THE KOREA TRANSPORT INSTITUTE

UNIVERSITY OF TRANSPORT AND COMMUNICATIONS

Status Quo of Transport Infrastructure, Policy Issues, and Development Needs in Vietnam

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1.1 Major Socio-Economic Indicators in Vietnam

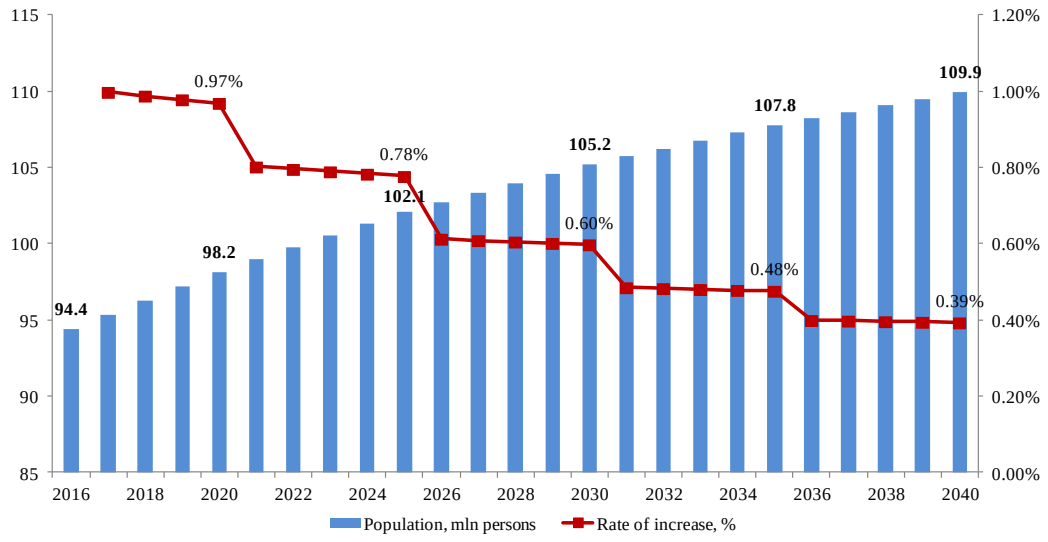
Vietnam is located in the South-East Asia. The total area of the country is around 331,000 km^2, population is over 96.5 mln. people.

Declare independence from France	2 September 1945
Capital	Hanoi
Population	96.5 mln. persons
1st level cities belong the central	Population – 21,543 thous. persons. (22.3% of the total population) – Ho Chi Minh City (9,039 thous. persons); – Hanoi (8,094 thous. persons) – Hai Phong (2,033 thous. persons) – Da Nang (1,141 thous. persons) – Can Tho (1,236 thous. persons)
Area	331 thous. km2
Population density	292 person/km2
Currency	Dong (VND)

Source: GSO, 2019

Demographics

Vietnam's population increased by 9.8% in the period 2010-2019. According to the United Nations, Vietnam's population is forecast to reach 109.9 mln in 2040 (+13,9% compared to 2019).



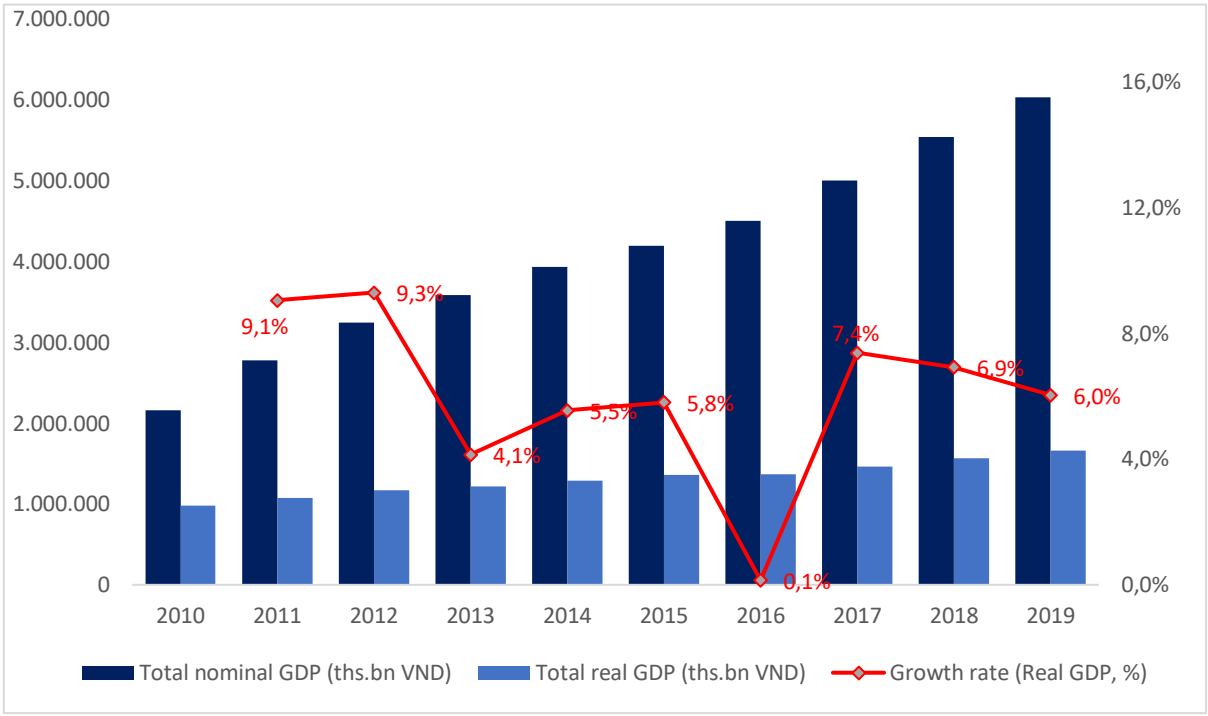
Source:GSO, 2011-2019; United Nations, 2014

Figure 1-1. Vietnam population forecast

Economic overview

In the last several decades Vietnam has demonstrated a stable GDP growth and enjoyed a stable political and macroeconomic situation. The private sector of the economy and foreign investment has been the two fastest growing areas. Vietnam is seen as one of the fastest growing economies in Asia.

In the period 2010-2019, real GDP grew by 69% from VND982 ths.bn to VND1,162 ths.bn. The average growth rate of real GDP in 2010-2019 was 6.0%.

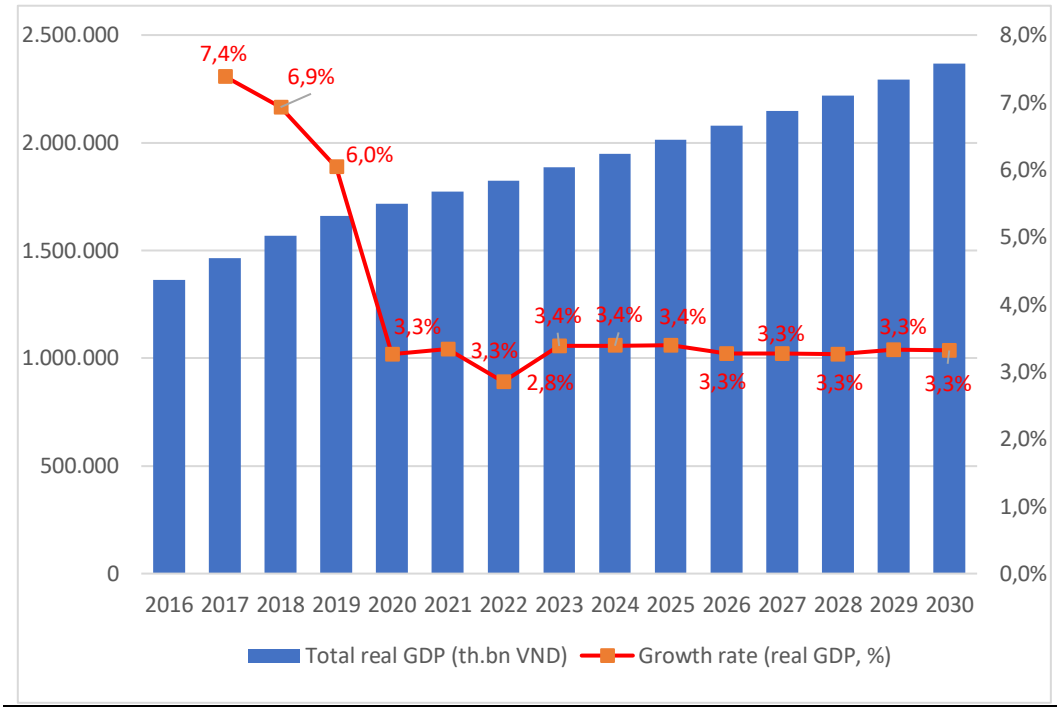


Source: National Statistical Yearbook, General Statistics Office home page, 2019

Figure 1-2. Vietnam's GDP Growth in the period of 2010-2019

The national economy relies strongly on the service sector and the secondary sector (manufacturing and construction). Overall, the average inflation rate was 6.45% in 2010-2019 but this figure kept under 5% in 2017-2019.

According to the United Nations, Haver Analytics and the revised PDP VII in 2016, national nominal GDP was forecast to grow at 7% per annum in 2016-2030, from VND 4503 ths.bn in 2016 to reach VND 12,707 ths.bn in 2030). Considering the inflation rates expected in 2016-2030, real GDP is expected to grow by 8.2% from VND1,365 th.bn to VND2,368 th.bn in that period.



Source: United Nation and Haver analysis of General Statistic Office, PDP VII

Figure 1-3. Vietnam real GDP forecast

In the medium term, The Vietnam economy will be driven by gradual liberalization, new industries, trade expansion, oil-price 'hedge' and growing foreign direct investment.

Investment attractiveness

In the Ease of Doing Business ranking for 2019, Vietnam ranks 70th out of 190 countries (twenty positions up compared with 2016). The average level of ease and attractiveness of doing business and the high growth rate of GDP per capita in the forecast period (6.3%) allow to characterize Vietnam as a country with consistent investment attractiveness.

1.2 Statistical Indicators related to Transport and Logistics

1.2.1 Vietnam

In recent years, the transport infrastructure system had positive changes. Key roads, inland waterways and railways have been invested and upgraded in combination with strengthening the management and maintenance; seaports and airports have been gradually expanded, upgraded and newly built to meet the average traffic growth rate of 10%/year. In the 2010 - 2019 period, transport operations had a high growth rate, meeting the travel needs and social life demand. Freight traffic increased from 800 mln. and 217,767 mln.ton.km in 2010 to 1,690 mln.tons and 294,595 mln.ton.km in 2019 (average growth rate of 8.7%/year and 3.4%/year, respectively). Number of passengers transported by all transport modes increased from 2,315 mln. person in 2010 to 4,769 mln. person in 2019 (average growth rate of 8.4%/year) while passenger transport performance by all modes went up from 97,932 mln.pax.km in 2010 to 230,780 mln.pax.km in 2019 with an increase of 10%/year.

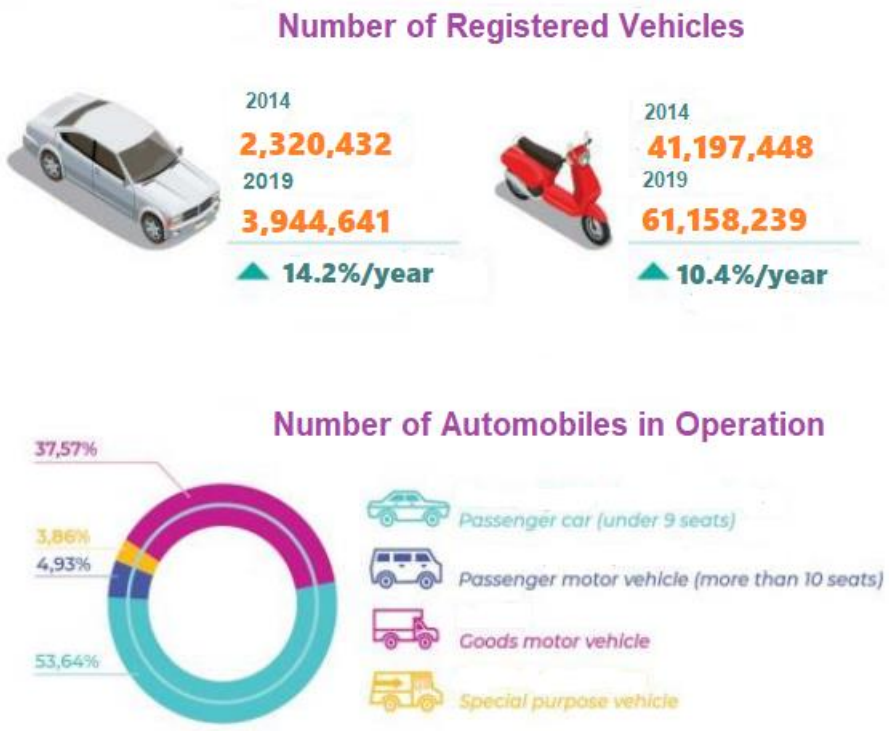
Road Transport

Road hierarchy in Vietnam comprises expressways, national highways, provincial roads, urban roads, commune roads, rural roads and special roads. In 2018, the road network length was about 630,564 km, of which expressways and national highways accounted for 4.2 % of total length of the road network. About 39.1% of highway met the technical standards of Class I, II and III and 69.2% of highway pavement was covered by asphalt and cement concrete.

Source: Directorate for Road of Vietnam, 2018. Image copy from TDSI

Figure 1-4. Road Network Length

Until end of 2019, the number of automobiles reached over 3.9 mln. while motorcycles obtained 58.2 mln., about 15 times higher compared to the automobiles. Motorcycles accounted for 70% of traffic flow in the biggest cities.



Source: Vietnam Register, 2019; NTSC, 2019. Image copy from TDSI

Figure 1-5. Vehicle Statistics

Road traffic contributed the highest proportion in terms of passenger volume and freight volume. Volume of passenger transported increased from 2132 mln. person in 2010 to 4464 mln. person in 2019, with average growth of 8,6%/year. Passenger transport performance by roads grew from 69,197 mln.pax.km in 2010 to 145613 mln.pax.km in 2019, with the same annual growth rate. Number of cargo transport rose from 587 mln. ton in 2010 to 1341 mln. ton in 2019, with average growth rate of 9.6%/year, while cargo transport performance by roads increased 9.1%/year, from 36179 mln.ton.km in 2010 to 78961 mln.ton.km in 2019.

Source: GSO, 2020. https://www.gso.gov.vn/

Figure 1-6. Road Transport Volume & Performance

Railway Transport

Viet Nam's railway network consist of 7 main railway lines with a total length of 3,162.9 km in 2018, including 2,703.2 km of main lines, 459.7 km of station's inner lines and branch lines.

In 2018, the length of the 1,000 mm gauge lines was 2,656.2 km, (accounting for 84.0% of total railway length), the length of 1,435 mm gauge lines was 190.5 km (accounting for 6.0% of total length), the rest was mixed-gauge length (1,435 mm & 1,000 mm).

Source: Vietnam Railway Authority, 2018. Image copy from TDSI

Figure 1-7. Railway Infrastructure

In 2018, the number of 1,000 mm gauge rail vehicles were 269 locomotives, 4,816 freight wagons and 1,002 passenger cars; the number of 1,435 mm gauge rail vehicles were 10 locomotives, 315 freight wagons and 6 passenger cars.

Source: Vietnam Railway Authority, 2018. Image copy from TDSI

Figure 1-8. Railway Fleet

Freight traffic by railways accounted for a low proportion compared to other modes of transport. Volume of freight carried decreased from 7.9 mln. ton in 2010 to 5.1 mln. ton in 2018, with average growth rate of -4.7%/year. Freight transport performance by railways declined from 3,961 mln.ton.km in 2010 to 3,762 mln.ton.km in 2019, with average growth of -0.6%/year. The number of passengers transported decreased from 11 mln. person in 2010 to 8 mln. person in 2019, with average growth of -3.5%/year. Passenger transport performance by railways reduced from 4,378 mln.pax.km in 2010 to 3,171 mln.pax.km in 2019.

Source: GSO, 2020. https://www.gso.gov.vn/

Figure 1-9. Railway Transport Volume & Perforamance

Inland Waterway Transport

There was approximately 26,561 km of inland waterways being under management and operation, of which 7,181 km of national inland waterways and 19,380 km of local inland waterways. The length of national inland waterways for special class, Class I and Class II is 2,048 km (accounting for 28.5% of total length), followed by the length of Class III is 3,769 km (about 52.5% of total length).

Source: IWT Administration, 2018. Image copy from TDSI

Figure 1-10. IWT Infrastructure, 2018

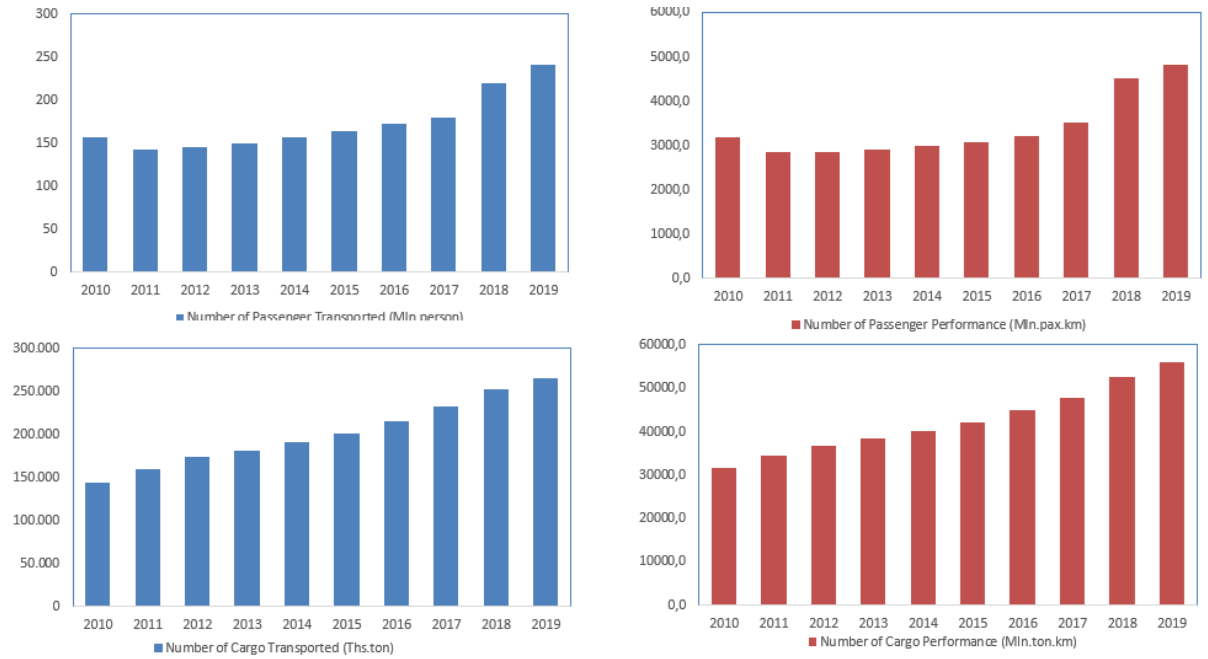
The number of inland waterway vessels was 214,447 units in 2018 and the total power capacity of the fleet reached 11.799.736 cv.

Source: IWT Administration, 2018. Image copy from TDSI

Figure 1-11. IWT Fleet, 2018

IWT traffic accounted for a small proportion compared to other transport modes. Volume of freight carried by IWT increased from 144 mln. ton in 2010 to 266 mln. ton in 2019, with average growth rate of 7.0%/year. Freight transport performance by inland waterways rose from 31,679 mln.ton.km in 2010 to 55,946 mln.ton.km in 2019, with average growth rate of 6.5%/year. The number of passenger transport by IWT grew from 158 mln. people in 2010 to 242 mln. people in 2019, with average growth rate of

4.9%/year. Passenger transport performance by inland waterways increased from 3,195 mln.pax.km in 2010 to 4,813 mln.pax.km in 2019, with average growth rate of 4.7%/year.



Source: GSO, 2020. https://www.gso.gov.vn/

Figure 1-12. IWT Volume & Performance

Maritime Transport

The maritime infrastructure system had 46 public navigable channels and 45 seaports. There were 14 Class I seaports with a total design capacity of more than 509 million tons of cargo per year, 18 Class II seaports of and 13 offshore oil ports.

Source: Maritime Transport Administration, 2018. Image copy from TDSI

Figure 1-13. Maritime Infrastructure, 2018

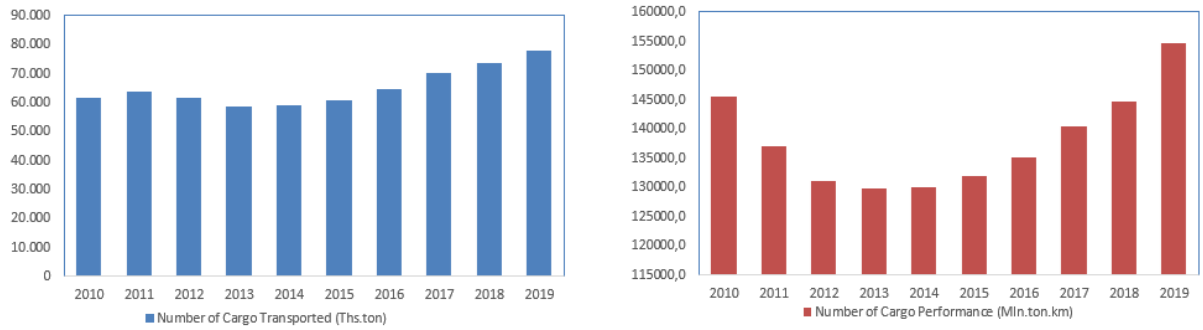
The number of Viet Nam flag merchant fleet reached at 1,362 vessels in 2018 and tonnage of vessels was 7.7 mln. DWT. The number of vessels for international sea transport was 556 vessels and the number of vessels for national sea transport was 806 vessels.

Table 1.1. Number of Maritime Fleet

	Unit	Number
Vietnam Flag Merchant Fleet		
– Number of vessels	Vessels	1,362
– Total gross tonnage	GT	4,854,959
– Total deadweight	DWT	7.694.785
Number of seagoing vessels under Vietnam Register		
– Number of vessels	Vessels	1,379
– Total gross tonnage	GT	5,374,502
– Total deadweight	DWT	8,495,908

Source: Maritime Transport Administration, 2018

The volume of freight transport by sea increased from 61.6 mln. tons in 2010 to 77.9 mln. tons in 2019, with average growth rate of 2.6%/year. Freight transport performance by sea rose from 145,521 mln.ton.km in 2010 to 154,753 mln.ton.km in 2019, with average increase of 0.7%/year.

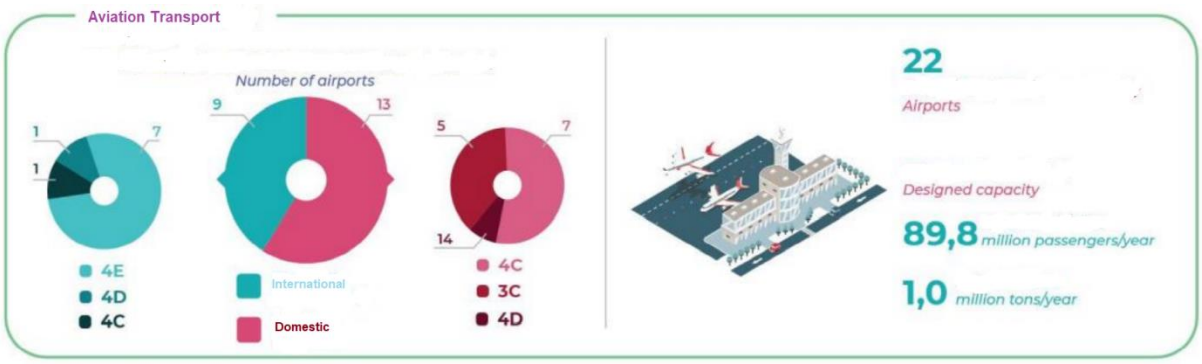


Source: GSO, 2020. https://www.gso.gov.vn/

Figure 1-14. Maritime Volume & Performance

Aviation

There were 22 airports in operation in Vietnam, including 9 international airports and 13 domestic ones, with a total designed capacity of about 89.8 million of passengers per year and 1.0 million tons of cargo per year.



Source: Civil Aviation Authority, 2018. Image copy from TDSI

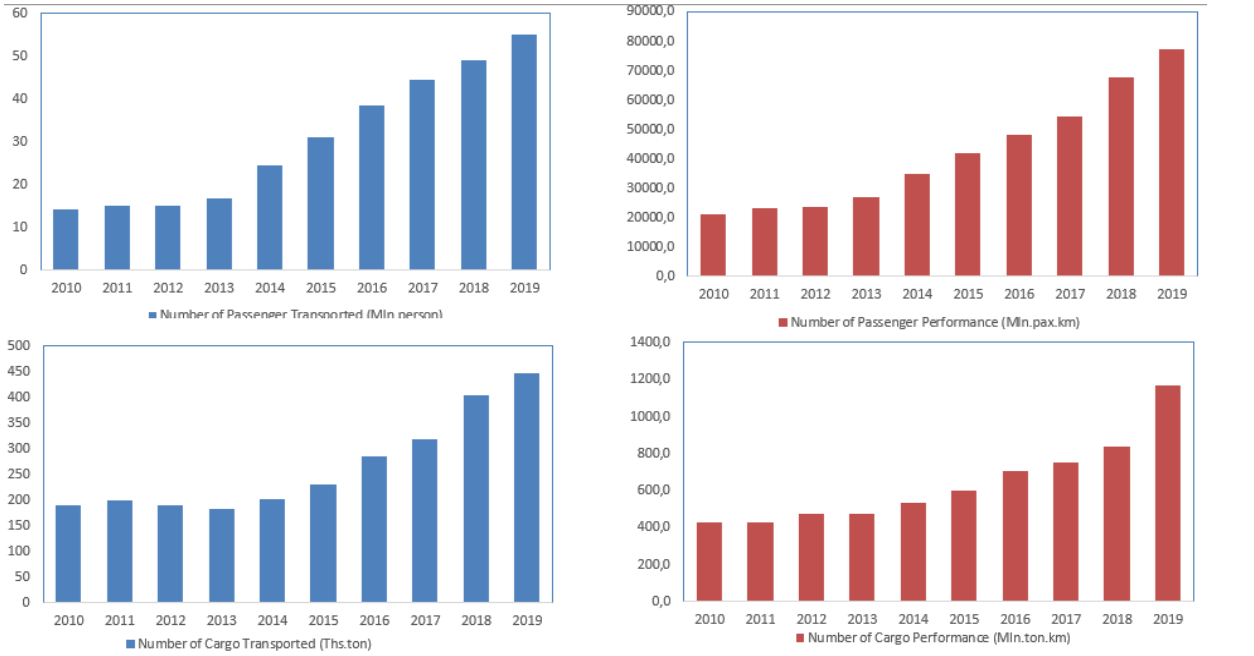
Figure 1-15. Aviation Infrastructure, 2018

The aircraft fleet was 213, of which the number of passenger aircraft was 201 and special purpose aircraft was 12. Total passenger carrying capacity was 34,313 seats in 2018

Source: Civil Aviation Authority, 2018. Image copy from TDSI

Figure 1-16. Aviation Infrastructure, 2018

Air traffic for freight and passenger has the smallest proportion in term of fleet but have a significant increase in recent years. Volume of freight transport increased from 0.2 mln. ton in 2010 to double in 2019, with average growth of 10%/year. Freight transport performance increased from 427 mln.ton.km in 2010 to 1169 mln.ton.km in 2019, an increase of 11.8%/year. The number of passenger transport increased from 14 mln. person in 2010 to 55 mln. person in 2019, with an average growth rate of 16.2%/year. Passenger transport performance by air grew from 21,162 mln.pax.km in 2010 to 77,184 mln.pax.km in 2019, the average growth rate of 15.5%/year.

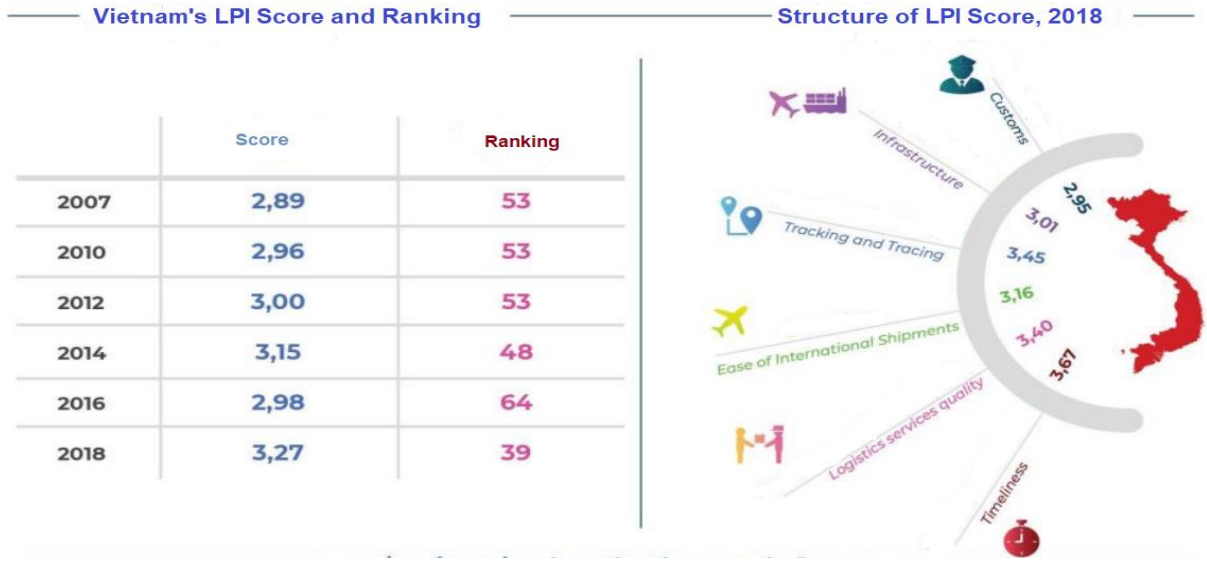


Source: GSO, 2020. https://www.gso.gov.vn/

Figure 1-17. Aviation Volume & Performance

Logistics Indicators

Logistics performance of Viet Nam has reflected the overall improvement in the system. This improvement is seen in the results of the World Bank's Logistics Performance Index (LPI). In 2007, the LPI ranked Viet Nam in the 53rd position and the country maintained its rank in 2010 and 2012. In 2014, the ranking of the country improved to 48th but in 2016 the ranking fell down to 64th in the LPI global ranking. In 2018, Vietnam's achieved its highest ranking up to date at 39th which is higher than Malaysia in ASEAN.

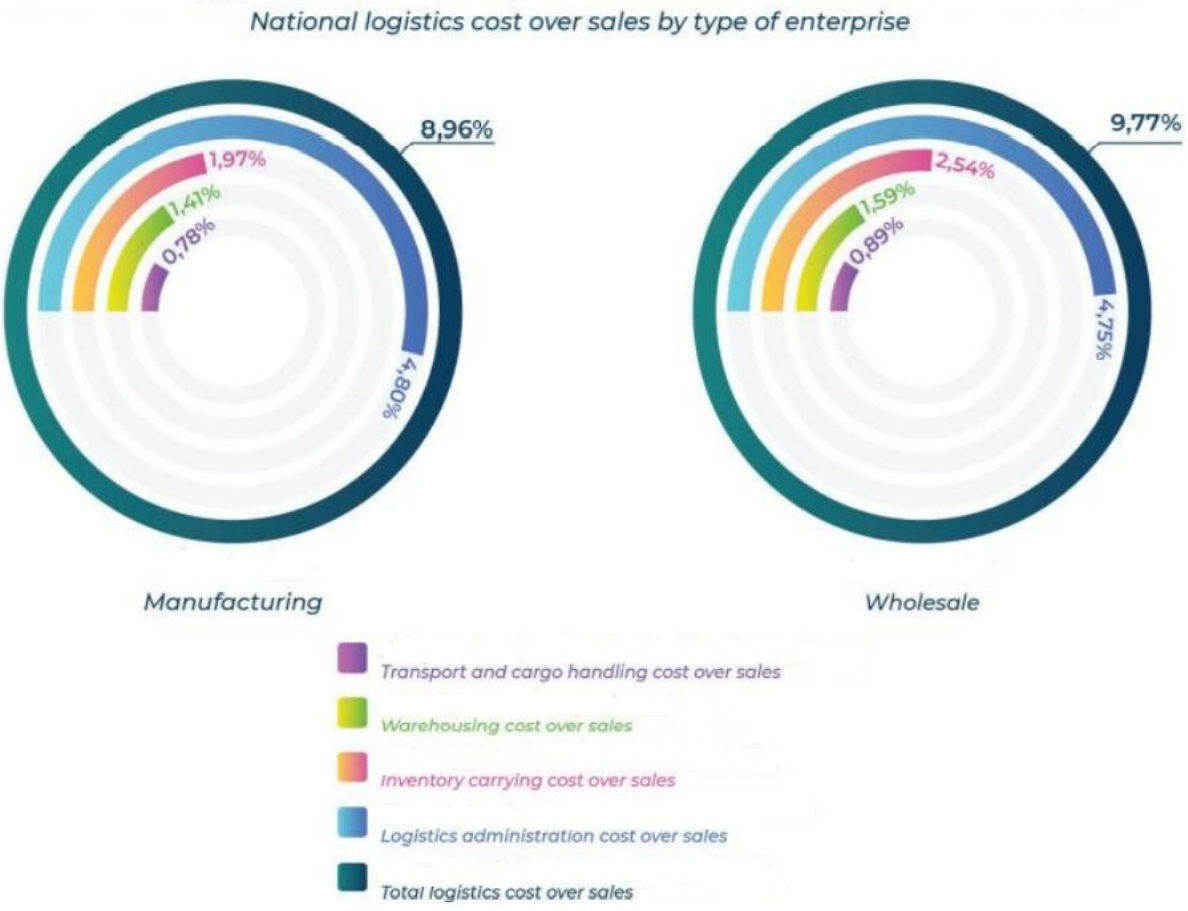


Source: World Bank, https://lpi.worldbank.org. Image copy from TDSI

Figure 1-18. Vietnam's LPI Score and Ranking

Within the Vietnamese Transport and Logistics Statistical System, Ministry of Transport with the assistance from the World Bank (WB), International Transport Forum (ITF) at the Organization for Economic Cooperation and Development (OECD), provide key indicators related to the performance of logistics in the country. The key logistics indicators focus not only on logistics cost of firms in the country but also on logistics service performance in the domestic market. Ministry of Transport conducted an enterprise survey to collect logistics related data for the calculation of key logistics performance indicators in Viet Nam in 2018.

National logistics cost over sales in Viet Nam for manufacturing firms is at 8.96% while for wholesale firms the logistics cost over sales is at 9.77%. In the case of manufacturing firms, transport and cargo handling cost over sales has the highest cost component at 4.80% followed by warehouse cost over sales at 1.97% and inventory carrying cost over sales at 1.41%. The logistics administration cost for manufacturing firms is at 0.78%. Logistics cost over sales for wholesale firms follows a similar patter with transport cost and cargo handling over sales at 4.75%, warehouse cost over sales at 2.54%, inventory carrying cost at 1.59%, and logistics administration cost at 0.89%.

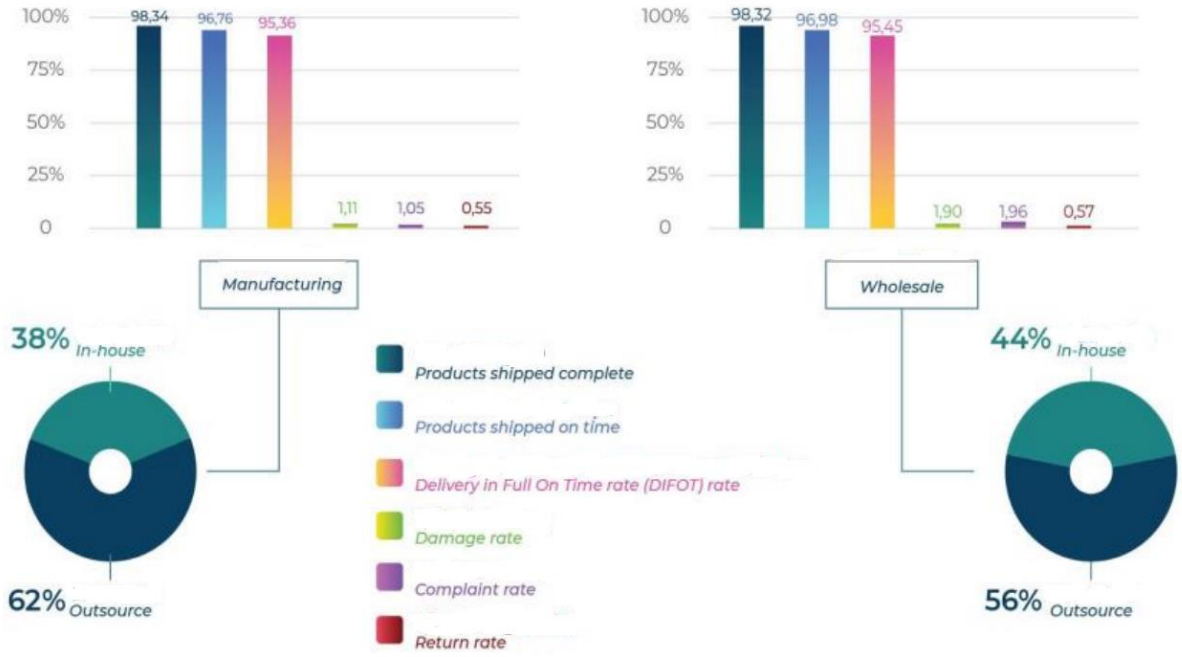


Source: MOT's survey, Image copy from TDSI

Figure 1-19. Vietnam Logistics Performance Indicators from MOT's Survey

The delivery in full and on time (DIFOT) indicator is an important reflection of overall logistics performance. Manufacturing and wholesale firms have the following DIFOT capability at 95.36% and 95.45% respectively. The obtained national damage rate 1.11% for manufacturing firms and wholesale

firms 0.90% with similar levels for complaint rate at 1.05% for manufacturing and 0.96% for wholesale. The return rates have been calculated at 0.55% for manufacturing and 0.57% for wholesale. The level of outsourcing in the country is 62% for manufacturing firms and 56% for wholesale firms.



Source: MOT's survey, Image copy from TDSI

Figure 1-20. – National Logistics Performance by Enterprise

1.2.2 Analysis of Central 1st level Cities

Geographic Location and Economic Characteristics

The cities analyzed in the framework of this study (hereinafter − the "Study area") include Hanoi, Ho Chi Minh City (HCMC), Hai Phong, Da Nang and Can Tho, they are representing the central 1st level cities.

At the end of 2019, the population of the study area was 20.9 mln. persons. By 2040, the total population of the 5 analyzed cities is expected to grow to 22.8 mln. persons (GSO, 2016). Thus, during 2019-2040, the share of the Study area in the total population of the country will increase from 22.3% to 23.3% respectively.

In the same time, the total nominal GDP of the Study area was USD 261 billion, or 45.9% of the total GDP of the country. That characterizes the Study area as the most economically developed area in Vietnam.

	GDP (Bln.VND)	Pop. (1000)
Hanoi	971,700	8,094
Hai Phong	230,125	2,033
Da Nang	112,000	1,141
HCMC	1,347,369	9,039
Can Tho	110,977	1,236
Total	**2,772,171**	**21,543**
Vietnam	**6,037,348**	**96,484**
Contribution of Study area to whole country	**45.9%**	**22.3%**

Source: Vietnam location map

Figure 1-21. The Geographical Location and Economic Characteristics of Study Area

Transport Overview

The transportation system of study area consists of urban, inter-city roads, railways, inland waterways, airports with all kinds of corresponding vehicles.

In 2010-2019 total freight volume carried by all transport modes within five provinces has increased two times, from 210 mln tons in 2010 to 410 mln tones in 2010, an average annual growth equal to 8.7%.

Number of passengers carried by road in 2010-2019 also increased by almost 2 times, from 1,291 mln passengers to 2688 mln passengers, or by 9,6% annually.

Network Statistics

A. Road transport

In term of expressway and national highway, road network length in the study area comprises 626.8 km, including national highways (462.3km), express ways (164.5 km).

Table 1.2. Length of Expressway and National Highway by Technical Standard

Cities	Total length (km)	Expressway (km)	National Highway				
			Class I	Class II	Class III	Other	Under construction
Hanoi	143.2	98.5	30.2	0	12.8	1.7	
Hai Phong	156.1	33.4		14.6	63.4	37	7.7
Da Nang	132.3	8.0	1.2	39.7	60.9	22.5	
HCMC	56.7	24.6		32.1			
Can Tho	138.5			8.1	120.3	10.1	
Total	626.8	164.5	31.4	94.5	257.4	71.3	7.7

Source: DRVN 2018 and DOTs 2018

Table 1.3. List of Expressways (As of 31st December 2019)

Cities	Total length (km)	Number of lanes	Type of pavement	Road class	Bridge	
					Number	Length (m)
Hanoi – Thai Nguyen – Cho Moi	104	4	Concrete	100	29	3,681
Noi Bai – Lao Cai – Kim Thanh bridge	264	4-6	Concrete	80-100	13	1,548
Hanoi – Hai Phong	105	6	Concrete	120	50	13,132
HCMC – Trung Luong	40	6	Concrete	100	21	16,359
Phap Van – Cau Gie- Ninh Binh	79	6	Concrete	120	14	N/A
Da Nang – Quang Ngai	139,2	4	Concrete	100	N/A	N/A
Lien Khuong - Prenn	19	4	Concrete	100	0	0
Ha Noi – Bac Giang	46	4	Concrete	100	9	2,373
HCMC – Long Thanh – Dau Giay	55	6	Concrete	120	N/A	N/A
Ha Long – Bach Dang Bridge	25.2	4	Concrete	100	7	6,953
Ha Long – Van Don	59.5	4	Concrete	100	30	34,774
Hanoi Ring Road Nol. 3 (Evelated)	28	4	Concrete	80	0	0
Lang – Hoa Lac (Thang Long Avenue)	29	6	Concrete	80	0	0
Noi Bai – Nhat Tan Bridge	15	6	Concrete	80	0	0

B- Inland Waterway Transport

In terms of national IWT, there are 16 water canal routes in the Study area with total length of 765.9 km.

Table 1.4. Length of National Inland Waterways by Technical Standard, 2018

Cities	Length (km)	National Highway					
		Special class	Class I	Class II	Class III	Class IV	Class V
Hanoi	254.8	0	682	846.4	588	175.4	0
Hai Phong	241.8	0	7.7	147.8	50	36.5	0
Da Nang	19.7	0	4.0	0	2.4	3.0	10.3
HCMC	123.8	0	0	13.2	110.6	0	0
Can Tho	125.8	26.9	21.8	0	77.1	0	0
Total	**626.8**	**164.5**	**31.4**	**94.5**	**257.4**	**71.3**	**7.7**

Source: IWT administration 2018 and DOTs 2018

The routes are concentrated mainly in Saigon and Mekong rivers delta with minimum channel widths of 30-100 m and minimum depths of 2.5-4 m.

Main river transport corridors are notable in the Study area:

- Hai Phong – Hanoi (via Duong river, from Hai Phong Port to Hanoi Port, total length of 154.5km
- Hanoi Port to Lach Giang estuary, total length of 196 km.
- Ha Noi – Viet Tri – Lao Cai (from Hanoi Port to Nam Thi confluence, total length of 365.5 km
- Hoi An – Cu Lao Cham, total length of 23.5 km
- Han river Port – Ky Ha Port, total length of 101 km
- Sai Gon – Ca Mau (via Xa No cannal, from Te confluence to Ca Mau port), total length of 336 km
- Vung Tau – Thi Vai – Sai Gon – My Tho – Can Tho (from Ben Dinh port to Can Tho port), total length of 242.5 km
- Sai Gon – Kien Luong (via Lap Vo cannal, from Tec annal confluence to Ha Tien lagoon), total length of 320 km
- Sai Gon Coast – Ca Mau, total length of 367 km
- Sai Gon – Ben Suc (via Saigon River, from Te cannal confluence to Ben Suc port), total length of 90 km
- Sai Gon – Ben Keo (via Vam Co Dong river, from Tec annal confluence to Ben Keo port), total length of 142.9 km
- Sai Gon – Moc Hoa (via Vam Co Tay River, from Tec annal confluence to Moc Hoa Port), total length of 143.4 km
- Sai Gon – Kien Luong (via Thap Muong No. 1 cannal from Te cannal confluence to Ba Hon), total length of 288 km
- Sai Gon – Hieu Liem (via Dong Nai river, from Tec annal confluence to Hieu Liem Port), total length of 90 km

- Sai Gon – Ha Tien (via Thap Muoi No. 2 cannal), total length of 277.6 km.

Table 1.5. List of freight ports on national inland waterway (Class I → Class III)

Cities	Name of Port	Berth's length (m)	Capacity (tons/year)	Carrying capacity of vessels	
				Draught (m)	Deadweight (DWT)
Hanoi	Khuyen Luong Port	998.6	207,146	2.8	1,000
	Hanoi Port	1,400	90,383		Self-propelled 400, Barge 600
	Hong Van Port	500	46,878	2.5	1,000
	Son Tay Port	400	196,769	3.0	1,000
	Hoang Binh Port	100	27,820	2.2	
Hai Phong	Truong Nguyen Port	190	3,948,861	5.5	
	Dong Viet Port	110	203,880		3,000
	Duc Hoa Port	150	631,909	4.5	
	Hai nam Port	371	1,840,890	5.0	
	Gia Duc Port	480	5,430,828	5.0	
	TB An Hoa Port	85.7	112,983	3.5	
	Ha Hung Anh Port	86.0	915,579	5.0	
HCMC	Phuong Quan Port	126	1,600,000		5,000
	Long Binh Port	339	1,500,000		5,000
	Mien Nam Logistics Port	411	450,000		1,085
	Truong Tho Port	620x30	N/A	4.0	
	Hoang Long Port	167	600,000	1.2	750
	Thanh Tai Port	165	1,500,000		5,000
	Tinh Nghia Port	124	1,500,000		1,000
	Sai Gon Cement Port	78	40,000		1,000
	42 Ton That thuyet Port	22x15	N/A	1.7	
	Tanamexco	445x26	N/A	4.5	
	Transimex Port	100 x14	N/A	2.2	
	Phuc Long Port		N/A	2.0	
Can Tho	Tan Cang Thot Not	156,8	643,134	5.1	
	Thanh Hung Cargo port	75	60,419	3.8	

Table 1.6. List of freight ports on national inland waterway

Cities	Name of Port	Berth's length (m)	Technical Class	Capacity (tons/year)	Carrying capacity of vessels
					Draught (m)
Da Nang	Han River Port	528	I	200,000	N/A
Can Tho	Ninh Kieu Tourist Port	180	I	1,164,404	2.4
	Ninh Kieu Restaurant and Hotel Port	90	III	199,500	3,0

C - Maritime transport

The maritime transport segment of Vietnam is oriented toward international and coastal sea trade (cabotage). The coastal sea trade mainly performs the function of transporting bulk cargoes and containers along the transport corridor connecting the industrial centers of the South and North Vietnam regions – Ho Chi Minh City and Haiphong respectively.

D- Aviation

Following table shows the airports in study area. Five cities have scheduled international and domestic flights.

Table 1.7. List of Civil Airports

Airport	Airport Class	Number of Aprons	Runway		Landing Aid Equipement System		Terminal Capacity	
			Length (m)	Width (m)	Night lighting	ILS/DME	Passenger	Cargo
Noi Bai Int. airport	4E (Int.)	Simultaneously 90	3,200	45	C	C	10	403,000
	4E (Do.)		3,800	45	C	C	11	
Cat Bi Int. airport	4E (both)	Simultaneously 11	3,050				2	1,000
Da nang Int. airport	4D(Int.)	35	3,500	45	C	C	4	1,800
	4D(Do.)		3,048	45	C	C	6	
Tan Son Nhat Int. airport	4E (Int.)	Simultaneously 106	3,048	45	C	C	13	550,000
	4E (Do.)		3,800	45	C	C	15	
Can Tho Int. airport	4E (both)	10	3,000	45	C	C	3	5,000

Source: Civil Aviation Authority 2018, TDSI published

Vehicle fleet overview

A. Road transport

At the end of 2018 there were circulated in the study area 17,418,045 road vehicles. The most numerous segment is motorcycle – 16 mln. vehicles. The most narrow segment is urban buses – 4.4 thou. units.

Table 1.8. Vehicle in Operation by Cities, 2018

No	Province	MC	Passenger Car	Intercity bus	Truck	Special vehicles	Urban bus	Total
1	Hanoi	6,091,986	416,621	27,816	156,244	13,620	1,607	**6.707.894**
2	Hai Phong	1,191,492	48,899	4,206	39,750	16,120	84	**1.300.551**
3	Da Nang	892,960	41,472	4,517	22,199	3,536	156	**71.880**
4	Hochiminh	8,054,739	318,157	34,078	173,579	35,829	2,500	**8.618.882**
5	Can Tho	683,985	17,804	1,840	14,155	976	78	**718.838**
Total		**16,022,202**	**842,953**	**72,457**	**405,927**	**70,081**	**4,425**	

Source: Vietnam Register 2018, TDSI published

B. IWT transport

Up to 2019, study area has 21,528 vessels, accounted for only 10% of total country vessels but the power capacity of the fleets made up 25% of total country power capacity.

Table 1.9. Registered Inland Waterway Vessels and Vessels Capacity by Cities

No	Province	Number of vessels	Power Capacity (CV)	Carrying Capacity (pax.)	Deadweight (DWT)
1	Hanoi	2,696	280,555	5,675	517,475
2	Hai Phong	3,479	658,089	19,792	1,057,372
3	Da Nang	619	60,003	4,236	48,916
4	Hochiminh	6,683	1,485,698	32,227	2,019,219
5	Can Tho	8,051	553,760	16,698	529,718
Total		**21,528**	**3,038,105**	**78,628**	**4,172,100**

Source: Vietnam Inland Waterway Authority 2019, TDSI published

2 Diagnosis of Major Transport Infrastructure Policy in Vietnam

2.1 Policy trends in transport and logistics sector

2.1.1 Overview

Transport infrastructure is made up of the fundamental facilities and systems serving operators and users. While transport is often categorized by mode, it is more relevant for this study to think of the different transport functions.

- Urban public transport networks—including light rail (metro and tram), heavy urban commuter rail, bus, urban highways and bus lanes
- Inter-urban or inter-regional —including strategic highways, main line inter-city and high speed rail, inland shipping, domestic aviation
- International gateways – airport hubs and major sea ports— along with other regional ports and airports;

In addition, there is extensive supporting infrastructure

- Traffic and transport control systems, aimed at ensuring safe, secure, efficient, reliable and resilient transport (air, railways, maritime, inland waterways)
- Information and communication technologies used for customer information, and for tracking, charging, ticketing and billing
- Areas for logistics activities including logistics hubs, dry-ports and distriparks
- Energy facilities including electrical traction power networks necessary for infrastructure and transport operation.

2.1.2 National Policies

Public Transport Policies

Develop public transport networks: more buses, more routes; improve quality of services, renovation of vehicles; issue policies and provide price subsidies to public transport by buses. These policies are indicated through Decision 280/QD-TTg on Program of Development of Bus Public Transport from 2012 to 2020, dated 8th March 2012; Decision 13/2015/QD-TTg on Incentive Mechanisms and Policies for Public Transport Development, dated 15th May 2015; and Decision 3446/QD-BGTVT on Improvement of Public Transport Quality until 2020, dated 4th November 2016.

In 2013, a policy framework for the rational development of urban transport modes was established. MOT produced the report Towards Rational Development of Urban Transport Modes, which identifies challenges and proposals for the development of transport modes in five central cities and Class I cities. The report proposes responsibilities for the implementation of measures up to 2020 as follows:

- Development of public transport system in Hanoi and HCMC, reaching a market share of 20-25%.
- Within three central cities such as Da Nang, Hai Phong, Can Tho, public transport market share increases up to 10-15%.
- Rational development of urban transport infrastructure and public transport system, ensuring 5-7% of land reserved for parking.

- Restraint of the growth of private motorized vehicles

In parallel with public transport promotion, the following target related to vehicles and facilities for vehicles comes from Decision 356/QD-TTg as well:

- Automobiles: There will be 3.2 – 3.5 million automobiles by 2020, 57% of which is cars, 14% is buses, and 29% is trucks.
- Motorcycles : Reduce the growth in quantity of Motorcycles using administrative, economic, and technical measures in order to limit the quantity or Motorcycles nationwide; Motorcycles are primarily used in rural areas and the areas without public passenger transport; there will be 36 million Motorcycles by 2020.

The Decision 356/QD-TTg also mentions to the strategy of traffic safety assurance and environment protection, in details:

- Reduce all 3 aspects of traffic accidents, reduce 5% to 10% of accidents and casualties due to traffic accidents every year.
- Complete the law system, strengthen the management organization from central to local government. Improve the propagation, dissemination, and education, together with intensifying the enforcement of laws on traffic safety and order.
- Develop road traffic infrastructure, ensure the traffic safety corridors; the safety for traffic of works must be inspected; the connection with highways must be conformable with law to ensure traffic safety.
- Invest in traffic supervision system and traffic control centers according to modern standards.
- Improve the quality of training, testing, and managing vehicle operators, and the quality of road motor vehicle inspection.
- Enhance the rescue works to minimize damage caused by road accidents.
- Complete the standards and regulations on environment protection on the construction and use of traffic works. Intensify propagation, education, and enforcement of laws on environment protection.
- Assess the impact on the environment; integrate the climate change, sea level raise, and energy saving in the planning. Regularly supervise the compliance with laws on environment protection of projects of construction and traffic works; prioritize the application of new and eco-friendly technologies to minimize the negative impacts on the environment.
- The traffic works and vehicles must have technical standards conformable with environment protection requirements.
- Build a modern public traffic system together with efficient use of fuel, especially in urban traffic to minimize pollution.

Highway Network

National transport development strategies have been updated several times. There is considerable discussion on prioritization of investments in the country, and the consensus of investment priority has become difficult to settle, year by year, among different modes of transport. The road subsector has been given higher priority for investment. Presently many road projects, including expressways, are being formulated in the country and awaiting appropriate and timely investment

decisions. The status of current policy, plans and projects in the road subsector can be summarized as follows:

- Strategy for Vietnam's Transport Development (2020-2030) and Strategy for Transport Service Development (2020-2030) describes revised transport development strategy up to 2020 with a vision toward 2030. The decision states that there is a need to upgrade national highways and provincial roads to reach prescribed technical standards, to expand and build national highways with great transport demands and to build a system of expressways.
- The Road Network Planning in Vietnam by 2020 and 2030 focuses on the construction of centripetal axes, ring roads, urban arterial roads, and expressways. In 2020, Government plans to build 2,529 km of expressways and more 2,161 km in 2030.

Strategy for Vietnam Transport Development and Strategy for Vietnam Service Development set the overall direction of the national transport development, including policies in the road subsector. Development direction in 2020-2030 for the road subsector is as follows

- Complete the north-south transportation axis for major transportation modes in important economic areas.
- Focus on the development of roads in the mountainous regions, the Central Highlands, and the Mekong delta.
- Develop the highway system, with emphasis on developed economic zones with heavy traffic to avoid traffic congestion.
- Invest more in infrastructure at international border gates, especially inland borders to facilitate faster throughputs and increase goods circulation.
- Complete border roads, especially the patrol roads and roads to border patrol stations, in combination with people's welfare improvement. Build up some routes for combined economic and defense purposes.
- Upgrade district roads to ensure normal traffic operations year-round. Complete the construction of roads leading to communes or commune centers.
- Develop rings and bypasses for big cities and towns.
- Invests in traffic systems in big cities; it is expected that public transportation will be responsible for 30% of urban traffic, and will help substantially reduce traffic accidents and traffic congestion in cities.
- The density of urban roads should reach 3.5–4km/km2 and land reserved for building urban road traffic infrastructure that reaches 16 – 26% of construction land. Build bridges over rivers for settlement and reduction of the density of traffic in cities. Prioritize the development of rural roads for motor vehicles to all commune centers; ensure year-round continuity. The proportion of hard roads, asphalted roads, or concrete roads reaches 100% in districts, 70% in communes, and 50% in neighborhoods.
- Continue to maintain important national routes.
- Upgrade routes connecting with Laos, Cambodia, China and GMS, Asean.

Railway and High-Speed Rail

In February 10, 2015, the development strategy for Vietnam's railway sub-sector and the Vision until 2050 was approved by the Prime Minister (under Decision No. 214/QD-TTg). This decision re-oriented the long-

term development of Vietnam's railway towards modernization, sustainability, and safety and environment friendliness. The plans of MOT and VNR amplified and followed closely this directive.

Prime Minister approved a new transport development strategy in 2013 and traffic service development strategy in 2014. In these strategies, the qualitative target for the railway development plans up to 2020 is to complete the improvement and upgrading of existing railway lines to meet the national and regional technical standards (speed 120 km/h). It would be considered to construct express railway and high-speed railways lines. Priority is given to the north –south high speed railway with the speed of 350 km/h and developing urban railways in Hanoi and Ho Chi Minh City. Railway vehicles and facilities are to be developed by diversifying and rationalizing vehicle capacity, modernizing, lowering costs and fares, and applying advanced technologies in building new vehicles.

The railway development directions are defined as follows:

- Rail transport meets around 1-3 percent of total freight volume demand in 2020 and 4-5 percent in 2030.
- Up to 2020, 1,726 km of North-South railway will be upgraded and modernized to achieve the average speed of 80-90 kilometers. Four corridors of the current network will be upgraded with the total length of 591.6 kilometers (Yen Vien – Lao Cai: 285 kilometers; Hanoi-Hai Phong: 96 kilometers; Hanoi – Thai Nguyen: 54.6 kilometers; Hanoi-Lang Son: 156 kilometers. The Yen Vien – Pha Lai – Ha Long – Cai Lan route will be completed with 129 kilometers. The eight freight corridors in the planned network comprise a total of 440.05 kilometers (South ring railway of Hanoi: 80 kilometers; Bien Hoa – Vung Tau: 65.4 kilometers; railway route connect Hai Phong port-Lach Huyen: 32.65 kilometers; Lao Cai-Hanoi-Hai Phong, Hanoi-Dong Dang, Hochiminh-Can Tho, Daknong-Chon Thanh: 67 kilometers; Di An – Loc Ninh: 128 kilometers; Vung Ang – Cha Lo: 67 kilometers)
- In the period 2020-2030, the two freight corridors in the planned railway network comprise a total of 536 kilometers (Lao Cai – Hanoi – Hai Phong: 380 kilometers; Hanoi – Dong Dang: 156 kilometers) will be studied.
- In addition, several rail routes will be developed with the function of connecting seaports, economic zones, and industrial zones. The coastal railways are developed with the total of 270 kilometers (Nam Dinh – Thai Binh – Hai Phong – Quang Ninh: 120 kilometers; Ha Long – Mui Chua – Mong Cai: 150 kilometers). Connect with Highland area will be developed with three main routes (Dak Nong – Kon Tum – Dak Lak – Binh Phuoc: 550 kilometers; Tuy Hoa – Buon Me Thuot: 169 kilometers; Dak Nong – Binh Thuan: 121 kilometers).
- 2030 target: build an express railway with 1435mm track for Hanoi – Hochiminh route: Hanoi-Vinh and Nha Trang – Hochiminh and some sections in central region of Vietnam.
- Constructing the high-speed railway line of two economic corridors and one belt with China.
- Build railway Bien Hoa – Vung Tau and Di An – Loc Ninh to integrate to the Asian railway line
- Construct the Hochiminh – My Tho – Can Tho railway line

In Decision 412/QD-TTg 2007 issued on 11 April 2007, the Prime Minister provided guidelines and investment strategy for key transport infrastructure projects up to 2020. Investment in railway infrastructure will be drawn from the State Budget and recovered in the form of infrastructure fees.

Port and Shipping

The seaport system development of Vietnam up to 2020 and orientation toward 2030 has been approved by the Prime Minister in Decision No. 1037/QD-TTg on June 24, 2014, which was to replace the Decision No. 2190/QD-TTg on December 24, 2009.

Viewpoint and objectives:

- Ensured integrated development of the port system, a focus on deep-water ports development in the 3 regions in order to create an attraction in the region and strengthen upgrading of other ports; efficient maintenance and operation into serious consideration.
- An integrated development with infrastructures (beyond port) and others that connect to national transport network and logistics infrastructure, and to form an efficient network to exploit multi-modal transport.
- Optimal access to international maritime traffic flow, as a motivation for the development of the coastal urban economic and industrial chain.
- Mobilized local and international resources for the development of seaport and related infrastructure. Ensuring the sustainable development objectives, tasks associated with environmental protection and national defense security.

Specific objectives: Expected cargo through seaports in the planning stages;

- 640 - 680 million tons to 2020;
- 1.040 – 1.160 million tons to 2030.

Vietnamese seaports by 6 groups and territory

- Group 1: Northern group from Quang Ninh to Ninh Binh;
- Group 2: The North Central group from Thanh Hoa to Ha Tinh;
- Group 3: The Middle Central group from Quang Binh to Quang Ngai;
- Group 4: The South Central from Binh Dinh to Binh Thuan;
- Group 5: The Southeast group, including Con Dao and Soai Rap River port of Long An;
- Group 6: The Mekong River Delta group, including Phu Quoc Island and the Southwest.

Seaport by function and size

- General national port includes:
  - International gateway port of Hai Phong, Ba Ria Vung Tau and Van Phong international transshipment port, Khanh Hoa (Class IA);
  - Hub regional ports (Class I): Quang Ninh, Nghi Son (Thanh Hoa), Nghe An, Ha Tinh, Thua Thien Hue, Da Nang, Dung Quat (Quang Ngai), Qui Nhon (Binh Dinh), Ho Chi Minh City, Dong Nai, Can Tho.
- Local ports: serving the local
- Dedicated port: direct service for industrial production, specified cargoes (crude oil, petroleum products, cement, coal, ore ...)

Development of Port Groups

- Group 1: Cargo throughput is expected to achieve 153-164 million tons per year in 2020; and 260-295 million tons per year in 2030. Major ports:

- Quang Ninh Port: is general national port (type I)
- Hai Phong port:
- Thai Binh port: is general local gateway (type II):
- Hai Thinh port: is general local gateway (type II):

- Group 2: Cargo throughput is estimated in a range of 101 – 106 million tons per year in 2020 and 171 – 182 million tons per year in 2030. Major ports:

- Nghi Son – Thanh Hoa: a national port for general cargo, a regional hub (Type 1)
- Nghe An: national general port, regional hub (Type 1),
- Ha Tinh is a dedicated and national port for general cargo, and a regional port hub (Type 1)

- Group 3: Cargo throughput is estimated in a range of 56.5 – 70 million tons per year in 2020 and 97.4 – 115 million tons per year in 2030. Major ports:

- Quang Binh: general local cargo (Type II)
- Quang Tri: general local cargo (Type II)
- Thua Thien Hue: Local national cargo (Type I)
- Danang: national general port, regional hub (Type 1) and it may be possible to develop as international gateway port in the Central Region
- Ky Ha (Quang Nam): local general cargo (Type II)
- Dung Quat, Quang Ngai: national general terminal and regional hub (Type 1).

- Group 4: Cargo throughput is estimated in a range of 61 – 62.5 million tons per year (in 2020) and 85.4 – 91.3 million tons per year (in 2030). Major ports:

- Quy Nhon port – Binh Dinh is a national general port and regional hub (Type 1).
- Vung Ro (Phu Yen) is local general port (Type II)
- Khanh Hoa is national general port (Type 1A),
- Ca Na (Ninh Thuan): Local general port (Type II)
- Binh Thuan: local general port (Type II)

- Group 5: Cargo throughput is estimated in a range 238 – 248 million tons per year (in 2020) and 358,5 – 411,5 million tons per year (in 2030). Major ports:

- Vung Tau, Ba Ria – Vung Tau is national general port, international gateway (Type 1A),
- Ho Chi Minh City port is national general port and regional hub (Type 1A)
- Dong Nai port is national general port and regional hub (Type I)
- Binh Duong is local general port (Type II)

- Group 6: Cargo throughput is estimated in a range of 25 – 28 million tons per year (in 2020), and 66.5-71.5 million tons per year (in 2030). Major ports:

- Can Tho is national general port and regional hub (Type 1)
- Tien Giang is local general port (Type II)
- Ben Tre is local general port (Type II)
- Dong Thap is local general port (Type II)
- An Giang is local general port (Type II)
- Hau Giang is local general port (Type II)
- Vinh Long is local general port (Type II)
- Tra Vinh is local general port (Type II)
- Soc Trang is local general port (Type II)
- Bac lieu is local general port (Type II)
- Nam Can (Ca Mau) is local general port (Type II)
- Kien Giang is local general port (Type II)

Aviation

A long-term development plan for civil aviation up to 2020 and direction towards 2030 was approved by Prime Minister dated February 23, 2018 (Decision Nr. 236/QD-TTg). The review contained in this chapter refers to the above-mentioned plan. Basically, the above mentioned aviation sub-sector plan includes (i) development indicators; (ii) air route network; (iii) airport network; (iv) air navigation management; (v) aviation industry and enterprises; (vi) human resource development and training facility. On the infrastructure, the plan proposes to upgrade a number of airports to meet projected capacities, build new airports to serve tourism areas, increase the number of international airports, and modernize navigation and air safety equipment and facilities.

Specific objectives: Expected cargo through seaports in the planning stages;

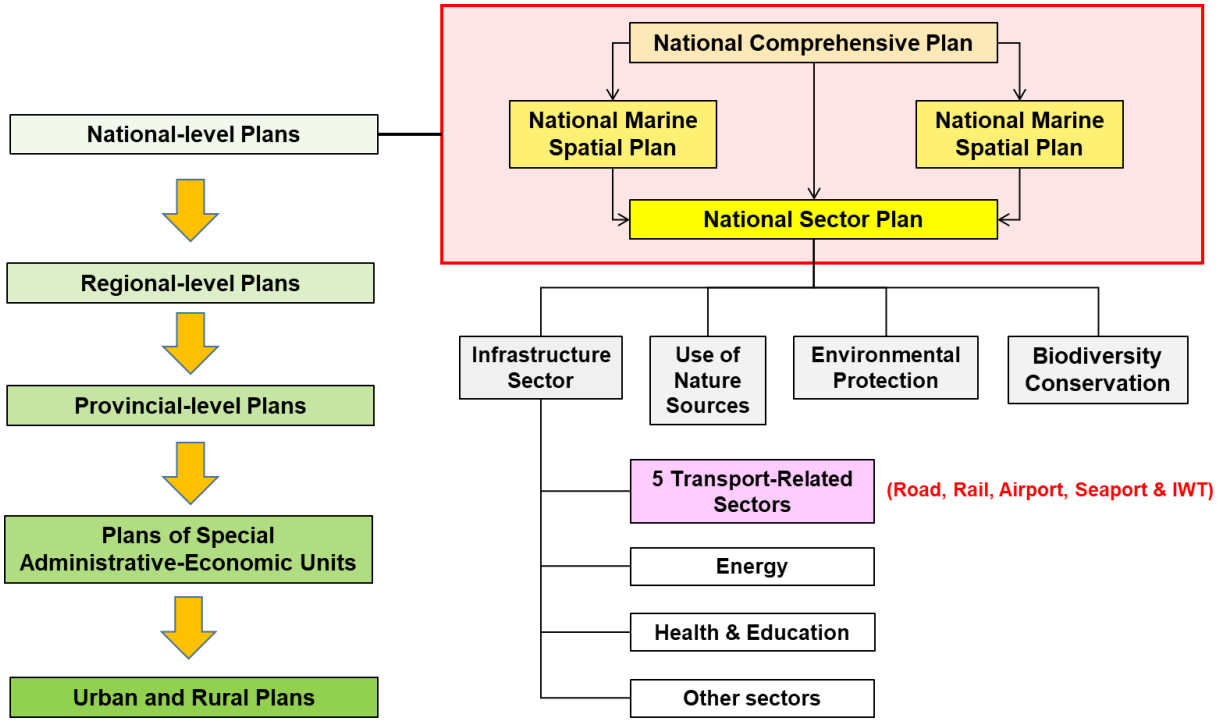
- The total passenger market will increase by an average of 8% / year in the period 2020 - 2030; The total freight market will increase by an average of 12% / year in the period 2020 - 2030.
- By 2020, the transported volume will reach about 64 mln. passengers and 71 bln.pax.km; 570 ths. tons of cargo and 5.2 bln.tons.km; by 2030, reaching about 131 mln. passengers and 125 bln.pax.km; 1.7 mln tons of cargo 17 bln.tons.km.
- By 2020: The throughput of airports will reach about 131 mln. passengers and 2.2 mln tons of cargo respectively, the designed capacity of airports will reach about 144 mln passengers and 2.5 mln tons of cargo, respectively. By 2030: The throughput of airports will reach about 280 mln passengers and 6.8 mln tons of cargo, the designed capacity of the airports will reach about 308 mln passengers and 7.5 mln. tons of cargo.
- The flight control capacity of the whole system will reach about 1.5 mln flights by 2020, and about 2.5 mln flights by 2030.
- The aviation specialized training system fully meets the demand for specialized human resources and participates in international training. To form and develop an aviation technology and technical research, development and application center.
- By 2030, design and manufacture aircraft components and equipment and specialized aviation equipment.

2.2 Identify changes and amendments of laws and regulations in transport & logistics

Context/Background

On 14th November 2017, the National Assembly of Vietnam promulgated Law No. 21/2017/QH14 on Planning. This Law has comes into force from January 01, 2019. As Article 5 of this Law, national planning system is composed of 5 levels (see Figure 1), including: 1) National Plan, 2) Regional Plan, 3) Provincial Plan, 4) Special Administrative-Economic Unit Plan, and 5) Urban and Rural Plan. With respect to National Planning, there are four types of planning as follows:

- National Comprehensive Plan (NCP);
- National Marine Spatial Plan (NMSP);
- National Land Use Plan (NLUP);
- National Sector Plan (NSP).



Source: Summary from Law No. 21/2017/QH14

Figure 2-1. Position of Five Transport Sub-Sector Plans in National Planning System

According to Clause 1 of Article 6, it must be noted that National Comprehensive Plan serves as a basis for the formulation of all Plans at different levels, including National Sector Plan. In addition to this, National Sector Plan must be in accordance with NCP, NLUP and NMSP (as stated by Clause 2 of Article 6). As shown in Appendix I of the Law, National Sector Plans are grouped into 4 main categories, including: i) Infrastructure, ii) Use of Nature Sources, iii) Environmental Protection, and iv) Biodiversity Conservation. With respect to "Infrastructure", the sector is divided into 27 sectors. The first five sectors of Infrastructure are transport sub-sectors, including: Road, Rail, Airport, Seaport and Inland Waterway.

As Clause 1, Article 6 of the Law, it may be understood as the formulation and approval of National Comprehensive Plan must be formulated at an earlier time. Then, formulation and approval of other Plans (including five transport sub-sectors) will be carried out. However, Standing Committee of the National Assembly promulgated Resolution No. 751/2019/UBTVQH14 dated 16th August 2019 on Explanations of Several Articles of Planning Law (i.e. Law No. 21/2017/QH14). This Resolution has took effect on the same date. As Article 1 of this Resolution, there are three key explanations regarding national sector plans as follows:

- National Comprehensive Plan and National Sector Plans can be formulated at the same time;
- If National Sector Plans are formulated and appraised at an earlier time, so it can be approved before the approval of National Comprehensive Plan;
- If there are contradictory points between two Plans, National Sector Plans must be adjusted in accordance with National Comprehensive Plan.

Planning Tasks

Based on the Law, the Prime Minister of Vietnam promulgated Decision No. 995/QD-TTg on "Assigning Ministries to Formulate National Sector Plans in the Period of 2021-2035, Vision to 2050" on 9th August 2018. In total, there are 39 sectors. Ministry of Transport is responsible for 5 transport-related sectors, including: i) road network plan, ii) railway network plan, iii) comprehensive plan of seaport system development, iv) comprehensive plan of airport system development, and v) inland waterway infrastructure plan.

In January 2020, tasks for the formulation of 4 plans (road, rail, seaport and inland waterway) are approved by Decision 45/QD-TTg, Decision 82/QD-TTg, Decision 77/QD-TTg and Decision 44/QD-TTg. Next, the Prime Minister promulgated Decision No. 336/QD-TTg on approval of planning task for formulation of national airport plan. Two summaries of planning tasks are presented in Table 2.1 and 2. All five plans will be approved by the Prime Minister of Vietnam and its planning period is in the range of 2021-2030. Additionally, the required content of five plans have 9 main point in common as shown in Table 2.2.

Table 2.1: Summary of Planning Tasks in Aspects of Planning Period and Applicability

No.	Legal Documents	Sector	Planning period	Applicability
1	Decision 45/QD-TTg	Road	2021-2030, Vision to 2050	▪ national highways; ▪ expressways (including urban ring expressways)
2	Decision 82/QD-TTg	Rail		▪ national railways; ▪ high speed rail; ▪ connections to urban railways and specialized railways
3	Decision 77/QD-TTg	Seaport		▪ entire existing seaports; ▪ supplementary for seaport development (including: typhoon shelters for ships, maritime signs and areas capable of developing seaports)
4	Decision 44/QD-TTg	IWT		▪ inland ports and terminals; ▪ embankments, dams; ▪ other auxiliary facilities.
5	Decision No. 336/QD-TTg	Airport		▪ airports and terminals

Table 2.2: Summary of Planning Tasks in Term of Required Content

No.	Legal Documents	Sector	Required Content
1	Decision 45/QD-TTg	Road	▪ Analysis and assessment of factors, natural conditions, resources, context and existing conditions ▪ Forecast on development trends, development scenarios and influences of climate change ▪ Assessment of sectoral and regional linkages ▪ Identification of socio-economic development requirements ▪ Identification of viewpoints and goals ▪ Plan alternatives ▪ Land use orientations ▪ List of projects ▪ Solutions and resources for implementation of the Plan
2	Decision 82/QD-TTg	Rail	
3	Decision 77/QD-TTg	Seaport	
4	Decision 44/QD-TTg	IWT	
5	Decision No. 336/QD-TTg	Airport	

Implementation Timeline

Whole process of plan formulation is shown in Figure 2. It is expected that MOT will submit plan to the Prime Minister for approval in December 2020.

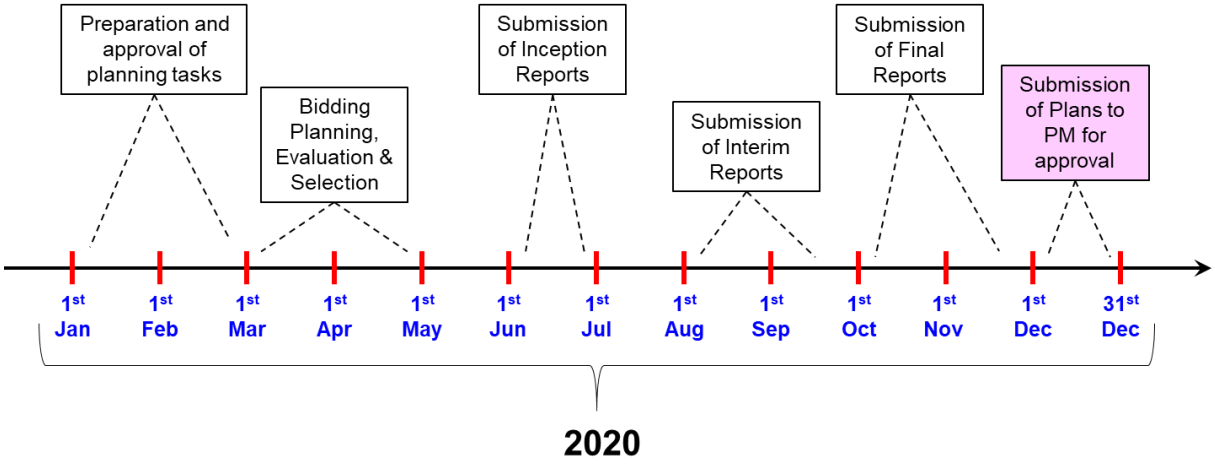


Figure 2-2. Road Map for Plan Formulation

3 Investigation of On-going and Required Transport and Logistics Infrastructure Projects in Vietnam.

3.1 Mid- and Long-term Transport and Logistics Plan

On 12th March 2020, the government of Vietnam promulgated Resolution No. 30/NQ-CP on the Government's Program on Action for Implementing the Government's Resolution No. 39/NQ-TW dated 15th January 2019 on Improving the Efficiency in Management, Operation, Use and Promotion of Economic Resources. As Appendix IV of this Resolution, the list of required transport facilities in five sub-sectors is presented (see Table below).

Table 3.1. Investment Tasks, Projects and Infrastructure in the Field of Transport

No.	Tasks	Agency in charge	Commencement & Completion	Expected Funding Sources
I	Transport Facilities			
1	Road			
1.1	▪ Develop expressways connected to major economic centers - the total length may reach 4,000-4,500 km. ▪ Upgrade key routes in order to meet transport demands, especially inter-regional routes, roads connected to centers of provinces/cities, international border gates, roads connected to major transport hubs (seaports, inland waterway ports, airports railway stations), with priority given to corridors currently without parallel expressways. ▪ Construct, replace and repair weak bridges, narrow bridges, overflows ... to provide consistent loading capacity and traffic safety on roads and in each region.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
1.2	▪ Establish a network of expressways to connect to centers of provinces, cities and major international border gates, international gateway ports and major international airports. ▪ Ensure the technical standards for national highways across the country; ▪ Complete the necessary ring roads and town bypasses.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
2	Railway			
2.1	▪ Focus on improving bottlenecks and upgrading them to provide effective and efficient operation of existing railways, with priority given to lines of Hanoi - Ho Chi Minh City, Hanoi - Hai Phong, and Hanoi - Lao Cai.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
2.2	▪ Finalize development and start operation of the line Yen Vien - Pha Lai - Ha Long - Cai Lan. ▪ Seek for feasible funding sources for development of planned lines.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
2.3	▪ Concentrate on renovating, upgrading and operation existing railway lines, with priority given to the lines: Hanoi -	Ministry of Transport	According to approved	State's Budget and other

No.	Tasks	Agency in charge	Commencement & Completion	Expected Funding Sources
	Ho Chi Minh City, Hanoi - Hai Phong, Hanoi - Lao Cai, Hanoi - Dong Dang. ▪ Prioritize funds for unfinished lines (Yen Vien - Pha Lai - Ha Long - Cai Lan) ▪ Study on development of high-speed railway for high-demand sections on the North-South corridor, ▪ light rail line of Ho Chi Minh City - Long Thanh international airport, Lao Cai - Hanoi - Hai Phong, Bien Hoa - Vung Tau, Ho Chi Minh City - Can Tho, Hai Phong - Lach Huyen, ▪ Railway lines connecting to big seaports, industrial parks, tourism sites... according to respective funding capacity of the projects. ▪ Study for development of lines that connect to the Trans-Asia railway (Vung Ang - Cha Lo (Mu Gia) and Di An - Loc Ninh) in sync with the development schedule of Laos and Cambodia, taking into account of project funding capacity.		schedule and fund availability	legitimate funds
2.4	▪ Complete the modernization of the existing railway network. ▪ Concentrate on development of the high-speed rail line on the North-South corridor; ▪ Develop new railway lines, especially those connecting with seaports. ▪ Establish, basically, urban railway networks in Hanoi and Ho Chi Minh City; ▪ Start development of urban railways in some other big cities as planned.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
3	Inland waterway			
3.1	▪ Renovate and upgrade important waterway by making large-scale investments, including upgrading air clearance of bridges as well as other technical infrastructures to ensure seamless operation of container transport, ▪ Specialized and cumbersome cargoes on inland waterways, such as Day - Ninh Co canal; Duong bridge (on Corridor 1, north); upgrade Cho Gao canal phase 2; ▪ Develop waterway and logistic corridors in the southern region; develop a number of major inland waterway ports in the Mekong river delta and the northern delta.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
3.2	▪ Complete infrastructure renovation and upgrading on waterways according to designated technical classes, to improve length proportion of waterways at Class 1-2 (serving large vehicles of 1,000-2,000 ton). In particular, focus on channels that connect waterways and link with other modes of transport;	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds

No.	Tasks	Agency in charge	Commencement & Completion	Expected Funding Sources
	▪ Develop large-scale and modern inland ports; ▪ Focus on renovating and upgrading coastal routes that link coastal provinces of Ben Tre-Tra Vinh - Soc Trang - Bac Lieu - Ca Mau; ▪ Renovate and upgrade the northern corridor no.2 using the Luoc River (Ninh Binh - Hai Phong - Thai Binh - Nam Dinh - Ninh Binh); ▪ Improve and upgrade international waterways connected with Cambodia and China; ▪ Develop and operate major estuaries for coastal transport; ▪ Develop and improve waterways connected with Central Coast Region.			
3.3	▪ Complete mechanism for management and investment; maximize the advantages of canals and rivers for cargo transport by modernizing main waterways in the Mekong river delta, the Red river delta, and the north-south coastal waterways; ▪ Provide smooth and convenient connections with other modes of transport, especially shipping and roads, to ensure regional connectivity, and even international connectivity with China and the Mekong sub-region countries.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
4	Maritime			
4.1	▪ Develop seaports and navigation channels to ensure concerted scale and demand, including development of terminals: Hai Phong - Lach Huyen international gateway terminal, Lien Chieu terminal (Da Nang port); ▪ Continue development of Terminal 2 in Chan May; development of Van Phong terminal area (Khanh Hoa); ▪ Develop 8 or 9 terminals in Cai Lan port; ▪ Upgrade Hon La port; ▪ Upgrade Cua Viet port; ▪ Renovate and upgrade Hai Phong channel for vessels up to 20,000 DWT full load; ▪ Develop navigational channels to ports in Nghi Son and Thanh Hoa areas; ▪ Develop breakwater in Chan May port - Phase I, Thua Thien Hue province; ▪ Develop Tho Quang channel for vessels up to 10,000 DWT; ▪ Renovate and upgrade Tra Ly gate; ▪ Improve and upgrade maritime channels at Gianh port; Chanh river channel to Yen Hung terminal area (with investment phases in the period of 2026-2030); ▪ Upgrade Nhon Hoi maritime channel ...	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds

No.	Tasks	Agency in charge	Commencement & Completion	Expected Funding Sources
4.2	▪ Complete the system of lighthouses, maritime signaling information and maritime facilities to assert the country's sovereignty and sovereignty over sea and islands.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
4.3	▪ Continue development of ICDs, storm shelter areas; specialized and specialized ports.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
4.4	▪ The port system must ensure the throughput of about 1.2 billion tons of cargo, including about 35-40 million TEU of containers. ▪ Develop seaports and channels to ensure consistency in operation and demand, especially ports in Cai Mep - Thi Vai (Ba Ria - Vung Tau) and Hiep Phuoc (Ho Chi Minh City), Lach Huyen (Hai Phong city), Lien Chieu (Da Nang city); ▪ Study to form a general international transshipment port in the Mekong Delta region; ▪ Develop system of dry ports as planned. ▪ Give State budget priority to development of public infrastructure, complete the system of lighthouses, maritime signaling information and maritime infrastructure facilities to assert sovereignty and sovereignty rights over sea and islands of the country. ▪ Continue to promote private sector participation in terminal development.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
4.5	▪ Develop modern and integrated terminal area to attract international transshipment cargoes at Cai Mep - Thi Vai and Lach Huyen and potential ports in the Central and Mekong River Delta.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
5	Air Transport			
5.1	▪ Focus on upgrading and expanding international airports of Tan Son Nhat, Noi Bai, Da Nang ▪ Conduct the Phase 1 of Long Thanh International Airport development.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
5.2	▪ Upgrade and develop other airports according to the plans and transport demand: Chu Lai, Cam Ranh, Phu Quoc, Phan Thiet, Cat Bi, Vinh, Phu Bai, Dien Bien, Can Tho, Sa Pa, Na San, Quang Tri, Dong Hoi, Tho Xuan, Pleiku, Lien Khuong, Phu Cat, Tuy Hoa, Buon Me Thuot and Con Dao.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
5.3	▪ Develop flight operation management facilities with new technology to ensure safe operation.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds

No.	Tasks	Agency in charge	Commencement & Completion	Expected Funding Sources
5.4	▪ The total designed capacity of the airport system will reach 280 million passengers and 6.8 million tons of cargo. ▪ Focus on development of major airports to improve network's capacity, especially putting into operation of the first phase of Long Thanh international airport and preparation of the phase 2 development. ▪ Upgrade airports to serve timely transportation demand while satisfying national defense and security in major strategic regions.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds
5.5	▪ Focus on development of Long Thanh international airport in stages; ▪ upgrade and expand major airports to increase the capacity of the whole network; ▪ at the same time upgrading airports to meet the requirements of national defense and security, and ▪ develop airports in areas inaccessible by roads and railways.	Ministry of Transport	According to approved schedule and fund availability	State's Budget and other legitimate funds

Source: Resolution No. 30/NQ-CP

3.2 On-going Transport & Logistics Projects

3.2.1 On-going Transport & Logistics Projects Prepared by MOT

Following table shows the mid-term project of infrastructure prepared by MOT in period 2020-2025:

Table 3.2. List of Projects prepared by MOT

No	Name of Project	Province	Source of Budget	Investment Approval Unit	Investor
B					
1	Upgrade NH 46 section Vinh – Nam Dao	Nghe An	State	MOT	MOT
2	Upgrade NH 12C section Vung Ang Port – Dong Le	Ha Tinh	State	MOT	MOT
3	Upgrade NH12A section Khe Ve - Cha Lo	Quang BInh	State	MOT	MOT
4	Upgrade NH 12A section avoid Ba Don and section avoid Song Gianh cement factory	Quang BInh	State	MOT	MOT
5	Construct and upgrade NH 9B section Km0-Km4 (Quan Hau - Vinh Tuy) and Km20-Km52 (T-junction Vạn Ninh - Tang Ky)	Nghe An	State	MOT	MOT
6	Upgrade NH 217 section NH1A-Hochiminh road		State	MOT	MOT
7	Upgrade NH48, section Km20-km38	Nghe An	State	MOT	MOT

No	Name of Project	Province	Source of Budget	Investment Approval Unit	Investor
8	Upgrade NH , section Km0-Km36 and section Khe Thơi - Nậm Cắn		State	MOT	MOT
9	Upgrade NH15 (Tan Ky – Do Luong)		State	MOT	MOT
10	Upgrade & Expand NH48B (Section km12+500- km25)	Nghe An	State	MOT	MOT
11	Upgrade NH49	Hue	State	MOT	MOT
12	Construct and Upgrage NH15D section NH1-Cam Lo, La Son Expressway and section Western HCM road – La Lay gate		State	MOT	MOT
13	Expand NH1 section Km 996+889 - Km999+2189	Quang Nam	State	MOT	MOT
14	Expand NH1 section Duy Xuyen - Phu Ninh	Quang Nam	State	MOT	MOT
15	Upgrade NH14E section km16-km89 (Quang Nam)	Quang Nam	State	MOT	MOT
16	Upgrade QL14D , section Km10-Km37 and Km56-Km74	Quang Nam	State	MOT	MOT
17	Upgrade QL40B	Quang Nam, Kontum	State	MOT	MOT
18	Upgrade QL24B section Km23-km57+170	Quang Nghai	State	MOT	MOT
19	Upgrade QL 25	Phu Yen, Gia Lai	State	MOT	MOT
20	Upgrade QL 26 sections chưa có đầu tư	Khanh Hoa	State	MOT	MOT
21	Upgrade QL55 section Km52+640 - Km97+692	Binh Thuan	State	MOT	MOT
22	Upgrade NH 45 section Km0 - Km130	Thanh Hoa, Ninh Binh	State	MOT	MOT
23	Upgrade NH47B	Thanh Hoa, Ninh Binh	State	MOT	MOT

3.2.2 On-going transport & logistics projects sponsored by major international parties

Currently, major international donors (JICA, ADB and WB) are carrying out about eight large-scale transport projects in Vietnam (see Table below). JICA is interested in urban railway projects, seaport and expressways which may have high spill-over effect. ADB also sponsors similar type of railway or expressway projects but in different sections or routes.

Table 3.3. List of on-going transport projects sponsored by major international parties

Name of Projects	Detail	Total Amount (Mil USD)	Donor	Expected Year of Completion	Remark
Da Nang - Quang Ngai	• Length: 131km; 4-6 lanes • Max speed 100km/h • 26 big bridges, 106 tunnels	1243	World Bank (631 million USD); JICA (673 million USD); counterpart funding from the Vietnamese government	2018 -	Project component sponsored by JICA is delayed. Loan agreement with JICA will be terminated in 2024
HCM - Long Thanh - Dau Giay (expansion)	• Length: 55km; • Expansion from 4 lanes to 8/10 lanes	426	JICA; Government: counterpart fund for land acquisition	2025	
Ben Luc - Long Thanh	• Length: 57km; 4 lanes • Max speed 100km/h • 2 bridges	1600	ADB: 40%; JICA: 40%; Gov: 20%	2022-2023	Loan Agreement with ADB is extended to 2023
Lach Huyen	• Depth: 14m	1,121	P1: JICA (21 Billion JPY) P2: JICA (38 Billion JPY) P3: JICA (55 Billion JPY)	2018 -	Under-construction • Plan to operate in 2018 (delay vs. plan)
Ha Noi Urban railway Line1 (P1)	• Yen Vien - Ngoc Hoi • Length : 39 km	865	JICA : 71%; Gov : 29%	after 2020	Contracted, but temporary stop
Ha Noi Urban railway Line2 (P1)	• Nam Th.Long - Thuong Dinh • Length : 28 km	869	JICA : 84%; Gov : 16%	after 2020	Land clearance, but delay • Changed investment to USD 2,3 bil in 2013 • MPI is revaluating the adjusted investment
HCM Urban railway Line1	• Ben Thanh - Suoi Tien • Length : 20 km	2,103	JICA : 89%, Gov : 12%	2022-2023	Under-construction
HCM Urban railway Line2	• Thu Thiem - An Suong • Length : 20 km	1,374	ADB : 36%; Private : 23% Others (Germany, EIB, KFW) : 41%	2025	Planning + bidding process

Source: Update from JICA (2016) & websites of JICA, WB and ADB in Vietnam

3.2.3 Necessary and/or required transport & logistics projects based on development needs of Vietnam

Regarding the list of necessary and/or required transport projects in Vietnam, there are four main sources of information as follows:

1. The list of tasks in transport sector from Resolution No. 30/NQ-CP dated 12th March 2020;
2. Updated list from the Study of JICA in collaboration with ADB in 2016
3. List of prioritized projects from Five Transport Sub-Sector Plans
4. The list of Prioritized Road Project in the South of Vietnam from a Study of JICA in 2016

3.2.4 An Update of the List Prepared by JICA and ADB (2016)

From October 2015 to January 2016, JICA conducted a "Data Collection Survey on Collaboration with Asian Development Bank in Infrastructure". The main purpose of the Survey is to provide comprehensive landscape of infrastructure in Indochina Countries and to propose potential collaboration project between JICA and ADB. The final outputs of the Survey are the lists of potential infrastructure projects in Indochina Countries, including: Myanmar, Thailand, Lao, Cambodia and Vietnam.

Based on the list of projects in Vietnam prepared by JICA and ADB (2016), an additional desk-top research for governmental policies is conducted to grasp current progress and situation of planned infrastructure in each transport sub-sector. The updated list of potential transport projects is shown in Table below:

Table 3.4. Updated List of Transport Infrastructure Projects in Vietnam

Sub-Sector	Type of Projects	Name of Projects	Detail	Total Amount (Mil USD)	Donor	Expected Year of Completion	Remark
1. Road	Exp	Nam Dinh (Cao Bo) - Ninh Binh (Mai Son)	• Length: 15.2 km; 4 lanes • Design speed: 80km/h	69.86	Government: State Budget	2021	1USD = 23,000 VND
		Ninh Binh (Mai Son) - Thanh Hoa (QL45)	• Length: 63 km; 4 lanes • Design speed: 80km/h	504.47	Government: State Budget	2022	
		Thanh Hoa (QL45) - Thanh Hoa (Nghi Son)	• Length: 43 km; 4 lanes • Design speed: 80km/h	275.34	PPP: Government & Private	2022	
		Thanh Hoa (Nghi Son) - Nghe An (Dien Chau)	• Length: 43 km; 4 lanes • Design speed: 80-120km/h	364.34	PPP: Government & Private	2022	
		Nghe An (Dien Chau) - Ha Tinh (Bai Vot)	• Length: 49.3 km; 4 lanes • Design speed: 80km/h	579.91	BOT	2023	
		Ha Tinh (Bai Vot) - Quang Tri (Cam Lo)				after 2025	No information

Sub-Sector	Type of Projects	Name of Projects	Detail	Total Amount (Mil USD)	Donor	Expected Year of Completion	Remark
		Quang Tri (Cam Lo) - Thua Thien Hue (La Son)	• Length: 98.35 km • Phase 1: 2 lanes (12m); Phase 2: 4 lanes (23m)	333.43	Government: State Budget	2021	Amount and Year of Completion for Phase 1 only;
		Thua Thien Hue (La Son) - Da Nang (Tuy Loan)	• Length: 77.5 km; 2-4 lanes • Design speed: 80km/h	499.39	BT contract	2020-2021	Delay due to land clearance & acquisition
		Da Nang - Quang Ngai	• Length: 131km; 4-6 lanes • Max speed 100km/h • 26 big bridges, 106 tunnels	1243	World Bank (631 million USD); JICA (673 million USD); counterpart funding from the Vietnamese government	2018 -	Project component sponsored by JICA is delayed. Loan agreement with JICA will be terminated in 2024
		Quang Ngai - Quy Nhon	• Length: 156km; 4 lanes • Max speed 120km/h	1556	WB, ODA: 89% Gov: 11%	after 2025	No progress • Investment plan approved • But, not yet in Master plan
		Nha Trang - Cam Lam (Khanh Hoa)	• Length: 49 km; 4 lanes • Design speed: 80-120km/h	331.08	PPP: Government & Private	2022	
		Cam Lam (Khanh Hoa) - Vinh Hao (Binh Thuan)	• Length: 79 km;	595.08	PPP: Government & Private	2022	
		Vinh Hao - Phan Thiet (Binh Thuan)	• Length: 101 km; 4 lanes	504.47	Government: State Budget	2022-2023	
		Dau Giay (Dong Nai) - Phan Thiet (Binh Thuan)	• Length: 98km; P1 4lanes, P2 6 lanes • Max speed 120km/h	957 (P1 757, P2 200)	Government: State Budget	2022	

Sub-Sector	Type of Projects	Name of Projects	Detail	Total Amount (Mil USD)	Donor	Expected Year of Completion	Remark
		HCM - Long Thanh - Dau Giay (expansion)	• Length: 55km; • Expansion from 4 lanes to 8/10 lanes	426	JICA; Government: counterpart fund for land acquisition	2025	
		Ben Luc - Long Thanh	• Length: 57km; 4 lanes • Max speed 100km/h • 2 bridges	1600	ADB: 40%; JICA: 40%; Gov: 20%	2022-2023	Loan Agreement with ADB is extended to 2023
		Bien Hoa - Vung Tau	• Length: 53.7 km; 4 - 6 lanes • Max speed 120km/h	826.08	PPP (BOT contract)	2025	Submission of Pre-FS to Prime Minister
		Dau Giay (Dong Nai) - Lien Khuong (Lam Dong)	• Length: 208km, 4 lanes • Max speed 80km/h	1415	Section Tan Phu - Bao Loc (67 km): 782 million USD; Stage Budget	2025	Section Dau Giay - Tan Phu (60 km): 278 million USD; Section Bao Loc - Lien Khuong (73km): 521 million USD
		Ha Noi - Vientiane	• Length 760 km, 4 lanes • Width > 22.5m	2,500 (P1 1,500, P2 1,000)	Expected JICA ODA loan	after 2020	
		Can Tho - Phnom Penh	• Only VN side; Length 250 km • Max speed 120km/h	4,400 (P1 1,800, P2 2,600)			Looking for new investor • Initially ITD signed MOU with Can Tho PPC • ITD withdraw due to no money

Sub-Sector	Type of Projects	Name of Projects	Detail	Total Amount (Mil USD)	Donor	Expected Year of Completion	Remark
	Ring Road	Ha Noi Ringroad No. 4	• Ha Noi - Bac Ninh • Length: 98km, max speed 100km/h	2959	ODA, Gov, Gov Bond, HN PPC, Others	after 2020	PM approved to Master plan • Not yet started
		Ha Noi Ringroad No. 5	• Son Tay - Thai Nguyen • Length: 331km	3803			PM approved to Master plan • In funding process
		HCM Ringroad No. 2	• Thu Duc - Binh Chanh - D9 • Length: 70km	114		On-going	Completed some sections (Delaying) • Others in funding process
		HCM Ringroad No. 3	• HCM - DN - LA - BD • Length: 89km	2480	ODA, Gov, Gov Bond, HCM PPC, Others	On-going	Plan to start in Jan '16
		HCM Ringroad No. 4	• BRVT - DN - BD - LA- HCM • Length: 198km	4379	ODA, Gov, Gov Bond, HCM PPC, Others	2025	Funding process
	Others	HCM Bus Transit (BRT)	• Vo Van Kiet to Mai Chi Tho	152	WB	On-going	Planning process
2. Port	Long distance	Lach Huyen	• Depth: 14m	1,121	P1: JICA (21 Billion JPY) P2: JICA (38 Billion JPY) P3: JICA (55 Billion JPY)	2018 -	Under-construction • Plan to operate in 2018 (delay vs. plan)
	Short distance	Van Phong		4,000 -		2020	Change: transhipment -> normal • No investor, no progress

Sub-Sector	Type of Projects	Name of Projects	Detail	Total Amount (Mil USD)	Donor	Expected Year of Completion	Remark
							after submission
		Da Nang	• Tien Sa: expanding		Tien Sa: Private investors		• Tien Sa: plan to start end '15 (Refused JICA fund in Apr '15)
		Vung Ang	• Important port to Lao im/ex • JV with Lao Gov	2,168	Phonsawan 'PSW' (consider $1.2 bil)		Developing 3rd wharf • PSW + V-L Port Co. • PSW plan to develop 7,9th wharf
3. Inland Waterway		Expansion of Cho Gao Canal	• Key riverway from P.Penh/ MK Delta to HCM/- CMTV • Increase depth to 3,1m, width to 55m	100	Gov	after 2020	• P1 complete in 2015 • P2 will start in 2020-2021
		Soai rap river to Hiep Phuoc port	• Increase depth to 11,5 m (50,000 dwt)	500 (P1 120, P2: 380)	P1: Belgium ODA; P2: Seeking another ODA)	2020	Completed P2 in 2015 • Seeking funding for P2
		Canal to CMTV port	• Increase depth of Thi Vai cannel to 15,5m (80,000 - 160,000 dwt)	61 -			Prepare prososal to Gov
4. Rail	National Railway	North - South	Upgrade existing rail, 2 sections: • HN - Vinh: upgrade tracks, sleepers • Sai Gon - Nha Trang	170	Gov	2020	Proposing • Plan to start in 2016

Sub-Sector	Type of Projects	Name of Projects	Detail	Total Amount (Mil USD)	Donor	Expected Year of Completion	Remark
		Yen Vien - Lao Cai	• Length: 285 km	279	ADB, AFD, DG Tresor, Gov	2015	Under-construction (Delaying)
		Yen Vien - Cai Lan port (QN)	• Length: 131 km	340	Gov bond	after 2020	Temporary stop construction since Sep '15 • Over budget and expected more • Low potential demand
		HCM - Can Tho	• Length: 134 km	1,450 -		2025 -	FS on progress
		North - South highspeed way	• P1: HN - Vinh (2020) • P2: Vinh - Nha Trang - 2030 • P3: HN - HCM (2035)	56 bil USD	JICA : 80% Gov + private: 20%		Planning phase JICA preparing proposal
	Lao connection	Vung Ang - Vientiane	• Vietiane - Thakket - Vang • Length: 500 km			2024	
	Urban Railway	Ha Noi Urban railway Line1 (P1)	• Yen Vien - Ngoc Hoi • Length : 39 km	865	JICA : 71%; Gov : 29%	after 2020	Contracted, but temporary stop
		Ha Noi Urban railway Line2 (P1)	• Nam Th.Long - Thuong Dinh • Length : 28 km	869	JICA : 84%; Gov : 16%	after 2020	Land clearance, but delay • Changed investment to USD 2,3 bil in 2013 • MPI is revaluating the adjusted investment

Sub-Sector	Type of Projects	Name of Projects	Detail	Total Amount (Mil USD)	Donor	Expected Year of Completion	Remark
		Ha Noi Urban railway Line2A	• Cat Linh - Ba La • Length : 13 km	533	China ODA : 76%; Gov : 24%	2020-2021	Remained issuess of safety
		Ha Noi Urban railway Line3	• Nhon - HN - Hoang Mai • Length : 21 km	1,357	P1: France ODA, AFD, ADB, EIB, Gov P2: ADB, Gov	2023	
		Ha Noi Urban railway Line4	• Dong Anh - Me Linh • Length : 53 km				Similar BRT route Start after BRT
		Ha Noi Urban railway Line5	• Nam Tay Ho - Hoa Lac • Length : 41 km	6,100 - 7,500		2030	
		Ha Noi Urban railway Line6	• Noi Bai - Ngoc Hoi • Length : 48 km				HN PPC proposed investment plan, Wait MOT approve, FS stage
		Ha Noi Urban railway Line7					Under planning
		Ha Noi Urban railway Line8					Undevplanning
		HCM Urban railway Line1	• Ben Thanh - Suoi Tien • Length : 20 km	2,103	JICA : 89%, Gov : 12%	2022-2023	Under-construction
		HCM Urban railway Line2	• Thu Thiem - An Suong • Length : 20 km	1,374	ADB : 36%; Private : 23% Others (Germany, EIB, KFW) : 41%	2025	Planning + bidding process
		HCM Urban railway Line3A, 3B	• Ben Thanh - Tan Kieng	3,300 -			3A: JICA Preparatory Survey

Sub-Sector	Type of Projects	Name of Projects	Detail	Total Amount (Mil USD)	Donor	Expected Year of Completion	Remark
							(1/2016-11/2016)
		HCM Urban railway Line4	• Ben Cat - Nguyen Van Linh • Length: 33 km	2,500 -			Looking for investors
		HCM Urban railway Line5	• Can Giuoc - SG • Length: 26 km	2,300	ADB : 22%;Others (EIB, Spain) : 17%; Gov : 61%	2025	Looking for investors
		HCM Urban railway Line6	• Tan Phu - Phu Lam • Length: 7 km	1,300 -			Looking for investors
5. Airport		Noi Bai	• Build Terminal 3				Master Plan is conducting by ADPI
		Tan Son Nhat	• Build Terminal 3	477.8	ACV	2023	It is expected to start in 1st quarter, 2021
		Long Thanh (phase 1)	• Build new airport	7,800	ACV	2025	It is expected to start in Dec 2020

Source: Summarized from MOT website and interview survey

3.2.5 List of Investment Priority Projects from National Road Network Planning 2021-2030, Vision to 2050

Based on regional characteristics, importance of project and experts' comments, a preliminary list of investment priority projects is presented in Table below.

Table 3.5. List of Investment Priority Projects from National Road Network Plan 2021-2030

No	Project	Expected funding	Period	Remark
1	04 Component projects connecting Ho Chi Minh route according to the Resolution No. 66/2012 / QH13 of the National Assembly: - Chu Market - Trung Son junction (29.6km) - Rach Soi - Ben Nhat - Go Quao - Vinh Thuan	State budget, ODA and other lawful capital sources	2021-2025	

No	Project	Expected funding	Period	Remark
	(55.1km) - Doan Hung - Ben Market (130km) - Chon Thanh - Duc Hoa (74km)			
2	Focus on building the expressway North-South East according to Resolution 52/2017 / QH14 dated 22/11/2017 of the National Assembly	State budget and other legal sources of capital	2021-2025	
3	Investing in projects of inter-regional expressway: Da Nang - Quang Ngai; Party Luc - Long Thanh; Bien Hoa - Vung Tau; Trung Luong - My Thuan - Can Tho, Lo Te - Rach Soi; roads connecting the central area of the Mekong Delta; ring road system 3, 4, 5 of Hanoi; Ho Chi Minh City's belt 3 and 4		2021-2025	
3.1	Expressway Da Nang - Quang Ngai, Ben Luc - Long Thanh	State budget and other legal sources of capital	2021-2025	Complete the procedures, works for acceptance and put into operation
3.2	Trung Luong - My Thuan Expressway	State budget and other legal sources of capital	2021-2025	Speed up construction
3.3	Expressway My Thuan - Can Tho	State budget and other legal sources of capital	2021-2025	
3.4	The route connecting Lo Te - Rach Soi	State budget and other legal sources of capital	2021-2025	
3.5	Ring Road 3 in Hanoi	State budget and other legal sources of capital	2021-2025	Completed according to the planning
3.6	Ring Road 4, 5 Hanoi	State budget and other legal sources of capital	2021-2025	
3.7	Ho Chi Minh City Ring Road 3	State budget and other legal sources of capital	2021-2025	
3.8	Ho Chi Minh City Ring Road 4	State budget and other legal sources of capital	Sau 2030	

No	Project	Expected funding	Period	Remark
4	Completed the investment preparation to implement 14 urgent railway and road projects approved by the National Assembly Standing Committee in Resolution No. 556 / NQ-UBTVQH14 dated July 31, 2018; 08 ODA projects are added according to Resolution No. 71/2018 / QH14 dated 12/11/2018 of the National Assembly			
4.1	Road connecting NH.4C and 4D (Km238-Km414)	Use contingency funds of the Medium-term Public Investment Plan for the period 2016-2020 for urgent and important railway projects and road projects	2021-2025	Completion of construction items
4.2	National Highway 3B (Km0-Km66 + 600)		2021-2025	
4.3	Road linking Hanoi - Hai Phong expressway with Cau Gie - Ninh Binh expressway		2021-2025	Phase 2
4.4	Improving and upgrading critical sections on National Highway 24		2021-2025	
4.5	Improving and upgrading critical sections on National Highway 25		2021-2025	
4.6	Highway 27, bypassing Lien Khuong		2021-2025	
4.7	Improving and upgrading National Road 53, section Tra Vinh - Long Toan, Tra Vinh province		2021-2025	
4.8	To renovate and upgrade NH.57, from Dinh Khao ferry to Mo Cay town, Ben Tre province, Vinh Long		2021-2025	
4.9	To renovate and upgrade the surface of the Quan Lo - Phung Hiep route		2021-2025	
4.10	To upgrade national highway 30, section Cao Lanh - Hong Ngu, Dong Thap province		2021-2025	
	- Projects according to Resolution No. 71/2018 / QH14			
4.11	Improvement of weak bridges and connecting bridges on the National Highway (phase 1)	ODA		completed
4.12	Construction Project of Tan Van - Nhon Trach section (component 1A)			completed
4.13	Improvement of weak bridges and connecting bridges on the National Highway (phase 2)			completed
4.14	The route connects NH.91 and the route to Long Xuyen city			
4.15	Traffic connection to the northern mountainous provinces			implementing

Source: Interim Report of National Road Network Plan

3.2.6 List of Prioritized Bridge & Road Projects in the Southern Area of Vietnam

In 2016, JICA conducted a "Data Collection Survey on Traffic Conditions of Southern Roads and Bridges. The survey area covers Ho Chi Minh city and 5 other provinces, including: Dong Nai, Ba Ria, Vung Tau, Long An, Dong Thap, Tien Giang and Vinh Long. The final output of the survey is a list of candidate projects supported by Japanese Official Development Assistance (ODA).

To select and arrange candidate project, a comprehensive evaluation is applied to the Survey. First of all, a long-list of projects is prepared, then it was shortened by using Multi-Criteria Analysis. At second step, short-list projects are evaluated in aspect of Economic Analysis (i.e. EIRR). Finally, Financial Analysis (FIRR) is used. A preliminary result is shown in Table below.

Table 3.6. Short List of Bridge and Road Projects in Southern Area of Vietnam

No	Candidate Project Name	Section/Candidate Location	Project Cost	Economic Evaluation			FIRR
				EIRR	B/C	NPV (Million)	
1	Ho Chi Minh City Ring Road No.3	Section3: Binh Chuan - NH22	1,148	19.8 %	2.63	1,195	6.3 %
		Section4: NH22 - Ben Luc	1,399	13.8 %	1.57	290	7.8 %
2	Ho Chi Minh City	Ben Luc -HiepPhuocPort	840	12.8 %	1.47	114	Negative
3	Ring Road No.4	Thi Vai River	297	18.4 %	4.42	772	1.8 %
4	Bien Hoa - Vung Tau Expressway	Sec.1&2: Bien Hoa ~ Phu My	504	15.4 %	2.17	315	18.5 %
		Sec.3: Phu My ~ Vung Tau	443	12.8 %	1.43	56	12.1 %
5	Ho Chi Minh City - Moc Bai Expressway	Ho Chi Minh City - Moc Bai	470	14.0 %	1.62	119	13.9 %
6	2nd My Thuan bridge	Tien River	749	14.0 %	1.78	322	Negative

Source: JICA (2016)

4 Vietnam NewsBrief

4.1 Major Socio-Economic and Transport Statistics in Vietnam

Vietnam has a stable growth rate of GDP recently. GDP grew by annual 6% between 2010 and 2019. Study areas accounted 25% of total population but contributed 46% of total GDP.

In line with economic development, transport operations reached a high growth rate, meeting the travel needs and social life demand. Freight traffic increased from 800 mln. and 217,767 mln.ton.km in 2010 to 1,690 mln.tons and 294,595 mln.ton.km in 2019 (average growth rate of 8.7%/year and 3.4%/year, respectively). Number of passengers transported by all transport modes increased from 2,315 mln. person in 2010 to 4,769 mln. person in 2019 (average growth rate of 8.4%/year) while passenger transport performance by all modes went up from 97,932 mln.pax.km in 2010 to 230,780 mln.pax.km in 2019 with an increase of 10%/year.

Table 4.1. – Vietnam and the Study area characteristics

Indicator	Vietnam	Five 1st Level Cities	Study area share, %
Population, mln.people	95,387	20,879	21.89%
Area, km^2	331,236	9,706	2.93%
GDP, bln. VND	6,037,348	2,772,171	45.9%
Passenger Volume (mln. passenger)	4,769	2,688	56,36
Passenger Performance (mln.pax.km)	230,780	49,528	36.6%
Freight Volume (mln. ton)	1,690	410	24.26%
Freight Performance (mln.ton.km)	294,595	71,513	46.4%
Road Fleet	65,102,880	17,418,045	26.8%
IWT Fleet	214,447	21,528	10%

4.2 Summary of major transport & logistics policies in Vietnam

Road Policy

- Complete the north-south transportation axis for major transportation modes in important economic areas.
- Focus on the development of roads in the mountainous regions, the Central Highlands, and the Mekong delta.
- Develop the highway system, with emphasis on developed economic zones with heavy traffic to avoid traffic congestion.
- Invest more in infrastructure at international border gates, especially inland borders to facilitate faster throughputs and increase goods circulation.
- Complete border roads, especially the patrol roads and roads to border patrol stations, in combination with people's welfare improvement. Build up some routes for combined economic and defense purposes.

- Upgrade district roads to ensure normal traffic operations year-round. Complete the construction of roads leading to communes or commune centers.
- Develop rings and bypasses for big cities and towns.
- Invests in traffic systems in big cities; it is expected that public transportation will be responsible for 30% of urban traffic, and will help substantially reduce traffic accidents and traffic congestion in cities.
- The density of urban roads should reach 3.5–4km/km2 and land reserved for transportation is to reach 10% of the total urban land. Build bridges over rivers for settlement and reduction of the density of traffic in cities. Upgrade or build roads in developing districts.

Railway

- The qualitative target is to complete the improvement and upgrading of existing railway lines to meet the national and regional technical standards (speed 120 km/h).
- Construct express railway and high-speed railways lines. Priority is given to the north –south high speed railway with the speed of 350 km/h and developing urban railways in Hanoi and Ho Chi Minh City.
- Railway vehicles and facilities are to be developed by diversifying and rationalizing vehicle capacity, modernizing, lowering costs and fares, and applying advanced technologies in building new vehicles.
- 2030 Target: (i) build an express railway with 1435mm track for Hanoi-Ho Chi Minh route: Hanoi-Vinh and Nha Trang-Ho Chi Minh and some sections in central region of Viet Nam. (ii)Constructing the high-speed railway line of two economic corridors and one belt with China. (iii) Build railway Bien Hoa-Vung Tau and Di An –Loc Ninh to integrate to the Asian Railway line. (iv)Construct the Ho Chi Minh- My Tho- Can Tho railway line. Railway system Vietnams will meet the technical standards and integrate with the Asian railway

IWT

- Exploit the natural advantages of waterways in transporting bulk cargo at lower costs and minimal impact on the environment;
- Achieve vertical integration within IWT by synchronizing development of routes, ports, handling equipment, vessels, and managerial capacity to meet the demand for cargo and passenger transportation at higher quality and safety;
- Develop IWT infrastructure to form a seamless system with other transport modes, and in coordination with irrigation and hydropower sectors.
- Upgrade the fleet with more efficient configuration that are also safe and suited to existing conditions of canals and rivers;
- Widen the financing base for IWT, with the public sector focusing on the river channels, and collaborating with the private sector in ports development.
- On the vessel fleet: capacity of 12 million tons, lower the average age of vessels from 12 to 5-7 years, change the vessel mix to 30-35% to-push, and 65-70% self-propelled.
- On navigational channels: increase the length of rivers and channels under government control, ensure the same grade in main channels, modernize marking buoys, and secure channel right-of-way through big cities.

- On ports and landing stages: modernize selected hub ports, main ports in key region and special port, increase loading/unloading efficiency through mechanization, build a number of passenger ports and landing stages.

Port and Shipping

- Ensured integrated development of the port system, a focus on deep-water ports development in the 3 regions in order to create an attraction in the region and strengthen upgrading of other ports; efficient maintenance and operation into serious consideration.
- An integrated development with infrastructures (beyond port) and others that connect to national transport network and logistics infrastructure, and to form an efficient network to exploit multi-modal transport.
- Optimal access to international maritime traffic flow, as a motivation for the development of the coastal urban economic and industrial chain.
- Mobilized local and international resources for the development of seaport and related infrastructure. Ensuring the sustainable development objectives, tasks associated with environmental protection and national defense security.
- Expected cargo through seaports in the planning stages: 640 - 680 million tons to 2020; 1.040 – 1.160 million tons to 2030.

Aviation

On the infrastructure, the plan proposes to upgrade a number of airports to meet projected capacities, build new airports to serve tourism areas, increase the number of international airports, and modernize navigation and air safety equipment and facilities.

4.3 List of Experts

Government Official

No	Name	Position	Organization
I	National Traffic Safety Committee		
1	Dr. Khuat Viet Hung	Executive Vice Chairman	NTSC
2	Mr. Pham Hong Thai	Chief of Office	NTSC
3	Dr. Tran Huu Minh	Deputy chief of Office	NTSC
II	Ministry of Transport		
1	Mr. Nguyen Ngoc Dong	Vice Minister	
2	Dr. Hoang Ha	Director General	Dept. of Scientific and Technology
3	Mr. Nguyen Duy Lam	Director General	Dept. of Plan and Investment
4	Ms. Tran Thanh Thuy	Deputy Director General	Dept. of Plan and Investment
5	Mr Chu Van Tuan	Specialist	Dept. of Plan and Investment

No	Name	Position	Organization
6	Mr Nguyễn Viết Huy	Deputy Director General	PPP Department
7	Mr Trần Bảo Ngọc	Director General	Transportation Department
8	Mr Nguyễn Xuân Thủy	Deputy Director General	Transportation Department
9	Mr Nguyễn Văn Bằng	Specialist	Transportation Department
10	Mr. Tran Minh Phuong	Vice Director,	Department of Planning and Investment, MOT
III	Ministry of Construction		
1	Luu Duc Hai	Dean	Urban Research and Infrastructure Development Institute
2	Ms. Nguyễn Thị Minh Hạnh		Urban Development Department
3	Ms. Nguyễn Lan Hương		Urban Development Department
IV	Directorate for Road of Vietnam		
1	Mr Đỗ Công Thủy	Deputy Director General	Transportation Department
2	Mr. Pham Minh Tam	Deputy Director General	Dept. of Safety
3	Mr. Nguyen Tuan Anh	Deputy Director General	Dept. of Road Maintenance Management
4	Mr. Tran Nguyen Huy	Deputy Director General	Dept. of Plan and Investment
V	Vietnam Railway		
1	Mr Trần Thiện Cảnh	Deputy Director General	Đường sắt Việt Nam
VI	Vietnam Expressway Corporation		
1	Mr Nguyễn Thế Cương	Deputy Director General	VEC
VII	Hanoi Metro		
1	Dr. Vũ Hồng Trường	Director General	
2	Mr. Nguyen Cong Nhat	General Director,	Vinbus
XIV	Cities		
1	Phan Viết Điện	Deputy Director of Hai Phong DOT	

No	Name	Position	Organization
2	Nguyen Hoang Tung	Head of transport infrastructure, Can Tho DOT	
3	Hoang Trieu Hung	Vice Director, Hai Phong DOT	
4	Tran Quang Lam	Director, HCMC DOT	
5	Ngo Anh Vu	Vice Director	Ho Chi Minh City Research and Development Institute
6	Nguyen Trung Thang	Head of Technology	Transerco
7	Nguyen Thuy	Vice Director General	Transerco

Expert List

No.	Name of Experts	Position (Job Title) & Organization
1	Phan Le Binh	JICA long-term expert / Lecturer, Vietnam Japan University (VJU)
2	Vu Hoai Nam	Associate Professor, Department of Motorways and Urban Roads, National University of Civil Engineering
9	Dinh Thi Thanh Binh	Lecturer, University of Transport and Communications
10	Le Thu Huyen	Lecturer, University of Transport and Communications
11	Dinh Van Hiep	Associate Professor, Department of Motorways and Urban Roads, National University of Civil Engineering
12	Tran Ngoc Linh	Officer, Division of Urban Development Management, Urban Development Agency, Ministry of Construction
13	Luong Tu Quyen	Dean, Urban Planning, Architecture University
14	Nguyen Duc Hung	Vice Dean, Hanoi Construction Planning Institute
15	Đinh Quốc Dân	Vice President, IBST
16	Do Kim Ngoc Huyen	ITST
17	Pham Van Chuong	ITST
18	Bui Ngoc Hung	Head of Scientific and International Cooperation, ITST
19	Le Cong Thanh	Head of Railway, ITST
20	Dr. Nguyen Van Thanh	ITST
21	Prof.Dr. Dao Van Dong	Vice Dean, TDST

No.	Name of Experts	Position (Job Title) & Organization
22	Prof.Dr Nguyen Quang Phuc	University of Transport and Communications
23	Prof.Dr. Tran THi Kim Dang	University of Transport and Communications
24	Prof.Dr. Bui Xuan Cay	University of Transport and Communications
25	Prof.Dr.. La Van CHam	University of Transport and Communications
26	Prof.Dr. Vu Duc Chinh	ITST