Ports, under which the following nine dry ports have been proposed (Figure 17):

- (i) Thanaleng, Vientiane;
- (ii) Nateuy, Luangnamtha;
- (iii) Savannakhet, Savannakhet;
- (iv) Houayxay, Bokeo;
- (v) Laksao, Borikhamsai;
- (vi) Luang Prabang, Luang Prabang;
- (vii) Muangxai, Oudomxai;
- (viii) Pakse, Champasa; and
- (ix) Thakhek, Khammouane.

The proposed dry ports in Thanaleng, Nateuy, and Savannakhet are to be international land logistics hubs, while the others are to be regional land logistics hubs.

Currently, only the dry port in the Savannakhet Special Economic Zone has been established in the Lao PDR. An electronic seal for containers for imports are used, but only for a short distance from the Savannakhet border crossing point. The dry port is already operational, with some electronic customs devices (E-Seal) being applied. However, traffic congestion is a major problem. This is due to an increase in vehicles, especially of heavy commercial trucks, on poorly surfaced and narrow roads. The roads in the area need upgrading and widening to accommodate the increasing volume of trade and traffic.

3. Inland Waterways

The Mekong River is the sole international river connecting all six Greater Mekong Subregion (GMS) countries. It stretches from the PRC to Myanmar, Thailand, the Lao PDR, Cambodia, and Viet Nam. The longest section passes through the Lao PDR, where the majority of all existing Mekong River Ports (27 ports) are located, with most linked to the GMS economic corridor routes (Figure 18).

The Mekong River is a very important navigation channel for the GMS Counties. This is particularly true in the upper part of the Lao PDR. There are three priority Mekong waterway transport routes or corridors that have been identified as relevant to the current and future transport flows in the upper part of the Mekong River (Figure 19).

Mekong Waterway Corridor 1: (Simao–Houayxay, 590 km). This waterway corridor covers the stretch of the Mekong River between Simao Port in Yunnan Province of the PRC and Houayxay Port in the Lao PDR, which is part of NSEC-1 (AH3) in the Lao PDR.

Figure 17: Dry Ports in the Lao People’s Democratic Republic



Source: ADB. GMS Economic Corridor Assessment Team.



Savannakhet border crossing. A structure at the dry port in Savannakhet.



Customs processing. Processing of customs e-seal application.



Dry port in Savannakhet. Facilities at the dry port.



Traffic situation in R9/EWEC.
Heavy traffic along NR9/EWEC in Savannakhet.



NR9/AH16. NR9/EWEC to the dry port in Savannakhet is being rehabilitated.

Mekong Waterway Corridor 2: (Simao–Luang Prabang, 890 km). This waterway corridor covers the stretch of the Mekong River between Simao Port in Yunnan Province of the PRC and Houayxay Port in the Lao PDR. It is linked to NSEC-1 (AH3) and NSEC-2 (AH12) in the Lao PDR.

Mekong Waterway Corridor 3: (Simao–Vientiane, 1,380 km). This waterway corridor covers the stretch of the Mekong River from Simao Port in Yunnan Province of the PRC to Thanaleng Port in Vientiane of the Lao PDR. It is linked to NSEC-2 (AH12) in the Lao PDR.

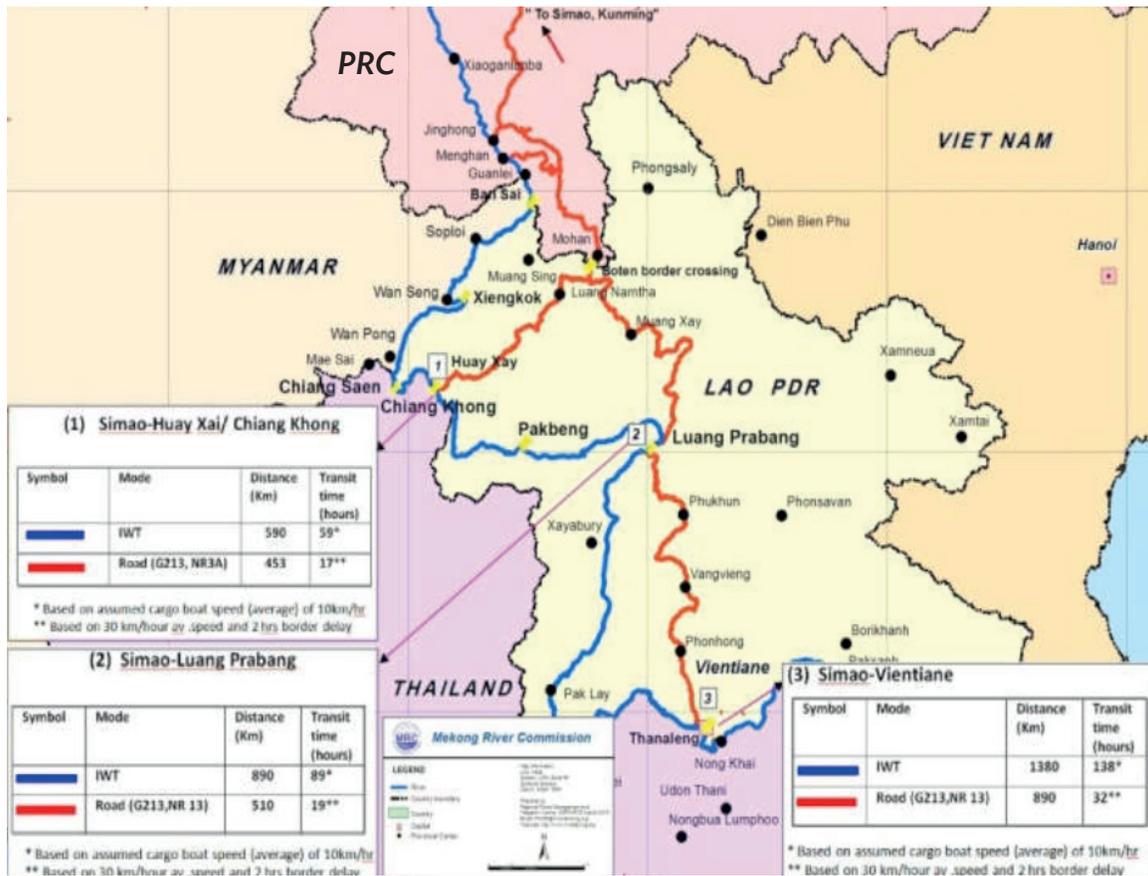
Figure 18: Existing Waterway Routes and River Ports along the Mekong River in the Lao People’s Democratic Republic



PRC = People’s Republic of China.

Source: Government of the Lao People’s Democratic Republic, Department of Waterway..

Figure 19: Waterway Corridors in the Upper Part of the Mekong River in the Lao People’s Democratic Republic



PRC = People’s Republic of China.

Source: Government of the Lao People’s Democratic Republic, Department of Waterway.

These waterway corridors complement the GMS economic corridors. The government has accordingly prepared a National Development Strategy for developing the waterway transport network until 2030 in line with the Agreement on Commercial Navigation on the Lancang–Mekong River,² the GMS Cross-Border Transport Facilitation Agreement, and multimodal transport law. The Strategy includes the development

of safe and efficient passenger ports and multimodal nodal points in the main cargo ports and dry ports to promote multimodal transport. Implementation faces many challenges, including the need to improve the navigation channels; upgrade the ports; and establish channel management, maintenance, communication, and navigation systems. All of these require technical and financial assistance to address.

² The Agreement on Commercial Navigation on the Lancang–Mekong River among the governments of the Lao PDR, Myanmar, the PRC, and Thailand, signed by the four countries in April 2000.

IV. BORDER FACILITIES

A. International Border Crossing Points

The Lao People's Democratic Republic (Lao PDR) has nine border crossing points (BCs) with its neighboring countries: one with Cambodia; one with the People's Republic of China (PRC); four with Thailand; and three with Viet Nam.

Lao PDR–Cambodia: Nong Nokkheane (Lao PDR)–Trapeang Kriel (Cambodia) BCs on the Southern Economic Corridor (SEC)-4. This is a new international border checkpoint between the two countries. It was officially opened for operation in January 2017. Since then, the Veunkham BC stopped serving as international checkpoint.



Nong Nokkheane International Checkpoint. Border checkpoint in southern Lao PDR's Champasak province.

Lao PDR–PRC: Boten (Lao PDR)–Mohan (PRC) on the North–South Economic Corridor (NSEC)-1 and NSEC-2.

Lao PDR–Thailand: (i) Chiang Khong (Thailand)–Houayxay (Lao PDR) on NSEC-1; (ii) Nong Khai (Thailand)–Thanaleng (Lao PDR) on NSEC-2; (iii) Nakhon Phanom (Thailand)–Thakek (Lao PDR) on NSEC-7; and (iv) Mukdahan (Thailand)–Savannakhet (Lao PDR) on the East–West Economic Corridor (EWEC). The necessary facilities including customs, immigration and quarantine (CIQ) office, and common control area (CCA) are already in place at the Savannakhet BC.



Veunkham Border Crossing Point. Local checkpoint in Champasak province, Lao PDR.



Joint CIQ office of the Lao PDR and Thailand. CIQ at Savannakhet border crossing/2FSB.



Common Control Area (CCA). Facilities in the CCA at Savannakhet border crossing/2FSB in the Lao PDR.



Lao-Viet Nam customs, immigration, and quarantine (CIQ). CIQ office at Dansavanh border crossing.

Lao PDR–Viet Nam: Nam Phao (Lao PDR)–Cao Treo (Viet Nam) on NSEC-8; (ii) Na Phao (Lao PDR)–Chalo (Viet Nam) on NSEC-7; and (iii) Dansavanh (Lao PDR)–Lao Bao (Viet Nam) on EWEC. The necessary facilities including CIQ office and CCA at the Dansavanh–Lao Bao BC are already in place.

B. Traffic Volume at the Border Crossing Points in the Lao People’s Democratic Republic

Table 5 shows the traffic volume by vehicle type (trucks, trailers, buses, and vans) across the major BCs between the Lao PDR and its neighboring countries.

The total number of vehicles across major borders in the Lao PDR is about 65,110 vehicles per month, including 60,590 trucks and trailers and 4,520 buses and vans, with most being foreign trucks. The figures on inbound and outbound traffic volume, excluding cars, are of about the same magnitude. The largest traffic flows are in the Thanaleng BC between the Lao PDR and Thailand (17,100 vehicles per month), and in the Boten BC between the Lao PDR and the PRC (10,180 vehicles per month). Cross-border traffic volume at the Dansavanh BC is the smallest at just 1,800 vehicles per month. Much of the cross-border traffic is accounted for by trucks and trailers.



Lao-Viet Nam Common Control Area (CCA). Facilities in the Lao-Viet Nam CCA at Dansavanh border crossing.

**Table 5: Traffic Volume at the Major Border Crossing Points
in the Lao People's Democratic Republic**

Province	Border Crossing Point	Traffic Volume by Vehicle Type Across Border Crossing per Month	
		Truck/Trailer	Bus/Van
Bokeo	Houayxay/4FSB	9,500	400
Luangnamtha	Boten	10,000	180
Vientiane Capital	Thanaleng/1FSB	15,300	1,800
Khammouane	Thakhek/3FSB	9,290	150
	Na Phao	7,300	140
Savannakhet	Savannakhet/2FSB	8,000	1,250
	Dansavanh	1,200	600
Total		60,590	4,520
Grand Total		65,110	

FSB = friendship bridge.

Source: ADB. GMS Economic Corridor Assessment Team.

V. INVESTMENT AND BUSINESS OPPORTUNITIES

The Lao People's Democratic Republic (Lao PDR) is situated in an economic growth area, sharing borders and common interests with Cambodia, Myanmar, Thailand, and Viet Nam. It is a land-linked country, with much increased connectivity with the Greater Mekong Subregion (GMS) countries which include the People's Republic of China (PRC), and with the rest of the member states of the Association of Southeast Asian Nations (ASEAN). The government of the Lao PDR has emphasized the development of transport infrastructure links with its neighboring countries to support trade, investment, and tourism.

The Lao PDR has abundant water and natural resources, including forestry and minerals, and a low-cost competitive work force. Its economy is gradually growing, and international trade is continuing to be liberalized. The government promotes investment in all sectors and all areas throughout the country in accordance with the law on investment promotion. The primary focus is on allowing domestic and foreign investors to conveniently and quickly conduct their business operation in the country. Investors who invest in the Lao PDR have access not only to the ASEAN market with a population of 500 million, but also to that of the PRC, the world's second largest economy.

A. Special Economic Zones

The government is promoting the development of special economic zones (SEZs) to build a modern industrial foundation by transforming land into capital, using its strategic position as a means to achieve economic integration and move up from its least developed country status in 2020.³ SEZs are expected to catalyze and accelerate economic growth and development, enhance the market mechanism, integrate the regional and international economy, create jobs and generate income, and contribute to poverty reduction on a wider scale. Accordingly, many SEZs are located in border, rural, and remote regions of the country. Foreign direct investment is necessary to develop infrastructure in these SEZs, because the government has limited funds for this purpose.

Existing and Planned Special Economic Zones

There are five SEZs that have been officially endorsed and five SEZs under consideration (Table 6). Several others have been proposed by the provinces (Figure 20). The government provides investors with various tax incentives, including tax exemption, tax holiday, exemption from import tax on raw materials to be processed and re-exported, and zero tax on exports.

³ Development strategy for SEZs from 2011 to 2020.

Table 6: Existing and Planned Special Economic Zones in the Lao People's Democratic Republic

Special Economic Zone	Location	Remarks
Existing		
(1) Savan–Seno SEZ (Lao PDR Government–Malaysian investor)	Savannakhet	Officially endorsed
(2) Boten SEZ (PRC)	Luangnamtha	
(3) Samliem Den Kham SEZ (PRC)	Bokeo	
(4) Phoukhiao Nakhon SEZ (Lao PDR)	Khammouaen	
(5) Vientiane Nonthong Industry and Trading Zone (Taipei,China)	Vientiane	
Proposed		
(1) Saisetha SEZ	Vientiane	Under consideration
(2) Golf Long Thanh SEZ		
(3) Dongphosy SEZ		
(4) Saisetha Kuamluam SEZ		
(5) That Luang Lake SEZ		

Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China, SEZ = special economic zone.

Source: ADB. GMS Economic Corridor Assessment Team.

Savan–Seno Special Economic Zone

The Savan–Seno SEZ was established in Savannakhet in 2003. The Government of the Lao PDR and investors from Malaysia are the developers of the zone that has an area of 954 hectares (ha). The project sites are close to National Road No. 9 (NR9)/Asian Highway No. 13 (AH13)/East–West Economic Corridor and National Road No. 13S (NR13S)/Asian Highway No. 11 (AH11); and the Second Friendship Bridge (Figure 21). The main investment projects include:

Service Sector: Banking, finance, and insurance; tourist promotion services; hotels, resorts, and restaurants; amusement park; entertainment center; sports center;

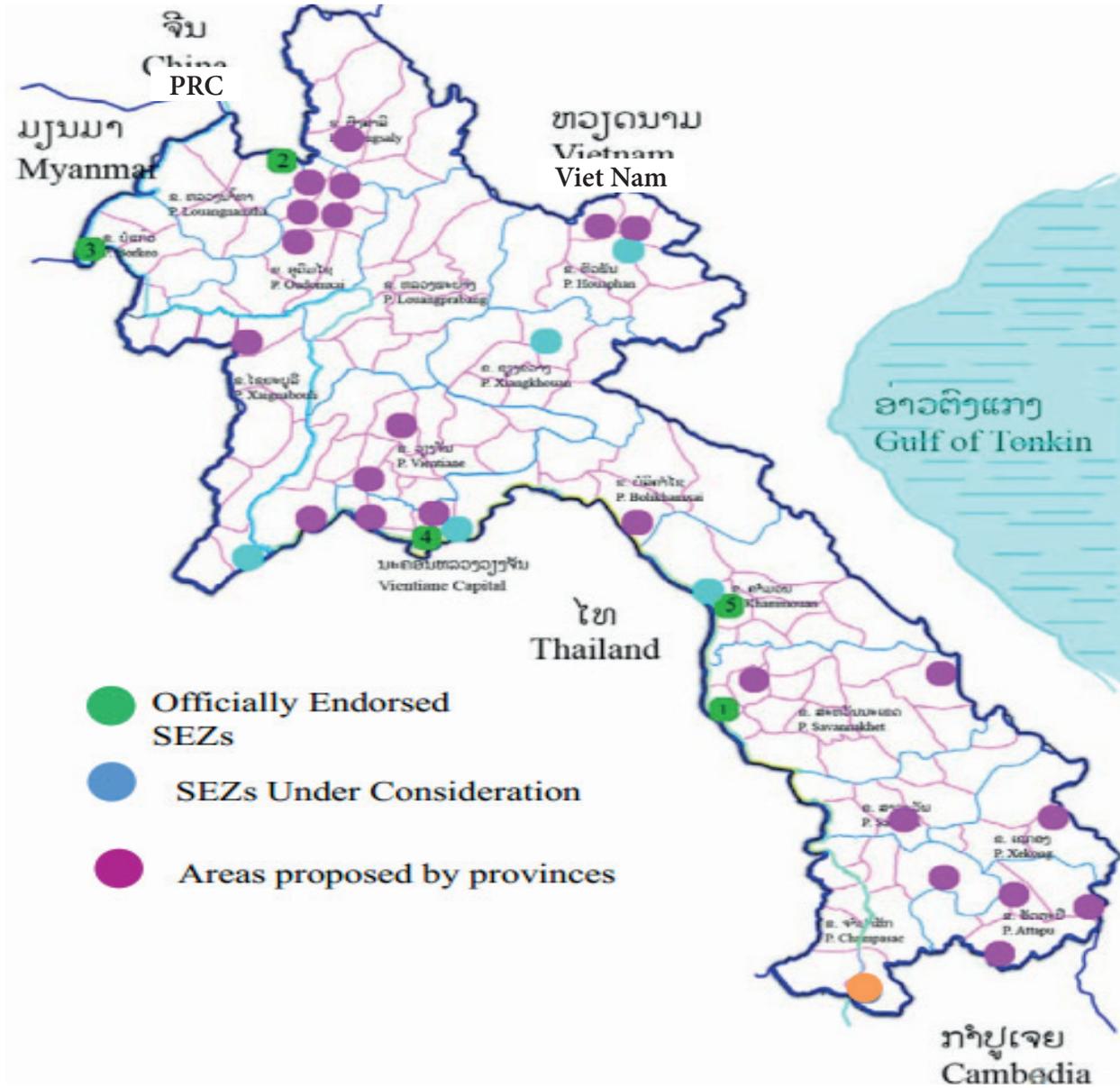
conference hall; skills training center; construction of offices for rent; and school and hospital.

Trade Sector: Duty free shop; import–export business; trade exhibition and promotion center; department store; and wholesale–retail store.

Distribution/Logistics Services Sector: Transportation business; distribution service; and warehousing and cold storage.

Industrial Sector: Electrical wire manufacturing; food processing; wood products industry; textiles, shoes and bags manufacturing; automobile assembly; and electronic parts assembly.

Figure 20: Existing and Proposed Special Economic Zones



PRC = People's Republic of China, SEZ = special economic zone.

Source: Lao National Committee for Special Economic Zone.

Figure 21: Location of the Savan–Seno Special Economic Zone



Investment Project Site of Savan–Seno SEZ



NR9/EWEC/AH16 Connection to Savan–Seno SEZ

AH = Asian Highway, EWEC = East–West Economic Corridor, NR = national road, SEZ = special economic zone.

Sources: ADB. GMS Economic Corridor Assessment Team; Lao National Committee for Special Economic Zone.

Boten Special Economic Zone

The Boten SEZ was established in 2003 in Luang Namtha Province and has an area of 1,640 ha. The Boten SEZ project was developed by investors from the PRC and the site is adjacent to NR3/AH3 on North–South Economic Corridor (NSEC)-1 (Figure 22).

The main investment projects in the Boten SEZ include: agriculture; livestock; manufacturing; cultural center; five-star hotel; resorts; golf course; tourism zone; educational institutions; public health center; business and trade area; real estate; banking and finance; post and telecommunications; warehousing and logistics.

Samliem Den Kham Special Economic Zone

The Samliem Den Kham SEZ was established in 2007 in Bokeo Province. The 3,000 ha of the Samliem SEZ project area was also developed by Chinese investors. The project site is situated near the Myanmar–Thailand border linked to NR3/NSEC-1/AH3 and connected to the Fourth Lao–Thai Friendship Bridge (4FSB) at the Houayxay BC, as well as the Houaxay River Port. It is also linked via NR17 to the Lao–Myanmar Mekong Friendship Bridge, which is a strategic route connecting the Mekong River Port and the upper Mekong River route from Yunnan Province of the PRC to Bokeo of the Lao PDR (Figure 23).

The main investment projects in the Samliem Den Kham SEZ include:

- infrastructure,
- agriculture,
- livestock,
- manufacturing,
- hotel and residential area development,
- tourism,
- golf course,
- educational institutions,
- health center,
- business and international trade area, and
- real estate.

Phoukhiao Nakhon Specific Economic Zone

The Phoukhiao Nakhon SEZ was established in 2010 in Khammuane Province with a land area of 4,850 ha. Lao PDR investors are the developers of this SEZ. It is located 14 km from the Third Mekong Friendship Bridge close to NR12/AH131/NSEC-7 and serves as the main route in the Lao PDR to Vung Ang deep sea port in Viet Nam (Figure 24).

The main investment projects in the Phoukieu Nakhon Specific Economic Zone include:

Investment Projects

- spare parts assembly and manufacturing,
- exhibition and trade promotion center, and
- water parks.

Figure 22: Location of the Boten Special Economic Zone



Project Site of Boten SEZ



Immigration at Boten Border Crossing Point in the Lao PDR



Customs at Boten Border Crossing Point in the Lao PDR



NR3/NSEC-1/AH3 Connection to Boten SEZ

AH = Asian Highway, Lao PDR = Lao People's Democratic Republic, NR = national road, NSEC = North-South Economic Corridor, SEZ = special economic zone.

Sources: ADB. GMS Economic Corridor Assessment Team; Lao National Committee for Special Economic Zone.

Figure 23: Location of Samliem Den Kham Special Economic Zone



Project Site of Samliem Den Kham SEZ



Huay Xay Border Crossing Point



NR3/AH3/NSEC-1 Connection Route to Samliem Den Kham SEZ



4th Friendship Bridge and Hua Xay River Port link to Samliem Den Kham SEZ

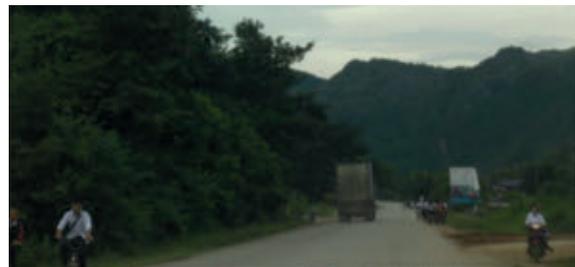
AH = Asian Highway, Lao PDR = Lao People’s Democratic Republic, NR = national road, NSEC = North–South Economic Corridor, SEZ = special economic zone.

Sources: ADB. GMS Economic Corridor Assessment Team; Lao National Committee for Special Economic Zone.

Figure 24: Location of Phoukhiao Nakhon Special Economic Zone



Na Phao Customs Border Checkpoint close to the Phou Kieu Nakhon SEZ



NR12/AH131/NSEC-7 route connect to Phou Kieu Nakhon SEZ



Thakhet Border Crossing Point link to Phou Kieu Nakhon SEZ

AH = Asian Highway, Lao PDR = Lao People’s Democratic Republic, NR = national road, NSEC = North–South Economic Corridor, SEZ = special economic zone.

Sources: ADB. GMS Economic Corridor Assessment Team; Lao National Committee for Special Economic Zone.

Business Buildings

- Apartments
- Hotels
- Housing

Sport Parks

- Indoor Sports
- International sports complex
- Golf course
- Buffalo and bull fighting, horse and dog racing, and elephant show

Transportation and Logistics

- Air transport
- Road transport
- Shipping services

Culture and education

- Professional, kindergarten, primary, and secondary schools
- Ethnic museum and cultural center.

Hotel and Entertainment

- 3 to 5-star hotels
- Entertainment complex

Vientiane Nonthong Industry and Trading Zone

The Vientiane Nonthong Industry and Trading Zone was established in 2009 in Vientiane with a land area of 110 ha. The zone has been developed by investors from the PRC and Taipei, China.

The project site is located 22 km from the center of Vientiane Capital close to NR13S/AH11/NSEC-8; and NR450/AH12/NSEC-2 and is connected to the 1st Mekong Friendship Bridge and the Thanaleng Railway Station (Figure 25).

The main investment projects in the Vientiane Nonthong Industry and Trading Zone include:

- Manufacturing (textiles and garments, shoes, bicycles, electronic parts)
- Commerce (retail store, trade center, commercial buildings)
- Services (training center, schools, hospitals, hotels)

The government hopes that all the existing SEZs as well as those being planned can open up more opportunities for both domestic and foreign investors in the country.

B. Tourist Attractions

Like its neighbors, the Lao PDR has many UNESCO World Heritage sites and natural, cultural and historical tourist attractions that can be developed into quality multi-country tours. Figure 26 shows the top tourist destinations in the Lao PDR. Luang Prabang town and Wat Phou Champasak are classified as UNESCO World Heritage Sites for their outstanding cultural, historical, and architectural values, and the harmonious relationship between nature and manmade environment.

Figure 25: Location of Vientiane Nonthong Industry and Trading Zone



Investment Project Site of Vientiane Nonthong Industry and Trading Zone



NR450/AH12/NSEC-2 connect to Vientiane Nonthong Industry and Trading Zone



Customs Border Checkpoint at Thanaleng BC link to Vientiane Nonthong Industry and Trading Zone



Thanaleng Railway Station and CY Vientiane Nonthong Industry and Trading Zone

AH = Asian Highway, BC = border crossing, NR = national road, NSEC = North-South Economic Corridor.

Sources: ADB. GMS Economic Corridor Assessment Team; Lao National Committee for Special Economic Zone.

Figure 26: Top Tourist Destinations in the Lao People’s Democratic Republic



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

The government of the Lao PDR has promoted tourism as part of the ongoing process of regional development, economic integration, investment, and commerce in

the GMS and ASEAN. It has designated several international and border checkpoints to facilitate the cross-border movement of tourists visiting the country (Table 7).

Table 7: Tourist Checkpoints in the Lao People’s Democratic Republic

International Airports	
<ul style="list-style-type: none"> • Wattay International Airport in Vientiane Capital • Luang Prabang International Airport in Luang Prabang Province • Pakse International Airport in Champasak Province • Savannakhet International Airport in Savannakhet Province • Attapeu International Airport 	
Border Checkpoints	
Lao PDR–PRC	<ul style="list-style-type: none"> • Boten–Mohan (Luang Namtha–Yunnan) • Lantoui (Phongsaly Province)
Lao PDR–Myanmar	<ul style="list-style-type: none"> • Ban Muang Mom–Vang Pong (Bokeo Province) • Lao–Myanmar Friendship Bridge (Luang Namtha Province)
Lao PDR–Thailand	<ul style="list-style-type: none"> • Houay Xay–Chiang Khong (Bokeo–Chiang Rai) • Nam Heuang–Nakaxeng (Sayabouly–Loei) • Nam Ngeun–Houai Kol (Sayabouly–Nan) • Lao–Thai Friendship Bridge I (Thanaleng–Nongkhai) • Thanaleng Train Station (Thanaleng–Nongkhai) • Lao–Thai Friendship Bridge II (Savannakhet–Moukdahan) • Lao–Thai Friendship Bridge III (Thakhek–Nakorn Phanom) • Lao–Thai Friendship Bridge IV (Bokeo–Chiang Khong) • Pakxan–Bungkan (Bolikhamxay–Bungkan) • Vangtao–Chongmek (Champasak–Ubon Ratchathani)
Lao PDR–Viet Nam	<ul style="list-style-type: none"> • Pang Hok–Taichang (Dien Bien–Phongsaly) • Nam Souy–Nameo (Houaphanh–Thanh Hoa) • Namkan–Namkan (Xieng Khouang–Nge) • Nam Phao–Cao Teo (Bolikhamxay–Ha tinh) • Na Phao–Chalo (Khammouane–Quangbinh) • Dansavanh–Laobao (Savannakhet–Quang tri) • Phou Keua–Bo Y (Attapeu–Kom Toum) • Lalai (Salavanh Province)
Lao PDR–Cambodia	<ul style="list-style-type: none"> • Nong Nokheane–Trapeang Kriel (Cambodia–Champasak Province) • Veun Kham (Champasak Province)

Lao PDR = Lao People’s Democratic Republic.

Source: ADB, GMS Economic Corridor Assessment Team.

VI. OVERALL ASSESSMENT AND RECOMMENDATIONS

This report has assessed the Greater Mekong Subregion (GMS) economic corridors and subcorridors that traverse the Lao People’s Democratic Republic (Lao PDR) in terms of transport infrastructure—especially road transport infrastructure—and economic potential. Assessment is based on data collected and observations made during the field survey, secondary data from relevant government agencies, and meetings with concerned authorities at the central and local levels. The results of the assessment reveal some similarities and differences among the six economic corridor routes in the Lao PDR.

A. Assessment

Infrastructure development, especially land-based infrastructure development, remains a high priority in the Lao PDR. As a landlocked country, it is imperative for the country to strengthen connectivity with neighboring countries, including its access to the sea. The state of infrastructure development is also a key factor influencing the locational decision of investors. In this regard, the demand for road maintenance and improvement of the existing roads across the country has continuously increased.

The Lao PDR also faces the challenge of upgrading the corridor routes in its territory to the same standards as its neighbors. The high cost of transport in the Lao PDR is partly due to its infrastructure that is not yet well developed. The funds provided by the Road Maintenance Fund (RMF)⁴ of the government remain grossly inadequate to meet these needs.

East–West Economic Corridor

Presently, only National Road No. 9 (NR9) or Asian Highway No. 16 (AH16) in the East–West Economic Corridor (EWEC)—the first economic corridor to be developed in the Lao PDR—has almost all the necessary transport infrastructure facilities and logistics services in place. It has a permissible maximum bearing capacity of 50 tons or 11 ton/axle, and is considered as a transit route under the Cross-Border Transport Agreement (CBTA). A dry port has been established along EWEC, as well as rest areas. Common control areas are in place at the Dansavanh (Lao PDR)–Lao Bao (Viet Nam), and Savannakhet (Lao PDR)–Mukdahan (Thailand) border checkpoints. Special economic zones and tourist attractions along EWEC also provide opportunities for national and foreign investment.

⁴ RMF is funded by taxes on fuel.

The bilateral memorandum of understanding (MOU) on the initial implementation of the CBTA⁵ (MOU on IICBTA) at the Dansavanh–Lao Bao border crossing point;⁶ bilateral MOU on IICBTA at Mukdahan–Savannakhet;⁷ and the trilateral MOU among Viet Nam, the Lao PDR, and Thailand on Joint Cooperation for Maximizing the Utilization of the Friendship Bridge II (Mukdahan–Savannakhet) and transport infrastructure along EWEC⁸ have been implemented, and are serving as the framework for the single-stop and single-window (SSI/SWI) schemes at the four border checkpoints between the Lao PDR, Thailand, and Viet Nam.

However, the traffic volume along EWEC is still low and road signs and markings are still lacking. The cost of road maintenance and transport continues to increase. Full implementation of SSI/SWI is not yet in place, and private sector participation is still inadequate.

North–South Economic Corridor-1

National Road No. 3 (NR3) in North–South Economic Corridor (NSEC)-1 was the second economic corridor route in the Lao PDR and has a maximum bearing capacity of 50 tons or 11 tons/axle. It has also been designated as a transit route under

the CBTA. This route mostly passes through mountainous terrain, and has many sharp curves and turns. Traffic volume has gradually increased since the opening of the 4th Mekong Friendship Bridge between Chiang Khong in Thailand and Houayxay in the Lao PDR, and the start of operations of special economic zones in the area.

There is an MOU between the People’s Republic of China (PRC) and the Lao PDR on the implementation at Mohan–Boten of the CBTA for Facilitation of Cross border transport of goods and people,⁹ including the adoption of SSI/SWI. However, SSI/SWI has not yet been implemented due to the lack of a common control area and other necessary hardware and software facilities. Road signs and road markings are still lacking along this route. Higher road maintenance costs are expected.

Other North–South Economic Corridor Subcorridors and Southern Economic Corridor Subcorridors

NSEC-2, NSEC-7, NSEC-8, and Southern Economic Corridor (SEC)-4 have not yet been designated as transit routes. The roads along these subcorridors need to be upgraded. At the same time, border crossing facilities along them require improvement.

⁵ CBTA has already been signed and ratified by all GMS countries.

⁶ MOU on the Initial Implementation at Dansavanh, Lao PDR and Laobao, Viet Nam of the CBTA for Facilitation of Cross border transport of goods and people, signed in March 2005.

⁷ MOU on the Initial Implementation at Mukdahan, Thailand and Savannakhet, Lao PDR of the CBTA for Facilitation of Cross border transport of goods and people, signed in July 2005.

⁸ MOU between and among Viet Nam, the Lao PDR, and Thailand on Joint Cooperation for Maximizing the Utilization of the Friendship Bridge II (Mukdahan–Savannakhet) and the transport infrastructure along the EWEC, signed in December 2007.

⁹ MOU between the PRC and the Lao PDR on the Implementation at Mohan–Boten of the CBTA for Facilitation of Cross border transport of goods and people, signed in September 2009.

B. Recommendations

Based on the observations from the field survey and information gathered in meetings with concerned central and local government authorities, it is recommended that the Lao PDR, GMS countries, and the Asian Development Bank (ADB) consider the proposals below to (i) promote and accelerate the development of GMS economic corridors; and (ii) ensure that the Lao PDR not only contributes but also benefits from such development.

East–West Economic Corridor

- Upgrade the EWEC route in the Lao PDR (NR9/AH16); which should include improvement of facilities along the route, such as road markings and road signs.
- Set up a Toll Road Collector/Electronic Toll Road Collector (ETC) system for commercial trucks to generate funds for road maintenance. Funds from the RMF are not sufficient to cover even just the cost of routine maintenance.
- Fully implement SSI/SWI at the Dasavanh–Lao Bao border crossing point between the Lao PDR and Viet Nam, and at the Mukdahan–Savannakhet border crossing point between the Lao PDR and Thailand, considering that: (i) all the necessary facilities on both sides including common control areas (CCA) and customs, immigration, and quarantine (CIQ) offices are already in place; (ii) the CBTA has already been signed and ratified by all GMS member countries; and (iii) the Lao PDR, Thailand, and Viet Nam governments have agreed to implement SSI/SWI in EWEC.

North–South Economic Corridor-1

- Upgrade the NSEC-1 route in the Lao PDR (NR3/AH3), which should include improvement of facilities along the route, such as road markings and road signs.
- Establish and improve border crossing facilities along the route, such as CCA and CIQ offices at the Boten and Houayxay border checkpoints.
- Set up a Toll Road Collector/ETC system for commercial trucks to generate funds for road maintenance. Funds from the RMF are not sufficient to cover even just the cost of routine maintenance.
- Fully implement SSI/SWI at the Boten–Mohan Border Crossing Points between the Lao PDR and the PRC; and Chiang Khong–Houayxay between Thailand and the Lao PDR. The Governments of the Lao PDR and the PRC have already agreed to implement SSI/SWI at the Boten–Mohan border crossing points. Implementation of SSI/SWI at the Chiang Khong–Houayxay border crossing point can apply the experience gained at the Mukdahan–Savannakhet border crossing between the Lao PDR and Thailand.

North–South Economic Corridor-2

- Upgrade the NSEC-2 route in the Lao PDR (NR3,13N, R450/AH3,12), more specifically: (i) upgrade and widen (2+1) of NR13N from Nateuy, Luang Namtha to Sikeut, Vientiane; and (ii) build a new road or upgrade the link from Road 450 (about 1 km long).

- Establish CCA and CIQ offices at the Thanaleng border crossing on the 1st Mekong Friendship Bridge in the Lao PDR.
- Set up a Toll Road Collector/ETC system for commercial trucks to generate funds for road maintenance. Funds from the RMF are not sufficient to cover even just the cost of routine maintenance.
- Fully implement SSI/SWI at the Thanaleng–Nong Khai border crossing between the Lao PDR and Thailand; and at the Mohan–Boten border between the Lao PDR and the PRC.
- Fully implement SSI/SWI at the Thakhek–Nakhon Phanom border crossing between the Lao PDR and Thailand, and at the Na Phao–Chalo border crossing between the Lao PDR and Viet Nam. The first can apply the experience at the Mukdahan–Savannakhet border crossing, while the second can apply the experience at the Dasavanh–Lao Bao border crossing.

North–South Economic Corridor-7

- Upgrade the NSEC-7 route in the Lao PDR (NR12/AH131), which should include widening the road (2+1)¹⁰ and improving facilities along the route, such as road markings and road signs.
- Establish and improve border crossing facilities, such as CCA and CIQ offices at the border crossing points in Thakhek and Na Phao in the Lao PDR.
- Set up a Toll Road Collector/ETC system for commercial trucks to generate funds for road maintenance. Funds from the RMF are not sufficient to cover even just the cost of routine maintenance.

North–South Economic Corridor-8

- Upgrade the NSEC-8 route in the Lao PDR (NR13S, NR8/AH11,15), which should include: (i) upgrading and widening (2+1) of NR13S from Vientiane to Ban Lao, Borikhamxay and improving road markings and signs; (ii) upgrading and widening (2+1) of NR8 from Ban Lao to Nam Phao border crossing, and improving road markings and signs;
- Set up a Toll Road Collector/ETC system for commercial trucks to generate funds for maintenance of the NR13S and NR8. Funds from the RMF are not sufficient to cover even just the cost of routine maintenance.
- Establish CCA and CIQ offices at the Nam Phao border checkpoint in the Lao PDR.
- Fully implement SSI/SWI at the Na Phao–Chalo border crossing between the Lao PDR and Viet Nam.

¹⁰ Two lanes and one more lane in sections where the volume of traffic is high and in sections passing through cities and urban centers.

Southern Economic Corridor-4

- Upgrade the SEC-4 route in the Lao PDR (NR13S/AH11), more specifically upgrade and widen (2+1) NR13S from Savannakhet to the Nong Nokkheane border crossing and improve road markings and signs.
 - Set up a Toll Road Collector/ETC system for commercial trucks to generate funds for maintenance of NR13S. Funds from the RMF are not sufficient to cover even just the cost of routine maintenance.
 - Establish CCA and CIQ offices at the Nong Nokkheane border crossing in the Lao PDR.
 - Fully implement SSI/SWI at the Nong Nokkheane–Trapeang Kriel border crossing between the Lao PDR and Cambodia.
- » Add a new corridor from the Vangtao (Lao PDR)–Chong Mek (Thailand) border crossing to the Phoukhiao (Lao PDR)–Bo Y (Viet Nam) border crossing (369 km) to promote investment and tourism in the Cambodia–Laos–Viet Nam Development Triangle Area; and
 - » Recognize the route (NR17/NR3) between Luang Namtha and the Lao PDR–Myanmar Friendship Bridge as a feeder route to maximize the utilization of this bridge.

Other Recommendations

- Consider the following possible extension and additional transport or economic corridor routes:
 - » Extend the SEC-4 route in the Lao PDR from Savannakhet to Paksan, Borikhamxay;
 - » Establish a new route connecting Nanning–Hanoi–Thanh Hoa–Nameo–Xam Neua–Luang Prabang–Hongsa–Namngeun–Chiang Rai–Bangkok (distance of 445 km), which can serve as an alternative corridor for the Lao PDR to access maritime gateways, and promote investment and tourism;
- Include in the agenda of GMS meetings, particularly the GMS Senior Officials and Subregional Transport Forum, matters involving the development of dry ports or land-based transport hubs, to support multimodal transport and cross border trade in the GMS.
- Review the legal framework and institutional mechanisms for the implementation of the CBTA to make them more effective.
- Establish a GMS economic corridor transport infrastructure database which should include all modes of transport (road, railway and inland waterways) and nodes (dry ports, inland clearance depots, river ports, seaports, and airports).

About the Assessment of Greater Mekong Subregion Economic Corridors

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

About the Greater Mekong Subregion Economic Cooperation Program

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 ADB 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/>