

## EE361/EE363 ECONOMICS OF CLMV COUNTRIES

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**Urban Development in Hanoi: Effects on Transportation in 2000 - 2020**

*Suggest to revise title to  
" Impacts of transportation on urban  
development in Hanoi "*

### GROUP #8

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## Overview

Vietnam is a <sup>rapidly</sup> fast developing country in southeast Asia. The country has around 60 percent of the mountain and only 23 percent of the land <sup>two</sup> which is flat area in a strip line in the eastern part of the country. Vietnam has <sup>main</sup> 2 main rivers pass through the country <sup>along</sup> which is <sup>namely</sup> the Red River Delta in the north and Mekong River Delta in the south. Most of the area is <sup>mountainous</sup> mountainous so most of the area cannot do agriculture. The urban areas in Vietnam are Hanoi, Ho Chi Minh City, Haiphong, Danang and Can Tho.

Hanoi is the capital city and second largest city in Vietnam located in the northern region along the banks of the Red River. It has a population of over 28 million people which is around 27 percent of the country's population, 8 million people live in the city and an estimated population of 20 million people live in the metropolitan area. Hanoi has 12 urban districts, 1 district-level town and 17 rural districts, and it is also a major transport hub of the Red River Delta because it has a large network of national routes which contains expressways, railways, the largest airport in Vietnam: Noi Bai International Airport and cargo transport.

Transportation in Vietnam, especially in Hanoi has been continuously improving in both quality and quantity. For road transport, the total length is about 222.179 km which ~~is~~ <sup>are</sup> relatively well developed, but some still in poor condition. Even though there has been a rapid growth in the road system. <sup>and</sup> However, traffic is still growing rapidly, ~~because of the design~~. Therefore, <sup>the</sup> ~~they~~ <sup>government?</sup> came up with two classes of expressway which are class A and class B to solve the problems. The main transport vehicles are motorcycles and cars. In addition, Hanoi has a water transport system. The city has a lot of ports and harbors, and also many ferries. Moreover, <sup>for</sup> air transport, Vietnam has 3 main airports which <sup>include</sup> Noi Bai in Hanoi is the biggest airport of the country. Furthermore, in Hanoi, there ~~were~~ <sup>are</sup> railways which are a single track North-South Railway running between Hanoi and Ho Chi Minh City, and the eastern railway from Hanoi to Nanning <sup>which</sup> in order to connect with China. Lastly, they also provide a public transport <sup>for</sup> in order to travel <sup>it within</sup> in the city which is the Metro. <sup>there is</sup>

For the past twenty years, Vietnam has been rapidly developed <sup>ing</sup> in many sectors including transportation. Good transportation can contribute to good investment <sup>in</sup> in infrastructure and ~~increasing~~ <sup>particular</sup> urban development. Road transport is the main <sup>route</sup> of Vietnamese people. Since they use motorcycles, as their main road vehicle to transport. Out of 92 million population headcount, 45 million motorcycles are registered in the country. <sup>making</sup> <sup>as the</sup> Make it ranked 4th largest market for motorcycles sales. However, due to the slow development of roadways and overcrowding of population, it creates a great deal of road congestion.

After <sup>in</sup> the urban development in Vietnam, the transportation in Hanoi <sup>has</sup> had a huge positive effect from this development. Hanoi's urban transportation system is generally

<sup>comprised</sup> composed of both urban and inter-city roads even though the railways, inland waterways and airports are mainly for the inter-city ~~road~~ and regional transportation services. ~~During~~ <sup>For</sup> ~~this~~ urban transportation, people still use motorcycles as their main vehicle since they prefer private transportation more and the private car is very expensive to purchase in Vietnam <sup>so</sup> ~~the~~ motorcycle ownership <sup>is</sup> ~~will~~ continue to increase. <sup>which makes</sup>

Moving on to Hanoi's transportation infrastructure, the road network is insufficient for the growing population density related to the connectivity and the technical standards. The <sup>use</sup> ~~usage~~ of main roads does not maximize its utility which spoils the road space that should have been used for housing or for commercial. ~~The~~ traffic management in Hanoi is still struggling to be well-managed since the infrastructure and facility related traffic management such as monitoring systems and traffic signals are inadequate.

Public transportation system has been affected by urban development. The clear example is the old Tramway network in Hanoi was replaced by buses. The Transport Management and Operation Center (TRAMOC) is authorized to manage the bus network and to develop it up to the standard set. ~~Buses Implementation's~~ <sup>to</sup> intention is to make Hanoi as the capital city <sup>to</sup> become more structured and organized. It also reduces the traffic congestion from the overcrowding motorcycles and cars on the road. <sup>The intention of the implementation of the bus system</sup>

Another public transportation that slowly disappears from Hanoi is cyclo which is the oldest individual type of public transportation in Hanoi. It has not been used by the citizens as much since it is outdated and slow <sup>and therefore</sup> ~~so~~ it was replaced by the taxi and Xe Om (motorcycle taxi). Moreover, the taxi system and Xe Om in Hanoi has improved and become one of the most important public transportation in Hanoi.

The railways in Vietnam and especially in Hanoi are now more connected ~~in the~~ ~~country~~. The huge project that is operated by Hanoi Metro Company (HMC) is the first Vietnam rapid transit system called 'Hanoi Metro'. It is still under construction and expected to operate in 2021 and 2023. This shows that Hanoi is not holding back the development to stand out in the world economy. If the transportation in the country is urbanised enough, it will <sup>attract</sup> ~~catch~~ the foreign investor's eyes <sup>interest</sup> and the citizen <sup>is</sup> can use the well planned transportation to work and create more value output to the country.

To conclude, transportation in Hanoi including urban transportation <sup>is gradually developing</sup> ~~has been~~ developed and <sup>is becoming</sup> ~~plans~~ to be more urbanized and <sup>achieving</sup> ~~reach~~ higher standards to <sup>meet</sup> ~~the~~ world as <sup>standards</sup> ~~globalization is just a step away from ourselves~~. Since transportation is still one of the most important factors that is inevitable to enhance standard of living.

## Key issues and Challenge

### Trends and Issues

Vietnam has undergone numerous changes in the past 30 years. During the 1990s, Hanoi, as a capital city, had gone through some significant shifts, <sup>in the</sup> as a process of modernising the city, including the shift in transportation mode. It changed from a city of walking and cycling to a city of personalised motorised transport. At the same time, the residence areas were visibly separated from workplaces. These changes resulted in the increase in traffic movement within the city, mainly consisting of motorcycles and the increasing number of personal cars. <sup>being</sup> The trend of car-based urban development is problematic for many reasons, one of them <sup>is</sup> that Hanoi is a city of small streets. With urban development, some people are getting wealthier and cars are seen as a symbol of status causing the number of cars to increase. In turn, the small streets in Hanoi got overcrowded and issues emerged. The noticeable effects are traffic issues and traffic accidents from the rise of vehicle numbers. However, traffic issues are not the only problem as the worst problem is increase in pollution such as air pollution and noise pollution. This induced a health problem for people who are exposed to it.

Table 1: Indicators on Road Vehicles and Infrastructure

No.	Indicator	Unit	2011	2012	2013	2014	2015	2016
1	Road length (national roads, provincial roads, urban roads)	Km	1,723	1,800	1,813	1,908	2,003	2,052
	Growth rate	%		4.5%	0.7%	5.2%	5.0%	2.4%
2	Number of motorbikes	Unit	3,980,070	4,444,127	4,660,761	4,852,380	5,045,672	5,255,245
	Growth rate	%		11.7%	4.9%	4.1%	4.0%	4.2%
3	Number of motorbikes/km of roads	Unit/km	2,173	2,272	2,442	2,485	2,519	<u>2,561</u>
4	Number of cars	Xe	218,507	226,810	231,960	255,658	275,938	327,820
	Growth rate	%		3.8%	2.3%	10.2%	7.9%	18.8%
5	Number of cars /km of roads	Unit/km	127	126	128	134	138	<u>160</u>

Source: Hanoi Department of Transport

The main challenges of urban transport were two-wheeled motor vehicles and transport systems. Even though people mostly use motorcycles as a main transport, the growth rate of motorcycle purchases are less than car purchases (Table 1). For the transport systems, it creates negative consequences, especially traffic jams pollution, ~~due to no reliable observed data available on pollution level.~~

*this sentence is not clear,  
say just to delete*

*good use of  
table.  
Probably could  
use more  
graphs, charts  
or tables  
in other  
sections*

More cars means less space for other transportation alternatives. Active transport, such as walking or cycling, is reduced as passive transport or motorised transport. Moreover, the decline in public spaces has led to the decrease in social and physical activities which is significant for maintaining good health, both mental and physical. While gyms and parks are available, they cannot be compared to a walkable or cyclable city. Being able to commute by foot and bicycle or using other modes of public transport is space-efficient and could help reduce traffic issues but with the current amount of cars, space-efficient transportation modes have become unpleasant and even dangerous. Less social spaces also reduced social interactions and reduced the sense of belonging for the habitants.

The new city is evidently designed for the wealthy. The trend in replacing traditional markets with luxurious shopping malls is also a destruction of public space. Prior to the replacement, economic profits generated mostly remain in the hands of the poor and middle class. However, the profit now goes to large companies instead of small business people by replacing local vendors with luxurious shops designed for middle to upper classes. This has led to the decline of affordable fresh everyday household products and other local products. Also, it is designed for people with cars which makes travelling by foot or cycling more difficult. It is a form of segregation or class discrimination creating disharmony among citizens.

### **Transportation Infrastructure**

Hanoi's transport provides several weaknesses in both land and water routes. The road network in Hanoi is insufficient in terms of density, linkage, and operating systems, leading to unavailable roads in suburban areas. The bottlenecks and missing connectivity can lead to traffic congestion and traffic pollution. The main effects due to inadequate road operating system, it results in inter-city though the center area. The lack of design road has occurred as a key issue due to the combination of substandard and overscale layout of road in Hanoi.

Moreover, ~~the~~ railways ~~does~~ not solve transport issues and also provide negative impacts as the railway construction had built in a type of single track and on the ground level that runs through urban areas which is illegal construction, leading traffic congestion and other negative consequences.

Inland water routes, furthermore, are less provided due to ~~less~~ <sup>decreased</sup> demand among people to transport and commerce but inland water transportation has a potential for doing business or transport due to low transportation cost and unnecessary for construction. It is unnecessary for building new construction due to the existing natural route such as canal and river. However, inland water transportation provides some limitations due to the duration of arrival.

The location of the airport in Hanoi has been one main issue even though it is located within reasonable areas but it still provides less adequate facilities in both domestic and international services than Noi Bai.

*But Noi Bai is in Hanoi?*

### **Government/State Strategies, Policies and Legislation**

As there are expanding areas of urban development and increased demand for transportation, there shall be some rules and regulations that the government should introduce in order to handle these problems. It is obvious that there is an increase in migrants in the city. The increasing number of migrants has exacerbated the living conditions of the poor urban populations that were already living in cottage towns within the city.

In order to reduce traffic jams, the city government has implemented several rules and regulations. For example, the Hanoi government has voted to ban motorcycles out as one way to reduce air pollution, congestion, and to encourage people to use public transportation more. These regulations were designed in order to tackle with urban's demand for the construction of public transportation systems.

Meanwhile, some projects on urban transport development will be implemented, such as highways, the Metro public transport network and BRT system. The development is based on the forecast that the population of the city will increase by 5 million and the economic growth will reach 10.5 percent per year between 2015 and 2025. As the main transportation in Vietnam are the auto along fixed routes by bus or taxi or passengers under the contract. Therefore, the transport planning objectives have three main points: improvement of the road network, through the construction of many new and expanded roads, highways, ring roads and overhead roads, solving the problem of traffic jams by developing large-scale public transport, monorail, tramway, and modernizing international-standard infrastructure that connects the city with others around the world such as deep-water port and new international airport.

Firstly, let's go back a little bit on the history of administry of transportation in Vietnam. There was a problem with a limited diversification between private and public transportation. Since then, the Transport Management and Operation Center (TRAMOC) was held as a regard to manage the bus network (routing, bus stop, and terminals). Its role was to operate with government's coordination. Currently, Hanoi People's Committee (HPC) have managed Transerco as a holding company with a monopoly power on the urban public transportation along with its various business areas, controlled by the city government.

*established?*

Apart from this, on January 17, 2020, Vietnam's government ~~has~~ issued Decree No. 10/2020/ND-CP (Decree 10) regulating automobile transport business and conditions for conducting automobile transport business replacing the old one and will be enforced from April 1, 2020 onward. Some new important features of Decree 10 are such that The taxi

driver in Vietnam must print the invoice to their customers, the enterprises are required to **attach its invoice-printing devices** to the taxi meter in order to print them to their customers. Regarding the conditions of the auto transportation, the firms shall register the vehicle certification and install tracking devices to guarantee the safety of their customers such devices might include computers with internet connection, supervise, and handle information displayed in tracking devices and others.

In conclusion, there are several projects that are currently undertaken by the government even by road, railways, inland waterway, ports, rural transportation, or urban transportation. However, even though the main issues while development and improvements in urban transport infrastructures and management have been undertaken by the Government, it seems that the ~~speed~~ <sup>rate</sup> of increase and changes in demands <sup>are</sup> is much faster than the supply.

### The Role of Various Development Actors

While the ~~advancement and improvement~~ <sup>are being</sup> in metropolitan areas in the urban transport infrastructure and management taken by the government, there ~~are higher and~~ changes in demand ~~more~~ <sup>is</sup> faster than in the supply ~~side~~ <sup>AS</sup> due to ~~some to the~~ government policy. However, the government budget and official development assistance are limited, it needs to seek for opportunities from other sources in order to ~~develop~~ <sup>engage</sup> the country. The most likely possible source of funding is from the foreign investors such as Asian development banks, World bank, and other ~~European~~ <sup>the</sup> countries. <sup>Union</sup> sources <sup>the</sup>

Categorized by 5 sectors include Road, Rail, Inland Waterway Transportation, Seaport, Airport, Traffic Management or Traffic Safety, and Road Maintenance. Ministry of transport response for Road, Rail, Inland Waterway Transportation, Seaport, and Airport which get the funding from the government in order to build a standardized main transportation and the operating system in a whole country. For road in Hanoi was responsible for the Hanoi people's committee and getting funds from Japan bank for international cooperation in late 1990. The Hanoi people's committee also takes care of the railway system which has many sources of money such as France, Asian development bank, and European Investment Bank. Japan International Cooperation Agency was the one who funded the Traffic Management, Traffic Safety project in Hanoi and neighboring areas in the early 2000s era which was a project owned by the National Traffic Safety Committee. Road maintenance was under Ministry of transport, funding from Japan International Cooperation Agency, Finland, Asian development bank, and World Bank to manage the system and construct the national bridge. Moreover, the government also authorized the Transport Management and Operation Center to manage the bus network such as routing, bus stops, and terminals.

## Lessons Learned

The current development trend is not focusing enough on active transportation modes such as walking, cycling, and public transportation. Since the size of streets in Hanoi is rather small, cars and motorcycles take up most of the spaces leaving little to no spaces for pedestrians and cyclists to commute safely. The root of this problem comes from the poorly structured city plan which was not prepared for the increasing number of cars and motorcycles. Vietnam government had already voted on a policy to limit the number of motorcycles in Hanoi by 2030. However, the policy has not been implemented due to the insufficient public transportation system.

Despite the city being located in a good region, the current city plan does not adequately favor physical commuting activities due to the poor city management. Moreover, there are several obstacles in replanning the city structure due to the limited budget. The density of the population in Hanoi is also an issue stemming from poor government management to evenly distribute the development to make certain areas less overcrowded. The current public transportation in Vietnam does not cover all areas and is not properly operating in some district which is the reason behind the increase in personalised transportation. Furthermore, as of now, the traffic issues from motorcycles are out of control.

The ultimate plan is to restructure the city plan with the current density, it is rather difficult so we propose a plan that starts with the suburban areas to help decentralize and would alleviate the issue of the inflow population from rural areas. The interconnected transportation modes between Hanoi and suburban cities such as highways and trains are vital in the decentralization process. The result of interconnection between these cities could enhance the commuted route of the citizens along with the reduction in transportation time. In addition, the traffic congestion will be solved gradually.

Inland water transportation in Hanoi should be covered more by expanding more routes to connect between intercity and outside Hanoi, leading to having more choices for transportation and reducing traffic congestion on land.

## Conclusion

Hanoi has two main transport ~~vehicles~~ <sup>modes of vehicle</sup> which are motorcycles and cars. Most of the citizens use the road for their main route as the transportation. More than half of the registered vehicles are motorcycles, since they are the affordable private transportation for low to middle income people. However, due to the slow development of roadways and overcrowding of population, it creates a great deal of road congestion. Apart from the city plan that is poorly structured, the road network is inadequate for normal transportation. When the demand exceeds the supply, it creates road congestion. Furthermore, insufficient

public transportation such as the sky train or metro system is the cause of road traffic as well. Inland water routes are poorly provided as this route is only used for commerce, especially import and export, and tourism, leading to having improper routes for people to transport to other cities. If the government conducts and expands more water routes, it can lessen both traffic congestion and traffic pollution on land.

Since there is an increase in migration and traffic congestion in both rural and urban areas that might create other problems. Therefore, the government has implemented some rules and regulation to prevent and alleviate the problems that might occur due to urban development. Such projects that the government has implemented so far include highways, Metro public transport network and BRT system. Moreover, so far the government has released Decree 10 regulation that mainly focuses on people's safety when they use public transportation. In addition to that, the government has supported and allowed more private companies to participate in this business sector. However, it cannot develop that much since the government has a limited budget. As a result, foreign investor like Asian Development Bank and World Bank is very important to Vietnam. Last but not least, Hanoi is a wonderful city in terms of location and culture, if these issues were resolved, the quality of life of the people in Hanoi would be improved drastically.

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