

# TRANSPORT SECTOR IN VIETNAM: CURRENT ISSUES AND FUTURE AGENDA

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***Summary:** This paper briefly reports about current situation and future perspectives of transport system in Vietnam from a planning point-of-view. Firstly, it reports about the external conditions for transport development in term of economy, demography, environment, and technology and transport policies. Secondly it provides an overview about current situation of transport sector in Vietnam. Finally, it drafts an agenda for transport in Vietnam toward 2030.*

***Brief CV:** Dr.-Ing. Khat Viet Hung (University of Transport and Communication, Vietnam) obtained his Doktor-Ingenieur degree from Darmstadt University of Technology (+country name) in 2006. Immediately after that he has been reappointed as lecturer of the Institute of Transport Planning and Management, University of Transport and Communication (UTC). September 2007, he has been appointed as Director of the Consulting Center for Transport Development (UTC). His work is integrated between teaching, doing research and providing consultant service to transport sector in Vietnam. He is working and worked mainly on highway planning and design as a research engineer. His recent major topics of research are performance-based urban transport planning, traffic management and traffic safety.*

## I. INTRODUCTION

Vietnam is located in the Southeast Asia Region and being neighbor of China, Laos and Cambodia. The country has an area of 331.212 square kilometer and a population about 84,12 million (GSO 2008). During the last decades, the country economy grew by 7.5 % per year and the poverty rate has been reduced from 51% in 1990 to 8% in 2005 (GSO 2007). In that period, the transport sector in Vietnam has achieved significant improvements, which contribute remarkably in the development of the country and region. While the trend is expected to continue in the next decade, Vietnam's transport sector faces a critical situation. As most of the transport infrastructures are still being restored from the damages of war, lack of capital to invest in new and high capacity infrastructure and services, sector performance level is still very far from requirements of high capacity and quality to support the quick growth and foreign - investment-driven economy.

In the followings, this report examines the conditions for transport development in and the current situation of Vietnam's transport sector. The information and data used in the analyses

had been collected mainly from up-to-dated reports and publications of Vietnamese and international institutions and organizations. Consequently, this report ends by a draft agenda for Vietnam's transport sector in the next decades.

## II. CONDITIONS FOR TRANSPORT DEVELOPMENT IN VIETNAM

### 1. Economic conditions

The comprehensive innovation program, called Doi Moi, began in 1986 is the main force to drive the Vietnam Economy grow up continuously at a quite high rate, about 7.6% per year. The official statistical data indicates the Gross Domestic Product (GDP) in 2007 is about US\$ 68,3, but experts estimated an additional value, called underground economy, about 30% of the official value should be accounted (Le 2008).



*Figure 1. Stable growth of Vietnam's GDP (1990-2006)*

The most important achievement of Vietnam economic growth has been well known as the sharp reduction of poverty rate. The share of household living under poverty rate has been reduced from 51% in 1990 to 8% in 2005 (World Bank 2006). With the new policy, Vietnam is integrating actively into the world economy. Total import and export value in 2007 is counted for US\$ 111243,6 million, about 163% of the country's GDP. The foreign investment in Vietnam is also sharply increasing. At the end of 2007, the country attracted 9810 foreign investment projects with registered capital about US\$ 99,6 billions. The government of Vietnam and most of economists has the same optimistic expectation of a continuous high rate of economic growth in the next decades. However, the main challenge of Vietnam's economy in the future is improvement of development efficiency. The change of Incremental Capital Output Ratio (ICOR) indicates clearly the reduction of investment efficiency in the last decade. According to the Ministry of Finance, the general ICOR of Vietnam increased from 3,39 in 1995 to 5,9 in 2005 (Ministry of Finance 2006).

## **2. Demography and society**

As similar to Germany after the Second World War, Vietnam has a period of baby boom after the end of our national unification war in 1975. Among 85,2 million Vietnamese today, about 60% of Vietnamese are less than 35 years old (GSO 2008). The young and dynamic people are the most important resource for the future development of Vietnam.

Together with economic development, Vietnam also achieves significant improvement in social development in the last decade. According to United Nation Development Program, the Human Development Index of Vietnam has been increased from 0,620 in 1990 to 0,733 in 2005 (UNDP 2008). One of the most important achievement of human development in Vietnam are relative high average life expectancy and adult literacy rate, about 73,7 years old and 90,3% in 2005. These indicate the country owns a healthy and educated labor force.

On the other hand, the high growth of economy always consists of some negative impacts, for example the uncontrolled urbanization, environmental pollution or increase of social gaps etc. It is necessary to emphasize that, the current political regime does not provide good environment for social and political dialogues. Therefore, the risks of social crashes are quite high within the society.

## **3. Natural Environment**

As consequences of economic development, environment in Vietnam has been affected negatively in all sectors, land and biodiversity, water and ambient air. The forest cover is restoring significantly after the end of Vietnam War, 1975, by huge forest planting programs. On the other side, the natural forests are quickly reduced by official and non-official impacts. The growth is coming together with wastes and increase of energy consumption, air pollutants and global warming effects. The air quality in the main cities are declining significantly, the traffic polluters and the fine particulate matter (PM10) are the main concern. As stated by UNDP (2008) the quantity of carbon dioxide emissions of Vietnam increased 25,3% per year between 1990 and 2005.

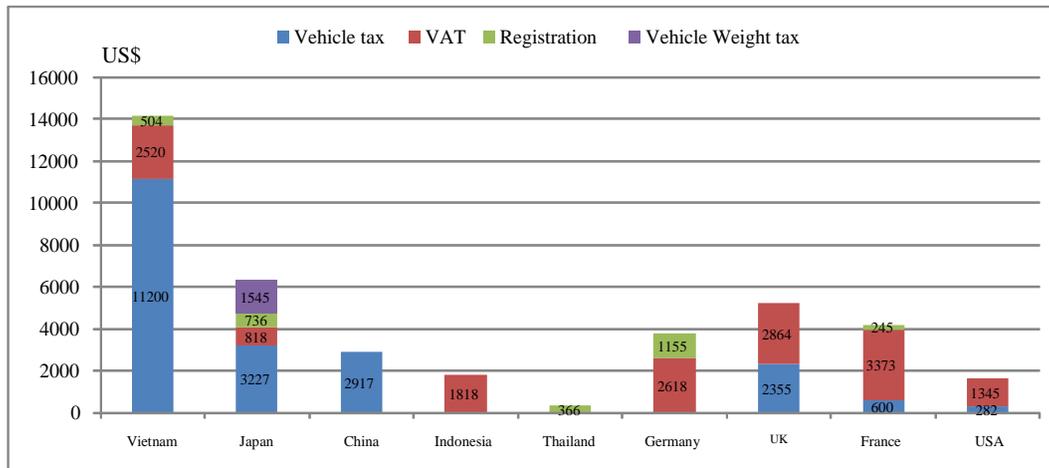
## **4. Technology**

In the last decade, Vietnam is one of the leading countries of growth in information technology and telecommunication. The rate of telephone lines per 1000 people was counted as 191, which has been drastically take-off from 1 only in 1990 (UNDP 2008). The same way of booming is apparent in number internet users in this country. In 2000, there were only 200 thousands internet users in Vietnam, accounted for 0,3% of population. At the end of June 2008, the number has been counted for about 20,16 million, about 23,6% of population (VNNIC 2008). Accounted as a key achievement in technology development in Vietnam, the provision of information and telecommunication technology infrastructure is a good basis to develop high-tech applications in different industries and services, including transport and logistics in this country.

## 5. Transport policies

As similar to many other developing countries, the main focus of transport policies in the last two decades in Vietnam is road construction and rehabilitation. Lack of financial resource and long-term vision are main obstacles of the inadequate consideration of railway and inland waterway, airports are also having the similar situation. Sea-ports have been announced as a main government focus in water transport, but lacking of development prioritization does not allow the country with more than 3000 km seacoast to have any regional competent port as Hong Kong or Singapore.

In the vehicle aspect, Malaysian model of automotive industry development has been applied in Vietnam but in a smaller scale and poorer implementation. As stated in the prime minister decision number 177/2004/QD-TTg (Government of Vietnam 2004), the target of Vietnam's automotive industry in 2005 is 120.000 vehicles/year, but the total sale record of all Vietnam automobile markers in 2006 was only 35.637 vehicles (VAMA 2007). At the same time, the target of localization of automobile industry has not been achieved. However, the failure of automobile industry does not make any hesitation to the decision of Vietnamese government on its current focus on development of ship building industry with the aim to be one of the world leading countries in this sector. However, as similar to the beginning of automotive industry in 1990, Vietnam starts its dream by a huge number of unskilled labors and a government wish.



Source: (World Bank 2008)

*Figure 2. Comparison between vehicle taxes and duties in selected countries*

The semi-positive point of transport policy is the effort to keep high access price for individual vehicles. This policy is effectively keeps the car-ownership in Vietnam at relative low level. On the other hand, vehicle quality management has been ignored for long time. The recent wake-up of Vietnamese government on this matter was only on paper, not in practice.

Transport services are on the process of decentralization, which has been completely (even

extremely) practiced in road, inland water transport service, and recently in aviation. On the other hand, the process is much slower in railway industry.

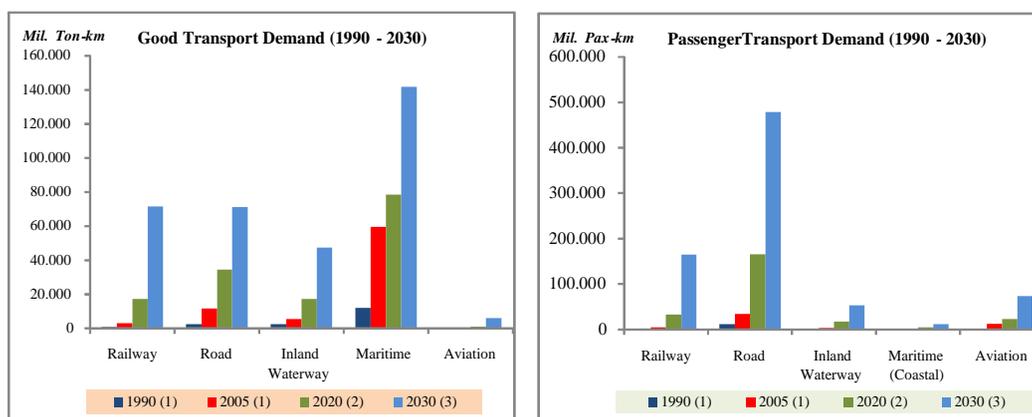
For public bus transport in big cities, the government subsidy has been given to users via operators as the main effort to attract people to use this service in order to reduce traffic congestion. According to the Department of Transport in Hanoi, number of bus riders has been jumped from 16 million in 2001 to 350 million in 2007. The same pace of increase is also observed in bus service in Hochiminh City and other big cities in Vietnam. However, a better management system is needed in order to control the subsidy program, especially in Hochiminh city, where the subsidy rate (VN Dong per passenger) is still very high in comparing with other Vietnamese cities.

Regarding fuel policies, the administrative measures are preferred in Vietnam. As the only positive point among fuel policies, leaded gasoline had been successfully forbidden entire the country since July 2001. At the end of 2007, the government tried to give its control in fuel price up, but very soon in early 2008, the tight control has already been resettled in order to reduce the inflation rate. In the area of alternative fuel, Vietnam achieved much lower progress in comparing with other ASEAN countries. Alternative fuel is almost absent in the market although it has been addressed as an important content of the government policy papers.

### III. EXISTING SITUATION OF TRANSPORT SECTOR IN VIETNAM

#### 1. Transport demand and motorization

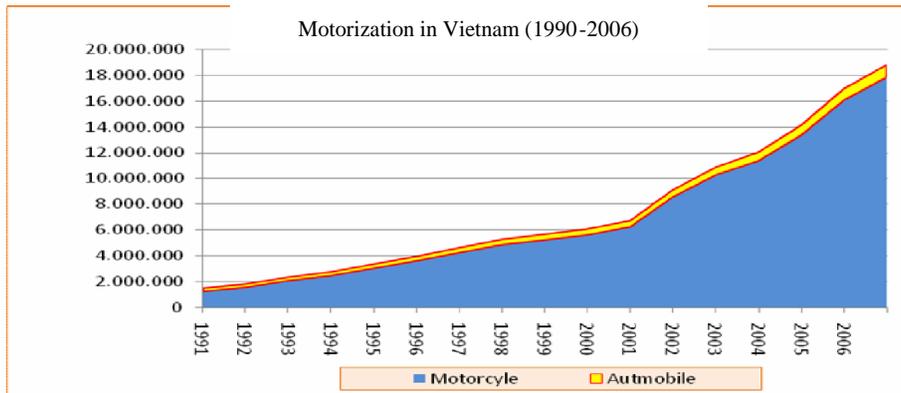
As consequence of economic growth, transport demand in Vietnam is growing intensively. In the Transport Development Strategy of Vietnam up to 2020, the Ministry of Transport (2007) projected an average growth rate of good transport demand about 7.3% per year between 1990 and 2030. The demand for passenger transport is growing even faster by 12% per year in the same period. The explosion of demand presents a good opportunity for development of transport service industries and also big challenges for capacity of both infrastructure and service.



Source: MOT (2007)

Figure 3. Growing of freight and passenger transport demand in Vietnam

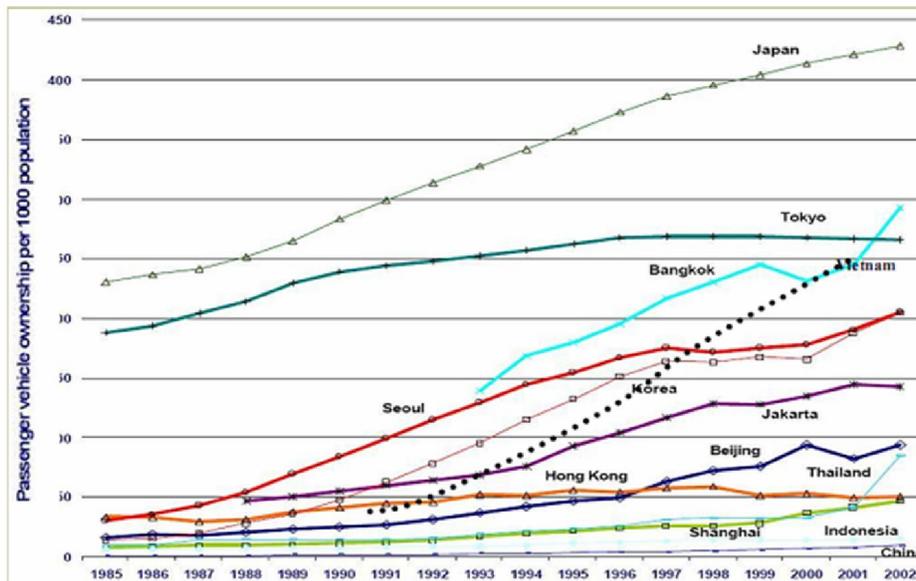
Within 20 years, average income of Vietnamese people increases about 3 times, this is indicating in transport sector by the growth of vehicle ownership. As mentioned above, the tight control of vehicle price is one of the main factors to keep the car ownership low and it drives people to enjoy the motorization process by motorcycle. According to the Vietnam Register, at the end of 2006, total number of road motorized vehicle in Vietnam is about 18.830.000 units, 94,9% of which are motorcycles. The statistical data also indicate a growth rate of motorcycles in Vietnam is about 17,6% per year in the period from 1990 to 2006.



Source: National Traffic Safety Committee (2007)

Figure 4. Growing of freight and passenger transport demand in Vietnam

The recent studies found that the Vietnam motorization curve has a similar sharp with those in Japan and Korea but at a lower level. If the trend would continue, Vietnam motorization will reach the Japanese and Korean level before 2030.

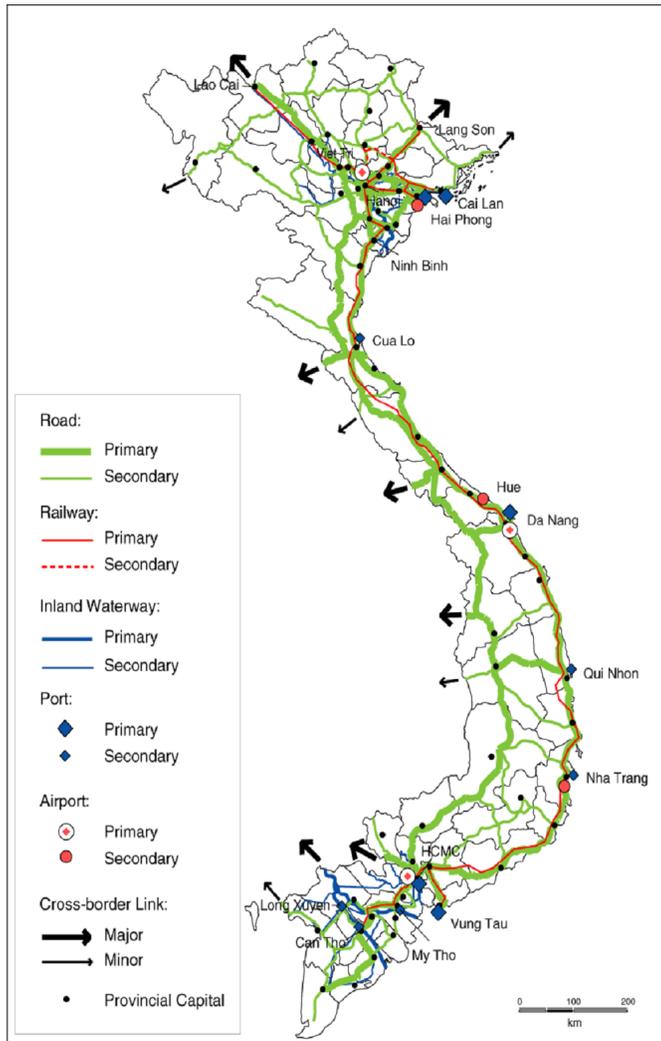


Source: Asia Pacific Energy Research Center (2005) and NTSC of Vietnam (2007)

Figure 5. Growing of freight and passenger transport demand in Vietnam

## 2. Infrastructure

Under high pressure of demand growth, Vietnam paid great effort to develop road transport infrastructure and service. At the end of 2006, the country has 151.632 km road network, of which 64.413 km have either asphaltic or concrete pavement, accounted for 42,5%. The percentage of paved national road has been increased from 60% in 1995 to about 92,5% in 2006 (GSO 2008).



Source: Ministry of Transport (2007)

Figure 6. Strategic Transport Networks in Vietnam

from which of its ASEAN neighbors, for example Suvarnabhumi Airport (Thailand) or Changi Airport (Singapore). This problem is well aware by governments and industries as one of the main obstacle for Vietnam to have a golden economic era.

The railway has also some improvement and rehabilitation during the last decades, but there is no new section of track has been extended. At the end of 2006, Vietnam railway has about 2362 km narrow gauge track length and 300 locomotives.

Vietnam has about 80 ports, three of which are regional transport gates (Hai Phong, Cai Lan, Hochiminh). The country has currently 20 airports, of which three are international airport.

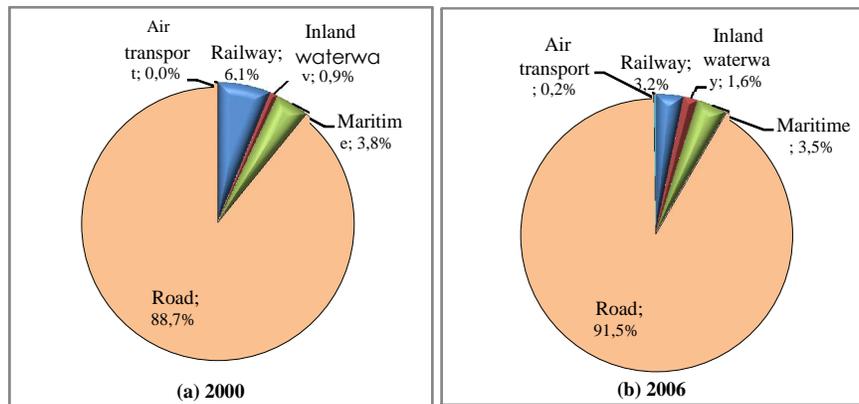
It was the most historic transport mode in Vietnam, inland waterway has quite high density network in the north and southern region of Vietnam with a total length of 9800 km.

However, at the moment, Vietnam is lacking of high-speed road and railway transport links.

The country has so far no deep-water sea port and capacities of the international airports in Vietnam are very far

### 3. Expenditure and finance

As mentioned above, the increasing ICOR during last period indicating a large share of investment went to infrastructure, in which transport is the focused sector. According to MOT (2007), average share of expenditure for transport infrastructure between 2000 and 2006 was about 2,8% of total GDP of the country. Other study found the significant growth of capital expenditure for new construction or major rehabilitation projects, from 71% in 1994 to 90% in 2002, while the share of maintenance and operation expenditure was reduced sharply in the same period (World Bank 2006).



Source: Ministry of Transport (2007)

Figure 7. Structure of expenditure for different transport modes in Vietnam

According to MOT (2007), road infrastructure has been intensively focused during the last decade. About more than 90% of total central government transport expenditure has been spent on the road. This presented a road-based transport development in Vietnam in the last decade.

Regarding the project implementation mechanism, most of the transport projects had been awarded to the state-owned suppliers, which currently face serious problem of efficiency and indebtedness. In the recent report, the Office of State Audit of Vietnam emphasized that most of state-owned enterprises in transport sector having an inefficient management structure and many of them are in serious financial imbalance. The report also referred another report of by the Ministry of Finance, for example, the Transport Construction Engineering Corporation Number 5 (CIENCO 5) has a debt per capita ratio about 40, the rate was about 22,5 in CIENCO 1 and about 20 in VINASHIN (SAV 2008). Another critical problem of the pro-state-owned contractor attitude is corruption. The expenditure process has been done through a closed and non-transparent system between government agencies and their son's contractors.

As stated by Ministry of Transport in the Vietnam Transport Strategy up to 2020, the actual annual expenditure for transport infrastructure in the period 2001-2006 is counted at only 17% the planned annual fund requirement. However, this ministry made also a very ambitious calculation for the period 2010-2010, in which the annual planned transport fund is accounted

for about 12% of the annual GDP of Vietnam (MOT 2007). As similar to other developing countries, the share of official development assistance (ODA) in transport expenditure is increasing significantly, accounted for 42% total MOT's expenditure in 2002, and the expectation on ODA is also growing as indicated in the report of many transport planning studies. The Public-Private-Partnership and commercial loan accounted only 7-8% and the rest of expenditure came from government budget. However, the availability of low -interest rate ODA for Vietnam is reducing and asking for a new and sustainable structure of transport financing in the next period.

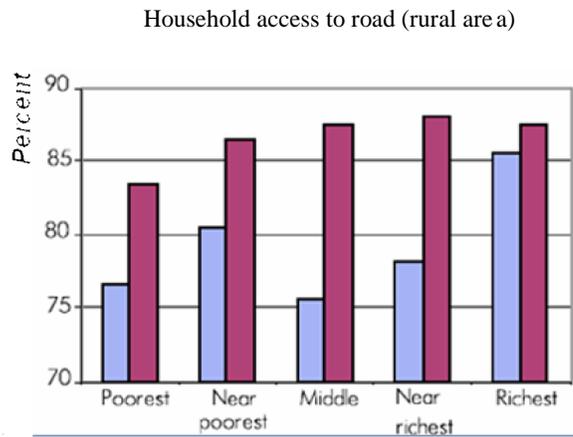
#### 4. Transport performance

##### 4.1. Enhancing development and poverty reduction

Regarding transport performance, it is necessary to emphasize the great contribution of transport development in economic development and poverty reduction. Different studies about impacts of transport infrastructure on development in Vietnam had been carried last decades and proved that developing large scale infrastructure in Vietnam helped to open up new business opportunities and facilitated the spread of economic linkages between economic growth centers and its surrounding areas. For example, 90% of the investment along ha No –Hai Phong corridor had been taken place due to the completion of National High way number 5 expansion project (World Bank 2006).

##### 4.2. Accessibility improvement

The road based transport development in the last decades made significant improvement of accessibility of households, of which 80 percents are living the non-urbanized areas. The affordability to public transport and motorcycle, as the main individual transport mode, has been significantly improved and the cost of trucking service and fuel price has also been affordable in comparing with the neighboring countries (GTZ 2007).



*Source: Household Living Standard Survey 1998, 2002*

**Figure 8.** Impacts of road development in improving accessibility of rural households

### 4.3. Traffic safety

Negatively, transport development in Vietnam is directly proportional to the growth of traffic accidents and fatalities. With 15 road fatalities per 100,000 inhabitants, Vietnam road network is the most deadly one over the world.

*Table 1. Traffic Accident Data in Selected Countries*

Countries	No. of Accidents	No. of Deaths	No. of Injuries	Death/accident	Injuries/accident	Injuries/death
(a)	(b)	(c)	(d)	(e) = c/b*100%	(f) = d/b*100%	(g) = (d) / (c)
<b>Thailand</b> (2000)	73,737	11,988	53,111	16.26	72.03	4.43
<b>Malaysia</b> (2000)	250,417	6,035	44,019	2.41	17.58	7.29
<b>Japan</b> (2005)	920,053	6,586	1,134,702	0.72	123.33	172.29
<b>Vietnam</b> (2007)	14,624	13,150	10,546	<b>89.92</b>	<b>72.11</b>	<b>1.24</b>
<b>US</b> (By car) 2005		33,041	2,494,000			<b>75.48</b>

*Source: JICA & NTSC (2008)*

### 4.4. Mobility

In general, the improvement of road accessibility and the affordability of motorcycle have made the mobility level of most of Vietnamese people much better than before. However, the growing demand will become over the current capacity of all main transport corridors in a very near future and requiring prompt and effective solutions. In the urban area, current high motorcycle ownership gives people a reasonable level of mobility, but the threat of congestion is apparently in the next decade by booming of car use. In this regard, high pressure of WTO commitment is one of the main factors to enhance car use in Vietnam.

### 4.5. Efficiency of System Operation

Regarding the efficiency, the road and air transport has achieved significant improvement while the others had got lower level of progress. Since last 1.2006, the regulated operating speed in the national road has been increased from 50-60 km per hour to 70 to 80 km per hour. As the most focused investment transport mode in the last decade, the road transport carried about 54% total good transport demand and 85,7% total passenger transport demand in Vietnam (MOT 2007). The air transport service has also achieved a significant improvement in both number of passengers and diversifies of services. The total number of air transport passenger carried in 2007 was about 8,5 million, about double of the year 2004 figure, while the difference in number of air-craft operations was only 1,4. The same level of improvement was observed in the maritime transport, total cargo throughput via the ports of Vietnam increased 218% between 2007 and 2005. In contrast, the efficiency in railway and inland waterway has not been improved due to poor quality, low capacity facilities and infrastructure and old model of management.

#### **IV. AGENDA TOWARD THE FUTURE TRANSPORT DEVELOPMENT IN VIETNAM**

The high expectation of economic development, the maturity in internationalization of the economy and the changes in social factors would result an explosion of transport demand in Vietnam the next decades. On the other hand, the current situation of lacking infrastructure and service capacity, ineffective traffic management, and inefficient planning and utilization of resources would continue to be the main obstacles of Vietnam transport sector on the way toward its future development. The following measures have been strongly recommended by both foreign and Vietnamese experts and institutions in order to support the Vietnamese government to develop its agenda for transport development in the next decades:

##### **1. Enhancing efficiency in resource utilization and service delivery**

The first activity to enhance the efficiency of transport investment is to improve the transparency of the expenditure process by the better control mechanisms and privatization of state-owned enterprises. The next urgent activity is to develop a comprehensive performance-based planning system and consequent procedures. The improvement of transport planning will help to avoid the un-attainable, biased and emotional focuses in transport development and to develop proper priority list of activities in transport development .

##### **2. Sustain financial structure for transport development**

As stated in many consultant reports and advisories, the first answers for the question of a new financial structure is to emphasize again the importance of transport expenditure control improvement, which includes also an effective infrastructure pricing system. This measure would help the government to maximize the utilization of available resources. In order to overcome the financial shortage by the running-out of ODA age, suitable Public-Private-Participation models in transport investment and operation is strongly recommended. On the other hand, government should develop a transparent and applicable framework for the use of government bonds, which should be opened for competitive bidding. Finally, the development of a framework for municipal finance should be promoted as the key part of the on-going decentralization and administrative reformation process.

##### **3. Facilitating compact and efficient urban growth**

As mentioned shortly above, the development of Vietnam will contain a quick and lack of control urbanization process. The indication of urban sprawls and ribbon urban growth requires also a new concept of compact and efficient urbanization, which needs strengthened planning, and regulatory system, proper institutions, high capacity and efficiency transport infrastructures and services.

##### **4. Mitigating negative impacts of transport**

The lack of high capacity requires a very care-full examination and action on developing new transport infrastructures and services. Regional infrastructures and services are recommended to be in the first phase of capacity development in order to deal with transport problems. In parallel, effective traffic management, traffic safety plans and other demand management tools are strongly recommended to be part of the solution package in mitigating transport congestion, accident and environmental impacts .

##### **5. Institutional capacity and human resource development**

To realize all of the above requirements, institutional and human resource capacity in transport sector must be correctly developed. A long term institutional capacity development

frame-work is the first task to complete and following by the strengthened implementation capacity. Implementation of these two measures asks to speed-up of governance reform process, especially to develop capacity of Vietnam Road Administration, which is responsible for largest amount of transport investment and properties. Improvements of other sectoral authorities are also needed. Enforcement and compliance require also significant improvements. Finally, it is no doubt to address the needs to develop capacity local governments and contractors, which are the most important stakeholders in transport development.

## V. CONCLUSIONS

The study results indicated clearly that the development of transport sector is one of the key factors of success in economic development of Vietnam in the last two decades of Doimoi era. The transport development contributed significantly to the poverty reduction, improvement household accessibility and mobility of most of people, businesses and institutions contributions in Vietnam. On the other hand, the limitations of low quality expenditure control, planning and implementation, un-sustainable financing structure, transport problems, and the low capacity of institution and human resource are the main obstacles for the development of transport in particular and for the cause of industrialization and modernization of Vietnam in general. Overcome the obstacles is the main goal of the agenda for Vietnam's transport sector in the next decades.

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### Reference

- [1]. Government of Vietnam (2004), Master Plan of Automotive industry in Vietnam to 2010 and vision to 2020. **177/2004/QĐ-TTg**.
  - [2]. GSO (2007), Vietnam Statistical Year Book 2006, Hanoi, General Statistics Office of Vietnam.
  - GSO (2008), "Population and Population Density by province in 2006," 2008, from <http://www.gso.gov.vn>.
  - [3]. GSO (2008), Vietnam Statistical Year Book 2007, Hanoi, General Statistics Office of Vietnam.
  - [4]. GTZ (2007), International Fuel Prices 2007. T. P. A. Service, GTZ and Federal Ministry for Economic Cooperation and Development.
  - [5]. JICA & NTSC (2008), the Study on National Road Traffic Safety Master Plan in the Socialist Republic of Vietnam: Interim Report. Hanoi, Japan International Cooperation Agency and National Traffic Safety Committee of Vietnam.
  - [6]. *Le, D. D. (2008)*, Is the underground economy of Vietnam accounted for 30%? VTC News. Hanoi, Vietnam Telecommunication Corporation.
  - [7]. Ministry of Finance (2006), "Vietnam aims to a higher efficiency and sustainable development," 2008, from <http://www.mof.gov.vn/Default.aspx?tabid=612&ItemID=31186>.
  - [8]. MOT (2007), The Transport Development Strategy of Vietnam up to 2020, Ministry of Transport.
  - [9]. SAV (2008), State Auditing Report 2007, Office of the State Audit of Vietnam.
  - [10]. UNDP (2008), "Human Development Report 2007/2008."
  - [11]. VAMA (2007), "VAMA sales record 2006," from <http://vama.wordpress.com/2007/06/04/vama-sales-record-2006/>.
  - [12]. VNNIC (2008), "Report on internet statistics of Vietnam: June 2008," Retrieved 29 July 2008, from <http://www.thongkeinternet.vn/jsp/trangchu/index.jsp>.
  - [13]. World Bank (2006), Infrastructure Strategy: Cross-sectoral issues, World Bank.
  - [14]. World Bank (2006), Transport Strategy: Transition, Reform and Sustainable Management, World Bank.
  - [15]. World Bank (2008), Study in urban transport strategies for medium-sized cities in Vietnam, World Bank, Hai Phong City People Committee, Ha Long City People Committee ♦
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