

Background Papers **4**

Current Status, Challenges, and Opportunities for the Trilateral Highway and Possible Extension to Cambodia, Lao PDR, and Viet Nam: Perspectives from Viet Nam

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Current Status, Challenges, and Opportunities for the Trilateral Highway and Possible Extension to Cambodia, Lao PDR, and Viet Nam:

Perspectives from Viet Nam

Background paper

Nguyen Binh Giang, Vo Thi Minh Le, and Nguyen Thi Hong Nga

1. Introduction

1.1. History of road connectivity between Viet Nam and Lao PDR

Road connectivity between Viet Nam and Lao People's Democratic Republic (Lao PDR) dates back to the late 1800s, beginning with the idea of building National Highway 9 (NH9) connecting Savannakhet (Lao PDR) and Dong Ha (Quang Tri province, Viet Nam) in 1895. A few years later, the construction of NH8 linking Ha Tinh (Viet Nam) and Borikhamsai (Lao PDR) was also proposed. However, it took more than 3 decades to put these two routes into use. In addition, NH12, which connects Quang Binh (Viet Nam) and Thakhet (Lao PDR), as well as NH7, which connects Nghe An (Viet Nam) and Luang Prabang (Lao PDR), opened in 1930 and 1937, respectively. 1999 marked the introduction of the Asian Highway (AH) Network, five sections of which link Lao PDR and Viet Nam, including AH13, AH15, AH16, AH131, and AH132. Some sections are located on the national routes of the two countries. In addition, there are some national routes that do not belong to any AH, but still connect Lao PDR and Viet Nam; for example, NH7 connects Nghe An (Viet Nam) and Phou Khoun (Lao PDR) via Nam Can–Namkan (also known as Nonghet) border checkpoint, while NH15 connects My Thuy Port to La Lay–Lalai international border gate (Table 1).

Table 1. Major Asia Highways and National Routes Connecting Viet Nam and Lao PDR

AH No.	Section in Viet Nam	Length (km)	Type of terrain (%)		
			Flat	Hilly	Mountainous
AH13	Nga Tu So/Ha Noi–NH279/Tuan Giao–Tay Trang border checkpoint	499	7.6	-	92.4
AH15	Cua Lo Port/Nghe An–Quan Binh/Nghe An/NH46, NH1/AH1/Bai Vot/Ha Tinh–Cau Treo border checkpoint/Ha Tinh	99.3	49.8	31.5	21.7
AH16	NH1/AH1/Dong Ha/Quang Tri–Cam Lo/Ha Tinh–Lao Bao border checkpoint/Quang Tri	84	50	42.9	7.1
AH131	Vung Ang Port/Ha Tinh–NH1/AH1/Long Tien/Ha Tinh, NH1/AH1/Ky Anh/Ha Tinh–NH12/Dong Le/Quang Binh–Xom Sung/Quang Binh–Hoa	137			

	Tien/Quang Binh–NH12/Khe Lam/Quang Binh–Cha Lo border checkpoint/Quang Binh				
AH132	Dung Quat port/Quang Ngai–NH1/Ah1/Doc Soi/Quang Ngai; NH24/Thach Tru/Quang Ngai–NH14/Ah17/Kon Tum, NH40/Ngoc Hoi/Kon Tum–Bo Y border checkpoint	198.2			
	NH7: Nghe An–Nam Can border checkpoint				
	NH15: My Thuy Port–La Lay border checkpoint	105			
	NH217: Ha Trung, Thanh Hoa–Na Meo border checkpoint	196			

Note: AH=Asian Highway; NH=National Highway.

Source: Authors' compilation using data from UNESCAP, 2019 and Directorate of Roads Viet Nam, 2020.

- **AH13 (NH279 and NH6)**

The AH13 (or NH279 and NH2) section in Viet Nam (499 km long) starts at Tay Trang–Pang Hok border checkpoint, passes through Dien Bien–Son La–Hoa Binh, and ends at Ha Noi. The terrain is mostly mountainous (92.4%), with some flat sections (7.6%, between Ha Noi and a part of Hoa Binh). Based on the Asia Highway Standard, the AH13 section in Viet Nam can be classified as Class III (desirable standard), with 100% asphalt/cement concrete pavement and 97% two-lane roads (some sections are below Class III). The most recent improvement on AH13 in Viet Nam was on the section between Luong Son to Dong Tien district, Hoa Binh Province (32.9 km) in 2018 on a build-operate-transfer (BOT) model, and the other was on the section between Xuan Mai, Ha Noi and Luong Son, Hoa Binh (38 km) in 2009.

- **AH15 (NH46 and NH8)**

The AH15 (or NH48 and NH8) section in Viet Nam (99.3 km long) begins at Cau Treo–Nam Phao border checkpoint, runs through Ha Tinh, and ends at Nghe An province. This section runs through flat (49.8%), hilly (31.5%), and mountainous terrains (21.7%). Based on the Asia Highway Standard, the AH13 section in Viet Nam can be classified as Class III, with 100% asphalt/cement concrete pavement and 29.4% four-lane roads and 70.6% two-lane roads. The most recent improvement on AH15 was on the section between Hong Linh in Ha Tinh province to Cau Treo–Nam Phao border checkpoint (35.5 km) in 2014 using Viet Nam's national roadway fund.

- **AH16 (NH9)**

The AH16 (NH9) section in Viet Nam (84 km long) starts at Lao Bao–Dansavanh border checkpoint, and ends at Dong Ha, Quang Tri province. This section runs through flat (50%), hilly (42.9%), and mountainous terrains (7.1%). The AH16 section in Viet Nam can be classified as Class III, with 100% asphalt/cement concrete pavement and 100% two-lane roads. This section plays an important role in the Greater Mekong Sub-region's (GMS) East–West Economic Corridor (EWEC) connecting Thailand and Viet Nam via Lao PDR so it was upgraded by the Asian Development Bank in 2002.

- **AH131 and AH132**

AH131 (NH12A) and AH132 (NH40, NH14) sections connect Viet Nam and Lao PDR via Cha Lo–Na Phao and Bo Y–Phoukeua international border checkpoints. Based on the Asia Highway Standard, the AH131 and 132 components in Viet Nam can be classified as Class III, even though some sections are considered below Class III.

1.2. Expectations for enhancing connectivity to India, via Lao PDR and Myanmar

In recent years, relationships between India and the ASEAN countries, particularly Viet Nam, have been cemented in many fields ranging from economic engagement and security cooperation to strategic alignments. Viet Nam–India relations were upgraded to a Comprehensive Strategic Partnership in 2016, promising a bright future for further cooperation between the two sides. Previously, in 2003, at the Mekong–Ganga Cooperation Ministerial Meeting, a proposal for developing a railway linking New Delhi to Ha Noi was made and this idea has been supported by the two countries and relevant parties to foster connectivity between India and Viet Nam, as well as other ASEAN countries.

The road connectivity between India and Viet Nam can be traced by 1) the northern route: Hai Phong–Ha Noi–Hoa Binh–Son La–Dien Bien–Tay Trang (Viet Nam)–Lao PDR–Myanmar–India; ii) the EWEC: Da Nang–Hue–Quang Tri (Viet Nam)–Lao PDR–Myanmar–India; and iii) the Southern Economic Corridor (SEC): Vung Tau–Ho Chi Minh City–Moc Bai (Viet Nam)–Cambodia–Thailand–Myanmar–India. Amongst the three routes, Viet Nam prioritised the EWEC and the SEC. Notably, at the 10th Mekong–Ganga Cooperation Ministerial Meeting held in August 2019, Viet Nam’s Deputy Prime Minister proposed expanding the EWEC and SEC to India by road and sea, including the India–Myanmar–Thailand Highway to Cambodia, Lao PDR, and Viet Nam. In addition, the Deputy Prime Minister called for research projects to develop multimodal transport networks connecting the Mekong region and India, trade and investment facilitation through elimination of trade barriers, trade promotion, customs clearance, quarantine, and regional supply chain development, etc.

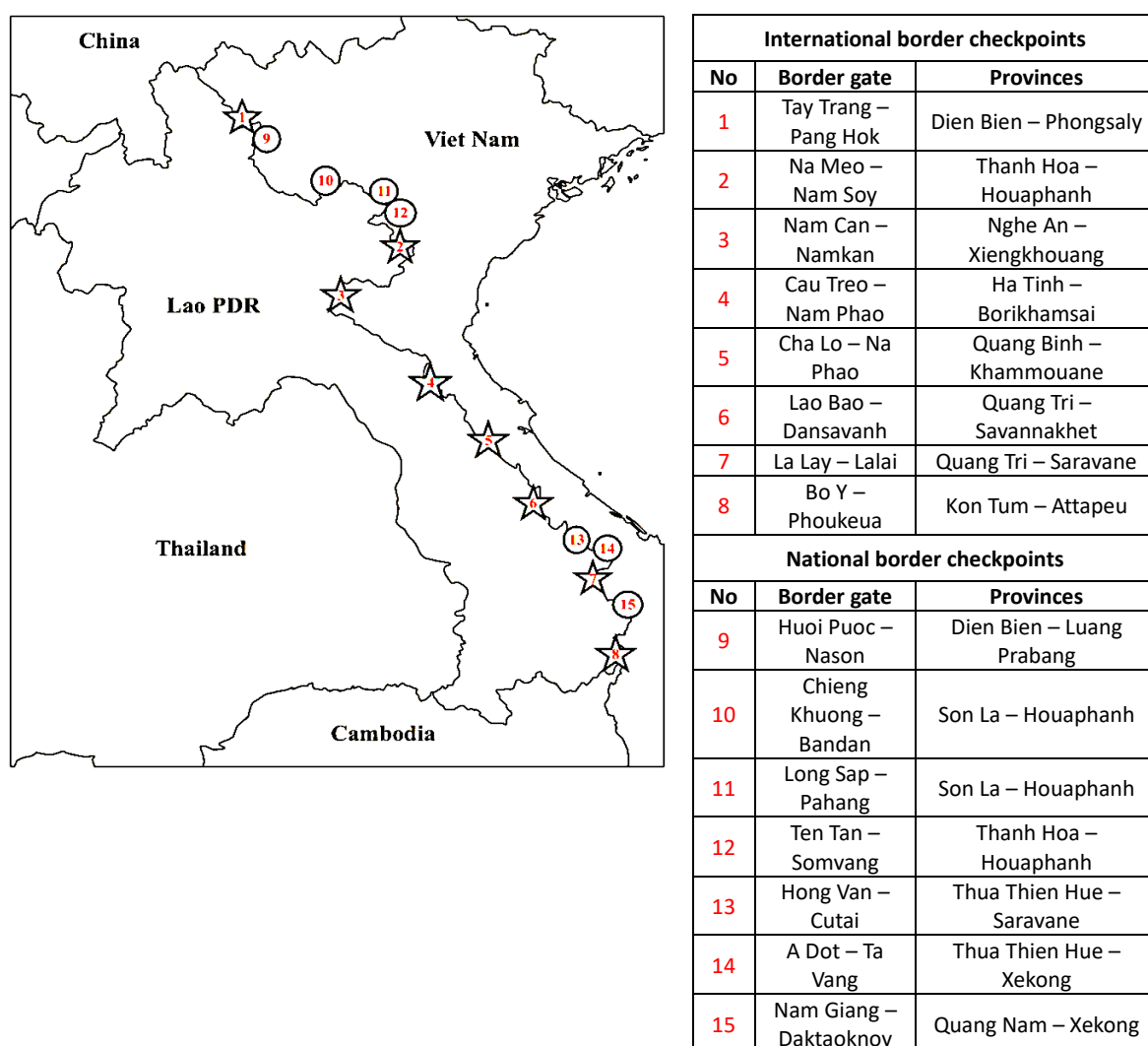
Acknowledging the potentials and advantages of enhanced connectivity with India via Lao PDR and Myanmar, particularly along the EWEC, Viet Nam’s government over the past few years has carried out certain projects to improve both hard and soft infrastructure in the country. In terms of hard infrastructure, the construction of the two-lane Hai Van Tunnel 2 (6.29 km long), which plays a key role in EWEC’s connectivity, is expected to be completed in late 2020. Also, the Embassy of India in Viet Nam and the Department of Planning and Investment of Dien Bien had a meeting to discuss road connectivity between Tay Trang (Viet Nam) and Mouang Khua (Lao PDR) in 2014, with India financing a Dien Bien–Tay Trang Road Rehabilitation and Upgrading Project as a commercial loan. This project was nevertheless not approved, but it shows India’s interest in this section: a bridge connecting Ha Noi to India via Lao PDR. In terms of soft infrastructure, the institutional reforms related to customs clearance and declaration activities, such as the development of a single window system at border crossing points, have been taken into consideration.

2. Current Status of the Road Connectivity between Viet Nam and Lao PDR

2.1. Border checkpoints between Viet Nam and Lao PDR

According to the General Department of Viet Nam Customs (2019), the border checkpoints between Lao PDR and Viet Nam can be grouped into three categories: 1) international-level border checkpoints; 2) national-level border checkpoints; and iii) local border checkpoints (and some local crossings, which are only open for locals). At international-level border checkpoints, goods, vehicles, and individuals are allowed to enter/exit Viet Nam and Lao PDR to/from a third country, while national-level border checkpoints allow the exchange of vehicles and individuals between the two countries; local border checkpoints do not allow the exchange of individuals.

Figure 1. Maps of International and National Border Checkpoints between Viet Nam and Lao PDR



Source: Drawn by the authors using data collected from General Department of Viet Nam Customs

Today along the Viet Nam and Lao PDR border, there are eight international-level border checkpoints, seven national-level border checkpoints (Figure 1), and 18 local border checkpoints (Table 2). These border checkpoints are under the direct management and supervision of customs sub-departments at the provincial level, except six local border checkpoints (Si Pa Phin–Houay La, Nam Lanh–Muang Po, Son Hong–Nam Sak, Kim Quang–Maladok, Dak Blô–Dak Bar, and Dak Long–Vangtat).

Table 2. Local Border Checkpoints between Viet Nam and Lao PDR

No.	Viet Nam		Lao PDR	
	Province	Border gate	Province	Border gate
1	Dien Bien	Si Pa Phin	Phongsaly	Houay La
2	Son La	Nam Lanh	Houaphanh	Muang Po
3	Son La	Na Cai	Houaphanh	Sop Dung
4	Thanh Hoa	Kheo	Houaphanh	Thalao
5	Nghe An	Thong Thu	Houaphanh	Namtay
6	Nghe An	Tam Hop	Borikhamsai	Thoong Mixay
7	Nghe An	Cao Veu	Borikhamsai	Thoong Phila
8	Nghe An	Thanh Thuy	Borikhamsai	Nam On
9	Ha Tinh	Son Hong	Borikhamsai	Nam Sak
10	Ha Tinh	Kim Quang	Borikhamsai	Maladok
11	Quang Binh	Ca Roong	Khammouane	Nong Ma
12	Quang Tri	Ta Rung	Savannakhet	La Co
13	Quang Tri	Ban Cheng	Savannakhet	Ban May
14	Quang Tri	Thanh	Savannakhet	Denvilay
15	Quang Tri	Cac	Savannakhet	A Sok
16	Quảng Nam	Tay Giang	Sekon	Kaleum
17	Kon Tum	Dak Blo	Sekon	Dak Bar
18	Kon Tum	Dak Long	Attapeu	Vangtat

Source: General Department of Viet Nam Customs

Amongst 33 border checkpoints along the two countries, Tay Trang–Pang Hok (also known as Sop Hun) border checkpoint is one of eight international border checkpoints, located in Dien Bien District, Dien Bien province on the Viet Nam side, and May District, Phongsaly province on the Lao PDR side. Tay Trang border gate is under the management and supervision of Tay Trang Customs Sub-Department under Dien Bien Province Customs Department, while Pang Hok border gate is under Pang Hok Customs Department.

2.2. Cross-border trade and transport flows

Cross-border trade

Thanks to the bilateral border trade agreement between Lao PDR and Viet Nam signed on 27 June 2015, cross-border trade between the two countries has expanded at a rapid pace over the past 4 years. Data of the General Department of Viet Nam Customs (2019) show that cross-border trade between Lao PDR and Viet Nam reached nearly US\$1.2 billion in 2019; up to 1.5 times higher than that of 2016; however, it made up merely 0.22% of the total trade of Viet Nam. This ratio has stayed quite stable at around 0.21%–0.23% over the 2016–2019 period (Annex 1). In general, Viet Nam has had a high trade surplus with Lao PDR over the years, but this situation varies across border checkpoints. In particular, Viet Nam's trade deficit with Lao PDR can be observed at Bo Y–Phoukeua and Cha Lo–Na Phao border checkpoints, while the rest have a trade surplus.

International border crossing points play a crucial role in the cross-border trade between Lao PDR and Viet Nam. Over recent years, trade via international border gates have accounted for a vast majority of Viet Nam's total export-import turnover to/from Lao PDR (more than 99%) (Table 3). Major export commodities from Viet Nam to Lao PDR are steel, iron, fruits, vegetables, petroleum products, and vehicles, while major import commodities from Lao PDR to Viet Nam are rubber, timber, and fertiliser (General Department of Viet Nam Customs, 2020).

Table 3. Trade between Lao PDR and Viet Nam via Border Checkpoints
(including electricity export–import, excluding the exchange of commodities amongst border communities)

Border checkpoints	2016				2017				2018			
TOTAL	733,070,922				810,249,420				919,716,654			
	Export (US\$)	Rate (%)	Import (US\$)	Rate (%)	Export (US\$)	Rate (%)	Import (US\$)	Rate (%)	Export (US\$)	Rate (%)	Import (US\$)	Rate (%)
International border checkpoints between Viet Nam–Lao PDR												
Bo Y – Phoukeua	53,198,218	11.9	81,565,337	29.1	48,239,476	9.6	82,535,834	26.8	39,949,258	6.9	108,841,225	31.7
Cau Treo – Nam Phao	173,342,595	38.9	36,804,343	13.1	213,758,584	42.6	39,848,194	13	221,082,409	38.3	36,177,411	10.5
Cha Lo – Na Phao	51,837,578	11.6	87,518,889	31.2	54,372,730	10.8	88,465,967	28.7	49,042,248	8.5	90,018,099	26.2
Lao Bao – Dansavanh	101,567,129	22.8	35,174,514	12.5	110,814,145	22.1	71,340,405	23.2	180,026,532	31.2	68,105,048	19.8
La Lay – Lalai	19,613,185	4.4	22,688,172	8.1	23,608,794	4.7	17,988,801	5.8	30,323,215	5.3	28,699,599	8.4
Nam Can – Namkan	21,158,669	4.7	2,259,038	0.8	22,989,821	4.6	1,474,181	0.5	29,617,741	5.1	3,007,152	0.9
Tay Trang – Pang Hok	14,628,919	3.3	842,177	0.3	14,758,980	2.9	324,614	0.1	16,615,223	2.9	2,535,459	0.7
Na Meo – Nam Soy	9,924,205	2.2	6,495,860	2.3	9,668,396	1.9	5,185,807	1.7	6,529,939	1.1	4,762,592	1.4
TOTAL		99.8		97.5		99.2		99.8		99.5		99.7
National Border Checkpoints between Viet Nam–Lao PDR												
Nam Giang – Daktaoknoy	372,417		3,503,141		3,558,180		356,796		2,418,600		444,196	
Huoi Puoc – Nason	353,492		225,741		277,136		122,940		37,004		448,765	
Chieng Khuong – Bandan	110,308		22,404		57,634		-		391,728		20,944	
A Dot – Ta Vang	15,739		34,742		74,337		-		86,272		-	
Hong Van – Cutai	-		203,016		-		-		-		-	
Long Sap – Pahang	-				-		-		-		1,569	
Thong Thu – Namtay	-		1,384,312		-		164,759		-		135,546	
Thanh Thuy – Nam On	-		36,447		-		17,812		-		32,489	
Cao Veu – Thoong Phila	-				-		4,121		-		10,894	
Na Cai – Sop Dung	-		486,588		-		18,840		-		11,000	
Tay Giang – Kaleum	-				-		-		-		49,609	
Ca Roong – Nong Ma	-		1,167,605		-		197,976		6,054		-	

Source: Data provided by General Department of Viet Nam Customs (Interview on 17 December 2019).

Amongst eight international border checkpoints, Cau Treo-Nam Phao and Lao Bao-Dansavanh are the most vibrant gates in terms of export activities with the highest proportion of Viet Nam's total export turnover to Lao PDR (38.3% and 31.2%, respectively, in 2018), while Bo Y-Phoukeua and Cha Lo-Na Phao are the most active border gates in terms of import activities with the highest proportion of Viet Nam's total import turnover from Lao PDR (31.7% and 26.2%, respectively, in 2018). At the same time, export and import values via Tay Trang-Pang Hok international border checkpoint accounted for only 2.9% and 0.7% of Viet Nam's total export and import value in 2018. Viet Nam's import value via the Tay Trang-Pang Hok border gate had the lowest ranking amongst eight international gates.

Table 4. Cross-border Movements of Cargoes via Tay Trang Border Gate
(including the exchange of commodities amongst border communities)

No.	Year	Volume of cargo import (tonnes)	Volume of cargo export (tonnes)	Total volume (tonnes)	Value of cargo import (US\$)	Value of cargo export (US\$)	Value of cargo import-export (US\$)
1	2010	7,975	3,265	11,240	2,270,495	1,085,952	3,356,447
2	2011	16,353	7,851	24,204	3,745,855	1,857,807	5,603,662
3	2012	32,146	29,562	61,708	12,900,911	5,001,221	17,902,132
4	2013	18,014	119,938	137,952	21,554,575	7,947,059	26,501,634
5	2014	210,129	4,362	214,491	18,627,267	9,058,990	27,686,256
6	2015	112,924	4,156	117,080	17,880,243	11,558,428	31,661,880
7	2016	66,726	4,357	71,083	15,049,807	6,310,614	21,360,421
8	2017	72,032	10,068	82,100	15,044,807	14,894,307	29,939,114
9	2018	102,022	24,958	126,980	33,256,720	7,235,916	40,492,636
10	11M/2019	204,067	53,490	257,557	65,166,926	8,800,267	73,967,192
	TOTAL	842,388	262,007	1,104,395	205,497,606	65,166,868	278,471,374

Source: Data provided by Tay Trang Customs Sub-Department (Interview on 9 December 2019).

According to the statistics of Tay Trang Customs Sub-Department,¹ despite limited export-import volume and value, trade relations between Viet Nam and Lao PDR via the Tay Trang-Pang Hok border gate have recently been improving. For example, trade value between Viet Nam and PDR via Tay Trang-Pang Hok border gate in 2018 nearly doubled that of 2017 and it is estimated that the figure in 2019 will double that of 2018 (see Table 4).

Major export commodities are construction materials such as stone, cement and steel (for China's hydropower and road construction projects in Lao PDR), agricultural products (paddy rice) and temporary import and re-export goods (via Lao PDR to China, mainly via Phongsaly and Kham). Especially since early 2019, there are newly exported commodities, namely durians and sweet potatoes from southern provinces of Viet Nam, that are transited via the northern provinces of Lao PDR to China. Trucks with exported durians are permitted to go straight through without trans-shipment, whereas trucks with exported sweet potatoes are

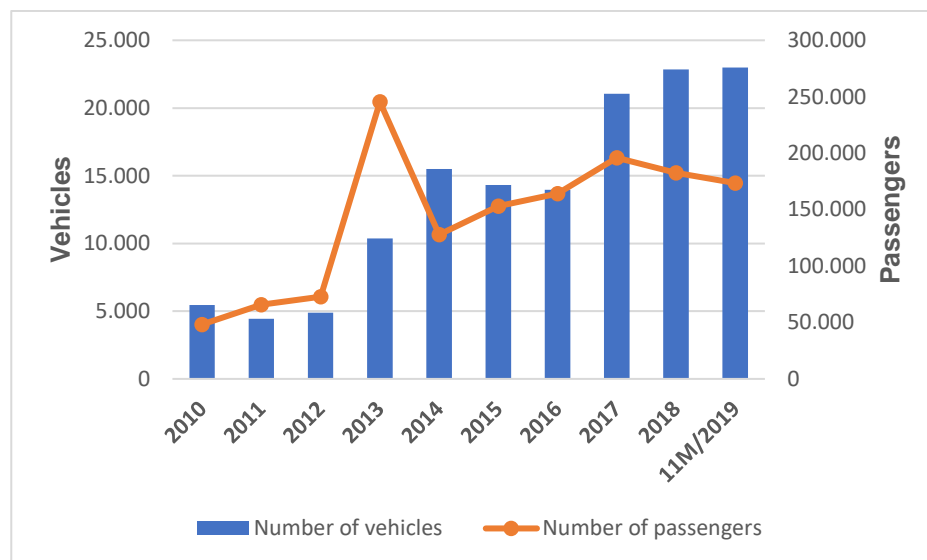
¹ Interview on 9 December 2019.

required to be trans-shipped. Cargoes are exported and transited via Lao PDR only to China, not to Thailand or Myanmar. Major import commodities are mainly forestry goods, especially thysanolaena (to make brooms).

Cross-border transport

The movement of vehicles and people between Viet Nam and Lao PDR is permitted through eight international-level border checkpoints and seven national-level border checkpoints. Vietnamese trucks are allowed to pass the border and travel within Lao PDR. The main purpose of people-to-people exchanges via Lao PDR–Viet Nam border checkpoints are business and tourism (both sides), and medical care and education (mostly from Lao PDR).

Figure 2. Cross-Border Movements of Vehicles and Passengers via Tay Trang Border Gate



Source: Data provided by Tay Trang Customs Sub-Department (Interview on 9 December 2019).

Thanks to the 2001 Agreement on Road Transport between Lao PDR and Viet Nam, both countries experienced a growing number of people and vehicles crossing the border gates over the past years. For instance, the number of vehicles crossing through Tay Trang border checkpoint has risen sharply from 13,957 in 2016 to 22,999 in the first 11 months of 2019, while the number of passengers jumped from 164,096 to 173,503 (Figure 2).

Table 5. Cross-Border Movements of Vehicles and Passengers via International Borders, 2018

Border checkpoints	Number of passengers	Number of vehicles
Cau Treo	560,367	111,224
Lao Bao	539,220	120,120
Bo Y	251,530	33,060
Cha Lo	195,000	98,000
Tay Trang	182,717	22,850

Source: Authors' compilation using data collected from various materials.

Nevertheless, compared to other international border checkpoints such as Cha Lo, Cau Treo, Lao Bao, and Bo Y, the number of people and vehicles passing the Lao PDR–Viet Nam border at Tay Trang–Pang Hok remained limited. In 2018, the number of people and vehicles crossing Cha Lo border checkpoint reached nearly 195,000 passengers and more than 98,000 vehicles, respectively; the figure at Cau Treo border checkpoint was 560,367 passengers and 111,224 vehicles, whereas at Tay Trang border gate it was 182,717 passengers and 22,850 vehicles (see Table 5). This can be attributed to economic conditions in neighbouring provinces in Lao PDR (mainly mountainous and poor provinces), which result in its low demand of goods exchange and tourism services, etc.

Regarding the frequency of bus transportation service through the Tay Trang–Pang Hok border checkpoint, according to the agreement between the six northern provinces of Lao PDR and Dien Bien province, each province of Lao PDR is permitted to operate one passenger bus per day to Viet Nam and stop at the bus terminal in Dien Bien Phu city. In reverse, Dien Bien is permitted to operate six passenger buses to Lao PDR per day, particularly to Phongsaly, Oudomxay, Luang Prabang, Bokeo, Luang Namtha, and Xayabury (see Table 6).

Table 6. Frequency of Bus Routes through Dien Bien–Tay Trang Border Checkpoint

Route	Length (km)	Frequency (times/day)	Price (US\$)
Dien Bien – Phongsaly	~308	2 (1 for each side)	~15
Dien Bien – Oudomxay	~210	2 (1 for each side)	11
Dien Bien – Luang Prabang	~410	2 (1 for each side)	23
Dien Bien – Bokeo	~443	2 (1 for each side)	~25
Dien Bien – Luang Namtha	~320	2 (1 for each side)	15
Dien Bien – Xayabury	~522	2 (1 for each side)	~30

Source: Authors' compilation using data collected from interviews and various materials.

Regarding the fare and duration of these routes, the transportation cost is higher in Lao PDR than in Viet Nam due to longer distances and higher fuel prices. For example, fuel in Lao PDR costs 1.5 times more than in Viet Nam. In general:

Cost = VND1,100/ km x Distance (applied for international routes)

= VND600/km x Distance (applied for domestic routes)

Duration = Distance/Speed (35–40 km/h)

3. Physical Infrastructure

3.1. Current status of physical infrastructure along Hai Phong–Tay Trang section

- **Road quality**

Hai Phong–Tay Trang route runs along AH14 (Hai Phong–Ha Noi) and AH13 (Ha Noi–Tay Trang), with five main sections, including Hai Phong–Ha Noi, Ha Noi–Hoa Binh, Hoa Binh–Son La, Son La–Dien Bien, and Dien Bien–Tay Trang. In general, the quality of roads from Hai Phong to the Tay Trang border checkpoint is good, except for a few sections that need to be improved. Based on the Asia Highway Standard, all the road sections along Hai Phong–Tay Trang are of Class III (at the desirable standards), with 100% asphalt concrete surface; 93.5% are in ‘fair’ surface condition, and 6.5% in ‘good’ surface condition; and 80% are two-lane roads, while the rest are four-lane highways.

Annex 2 illustrates the specifications of all sections along the Hai Phong–Tay Trang route and points out that the roads along the Hai Phong–Ha Noi section are in good condition (100% flat terrain and four-lane highways or expressways). Yet, due to geographical features, there are several bottlenecks along this route, such as NH6 from Long Luong commune, Van Ho district, Son La province (Km155) to Tuan Giao–Dien Bien, especially Pha Din Mountainous Pass (50 km long); and NH279 from Dien Bien Phu city to Tay Trang border gate, especially Na Loi Mountainous Pass (Km67+00–Km69+750; 7 km long) (close to Dien Bien Phu city); and Tay Trang Mountainous Pass (Km59–Km116).

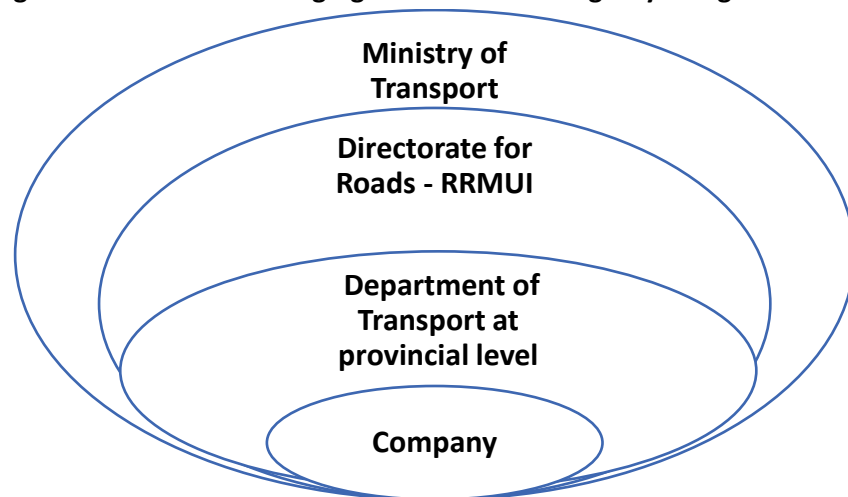
The worst route belongs to NH279 from Dien Bien Phu city to the Tay Trang border gate (33 km long, Km78 [formerly known as Km83]–Km116) and linking to NH2E in Lao PDR. This section is 100% mountainous terrain with narrow right of way width ($\leq 10\text{m}$), narrow carriageway width (6–7 m), tight horizontal curves, and no sidewalk, and thus is below the required standards of Class III. Despite being maintained and resurfaced every year, the road surface remains in poor condition and is often damaged (potholes, landslides, etc.) due to the high traffic volume of overloaded trucks passing by. The road quality of the Dien Bien–Tay Trang route is even worse than NH2E (in Lao PDR), which was repaired and upgraded by the Viet Nam Government’s fund. The roads from Dien Bien Phu city to Tay Trang are not only curved, steep, and dusty, with a lot of potholes, but also appear to be directly exposed to damage.

- **Quality of infrastructure**

- i. **High traffic volume:** According to officials from the Directorate for Roads of Viet Nam, traffic volume along the Ha Noi–Tay Trang route has been growing since China closed some border crossing points with the northern provinces in 2019. In Quarter IV/2019, at the Mai Chau station (Km4+250) on NH6 (Son La province), the average daily number of vehicles was estimated at 2,024 (at least four-wheel vehicles, excluding motorcycles and bicycles). Despite poor road quality of the NH279, at Km35+200 (Muong Ang district), this figure reached 1,369 vehicles, more than 30% of which were heavy trucks.

- ii. **Damage level of surfaces:** Based on the UNESCAP (2019) statistics, the road surface of the Hai Phong to Chui Bridge, Ha Noi route (106 km long) is quite good, with 37% in good condition, and the rest in fair condition. At the same time, the surface condition of all the roads along the Ha Noi to Tay Trang border checkpoint section is classified as 'fair'; however, from Dien Bien Phu city to the Tay Trang border checkpoint section, it is actually in bad condition. The road has been severely affected by overloaded trucks (stone and cement trucks going from/to a quarry and cement plants); roadside stone-mining activities at Tay Trang mountainous pass; and weather conditions, especially during the rainy season, while the local authority seems to manage these activities and road quality poorly.
- iii. **Vulnerability to weather conditions:** From June to the end of September, drivers face a high risk of landslides as a consequence of a long-lasting and erratic rainy season, with it occasionally taking 3–4 hours for a trailer to get to Tay Trang border gate from Dien Bien Phu city. If a driver is not good enough, or not familiar with this route, he cannot pass bad curves, and may cause congestion. In winter, from September to December, fog also usually prevents drivers from observing the road.

Figure 3. Tiers of Governing Agencies of Hai Phong–Tay Trang Route



RRMUI = Regional Road Management Unit I

Source: Directorate of Roads Viet Nam, 2020

- **Road governing agencies**

In addition to the Ministry of Transport, which manages road, rail, inland waterway, sea, and air transport nationwide, and public services in general, there are three other layers responsible for managing the Hai Phong–Tay Trang border checkpoint route (see Figures 3 and 4).

- i. **Directorate for Roads of Viet Nam:** This has two main functions, including management of roads, and maintenance and development of the road system. Under the Directorate for Roads of Viet Nam, the Regional Road Management Unit I (RRMU) is assigned for road management and maintenance, which is divided into RRMU I.1 specialising in the NH6, RRMU I.2 for NH279, and RRMU I.6 for NH5.

- ii. **Department of Transport at provincial level (local authority):** In accordance with the Law on the Capital No. 25/2012/QH13, Ha Noi Department of Transport is authorised to manage the section from Nga Tu So, Ha Noi to Xuan Mai, Ha Noi (NH6), including the construction and maintenance of national routes within the city.
- iii. **Company 222, 224, and 226 or contractual companies under BOT model for major sections:** In particular, the Civil Engineering Investment and Construction Joint Stock Company (Company 222) is in charge of road management along the route from Dong Tien, Hoa Binh to Son La; Road Management and Construction One-member Limited Company (Company 224) along the route from Moc Chau, Son La to Son La, Dien Bien; and Road Management and Construction One-member Limited Company (Company 226) along the route Son La–Tay Trang.

Figure 4. Governing Agencies of Sections along Hai Phong–Tay Trang Route



NH	Section	Governing agencies	Company
5	Hai Phong–Ha Noi	RRMU I.6	BOT
6	Nga Tu So, Ha Noi–Xuan Mai, Ha Noi	Ha Noi Department of Transport	
	Xuan Mai, Ha Noi–Hoa Binh	RRMU I.1	BOT Hoa Lac No. 222
	Hoa Binh–Moc Chau	RRMU I.1	No. 222
	Moc Chau–Son La	RRMU I.1 (VRAMP project) *	No. 224
279	Son La–Tay Trang	RRMU I.2	No. 226

BOT = build-operate-transfer; NH = National Highway, RRMU = Regional Road Management Unit, VRAMP = Viet Nam Road Asset Management Project.

Note: (*) VRAMP projects run on the basis of a Performance Base Contract.

Source: Data provided by Directorate for Roads of Viet Nam, 2020

- **Border facilities at border checkpoints**

Regarding working time, procedures for trade, transited vehicles, and immigration, the working time varies across border checkpoints, which depends on the agreement between the governments of Viet Nam and Lao PDR. For example, at Lao Bao border gate, the working hour is from 7am to 10pm, while Tay Trang border checkpoint opens at 7am and closes at 7:30pm, but there are staff members working overnight in case of an emergency, particularly a medical emergency (patients from Lao PDR are sent to Viet Nam's hospitals for treatment).

The number of officials working at Tay Trang Customs Sub-Department is 22, including tenure and contract staffs. Since Tay Trang Customs Sub-Department is in charge of three border gates, namely Tay Trang international border gate, Huoi Puoc national border gate, and A Pa Chai local border gate, these staffs also have responsibilities for Huoi Puoc and A Pa Chai border checkpoints.

The procedures for cross-border trade are stipulated in the Decree No. 59/2018/ND-CP dated 20 April 2018 (amended Decree No. 08/2015/ND-CP dated 21 January 2018) on customs procedures, inspection, supervision and control procedures. In addition, procedures for custom declaration are specified in Article 16 of Circular No. 38/2015/TT-BTC (amended in Circular No. 39/2018/TT-BTC dated 20 April 2018) by the Ministry of Finance. Procedures for declaration of transited vehicles are specified in Articles 74 and 75 of Decree No.08/2015/ND-CP (amended in Article 74 of Decree No. 59/2018/ND-CP dated 20 April 2018) by the Government. In terms of immigration activities, since 1 February 2019, Tay Trang international border gate has become a checkpoint for foreigners holding e-visas upon entry or exit (under the Decree No. 17/2019/ND-CP). Tay Trang Customs Sub-Department and Border Safeguard Station are responsible for controlling and supervising goods and vehicles through the border.

The average time for cargo clearance and transited vehicles or passengers ranges from around 10 to 30 minutes, depending on the results of C/O classification and the duration of the specialised inspection, which takes about 30–50 hours. Tay Trang Customs Sub-Department has applied e-customs since 2014.

Table 7 shows custom fees for goods and vehicles crossing by Tay Trang border checkpoint.

Table 7. Fees for Regulated Vehicles at Tay Trang Border Checkpoint

Type of regulated vehicles	VND/per entry or exit
Vehicles (weighing less than 2 tonnes) or similar vehicles used to transport vegetables for export	50,000
Vehicles (weighing from 2–4 tonnes)	100,000
Vehicles (weighing from 4–10 tonnes)	200,000
Vehicles (weighing from 10–18 tonnes) or 20-foot trailer trucks	400,000
Vehicles (weighing up to 18 tonnes) or 40-foot trailer trucks	600,000
Passenger cars (fewer than 10 seats)	40,000
Passenger cars (10–30 seats)	60,000
Passenger cars (up to 31 seats)	100,000

VND = Viet Nam dong.

Source: Data collected at Tay Trang Customs Sub-Department.

Regarding infrastructure at Tay Trang, the international border gate invested in 2016 in 14 storage facilities, though they have not yet been put into operation due to low demand. As such, the Tay Trang Customs Department's infrastructure is poor. Though it does have luggage scanners, electronic scales, and cameras, there is no container scanner, cooling storage, parking lot, warehouse, or border economic zone. However, the officials of the General Department of Viet Nam Customs affirmed that the government can provide these devices, but it is unnecessary since the volume of goods exchange remains limited.

In terms of loading and unloading services at Tay Trang border gate, the People's Committee of Dien Bien province contracted the Uy Vu Dien Bien company to provide loading and unloading services. Uy Vu Dien Bien charges an infrastructure fee of VND600,000 for each transited vehicle. Logistics companies all oppose the fee.

3.2. Future plans for improvement, expansion, maintenance, or new construction

- **AH13**

With a total investment of VND1.05 trillion, the Ministry of Transport in 2015 decided to renovate and upgrade NH279 from Class V (mountainous) to Class IV (mountainous).² Capital allocation for site clearance was completed, whereas that for project implementation has been delayed. This project has been postponed since 2015 in accordance with Resolution No. 11/NQ-CP dated 24 February 2011. The midterm public investment plan '2021–2025: Ministry of Transport' addresses road rehabilitation and upgrading of the Dien Bien–Tay Trang route (including bypass roads in both Dien Bien Phu city and Muong Ang district) according to Decision No. 1943/QD-BGTVT dated 14 October 2019 by the Ministry of Transport. In addition, the Ministry of Transport and Directorate for Roads of Viet Nam annually budget for regular maintenance and repair of heavily damaged roads on the Dien Bien Phu–Tay Trang section.

² Based on Viet Nam Road Classification.

NH6: The road linking Hoa Binh to Son La and Dien Bien is expected to be upgraded into a highway and put into Viet Nam's expressway network development plan to 2020 and its vision towards 2030, as approved by the Prime Minister in Decision No. 326/QĐ-TTg dated 1 March 2016. Moreover, there is a proposal to rehabilitate and upgrade the AH13 component in Viet Nam via the left bank of the Da river (not along NH6).

- **AH14**

The Ministry of Transport has plans to upgrade some sections along the AH14 to meet the requirements of Asia Highway Standard Class III, especially with respect to developing a new NH5 (Hai Phong–Ha Noi).

Though the budget for road surface repair and drainage comes from the Road Maintenance Fund, regulations pertaining to the Fund create difficulties for road quality improvement and maintenance. This fund is to be used only for road maintenance rather road extension (for example, it cannot be used to expand road width), which hampers the ability to upgrade the road to the Asia Highway Standard. Additionally, the Central Road Maintenance Fund has insufficient capital to manage and maintain the roads.

- **Tay Trang border gate's infrastructure**

Tay Trang Customs Sub-Department plans to develop a border economic zone between Tay Trang and Pang Hok border checkpoint.

4. Institutional Arrangements

Viet Nam signed the Greater Mekong Sub-region Cross-Border Transport Agreement (GMS–CBTA) on 26 November 1999 and ratified all annexes and protocols in 2009 (ADB, 2011). This agreement is considered an important institutional mechanism for Viet Nam to reduce non-physical barriers and facilitate the cross-border movement of goods and people. The agreement covers many areas including transport, customs, health inspection (sanitary/phytosanitary and quarantine) and immigration.

Viet Nam has participated in meetings of the GMS–CBTA Joint Committee and subcommittee for the negotiation, finalisation, and ratification amongst six GMS countries (see Table 8); however, the implementation of the agreement has not progressed due to differences in national laws/regulations amongst country members and an infrastructure gap.

Table 8. GMS–CBTA Meetings of Joint Committee

Meetings	Avenue	Year
1st GMS–CBTA Meeting of the Joint Committee	Phnom Penh, Cambodia	30 April 2004
2nd GMS–CBTA Meeting of the Joint Committee	Beijing, China	20 March 2007
3rd GMS–CBTA Meeting of the Joint Committee	Vientiane, Lao PDR	17 June 2010
4th GMS–CBTA Meeting of the Joint Committee	Nay Pyi Taw, Myanmar	22 November 2013
5th GMS–CBTA Meeting of the Joint Committee	Chiang Mai, Thailand	16 December 2016
6th GMS–CBTA Meeting of the Joint Committee	Ha Noi, Viet Nam	15 March 2018
7th GMS–CBTA Meeting of the Joint Committee	Siem Reap, Cambodia	13 March 2019

GMS–CBTA = Greater Mekong Sub-region Cross-Border Transport Agreement, Lao PDR = Lao People’s Democratic Republic.

Source: Authors’ compilation.

Cross-border transport institutional arrangements

Although Viet Nam and Lao PDR are signatories to the GMS–CBTA, implementation has mainly been undertaken at the Lao Bao–Dansavanh border checkpoint. As such, the procedures for cross-border transport at Tay Trang border gate are still applied in accordance with the previous bilateral agreements, namely: i) the Agreement on road motorised vehicle facilitation between Viet Nam and Lao PDR signed 23 April 2009; ii) the Protocol for the implementation of the Agreement on road motorised vehicle facilitation between Viet Nam and Lao PDR signed on 15 September 2010; and iii) Circular No. 88/2014/TT-BGTVT regarding the guidance on implementation of certain articles of the Agreement on road motorised vehicle facilitation between Viet Nam and Lao PDR and its Protocol.

The GMS–CBTA is designed to simplify procedures for people crossing the border; however, vehicles and people crossing the border are required to show various documentations. For instance, at Tay Trang border checkpoint, vehicles and drivers from Viet Nam and foreign origins seeking entry or exit must present the following documents: 1) Passport or laissez-passer, border identity card; 2) Vehicle driving license; 3) Vehicle registration certificate; 4) Cross-border transport permit (pictures below); 5) Freight/passenger transportation permit (if any); 6) Vehicle technical safety and environment protection certificate; 7) Vehicle insurance certificate (if any); and 8) Quarantine certificate.

Moreover, vehicles crossing any border between Viet Nam and Lao PDR are required to carry a GMS cross-border transport permit, which is issued by governing agencies from each side

(Viet Nam or Lao PDR).³ From the Viet Nam side, the governing agencies having the right to issue cross-border transport permits include Directorate for Roads of Viet Nam, and the Department of Transport at the provincial level. From the Lao PDR side, they are the Ministry of Public Works and Transport of Lao PDR, and the Department of Transport and the Department of Public Works and Transport at provincial levels and relevant agencies. A GMS cross-border transport permit includes basic information: 1) issuing authority; 2) beneficiary of permit; 3) period of validity; and 4) vehicle registered number.

Figure 5: Viet Nam–Lao PDR cross-border transport permit
(the image on the right must be stuck on the vehicle).



Source: Taken by IWEP on 10 December 2019.

A Memorandum of Understanding on the Early Harvest Implementation of the CBTA signed in March 2018 allows each GMS country to issue a quota of 500 Road Transport Permits and Temporary Admission Documents for goods and passenger vehicles registered, owned, and/or operated in their respective territories. Using these documents, foreign freight trucks have permission to enter another country's territory without trans-shipment; however, transportation operators seem to not be interested in the employment of traffic rights stipulated in the Memorandum of Understanding. In Viet Nam, the number of transport companies registered remained limited: as of April 2019, there were four companies and 25 vehicles registering into this system in accordance with the Memorandum of Understanding.⁴

³ Agreement on road motorised vehicle facilitation between Viet Nam and Lao PDR signed on 23 April 2009.

⁴<https://www.thesaigontimes.vn/286928/lt-doanh-nghiep-tham-gia-%22thu-hoach-som%22-ve-van-tai-tieu-vung-Mekong.html> (accessed 29 April 2020).

Cross-border trade institutional arrangements

Cross-border trade between Viet Nam and Lao PDR is stipulated in the Agreement on the Transit of Goods between Viet Nam and Lao PDR signed in 2009 (amended in 2017). In addition, the procedures for cross-border trade are also set out in the above-mentioned documents. The Tay Trang Customs Sub-Department follows the guidance of the Agreement for transit goods so that it may ease the transit of goods through the territory of each country.

Amongst the 15 border checkpoints between Viet Nam and Lao PDR, the Lao Bao–Dansavanh border checkpoint appears to be the most active in terms of the implementation of the GMS–CBTA. This is demonstrated by the establishment of fast-track lanes, and the mechanisms of Single Stop Inspection (SSI) and Single Window Inspection (SWI). Thanks to SSI, the duration of customs clearance decreased from 1.5 hours to 15 minutes. At the same time, there is no fast-track lane or SSI or SWI at Tay Trang–Pang Hok border gate due to the slow implementation of the GMS–CBTA.

The bottlenecks affecting the institutional arrangements for transport and trade at Tay Trang–Pang Hok border checkpoint are as follows:

- 1). **Poor infrastructure:** The SSI and SWI at Lao Bao–Dansavanh, Lao Cai–Hekou, and Moc Bai–Ba Vet border checkpoints are easily carried out thanks to good infrastructure and short distance between the two separate border checkpoints; whereas it is very difficult to implement SSI/SWI at the Tay Trang–Pang Hok border checkpoint because of its poor infrastructure and long distance between the border gates (6 km).
- 2). **Weak coordination:** Collaboration amongst agencies, especially between Tay Trang Custom Sub-Department and Dien Bien Department of Transport related to the implementation of CBTA, is sub-optimal. In addition, according to officials, the Dien Bien Department of Transport—one of the main agencies responsible for issuing Viet Nam–Lao PDR cross-border transport permits for vehicles—is not assigned to implement the CBTA.

5. Business Perspectives

5.1. Key informant interviewees

Key interviews with eight Vietnamese logistics and passenger transport enterprises that provide cross-border transport services via the Tay Trang–Pang Hok international border gate were conducted in December 2019 and January 2020, five in Dien Bien province, and three in Ha Noi, Viet Nam (see Table 9). All these enterprises confirmed their need to provide cross-border transport services.

Table 9. List of Informant Interviewees

No.	Respondents	Number of enterprises
1	Logistics companies	5
2	Passenger transport companies	2
3	Both	1
	Total	8

Source: Authors.

Both questionnaires and interviews were employed to obtain information from respondents. The questions addressed transportation along the Hai Phong–Ha Noi–Hoa Binh–Son La–Dien Bien–Tay Trang–Pang Hok border checkpoint route and provinces of Lao PDR, such as the major content of cargo, frequency, costs and charges, difficulties and challenges such as infrastructure and institutional obstacles, as well as expectations on cross-border transportation services to Lao PDR, Myanmar, and India.

5.2. Findings and discussion

- **Major content of cargoes**

A large proportion of Viet Nam’s exports to Lao PDR consists of construction materials for China’s transport and hydropower projects in northern Lao PDR or transit goods via Lao PDR to China (temporary import and re-export goods). In particular, cement from Dien Bien Cement Company is exported from Viet Nam via Tay Trang–Pang Hok to Sinohydro’s hydroelectric site in Phongsaly, Lao PDR. In the rainy season, when this site is temporarily closed, the transportation of cement via Tay Trang–Pang Hok also stops.

In addition, agricultural products from the south or from Hai Phong in Viet Nam are also transported to Tay Trang–Pang Hok border checkpoint by Viet Nam transport enterprises. These agricultural products are transited via Lao PDR and then exported to China. Apart from being transited at Boten–Mohan on the Lao PDR–China border (about 260 km from Tay Trang–Pang Hok) and at Ban Mom Port on the Mekong River (about 340 km from Tay Trang–Pang Hok), observations showed that cargoes are also trans-shipped from Viet Nam trucks to Chinese trucks at Tay Trang–Pang Hok border checkpoint.

Most imports from Lao PDR to Viet Nam are Lao beer and thysanolaena or Thai goods such as MSG seasoning, clothes, and cosmetics (information from one company).

Figure 6: Trans-shipping in the area between the two border gates of Tay Trang and Pang Hok



*Transshipped goods are sweet potatoes. The sacks of potatoes are stuck with a note stating that the importing company is a Lao enterprise. The truck on the left carries the license plate of Yunnan Province, China. The right truck has a number plate from a southern province of Viet Nam. Source: Taken by IWEP on 9 December 2019.

- **Volume of trade and people exchange**

Compared to other international border checkpoints between Viet Nam and Lao PDR such as Lao Bao–Dansavanh and Cha Lo–Na Phao, key respondents affirmed that the volume of trade at the Tay Trang–Pang Hok border gate remained small. In Dien Bien province, there are only two enterprises (owning 27 licensed buses) providing passenger transportation services by registered fixed routes, six enterprises with 16 vehicles providing passenger transportation services by contract (by travel agencies or tourist groups), and 18 enterprises with 82 vehicles providing goods transportation services.

The authors also faced many difficulties in looking for logistics enterprises providing transportation services to Lao PDR, particularly to northern Lao PDR via Tay Trang border gate. This can be attributed to a low demand for goods and people exchanges between the northern provinces of Lao PDR and Viet Nam, which, in turn, increases the transportation cost along this route. The destination of Vietnamese logistics enterprises providing cross-border transportation services is only Lao PDR, not Myanmar or Thailand.

Business interviews show that, due to low demand for imports from Lao PDR, trucks and containers to Viet Nam are often empty. It is also observed that many cross-border bus passengers are small traders carrying goods loaded on the roof or inside (sometimes seats are removed for a cargo hold).

Cross-border passengers accounted for a small percentage of the respondents' transportation services. Instead, all the enterprises focused more on developing domestic transportation services due to higher demand and number of routes. Also, the opening of new routes to Lao PDR is difficult because of demand imbalance between Viet Nam and Lao PDR. While Vietnamese enterprises want to increase the number of cars and open new routes to Lao PDR, their Laotian counterparts have no demand for business expansion and route development to Viet Nam. Most of the passenger cars from Dien Bien Phu city to Lao PDR are 29-seat minibuses; however, hardly any seats are occupied. After crossing the Tay Trang–Pang Hok border checkpoint, there are several destinations for Vietnamese vehicles in northern provinces of Lao PDR, including:

1. Dien Bien Phu (end) – Khua (end);
2. Dien Bien Phu (end) – Phongsaly (end, but may stop at Khua in order to let passengers get off if bus departed from Viet Nam or get on if bus departed from Lao PDR);
3. Dien Bien Phu (end) – Xay, Oudomxay (end, but may stop at Khua);
4. Dien Bien Phu (end) – Luang Nam Tha (end, but may stop at Khua and Xay);
5. Dien Bien Phu (end) – Bokeo (end, may stop at Khua, Xay, Luang Namtha); and
6. Dien Bien Phu (end) – Luang Prabang (end, may stop at Khua and Xay).

Passengers from Lao PDR to Viet Nam have to change buses at Dien Bien Phu and take domestic buses, as few Lao PDR transportation businesses operate in Viet Nam.

- **Bottlenecks and challenges**

Almost no businesses know that the route from Ha Noi to Tay Trang border gate along NH6 and 279 is an Asian Highway, but all the respondents complained about the road quality of the AH13 component in Viet Nam. In general, from the viewpoint of surveyed logistics enterprises, the quality of roads from Ha Noi to Dien Bien Phu is fair, except for those that are deemed unfavorable for trucks, including Cun slope and Thung Khe, Chieng Dong, Pha Din mountain passes on NH6, Tang Quai mountain pass, and Na Loi slope on NH279 due to topographic characteristics (steep, curved, foggy, slippery asphalt pavements, or landslides). For instance, on the NH6, particularly the Son La–Dien Bien section, there are many curves; while the lane marking is continuous, trucks often encroach on the other lane; or at NH6 (Km44+200), there are often traffic accidents due to the lack of warning signs, especially when there is fog.

The road quality from Dien Bien Phu to Tay Trang border gate remains poor, with many curves and steep slopes, while, since 1997, the road has been maintained instead of being upgraded. More importantly, the section of NH279 from Dien Bien Cement Plant to the quarry at the foot of Tay Trang mountain pass is very poor and dusty. The key respondents believe that trucks overloaded with cement and stones have damaged the road.

Figure 7: NH279 at the foot of Tay Trang Mountain Pass



*The width of NH279 at the foot of Tay Trang Mountain Pass (21°16'37.0"N 102°58'35.9"E) is not enough for two large trucks. The road surface is ruined by heavy loaded trucks.
Source: Taken by IWEP at noon of 9 December 2019.

Moreover, the enterprises also face several institutional issues at the border and along the route.

First, border officials have a lunch break from 11:00am to 1:30pm on both the Viet Nam and Lao PDR sides, which makes long wait times for drivers and passengers. The wait times of migration/immigration processes at the border often last 1 hour on each side. If there is any foreign passenger from a third country, the time may be extended to 2 or 3 hours.

Second, customs fees collected on the Lao PDR side do not follow the rules; in many cases, there are no receipts. On Saturdays, Sundays, holidays, and during non-working times, in the Pang Hok border checkpoint, the customs fee is even higher. Customs fees at the two border gates are listed as follows:

Tay Trang border gate:

- VND50,000/vehicle (29-seat cars), paid by transportation companies;
- No fee applied for passengers;

Pang Hok border gate:

- LAK80,000/vehicle (weekdays); LAK150,000/vehicle (weekends and non-working time); and
- LAK20,000/passenger (weekdays), LAK30,000/passenger (weekends and non-working time).

Third, some of the logistics enterprises must pay a ‘monthly guarantee’, that is, bribes for the traffic inspectors, traffic police, customs officials, and border guards.

- **Expectations regarding cross-border transportation services to Lao PDR, Myanmar, and India**

Most of the key respondents do not expect to develop their services to India, while few have plans to reach more destinations in Lao PDR, Thailand, and Myanmar. However, the plan to expand cross-border transportation services to Lao PDR, Myanmar, and India may encounter some challenges:

First, there is a low demand for goods and people transportation via Tay Trang–Pang Hok border gate since Dien Bien and six northern provinces of Lao PDR are poor and there are no industrial parks/zones in this area.

Second, the capacity of Viet Nam logistics enterprises remains limited, while their competitiveness is not as high as with Thai enterprises'. Viet Nam freight forwarders are mostly small in terms of the number of full-time employees, the number of vehicles, and vehicle status. At the same time, there are few enterprises providing transportation services via Tay Trang border gate and most are in Dien Bien province. Moreover, as Thai and Chinese vehicles are permitted to enter Lao PDR, Viet Nam trucks/cars have no advantages in the north of Lao PDR, only in the central and the south.

In addition, Viet Nam logistics enterprises also lack knowledge of infrastructure connectivity in the GMS region. For example, none of the interviewed businesses knew that the Myanmar–Lao PDR Friendship Bridge has been in use since 2015 (Luang Namtha and Tachileik), while there was only one enterprise that knew about the Lao PDR–Thai Friendship Bridge in Bokeo and Chiang Rai.

Third, institutional barriers discourage expansion. A business in Dien Bien province mentioned its desire to open the Dien Bien Phu–Xayabury route. The Directorate for Roads of Viet Nam and Lao PDR's Department of Roads agreed, but the Xayabury government has not approved it. Other routes proposed by logistics enterprises such as Dien Bien–Vientiane, Dien Bien–Houn (Oudomxay), Dien Bien–Yot Ou (Phongsaly), Dien Bien–Boun Neua (Phongsaly), and Dien Bien–Long (Luang Namtha), have been approved by the Viet Nam Government, but not by the Lao PDR side.

Fourth, Vietnamese cars can only go to Lao PDR, but not to Thailand as a result of the difference between right-handed and left-handed drive.

6. Policy Recommendations and Ways Forward

The biggest obstacle to the development of a trilateral connection between northern Myanmar, northern Lao PDR, and northwestern Viet Nam lies in the low demand for cargo and passenger transportation. This obstacle is not easy to overcome. The economy of the northwest region in Viet Nam is probably more developed than its counterparts in Lao PDR and Myanmar, so Viet Nam has more conditions for promoting bridges along the AH13 corridor. Therefore, connecting northwestern Viet Nam to southwestern Yunnan, as well as Viet Nam to northern Thailand via northern Lao PDR, would help develop the connectivity between Viet Nam and northern Lao PDR and northern Myanmar. Exchange events between northwestern Viet Nam and northern Lao PDR are quite frequent in forms of bilateral cooperation. Trilateral events (Viet Nam–Lao PDR–Thailand, or Viet Nam–Lao PDR–Myanmar), as well as quadrilateral events (Viet Nam–Lao PDR–Thailand–Myanmar) should be enhanced to facilitate connectivity amongst these countries.

Another big hurdle comes from road quality in certain sections along the Hai Phong–Tay Trang border gate route. It is not necessary to upgrade the entire route given the low demand for goods and people exchanges and a plan to open an alternative route. Also, the Government and investors are willing to grant funds to upgrade roads if there is high possibility of growing demand. However, as NH6 and NH279 contribute to enhanced external connectivity and economic development of northwestern Viet Nam, the government should pay more attention to and spend more resources for the upgrading of roads and signaling systems at unfavorable points (for instance, the mountain passes and slopes of Cun, Thung Khe, Chieng Dong, Pha Din, Tang Quai, and Na Loi). In addition, the section of NH279 from Dien Bien Phu to Tay Trang cannot be replaced in the long run, so it is necessary to improve the road quality to ensure good connection with Lao PDR via Tay Trang–Pang Hok border gate.

Based on the reflections of transport enterprises and the authors' field observations, trucks on NH279 between Dien Bien Phu and Tay Trang need to be better controlled in order to prevent damage the road. Since many cement and stone trucks run on this section, the road between Dien Bien Phu and Tay Trang should be widened and upgraded using financial support from these cement and stone-mining enterprises. The trade-off between protecting NH279 and cement and stone production should also be seriously considered.

Viet Nam and Lao PDR customs agencies need to improve public services at Tay Trang–Pang Hok border gate, including reducing lunchtime, shortening time for procedures, and improving the transparency of procedures and fees.

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Annex 1. Lao PDR and Viet Nam Trade Relations 2016–2019

	2016			2017			2018			2019		
	Export	Import	Total	Export	Import	Total	Export	Import	Total	Export	Import	Total
With Lao PDR (US\$)	477,757,435	345,655,184	823,412,619	520,429,097	369,043,140	889,472,237	595,202,784	436,715,567	1,031,918,351	700,843,261	461,826,168	1,162,669,429
Viet Nam's total value (US\$)	176,580,786,635	174,803,799,524	351,384,586,159	215,118,607,296	213,006,717,300	428,125,324,596	243,697,324,373	236,868,855,739	480,566,180,112	264,189,366,962	253,070,916,399	517,260,283,361
Rate (%)	0.27	0.2	0.23	0.24	0.17	0.21	0.24	0.18	0.21	0.27	0.18	0.22

Lao PDR = Lao People's Democratic Republic.

Source: General Department of Viet Nam Customs, 2020.

Annex 2. Specification of Sections along Hai Phong–Tay Trang

Section	Length (km)	Terrain (km)			Lanes (km)		Surface condition (km)			No of major inter-sections	Bridges		
		Flat	Hilly	Mountainous	2 lanes	4 lanes	Good	Fair	Bad		Number	Length (m)	Vertical clearance <4.5 m
Chua Ve, Hai Phong (Km106)–Hong Bang, Hai Phong (Km92+460)	13.54	13.54				13.54	13.54						
Hong Bang, Hai Phong (Km92+460)–Hai Duong (Km77+830)	14.63	14.63				14.63	14.63			1	1	172.3	
Hai Duong–Hung Yen (Km33+720)	44.11	44.11				44.11		44.11		2	8	900.91	
Hung Yen (Km33+720–Km 11+135)	22.585	22.585				22.585		22.585		1	3	126.49	
Hung Yen–Chui Bridge, Ha Noi (Km0)	11.135	11.135				11.135	11.135			2			
Ha Noi (Km0)–Luong Son, Hoa Binh (Km38+000)	38	38			38			38		2	6	363.19	
Luong Son, Hoa Binh (Km38)–Dong Tien, Hoa Binh (Km70+932)	32.932			32.932	32.932			32.932					
Dong Tien, Hoa Binh (Km70+932)–Son La (Km153+000)	82.068			82.068	82.068			82.068					
Son La (Km155–km366+270)	213.27			213.27	205.43	7.84		213.27		3	25	1040.67	
Son La (Km366+270–Km388+207–Tuan Giao, Dien Bien	16.937			16.937	16.937			16.937		1	6	368.92	
Tuan Giao, Dien Bien (Km0)–Tay Trang, Dien Bien (Km116)	116			116	108.924	7.076		116		2	19	816.24	

Annex 2. Specification of Sections along Hai Phong–Tay Trang (Cont.)

Section	ROW width (km)		Carriageway Width (km)			Width of Median (km)		Type of shoulder (km)		Shoulder Width (km)		Sidewalk (km)		Class
	<=10m	10–30 m	6–7 m	7–14 m	>=14 m	<=1 m	>1 m	Hard	Soft	1–2 m	>=2 m	With	Without	
Chua Ve, Hai Phong (Km106)–Hong Bang, Hai Phong (Km92+460)		13.54			13.54		13.54		13.54		13.54	13.54		III
Hong Bang, Hai Phong (Km92+460)–Hai Duong (Km77+830)		14.63			14.63		14.63		14.63		14.63	14.63		III
Hai Duong–Hung Yen (Km33+720)		44.11			44.11		44.11		44.11		44.11	44.11		III
Hung Yen (Km33+720–Km 11+135)		22.585			22.585		22.585		22.585		22.585	22.585		III
Hung Yen–Chui Bridge, Ha Noi (Km0)		11.135			11.135		11.135		11.135		11.135	11.135		III
Ha Noi (Km0)–Luong Son, Hoa Binh (Km38+000)		38		38					38		38		38	III
Luong Son, Hoa Binh (Km38)–Dong Tien, Hoa Binh (Km70+932)		32.932		32.932					32.932		32.932		32.932	III
Dong Tien, Hoa Binh (Km70+932)–Son La (Km153+000)		82.068		82.068					82.068		82.068		82.068	III
Son La (Km155–Km366+270)	62.48	150.79	62.48	142.95	7.84		7.84		213.27		213.27	7.84	205.43	III
Son La (Km366+270–Km388+207–Tuan Giao, Dien Bien	16.937		16.937						16.937		16.937		16.937	III
Tuan Giao, Dien Bien (Km0)–Tay Trang, Dien Bien (Km116)	116		108.924		7.076		7.076		116		116	7.06	108.924	Below III

Source: UNESCAP, 2019

Annex 3. Volume of Traffic at Major Stations along NH6 and NH279

NH	Station	Minivan	Light-duty truck	Medium-duty truck (2 axles – 6 wheels)	Heavy-duty truck (3 axles)	Heavy-duty truck (4 axles)	Small passenger car	Large passenger car	Trailer	Total (>= 4-wheel vehicles)	Motorcycle	Bicycle
6	Km101+800	1,526	638	772	165	281	219	425	9	4,035	5,393	265
	Km162+200	570	230	271	135	232	87	161	-	1,686	1,110	-
	Km272+360	Assigned for VRAMP										
	Thuan Chau (Km334+470)	411	204	128	116	134	61	136	-	1,190	3,261	650
	Tuan Giao (Km382+450)	377	97	111	87	133	34	80	-	919	1,915	650
	Mai Chau (Km4+250)	504	415	503	197	164	250	261	-	2,024	3,925	1,171
279	Muong Ang (Km35+200)	390	143	274	277	150	70	65	-	1,369	2,797	1,904

NH = National Highway, VRAMP = Viet Nam Road Asset Management Project.

Source: Data provided by Directorate for Roads of Viet Nam, 2020