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Orientation for development of transportation system

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Abstract

Currently, the transport infrastructure system (Traffic infrastructure) of Vietnam has been invested and developed in all specialized fields. Road has a total length of about 24,203 km. Of which, the expressway has been put into use with 14 routes with a total length of 816,671 km; The national highway has a total length of 23,862 km; Inland waterway has a total length of exploiting and managing 7,071.8 km; 220 inland ports managed by the central, 3,087 licensed inland wharves on central routes; Railway: Vietnam's national railway network has a total length of 3,159,908 km. Total 216 railway stations; Marine: There are 32 seaports (including 14 seaports of type I and IA, 18 of seaports of class II) in addition, there are 13 offshore petroleum ports are seaports of type III. Output through 2016 was about 459.8 million tons (reaching 86% of capacity). The country has 48 navigational channels to the national public port with a total length of 943.7 km and 12 routes to specialized ports; Aviation: there are 21 airports with a total capacity of 77.75 million passengers / year and 1.01 million tons of cargo / year, meeting the operation of A320 / A321 aircraft; Inland port system: there are 05 dry ports and 16 inland clearance ports, concentrated in the North and the South; Currently operating about 2,632,721 TEUs / year on a total capacity of 6,538,200 TEUs / year (reaching 40% of capacity). In addition, there is a local system of infrastructure.

Keywords: transportation system, roads, inland waterways

1. Introduction

In the 2011-2016 period, many large and modern traffic works such as: highways, the expansion of national highway 1 and Ho Chi Minh road through the Central Highlands region and international seaports (Cai Mep - Thi Vai , Cai Lan, Hai Phong, Cua Lo, Vung Ang, Tien Sa, Quy Nhon, Nha Trang, Sai Gon, Can Tho; Lach Huyen and Luong port are under construction for large tonnage vessels to enter Hau river), port International aviation (Noi Bai, Da Nang, Tan Son Nhat, Can Tho, Cam Ranh ...) has been invested to build up regional and international standards, contributing to creating a new face for the country, creating establishing connection between regions in the country and with the world. Urban transport has been gradually improved, upgraded and expanded, especially in big cities. Transport activities have been strictly managed in all fields, basically meeting the domestic and international transportation needs. to limit the congestion of passengers and goods at airports, railway stations, bus stations and ports in peak transportation seasons; at the same time constantly innovating, improving service quality, transport services; adjusting transport structure according to economic sectors, previously, only state-owned enterprises involved in transportation, now socialized with many participating economic sectors, especially some enterprises. transportation businesses have accumulated capital and management skills, ensuring a healthy competitive transport market; basic freight rates have been controlled, ensuring better serving the travel needs of the people, promoting production and business development, contributing to curbing inflation, stabilizing macro-economy, ensuring ensure social security. However, in general, Vietnam's current transport infrastructure system still shows many weaknesses, failing to meet the requirements of rapid and strong development to reach the goal of industrialization and modernization of the country. Besides, due to difficulty in resources, the existing transport infrastructure system has not been fully and timely maintained and maintained, leading to the degradation and reduction of service and exploitation capacity. These shortcomings have been reducing the leading position of the transport industry in the cause of industrialization and modernization of the country.

Facing this fact, Building the urban and infrastructure system and promoting the strategic breakthrough in building a synchronous infrastructure system with a number of modern works. Improving the quality of socio-economic infrastructure construction planning, ensuring overall and systemic efficiency, especially transportation, electricity, water, irrigation, education, health and infrastructure networks telecom and information technology. "; Concentrate resources to invest in constructing large, important and essential works, especially in areas with potential for development and resolution of congestion. Download. Ensure smooth connection between major economic centers, gateway hubs, routers with great transport demand. Pay attention to invest in transport infrastructure in disadvantaged areas. Prioritize investment in infrastructure projects that meet the requirements to cope with climate change and sea level rise. "; Improve laws, mechanisms and policies to create favorable conditions for economic sectors. , including foreign investment in infrastructure construction and trading in various forms, especially public-private partnership (PPP) in accordance with international practices. Strengthen management, ensure progress, efficiency and quality of works, prevent losses and waste. Vietnam's transport system should basically meet the transport needs of the society, ensure increasingly improved quality, reasonable prices; curbing towards gradually reducing traffic accidents and limiting environmental pollution. To ensure the achievement of this goal, the Government and the Ministry of Transport have set out key tasks in the development of transport infrastructure in the 2016-2020 period and with that development orientation, the transport sector determines the investment capital needs in the in the 2016-2020 period, it is about VND 1 million, of which about 60% needs to be balanced from the state budget (state budget and ODA capital) and 40% from non-state budget mobilization. Transportation is an important part of socio-economic infrastructure. Priority should be given to investment in development which is one step ahead of speed and sustainability in order to create a premise for socio-economic development. To bring into full play the advantages of the country's geographical position and natural conditions in order to develop a rational transportation system, minimize transport costs and save social expenses. To attach importance to the maintenance work, ensuring the efficient and sustainable exploitation of the existing transport infrastructure. At the same time, to step up the upgrading and construction of transport infrastructure works bringing socio-economic efficiency, first and foremost north-south axis, key economic zones and transport axes for Foreign, large cities and areas are important in the strategy of hunger eradication and poverty reduction and security and defense. Develop modern transport with reasonable cost, safety, minimize environmental impact and save energy; Application of advanced transportation technology, especially multi-modal transportation; Rapid renewal of means of transportation; To improve the quality of transport services and at the same time to quickly develop the system of foreign transport services, first of all air and maritime transport, in order to enhance the competitiveness and facilitate the integration process. International. To prioritize the renovation and upgrading of in-depth investment to promote the efficiency

of the existing transportation industry establishments, to quickly renew and access modern technologies, step by step increase the localization rate and advance To produce own means of transport, especially in the field of shipbuilding and automobile manufacture for domestic use and export to countries in the region and the world. To develop the external transportation system in close connection with the domestic transportation system, meeting the requirements of international and regional integration in time. To develop urban transport in the direction of using public transport as the main one, ensuring modern, safe, convenient and environmental protection. For big cities (Hanoi and Ho Chi Minh City in the short term), rapid development of mass transport (iron wheel transport); Control the increase in personal transportation; Solve traffic jams and urban traffic safety. To strongly develop local transport, meeting the requirements of agricultural and rural industrialization and modernization, linking the local transportation network with the national transportation network, Complete, smooth and reasonable transportation costs, suitable for the majority of the population. To mobilize to the utmost all resources, paying special attention to domestic resources in all forms and from all economic sectors in order to invest in the development of transport. To socialize the investment in the development of transport infrastructure, first of all the road traffic infrastructure: the users of the transport infrastructure shall have to contribute to the maintenance and reinvestment in the construction. The land use planning for transport infrastructure needs to be consistent and coordinated to implement synchronously and closely between ministries, branches and localities.

2. Characteristics of transportation system

Transport development strategy to 2020 with a vision to 2030 approved by the Prime Minister in Decision No. 206/2004 / QĐ-TTg dated December 10, 2004. To implement the transportation development strategy and The development of transportation specialized in the past, the Party, State and people have paid great attention to transport development; In particular, the transportation infrastructure system has seen remarkable progress: the quality of transport has been improved, initially meeting the requirements of socio-economic development, national defense and security, Improve people's lives, contribute to poverty reduction, shorten the distance between regions. Some modern transport works such as highways, international seaports and international airports have been built up to regional and international standards, contributing to creating a new look for the country. However, besides the results, there have been many obstacles to the development of transport infrastructure such as the uninterrupted highway system and many national roads have not been upgraded, There have been many knots on the arterial routes; The railway system is still in backward condition, low technical standards, limited capacity and unsafe train run; Seaports in key economic regions have been overloaded and commodity congestion has been occurring due to the increase in cargo volume as compared to forecasts; Some international airports are either overcrowding in the near future; Urban traffic is still weak, traffic jams in major cities often occur. The connection between modes of transportation is not efficient and effective, especially between land and sea ports, roads

and airports. These weaknesses contribute to the poor quality of transport and transportation and the unreasonable costs that affect the competitiveness of the economy and impede the speed of socio-economic development of the country.

In order to solve the above-mentioned situation to meet the country's socio-economic development demand at a higher speed, the Prime Minister has allowed the adjustment of the Transport Development Strategy and promulgated in Decision No. 35/2009 / QD-TTg dated 03 March 2009 (hereinafter referred to as Strategy 35). At the time of Strategy 35, our country has achieved encouraging achievements, high economic growth rate and lasting (1991-2009 period, average GDP growth rate is 7.5% / year And the economy is still forecasted to have high growth rate (average GDP of 8-8.5% per year), so it is expected that there are favorable conditions for development of the transport sector, Develop transport infrastructure to meet the requirements of the economy. Therefore, Strategy 35 has set high expectations and targets to meet the requirements of economic growth. However, after the promulgation of Strategy 35, our country has fallen into crisis and economic recession. Resolution No. 11 / NQ-CP dated February 24, 2011 on major measures to curb inflation, stabilize macro-economy, ensure social security, cut public expenditure. The traffic must be postponed. This has caused shortcomings in the implementation of Strategy 35. In the context of the global economic crisis, many countries in the world have fallen into deep recession, the debt problem has become a burden for the economies of Europe and Vietnam. Are deeply integrated into the world economy, so cannot avoid the similar implications. If we continue to invest in transport infrastructure development in the direction of Strategy 35, the ability to mobilize resources cannot be met. In the face of these inadequacies and shortcomings, in order to concentrate resources to meet the SEDP's goals up to 2020, the transportation sector is required to have breakthrough policies including investment restructuring. Focus on the development of transport infrastructure in accordance with the key contents adopted by the Fourth Plenum of the Party Central Committee, session XI in Resolution No.13-NQ / TW dated 16/1/2012 on building the system. The synchronous infrastructure system aims to turn our country into a modern industrialized country by 2020. Therefore, the adjustment of the Transport Development Strategy to 2020, with a vision to 2030 will be taken. Thus, the new situation is very necessary.

Vietnam has a transport system with all modes of transport: road, rail, inland waterway, sea and air. The master plan is built on the basis of the forecast of transport demand, the socio-economic development orientation to 2030 of the country; Orientations for economic development of four key economic regions; Transport development strategy to 2020 and orientation to 2030, planning to establish Vietnam expressway network including 21 routes with a total length of 6,411 km, including North - South Expressway, Road system Highways in the North, Central and Central Highlands, the South, Highways in Hanoi and Ho Chi Minh City. This national highway network is used as a basis for identifying investment capital, land funds and the implementation of high-speed road projects from now to 2020, 2030 and beyond. The total land fund for the construction of expressways under the master plan is about

42,043 ha, of which the occupied area of the roads has been built and about 8,888 ha, the area needed to add about 33,355 ha (Of which agricultural land is estimated at 16,402 ha).

Total road length of our country is over 258,200 km, of which national highways and high speed 18,744 km, accounting for 7.26%; Provincial road 23,520 km, accounting for 9.11%; District road 49,823 km, accounting for 19.30%; Commune road 151,187 km, accounting for 58.55%; Urban roads 8492 km, accounting for 3.29% and specialized roads 6,434 km, accounting for 2.49%. Total passenger transport volume increased from 821.8 million passengers in 2001 to 2,201.3 million passengers in 2010, the average growth rate reached 11.6% per year and the number of passengers Increased from 35.624.2 million in 2001. In 2001 to 98.079 million in 2010.km in 2010, the average growth rate was 11.9% per year. Freight volumes have increased from 254.7 million tons in 2001 to 826.3 million tons in 2010, with an average annual growth rate of 14.0% and cargo traffic has increased from 63,164, 4 million km in 2001 to 218,787.7 million tons in 2010, average growth rate reached 14.8% per year. In terms of structure, the rate of acceptance of modes of transport: Road transport accounted for the largest proportion compared to other modes of transport and increased from 82.4% in 2001 to 91.4% in 2010 in passenger transport and increased from 65.7% in 2001. Up to 70.6% in 2010 on freight. Air transport accounts for a very small share of cargo and passenger traffic, especially freight. However, in recent years airfreight has also increased from 0.5% in 2001 to 1.0% in 2010 in passenger transport, Railway and inland waterway transport both decreased in terms of freight and passengers.

Road transport has grown rapidly both in freight and passenger transport. The volume of passenger transport has increased from 677.3 million passengers in 2001 to 2011.1 million passengers in 2010, the average growth rate reached 12.9% per year and the number of passengers increased from 23.394 9 million in 2001. in 2001 to 69,197.4 million in 2010.km in 2010, the average growth rate was 12.8% per year. The volume of road freight traffic has increased from 164 million tons in 2001 to 585 million tons in 2010, the average growth rate reached 15.2% per year and the volume of goods traffic has increased from 9184.9 million T Km in 2001 to 36,293.7 million km in 2010, average growth rate reached 16.5% per year. Carriage by land has basically accomplished its assigned purpose of short distance operations, consolidating cargo for other modes of transport, transporting on routes where modes of transport other such as rail, inland waterway cannot meet. Road transport has made a better connection with air, rail and road transport modes such as buses, taxis, and so on. Mostly to all districts or commune clusters. However, the development of the interprovincial route has been saturated and there is overlapping of passenger transport leading to unbalance of supply and demand along the route (NH1A is overloaded, but HCM highway density of traffic Very low ...). As a result, passenger transportation has not met the demand for high number of rush hours and quality requirements, the scramble phenomenon, guests, especially holidays, still happens, still at a high level, complex developments.

The volume of passenger transportation has increased from 10.6 million passengers in 2001 to 11.6 million passengers

in 2010, the average growth rate is 1.0% per year and passenger traffic has increased from 3,426 million in 2001. In 2001, the average growth rate was 3.0% per annum.

Railway freight volumes have increased from 6.45 million tons in 2001 to 7.98 million tons in 2010, with average growth of 2.4% per year and cargo traffic has increased from 2,054.4 million km in 2001 to 3.956 million km in 2010, average growth rate reached 7.6% per year. Although rail transport usually predominates in the transport of goods, long-haul passengers are large in volume compared to other modes of transport. However, the current rate of rail transport is very small compared to road, the growth rate is also low in both freight and passenger.

The volume of passenger transport has increased from 3.9 million passengers in 2001 to 21.1 million passengers in 2010 (23.8 million passengers in 2011), the average growth rate reached 20.6% Per annum and the number of passengers increased from 6,101.7 million arrivals in 2001 to 21,220.8 million arrivals in 2010. In 2010, the average growth rate was 14.8% per annum. The volume of freight has increased from 0.067 million tons in 2001 to 0.459 million tons in 2010 (0.475 million tons in 2011), the average growth rate reached 23.9% per year and the goods traffic has increased. Increased from 158.2 million kilometers in 2001 to 429.2 million kilometers in 2010, the average growth rate reached 11.7% per year. Total passenger traffic through the airport terminal system has increased from 8 million passengers in 2001 to 31.5 million passengers in 2010 (35.7 million passengers in 2011), an average growth rate of 16.4% per year. Air transport has contributed positively to long-distance, international passenger transport and high-value goods. There are 104 national highways, 5 expressways and roads managed by the Central Government with the total length of 18,744 km; Of which, BTN occupies 62.97%, BTXM accounts for 2.67%, plastic accounts for 31.7%, grading and macadam making up 2.66%. Regarding technical standards: roads with high technical standards (high speed, grade I and grade II) account for a very low proportion of 7.51%. Ratio of road meeting technical standards level III, level IV accounted for 77.73%; the remaining roads with low technical standards (grade V, level VI) accounted for 14.77%.

The Vietnam railway network has a total length of 3,143km including 2,531km of main lines, 612km of branches and railway lines, including 3 types of line: 1000mm, 85%, 1435mm, 6%, 1435mm & 1000mm accounted for 9%. Railway density reached 7.9 km / 1000 km². The network of railways is divided into 7 main axes: Hanoi - Sai Gon, Hanoi - Hai Phong, Hanoi - Dong Dang, Hanoi - Lao Cai, Hanoi - Quan Trieu, Kep - Luu Xa, Kep - Ha Cage. Technical standards, railway infrastructure in our country is low and backward: The rectangle faces many small radius curves, slope is large (Unified Route $i_{max} = 17\%$); Bridges have been through nearly 100 years of exploitation, small load ($P = 14$ tons); The weathered tunnels leaked water; Sleeper of many kinds; Information - signals of running backward and unmatched train, rail traffic safety corridors severely severed, railway intersection with roads and dense roads of high density (total There are 1464 lawn lines, over 4,000 self-open roads).

At present, the country has about 2,360 rivers and canals, with the total length of 41,900 km, the average river density

is 0.127 Km / Km²; 0.59Km / 1,000 people. It currently operates 15,500 km (36%) and has managed 8,335 km. particularly in the Red River Delta and Mekong Delta, the density is 0.2-0.4 km / km², the highest in comparison with other countries in the world; Ports and wharves: At present, there are 108 domestic ports and wharves in the whole country. These ports are scattered on main canals. With more than 3,200 km of coastline, Vietnam has a potential for seaport development. Vietnam's seaport system currently has 37 seaports, with 166 wharfs, 350 wharfs, a total length of about 45,000m wharves, capacity of about 350-370 million tons per year (2011 volume is 290 million tons). Port groups have been established, with ports of up to 100,000T, specialized containers. The construction of international gateway ports in key economic zones and wharves in other areas is underway. On the inlet and outlet channel, 41 lanes have been assigned to Vietnam Maritime Safety Management in accordance with Vietnam Maritime Signal Standards and IALA International Maritime Signaling Regulations, and others are managed by other sectors.

There are currently 20 airports in operation, including: B747, B777, Noi Bai, Da Nang, Tan Son Nhat and Can Tho airports; Airfields meet A321 aircraft: Cat Bi, Vinh, Dong Hoi, Phu Bai, Chu Lai, Phu Cat, Cam Ranh, Buon Ma Thuot, Lien Khuong, Tuy Hoa; Airfields meet ATR72, F70 aircraft: Dien Bien, Pleiku, Con Son, Ca Mau, Rach Gia, Phu Quoc. In the past time, large urban areas have been upgraded and upgraded, contributing to reducing traffic congestion, it creates significant changes in the urban landscape and is gradually forming the transport network as planned.

The total number of rural roads (only district and commune roads) is 195,840 km, accounting for 77.50% of the total number of roads in our country. The rural roads have been gradually improved, upgraded with local budgets, supported by the central budget, ODA and contributions of the people. In order to implement the master plan, it is necessary to formulate synchronous policies for the implementation of the plan (the policy of creating a fair environment for competition between investors and environmental protection in the development of expressways, Human resource development policy: To expand the forms of training at home and abroad on the construction, management and operation of expressways. To mobilize to the utmost all resources, continue perfecting the mechanisms and policies to attract investment capital from all economic sectors, including foreign investors to invest in the development of expressways as shown below. Public Private Partnership (PPP) such as BOT, BT, BTO. Revise regulations on financial support policies, taxes, charges, fees, concessions to increase the commercial viability of projects and user responsibility, ensuring benefits Satisfactory of investors. To step up the mobilization of donors to continue providing ODA for the development of expressways, especially the sparse ones, creating great breakthroughs. It is necessary to carefully calculate and take appropriate steps to promote the effectiveness of the PPP model between foreign investment enterprises and ODA funds of other countries and international organizations. Encourage the application of new technologies and new materials in the construction of highways. To apply advanced technologies on organization of management, construction and exploitation of traffic

safety equipment; Information technology in operating, managing and exploiting.

3. Conclusion

In order to ensure traffic order and safety to meet the travel needs of the people during the Lunar New Year and the Spring Festival of the Year of the Pig 2019, the Vietnam Road Administration requests the Department of Transport to increase strengthening the management and maintenance of local road transport infrastructure; drastically deploying the management and scope of regular maintenance work, with priority being given to the focus on cleaning and cleaning on roads, bridges, potholes, repairing damaged joints, handling rutting wheel trails, opening trenches, drains, clearing and clearing plants, miles, painting roadbeds, cleaning signs, intensifying the inspection of bridges, especially after floods. Resolutely handle violations of road traffic infrastructure and road safety corridors (including all types of roads in the area), especially violations of encroachment on roadbeds and sidewalks; illegally connecting, building tents, selling kiosks, setting up theaters to provide materials and goods within the road, curb and taluy areas; handling and stopping vehicles in contravention of regulations; opening an illegal connection. Checking and handling violations of construction on the road being exploited; rectify investors and construction contractors that fail to fully comply with signboards, marker posts, barriers, night signal lights, traffic indications; absolutely do not allow traffic jams; stop constructing during Tet holiday as prescribed. Before stopping construction, clean up and return the construction site to ensure traffic safety and work safety. In addition, it is necessary to develop plans, prepare materials and equipment and arrange permanent staff and leaders to ensure traffic, timely overcome damage to road works. And traffic congestion and points often occur at steep passes to ensure timely handling, ensuring the fastest traffic. Strengthen warning and propagation measures to drive drivers, especially passenger cars, through steep and sloping areas, which are affected by fog and slippery potential unsafe traffic. Review and overcome black spots on road traffic accidents.

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