



VALUE CAPTURING: A REALISTIC FUNDING SOURCE FOR URBAN TRANSPORTATION IN HO CHI MINH CITY?

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ABSTRACT:

Motor vehicles are an important source of urban air pollution. Making financing sources available for reducing transportation impact, notably reducing dependence on private transportation and enhancing public transportation should not therefore be separable from any urban air management plan. Like other developing cities in South-East Asia, Ho Chi Minh city is lacking stable and important funding for urban transportation projects, especially public transportation projects. At present, the public transportation system in the city, though considerably improved, just satisfies only 6-7 percent of the urban travel needs and the majority of city-dwellers rely on private transportation for their travel, especially motorized two-wheelers. Many factors have long been identified for the weaknesses of the city's urban transportation system but it seems that the vital issue which is funding sources for the transportation system hasn't received much attention from the authorities who just depend on an annually fixed meager budget for maintenance, operation of and investment in the system.

The paper's purpose is to examine how the concept "value capturing" has been applied in some developed and developing countries to collect considerable funds for urban development and urban transportation. A literature review of the subject matter is conducted, then various aspects of its applicability in the context of Vietnam will be discussed. Because Ho Chi Minh City needs to find new means to finance transportation capital investment, particularly public transit, value capture offers a good opportunity to achieve these goals.

Key words: transportation finance, urban transportation, value capture, Ho Chi Minh City



1. INTRODUCTION

Reading the Vietnamese newspapers in the 1990s, one would be surprised by the forecasting or objectives proposed by the authorities for urban public transport in big cities. In the Vietnam News¹, in September 1997, one reads that the bus transportation of Hanoi should ensure between 35% and 40% of daily trips in the year 2000 as compared to 1.5% to 2% estimated for 1997. For Hô Chi Minh City, by 2010, the modal share of public transportation would make up 60% of the total trips against 5% estimated in 1997 with the following components: bus and minibus 20 to 30%; subway from 5 to 10%, surface tramway 5 to 10%. In late 1990 the authorities became aware that these objectives were too ambitious and unrealistic and more reasonable objectives are fixed with a modal share of 50% for public transportation by 2020. The bus will have to satisfy between 20% and 30% of the total trips and the future rail transportation (light rail transit, heavy rail transit), 30 to 20%. For Hanoi, the buses will satisfy 30 to 35% and 7 to 8 light rail lines satisfy 20 to 25% of the total travel demand in 2020.

In Ho Chi Minh City compared to late 1990s, the bus transportation is much better now. Up to now there are about 109 "model" bus routes out of 138 existing bus routes in Ho Chi Minh City. In 2005, there were 180 million passenger-trips on bus or approximately 9 times as much as the number of passenger-trips in 2002 when some first model bus lines were put into service. This change for the better is the result of many Central government and Municipal government measures: fiscal incentives to state-own bus manufacturers, heavy subsidies to bus operators in case of loss in operation (which also means the city government intentionally fixes a low fare level ranging between US\$ 0.06 and US\$ 0.18), increased service frequency, substitution of old bus by new ones.

In spite of the spectacular development of urban bus transportation, the share of public transport in Ho Chi Minh City remains very modest. To achieve the above-mentioned ambitious objectives for future urban public transportation by 2020, the Ho Chi Minh City authorities have planned construction of mass transit in dedicated ways. Though everybody from government officials to ordinary city residents has a shared view on the necessity to invest in public transportation, the major, perhaps most important issue is possible funding sources for heavy rail transit. The funding question is therefore important and urgent not only for public transportation projects but also for transportation infrastructures in general.

This paper examines how value capture can help raise revenues for finance of transportation investments in Ho Chi Minh City. To understand the transportation funding gap, the paper takes a look at the city's transportation investment needs and the current transportation funding mechanism. A short analysis of how land acquisition is very costly in the Vietnamese context can clarify the need for value capture funding.

1.1 Mass rapid transit: desirable but too expensive

The years 2002 and 2003 saw an exceptionally significant number of conferences on urban transportation organized either in Hanoi or Ho Chi Minh City. These conferences end naturally with recommendations on the development of mass rapid transit. The Japanese recommend always and everywhere the heavy rail whereas the French often recommend a light rail transit of the tramway type given a substantial investment for the subway.

For the Vietnamese authorities, the necessity of investing in the mass transportation modes is mentioned in the recent Urban Master Plans of Hanoi and Ho Chi Minh City and often stated in the speech by the city leaders in their talks with foreign potential investors. In official documents or not, one reads that the bilateral assistance of foreign countries for the implementation of these mass rapid transit infrastructures is welcome. All of the Vietnamese "experts" in the Delphi Studies carried out in the two cities in 2001 and 2004 respectively perceive mass rapid transit as one of the

¹ Seven big projects for Ho Chi Minh City, *Vietnam News*, N° 1421, 22 November 1998.



priorities for urban investments in the years to come. 60% of the experts in the 2004 Delphi Study in Ho Chi Minh City opted for subway or bus rapid transit for HCMC in 2020 (Cusset, 2004).

To have a subway is the dream of a number of large cities in Southeast Asia, and Vietnam, with Ho Chi Minh City in particular, is not an exception. But who agrees to lend the necessary amount to build the subway lines? Right in August 2001, a delegate of Federal Transit Administration of the U.S visited the city in order to explore the opportunities to develop a subway network but the visit hasn't resulted in any specific project. After that in October 2002 at a presentation of the subway project by the People's Committee of Ho Chi Minh City, several potential investors were present: Siemens and International Lahmeyer (Germany), Monorail Georgia Consortium (the USA), a partnership between Louis Shepherd and Pricewaterhouse Coopers (the USA), the Chiaphua Group of HongKong, Openasia, and a Japanese partnership between Itochu and CHBUHSST, Jobrus (Russia), Mitsui (Japan), and Samsung (Korea). The companies came with a lot of promise to search for funding from International financial institutions but so far no good news has been received by the City government.

In their recent strategy, the International lending institutions such as WB, ADB are not interested in put their money in risky and expensive subway projects. According to the World Bank, the rail benefits fewer modes of transportation than the road (World Bank, 1996). Furthermore, in our opinion the high construction cost per kilometer for heavy rail is an important barrier to a subway project. For example, the project cost for the first urban mass rail transit line was estimated at US\$ 605 million, of which US\$ 538 million is required for the railway section. The average cost per kilometer is 40 million dollars.

Table 1: Construction Cost of Urban mass rail transit Line 1

System	Length (km)	Cost (US\$ mil)		
		Total	Capital	ROW
Urban Rail (Ben Thanh – Cho Nho)	13.7	538.4	519.9	18.5
Busway (Au Binh – Cho Nho)	4.2	2.9	2.9	-
Busway (Cho Nho – Bien Hoa)	14.5	604.8	531.2	73.6

Source: ALMEC, 2004

The difficulty in finding funds for subway projects is only part of the big issue of securing financial sources for other transportation infrastructure for the development of the city. We don't have the attention here to discuss which mode of mass transit is more advisable but we are interested in the question of finding stable financial sources for urban transportation infrastructures in the medium and long term. Being the most important economic hub of a fast-growing country, HCMC is really in bad need of transportation infrastructures. The demand for more facilities and improvement to existing roads and highways seems to be endless. In 2004, ALMEC, a Japanese transportation consulting firm has worked out the projects necessary for the city's transportation system by 2020, the total funding need of which amounts to US\$ bil. 14.065 (ALMEC, 2004).

Furthermore, it is important to not only account for the addition of new capacity to the system, but to also consider that most of the current facilities will be in need of some degree of partial or total rehabilitation over the next 20 years. As transportation infrastructure continues to age and begins to fail, the city must find the money to continually maintain the current system. Altogether, the amount needed for current and future transportation infrastructures are colossal. The existing funding sources from the Central Government are thus not sufficient and it is imperative that the city turn to other finance tools.

1.2 Current urban transportation finance: too meager for a good network

The main funding sources for urban transportation in Ho Chi Minh City come from the Central government budget. Several user charges exist but don't remain with the Municipality. The first



charge is the Government imposed valorem tax (in addition to the national value added tax) on gasoline and diesel fuel, which exists explicitly to finance roadway construction and maintenance. The second fee comes from vehicle license. All these fees together with other tax revenues are passed on to the National Government for redistribution via transfers back to the Municipal governments (the degree of local government income disparity indicates the need for income redistribution). At present, the Municipality expends annually about 2,000 billion VND (0.125 billion USD or just 0.89% of the 14 billion USD needed to build the system) on transportation infrastructures. Nonetheless, the expenditures on transportation infrastructures already account for 25% of the city budget.

Another important source of funding is foreign loans, usually from international development organizations, often known as ODA (Official Development Assistance) but this source is limited and difficult to have access to: numerous steps to go through, complicated procedures, and strict compliance with the regulations. While these borrowings are politically expedient and acceptable, they cannot always substitute for sound fiscal management involving a broad range of revenue instruments.

Private sector participation (PSP) is a non-traditional way that Vietnam has already opened; a number of projects were reported to have been implemented under BOT arrangement, such as the following:

- Interprovincial Road No. 15, Phase 2, by Petrol Construction Company, at a cost of VND186 billion (~US\$ 12 million);
- Passage Bridge of Binh Trieu, Phase 2, by Traffic Construction Corporation No. 5, at a cost of VND 340 billion (~US\$ 21.9 million).

While the legal foundation (Decree 62/1998/ND-CP) for PSP/BOT exists, it is not sufficient to entice private sector investors who are equally concerned about the stability of the contracts as well as the impartiality of the country's judicial system in enforcing them. For this reason, toll roads are just a few compared to roads constructed with State funding.

In order to achieve the objectives of developing urban transportation in general and public transportation in particular, it is certain that in the medium run, the Municipality should look for new funding sources by examining the possibility to involve individual road users as well as indirect beneficiaries of an improved transportation infrastructure.

2. VALUE CAPTURE FUNDING: A WAY OUT FOR FINANCE OF TRANSPORT INFRASTRUCTURES IN HCMC?

To have a good urban transportation network, the Ho Chi Minh City government should turn to many other funding sources than State budget. Several consulting firms who have experience in Vietnam have provided similar recommendations on financing the transportation system. Road pricing or/and congestion pricing are often emphasized in their consulting reports as a way to deal with traffic jams and secure a good source of funding for transportation development. This interesting point also reflects our view on how HCMC transportation system should be but it is not the purpose of this paper.

Here we are interested in exploring another source of funding which we think is important: increased land value as a result of a newly constructed transportation infrastructure. In our opinion, value capturing will be a new method of funding for transportation infrastructures in Ho Chi Minh City, which is not a utopia at all.

2.1 Literature review

“Value capture refers to the process by which all or a portion of increments in land value attributed to “community interventions”, rather than landowner actions, are recouped by the public sector and used for public purposes. These “unearned increments” may be captured indirectly through their



conversion into public revenues as taxes, fees, exactions or other fiscal means, or directly through on-site improvements to benefit the community at large”.² Value capture funding is based on the principle that there is a connection between transport and land use.³ Securing even a small share of the increase in property values could help pay for much of the transportation infrastructure (Walder, 2003).

Many planners and economists, including Nobel laureate William Vickrey, have suggested that cities could benefit by funding transit system development costs and a major portion of operating costs from land taxes or value capture. Value capture may raise the taxes on land impacted by infrastructure projects and as such can serve two purposes: (i) it removes the invitation on titleholders to speculate; and (ii) it raises holding costs high enough that there is immediate reason to try to develop unused lands (William, 2001).

There is an extensive literature in developed countries on the influence of transport on residential location and therefore on house prices but very few references on this topic in developing countries are available. We just mention some references for the sake of illustrating the point.

Walmsley and Perrett (1992) studied and reviewed the effects of 14 rapid transit systems in France, USA and Canada. They found that in Washington D.C. homes near stations appreciated at a faster rate than similar homes further away. Similarly, the Tyne and Wear Metro (in Newcastle, a city in North East England) (TRL, 1993) was found to have a localized effect on the housing market in a few areas, where the attractiveness of housing increased and some redevelopment took place. In general, properties near the Metro gained and maintained a slightly higher value compared with properties further away.

Cervero and Landis (1995) reported that evidence from California reveals some degree of capitalization benefits, which over the long run could be expected to induce clustering around rail stations. However these impacts can not be easily generalized.

Ingram (1998) reports results of experience with new subways in Montreal, San Francisco, Toronto and Washington D.C. He found a very modest effect on metropolitan development patterns. There was also some evidence of development around stations (Toronto and Washington). Similarly, there is some evidence of CBD (Central Business District) development impacts of high speed rail.

Banister and Berechman (2000) reviewed impacts of high speed rail in Japan. Impacts were found at both the network and local levels. Network effects relate to the substantial increase in accessibility to key national and international markets.

The Royal Institution of Chartered Surveyors and the Office of the Deputy Prime Minister in the United Kingdom (RICS, 2002) have published the results of their study on the relationships between land use, land value and public transport. Overall, this study found the average increase in house prices as a result of new public transport systems to be around 2%.

Traditional location theory examines the role of accessibility on house prices. It states that housing and accessibility to employment centers are jointly purchased in that those paying higher prices are compensated by the lower costs of commuting to the central business district (So et al., 1996). In a similar way Anas (1982), examines the probability of an individual choosing a particular property as a function of the characteristics of that property, the characteristics of the individual/household and characteristics of the neighborhood in which the property is located, including accessibility.

² The Lincoln Institute of Land Policy, USA, www.lincolninstitute.edu

³ The term land-use in integrated land-use/transport models (Simmonds, 2001) covers a variety of topics, including activities such as residing, working and shopping; physical infrastructure such as homes and workplaces; and the outcomes of market processes, such as property prices and land-use allocations.



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2.2 Evidence of land value increase around the world

It can be seen that land value, in general, has risen around transport nodes and corridors in the context of public transport initiatives around the world.

In North America, studies have shown a “strong relationship” between the impact on land value and transport investment. This can range from 5-10 percent on residential values to 10-30 percent on commercial properties within the immediate transport corridor (Edge, 2003). Other studies have revealed even greater value increases. Data from the city of Dallas, Texas, from 1997 to 2001 reveals that proximity to a rail station has a positive influence on property values. Median values of residential properties increased 32.1 percent near the Dallas Area Rail Transit (“DART”) rail stations compared to 19.5 percent in the control group areas. For office buildings, the increase was 24.7 percent for the DART properties versus 11.5 percent for the non-DART properties (Weinstein & Clower, 2002).

In New York, with the Northway project, the added increment of land value identified reflects a figure over eleven times that of the cost of construction (William, 2001). That is, the added increment of value that resulted from the construction of the section of the Northway was left to the titleholders of the parcels to receive rather than to the society which was responsible for the creation of that wealth. This reveals how great the potential is for financing the cost of transportation infrastructure by recapturing that increase.

The Helsinki Metro had an effect on house prices within a one kilometer radius of around 6%, although this was reduced in the immediate vicinity of stations, counterbalanced by negative environmental factors (Laakso, 1992). Apartment prices within a similar ten minute walk from Hong Kong light rail stations experienced increases of 3% (So et al., 1996). Yet this pattern has not been found in either Manchester or Birmingham with their supertrams. The Manchester Metrolink was judged to have had a very marginal negative effect on house prices (Forest, Glen and Ward, 1996), most probably due to mild adverse environmental considerations.

In developing countries, Bogotá of Colombia serves as a good example where value capture has been in use since the 1960s under the name of contribución de valorización. The annual proceeds from valorización in Bogotá, measured as a percentage of all local public expenditures, have varied widely from 0.5% to 16% (Zegras, 2003).

2.3 How can land value be captured?

There are different techniques for capturing land value gains and these range from receiving voluntary contributions from businesses to taxing landowners. This paper does not promote a particular technique; instead its purpose is to provide some illustrations of how to capture the added increment of land value.⁴

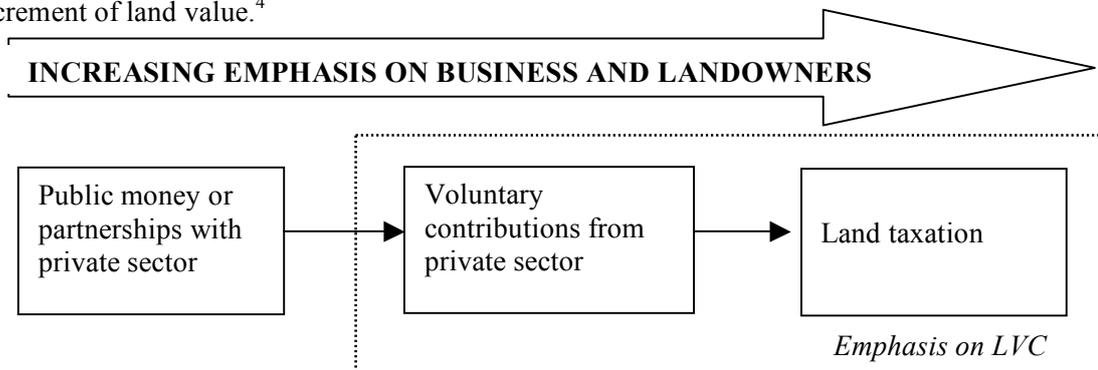


Figure 1 : Moving towards a new funding system for transport (Source: Pedler, 2004)

⁴ For more information on this topic, it is advisable to consult GVA Grimley (2004)



Voluntary land value capture makes it possible for the private sector to contribute voluntarily to the funding of transportation infrastructures. The State or local government will give a public transportation company the right to use the land in or around the transportation facilities the company construct. In Vietnam, in the 1990s, was applied a similar technique called “Doi dat lay co so ha tang” (provision of infrastructures in exchange for land use right) but it has recently been abolished by the government because this policy attracted only property developers who took advantage of it for speculative purposes.

2.3.1 *Voluntary land value capture in Japan*

In Japan, some private railways manage the land around the railway and produce profits. In large cities such as Tokyo, Osaka, and Fukuoka, firms such as Kintetsu operate city underground trains and long-distance buses that terminate at their shopping malls and become the main consumer hub of activity (Smith and Gihring, 1999).

2.3.2 *Voluntary Land value capture in London*

The Metropolitan Railway Company built its first line in 1860 from Paddington to Farringdon. After further demand for rail links, the metropolitan railway financed development by building property in the suburbs alongside rail links. The company attracted people to these properties by promoting a higher quality of life (cleaner, more space, greener land). The properties financed further development of the line. Residents bought their homes and also paid to use the transport system.

2.3.3 *Tax increment financing (TIF)*

Another method employed in the US to fund transport infrastructure improvements is Tax Increment Financing (TIF).⁵ There are different mechanisms included under this heading. TIF applies to property within station districts and can act much like a government-subsidized loan to a private developer. TIF promotes a greater efficiency from public investment in infrastructure by creating an incentive to locate where infrastructure capacity exists (i.e. around rail stations) thereby creating overall savings on infrastructure investment over time. One means of transport financing through TIF schemes in the US is where local governments agree with the private developer that they will not tax that developer for 20 years because the community will benefit from the private investment.

The Australian alternative developed by Scheurer, Newman and Kenworthy (2000) is a modification of this whereby the State government assesses the value of the new development in the station district area. That value may be the savings promoted by a more efficient infrastructure investment strategy. The State government, calculating the incremental value added by the new development, loans the developer that incremental value, which is to be repaid over ten years or more at a low interest rate. This is in effect a new form of public-private partnership. It is a form of reallocating taxes so that the tax does not go back into general revenue but is effectively hypothecated for the designated area(s).

National Taxation Worldwide

In Hong Kong landowners are charged an annual rent based on the market value of the land and not the buildings on it. In Denmark the value of land and of improvements are assessed separately and an annual tax of around 1.5% is levied.⁶

2.4 Is value capture applicable to Ho Chi Minh City?

In our opinion, the answer is yes. Why? Because an application of land value capture would reduce the opportunities for property speculation contributing to higher costs of land acquisition and concurrently help raise revenues for transportation projects.

⁵ Known in Australia as Value Increment Financing (VIF)

⁶ Henry George Foundation – Does LVT Work? unpublished



In Vietnam, one observes a striking paradox in the construction of transportation infrastructures. The monetary value of land acquisition for the residents impacted by a road project or any infrastructure project usually accounts for more than 50 percent of the total construction cost. This point is affirmed by the 2004 Houtrans Study. Most often the construction is delayed because the authorities do not have enough money to pay for the impacted households so that they move to a new place. Nonetheless, the landowner of a house or a parcel bordering the new road who see its value substantially appreciated as a result of the project do not have to pay any tax on the added value.

Furthermore, as people do not have to pay tax on increased land value, there is room for speculation. For example, those who have connections with someone in power know that a new road is going to be built in a certain place. They take this opportunity, go to that place and buy up all the land they can in the neighborhood. Then when the investment plan is made public, there will be a rush to get their land, which nobody cared particularly for before.

This is one of the important forces that drive real estate prices in the city among the highest in the world. The price of a square meter in central Hanoi and Ho Chi Minh City is almost equal to that of Tokyo while the per capita income in Vietnam is only one-fortieth of that in Japan. Since the opening of the country in 1986 buying a parcel of land in urban areas is considered the best investment for Hanoi and HCMC residents.⁷ This attitude contributes to increase real estate prices, which is an impediment to the implementation of road projects (Nguyen T H, 2005).

Since it is this behavior itself that has a social cost to the larger society, as externalities, it is important that the city government impose a charge on such behavior that will recover its costs and/or correct the behavior. Also, in this way the city government can recover a share of the increase in land value by capitalizing on the land value created alongside new roads. The revenue will constitute an important financial source for the development of urban public transportation.

3. CONCLUSIONS

Hanoi and Ho Chi Minh City face challenges similar to other cities in the developing world: rapidly increasing travel demand and ongoing urban expansion, linked to demographic changes, economic growth, motorization, etc. The motorization is particularly a concern for the residents for the adverse effects it has on the city: urban congestion, noise and air pollution, traffic accidents, etc. Despite a spectacular recent improvement of public transportation, the share of this mode in the total trips remains modest.

To deal with these challenges, making funding for transportation available seems to be one of the first priorities. A stable and important source for funding is crucial to develop and maintain a good transportation network. Studies and experience around the world show that value capture could be a good alternative method of funding by raising revenues against increased property value.

Urban development in Ho Chi Minh City in particular and in Vietnam in general is a good ground for value capture in finance of urban transportation infrastructures. The impact of new infrastructures on development along its borders is undeniable but in Vietnam people whose shop-houses and/or houses with frontage benefit from improved infrastructures do not pay any tax on increased land value. This practice should be changed with the introduction of value capture funding.

Land value capture does not offer a panacea to the transportation finance and growth management challenges Ho Chi Minh City is facing. But their potential should be explored. A lot more research is necessary to further understand the role of value capturing in financing urban transportation infrastructures in Vietnam.

⁷ The author would like to add a fact here. The Vietnamese have a strong preference for “nha mat tien” (houses with frontage) also called “shop-houses” by urbanists to do some kind of business with. This practice makes the land acquisition very expensive when a road construction or road widening project is undertaken.



4. FURTHER WORK

A number of areas for further work are suggested by this research. In particular, we will continue to investigate the practical aspects of value capture in Ho Chi Minh City to test the applicability of the new funding mechanism in Vietnam. A survey will be carried out with the city officials in charge of land and transportation and the city residents in order to assess the acceptability of the measure. Besides, more methods of calculating land value tax should also be explored and adapted in the Vietnamese context.

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