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## A matter in relation to public transportation in Ho Chi Minh City

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### Abstract

Transport Ho Chi Minh City is a combination of many types of existing traffic to serve the needs of travel within the city and between Ho Chi Minh City and surrounding areas and globally. As the largest urban area and an important transport hub of Vietnam, Ho Chi Minh City has a diverse and modern infrastructure system with many large inter-regional trunk roads, two main highways linking the provinces. The western and southeastern regions, along with many key national highways (such as National Road 1A, Highway 13, Highway 22). The Trans-Asia AH1 route goes through the territory of this city and the North-South Railway starts and ends at Saigon Station. The city's only airport, Tan Son Nhat International Airport, is also the largest airport in the country. Currently, the City also owns and operates a public bus network throughout the districts and is developing an urban railway network (metro) to meet the increasing needs of the people. Planning to develop Ho Chi Minh City Transport to 2020 and vision after 2020, the urban railway system of the city consists of 8 radial lines and rings connecting the main centers of the city; 3 ground tram lines or monorail. The total length of the entire urban railway system is about 220 km, with a total investment estimated at nearly 25 billion USD. In the core solutions to reduce persistent traffic congestion in the city, metro lines under construction are bringing great expectations to the people of Ho Chi Minh City.

**Keywords:** public transportation, personal vehicle

### 1. Introduction

To be able to ban motorcycles, Ho Chi Minh City aims to 2020, the market share of public passenger transport (VTHKCC) of the whole city will take care of 15-20% of the travel needs of the people. By 2025, it will reach 20.5-26.6% and by 2030, this rate will increase to 29.3-36.8%. However, until now, public passenger transport in Ho Chi Minh City has only met about 9% of the travel needs of the people - the distance is quite far from the set target. Worth mentioning, in recent years, Ho Chi Minh City has focused a lot on bus investment from infrastructure to new interest rate support policies and waiting stations ... But over the years, the number of bus passengers tends to reduction. According to the Department of Transport of Ho Chi Minh City, the volume of public passenger transport in Ho Chi Minh City as of the end of December 2018 is estimated at 571 million, down 3.6% over the same period in 2017 (592 million passengers) and reaching 90% compared to the previous year. 2018 plan (635 million times). In particular, the volume of subsidized universal buses by the end of December 2018, was estimated at 199 million passengers, down 7% compared to the same period in 2017 and reaching 82% compared to the plan set in 2018. Compared to the end of in 2017, the bus network in Ho Chi Minh City now decreases by 7 routes (5 subsidy routes including: 37, 40, 60, 95, 149 and two non-subsidized routes, including 12 and 49). Similarly, in order to ban motorbikes, Ho Chi Minh City aims to deploy the BRT line No. 1 to operate before 2020; Focus on prioritizing the strength of the resources to complete and put into use the remaining 3 metro lines and the remaining tramway and BRT routes before 2030; Developing diversifying types of "river buses". However, the above targets are at risk of "breaking down" because the progress of projects is too slow. Before that, Ho Chi Minh City strives to put into operation the first BRT bus route on Vo Van Kiet - Mai Chi Tho route by 2019. However, in September 2017 the project was halted due to calculations showing that the number of passengers is not much higher than the current bus routes, even lower than

some routes, while the investment cost for fast BRT bus is very great. So far the project still doesn't know when to restart. Similarly, of 8 metro lines planned in Ho Chi Minh City, 3 routes have been implemented: Line 1 (Ben Thanh - Suoi Tien); route 2 (Ben Thanh - Tham Luong) and route 5 (Saigon Bridge - new Can Giuoc bus station, phase 1 from Saigon Bridge - Bay Hien crossroads). However, due to many inadequacies and limitations in the design and approval of investment projects, metro line No. 1 of Ho Chi Minh City is in danger of being late for the destination in 2020 because of lack of capital. The metro line No. 2 is also delayed to the destination 4 years (expected 2024). Both projects are waiting for the approval of the authorities to adjust the total investment. And the metro line No. 5 is expected to be put into operation in 2025, but Phase 2b has no sponsors interested in research so it has not determined the investment capital. About the public passenger transport system: Although not yet fully promoted as a key role in the urban transport system, public transportation by bus is the main means of public transportation of the city. The increase in the volume of transport on bus routes between 2003 and 2005 was due to the expansion of the network of routes, the number of routes increasing rapidly, new investment vehicles through projects, and the subsidy policy is maintained in a stable manner. From 2006 up to now, the volume of transportation on bus routes has increased slowly due to the following reasons: Increasing

ticket prices resulted in reduced passenger volume; the number of private vehicles has increased rapidly; The underground construction works, traffic flow and bus services are not good yet. Over the past time, with the orientation of focusing on the investment and completion to put into use a number of key projects as planned like Saigon Bridge 2; Tan Son Nhat - Binh Loi - Outer Ring Road; Four steel overpasses at the intersections (Cong Hoa - Hoang Hoa Tham, Hoang Van Thu - Truong Son - Cong Hoa, 3/2 - Nguyen Tri Phuong - Ly Thai To, The Le Van Sy Bridge, Bong Bridge, Hau Giang Bridge, Kinh Thanh Da Bridge has contributed to reduce the number of traffic jams (over 30 minutes) in the city, the average of five years in 2009- The number of traffic jams will be reduced by 51.8% per year (5) and no major traffic jams have been observed since the beginning of 2014. In order to develop the land area, HCM City needs to develop road traffic in the northeast, southeast and southern directions with belt roads. Ho Chi Minh City also needs to build urban railways such as metro, monorail and high-rise railways, to build railways linking the national network in Loc Ninh, central and Ba Ria-Vung Tau. According to the transport development orientation, HCMC needs to build an area of transportation infrastructure that accounts for 15-25% of urban land. At present, the land area of the city is only 6% (12.579 ha) of urban land, of which more than 2% (2.300 ha) of land for the airport.



**Fig. 1:** Traffic jam in Ho Chi Minh city

Ho Chi Minh City is one of the most dynamic and economic cities in Vietnam. However, the process of urbanization is strong, immigrant population is rising, the infrastructure system is not synchronous, the orientation of

urban planning is not really right, the weak management of the management agency Poor awareness of traffic participants ... made Ho Chi Minh City traffic worse. Traffic jams, noise, dust pollution caused by traffic vehicles

have become a dread of those who have come to this city. Urban transport is like the blood vessels of the human body, blood clots mean that the body dies. Traffic jam affects the economic development, time-consuming waste of people involved in traffic, etc. How to solve the traffic situation of Ho Chi Minh City is a difficult problem of the whole society. Urban transport is not new, but why in Vietnam is the situation worse. This article only summarizes and sets out policies for reference. The traffic in Ho Chi Minh City is the sum of the many types of transport available for travel within the city and between Ho Chi Minh City and surrounding areas. Being the largest urban center and an important traffic hub of Vietnam, Ho Chi Minh City has a modern and diversified infrastructure system with many major inter-regional roads, two major highways connecting the provinces from Western and Eastern South, and many major national highways (such as National Highway 1, Highway 13, National Highway 22). The Trans-Asia Highway AH1 crosses the city's boundary and the North-South Railway begins and ends at Sai Gon Railway Station. The only airport in the city, Tan Son Nhat International Airport, is also the largest airport in the country. Today, the city also owns and operates a network of public buses throughout the district and is developing a metro network to meet the growing needs of its residents. Besides the advantages of socio-economic superiority to other localities in the region and the whole country, HCMC has been and will continue to face many serious problems and risk becoming obstacles. In the development of the city, the emerging problem is the capacity and quality of the urban transport system. Up to June 2014, the number of means of transport managed in HCM City is 6.5 million vehicles, of which 497,586 cars and 6,090,198 motorbikes. HCMC's urban transport features are primarily land-based, and this is also the dominant mode of addressing urban transportation needs. Roadway: Total road length in the city is 3,670 km with 3,800 roads (excluding rural roads) but most roads are narrow, only About 14% of the roads have a width of more than 12m so as to be able to organize passenger transportation by bus, 51% of roads with width of 7m - 12m, 35% width is less than 7m. About the railway: There is only one North-South national railway in Ho Chi Minh City, there are no large urban railway. On inland waterway: The network of river-way with a total length of 975.5 km of rivers and canals of all kinds with 112 routes, although the waterway network is distributed evenly throughout the city, some rivers and canals are encroached, accretion, limited by the unblocked bridges of the bridge. In addition, river-way are affected by the tidal regime with large fluctuation amplitude, so waterway transportation has not formed a continuous network and has not exploited the advantages of water transport. Currently, water transport accounts for only a small proportion, about 4% to 6% of the city's transportation needs. Sea transportation: Sea transport currently mainly connects Ho Chi Minh City with Vung Tau and the outer areas through two main channels: Luong Tau and Soai Rap lanes, which is also the main shipping lanes of the whole of southern area of foreign exchange.

## 2. Traffic jam: Causes and solutions

According to the Houtrans report, the high demand for travel among districts, such as Binh Thanh - District 1, District 6 - Binh Chanh District, District 8 - District 5, District 1 - District 5, go to work and go to school. This

shows that the drivers involved in traffic congestion are the workers, students - students. The process of economic development, industrialization and modernization is the premise for urbanization. The demand for transportation (traffic demand) always increases according to the process of socio-economic development. Demand for passenger transport mainly depends on the development of population, demand for transportation of goods depends on the economic development. Under current conditions, the demand for travel in urban Vietnam is solved mainly through road, so the process of expanding urban space is indispensable. The process of urbanization has attracted people from other provinces in large cities to work because of improved and diversified employment, study and living opportunities. Many functional economic zones, urban functional areas and the new urban areas are being built, which leads to the demand for transportation, the distance to travel, the demand for using high-quality means of transport, and the expansion of urban space. Invisible urban space, however, is partially limited by the travel time criterion. Right from the middle of the nineteenth century, the German urban researcher C.Ritte mentioned the measurement of space to calculate the cost of time travel. British statistician F. Ganton has introduced contingencies to determine central access over time and thus speed is one of the key conditions for urban development. In the Soviet Union, the end of the nineteenth century travel time was accepted at 25-30 minutes, until the end of the twentieth century this number was accepted at 35-40 minutes, however distance traveled (length of onion up to about 2 times. In 2005, the average travel time to work in Hanoi and Ho Chi Minh City was 18 - 20 minutes (according to the HAIDEP report) corresponding to the average distance of about 6-8km, so far the average travel time to work has reached the threshold of 30-40 minutes corresponding to the average distance 8-10km, approaching the threshold of the major urban areas such as Malina and Jarkata is from 40 to 50 minutes, Tokyo and Osaka are from 30-40 minutes but the travel distance is not commensurate (due to current we are too dependent on individual means of transport) also means that the urban size is not adequate. The process of urbanization and industrialization has positive and negative impacts at both national and city levels. In addition to promoting economic growth, increasing incomes, improving access to services, creating more employment opportunities, it also has many consequences that one of the consequences is easy to see. , which is the traffic jams. Traffic congestion has been the "specialty" that large cities in developing countries create but do not want to receive. Impacts from UTGT are fast, diversified, and complex. Cities have encountered many difficulties and time, resources to be able to solve, control and achieve sustainable development for urban. Identifying the root cause of the problem to find solutions to minimize and "destroy" this "specialty" is urgent. In the framework of this article, the author presents some main causes related to planning, urban development management, vehicle development ... creating traffic jam, finding measures Overcoming negative impacts and encouraging positive impacts. After the renovation, the city's economy boomed as the biggest driving force, attracting the population of the whole country and the southern delta. Since 1986, the transportation planning mainly focused on development in the inner city. The structure of urban planning focuses, so

all activities of the city people are concentrated here. In a small space, everything is pent up there, population density soaring, making the city increasingly more crisis. Looking at map 1 we can see that centralized planning is the main reason for motorcycles with high mobility. Chinese motorcycles are flooding the market with cheap price, thus most people can buy. Moreover, the rapid increase of personal transportation. Compared the means of transport in Ho Chi Minh City in 1995 to other Southeast Asian cities, it is easy to see the number of motorized vehicles dominate. The composition of motorcycles has not decreased, while the composition of automobile components is increasing trend. As the main means of transport, the flexibility and the area occupied by the road surface is greater than the automobile, which shows that motorbikes are currently the means of causing high traffic congestion. The process of economic development, industrialization and modernization is the premise for urbanization. The demand for transportation (traffic demand) always increases according to the process of socio-economic development. Demand for passenger transport mainly depends on the development of population, demand for transportation of goods depends on the economic development. Under current conditions, the demand for travel in urban Vietnam is solved mainly through road, so the process of expanding urban space is indispensable. The process of urbanization has attracted people from other provinces in large cities to work because of improved and diversified employment, study and living opportunities. Many functional economic zones, urban functional areas and the new urban areas are being built, which leads to the demand for transportation, the distance to travel, the demand for using high-quality means of transport, and the expansion of urban space. Invisible urban space, however, is partially limited by the travel time criterion. Right from the middle of the nineteenth century, the German urban researcher C. Ritte mentioned the measurement of space to calculate the cost of time travel. British statistician F. Ganton has introduced contingencies to determine central access over time and thus speed is one of the key conditions for urban development. In the Soviet Union, the end of the nineteenth century travel time was accepted at 25-30 minutes, until the end of the twentieth century this number was accepted at 35-40 minutes, however distance traveled (length of urban space) up to about 2 times. The State accelerates the implementation of government decisions such as Urban Planning and Transport to 2025, Regional Transport Planning, Decisions on Solutions to Traffic Congestion 2011-2015. In particular, the most attention to build the public transport system, ring road. Renovating the mechanism, it is necessary to encourage private enterprises to invest in the construction of various types of traffic. As experienced in the capital city of Tokyo (Japan), in parallel with state transportation, the private railway transport system is very high. Currently, the world is tending to evaluate and re-use of LRT, Monorail transportation because it has very high efficiency in urban areas such as low construction cost, low noise, elderly users. Passengers can travel within short distances, create a busy space in the neighborhood, can be associated with other types of traffic. In addition to the synchronous development of transport infrastructure as planned, Ho Chi Minh City will deploy intelligent transportation system, which is identified by the City as one

of the most effective solutions to solve the traffic problems of the largest city in the country. Continuing to improve the transportation infrastructure is very important, it is critical for experts to assess the need to minimize traffic congestion by limiting private transport in the urban area with a very clear and logical roadmap. At the same time, to promote means of public passenger transport. In addition, it is necessary to promote propaganda, increase sanctions to raise awareness for people involved in traffic. In the future, experts said that it is necessary to restrict the licensing of construction of apartment buildings, commercial centers, and offices in the inner city. At the same time, there are plans to shift some universities and agencies out of the city center in order to reduce population and transportation pressures for urban areas.

In the cities transport planning by 2025, it is necessary to define the urban railway or subway. To go to work, cannot be half-hearted. In the inner city area, land stockpiles are no longer abundant, compensation rates soar to develop underground traffic, LRT trains, bicycle recovery. The inner city should develop, modify the road system; Develop a cheap car park when the State collects tax on the inner city. In suburban areas, such as Can Gio and Nha Be, it is advisable to invest in building roads to access seaports and main development axes in the master plan with infrastructure investment policy. For motorcycles, they must strictly limit the importation and production; increase in motor vehicle taxation for motorcycles for individuals and companies. For cars, taxis need to have limited measures, high taxes when using. It is necessary to invest in the development of the public transport system; Construction of high-rise mobile parking, underground mining when building offices, high-rise buildings. For buses need to improve service, cheap, safe to passengers peace of mind when joining this public transport. There should be incentives for private enterprises to invest in this service. It should be clear, transparent and fair when licensing and issuing the rules of use, in the relationship between management agencies and enterprises. In order to increase the quality and quantity of passenger transportation, in the inner city, it is necessary to carry out free trial bicycle recall and change the type of means when collecting tax on cars into the inner city. At that point, the car will collect funds in the form of advertising. Reclaimed bicycles are popular in many European countries, and can be borrowed and paid for in short distances. Street order should be rearranged, combined with the LRT model. With the same space, but in HCM City, the encroachment of the trade streets is unproductive and confusing, causing the loss of urban landscapes. According to the Department of Traffic Safety Ho Chi Minh City, in recent years the city has invested a series of construction solutions, non-works to reduce serious traffic congestion in the city. Specifically, the city has deployed 13 works / work items: Underpasses and flyovers under the project of building My Thuy intersection (District 2); N1 branch under the tunnel construction project at An Suong intersection (District 12); tunnel under the National University intersection (heading Ho Chi Minh City to Dong Nai); Bridge over Diamond Island (District 2); upgrading Le Duc Tho street (Go Vap district). Besides, Ho Chi Minh City has also started 8 projects, such as building Thu Thiem 2 Bridge (District 2); widen Do Xuan Hop street (District 9); expand and upgrade To Ky road (connecting district 12 and Hoc Mon district).

In parallel, the city is also focusing on speeding up the construction of some key construction projects, such as N2 branch of An Suong intersection project; Project on upgrading and expanding Chu Y Bridge; Project on upgrading and expanding Kenh Te Bridge. In the past year, there was no traffic congestion in the city, but traffic congestion often occurred and complicated happenings at the roads leading to warehouses, cargo ports, airports, schools, hospitals, the gateway to the city.

### 3. Conclusion

In the problem of clearing traffic congestion in the country's largest metropolis, the bus system, BRT line (fast bus), metro are considered as a form of public transport replacing personal vehicles (motorcycles, cars) to save the congestion. However, these types of transport are facing difficulties in terms of mechanism, capital, leading to "drowning" and even the project is still "stillborn". The market share of public passenger transportation is ensured to be at least 60-80%. Accordingly, bus transport optimizes the existing network and develops on average 20 - 25 routes / year (period 2019 - 2020) and 17 - 18 routes/year (period 2021 - 2030). By the end of 2020, there will be about 200 - 220 routes with 4,500 - 5,200 vehicles. In addition, the project is expected to complete 1 metro line and 1 BRT line by 2020; 6 metro routes and 5-6 BRT routes until 2030; developing the bus network of 3 - 5 routes to 2020 and 12 - 15 routes by 2030. In fact, bus development is facing many difficulties, the network of city bus routes is not clearly decentralized. . Network development in the current period is based only on actual travel needs of the people, without detailed planning and long-term orientation. Notably, in 2017, Ho Chi Minh City had 144 routes with 2,603 bus facilities. In 2018, the city currently has only 138 routes (including 100 routes with subsidized and 38 routes without subsidies), with 2,457 vehicles, reducing both the number of routes and the number of vehicles. Summary report of Ho Chi Minh City Department of Transport on bus transport volume in 2018, the volume reached 296.5 million passengers, an increase of 1.7%. However, the volume on subsidized routes only reached 211.8 million, down 6.7% over the same period and only reached 82.8% of the plan. Particularly for the BRT route (fast bus) after many researches, until now, the People's Committee of Ho Chi Minh City has decided to stop deploying, due to the huge investment cost of BRT and the effectiveness is not high, unrealistic.

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