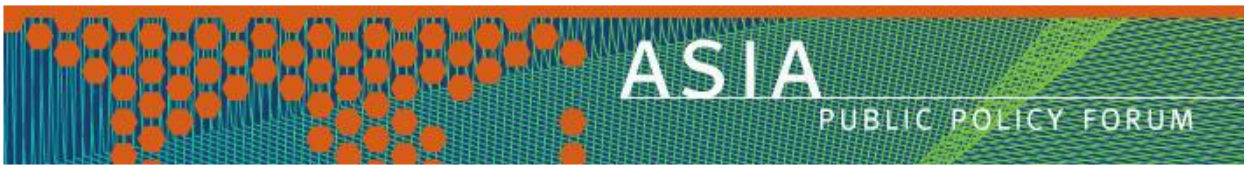

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The Transformation of Ho Chi Minh City: Challenges in Building a More Desirable City

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INTRODUCTION

Called "the Pearl of the Orient" and located strategically in the region, Ho Chi Minh City (HCMC), formerly Saigon, was one of Southeast Asia's leading cities prior to 1975 (Nguyen 2008; Phan and Tran 2005). However, it was set back considerably after the reunification due to Vietnam's de-urbanization policy, which sent urban citizens to remote rural areas to establish agriculture-based economic zones (Thrift and Forbes 1986). Consequently, HCMC fell far behind its regional neighbors in the early 1990s. Singapore's Senior Minister Lee Kuan Yew frankly told Vietnam's Prime Minister Vo Van Kiet "in 1975, HCMC had been comparable to Bangkok, but by 1992, it was perhaps 20 years behind" (Huy-Duc 2008). The city's urbanization and development slowly gathered pace again in the late 1980s and started to speed up from the early1990s. Since then, HCMC has experienced a high economic growth rate (11% annually) along with a rapid population increase and urbanization. Its 2010 gross domestic product (GDP), at constant prices, is eight times higher than in 1990 and sixteen times higher than in 1975; and the GDP per capita also at a constant price is about five times higher than in 1990. The city's GDP per capita in 2010 was USD2,982 (HIDS 2012, p.11). [1] Its officially reported population in 2010 was 7.4 million (DOS-HCMC 2011b, p. 23), but if estimates of more than two million floating immigrants are correct (Dapice, Gomez-Ibanez, and Nguyen 2010), the city's population is approaching 10 million - the population of a megacity.

In recent years, HCMC has resembled an enormous construction site and subsequent changes are being observed. Skyscrapers are rising in the downtown, roads and bridges have been upgraded and others hurriedly built, polluted canals have been being dredged, new urban areas have been spreading out the city's periphery, and nearly 100,000 households have been relocated to accommodate these projects (Resettlement Authority 2010). The economy is becoming more dynamic and increasingly internationalized and sophisticated. Shops selling luxurious goods continue to open, Maybach and Ferrari cars are being imported, and over 1,000 people are migrating to the city every day to seek new opportunities (Dapice, Gomez-Ibanez, and Nguyen 2010). Barricades ("blockhouse" or *lô cốt*) protecting infrastructure construction sites clog the streets and create traffic jams. Congestion, environmental pollution, and dust and smoke are becoming serious concerns. Many projects have continuously been extended, impacted by huge cost escalation and cancellations. Some completed projects are underutilized while others are over capacity shortly after their completion. For example, the Thu Thiem Peninsula Development has lasted over a decade and its compensation cost has escalated from USD350 million to USD1.4 billion (Ngo and Huynh 2010); the coverage of five industrial parks accounting for 45 percent of the city's industrial park area is below 30 percent (HEPZA 2012); Binh Trieu 2 Bridge exceeded capacity shortly after being built (Tran-Yen 2012); 40,000 new condominiums are in inventory (Trang-Anh 2012); and the real estate bubble is now bursting (Fuller 2012). This scenario presents a mixed picture to all affected and involved.

On the positive side, HCMC appears to perform reasonably well in some aspects compared to its peer cities. For example, the traffic congestion in HCMC appears to be less severe than the situation in Bangkok 10 years ago, or the current situation in Jakarta where a journey of three kilometers is often covered faster on foot than by cab (Kapoor 2011). All of HCMC's households have electricity, and 81

[1] For the international comparison purpose, USD or US dollar is used frequently through this thesis, but VND or dong (Vietnamese currency) is also used in some places. The reason of using two currencies exchangeable is to avoid the complication of determining exchange rates in different periods for the conversion. In most cases, the rounded exchange rate at 21,000 VND/USD of the end of 2011 is used.

percent own in their own homes and live in neighborhoods where a range of socioeconomic groups coexist (HIDS 2012). Although some more exclusive gated communities, such as Phu My Hung New Urban (PMH) have been recently built, HCMC does not experience the extreme segregation between the wealthy living in gated communities and the poor living in vast slum areas such as occurs in many developed cities around the world. Even in PMH, there is still a dynamic interaction between different socioeconomic groups when many low-skill workers are earning livings there through simple but innovative ways such as mobile coffee shops (cà phê di động). This improvement is indeed significant and encouraging.

On the negative side, it is unarguable that HCMC is still far behind many of its neighboring cities, which is reflected in rankings of the World's most livable cities by ECA International Corporation[2], Mercer Consultant[3], and the Economist Intelligence Unit (EIU)– the three most cited city rankings in the world. As illustrated in Table 1,[4] while HCMC has a bit smaller population, it offers inhabitants a similar quality of life and public services to Hanoi, Manila, Mumbai, and Jakarta, (red group),[5] and is left behind by Kuala Lumpur, Bangkok, Shanghai, and Beijing (yellow group). HCMC is far behind top cities in the region including Singapore, Hong Kong, Tokyo, Taipei, and Seoul (green group).

HCMC has been challenged by many problems. Urban services are poor (World Bank 2011); public transportation basically has no role (Huynh and Bowen 2011); public finance is not sustainable (Rosengard et al. 2006); gentrification and segregation is rising (Douglass and Huang 2007; To et al. 1997; Waibel 2009); and flooding, sea level rising, and other environmental issues are becoming more serious (Storch and Downes 2011). HCMC is growing, but facing the challenges that growth brings to urban cities (Dapice, Gomez-Ibanez, and Nguyen 2010).

Interestingly, the growth of HCMC has been governed by an extensive system of formal plans since the early 1990s. While drafting the city's most recent socioeconomic development master plan for the period of 2011-2020 (in 2012), HCMC Institute for Development Studies (HIDS) listed 59 prior documents including master plans, major plans for specific sectors or master plan-like documents (HIDS 2012). This number did not include numerous resolutions of the Communist Party of Vietnam (CPV) at both the central and city levels that play a prominent role in governing the city. This number even disregards the inconsistencies and overlaps of the plans as described in Chapter 3, and from the sheer number of plans, suggests it would be impossible to implement them all.

One intriguing difference between HCMC and all its peer cities (except Beijing and Shanghai) is that HCMC is a city in an economy that is centrally planned and where one might think, therefore, that the urban development might be closely regulated by government. HCMC indeed labels itself a socialist city (HCMC-CPV 2010). However, the plans are seldom followed and thus not realized. Market forces are the most important shapers of the city's development.

[2] ECA International is a consulting firm that provides data and software solutions to assist companies in the management of international assignees around the world.

[3] Mercer, a well-known consultant firm, conducts annually the Quality of Living Survey, comparing over 200 cities based on 39 criteria. Important criteria are safety, education, hygiene, health care, culture, environment, recreation, political-economic stability and public transportation.

[4] The purpose of this table is to position HCMC in the region. However, data and information sometimes are not completely consistent with each other although we have tried cross-referencing. The problem is that they were collected from different sources and at different times.

[5] HCMC's rank is highest of the ECA's ranking, but is the worst in the other two's.

Table 1: Selected Indicators of Selected Cities in Asia

	Livable Rankings			Area and population			Economy & income			Quality of urban service							
City	ECA International's Asian cities in 2012	Mercer's 221 cities in 2012	EIU's 140 cities in 2012	Population (million)	Area (SQKM)	Density (Thousand per SQKM)	Total GDP-PPP in 2005 (billion USD)	GDP-PPP per capita in 2005 (1000 USD)	Nominal GDP per capita in 2009 (1000 USD)	Share of waste collected and adequately disposed (%)	Water consumption per person (liter per day)	Water system leakages (%)	Population with access to sanitation (%)	Share of wastewater treated (%)	Share of Public Transportation	Number of cars per 1000 people in 2007 by country	Electricity coverage in 2009 by country
Singapore	1	25	52	5.0	710	7.0	161	37.6	36.5	100	309	4.6	100	100	56.4	118	100
Hong Kong	3	70	31	7.0	1,104	6.4	244	35.2	30.0	100	371	21	93	98	80.0	54	100
Tokyo	4	44	18	13.0	2,188	5.9	1,191	33.8	70.8	100	320	3.1	99.4	100	66.2	450	100
Taipei	6	85	61	2.7	272	9.8			48.4	100	342	22	99	77	37.6	260	100
Seoul	8	75	58	10.5	605	17.3	218	22.6	19.6	100	311	7	100	82	63.0	250	100
Kuala Lumpur	10	80	77	1.7	243	6.8			12.4	57.5	497	37	70	0	16.0	283	99.4
Bangkok	11	100	101	5.7	1,569	3.6	89	13.5	9.1	62.9	340	35	51	12		57	99.3
Shanghai	12	95	78	19.2	6,341	3.0	139	9.6	11.5	82.3	411	10.2	72.5	78	45.2	22	99.4
Beijing	14	109	72	17.6	16,411	1.1	99	9.2	10.1	95.4	218	12.5	70.4	80	29.1	22	99.4
HCMC	21	149	123	7.4	2,094	3.5	40	7.9	3.0	100	208	40	94	<10	5.4	13	97.6
Hanoi	22	147	120	6.5	3,345	1.9	30	7.1	1.7	95	53	45	40	10	15.5	13	97.6
Manila	28	120	105	11.6	636	18.2	108	9.3	5.4	76.9	155	36	12	21		8	89.7
Mumbai	33	144	116	12.7	468	27.1	126	6.9	2.2	32.5	250	13.6	42	68	71.2	11	63.3
Jakarta	38	131	118	9.2	664	13.9	98	7.4	7.6	35	78	50.2	67	1	12.9	39	64.5

Source: Author's combination from DPI-HCMC (2011), ECA International (2012), EIU (2010 and 2012), LTA Academy (2011), *Mercer Cosultant Company (2009) , UN-Habitat (2011a), World Bank, and City Mayors' website*

URBAN PATTERN AND ITS TRANSFORMATION

A Snapshot of Ho Chi Minh City

Ho Chi Minh City (HCMC) is the largest city and the economic and commercial capital of Vietnam (CPV 2002). In spite of its accounting for only 0.6 percent of Vietnam's land mass and 8.5 percent of its population, the city as shown in Table 2 accounts for 21.3 percent of the country's GDP and 29.4 percent of the nation's public budget revenue.

Table 2: Selected Indicators of Ho Chi Minh City

No	Items	1979	1985	1990	2000	2010
1	**Population (million), in which**	**3.4**	**3.3**	**4.1**	**5.2**	**7.4**
1.1	Inner district (106 km^2)			2.6		2.9
1.2	Newly developed districts (388 km^2)			1.0		3.1
1.3	Share of the national population (%)			6.20	6.70	8.50
2	**Number of houses and apartments (thousand)**			**738[b]**	**1,007**	**1,397[c]**
2.1	Houses and apartments built from 2000					603[c]
3	**Number of households (thousand)**					**1,825[c]**
4	**Number of registered vehicle (thousand)**			**539**	**1,700**	**4,939**
4.1	Motor cycle			500	1,569	4,492
4.2	Car			39	131	447
5	**GDP and budget of HCMC in the national context**					
5.1	GDP growth- 10-year average (%)	2.1[a]	5.9	6.9	11.4	11
5.2	GDP (billion USD)			2.64	7.10	22
5.3	GDP per capita (USD)			644	1,365	2,982
5.4	Share of the national GDP (%)			15.2	17.2	21.3
5.5	Share of the national budget (%)				28.73	29.38

[a] Average of four years (1976-1979); [b] Data in 1989; [c] Data in 2009

Source: Data of 1975-1985 from Gainsborough (2003), data of 1990-2012 from DOS, GSO, and HOUSTRANS (2004)

Travel by motorcycle is the chosen mode of transportation by a vast number of residents and as such is one of the most unusual characteristics of HCMC in particular and Vietnam in general. As shown in Table 2, there were 4.5 million motorcycles in 2010 (excluding those of migrants registered in other provinces) in HCMC, an increase of nine times since 1990. Motorcycles account for over 80 percent of the passenger trips (DOT-HCMC 2011). Most streets are full of motorcycles from dawn to midnight each day.

Transportation in Ho Chi Minh City

Regarding the urban pattern, HCMC is obviously a monocentric city. Both population and employment are highly concentrated in the city center. The city's current central business district (CBD) or job center is in Districts 1, 3, 5 and 10 on the west bank of Saigon River. Much of the population growth in the last two decades has been on the periphery of the city. As shown in Table 2 above, the inner districts including 1, 3, 4, 5, 6, 8, 10, 11, Binh Thanh, Phu Nhuan, and Tan Binh with 106 km^2, accounted for 63 percent of the city's population in 1990, but only 39 percent in 2010. This proportion of newly developed districts including 2, 7, 9, 12, Binh Tan, Go Vap, Thu Duc, and Tan Phu in an area of 388 km^2, has increased from 24 percent in 1990 to 42 percent in 2010. This means that the high population density area has been expanded four times in two decades. That the

population density has decreased over time is the same trend as presented in Angel et al. (2012) findings for 120 cities in the world. Moreover, there are also signs that HCMC is forming sub-centers, especially the development of Saigon South.

Many planned projects, if completed, would change HCMC's spatial structure significantly. Thu Thiem Peninsula Development, New International Airport, Relocation of Seaport System, and Building a Metro System are the four largest and obvious megaprojects. First, for over the last decade, the city's government has focused on developing Thu Thiem Peninsula – a strategic area located on the east bank of the Saigon River, opposite the current CBD, and has been inspired by the Pudong development in Shanghai. An area of 6.6 km^2, slightly smaller than District 1 (7.6 km^2) is expected to become an additional CBD providing 220,000 jobs and accomodating145,000 residents (Thu Thiem Authority 2012). Second, both the airport and the seaport systems are currently located inside the city's center, but there are plans to relocate both to outside the city's boundaries by building a new mega-airport in Long Thanh, Dong Nai on the northeast of HCMC, and a new mega-seaport system in Cai Mep – Thi Vai, Vung Tau to the city's east. Finally, there is a proposal to build a 155 km metro system to connect the CBD to other regions with an estimated cost of at least USD15 billion. However, realistically it will be very challenging to develop these projects as analyzed later in Chapter 3.

As shown in Table 2, the city's population and number of houses have almost doubled over two decades while housing supplied by the public sector has been modest (HIDS 2012). Continuing the trend of the past, a major proportion of the city's residents have purchased sections of agricultural land or "taken" empty land to build their houses either legally or illegally without sufficient infrastructures (Trinh and Nguyen 1998; Waibel et al. 2007). Tens of thousands of houses, for example, were recently built illegally in HCMC's peripheries (CAND 2010). To save on the cost of building roads, including land, land lots are usually strip-shaped with narrow widths facing roads and there is almost no land for open or common spaces. As a result, a vast number of this unusual housing typology has been built spontaneously in many places. The positive aspect of this housing development is to satisfy the high housing demand of the city. However, it has also created many other problems such as pollution, crowding, insecurity, and a lack of public infrastructures and facilities.

Source: Adapted from World Bank (2011)
Figure 1: Urban Pattern in Established Area in Ho Chi Minh City

To correct market failures and improve living amenities, the government has frequently needed to upgrade the spontaneously developed areas by building some basic infrastructure such as roads, sewage, drainage, and water supply systems. However, the high population density and the

complications of taking land for public use have prevented the building of well-organized grids of roads and other facilities. Only a few roads have been built or expanded while numerous narrow and curved alleys have still remained. As a result, an unusual housing structure has been created and the urban pattern shown in Figure 1, hereafter referred to as traditional urban areas,[6] accounts for a major proportion of HCMC's urban area.

In addition to building infrastructure, the government has also legalized the status for many of the houses built illegally, especially in the last decade. For example, only 48 percent of a sample of 2,954 houses collected in advertisement columns from 1998-2001 by Kim (2004) had complete legal titles ("pink books") while the proportion in a sample of 3,545 houses in 2004 by Kim (2007) was 69 percent. Moreover, according to a report in 2012 of HCMC's Department of Natural Resource and Environment, about 80 percent of houses already had pink books. This number is close to 82 percent of households in HCMC having land certificates – a major document required to obtain complete titles for houses – cited in Vietnam Urbanization Review by the World Bank (2011).

The housing demand is obviously beyond the capacity of the city's government's resources. Spontaneous housing development is an inevitable process, but a difficult issue for HCMC's government (CAND 2010). Besides building infrastructure and legalizing many of the houses, the city's government has also enforced the demolishment of some housing without providing any compensation. However, the number of houses demolished, in reality, is small. Most illegal houses have been allowed to exist after their owners paid fines (Tran 2010). Most of the city's government's effort is being put into building additional infrastructure in these areas and legalizing illegal houses, while preventing construction of new informal housing has only been loosely enforced. This was clearly reflected in the online discussion that occurred on August 08, 2012 between HCMC's Department of Construction and readers of Saigon Giai Phong newspaper – the official newspapers of the city's government (SGGP 2012).

Besides ignoring spontaneous housing development to satisfy the high pressure demanded from migrants, corruption is also a serious part of the housing problem, occurring in many places, particularly in peripheries districts such as cases in Go Vap, Hoc Mon, and some wards (Tran 2010; Le 2011; Ta-Lam 2012). Cases in which illegal housing construction has been ignored because local officials accepted bribes such as the case in Hoc Mon District in 2002 described by Le-Nga (2012) are unfortunately not rare occurrences. As survey by Le (2011, p.31), the "lubricant" and legalizing fees (bribes), for example, account for 24 percent of the estimated cost of a 30 m^2 illegitimately constructed house.

Among 1.4 million houses and apartments in Ho Chi Minh City in 2009, row houses (nhà phố) account for over 80 percent of the city's housing stock (Ton and Nguyen 2007; World Bank 2011). Condominiums, villas, and housing in new towns account for the remaining 20 percent. Row houses can be divided into three types: front houses (nhà mặt tiền), alleyway houses with car access (nhà hẻm xe hơi), and alleyway houses without car access (nhà hẻm nhỏ). This classification will be used for the analysis in Chapter 5.

In the traditional style residential areas, different income and socioeconomic groups coexist in the same blocks of housing (Ton and Nguyen 2007). Land uses are also mixed in that small production facilities and retail shops are combined with housing units. Many houses are multifunctional (Waibel et al. 2007). Front houses commonly serve three functions simultaneously: the front sections open to streets are used for retail shops while the back sections are used for production activities, and upper sections are used for housing the working family. A portion of alleyway houses are used similarly to front houses, especially by providing space for production activities. However, most of these are used

[6] There is no clear boundary or definition of the traditional areas. In this thesis, the term is used for areas in which the spontaneous development has been followed by some public interventions. The main intervention is to build some basic infrastructures, especially roads. Basically, these areas are where old town houses, according to the World Bank's (2011) definition, are located.

for housing purposes only. Income levels and housing prices basically decrease from better accessible locations to those less accessible. With regard to social harmony, the housing structure in the existing residential areas in HCMC is considered desirable, but maintaining it is a challenge.

URBAN PLANNING IN CONTEMPORARY HO CHI MINH CITY

This section presents the process of making plans and shows evidence to demonstrate that urban planning in HCMC has not been effective as a shaper of the city's urban development, but it has played an active role as a vehicle for negotiation with the central government, international donors, and private businesses in building the city for over the last two decades.

The Process of Making Plans

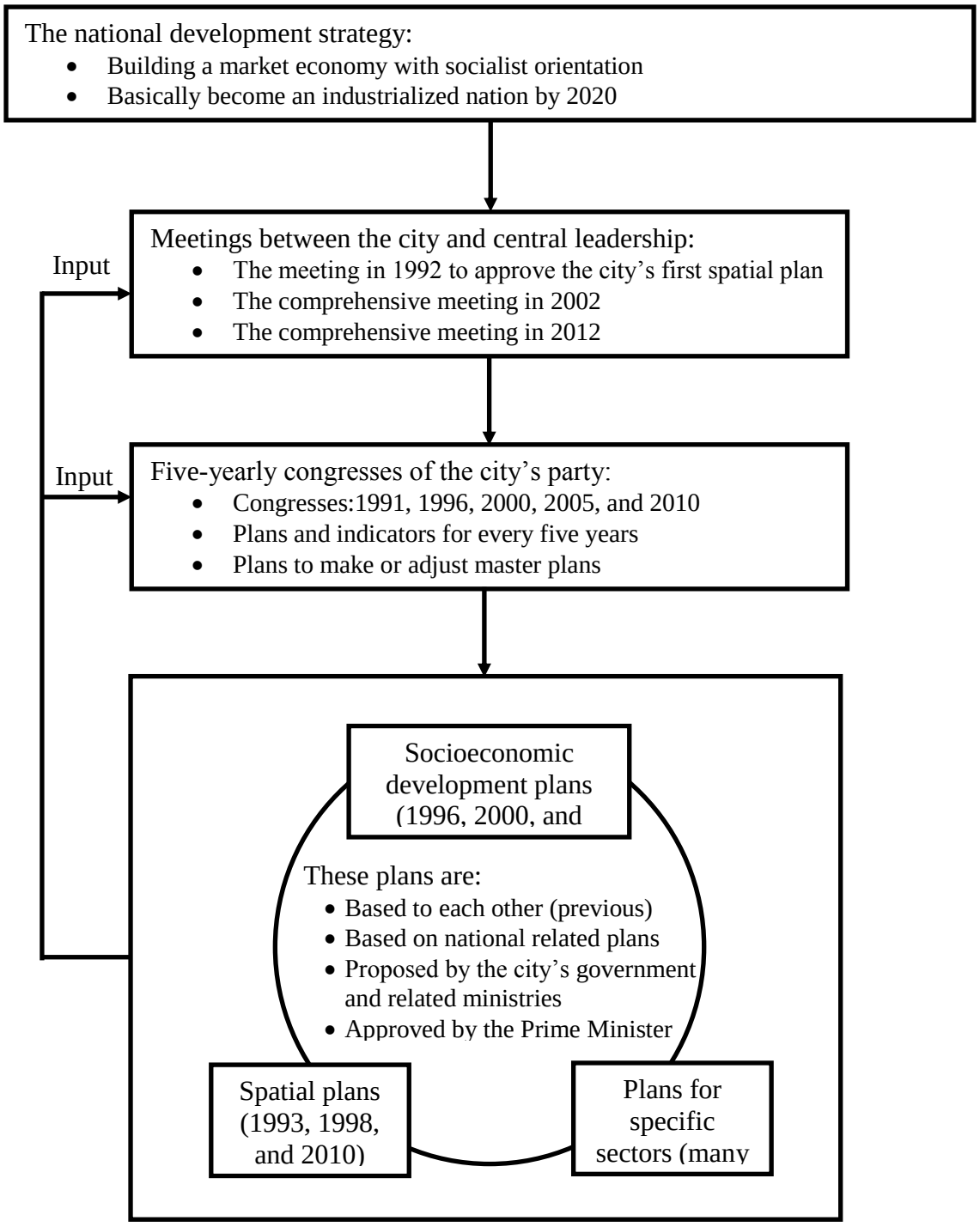
The urban planning process in HCMC as illustrated in Figure 2 below can be divided into two major steps: deciding the overall strategic development orientations, and designing specific plans. Comprehensive meetings between the city and central leadership each decade have determined HCMC's overall development strategies. This is a complicated process of negotiation and compromise between the municipal and central governments. Since the early 1990s, there have been three official meetings, occurring each decade: 1992, 2002 and 2012.[7] In addition, there have been occasional meetings between the city and central leaderships, and other meetings prior to congresses of the city's party, to decide personnel and other important issues of the congresses as analyzed in the governance section above.

Between comprehensive meetings, the city's party's five-yearly congresses play a prominent role in governing the city. Achieving specific indicators such as economic growth decided in congresses is the municipal government's top priority. Due to shorter time intervals and a higher perceived priority, these indicators are more likely to be achieved than those in other plans. However, comprehensive goals such as making HCMC into a socialist city are ambiguous. Not surprisingly, key projects or specific plans decided in congresses (such as six key programs in the ninth congress) have been more influential than more comprehensive, but rather abstract statements. The congresses also made the decisions to develop master plans. For example, the sixth congress in 1995 decided to revise the 1993 spatial plan, and the ninth congress in 2010 decided to make a new socioeconomic development plan taking HCMC to 2020.

Based on grants and directions from the central leadership and plans in the party's resolutions, governmental authorities began the process to design and implement plans commonly called master plans. There are three types of plans: socioeconomic development, spatial, and sector development. There have been three socioeconomic development plans, each called the 1996 development plan, the 2000 development plan, and the 2012 development plan;[8] three spatial plans, each called the 1993 spatial plan, the 1998 spatial plan, and the 2010 spatial plan; and numerous plans for specific sectors of which the 2007 transportation plan is the most distinguishable. All these plans are often referred to by their issuance year, such as "the 1993 plan" or "the 1996 plan".

[7] The meeting of the CPV's Politburo in 1992 followed by the announcement 36-TB/TW was to approve the city's first master plan. Not all of the city's top leaders were in this meeting, but it was important because the meeting produced the city's first long-term development plan (the 1993 spatial plan).

[8] The 2012 plan is still on the drafting process, but its main points have been presented in the meeting with the central leadership in June 2012 and considered official goals (see HCMC-CPV 2012).



Source: Author's

Figure 2: The Process of Making Plans

Each type of plan is drafted and managed by different governmental agencies. The political reports – the main document of the party's congresses are drafted by a group temporarily selected from different governmental agencies by the party's leadership. Plans can be drafted by consultants, think tanks, or government authorities. However, specific departments are in charge of managing and supervising each type of plan, for example, the DPI is in charge of the socioeconomic development master plans, and the Department of Planning and Architecture assumes the overall responsibility of managing and supervising urban planning or spatial plans. All major plans are approved by the Prime Minister (PM). The process is that the city's government along with specialized ministries submits proposals for the PM's approval.

Plans as a Shaper of Urban Development

As a shaper of urban development, urban planning in HCMC, as shown further, is not effective because of five issues: 1) population growth is usually underestimated, making the plans quickly obsolete; 2) the plans often call for unrealistic levels of investment; 3) the plans are not persuasive in that they do not assess alternative land use or transportation policies; 4) there are many different and often conflicting plans and implementing agencies, so it is not clear which plans are governing; and 5) the influence of private developers' has caused frequent changes to be made and the plans then implemented fragmentally.

Problems of Population Forecasting

A serious problem exists with HCMC's population forecasting. The ultimate purpose of urban planning and development is to serve the people of the community, therefore, predicting the future demography is important. Unfortunately, HCMC's population forecasts in urban planning have not been reliable in both the total population and its specific distribution.

The planned population up to 2010 in the 1993 plan was capped at 5 million to avoid high population concentration, and the concerns for security and defense issues, which were clearly mentioned in the plan. However, the official population estimate already surpassed 5 million in 1998 and 7.4 million in 2010. If an unofficial estimate of 2.2 million floating immigrants in 2007 is correct (Dapice, Gomez-Ibanez, and Nguyen 2010), the actual population in 2010 was 9.6 million, twice as high as the 1993 plan. The population forecast in the 1996 plan was close to the official statistics, but it was still much lower than the reality. Obviously, the plans have consistently underestimated the population growth as illustrated in Table 3.

Table 3 : Population Projections in Plans and Reality (million)

Year projected	'93 plan	'96 plan	'98 plan	2010 plan	Official estimate	Unofficial estimate
2010	5	7.5-8			7.4	9.6
2020			10			
2025				12.5		

Source: Author's combination from plans and estimations of different sources

Not only does the aggregate population play an important role in the formation of cities, but the demographic distribution is also critical. Although the population forecast in the 1996 plan is close to the official estimate, the population distribution is far from the reality. Since choosing the southeast as the major development direction, the city's government forecasted the absolute increase of the population on the southeast semicircular by separating the city's map into two halves from the center, which would account for 70 percent of the total absolute population increase from 1996-2010. The actual number is 23 percent, while the other half accounted for 77 percent.

Planning Unrealistic Levels of Investment

Ambitious targets have been drawn in plans, but most of them, especially main indicators have been unrealistic. As shown in Table 4, all four indicators in the 1996 plan: GDP per capita, total investment capital, electricity production, and water supply are at least one-third below their targets.

Table 4: Selected Indictors in 2010 of Master Plans and Reality

Item	Projection in 1996	2010 actual	Actual / Projection
GDP per capita (USD)	4,540	2,982	-34%
Total investment capital (billion USD)	71	45	-37%
Electricity (billion kWh)	23.9	15.8	-34%
Water supply (million CUM per day)	2.82	1.54	-45%

Source: HIDS (2012)

The transportation plan is perhaps the most unrealistic plan of all. The transportation plan to 2020 and beyond was approved in 2007. Its impracticality is boldly reflected in the capital demand and the plan of building a public transportation system.

Capital Demand for Transportation

The total capital requirement for urban transportation projects until 2020 in the 2007 transportation plan is USD43 billion (VND886 trillion). The actual investment for the last five years was only USD2.1 billion (45 trillion dong) and accounts for 5.08 percent of the total required capital (HCMC-CPV 2012, p.1). If the city's GDP grows 12 percent annually as planned, the investment capital for transportation would account for 10 percent of the total GDP. This goal is too ambitious. The city's actual expenditure for transportation infrastructure in the last decade was 5.5 percent of GDP. This figure is slightly higher than 5.2 percent of the whole of Vietnam from 2005-2010.[9] More importantly, public investment in transport in the world typically accounts for 2.0 to 2.5 percent of GDP (UNESCAP 2006).

Public Transportation

Since HCMC's plans were introduced in the early 1990s, public transportation (PT) has consistently been expected to play a prominent role in HCMC. However, the plans have been very unrealistic. When PT only carried fewer than 2 percent of the city's motorized trips, the 1998 spatial plan set the target for PT to achieve 30 percent of the motorized ridership by 2010, and 50 percent by 2020. This goal has been continuously changed (reduced). The latest target is 15 percent by 2015, and 30 percent by 2020 (People's Committee of Ho Chi Minh City, 2011). Even with this much lower target, the possibility of achieving it is low. In reality, PT's share by 2010 has risen to only 5.4 percent (DOT-HCMC 2011).

So far, HCMC's PT has solely relied on buses. A key component of transportation planning is to build a mass transit system of six Mass Rapid Transit (MRT) lines and three either Light Rail Transit (LRT) lines or monorails. The estimated cost was USD9.7 billion (MVA-ASIA 2008). Construction of the first 19.7 km MRT line from the CBD to the northeast had been expected to start in 2008 and be completed by 2015. However, problems have occurred continuously. Cost estimations have recently escalated from USD1.091 billion in 2008 to USD2.4 billion in 2012 (Ngoc-An 2012). Construction only just started in August 2012, and is now expected to be completed by 2018 (Tung-Nguyen 2012).

If the cost of the whole system were similar to the new estimation for the first line, the cost to build the metro system would be equivalent to the city's entire GDP in 2011. It is indeed impractical, and no one knows about the feasibility to build it all (Dapice, Gomez-Ibanez, and Nguyen 2010). Moreover, even if such a mass transit system were to be built, it would only be able to provide 2.8

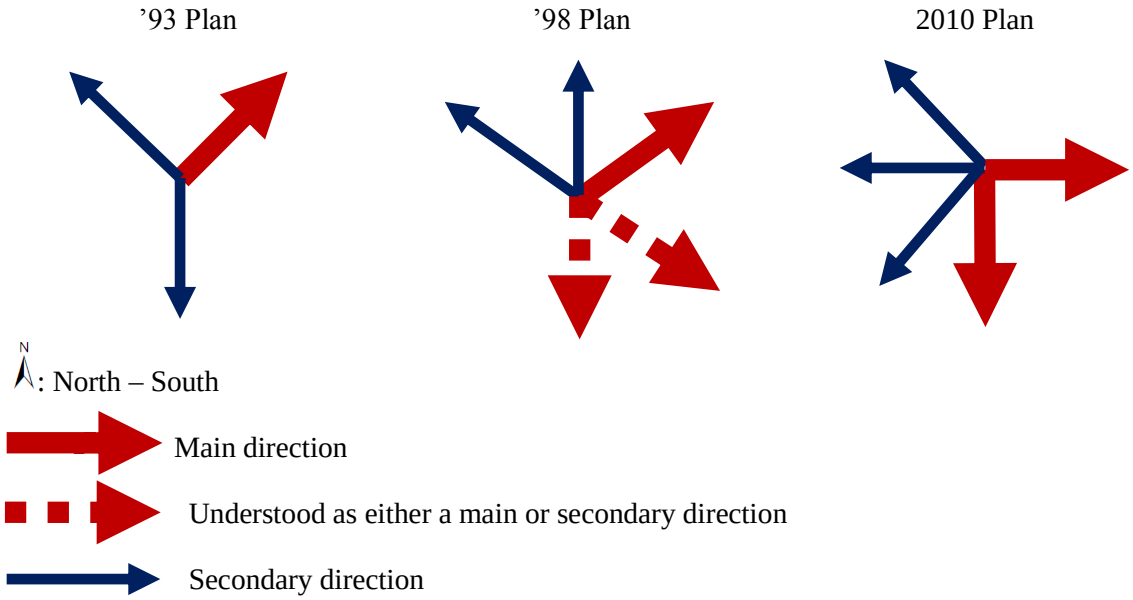
[9] Calculations from official statistics

million daily trips and account only for 9.2 percent of the city's commuting demand by 2025 (MVA-ASIA 2008).

Attempting to implement the plan to build a PT system reflects the many problems and issues confronting urban planners in HCMC. Planning to build the first MRT line along the northeast corridor is in fact based on the 1998 plan with the main expanding direction to the northeast. Moreover, the bus rapid transit (BRT) is not mentioned in the 2007 transportation plan, but it has recently and frequently been discussed. It would not be surprising if BRT lines were to be built in HCMC; discussions reflect that a number of relevant governmental agencies and officials, and various others are still trying to find feasible solutions outside the approved plans.

Lack of Assessing Alternative Land Use and Transportation Policies

Comparing the 1993 spatial plan with the 2010 spatial plan, the chosen development directions have completely changed from the northeast to the east and the south (Fig. 3). It was determined in the 1993 plan that the city's major expansion direction was to be toward the northeast quadrant. The secondary directions were to the south and the northwest.



Source: Author's drawing

Figure 3: Changes of Development Directions in Spatial Plans

The northeast quadrant was reaffirmed as the main expansion direction in the 1998 spatial plan. However, it was also ambiguously stated in this plan: "supplementing the development directions to the south and southeast approaching the sea", which in Vietnamese is: "bổ sung thêm hướng phát triển về phía Nam, Đông Nam tiến ra biển". It could be understood in Vietnamese that the south and the southeast directions are either the main or secondary expansion directions. The secondary development directions were the north and northwest. Nevertheless, this was completely changed in the 2010 plan. The main expansion directions are currently to the east and the south, approaching the sea. Two secondary development directions are to the northwest, and to the west and southwest. The northeast direction is no longer mentioned.

Continuously changing development directions reflects a lack of synthesis analysis of alternative land use and transportation policies. The municipal government responded passively to market signals. An anonymous source familiar with the city's urban planning commented on choosing the development directions, saying: "Perhaps nobody knows the appropriate development directions and choosing the

development directions in the master plans was just based on observing some sights led by market forces." [10] The influence of private developers will be analyzed more specifically in section 3.3.2.5 below.

Conflicting Plans and Lack of Cooperation among Government Agencies

There are many different and often conflicting plans and implementing agencies, so it is not clear which plans are governing over the other. Numerous plans have been inadequately managed by different governmental authorities and each plan has had many versions. For example, the 1998 spatial plan is in fact a revised version of the spatial 1993 plan, the spatial 2010 plan is a revised version of its two predecessors, and all three are still in effect. More seriously, there are intensive overlaps, inconsistencies, and ambiguities among the various plans and versions. For example, the predicted labor force by 2010 to be accommodated according to the 1996 plan by HCMC Institute for Development Studies is 5-6 million people, while the 2000 plan by the Department of Planning and Investment is 3.2 million. Between development and spatial plans, it is difficult to decide which one is superior to the other and which plan is for longer terms.[11] Moreover, different types of plans have been approved at different times and based on different versions and types of related documents. Many indicators and goals in the plans have been highly based on formality and frequently changed, and the population forecast is an obvious example.

Institutional fragmentation is also a major problem. Vietnam's economic institutions are highly fragmented with the dominance of small, uncoordinated units (Nguyen and Pincus 2011). The responsibilities for urban planning in Vietnam are much more fragmented than in western countries (Coulthart, Nguyen, and Sharpe 2007). There is a lack of coordination among governmental agencies. Within the city, each authority seems limited in its defined "jurisdiction". For example, DPI considered the 2000 plan by them as the official 10 year plan instead of the 1996 plan by HIDS. In contrast, HIDS recently reviewed the 1996 plan when drafting the new development plan. There is a similar issue in managing development plans in charge of DPI and spatial plans in charge by Department of Planning and Architecture.

Within the region, the city's government and those of surrounding provinces seem reluctant to cooperate, and each focuses only on its own interests or jurisdiction. This issue is clearly reflected in plans to build a new mega airport for the whole region and relocating the seaport system.

In the case of the airport, for example, Tan Son Nhat International Airport (TSN) is the only airport serving the whole region (greater HCMC) and the biggest airport in Vietnam. It carried 10.7 million passengers in 2010 (DOS-HCMC 2011b, p.279). As analyzed by Nguyen and Dapice (2009), with existing availability of land, TSN can be upgraded to carry 30 million passengers, which are equivalent to the forecasted demands of the whole region until 2025 by HIDS (2012). However, the central government, since the mid-1990s, has had a plan to build a new mega airport to replace TSN in Long Thanh, Dong Nai Province, 40 km from HCMC's center to the northeast. Its planned passenger capacity has been adjusted from 20-30 million in the 1998 plan to 100 million in the 2010 plan. The plan to build Long Thanh airport has been frequently mentioned, but HCMC's government seems to have little incentive to build it soon because it is not in the city's jurisdiction. Once this airport is built and becomes the major airline hub of the south, HCMC predicts the loss of a significant portion of economic interests related to the airport business.

The seaport system of the Greater HCMC has experienced the same situation. As Nguyen and Pincus (2011) point out, the relocation of the seaport system from the inner-city is an inevitable process, and among proposed locations: Cai Mep and Thi Vai in Ba Ria, Vung Tau province has the greatest

[10] Author's interview on July 7, 2012

[11] Ambiguously, Decree 08/2005/NĐ-CP regulates that building the spatial master plans has to reference socioeconomic master plans, but Decree 92/2006/NĐ-CP also regulates that building the socioeconomic master plan has to reference master spatial plans.

potential because of the site's natural endowments and its proximity to HCMC and surrounding provinces (Appendix 5). HCMC's seaports have been required by the Prime Minister to be relocated by Decision 791/QĐ-TTg in 2005, and the master plan of the region's seaport system has just been submitted for the Prime Minister's approval (HCMC-CPV 2012). But, the city has in effect been focusing on building a mega seaport system in its jurisdiction by relocating current ports to areas only a little further away. The current capacity of the city's seaports is 76 million tons and it carried 57.7 million tons in 2010 (DOS-HCMC 2011b, p.278), and is planned to expand to 200 million tons by 2020-2025. This capacity would serve the whole region for decades.

Influence by Private Developers in Making and Implementing Plans

In HCMC, plans are more like the government's wish lists in that many planned projects have not been attractive to private developers. In reality, private investors have proposed their own projects and many have been realized and built. Private developers have played a critical role in shaping HCMC, but they have also caused the city's actual development to deviate far from its own plans.

In the book, *Learning to be Capitalists: Entrepreneurs in Vietnam's Transition Economy*, Kim (2008) has described the role and the approach developers in HCMC have taken in doing their business. This study observed all three types of private business: serendipitous entrepreneurs, active entrepreneurs, and structural speculators.[12] The most active figures in developing HCMC are structural speculators who do not rely solely on their capacity to estimate future location trends, but supplement such intelligence by intervening and investing in that future as defined by Logan and Molotch (1987). Phu My Hung Corporation, as analyzed in Chapter 6, is perhaps a typical case. It has turned a swampland into one of Vietnam's most coveted residential areas (Nguyen 2008).

It is hard to deny the influence of private developers in shaping the urban planning in HCMC. The process of city building has in reality been determined by real estate developers (some say speculators) as described by Foglesong (1986). The vibrancy of the real estate market described by Kim (2008) and the recent burst of the real estate bubble in HCMC (Fuller 2012) support this argument. In discussions with government officials and those who know the matter well, many raised questions about the distortion of developers in changing plans and creating speculative real estate markets. In a recent special session focusing solely on urban planning of the city's people council, the municipal government officially acknowledged the influence of developers on the city's urban planning and expressed concern about the negative impacts of such influence (CTW 2012). The official report delivered in this session is the following:

> There has been the "planning to follow projects" phenomenon. Developers have proposed to change plans (changing other land use purposes to housing land and increase the density) to achieve their own goals. This has caused negative effects on implementing and managing plans (CTW 2012).

The influence of the private sector is even larger because informal or spontaneous housing development creating the major proportion of houses in HCMC has been led by market forces. This development has of course deviated far from the plans.

Plans as a Vehicle for Negotiation

If one believed urban planning is an effective tool in shaping a city's spatial development, one would be disappointed in the case of HCMC. Discussions with government officials revealed that most acknowledged the impracticality of plans and those indicators such as the share of public

[12] Serendipitous entrepreneurs, those becoming rent collectors by inheriting property or by some other fortuitous circumstance are numerous in HCMC. Many households have received wind falls due to development projects. Most individual real estate traders and small real estate firms are active entrepreneurs who anticipate changing use values from place, speculate on the future of particular spots. Many of them have earned huge fortunes thanks to their correct guesses (Kim 2008).

transportation have only been considered as aspiration targets. The city's top leaders have only encouraged rather than forced functional agencies to achieve these goals. Fortunately, as the next analysis shows, urban planning has been used as an effective vehicle for HCMC's government to: 1) negotiate with the central government to achieve more policy and fiscal autonomy; 2) seek financing and technical assistance from international donors; and 3) encourage private businesses to participate in planning and building the city. Basically, the municipal government has used its urban planning to mobilize resources for a few megaprojects, programs, and targets.

Standoff with the Central Government

As the biggest economic hub, accounting for a fifth of Vietnam's GDP, and generating nearly a third of the national budget revenue (HIDS 2012), the priority of HCMC's government is perhaps not to seek capital from the central government. It has only sought more autonomy to retain a higher portion of the revenue it collects and generate more resources to satisfy its demand. There has been a long standoff between the municipal government and the central government for the last two decades, which can be divided into four major events in 1993, 1998, 2002, and 2012.

The issuance of the first master plan in 1993 produced significant progress for HCMC and was a great opportunity for the city to negotiate with the central government. As a result, the city was granted rights to experiment with numerous initiatives. It was allowed to grant large parcels of land for foreign investors to build export processing zones (EPZ) and develop new urban areas as analyzed in Chapter 6. These changes were unimaginable after Vietnam's long and fierce fighting to retain its sovereignty (Nguyen, Phan, and Ton 2006). It was also allowed to invite foreign investors to build basic infrastructures, especially water supply plants and roads through public-private partnership models. HCMC's Investment Fund for Urban (HIFU) – a special apparatus in charge of mobilizing capital (mainly borrowing) was established in 1997. Interestingly, the city's major construction projects in the 1990s were financed by foreign capital although the city's government was strongly determined to rely mainly on domestic capital for its development (HCMC-CPV 2000).

The central government, however, also gained some leverage. In particular, the 1993 plan was also a tool for the central government to impose its control over the city's urbanization process, primarily through the establishment of the Chief of Architect's Office (CAO) in 1992. The CAO was put on a par with the city's committee chairman. Both positions were approved by the Prime Minister and CAO would have administered the city's urban planning. If this model had worked, it could have been a huge "obstacle" for the city (Gainsborough 2003). However, after experiencing a long standoff between the central and municipal governments, the role of this agency has been diminished. In November 2002, CAO was officially renamed the Department of Planning and Architecture – an ordinary agency of the city, and its head appointed by the people's committee chairman.

The 1998 spatial plan was ostensibly prepared because the population was growing faster than foreseen in 1993. But it was also an opportunity for the city to attain more autonomy, and particularly, to put the development of the Thu Thiem Peninsula as mentioned in Chapter 2 into an official agenda. Since then, this project has become the city's main endeavor. Most public capital has been invested in the peninsula with an expectation that it will become a Pudong-like urban development in the future. The city has also received huge support from the central government for this project. For example, the central government has been influential in helping the city obtain ODA financing for major infrastructure projects and allowed the treasury to lend a huge amount of capital for the land acquisition compensation (Ngo and Huynh 2010).

The central government, of course, has still sought to control HCMC's urban development. The policy establishing the Steering Committee of Planning and Building HCMC was included in the 1998 plan. This committee would have played a major role in supervising the urban development process in HCMC. Its head was a deputy prime minister who established the committee in December 1998, but it has not actually worked as expected.

The meeting with the Politburo in 2002 followed by the 20-NQ/TW resolution was another gain by the city. The central leadership granted higher autonomy and allowed the city to retain a larger proportion of its budget revenue. HCMC along with Hanoi – the Capital of Vietnam, has been allowed to acquire an accumulated loan equal to one time its annual investment capital. The central government also issued Decree 124/2004/NĐ-CP on special fiscal mechanisms for HCMC in 2004, which has prioritized policies for the city to mobilize more capital for its planning demands.

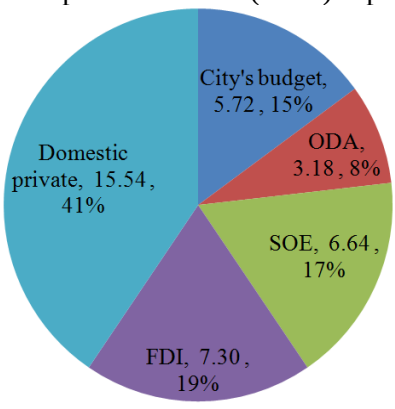
In terms of imposing the central government's will, there was no specific policy established in the 2002 meeting for this purpose. However, there were two other significant policies imposed. First, there would be annual meetings between the city's leadership and the secretariat board of the central committee – the CPV's executive body. Second, the central government would direct ministerial agencies to work with the city's government to relocate the seaport system. It has been understood implicitly that the major ports would be relocated to a location outside the city's jurisdiction. However, the city has been reluctant to pursue this program as analyzed above.

Finally, the city won an important concession in a July 2012 meeting with the Politburo. The city's major intentions in the 2007, 2010, and 2012 plans were intensively condensed into the proposal 28-TTr/TU of the city party's standing committee. A prospective, based in intensive expectations, has been drawn. As a result, the central leadership has allowed the city to build a modern municipal government, meaning that the city will have higher autonomy and retain a higher proportion of its budget revenue. Moreover, the Politburo has even signaled for the city to develop an even more ambitious master plan of socioeconomic development to 2020 (CPV 2012).

In short, the plans have been useful as the vehicle for a dialogue between the municipal government and the central government about municipal revenues and projects. HCMC has been able to retain more of its revenue and has permission to pursue a few major urban development projects such as Saigon South and Thu Thiem.

Seeking International Donors' Financing and Technical Assistance

HCMC's urban planning has become the main guideline or benchmark for international donors to finance specific projects in the city. They assure that the projects supported by international donors are not wasteful and will be managed appropriately. Since reestablishing the relationship with Vietnam in the early 1990s, international donors such as the World Bank, Asia Development Bank (ADB), and the Japan Bank for International Cooperation (JBIC) have financed a fair amount of capital for a number of the city's public projects. In the last decade, over USD3 billion of the official development assistant (ODA) capital has been spent (Fig. 4).



In each segment:
- The former number is absolute capital in USD billion;
- The later number is the share.

Source: Author's chart from DOS's statistics

Figure 4: Aggregated Investment Capital of all Sectors from 2001-2010

In spite of accounting for only 8 percent of the total investment capital of all sectors in the city, The ODA is equivalent to 55 percent of the public investment (USD3.18 billion/USD5.72 billion). This means that the municipal government has had an additional dollar of quasi-public capital for every two dollars of its conventional budget for building infrastructure. ODA capital has played a critical role in building the city's key infrastructures. The construction of the east-west highway and dredging the heavily polluted canals are two obvious examples. The cost of these projects is around USD1.5 billion, with over USD700 million spent for the road and over USD800 million spent for the canal.[13]

International donors have also financed and given technical assistance to conduct urban planning studies in HCMC. For example, the Japan International Cooperation Agency (JICA) financed the Study on Urban Transport Master Plan and Feasibility Study in Ho Chi Minh City Metropolitan Area (HOUTRANS). This study has provided valuable input for developing the 2007 transportation plan, 2010 plan, and subsequent others. JICA also financed the 2010 spatial plan. ADB has financed a number of studies about the MRT. International donors provided the funding to conduct a fair proportion of urban planning studies in HCMC.[14] In fact, it is hard to find a major study conducted without international financing since the early 1990s.[15]

Basically, the municipal government has sought international financing and technical assistance for doing research on urban planning in HCMC. Based on proposed projects or programs emerging from these studies, the city's government seeks outside financing to fund these public projects. Currently, the city is seeking financing for its mass transit and the MRT system.

Courting Private Business to Participate in Building the City

As analyzed in section 3.3.2.5, private developers in particular and market forces in general have deeply influenced urban planning in HCMC. However, through such influence, the private sector has played a critical role in building the city. Its capital, including domestic private and foreign direct investment (FDI), has accounted for 60 percent of the total investment capital in the city for the last decade (Fig. 3-6). Many key infrastructures such as Phu My Bridge, Thu Duc water plant, and the Binh An water plant have been built through public-private partnership in which financing is mainly from private investors. The FDI capital in the real estate sector accounts for 47.1 percent of the accumulated FDI (DOC-HCMC 2012). Among the city's numerous completed real estate projects, it is difficult to find a project without private participation. It is indisputable that the development of Saigon South is the fruit of the PMH project led by PMH Corporation. The redevelopment of the downtown is driven by private developers. The way in which projects, especially new urban developments have been built is exactly as Kim (2009, p.21) argued:

> In what I call fiscal socialism, Vietnamese local governments have leveraged [their] urban planning control to negotiate with the private developers to provide many of the public services and amenities. Local officials can require that private developers build the infrastructure the city has planned in exchange for approval of the developer's investment project and the administration of land titles. Because of the shortage of land with urban infrastructure and clear title, the huge increase in land values that can be derived from fiscal socialism is sufficient to overcome the upfront investment costs and risks.

As mentioned in the previous chapter, new town development in HCMC has been led mainly by private developers. In these developments, internal and external infrastructure (infrastructure to connect to regions beyond the projects) need to be built. Internal infrastructure is obviously built by

[13] Our estimation from different sources

[14] See at http://www.adb.org/projects/search?keyword=39500 (September 27, 2012)

[15] There are several explanations for the reasons why international donors are funding these studies. Some have funded them to advance their official objectives while others have other motivations related to their organizations to get the contracts in building projects.

the developers, while the developers only contribute the cost to build external infrastructure partly through various ways such as fees for obtaining land or a contribution to build infrastructure. Unfortunately, there is no available data on the contribution of private developers in both the aggregate number and specific contribution for each project. The city's budget as well as other sources such as ODA capital or capital from public-private partnerships accounts for the major proportion of the costs. Land based financing is commonly applied to finance for infrastructure in HCMC (Ngo and Huynh 2010).

CONCLUSION

Contemporary HCMC has been governed and developed through a system of cumbersome and formal plans since the early 1990s. Its urban planning has not functioned in a conventional way. Instead of having the navigating role for the city's urban development, urban planning has acted as an enabler or facilitator of development. Its actual role is serving as an effective vehicle for the city's government to: 1) negotiate with the central government to achieve more autonomy; 2) seek financing and technical assistance from international donors; and 3) encourage private developers to participate in helping the city to grow and prosper. The municipal government has officially attempted to create a comprehensive approach in building the city, but its major effort in reality has been to acquire as much resources as possible to invest in a select number of megaprojects.

The role of the public sector is undeniable, but HCMC's development over the last two decades has been primarily led by market forces. The government has adjusted its urban planning to follow market trends. As some urban patterns are shaped by market forces with numerous problems remaining, the government has selectively intervened to correct certain market failures. Building basic infrastructure is the city's major focus and concentration of effort. HCMC has acted exactly as Peterson (1981) asserted for capitalist cities: "Cities, like private firms, compete with one another so as to maximize their economic position. To achieve this objective, the city must use the resources its land area provides by attracting as much capital and as a high quality labor force as possible."

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Challenges In Managing A Growing And Complex Mobility Demand For The Greater Jakarta

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Abstract:

The demand for mobility in Jakarta has been increased rapidly due to a stable political situation and economic growth, the expansion of middle-income group as well as the rise of consumption level by young urban population. The shortage of supply in public transport services, and ease of access to own and use of motorcycles and cars have been contributed significantly to the domination of private vehicles in the Greater Jakarta. Policy decoupling between housing and transport has also resulted the sprawling of the urbanized area, creating longer travel distance and inefficient land use pattern.

This paper addresses the current situation in the urban mobility, public policy responses from both national and sub-national governments, analyze the successful and failed policies and projects, and give recommendations on the way forward to improve mobility for the Greater Jakarta.

Keywords: economic growth, motorization, policy decoupling, Greater Jakarta, sustainable mobility

Introduction: A story of a megacity in transition

Importance of Jakarta as capital city of Indonesia

Recent economic update shows that in 2013 Indonesia grew at its slowest pace in the last four years. Gross domestic product rose 5.78 percent in 2013, after a 6.23 percent increase in 2012 and marking the slowest growth since 2009. The result compared with the median forecast of 5.7 percent growth in a Reuters poll of economists (Reuters, 2014). In terms of its size, as reported by the International Comparison Program (ICP/World Bank, 2014) Indonesia has now ranked 10th in the global economy after United States, China, India, Japan, Germany, Russia, Brazil, France and Britain, a significant jump from16th in 2005. The result of the WB study was using a purchasing power parity to reflect the comparative size of the country's economy.

The report however should be complemented by the other study looking at the disparity and vulnerability of Indonesia's economy.

The combination economic growth and disparities in the Indonesian economy have been well illustrated in the below figure. The emergence of Jakarta and greater Jakarta as the predominant economic area within Indonesia is further confirmed by the fact that people's of Jakarta spends 4 (four) times than the average Indonesian (Resosudarmo, 2010).

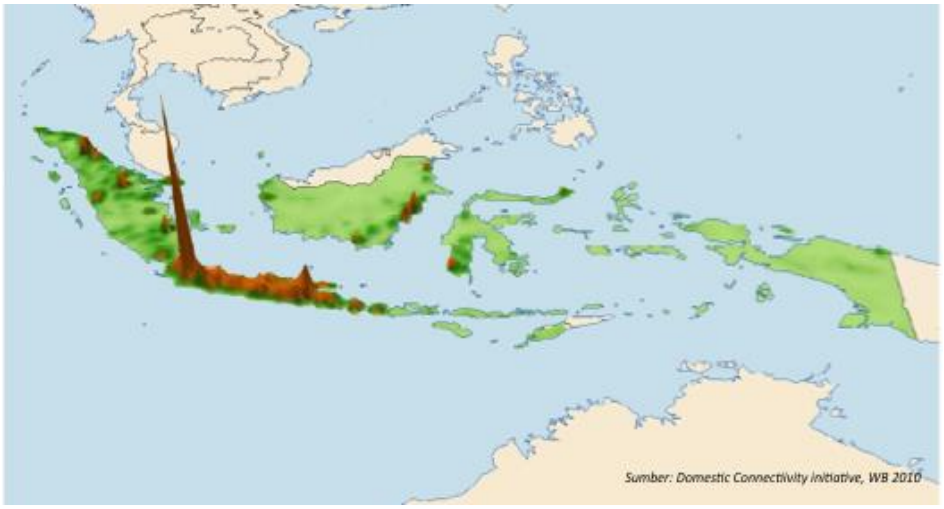

Figure 1. Economic intensity of Indonesia

The pressure for a migration to Jakarta, and complimented by the growth of young urban population with a relatively larger consumption level has resulted in a creation of megacity. With 27.96 million inhabitant (based on 2010 Census), Greater Jakarta or Jakarta-Bogor-Depok-Tangerang-Bekasi (abbreviated Jabodetabek), the region covers 6,392 km2 and population density of 4,373.8 persons/km2. With 13% of Indonesia's population, the region produces nearly 30% of the country's GDP. Clearly, Jakarta and the Greater Jakarta are Indonesia's powerhouses where their efficiency, competitiveness and environmental quality determine national performance, domestically and internationally.

Decentralization and the relation between national and sub-national governments

In 1999 after the economic-turn-political crisis, Indonesia moved to a progressive step toward decentralization. The devolution of power and authority to sub national governments as well as better financial governance has been very apparent and become the public demand. After a series of changes in the Laws and regulation, the government enacted Government Regulation No. 38/2007 which stipulates the role and responsibility of national and sub national governments in various development sectors. In transport, public works, housing and property development/management sectors, the mandate is delegated to city governments (2nd tier government), with the exception of Jakarta as the capital city. In Jakarta, there is no elected 2nd tier government and thus the mandate is transferred to provincial government. The Governor of Jakarta is hence having the full authority of managing the income and spending of the provincial budget and its subordinate government structure.

On the other hand, other districts in the Jakarta's surroundings (BoDeTaBek) remain the subject of delegation of authority to the 2nd tier government.

In the past, there has been an attempt to propose a new Law on the Indonesia's capital city, aimed at providing a special authority for Jakarta Province and a ministerial status for Jakarta's Governor to manage greater Jakarta. The idea for incorporating Jabodetabek into one agglomeration unit has been floating many years based on the economic, watershed management, and transport analysis. The proposal was turned down by the national parliament.

Many studies but few successful strategic implementations

Recognition to deal with the future transport problem of Jakarta has been responded by both national government and later provincial government of Jakarta. Various assistance from international donors have been received by the government. Among others, the followings are the documented large scale planning exercise for Jakarta and Jabodetabek:

- 1978, JICA, study of Jakarta ring-road project
- 1981, JICA, urban-suburban railway transportation in Jabotabek
- 1981, Cipta Karya, Jakarta metropolitan development planning
- 1990, JICA, integrated transportation system improvement by railway and feeder service in Jabotabek area
- 1990, JICA, Jakarta mass rapid transit system study (JMTSS-BPPT-GTZ)
- 1993, Directorate General of Land Transport, Jabotabek Mass Rapid Network (TNPR)
- 1996, Jakarta Urban Transport System Integration/JUTSI, Busway feasibility study
- 1996, Recommendation on MRT Fatmawati - Kota (SAUMAJA)
- 1997, JICA The Study on the Integrated Air Quality Management for Jakarta Area,
- 1997, World Bank, Urban Air Quality Management Strategy in Asia: Jakarta report
- 1999, Directorate General of Land Transport, revised basic design study for MRT system
- 2000, JICA, study on integrated transportation master-plan I
- 2002, JICA study on integrated transportation master-plan II
- 2003/2004, Jakarta Provincial Government, Macro-Level Transportation Pattern,
- 2003, ADB, The Integrated Vehicle Emission Reduction Strategy for Greater Jakarta
- 2006, ADB Urban Air Quality in Indonesia (UAQI)
- 2010, UNEP Global Environmental Facility (GEF): Bus Rapid Transit and Pedestrian Improvement in Jakarta
- 2012, JICA Jakarta Urban Transportation Policy Integration (JUTPI)
- 2013, JICA Jabodetabek Public Transport Policy Implementation Strategy (JAPTraPIS)
- 2014, INDII/AusAID, Improving commercial viability of TransJakarta operation and regular bus service

While many of the recommendations were to be implemented by the national and sub-national governments, those planning exercises were suffered from the lack of incorporation into legal planning documents. Ideally, recommendations that came from those studies are translated into official plans of both national and sub national governments, ensuring their implementability. Technical recommendations of both policies and budget allocation have to be transformed into political commitment approved by government and national/sub-national parliaments. Findings from JUTPI (2012) however indicate that only 21% of the technical recommendation from SITRAMP (2004) is adopted and 27% is partially adopted, leaving huge policy and investment gaps remain unmanaged. Most of the implemented projects are small scale in nature or donor-funded projects, such as MRT Jakarta.

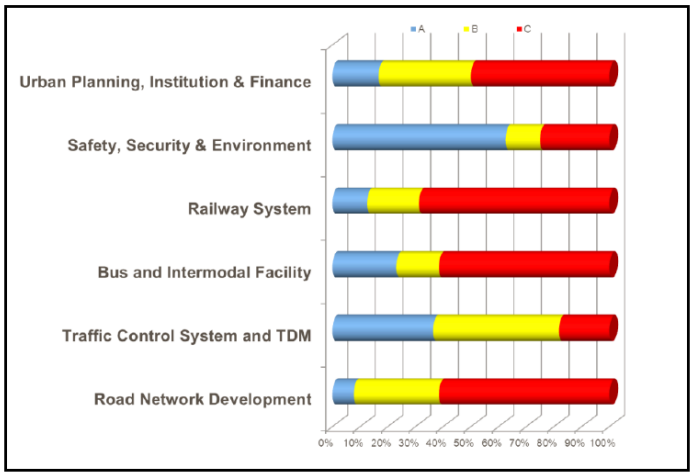

Figure 3. Implementation of SITRAMP (2012) Recommendation
A: full implementation, B: partial implementation, C: not implemented

Mobility profile of Greater Jakarta

Travel performance

Time series analysis of the overall performance has been limited and therefore it is difficult to measure the travel condition in Jakarta. The longest time series analysis is perhaps the one undertaken by JICA since 1985. They estimated since 1985 on two corridors connecting south – north area of Jakarta. This corridor is obviously consists of the largest percentage of origin and destination matrices. The results were apparent. Although critics expressed their concern on measuring vehicle speed instead of personal speed, the average vehicle speed is still a powerful performance of overall mobility. The rapid reduction of the overall travel speed in the peak period has reached an alarming 6 – 9 km/h, which is the performance experienced by Bangkok 10 years ago before heavy investments in both expressway and rail-based public transport.

In 2014, the construction of MRT (south-north corridor) and soon the monorail is expected to increase the severity of the congestion. The current BRT system and commuter rail have not been able to absorb the bulk of passenger traffic despite various initiatives such as the introduction feeder services. This will be discussed in the following section of this article.

The sale of cars and motorcycles is increasing over the years, although at different pace. Motorcycle is currently growing at a lower pace after approaching a ratio of one motorcycle per HH. It is revealed from the JUTPI Commuter Survey 2011 that nearly 75% of HH in Jakarta owned one or more motorcycle, an increase from only 40% in 2002. The industry analysis (Berita Satu, 2013) shows that Jakarta holds 14.7% of the total sales of national motorcycle market. Meanwhile, the rate of car sales is increasing with the data of 2012 showed a purchase of 240 units/day. In the same year, the sale of motorcycle was 890 units/day. The huge potential in car sales market is apparent because currently only 25% of HH (2011 data) in Jakarta owned one or more cars.

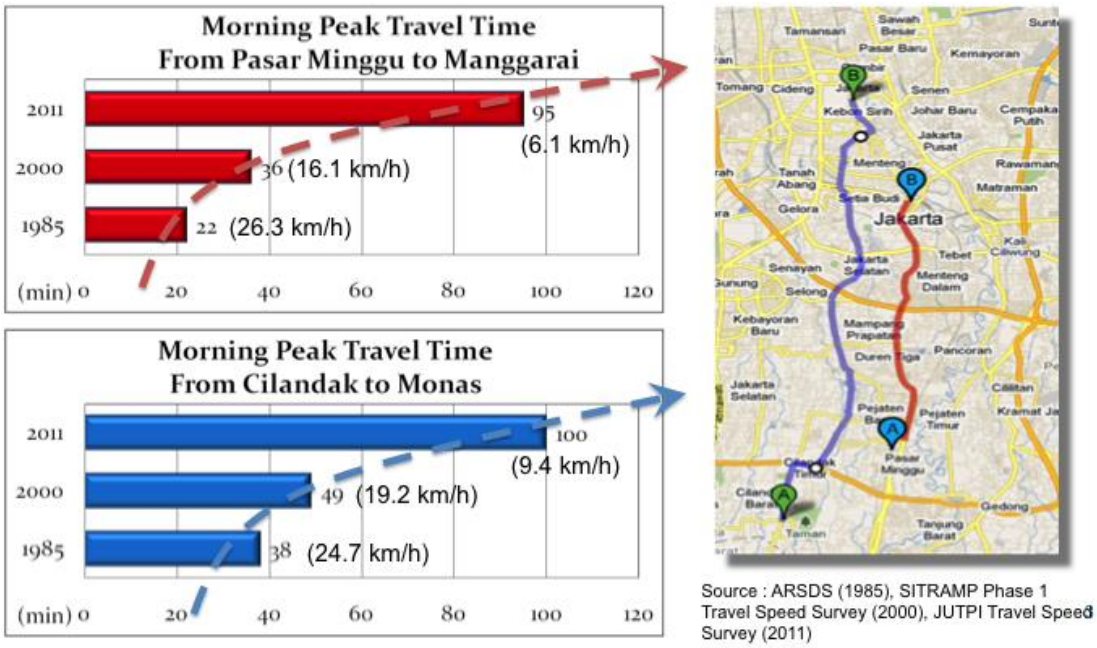

Figure 2. Travel performance on two main corridors, 1985 – 2011

People using private vehicles are not only growing in numbers, but they travel longer. It was estimated that in the last 10 years, the travel distance for all modes is doubled, creating the double of traffic. Land takes and land conversion to housing estates and apartments were clearly documented between 2002 and 2010. Almost 50,000 ha of agriculture land, open space and low-density houses are converted into residential areas and high-density housing. Most of the housing complexes are situated in in the Jakarta's periphery. Surrounding districts of Jakarta (BoDeTaBek) have also turned into residential districts, creating a huge commuting traffic going inside Jakarta in the morning and outside Jakarta in the evening.

Is urban toll system an ultimate solution to relieve congestions?

Jakarta urban toll operators are actually suffering from the existing traffic congestion. What was expected as the solution to Jakarta traffic congestion is currently becoming a victim of a government policy in promoting toll roads. The presence morning and afternoon tidal flow means a presence of an imbalanced flow and creating less used opposing lanes. The operators of urban toll road PT Jasa Marga has introduced a contra flow lanes in the morning in attempt to increase the morning peak travel time and toll throughput. An early estimate of Parikesit (2013) demonstrated that the policy is increasing the toll throughput and revenue of toll operators up to 10%, but with no impacts on reducing traffic congestion in the network.

CMEA report (2013) illustrates that during the peak time the current toll system is already near its capacity. From 12 observation stations in the inner and outer ring road, almost all toll road sections are experiencing heavy congestion.

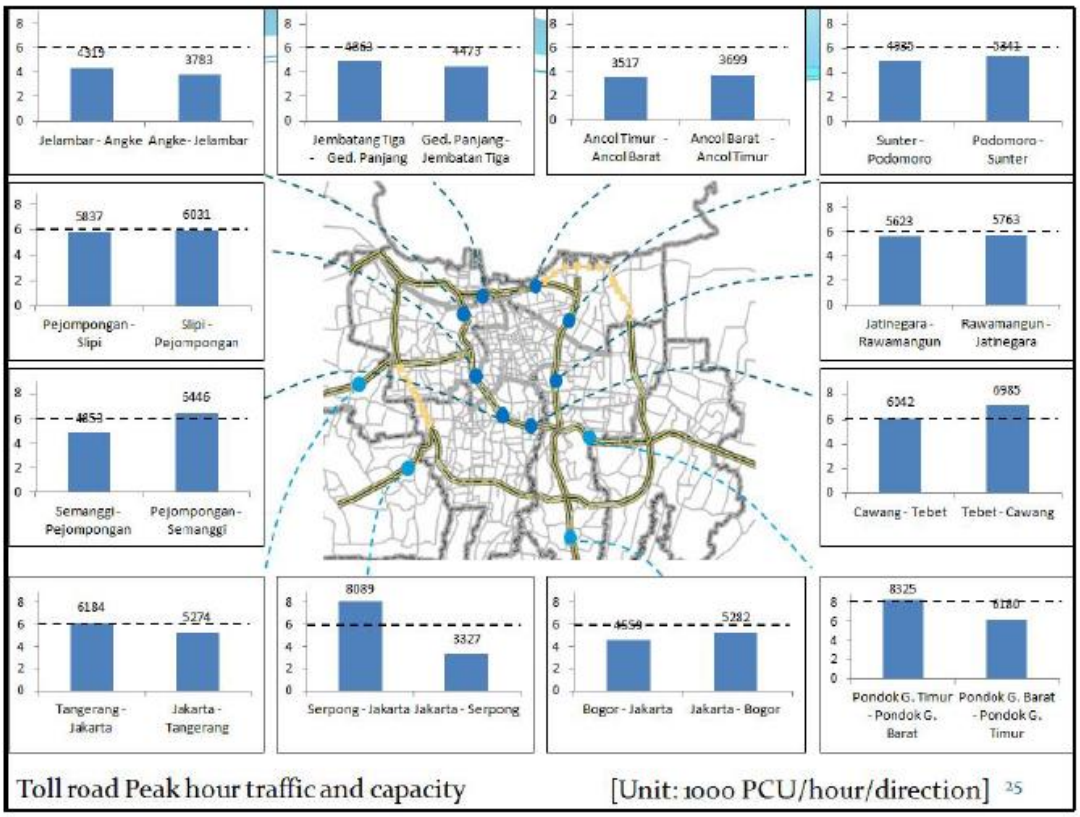

Figure 3. Urban toll road system performance
(source: CMEA, 2013)

The Jakarta provincial government under the previous governor, between 2010-2012 put a proposal to develop another 6 intra urban toll road segments aimed at easing Jakarta's congestion and create an inner ring-road toll system. The bid was already decided by the Toll Road Authority to grant the concession to the local government-owned company to build and operate the toll road. However until the time of the writing of this article, the concession agreement has not been signed by both government and the concessionaire. The current Jakarta governor remains reluctant to push for a full implementation of the toll roads because of his campaign promise to promote public transport rather than infrastructure for car users. At the moment, the compromise seems to be a provision of a bus-only lane in the proposed toll road system to enable public transport users to also gain benefits from the project.

The other major road infrastructure projects completed in the last five years were the construction of elevated non-tolled roads (at Antasari road and Casablanca road) aimed at easing traffic at congested junctions. The construction of those elevated roads were originally designed to reduce the congestion during MRT construction. So far there has not been a project completion report published to evaluate the performance of respective road networks.

The declining use of public transport

The most significant development in the personal mobility came from a survey conducted by JICA for SITRAMP Study (2002) and JUTPI Study (2010) on commuting trips in the greater Jakarta region. During the period of 8 years, the mode share (in terms of trips), of public transport is declining from 38.3% in 2002 to a very low share of 12.9% in 2010. On the contrary, during the same period, the share of motorcycle use is dramatically increased from 21.2% to reach 48.7%. The other modes of transport, although they change over 8 years time, they change marginally. A similar study showed

that the travel distance of motorcycle is growing substantially which means that the trip-km share for motorcycle use is increasing even at a greater extent.

The number of trips during the same period is increasing. The latest figure is 17.1 Million trips/day (Jakarta Provincial Government, 2012). It shows that the absolute number of public transport passengers is in fact marginally increasing. The statistics from Jakarta's Department of Transportation reveals that during 2002 and 2010, the number of fleet has not changed nor retrofitted, thus an increase in the average age of the fleet. A combination of the decrease of service quality and the quality of the fleet is resulting in a declining use of existing public buses. Commuter rail is currently serving 600,000 passengers daily, approximately 2% of total trips made in the greater Jakarta. The current efforts by PT. KAI/KCJ (Indonesia Railway Company/Jakarta Commuter Rail Company) to improve urban railway services through a stringent load factor control, reduction of non-paying passengers, development of major rail stations, introduction of e-ticketing system, a purchase of rolling stocks, and fare restructuring have obviously increasing the public trust and popularity of the urban rail system. However despite those progresses, the existing capacity of the commuter rail is critically hampered by the presence of at-grade crossings with road traffic. PT KAI has been mandated by the national government (through a Presidential Regulation No 83/2011) to invest on the capacity increase. Two years after the regulation, the commuter rail carrying capacity remains unchanged. The argument put forward by PT KAI for not able to achieve the capacity target was the failure of national government (the Ministry of Public Works) and the Jakarta provincial government to construct 26 flyovers/underpasses on time.

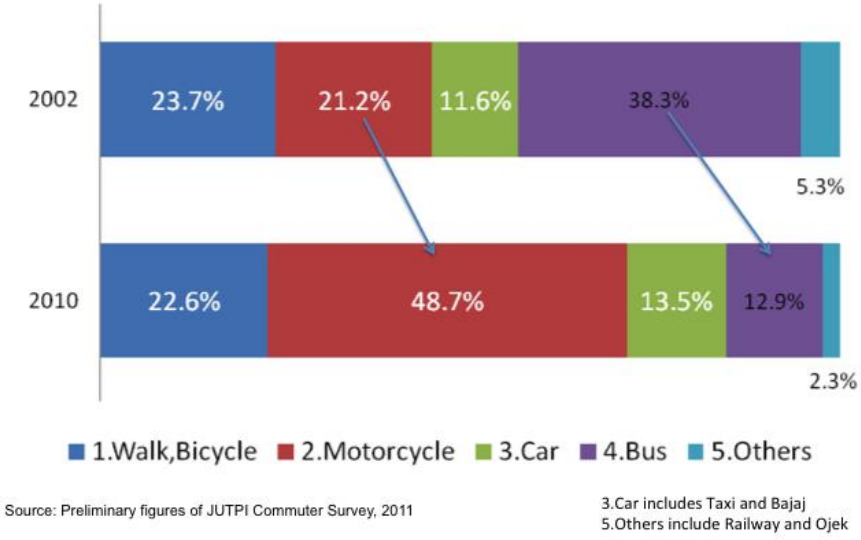

Figure 4. Mode share of commuting trips, 2002 and 2010
(source: CMEA, 2013 after JUTPI, 2011)

The change in the travel distance revealed the people's behavior in selecting housing and employment locations. People travel longer to suburbs seeking for better or cheaper housing options. The increase of travel distance and the increase in the number of motorcycle and cars are equally contributing to the congestion experienced by travellers. Existing regular buses and minibuses are exposed to traffic congestion and hence affecting the travel time of bus operation as well as financial performance of bus companies. Longer travel time means less bus cycles and consequently less revenue. Lower revenue received by the bus operation is currently transferred fully by bus owner to the driver, creating enormous pressure for the driver to maximize their income. The driver is maximizing their income through a cream-skimming operation, reckless driving behavior which increases accident risks, delaying required maintenance, and avoiding compulsory engine and safety inspection.

This reduction of public transport share is even more problematic because the government is setting the regular bus tariff, decided by a political process in a local parliament, but without an obligation to provide subsidies if the fare-box revenue is below the investment and operational expenses borne by the bus operators.

Issue of last and first mile transport infrastructure

The use of public transport is associated with access and egress for the passengers. Yet the local government failed to recognize the needs to invest on pedestrian facilities. The presence of high percentage of motorized travel less than one kilometer also demonstrates how pedestrian facilities are not regarded as highly potential to reduce motorized trips. Encroachment of pedestrian facilities by street vendors is common in Jakarta secondary roads. In the primary urban roads such as Sudirman Street or Thamrin Street, in 2006-2007 the provincial government has been successfully develop a more pedestrian friendly sidewalk by opening fences bordering office premises along those main streets and removing street vendors. People are easier to move and claim their right to walk.

However, in the majority of streets, Jakarta is still not considered a pedestrian friendly city. As depicted in the Picture 1 below, pedestrian is rarely given a priority, and has caused both the low willingness to walk and expose them with safety risk.

Picture 1. Encroachment of pedestrian facilities

Since pedestrian facility is also essential to ensure the use of public transport, limited facility for them also mean the low access to public transport facility. Only along BRT TransJakarta corridor, the crossing facility is relatively better and safe.

Recently the Vice Governor of Jakarta stated that pedestrians that cross the street on a designated crossing (at grade or elevated) would be penalized. This statement triggered a response from civil society organizations such as KAKI (Komunitas Pejalan Kaki: Pedestrian community) and Koalisi Pejalan Kaki (Pedestrian coalition), saying that the provincial government fails to protect the pedestrian from the encroachment of pedestrian facilities by motorcyclists and is not able to provide enough safe pedestrian crossings. Another study by Lo (2011) however proposes the concept of "shared street design" to accommodate mix use of road space.

Picture 2. Public movement to claim the right of pedestrians
(source: various internet pictures)

Motorcycle taxi or "ojek" is another issue. The public and the authority have mixed responses toward their presence. The public is generally accept their services and often labeled them as "the savior" of the Jakarta's congestion nightmare. Originally serving residential areas, and transporting the consumer to nearby bus shelters or railway station, now their services are expanding to provide door-to-door transport. They fill the gap on what was not provided by regular public transport services (Parikesit and Susantono, 2013, in Morichi and Acharya, Ed.). The service does not come cheap although most consumers become daily users of such services. A single ride could easily cost IDR 15,000 or USD 1.5, which means that the consumer has actually a willingness to pay for public transport services when the service is available. At the moment, a single TransJakarta ride is IDR 2,000-3,500 and short distance urban commuter rail is IDR 2,000.

Growing importance of city logistics

As Jakarta becoming an Asia's growing trading and service city, the movement of goods and services is becoming apparent. As the road network becoming more congested, moving goods in Jakarta has been a challenge as well. In 2011, the provincial government banned container traffic and heavy trucks entering the provincial roads and the south segment of intra urban roads. This has triggered an outcry from nearby district governments because trucks were using their district roads and created serious road damage due to the heavy load. They also demand Jakarta government to hold responsible for the repair of the damaged roads. The policy continues to be applied and so far the demand from neighboring local governments has not been resolved.

A major investment to ease the container traffic is the decision of the Ministry of Public Works to construct Tanjung Priok access road. The project is aimed to connect Cikarang and Karawaci to Tanjung Priok Port using elevated toll road. The project is funded by JICA and currently near completion. The toll road is expected to fully in operation late 2014 or beginning of 2015.

City logistics is not only about container traffic and heavy trucks. It is also delivery vehicles for documents and parcels, including food delivery. Another important element is delivery vehicles for traditional and modern markets, department stores, conventional shops, and shopping malls. There is no recent data about the contribution of city logistics on the composition of traffic, but an estimate of 20-30% of the total vehicles might be an appropriate portion, indicating the importance of the issue to be managed properly. At the moment no regulations is applied for such a delivery vehicle. This is something that the authority must seriously consider in the future.

Big ideas under consideration

Relocation of the capital city

Under President SBY's administration, a review to relocate the country's capital to another city was carried out. After a series of overseas visits, President SPBY began reconsidering the plan (Jakarta Globe, 2013). The idea is similar with concept of KL – Putrajaya, New York – Washington, and Sydney – Canberra, to separate business center and political center. The President suggested that the relocation of the capital city would free the national administration from problems such as floods, traffic congestion, water shortage, and air pollution. During Soeharto, the 2nd President of Indonesia, the municipality of Jonggol – southeastern direction from Jakarta, was proposed to substitute Jakarta as the seat of the Government. The economic think tank called "Visi 2033" has been behind the most recent effort to relocate the capital to Kalimantan (Visi 2033, 2012). The idea of selecting Kalimantan was initially proposed by Soekarno in late 50's, which invited Russian architects to design Palangka Raya as the future capital of Indonesia.

The idea has triggered both academic and pragmatic responses. The reactions were divided. Most urban planners agreed that while the proposal might be acceptable in the long run, the preparation would take many years before the government can make a decision to relocate the capital city. The negative reactions came from those concerned with the faith of Jakarta as the economic center of Indonesia. The relocation might save the capital city but the economic center needs also careful attention from policy makers. Jakarta traffic is still needs to be managed. Therefore, moving the capital will only make things worst due the huge investment required to satisfy the infrastructure and transportation demand for both cities. The idea became cold as the new political agendas arisen, alleviation of corruption and presidential election!

Metropolitan Priority Area

The Government of Japan and Indonesia under the MPA (Metropolitan Priority Area) project, have proposed several fast track and priority projects for Jabodetabek. Most notable projects are MRT Jakarta, the Karawang new airport and Cilamaya New Port.

The idea of MPA is basically to reduce the stress of Jakarta/Jabodetabek urban primacy, by strengthening infrastructure capacity for the region, and also by promoting other economics growth center such as Surabaya, Medan, Makassar, Bandung and Denpasar.

JICA (2012), reported that the Master Plan has estimated the total project amount required by 2020 at approximately 3.4 trillion yen to be funded from both the private and the public in order to carry out the priority projects (including the fast track projects). It is expected that roughly 1 trillion yen out of the funds needed for the following about ten years will come from international monetary cooperation through ODA including Japan's ODA.

Within the MPA framework, various JICA's cooperation projects were facilitated as well. They include the North-South line by the Jakarta Mass Rapid Transit (MRT) System which is the first subway in Indonesia, the Java-Sumatra Interconnection Transmission Line that connects the islands of Java and Sumatra with large-scale transmission lines to supply electricity to the metropolitan area, and the improvement of the Pluit wastewater facilities to contribute to flood control in Jakarta. Furthermore, feasibility studies are under way to formulate projects on the development of Cilamaya Port as a new port on the eastern side of the metropolitan area and the improvement of roads, railways and wastewater systems in the metropolitan area.

The MPA Master Plan proposes the idea of utilizing funds of the private sector through adopting a public-private partnership (PPP) in order to facilitate the implementation of the Fast Track Projects and other Priority Projects. The Master Plan places emphasis on expediting the implementation of the MPA project in addition to formulating individual projects. Thus, a new idea was applied to the

Master Plan in which business firms took part in the Master Plan Study team in order to include recommendations derived from their professional knowledge and experiences on investments in infrastructure and the operation of infrastructure projects.

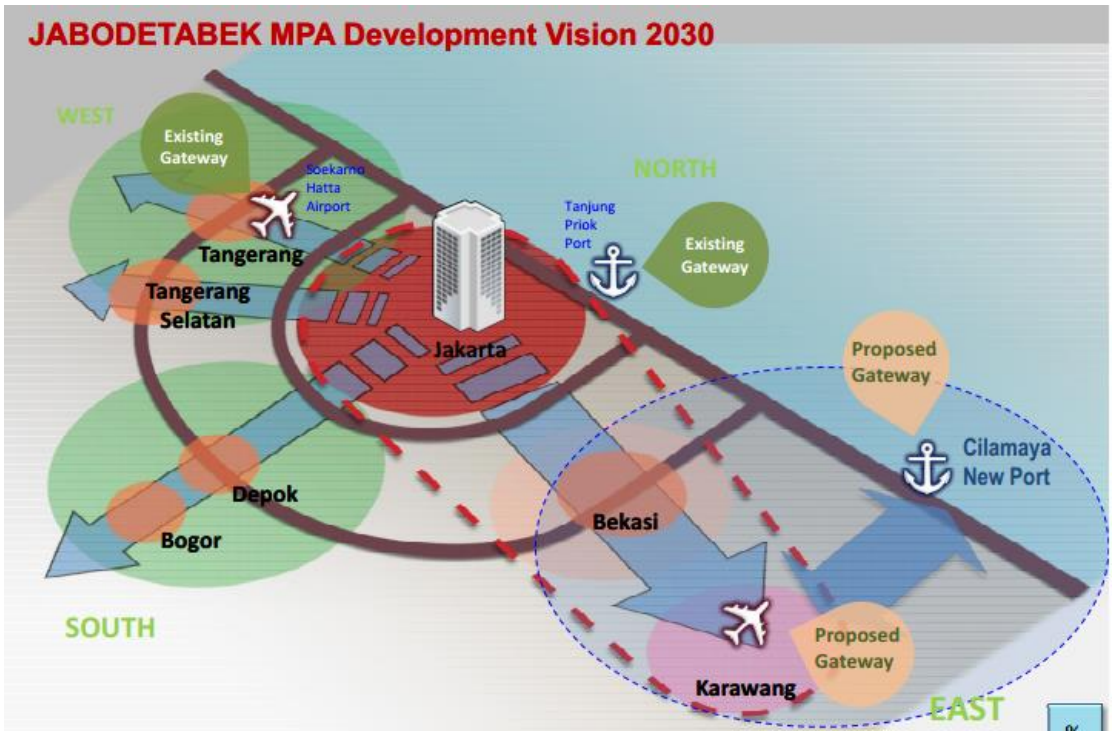

Figure 5. MPA Transportation Projects for Jabodetabek
(source: MOFA Japanese Government, 2012)

MP3EI – Master Plan for accelerating economic growth

The most discussed policy document on infrastructure development in Indonesia is perhaps the MP3EI or the Master Plan for the Acceleration and Expansion of Indonesian Economy. The policy was stipulated under the Presidential Regulation No 32/2011. This economic development plan is using corridor approach as opposed to the growth center approach (which resulted in an economic landscape depicted in Figure 1). It divides Indonesia into 6 development corridors, each of which has different economic development themes. The Java Corridor for example will focus on the manufacturing and service industry, and therefore require first class infrastructure facilities. The MPA Jabodetabek has become a part of MP3EI, especially on Java Corridor. Another projects include railway double track Jakarta – Surabaya, Trans Java Toll Roads, New Tanjung Priok Port (Kalibaru Port), and Toll Bridge connecting Sumatera and Java.

The other feature of this USD 186.7 Billion project (between 2011 – 2025) is the dominant role of SoE (State Owned Enterprise) and private sector to finance those projects. Transportation sector is expected to invest USD 86.1 Billion; of which road project is USD 35.7 Bio, port project USD 12.7 Bio, airport project USD 3.4 Bio, and railway project USD 34.3 Bio. The overall strategy is to maintain the public funding to 47.5% from the total investment needs, and thus requires funding of 34.7% from the total investment to the private sector through PPP scheme, as well as 17.7% allotted to projects financed by the State Owned Enterprises.

The background study for the Medium Term Development Plan 2015-2019 (JICA/Bappenas, 2014) found that the proportion of PPP projects was too high given the historical success of Indonesian PPP scheme and the international best practices.

On going initiatives in transport sector

In the last 5 years, many large and small-scale initiatives are planned or implemented. Following the order of the Vice President in 2010, UKP4 – the President's oversight committee for implementation of various government strategic programs, has been closely monitored and coordinated activities of national and sub-national government agencies in implementing 17+4 steps to alleviate congestion in Jakarta. The Indonesia Transportation Society (ITS/MTI) has been working with IndII/Bappenas to support UKP4 in managing the monitoring program (IndII, 2012). This policy works clearly indicates that technical coordination at the implementation stage is equally critical with the policy coordination at the top management level. The efforts that have been put to work at the policy have not been translated into a well-coordinated action plan and works on the ground. The Australian government through IndII is also supporting Jakarta Provincial Government to improve commercial viability of TransJakarta, which was transformed from a public service agency to a Jakarta-owned company (IndII, 2013).

MRT and monorail projects

Significant large-scale investments currently under construction are the MRT (Mass Rapid Transit) and Monorail. Using entirely different schemes, those two projects are now carried out at different development stages. MRT is publicly financed using loans from Japanese Government through JICA, while a consortium of private companies lead by Ortus Holding finances the Monorail (operated by PT Jakarta Monorail). JICA loan to the Ministry of Finance is partially passed through the Jakarta Province to repay the debt. This is a new development in a local government financing mechanism, allowing a sub-national government to absorb debt payment of loans made by the national government. The MRT is expected to rely their financial sustainability on the fare-box revenues and subsidies from Jakarta provincial government. On the other hand, the monorail uses the development of commercial areas at the stations as a means to mitigate revenue risks from passenger demand. The PPP scheme used in the monorail project was based on the assumptions that construction/operation and revenue risks are all fully absorbed by the investor. This is indeed the biggest challenge for both Jakarta and Jakarta Monorail (the SPV of the monorail project) to continuously discuss the most appropriate set-up of the project.

Improvement for the railway circular/loop-line and the implementation of rail airport link

In July 2013, the National Developing Planning Agency (BAPPENAS) sent a letter to the Vice President of the Republic of Indonesia to recommend and finance a project of an elevated railway loop-line using public fund. The project is critical to increase the capacity of existing commuter rail by diminishing at-grade crossings with highway traffic. This proposal is approved but requires a further policy formulation since it contradicts with Presidential Regulation No.83/2011 that stipulates the mandate for PT. KAI to financially responsible for investing in railway tracks and rolling stock operation.

PT KAI is currently constructing the extension of Tangerang Railway Line to be connected to Soekarno-Hatta International Airport (SHIA). Traffic from and to the SHIA has been regarded as unacceptable since it often takes 2 (two) hours of driving. With a limited supply of buses, which are also affected by the congestion, it is not a preferable travel option. At the same time, the Ministry of Transport and the Ministry of Finance, have assigned PT. SMI – a state owned infrastructure financing company, to implement PPP scheme for Airport Railink project connecting SHIA (in the west) with Halim Perdanakusuma (in the east) airports. The tender announcement is to be made in the late 2014. The presence of the competing rail services has triggered another question of policy coordination and exposed foreseen risks to the rail investors.

Road projects to reduce congestions

For the road infrastructures, two notable projects are the Tanjung Priok Port access road and 6 urban toll road projects. The first project, Tanjung Priok Port project is an attempt to reduce freight costs and separate goods to and from the port and local passenger traffic. The decision of Jakarta government for not allowing container transport entering into Jakarta road network is problematic. Local roads at the nearby district were damaged badly and had created a political tension among sub-national governments. The project is a 12.1 km toll road, mainly to connect Jakarta Outer Ring Road (JORR) and Tanjung Priok port. Cikarang industrial estate will be the main beneficiary of this project. It currently processes 60-70% of Indonesian container volumes and justifies the plan to invest on specific toll roads for a daily traffic of 1,500 heavy freight movements. The project is funded by JICA (IDR 280 Bio or approx. USD 28 Mio) and expected to operate in June 2015.

The second road project is the publicly discussed 6-toll roads project. The project was initially consisted of 6 sub-projects and totaling 67.74 km of road length, not connected to the existing toll network and was using an unsolicited scheme. The Jakarta-owned company PT Pembangunan Jaya was the project proponent. The plan was later revised by redesigning the alignment. The second plan assured that the 6 roads are connected with the existing toll road network because by law, every tolled road should be a part of a national network. The project triggered an opposition by civil society organizations, especially the environment lobby under the argument that such toll roads will not solve the congestion problem, but merely encouraging people to buy more cars. It will benefit the operator, but not the public. Nevertheless, the project plan went through political process in the local parliament and was incorporated into the revised spatial plan. The project proponent won the tender.

The opposition of the project found the candidate governor at that time (now the Governor Jokowi) supported the public transport and rejected the idea of adding more roads to Jakarta congested network. Until the time of writing, the project remains stalled with no concession agreement being signed despite the compromise for adding a bus-only lane in the proposed 6 toll roads.

National policies affecting transport in Jabodetabek

At the national level, two important policies affecting transport in Jakarta in the last 2 years were (1) 2013 fuel price increase and (2) the policy to encourage cheap and fuel-efficient car or known as "low cost green car (LCGC)".

In June 2013, the government decided to increase the fuel by an average of 23% under the pressure to reduce the fuel subsidy. An estimate of IDR 46 Trillion or USD 4.6 Billion of national budget can be saved by such an increase. The government implemented social safety net programs that mostly fell into three categories namely, direct cash support, education scholarship program, and small scale – labor intensive infrastructure projects.

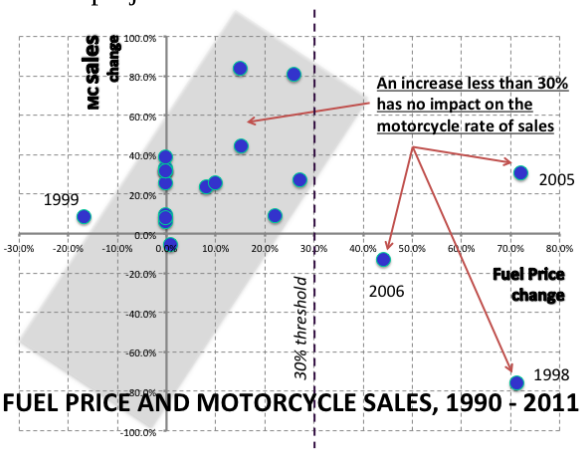

Figure 6. Fuel price increase and the rate of motorcycle sales

The government has so far not considered transport sector (infrastructure and services) as the priority sector and consequently no additional budget was allocated to the very needed transport sector improvement. The absence of public transport option and the low rate of increase in the fuel price have a contribution to the continuing rise of motorcycle and car sales. Historical analysis of the fuel price increase between 1990 and 2011 shows a similar conclusion.

The LCGC policy is aimed to prepare Indonesian car market in dealing with the ASEAN-single market in 2015. The policy was proposed by the Ministry of Industry and was adopted in the Government Regulation No. 41/2013. The policy is providing a tax incentive (0% tax) for car manufacturers that can produce cars with at least 20 km/liter of gasoline or diesel fuel. Although the promise is to distribute the cars outside Jabodetabek Area and use only non-subsidized fuels, the fact is that 19% of these low cost cars were already sold in the region. The methods for separating the sale of subsidized and non-subsidized fuels is not yet agreed upon by car manufacturers and fuel retailers. The planned annual production of 300,000 cars is certainly a big issue when it comes to domestic sale, mostly in urban area.

Another large-scale project under pipeline is the national comprehensive infrastructure coastal development (NCICD). Designed originally to deal with a rising sea water level through a construction of a giant seawall or super ditch, the project has grown into a very large investment project for a comprehensive infrastructure development including toll road and access roads to and within the reclaimed land. The plan includes the property development of the reclaimed land. The toll road, access/local roads and transport services have not been planned. The project is supported by the Dutch Government who provides a technical assistance for the development plan.

Lessons from the current legal case in the procurement of buses: role of the government

Jakarta government realized that the success of existing BRT TransJakarta will not only depend on the successful implementation of the services, but also its connectivity with regular bus network and the pool of passenger demand. The introduction of TransJakarta's feeder services is the key to the increase of passengers and hence improving the mode share of public transport. BRT operation such as in Bogota and Curitiba in Latin America, and in Seoul and Taipei in the eastern Asia, have relied on the network restructuring to ensure better connectivity and passenger transfer. Jakarta however, took different approach. Instead of undertaking a network restructuring and identifying existing bus lines to be adjusted as feeder services, the government introduced new services called APTB (Busway TransJakarta integrated public transport services – for Bodetabek region) and BTKB (Busway TransJakarta integrated bus services – for Jakarta area). The buses were purchased by public funds under the argument that the cost of bus purchase directly by public funds would be cheaper than tendering a buy-the-service system. The second reason was if the process used tender for buy-the-service scheme, the government felt that private sector required longer time to raise funds to purchase the buses. At the same time, the Jakarta government has managed to increase their revenue significantly and cut down un-necessary expenses, creating a window for public sector investment. The decision was then to directly purchase the buses using public funds.

The tender process for bus purchase went wrong when the enforcement authority found out that the quality of buses purchased did not comply with the tender specification and there was an allegation for a mark-up in bus costing. At time of writing, the case is under litigation and several suspects have been named, including the head of the Department of Transportation of the Jakarta Provincial government. The purchased buses are now not in operation.

The provincial government could actually take a different path, which is more effective and prudent. First, the regular network should be adjusted according to the overall public transport network, by identifying trunk and feeder services. Adding more bus lines without managing the existing bus network and services will only create un-necessary competition with the regular services, bringing down the quality of both services. Since preference of policy was directed toward the newly purchased buses by local government, the services operated by private sector suffered most.

The direct purchase of buses by Jakarta government was proven to be problematic. While the original idea was to save cost, the fact that buses were purchased using lowest bid system. It means that buses are bought not based on a life cycle cost principle, but based on the cost of initial investment. Several contractors bought cheap buses with different brand with no assurance of long-term provision of spare part and technical support. The alternative approach is to tender out the service quality and output level. The government purchases the service and absorbs the passenger demand risk. This approach releases the government for managing assets, which is one of the weaknesses of the government, and focuses on ensuring services delivered to the public.

Way forward: Challenges for implementation

Having learnt the above state-of-the-art of the Jakarta and Greater Jakarta transportation system, we can establish main issues to address the problem, both for the upper level policies and lower level implementation. The two issues emerged as the core, which are (1) managing financing gap for transport investment, and (2) creating an effective institution to manage mobility for the Greater Jakarta

Managing financing gap

- The needs to consolidate national and sub-national government resources

This paper has identified that there is a huge investment gap for ensuring demand for mobility is met. The current annual congestion costs, health and accident costs, as well as the environmental costs are burdening its inhabitants and visitors. This figure is a liability that can be alleviated through better allocation of public and private financial resources. Various projects that are currently implemented, require better targeting and policy supports. Investment in pedestrian and other first/last mile infrastructure needs adequate public funds. Bus feeder services needs to be facilitated. According to the Presidential Regulation No. 38/2007, urban transport finance is basically delegated to sub national government. National government through line ministries (transportation, public works) is only financing cross border infrastructure and services, such as national roads and national railway system. National government is also responsible for managing national ports and airports located in the region.

The first difficulty in managing finance to support urban transport plan is the problem of budget consolidation. Despite UKP4 tight activity monitoring scheme, the consolidation of public sector fund is problematic. Even when the budget is made available, the timing for budget disbursement is almost impossible to be synchronized. The second problem is the size of economy and budget in the autonomous government administrations in Jabodetabek.

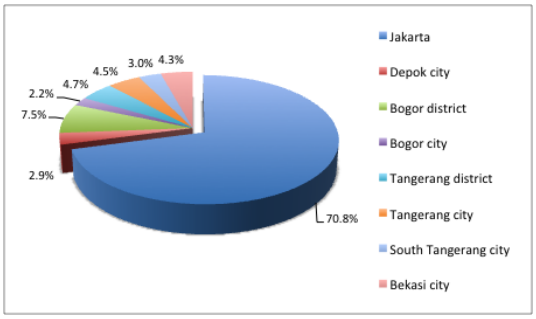

Figure 7. Share of government budget in Jabodetabek region, year 2012

The size of Jakarta budget definitely dwarfs other districts, creating an imbalance capacity to finance urban transport projects. In the year 2012, the budget of Jakarta was IDR 36 Trillion or USD 3.6 Billion. In 2014, Jakarta's budget is doubled or IDR 72 Trillion of USD 7.2 Billion, leaving a huge disparities in the fiscal capacity to disburse funds for both capital investment and subsidies. Jakarta's

neighboring districts and cities are not able to provide infrastructure and services comparable to the capital city. Sidewalks, roads and public transport infrastructures are inadequate and require financial supports from elsewhere. Under the Law No 17/2003 on State Finance, it is actually possible to transfer funds from Jakarta to other local governments, to assist them achieving comparable service standards, but this legal window is not being used systematically by Jakarta province.

- National government support

Besides the infrastructure that becomes the mandate of national government, the problem of financing disparities can actually be addressed by the use of decentralized fund allocated by the Ministry of Finance. The Law 17/2003 also stipulates the grant mechanism from the Ministry of Finance directly to local governments. In the past, there was an attempt by the Directorate General of Land Transport to establish specific allocation grant for urban transport. The proposal was not submitted to the National Development Planning Agency and the Ministry of Finance because it required technical documents to be prepared by the Ministry of Transportation.

The investment in rail services should focus on improving the capacity of the loop line or circular line. The example of Tokyo and Seoul have provided a good example that when the government is seriously investing in such an important part of the network, the private investment will follow at the later stage.

- Leveraging public funds and utilizing private sector financing for transport services and infrastructure

The experiences of bus procurement in Jakarta certainly pose a question of the role of government funding. Public funds are best used for capital investment where there is no scope for users' pay scheme. Investment in infrastructures such as pedestrian facilities, bus stops and terminals, and public roads can meet economic criteria for public fund. There should be a clear distinction between role of public and private sector finance. Where available, public funds can be used as leverage for private sector to invest. A local government guarantee might be designed to reduce risk premium and to ensure bankability of commercial transport projects.

Private sector investment in terms of equity financing and loan financing for urban public transport services can be utilized in a larger scale if the local government is able to draft a proper and prudent concession contract. The current practice of licensing regular bus services for example must be reformed to allow service contract between a designated government agency and a private sector operator. A tender can be made possible if service quality standard can be jointly established among local government in Jabodetabek Area.

The challenge for investing in an urban private railway operation will depend on the design of the concession contract. The current PPP scheme and government fiscal support through VGF (viability gap funding) are still not providing enough appetite for private funds. The VGF is at the moment providing a maximum of 50% of the construction subsidy to the concession owner. If we look at the life cycle cost of the project or cost during concession, this percentage will typically be around 15 – 20% of the total cost. It is indeed a small percentage for improving private funding. Therefore, the government needs to draft a better scheme for private sector participation. The possible implementation of P-based (performance based) or annuity payment scheme will release the passenger demand risk of the private operator and can be used as an alternative. The other alternative is to allow government taking the construction risk and grant the operation concession the right to manage and develop the asset as well as to operate the railway services.

- Creative financing such as local government bond and NAMAs facility

The growth in Jakarta's fiscal capacity is not only creating a new window for investment, but is also opening a door for leveraging the public funds. Under the Minister of Finance's regulation, it is now possible for a local government entity to issue a bond, based on their fiscal balance and repayment

capacity. The recent proposal for developing a local government bonds for Jakarta however, was turned down by the Provincial leaders with argument that they have enough money to spend using the available budget. This misconception in leveraging local government fiscal capacity should be one of the priorities for the next government.

Another option already available is the facility provided by the Center for Government Investment, at the Ministry of Finance. Local governments that have a good track record in managing their local budget are allowed to borrow money from the Center at relatively a low interest rate. At the moment, the interest rate is less than BI Rate (Bank Indonesia, the Central Bank).

Climate related funding options are currently being discussed within the Ministry of Finance. Indonesia has been granted funding from the German and UK Governments for developing and implementing NAMAs (Nationally Appropriate Mitigation Actions) in transport sector for several Indonesian cities. In the future, such investment fund will be a promising option for Greater Jakarta urban transport projects.

- The needs for local debt management

When MRT Jakarta is financed through two-step loans, i.e. national and sub national loan scheme, this policy exposes Jakarta government with new liability. The government needs to manage local government loan, something that no other local governments have gone through. Although the repayment obligation is transferred to PT MRT Jakarta (the company which will operate the services), the responsibility remains with the local government. At the moment, local debt management has not been in the policy agenda of the Jakarta government, and needs to be addressed with prudent principles. With various creative financing mechanisms available in the market, the needs to have the capacity to manage local debt will be instrumental to sustain the development.

Creating an effective institution to manage mobility for the Greater Jakarta

The above discussion on financial management for implementing urban transport policies and projects will not be made possible with an appropriate institutions. The JUTPI Study (CMEA, 2013) has produced a draft for Jabodetabek Master Plan with the expectation that it will be consistently implemented by relevant agencies. IndII/Bappenas study (2011) has clearly indicated that coordination requires a strong institution that could implement the scheme in a synchronized and concerted fashion. Improving mobility requires seamless travel, and addresses the fact that many agencies are involved in the delivery of travel services at the preferred costs. Intricate relationship among national government agencies, between national and sub-national governments, and between public and private entities requires understanding the priorities and motives as well as the key performance indicators of each party. This is indeed a challenging task. Parikesit (2011b) described that many big cities choose to establish metropolitan transportation authorities to alleviate institutional complications, improve efficiency in a decision-making and implementation, and to gain trustful relationship among government and non-government agencies.

The following section briefly discusses the challenges of the institution that will deal with the implementation of urban transport plan for Jakarta and the greater Jakarta.

- Setting priorities

Common development practice in Indonesia recognizes the importance of bottom up planning mechanism. Each agency submits the list of policies and projects to the coordinating agency which then after compiling all inputs, they consolidate the document as a final plan. This practice has a serious drawback. The document will fail to identify the main and supporting policies, as well as express difficulties in tracking down the success of the policy or project package. It is already well understood that mobility management requires a comprehensive approach with a time-bound schedule.

Setting up priorities mean that the lead agency will have the authority to determine the main and the supporting activities, with transparent criteria.

- Strong and effective coordination

The agency should be empowered by political, administrative and fiscal leverage to ensure their capacity to lead other agencies going through the implementation. The existing Jabodetabek Master Plan has actually a success requirement that is the formation of Jabodetabek Transportation Authority (JTA). UKP4 has pushed for the establishment of JTA directly under the President's office since 2011.

- Capability to manage project implementation and develop an appropriate procurement mechanism

One specific issue in the implementation of Jabodetabek Master Plan is the establishment of project management unit and procurement unit. Jakarta government's unpleasant experience with bus procurement, the delay in the MRT tender announcement, and the PPP concession for Jakarta Monorail project, has demonstrated the capacity of government agencies in well-governed implementation. Outsourcing the procurement agent and solid project management unit drawn from the best consulting agencies will certainly help the process of complex undertaking in urban transport projects. International experts, especially those experienced in comprehensive transport provision can be assisted to the JTA in ensuring the quality of the implementation. When involved with PPP concession agreement, inputs from internationally experienced transaction lawyers are very important.

- Facilitate local governments

Using Government Regulation No. 38/2007 as a base for local governments' role in establishing transport policies, and financing transport projects, there is a clear need to increase the capacity of local governments to plan, design, implement and monitor the progress of urban transport plan. Besides Jakarta, the facilitation might include strengthening fiscal capacity of local governments. The task of the lead agency will be to provide a technical and financial assistance to the districts and cities so they will have a high quality implementation and action plan, and well monitored projects.

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Towards Transit-Oriented Development in Bangkok: Evidence and Challenges

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Introduction

Bangkok's urban transport system is in the process of transforming towards a rail-based system. Mass rail transit has become the core component of urban transport policy and capital investment in the Bangkok Metropolitan Region (BMR) in the past ten years.[1] Already the mass rapid transit system in Bangkok covers over 86.52 kilometers and has 61 stations in operation. As of December 2013 an additional 98.62 kilometers and 62 stations are under construction. According to the "Mass Rapid Transit Master Plan in Bangkok Metropolitan Region" developed by the Office of Transport and Traffic Policy and Planning (OTP) of the Ministry of Transport, by 2029, an additional 330 kilometers and 246 stations will have been developed in the BMR, extending the whole urban rail system to more than 500 kilometers (Figure 1). The operation of rail-based transport systems in the past decade has created more options for urban travelers in Bangkok. The rail ridership has increased steadily and is expected to increase even further with more transit systems in service in the next few years.

The rail transit systems have also triggered significant urban transformation. Gradually but surely, the city's urban structure and fabric are shifting from automobile-oriented to transit-oriented. An increasing number of condominiums and shopping malls are built close to transit stations, indicating a counterforce against the ongoing trend of suburbanization. Over the last 30 years, the urban areas of Bangkok have expanded outwards beyond the administrative boundary of the Bangkok Metropolitan Administration (BMA). First along the major arterial roads, then along the dead-end side-roads (*soi*, in thai). Although the population density of the inner areas of Bangkok remains higher than the rest of the Bangkok Metropolitan Region (BMR), the urban growth rates are higher in the suburbs of the BMA and the adjacent districts of the five surrounding provinces. At the same time, the built-up area continues to expand to the rural and agricultural areas of the BMR. With more high-rise residential projects being developed close to transit stations, population redensification in inner areas of the city is clearly taking shape.

[1] Unless stated otherwise, in this paper, Bangkok refers to the Bangkok Metropolitan Region (BMR). The BMR comprises the city of Bangkok under the Bangkok Metropolitan Administration (BMA) and the five surrounding provinces, namely Nonthaburi, Pathumthani, Nakhon Pathom, Samut Sakhon, and Samut Prakarn.

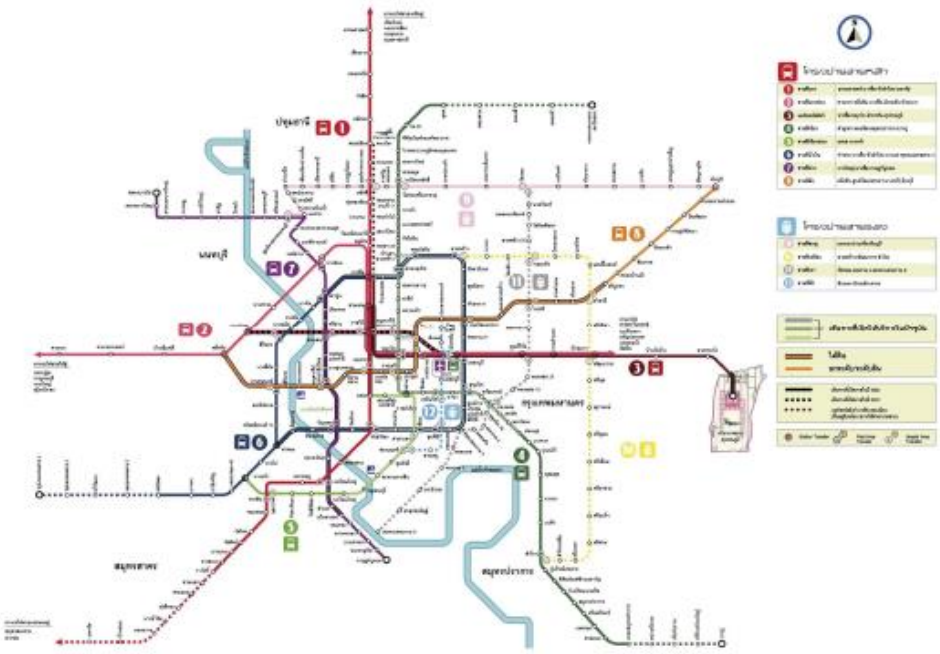

Figure 1: Mass Rapid Transit Master Plan in the Bangkok Metropolitan Region

Source: OTP (2011)

As the city is shifting towards transit-oriented development (TOD), several obstacles and challenges become even more obvious and prominent, which requires appropriate public policy and planning. This background paper provides a set of evidence for the ongoing shift towards TOD in Bangkok, and discusses challenges for creating more sustainable and inclusive transport systems in Bangkok.

Shifting towards TOD: The Evidence

Rail transit investments greatly influence urban development and land use patterns in the Bangkok Metropolitan Region over the past two decades. Currently, there are three systems of rail transit in Bangkok metropolitan region. First, the Bangkok Transit System (BTS), also known as the "Sky Train" Green Line is an elevated heavy rail system, consists of two train lines and 35 stations, and first began operation in 1999. Second, the Mass Rapid Transit Authority (MRT) Blue Line Subway is an underground heavy rail system, has 18 stations, and began operations in 2004. Third, the Airport Rail Link (ARL) Red Line is part elevated, part underground, has eight stations, and began operations in 2010. The first two systems mainly serve commute travel, with relatively short station spacings between 800 to 1,200 m. The ARL, on the other hand, mainly serve airport-oriented traffic, and has relatively long station spacings, between three to four kilometers. As of mid 2013, the ridership of the BTS, MRT, and ARL are approximately 600,000, 240,000, and 40,000, respectively.

The development of rail transit systems has led to increasing densification of residential and commercial development along transit corridors. Since the BTS and MRT lines started their operation, major residential developers have substantially revamped their investment strategies from focusing on subdivision projects in the suburbs to condominium projects along the rail lines. From 2009 onwards, more condominium units have been built than detached houses in Bangkok (Figure 2). An increasing number, as well as the share of, new condominium units are now built close to transit stations (Figure 3).

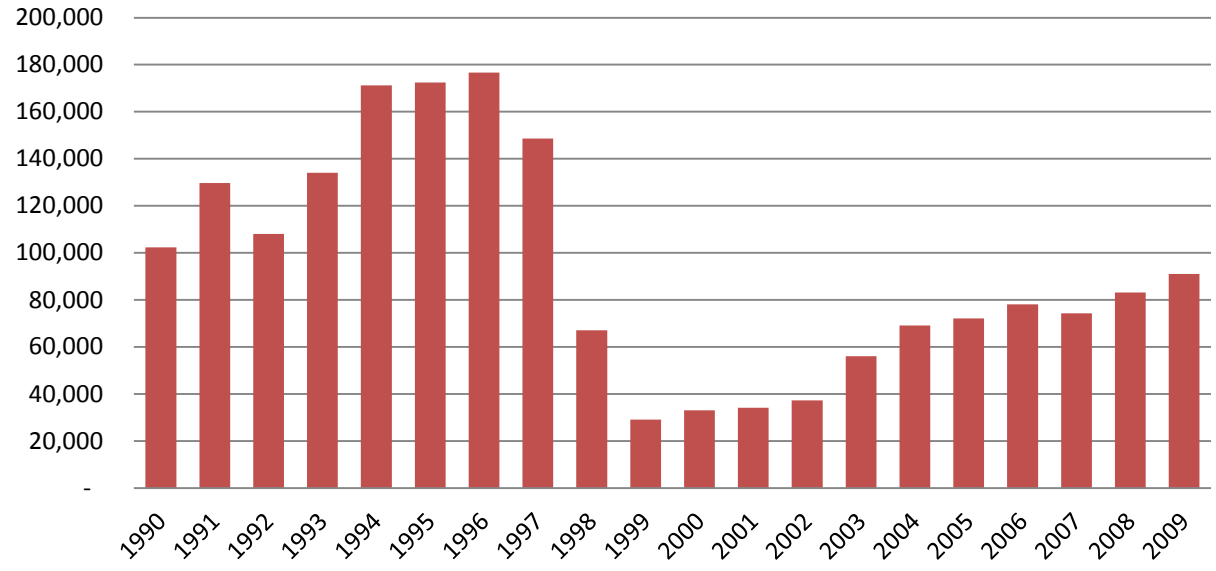

Figure 2: New Housing Units in Bangkok Metropolitan Region

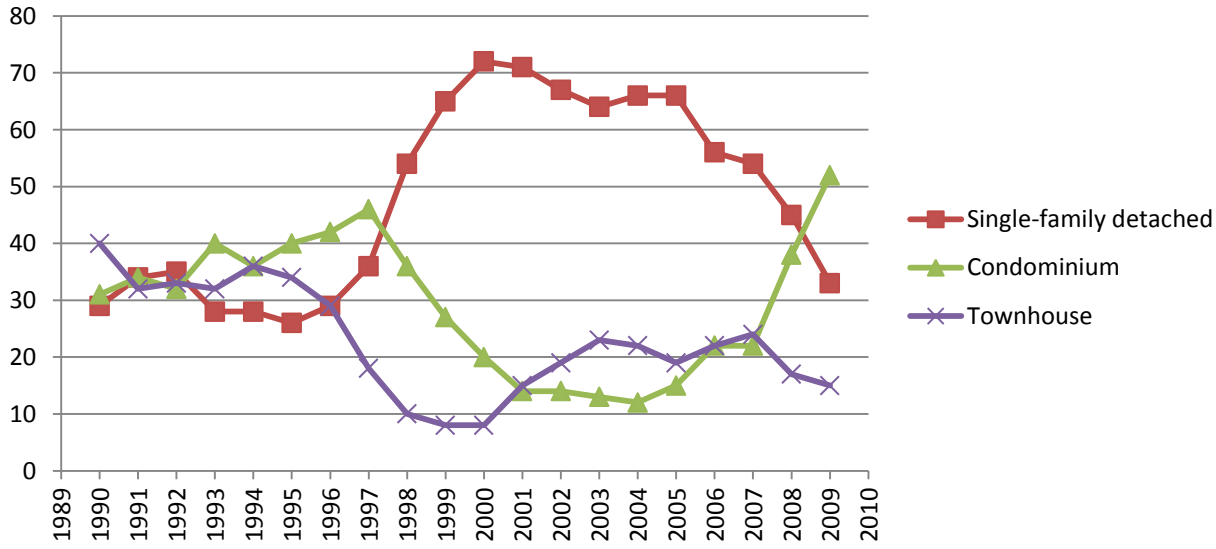

Figure 3: Types of Housing Stock in Bangkok Metropolitan Region (% of New Units)

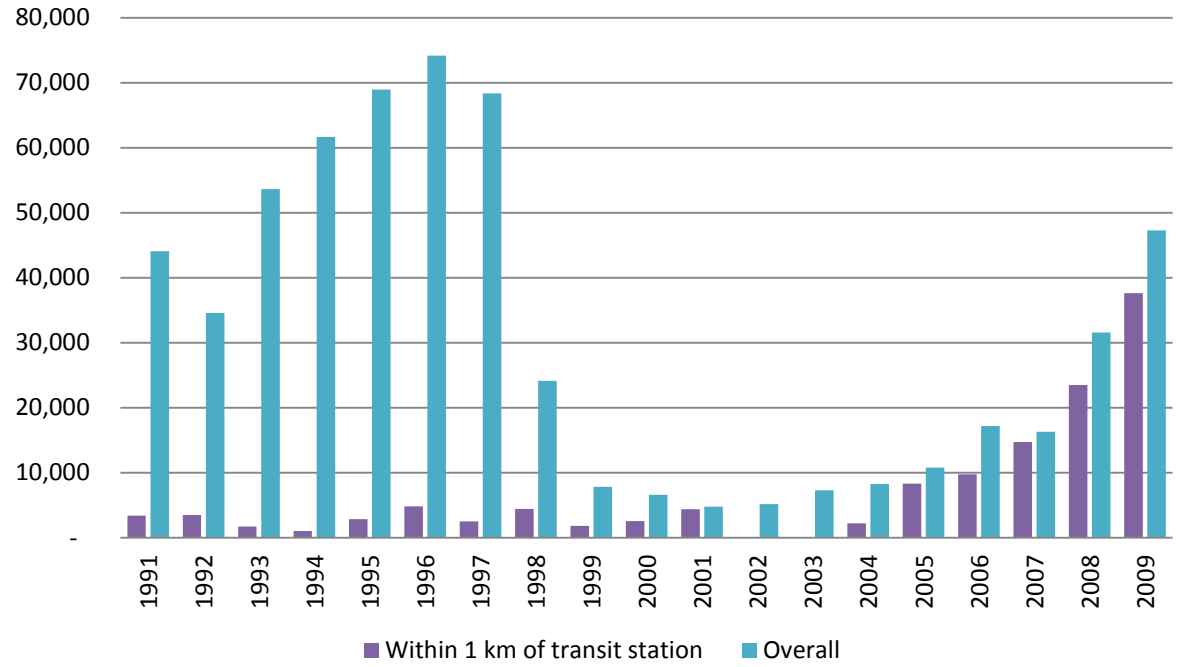

Figure 4: New Condominium Units within 1000m of Transit Stations vs. Overall

Results from the study of condominium price and office rental gradients are also consistent with the hypothesis that new development is concentrated along rail transit corridors in the BMR. Chalermpong (2007) found that condominium units near BTS stations command the price premium of 380 Baht ($10) for each meter nearer to a station. The result implies that residential developers and consumers highly value accessibility to transit stations, and hence prices of property in the vicinity of transit stations were driven up significantly, particularly in the early stage of rail transit development in Bangkok. Less compellingly, Chalermpong and Wattana (2009) found a small premium of office space monthly rental in buildings along the BTS and MRT corridors to be around 19 Baht for every kilometer away from the station. This result, however, is probably due to the fact that most office buildings are located near to transit stations and hence access to transit is not the most influential rental determinants.

New urban rail transit systems also induce travel behaviors that are somewhat consistent with the rationale of TOD. For example, in a new study on walking behaviors of BTS passengers, Ronghanam (2014) found that rail transit passengers tend to walk a longer distance than they did before using rail transit. However, it was also found that the average walking distance to access transit stations in Bangkok is relatively short compared to those in other countries, such as Canada and Australia. Another important characteristic of transit access trips that might support TOD is that there is a wide variety of access modes to transit stations in Bangkok, including walking, motorcycle taxis, bus, passenger vans, and other informal modes, such as songtaew and silorlek. (Chalermpong and Wibowo, 2010) A notable and unique characteristic about transit access modes that is supportive of TOD is the unpopularity of bicycling. This is probably due to the lack of bicycle facilities and the perception that cycling on Bangkok's narrow streets is dangerous. Also, motorcycle taxis are ubiquitous in the Bangkok Metropolitan Region and beyond, and compete directly with walking and cycling for short-distance trips, such as transit station access.

Public sentiment and attitude of policy makers and planners are also supportive of mass rail transit systems. The current and previous governments have formulated policies for Thailand's future economic competitiveness based on the concept of connectivity, in which developing mass rail transit systems is one of the top priorities. The National Science and Technology Development Agency

(NSTDA) has started a project to establish a national institute devoted to developing rail technologies and technical capabilities in Thailand. In addition, several top policy makers are also knowledgeable about TOD and aware of the experiences in countries like Hong Kong and Japan in implementing successful implementation of TOD projects. For example, the current governor of the Mass Rapid Transit Authority of Thailand (MRTA) is an advocate of TOD policies and has attempted to incorporate several TOD projects in the planning and design of new rail transit stations.

Challenges

A number of issues and challenges remain in the process of developing transit-oriented development in Bangkok, including (1) inclusivity and affordability of transit services, (2) limited integration of informal transport in urban transport policy and planning, (3) a lack of regional development plan that integrates land use and transportation, and (4) Institutional problems in comprehensive urban planning.

Inclusivity

Even though more mass rail transit systems are now available in Bangkok, they still remain "class transits" in that they mainly serve the middle class who can afford to pay the fares that are about two or three times more expensive than the bus fares. Also, since the coverage of rail transit system in Bangkok is still quite limited, only the upper middle class can afford a residence that is most conveniently located to use the system.

While the future seems bright for mass rail transit, the future for public buses, by contrast, seems bleak. The current bus system in Bangkok has been falling into a downward spiral of poor services, old vehicles, inefficient management, and accumulating debt. Bus ridership has been declining steadily at the rate of 5% per year. The debt of the Bangkok Mass Transit Authority (BMTA), the main public bus operator, had accumulated to about THB 82 billion (USD 25 billion) in 2012 with about a 5% increase annually (BMTA, 2012). Several efforts by the BMTA to rationalize the bus routes and to modernize the bus systems have stalled.

These problems are further complicated by the government's policy for the BMTA to provide free bus services as a way to relieve the financial burden of the poor who were affected by the economic downturn in 2008. Since then the four successive governments and four different prime ministers have renewed the policy 13 times, injecting a total of more than 16 billion baht into the pro-poor transport policy. As of January 2013, 800 buses are allocated daily to provide the free service in 73 routes (Thairath Online. 26 September 2012). Despite the policy, bus service continues to lose its role as the main mode of transport for Bangkok.

Findings from our recent surveys indicate that the poor in Bangkok rely as much, if not more, on motorcycles, as they do on public transit. Among the poor who do use public transit, few utilize rail transit because of relatively expensive and unintegrated fare and limited coverage, as mentioned above. To ensure that rail transit systems are more inclusive, future plan for rail transit station must incorporate TOD features support the poor clientele, such as low-income housing projects in the vicinity of transit stations. Although land parcels adjacent to transit stations may be too expensive for such projects, successful TOD housing projects for the poor may not necessarily be next to stations, as our previous study also shows that passengers are prepared to walk longer distance to access a rail transit station. (Chalermpong and Ratanawaraha, 2011)

Informal transport

Against the backdrop of the emergence of rail transport and the decline of public buses, other modes of transport in Bangkok continue to co-exist with one another, keeping the city's transport system as mode-rich and diverse as before. In addition to private vehicles, i.e., cars, motorcycles, and bicycles, there are a large variety of public modes in Bangkok, including buses, mass rail transit, bus rapid

transit, taxis, tuk tuks (motor-tricycles or auto-rickshaws), canal and river boats, songtaews and silorleks (converted pick-up trucks), passenger vans, and motorcycle taxis. There are also a small number of cycle rickshaws operating in Nonthaburi and other surrounding provinces, although they have been banned on the streets of Bangkok since 1964. Chartered modes that employers use to transport their workers are also spotted frequently in various parts of the city, particularly near construction sites and factories. Some of these modes, such as passenger vans and motorcycle taxis, are thriving more than ever before, while others remain relatively unchanged, such as songtaews and silorleks.

The degree to which the government sanctions and regulates the services defines each mode's formality and legality. Those that clearly fall into the category of formal transportation are public buses, mass rail transit, bus rapid transit, canal and river boats, and taxis. Even those that appear like informal transport such as tuk tuks, songtaews and silorleks are also highly regulated by the Department of Land Transport (DLT). Strictly speaking, even passenger vans and motorcycle taxis are somewhat formal and legal. It is true that their services are not necessarily initiated and sanctioned by state agencies and their systems are not planned by the government. But their operational characteristics, such as routes and stops, and fares are currently regulated to some degree. Nonetheless, their levels of service and fares are not entirely regulated by government agencies, and there are de facto governance mechanisms outside the state that determine their operational characteristics. Furthermore, operators of these transport modes are "informal" as they are not part of any occupation-based welfare systems.

Among these informal modes, passenger vans and motorcycle taxis have now established themselves even more prominently as the key transport modes for Bangkokians. The total number of passenger vans and motorcycle taxis has increased, and certainly so has the ridership. The total number of passenger vans and motorcycle taxis has increased, and certainly so has the ridership. Everywhere in the city you see these two modes of informal transport. While the exact ridership is not known, there could be as many as one million person-trips on passenger vans and 5 to 7 million person-trips on motorcycle taxis daily (Ratanawaraha and Chalermpong, 2014).

At a quick glance, it seems the poor and lower middle class in the city rely on these informal modes as they cannot afford to buy private cars. You also see office workers and high school and college students waiting in line for passenger vans and motorcycle taxis in downtown areas. At the same time, however, we also see many people still rely on public buses or use private motorcycles, which are much more affordable than private cars.

The institutional landscape of the urban transport sector in Bangkok is as diverse and chaotic as the modal landscape. The planning of the transportation system in the Bangkok Metropolitan Region (BMR) is carried out by the Office of Transport and Traffic Policy and Planning (OTP) in the Ministry of Transport. The regulations of road-based transportation services are under the authority of the Ministry's Department of Land Transport (DLT) and to a lesser extent the Bangkok Metropolitan Administration (BMA) and the traffic police division of the national police. Since the OTP is mainly concerned with rail and bus transit systems, it pays very little attention to the informal transportation sector and leaves it under the control of the DLT. But since the DLT's main responsibility involves safety and economic regulations, the planning of informal services has never been carried out in an integrated manner, neither among themselves nor in coordination with the formal sector. Worse yet, as far as regulations are concerned, the DLT has left the Bangkok Mass Transit Authority (BMTA), the public bus authority, to oversee passenger vans. This renders regulations in that sector ineffective and chaotic, since passenger vans are the BMTA's direct competitors. The confusing and incoherent organizational and institutional structures are made even more complicated by the fact that there is no regional transportation plan, let alone a governing/coordinating body, for the whole Bangkok Metropolitan Region. Certain regulations apply only to areas under the jurisdiction of the BMA; once it is beyond the administrative boundaries, the rules, regulations and responsible organizations can be totally different.

Despite that informal transport modes are supporting the growing travel demand in the city, there is considerable room for improvement for modal connectivity between informal and formal modes, not to mention the problems with service quality and safety. But the city's current transport policies and plans do not yet take these issues into account. From a quick overview of the policy landscape, it is clear that policymakers and politicians alike generally ignore or turn a blind eye on informal transport services in Bangkok. When they do not ignore this, the policy approach and the resulting regulations tend to be either punitive or misaligned.

Regional planning that integrates land use and transportation

Because the geographical scope of urban problems tends to transcend existing political and administrative boundaries, the usual remedy is to create some sort of regional plan that covers the whole area in question. The idea of regional planning has been around in Thailand for a few decades. Several national plans specifically targeted this classic issue and proposed a wide range of policies and measures. Recently, as a result of a 2002 cabinet resolution, the Department of Public Works and Town and Country Planning (DPT) conducted a large study and spent a great deal of effort and resources at spatial planning at the national, regional, sub-regional, and provincial levels. The formulation of the regional plans was completed in January 2009. The regional plans are divided into long-term (50 years), medium-term (10 to 15 years), and short-term (5 years) plans.

The BMR faces the classic governance issue in that its socio-economic activities transcend political and administrative boundaries. Many a scholar has recommended that the administrative and organizational structure be changed to cover the whole urban and rural region of the BMR, and possibly a larger area. More than two decades ago in 1991, the Thailand Development Research Institute (TDRI) proposed that a national-level committee be established and charged with the responsibility of setting policy within the extended BMR and managing it. The Bangkok Metropolitan Region Development Committee, which was already in charge of coordinating the urban policy of the BMR, would be upgraded to cover even a larger area. The committee would be headed by the prime minister, with committee members consisting of high-level officials. Such structure would ensure that decisions can be effectively implemented. This committee, it was hoped, would plan the integrated development of the BMR, coordinate with various agencies having development responsibility in the area, and evaluate major infrastructure projects to ensure their benefits and consistency with overall development directions (TDRI 1991). There was also a recommendation to set up an Urban Development Bureau or the Ministry of Urban Development to be in charge of formulating urban development policy and oversee its implementation, but to no avail.

For a few decades now, two separate agencies have drafted their own regional plans: the Office of the National Economic and Social Development Board (NESDB) and the DPT. Since the 5th National Economic and Social Development Plan (1982-1986), the NESDB has proposed its own version of regional policies for the BMR. On the other hand, the Department of National and Regional Planning within the DPT drafted a national land-use plan and several regional plans, which include a BMR plan in 2006.

As the most recent initiative, another national committee was set up in 2007 to explore how to develop the BMR in an integrated fashion. This committee was a joint effort by a deputy prime minister, who headed the study committee, and the then Governor of Bangkok. The main recommendation of the committee was to set up yet another committee entitled Committee for the Integrated Development of the (Bangkok) Metropolitan Region. The committee would consist of the Prime Minister or Deputy Prime Minister as the head, and 15 representatives from 5 different stakeholder groups, the Governor of Bangkok serving as the secretariat.

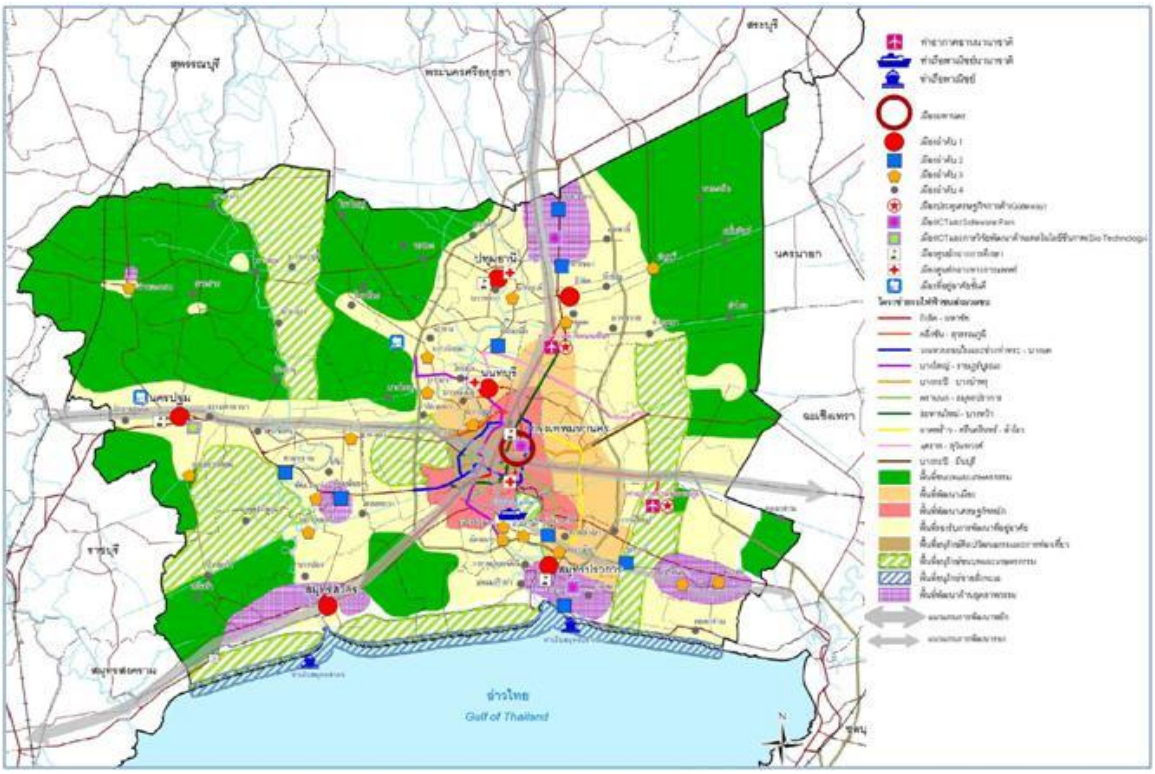

Figure 5: A Regional Plan drafted by the DPT for the BMR in 2006

Another related problem concerns a lack of concrete mechanisms and measures for implementing the proposed regional plans. It is ideal that the BMA and the surrounding local governments should work together at comprehensive planning, as well as in managing infrastructure provisions that require inter-local cooperation. However, the current administrative environment for such cooperation is unfavorable. With regards to comprehensive planning, there are currently no legal requirements for the BMA and the surrounding provincial planning offices and local governments to develop a common comprehensive plan. On the other hand, with regards to joint provision of infrastructure services, a local government is prohibited from using its budget funds outside its territory. There are neither legal provisions in the existing law nor ministerial guidelines as to how local governments could establish inter-local cooperation.

Two public agencies are responsible for regional plans in the Bangkok Metropolitan Region. The Office of National Economic and Social Development (NESDB), which is the primary organ for government policy-making, and the Department of Public Works and Town & Country Planning of the Ministry of the Interior, which is responsible for translating government policies into concrete programs and schemes, both play important roles in the formulation of broad-area regional plans for the capital region. When drafting such regional policies, committees whose membership includes concerned parties in the relevant areas (including the BMA) and government organs are created by the NESDB.

The Bangkok Metropolitan Administration (BMA) recently developed the new Bangkok Comprehensive Plan, B.E. 2556 (2013), which will be in effect until to 2018. In addition to this plan, the BMA has been trying to collaborate with neighboring provinces on urban, spatial, large-volume transport and other plans based on the 11th National Economic and Social Development Plan. Nonetheless, the BMA does not have legal obligations to follow the regional plan drafted by the DPT or other agencies. So it is uncertain how integrated the regional plans and the BMA comprehensive plans would be.

Overlapping and disjointed roles in comprehensive planning

The lack of implementation of regional plans that integrate land use and transport planning is largely due institutional and organizational problems. There is a myriad of planning organizations in the BMR. The issues regarding cooperation and collaboration in the BMR can be categorized into two levels, that is, among the BMA and the DPT provincial offices in the BMR, and among the BMA agencies themselves.

First, the Comprehensive Plans of the BMA and other cities in the BMR do not follow a specific regional plan. Each planning office develops its own comprehensive plan, and they do not work well with one another in integrating their Comprehensive Plans. This results in disjointed and incoherent land use plans for the region (Figure 6) that do not reflect the actual land use development patterns (Figure 7). There are built-up areas that urban development has taken shape but there is no land use control that governs the development, as they are no included in any of the Comprehensive Plans in the BMR.

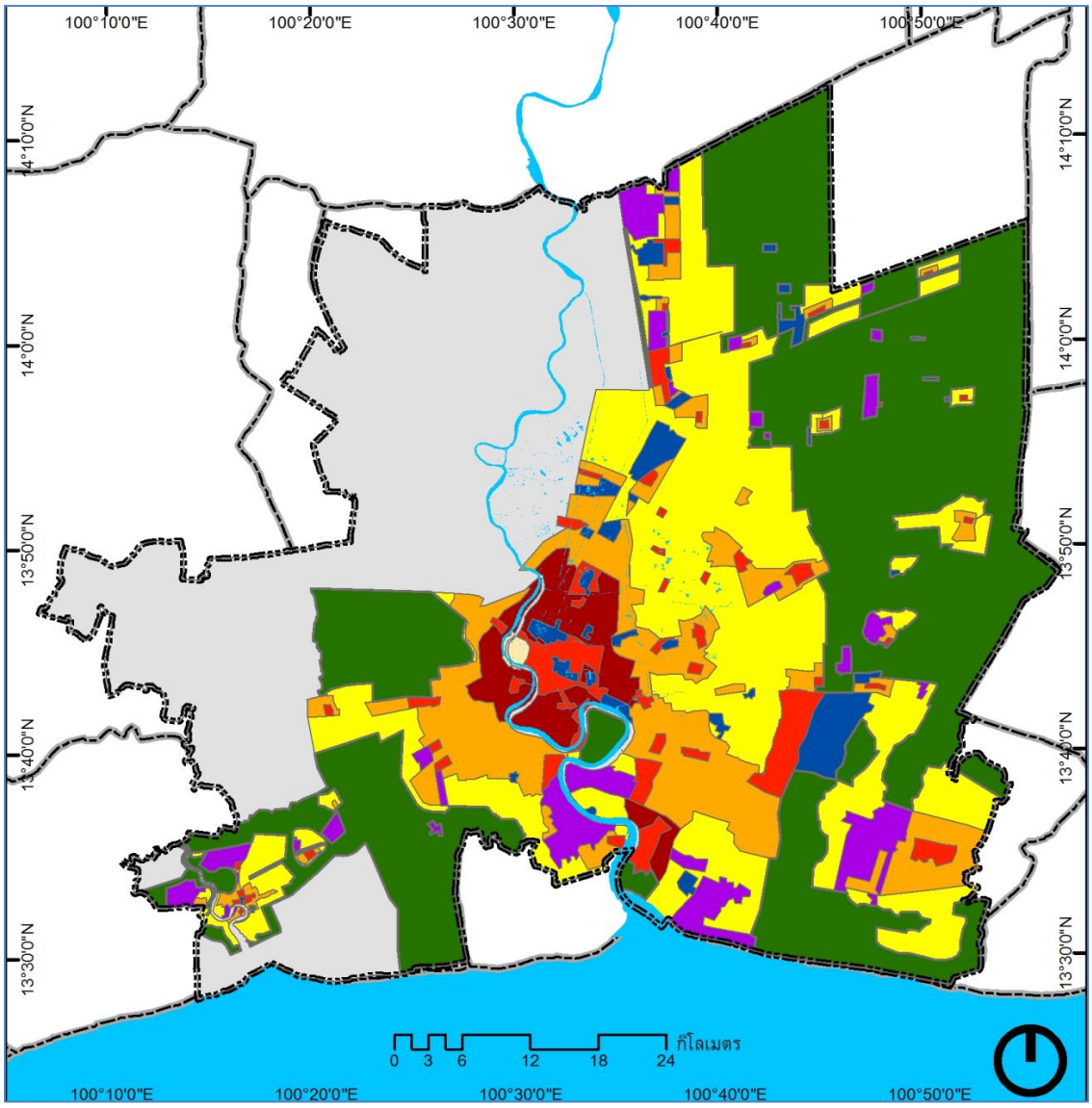

Figure 6: Comprehensive Plans in the BMR as of May 2014

Sources: BMA Comprehensive Plan (2013) and DPT, various years.

The issue of overlapping and disjointed responsibilities is evident within the BMA itself, in which two departments are responsible for urban policy and planning. One is the Department of Strategy and Evaluation (DSE) (formerly the Department of Policy and Planning) and the other is the Department of City Planning (DCP). The former is in charge of formulating urban development policies and strategies, while the latter with formulating the Bangkok Comprehensive Plan. Ideally, the entire process of formulating goals, policies, strategies and translating them into land-use and infrastructure plans should be integrated. In principle, a comprehensive plan should reflect the visions and goals that city citizens desire to attain within a specific timeframe, as well as the policies, strategies and methods to achieve such goals. Physical plans, as illustrated in future land-use and infrastructure plans, are the key instrument that translate long-term policy statements into specific physical arrangements. In most cities with well-established planning processes and institutions, the whole cycle of comprehensive planning is usually under the responsibility of one planning department. However, in practice, the DSE issues its own Bangkok Development Plans, and the DCP is responsible for Bangkok Comprehensive Plans.

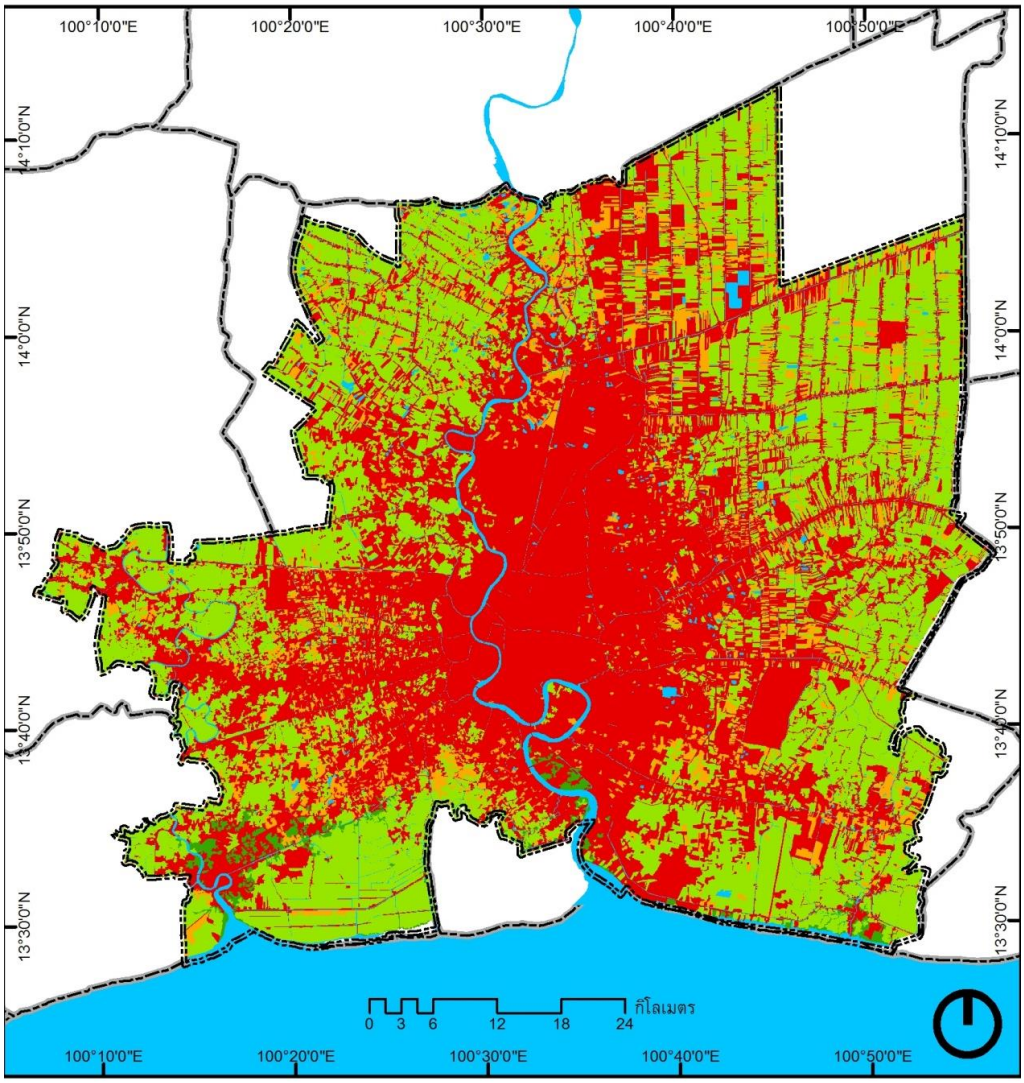

Figure 7: Built-up Area in the BMR as of 2009

Source: Department of Land Development

The five-year Bangkok Development Plan was first issued by the Department of Policy and Plan (now the DSE) in 1977. The previous plans had been primarily about the responsibilities and work plans of the BMA as an organization, rather than about the development of the city of Bangkok. However, the latest Bangkok Development Plan issued in 2007 made the urban development agenda the primary focus. Subtitled "Bangkok: A Sustainable and Livable Megacity", the Plan adopts Gateway, Green, and Good Life as its guiding conceptual framework. The plan duration has also been extended to 12 years to correspond with the 4-year gubernatorial terms. This extension reflects the idea of long-term planning, making it a good starting point to combine the Bangkok Development Plan with the Comprehensive Plan in the future.

For the time being, the process of drafting the Bangkok Development Plan does not involve public participation. Rather they have been drafted by DSE's internal staff with occasional advice and assistance from external consultants. The ideas in these plans may thus reflect the views and hopes of the technocratic planners rather than what the citizens of Bangkok desire. This situation may change soon, however. The BMA announced in 2009 that it would hire a group of consultants to draft the next Bangkok Development Plan. The duration would become even longer, that is, 20 years (2010-2030). More significantly, the planning process would involve public participation by organizing a series of focus-group meetings and public hearings throughout 2010. This is an interesting move, as the DSE is not required by law to arrange public participation activities for developing this plan.

By contrast, the Department of City Planning has its own physical planning processes and procedures, which now involve a few rounds of focus groups and public hearings. Although the City Planning Act requires at least one public hearing in the planning process, the DCP has put increasing emphasis on public participation. But the new initiative to formulate a Bangkok Development Plan by the Department of Strategy and Evaluation had no bearing on the process of drafting the new Bangkok Comprehensive Plan, not to mention the substance in the comprehensive plan. It is clear that the two plans were not integrated.

It has long been stressed in academic literature and among the community of practice that for transport planning to be effective, it has to be accompanied by appropriate land-use planning. The Thai urban planning system adopts the American-style Comprehensive Plan as the basic tool for land use planning. In principle, the Comprehensive Plan should integrate transport planning and land use planning. In reality, this basic principle of transport-land use integration is much easier said than done. Transport infrastructure and land use development are rarely planned together in Thailand.

In most cases, the Comprehensive Plan for Bangkok, and for that matter for all other cities in Thailand, take the existing and future transport projects as given. These transport projects are mostly under the responsibility of various departments of the Ministry of Transport, while comprehensive planning processes are under the responsibility of local governments and the Department of Public Works and Town and Country Planning, which are under the Ministry of Interior. Although current Comprehensive Plans in Bangkok and other cities include future transport projects, it is just a way of recognizing that those projects exist and that they may affect future land use development in the city. To the best of our knowledge, there has never been a case where a transport project of the Ministry of Transport is rejected on the grounds that it does not comply with a Comprehensive Plan. This implies that transport agencies do not follow the directions of urban development indicated in Comprehensive Plans. It is usually the case that Comprehensive Plans just incorporate whatever transport projects that have been planned by transport agencies.

As for public transport, no single state agency is responsible for planning, financing, and implementing public transport services necessary to ensure the attainment of the objectives of the Comprehensive Plan. A large number of public agencies and private organizations are responsible for different components of the public transport system. These agencies have their own objectives which are not necessarily consistent with the Comprehensive Plan. No single Comprehensive Plan in Thailand has ever incorporated informal transport in its content.

Institutional issues in transport policy and planning

It is clear that there has been a paradigm shift in transport planning in Bangkok. Among planners, politicians, and developers, rail is already *the* future. The Thai government has shifted its focus in urban transport policy from building roads to investment in public transport. However, the state has devoted much of its resources to urban rail transit investment, but not public buses. Since the investment in formal public transport cannot keep pace with demand, residents in many areas have to rely on informal transport. Feeder services in the BMR are provided almost entirely by informal operators. It is clear that the state does not see its role in developing road-based feeder systems, which are left to be taken care of by the private sector.

The current land transport law cannot accommodate the reality of urban transport system in the BMR on three fronts. First, it does not promote the development of integrated transport networks, neither intramodal nor intermodal. Second, it does not include informal transport services. Third, it does not have provisions for dealing with metropolitan transport systems that go beyond one jurisdiction. Thus, this Act needs to be reformed or a new one should be enacted to accommodate the three aspects of metropolitan transport systems.

The BMR needs a comprehensive transit authority that oversees all public transport services, including rail, bus, and other informal services. The new authority must prepare an integrated public transport plan for all transport modes with the objectives that are consistent with a Regional Development Plan. It must specify measures of effectiveness to ensure the objectives are attained. The authority must also have financing capability to carry out the plan, and have sufficient resources to supervise the services in the case where they are tendered by private operators. For this to happen, a special Act that grants the power to plan and implement public transport in the BMR to the BMA must be passed by the national legislature.

As for the regulations of informal transport, the existing regulatory regime must be abolished in order to create a tendering system that is both transparent and encourages orderly competition. The new transit authority must consider the informal services, both vans and motorcycle taxis, as an integral part of the public transport system. It must recognize the roles of route associations, and create a system of competitive bidding for the right to operate services out of the *win*.

Conclusions and recommendations

It is clear that there has been a paradigm shift in transport planning in Bangkok towards rail transit systems, and transit-oriented development is taking shape gradually but surely. Nonetheless, there remain a number of challenges that policy makers and planners have to tackle so that TOD in Bangkok is more comprehensive and inclusive. In this regard, for TOD to become a meaningful and successful concept for transport planning in Bangkok, it has to be situated in the context of promoting public transport as a whole, and not just building rail-based systems. A number of previous studies have provided policy recommendations for improving public transport systems in Bangkok. One of them is a recent report by the World Bank (2007), which recommends: (1) redesign of bus routes and services; (2) reforming the bus system; (3) bus service delivery by competitive tendering; and (4) enhancing institutional and regulatory capacity. While we agree with the recommendations, we propose additional policy changes, as follows.

Change in policy mindset

The government must change its mindset and consider public transport services as a type of basic welfare. Officials have to recognize the network characteristics of public transport systems, so as to realize the potential of cross-subsidizing unprofitable routes by profits from lucrative routes. The relevant agencies have to become more pro-active in making policies and plans that integrate the formal and informal feeder services into the overall public transport system, while revamping the regulations that are currently obstructing service improvement.

Back to basics: Integrated transport-land use planning and design

In addition to developing a regional plan for the BMR, all Comprehensive Plans under the Bangkok Metropolitan Administration (BMA) and surrounding provinces should integrate transport planning and land use planning. The integration of transport planning and land use planning is particularly important at the level of distributor roads. Distributor roads are crucial to improving public transport systems in Bangkok as they determine the networks and systems of feeder services. Without land readjustment of some sort to make it possible to have complete road network hierarchy, formal bus systems would never be able to replace motorcycle taxis as the main feeder system for rail transit systems. Long-term urban planning will have to take this issue into account.

In addition, as the government is promoting the concept of Transit-Oriented Development (TOD), it is important that the design of transit stations includes appropriate space for feeder transport. Particularly, the design of rail transit stations should take into account the requirement of informal modes of transport that feed passengers into the rail systems. There are a number of locations in the city where several modes of transport intersect, such as the Victory Monument area. The areas around these intramodal and intermodal nodes are usually very chaotic. We often see passengers walk onto the street to enter the buses or vans; double or triple parking is not uncommon; and street vendors and hawkers are everywhere, making it difficult for pedestrians and passengers to walk. Even though informal transport modes are essential to the public transport system in Bangkok, no space has been officially planned, allocated, and designed for parking and picking up passengers. Therefore, as the government is promoting the concept of Transit-Oriented Development (TOD), it is important that the design of the stations includes appropriate space for informal transport.

Institutional re-alignment and regulatory revamp

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As for the regulations of informal transport, the existing regulatory regime must be abolished in order to create a tendering system that is both transparent and encourages orderly competition. The new transit authority must consider the informal services, both vans and motorcycle taxis, as an integral part of the public transport system. It must recognize the roles of route associations, and create a system of competitive bidding for the right to operate services out of the route associations.

In this regard, the BMR urgently requires a regional level public transport authority with clear policy objectives. The Bangkok Regional Public Transport Authority (BRPTA) should be established as a regulatory body for all public transport services in the region. The BMTA will become one operator amongst many bus and fixed-route transport operators in the BMR. The BRPTA will establish standards for minimum levels of service for all of the BMR. It will also plan the integrated system to meet the minimum standard. Significant revisions of existing regulatory frameworks must be

undertaken, in order to support the move from route-based operator licensing toward a contracting and tendering system.

In addition, the way in which public transport services are delivered also has to be changed. We advocate the move from route-based operator licensing toward a contracting and tendering system. We think that competitive tendering can yield significant operating cost savings by introducing competition in the market where currently entry is controlled either by the formal licensing system in the case of the BMTA bus routes or by the informal institution in the case of van and motorcycle taxi *wins*.

Since a large number of contractual operators may be required to provide services that cover the BMR, a regulatory agency with sufficient resources would be needed. It is essential that a Bus Control Management Authority (BCMA) be established to take full responsibility of the competitive tendering and contracting process. Although, in the past, the contract enforcement of public bus services might seem a daunting task, today information and communication technology has a great potential as a contract enforcement tool, which not only can reduce human resource requirement, but also can prevent the possibility of corruption in the regulatory agency.

Compared with service provision by the private sector, competitive tendering has many potential benefits. First, because all routes and services can be fully designed by the BCMA, innovative network designs, including trunk and feeder networks can be realized without opposition from individual operators. The authority can also specify the routes and services to meet social objectives, such as routes in low-density areas. Second, the fare system can be controlled and designed to suit social objectives as established by the authority. Fully integrated public transit fares can be introduced, and discounts for the elderly or children – features that are not currently possible. Another important advantage of competitive tendering is the more effective control of service quality. Since operators would not need to compete for passengers under tendering contract, the possibility of destructive competition can be greatly reduced. Lastly, the contracts can be designed to provide incentives to operators to improve service quality.

Promoting civil society for public transport

There is currently no NGO or civil society group that specifically tackles mobility issues faced by the poor. Promotion of civic groups that work on this issue should be on a public policy agenda in the near future. Furthermore, because one of the most important issues facing informal transport operators is extortion by public officials and the mafia, it is crucial that their collective bargaining power is enhanced. As in the case of the Motorcycle Taxi Association of Thailand, membership-based organizations (MBOs) could play an important role in increasing the operators' negotiation power. This may lead to less rent-seeking and corruption, as collective action could force the authorities to adjust their regulations to become more responsive to the changing demand, thus reducing the operators' need for doing an end run around the law and relying on the mafia. Promotion of MBOs for informal transport operators could also lead to improvement of welfare and livelihoods. MBOs would allow the members to share resources, increase the accessibility to credit, and apply for group insurance that would reduce the costs of operation.

Use ICTs wisely

Information and communication technologies (ICTs) can be useful in many aspects of informal transport regulations and quality control. Real-time Locating System (RLS) can be used to monitor driving practices to ensure safe operation. Data from such a system can also be used to better improve service and operation planning. ICT will be very useful in monitoring the services and promoting integration between passenger vans and other modes. Vehicle standards for the concessionaire can require that automatic vehicle location (AVL) system, such as GPS, and electronic fare collection system be installed. Mobile technology and social networks applications can also increase participation, especially by passengers voicing and giving reviews and feedbacks in real-time. This

can potentially relieve regulatory burdens on the authority, as well as increase competition. Social networks of informal operators can also change the way informal transport is planned and provided.

In addition, sound policy making requires reliable data. Currently transport planning authorities do not systematically collect and update data on informal transport. Systematic data collection is the first step towards transport policies that take informal transport into consideration. A data collection framework will have to be designed and tested for the purpose of planning and monitoring the informal transport sector. “Big data” technologies that can be utilized to retain and analyze more data should be adopted in the near future.

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Development of Infrastructure for Urban Climate Resilience[1]
Urban and Regional Transport Retrofit

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Rapidly growth is a significant pattern of most cities in Asia. Urban development without properly control has been discussed in association with numerous urban problems. These problems such pollution, squatter settlements, traffic congestion and many others can be seen everywhere from Bangkok, Jakarta, Rangoon to Ho Chi Minh City. Urban sprawl has become a common term providing a basic understanding about unpleasant urbanization.

It cannot be denied that a number of attempts have been made to solve those problems of slum and poor urban environment, for instance, shortages of water supply and drainage system and public transport, however, poor development of urban infrastructure remains serious issue today. One may notice that a lot of financial investment has been provided through the past decades but many have become chronicle problems. An interesting question is why those urban problems remain. As the global environment is deteriorating vastly and the impacts of climate change are relevant, what should be done to save those cities?

Concept of sustainable development has been discussed and adopted around the globe. Smart growth in the North America is a popular movement in American cities extending to many developing countries. Urban climate resilience is becoming more and more interesting for the cities coping with higher degree of natural disasters. Many new concepts and theories are coming out to cover a wider field of related studies. However, the urban issues are complex that some concepts are causing confusion about applications.

Regarding the urban context in the Southeast Asia, most capital cities are following the similar experiences of rapidly urbanization. Hence, Singapore and Kuala Lumpur may be good cases of well planned cities and better sustainable development. The others such Bangkok and Jakarta are moving around the old corner of urban sprawl and uncontrolled development in association with the costly infrastructure investment. Do they have a better alternative?

Cities, from some points of view, are primary engine of economic growth that require effective infrastructure as a driving force. The better infrastructure the faster economy grows. Transportation linkages between cities are becoming more important for the coming of the Southeast Asian economic communities. Economic reason seems to come first.

Apparently most governments in the region concentrate on short term policy and have poor understanding about sustainable development. Consequently big cities in the Southeast Asia are at high vulnerable degree of disaster risk. Bangkok and Ho Chi Minh City are among the top five of most vulnerable city in the world that will have impacts of climate change in the near future. Despite these facts, these cities continue to grow without proper land use control that more people live in the risk prone areas. Many of them received information clearly about high flood risk in their communities. Why do they still live there and what their governments are doing?

[1] Paper prepared for Myanmar Urban Development Conference in Rangoon on 26 May 2014 and Conference on Urban Transport and Land Use in Rapidly Growing Cities on 5-6 June 2014 in Ho Chi Minh City

Historical Development

Turn the clock back to the early days of urban infrastructure development in the 1960s, all governments in the region relied on technical and financial assistances from the western countries that included the Thai governments. Most basic infrastructure systems were provided mainly in the capital cities according to the national centre of economic growth. The hinterlands were developed gradually after their economies became stable. Based on some available documents, studies on urban infrastructure were undertaken and master planning was prepared for the further development. In other words, the future of these regional cities had been discussed by scholars from the west.

An interesting attempt was made in the 1950s to link these capital cities. That is Asian Highway (AH) Project which has been a classic case[2] in the view of academics studying on regional planning in the Southeast Asia. Unfortunately, most development projects were suspended due to the financial problems and the political conflicts in the region during the cold war era. The Asian Highway system has become a hot issue in accordance with the birth of ASEAN economic community.

Considering the case of Thailand, the development of Asian Highway has had strong on impacts on land use changes since then. Deforestation throughout the country is a obvious case. Every direction of the Asian Highway development turned the tropical rain forest to paddy fields and a variety of agricultural changes. Coupled with the primary route of the Asia Highway, networks of local highways were developed substantially which increased the total distances from 8,100 kilometres in 1956 to longer than 200,000 kilometres around the country today. Consequently, eighty per cent of tropical rain forest in Thailand in the 1950s went down to less than twenty-five per cent in the 2010s.

[2] The AH project was initiated by the United Nations in 1959 with the aim of promoting the development of international road transport in the region. During the first phase of the project (1960–1970) considerable progress was achieved, however, progress slowed down when financial assistance was suspended in 1975. ESCAP has conducted several projects in cooperation with AH member countries step by step after the endorsement of ALTID in 1992. The Intergovernmental Agreement on the Asian Highway Network (IGA) was adopted on November 18, 2003, by the Intergovernmental Meeting; the IGA includes Annex I, which identifies 55 AH routes among 32 member countries totalling approximately 140,000 km (87,500 miles), and Annex II "Classification and Design Standards". During the 60th session of the ESCAP Commission at Shanghai, China, in April 2004, the IGA treaty was signed by 23 countries. By 2013, 29 countries had ratified the agreement source; From Wikipedia, the free encyclopedia

Figure1: The Asian Highway Network

Source: Wikipedia, the free encyclopedia

It is worth notation that the road and highway networks were developed better than the railway system. In comparison, the total length of railway system in Thailand did not change much from 3,471 kilometers in 1956 to 5,000 kilometers in 2012. Obviously this may reflect something about urban and regional transport development policy in Thailand during the past decades.

According to some reports undertaken by the United States Omission to Thailand (USOM), most cities and towns along the new highway networks developed vastly and became urbanized later on. Urban utilities such schools and hospitals and infrastructures such water supply, telecommunication and power lines were developed in those settlements along the road and highway direction.

It is simply understood that the road networks stimulate the urbanization in Thailand. However, the early period of rapid growing cities in the 1960s and 1970s was concentrated in and around the capital city of Bangkok which a classic term of primate city has been described for Bangkok. Roads have been development indicator as well as land price changes. Not surprisingly, every direction the road goes, the city develops along which is called ribbon development. The similar picture can be seen in the remote area in Thailand till now. It should be noted that land and property speculation started in this period but the business was limited within a small group of some people who had connection with politics.

The land and property speculation became huge business really in the early 1980s after the landownership registration system was developed well supported by the World Bank. Consequently the property market around the country was controlled by speculators leading to the bubble economy through the 1980s. However, the collapse of Thai economy in 1997 did not stop but only slowed down the land and property speculation for a while.

Land use changes in association with property speculation through the coming decade were a reflection of political interference. The mega projects in terms of infrastructure development introduced by politicians were key factor pushing the land prices up overnight. The development direction is where the politicians point their fingers out. The new airport projects, motorways projects and mass transit projects were among those popular political interests. That may explain why the master plans of those projects were revised many times along with changes in the cabinet or the come and go governments.

Changes in land use in the big cities in Thailand, therefore, are not the natural growth and urbanization was not developed as written theoretically in the textbooks. Rational planning has been discussed among scholars but all was ignored shortly by decision makers. Speculators view planning as problem for their business and do everything to get rid of this legal constraint. Under these circumstances, as a result, more than a half of land use plans and regulations in the country are not implemented in 2014 leading to the freedom of land and property speculation.

Infrastructure for Tourist Industry Development

Besides the mentioned overview and general phenomenon of on-going urbanization in Thailand, more urban development is moving towards a new and huge investment in the heart of the city. Urban landscape is changing replaced by alien architecture. Theme Parks, shopping malls and restaurants are developed following the current popular style of consumption in order to fulfill the tourist industry. Those include floating markets in tourist towns where their history never mention even the name. This new trend is called 'Touristic Urbanism'.

In 1953 some agencies and authorities in Thailand celebrated greatly their fifty anniversary of foundation. They are related closely and have many things in common; the tourist industry. Thai Airways, the national airlines, celebrated its anniversary year with a great pride. Tourist Authority of Thailand announced its successful development that the tourist industry has been bringing the primary income into the country for decades. Board of Investment, Erawan hotel, the first government hotel, and the office of National Statistics celebrated their establishments in the same year. An interesting question is why and how those authorities were born in the same period. Who were behind the story?

The tourist industry in Thailand is a good example of well organized and managed development master planning. In 1956 a report showed a figure of 40,207 tourists from the overseas compared with the figure of 14-16 million tourists annually in the 2010s. Obviously these million visitors use resources and energy in the cities which have to be taken into account of infrastructure investment.

Population decline with a natural growth rate of 0.5-0.7 per cent, however, is an obvious trend in association with growing portion of aging people older than 60 years around 16 per cent, in other words, Thailand has been aging society completely. On the contrary, the tourism industry shows the growing number of more visitors and still plays greater role in the local and national economic development than other sectors. That means policy on infrastructure development should extend the services and include this big group of users.

Tourism creates jobs and can stimulate the urban economy promptly and has become the primary income for Thailand. Even some research papers have been done; however, more attempts should be made to find out the ultimate capacity of tourist industry.

Urban Climate Resilience

The Thai society has just learned the true meaning of disaster after the great flood in 2011. Despite many concepts and recommendations have been proposed, however, some policy makers and most decision makers in Thailand seem to overlook these ideas. Structural measures in association with a huge amount of budget and loans are being provided to flight against the power of nature. Do they know that their costly measures are not sustainable?

Impacts of climate change in Thailand is obvious, however, the Thai society gains little knowledge and information about consequences. Flood, drought, landslide and coastal erosion occur every year around the country. These cause urban disaster both in terms of casualties and economic losses. Awareness is very important term for stimulating the society do something promptly. Massive deforestation upstream continues without any effective legal measure. Why do these problems remain after having run the campaign against global warming for decades?

A serious question is how well the policy maker and decision maker in Thailand understand the situation? Do they know that the existing infrastructure systems are not effective to serve the rapid growing cities and cannot stand against the increasing degree of typhoon?

Conclusion

Apparently the climate change and its impacts are not a serious concern in the view of most decision makers in Thailand. Campaign against global warming is undertaken as a popular movement within groups of some people. Pollution problems seem to extend to everywhere. Natural deterioration is a common phenomenon where tourism is promoted. Land and property speculation is not limited within the urban areas but the national parks where condominium blocks are rising.

Planning is a political process that has been discussed for decades and is arguable for scholars. Considering the case of Thailand, planning has been a political tool since its modern style of planning was introduced in 1960 by American consultants. Aims and objectives of planning were distorted and misleading along with the political interest. That can explain why a number of housing projects were found on floodways of Bangkok in 2011. The same problem can be found in all big cities in Thailand.

Politics of planning may be the next focal issue for any coming conference on urbanization. Many cases of urban development in Thailand are interesting which can reflect critical weak points of urban development policy, concept and strategy. Those will be profitable for scholars who are interested in planning.

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Managing Private Vehicles in Asian Cities

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I. Introduction

Asia's rapid urbanization and growing incomes have resulted in a corresponding booming market in motor vehicle sales. Motor vehicle users generate congestion, pollution, accidents, noise and road damage. Yet, in most cities motor vehicle users often do not pay the full social costs and are therefore implicitly subsidized by non-users. According to the Tom Tom Traffic Index,[1] which is based on GPS data, motorists in the worst congested cities in developed countries spend up to 40% more time for peak hour commutes. This level of delay is relatively benign when compared to the congestion problems in many developing country cities where traffic jams of the 'monster' variety have on occasion stretched on for over 100 km and lasted for several days. Congestion and pollution are examples of instances of market failure which justify government intervention. That these problems persist and have grown in magnitude reflect government failure to adequately implement policies to address these issues. The reasons for inadequate government response are varied and can be due to ignorance, inertia, bad policies, implementation failures, capture by vested interests, and ideological or political constraints.

Table 1 Classification of Vehicle Management Policies

Policy	Reduce Ownership	Reduce Usage
Through price	- Custom duties - Registration fees - Annual road tax - Location based parking permit charges	- Congestion pricing: Singapore, Bergen, London, Stockholm, Milan, Gothenburg…. - Road tolls and distance based pricing: Spain, France, Germany, Switzerland, Austria, Slovakia,… - High occupancy and toll lanes: US - Fuel taxes - Parking charges
Through quotas and restrictions	- Auctions: Singapore, Shanghai - Lottery: Beijing, Guiyang - Hybrid auction + lottery: Guangzhou - Parking: Japan, Hong Kong	- Low emission zones: 226 cities in the EU - License plate number travel restrictions: Mexico City, Beijing, Manila, Paris - HOV lanes - Parking restrictions - No car zones / Pedestrian zones

Source: This is an adaptation of Figure 2 in Zeng (2013).

Numerous policy instruments exist that have been implemented to manage the motor vehicle problem. These measures can be classified as measures that reduce motor vehicle ownership and those that

[1] Tom Tom Traffic Index at http://www.tomtom.com/en_gb/trafficindex/

reduce usage. The top left hand corner in Table 1 represents the traditional fiscal measures that are present in almost all countries. Policy innovations such as congestion pricing, travel restrictions and quotas have developed in recent decades to meet the challenges of managing motor vehicles. City governments can consider the wide range of instruments available and choose the combinations that can be adapted to the local context. Table 1 also indicates the cities that have become associated with particular motor vehicle management policies. Singapore was the first city to implement congestion pricing in 1975 and a motor vehicle quota scheme in 1990. Vehicle travel restrictions are common in Latin American cities while there are over 200 Low Emission Zones in the EU.

I shall elaborate on congestion and road pricing in Section II of this paper and travel restrictions in Section III. Section IV describes quantity restriction schemes for motor vehicle ownership and Section V briefly discusses parking policies. The final section focuses on the special challenges that Asian cities face in managing the rapid growth of the motorcycle population.

II. Congestion and road pricing

The economic theory of the welfare gains from charging for road use was already well established by the 1960s. Yet no city was willing or able to implement congestion charging until Singapore made the first move in 1975. Singapore is a high income, land scarce city-state. With only 716 km^2 of land and a population density that is higher than Hong Kong's, the government has, from the 1970s, proactively managed the ownership and usage of private motor vehicles.

In 1975 the Singapore government implemented an Area Licensing Scheme for the downtown area. To enter the Restricted Zone when the scheme was in operation, motorist had to purchase a paper license to stick on their windscreen. Enforcement was performed by sharp-eye police officers stationed at visible gantry points. An initial charge of S$3 for private cars led to an immediate post implementation reduction in traffic by an estimated 76% (LTA, 2005, p.79).

Road pricing went electronic in 1998 when revenue collection and enforcement was automated. The technology adopted was DSRC or Dedicated Short Range Communication (Phang and Toh, 2004). Under the Electronic Road Pricing (ERP) system, each vehicle is installed with an in-vehicle unit and payment is made either through pre-paid stored value cards or through a credit card arrangement. Singapore's experience with road pricing demonstrated that demand for motor vehicle usage is price elastic. Relatively small charges of less than US$3 are sufficient to have significant impacts on traffic volumes and speed.

The Singapore variant is just one of many ways to implement congestion pricing. Other existing toll collection schemes can easily be modified to variable pricing schemes to manage congestion. The technologies available for e-toll collection have developed rapidly in the past decade to include Automatic Number Plate Recognition as well as the use of Global Navigation Satellite System (GNSS). Truck tolling in Germany uses the GNSS system. GNSS trials are currently ongoing in Singapore for future adoption in place of ERP. Singapore's experience has shown that congestion pricing can work well to keep traffic moving. It is efficient as the user pays thus internalizing the costs of congestion and pollution. The revenue generated can be used for road and other public transport improvements.

It was only in the past decade that congestion pricing has been adopted by other cities. After Mayor Ken Livingstone's successful implementation of congestion charging in London in 2003, many other cities began to seriously consider plans for congestion charging. Stockholm began with a trial period of pricing in 2006 and residents later voted in a referendum to adopt the scheme permanently. Notably absent from the list of cities which have since adopted congestion pricing are cities in Asia. This is expected to change in the near future as plans for congestion pricing have been announced for Jakarta and Beijing. The experiences of London and Stockholm have reaffirmed findings in Singapore that congestion prices do not need to be extremely high to effect a reduction in traffic.

However, adoption of congestion pricing is not inevitable. When put to a vote, cities that have rejected plans for congestion pricing include Hong Kong, Edinburgh, New York City, the West Midlands and Greater Manchester. Perceptions that the congestion charging is unfair remain the primary obstacle to its adoption. Social and political acceptability issues thus have to be handled carefully before such schemes can be successfully implemented. In recent months, there have been protests against eco-taxes in France and electronic tolls in South Africa.

III. Travel restrictions

It is not surprisingly that many cities have found it less contentious to rely on travel restrictions to reduce traffic flows. Travel restrictions based on the last digit of a vehicle's license plate number have been implemented in several Latin American cities. For Beijing, hosting the 2008 Olympics provided a good reason to introduce this form of travel restriction. Car owners were prohibited from driving one day each week based on the last digit of their license plate number. The scheme was permanently adopted after the Games and other cities in China have begun introducing similar restrictions.

European cities have also used travel restrictions in many specific locations with the objective of reducing pollution. Low emission zones (LEZs) are demarcated roads or areas where the most polluting vehicles are restricted from entering. Germany has close to 50 LEZs and there are over 200 LEZs in the EU.[2]

Pedestrian streets impose a total ban on motor vehicle use. They can be considered a tool of urban rejuvenation to create usable, pleasant urban spaces. These amenity benefits tend to be underestimated in Asian cities in the headlong rush to urbanize. A recent exception is to be found in Seoul. In 2003, under the leadership of then Mayor Lee Myunk-bak, the Seoul government removed an entire 8 km highway, restored a stream that had been covered up, and created an accessible public recreation space in the middle of the city. This project has attracted worldwide attention and transformed the city of Seoul in more ways than one.

IV. Motor Vehicle Quotas

The use of quotas as a motor vehicle ownership management measure was pioneered by Singapore in 1990. Prior to the quota, there already exist high registration fees for motor vehicles. The ALS has also been in operation for 15 years. There were a number of reasons for the government to complement the then existing measures with a quota. Growth in car ownership had been rapid. Studies had shown demand for car ownership to be price inelastic and income elastic. Moreover demand uncertainty and policy lags in adjustment of registration fee rates meant that the ownership tax rate could often be far from the theoretical optimal. Expectations of an impending increase in tax rates would lead to a rush to purchase new vehicles. To compound the problem, the then incentive scheme to scrap 10 year old vehicles had resulted in car owners paying a low effective cost for ownership (Phang et al, 1996).

The quota scheme that was implemented in 1990 has been tweaked and fine-tuned over the years. In its current form, those who are interested to register a new motor vehicle bid for a 10 year Certificate of Entitlement (COE). There are 5 COE categories including a motorcycle category. COE Open Bidding exercises are held twice a month, starting on the 1st & 3rd Monday of each month at 12 noon. The auctions last for 3 working days, ending on Wednesday in the same week at 4pm. Bid submission and revisions are via online bidding on the internet.

COE prices for March 2014 were in the range of S$78,000 to S$84,000. Together with registration fees and excise duties, a mid-range Japanese sedan (Toyota Corolla Altis) sells for S$136,000,

[2] For the list and details of vehicle restrictions, see the EU LEZ website at http://www.lowemissionzones.eu/.

multiple times its import price of around S$15,000. COE prices fluctuate with economic conditions and sentiments. From the revenue angle, Singapore's motor vehicle policies yield substantial revenue for the Singapore government, certainly more than sufficient to finance transport infrastructure investment and public transport subsidies.

The Shanghai government made the decision almost two decades ago in 1994 to also introduce a quota for motor vehicle licenses. Beijing, Guiyang and Guangzhou have implemented quotas only in the last few years. Shanghai's quota has been very effective in curbing car ownership when compared with other Chinese cities (Hao et al, 2011). The quota allocation is via bidding in Shanghai while Beijing chose a lottery mechanism. Shanghai distributes 10,000 licenses each month through 90 minute online auctions. The average bid in March 2013 was 92,000 RMB. The auction revenue collected in 2012 totaled 6.7b RMB (Li, 2014).

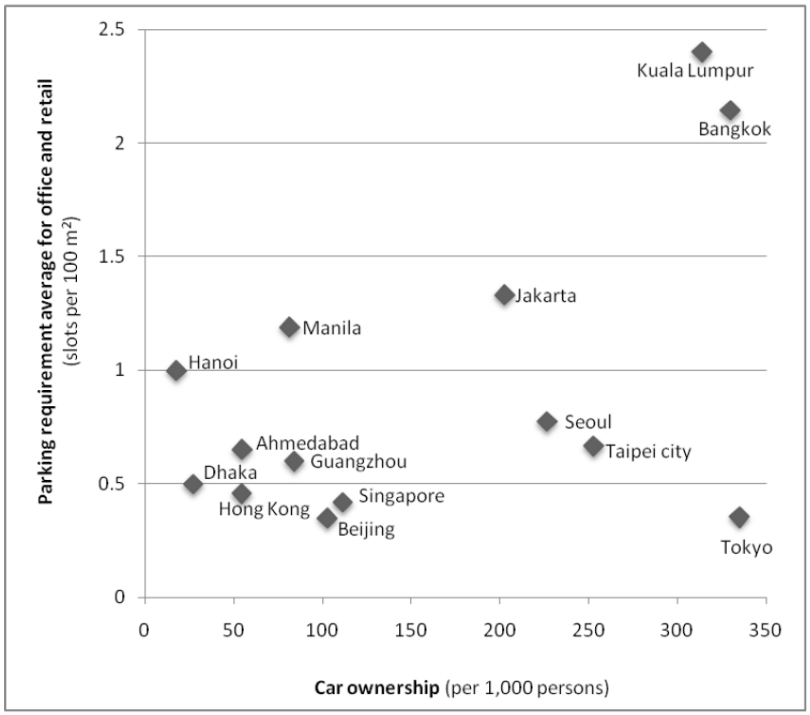
From January 2011, Beijing began distributing 20,000 licenses each month through lotteries, with the odds of winning decreasing from 1:10 in Jan 2011 to 1:84 in Aug 2013. For 2012 and relative to a uniform price auction, Li (2014) estimates consumer surplus losses of 43b RMB due to misallocation from the lottery system and revenue foregone of 21b RMB. The reduction in total external costs was estimated at 7b RMB although Li suggest that the optimal level of quota is less than the existing level of 20,000 per month.

Interestingly, in a comparative study of policies in Singapore, US and China, Chen and Cui (2014) have described Singapore as *more market-oriented than the US* in its use of market-based mechanisms in allocating public resources and regulatory permits and *more socialist than China* in its orientation towards public property protection.

V. Parking policy

One often overlooked motor vehicle management instrument is parking policy. UCLA Professor Donald Shoup, a long-time advocate of market-oriented parking policy, has described parking as the unstudied link between transportation and land use. Shoup suggests that properly pricing on street parking and eliminating minimum parking requirements will greatly improve urban transportation, land use and life. His proposal is to set parking rates high enough so that 15% of parking spaces stay vacant at any time, which represents something like a market-clearing price (Shoup, 1997). A strong supporter of Shoup's proposals, Professor Edward Glaeser of Harvard University, finds it 'somewhat bizarre that New York provides a luxury good -- parking in Manhattan -- to public-housing residents at almost no cost' (Glaeser, 2012).

Figure 1 Parking requirements at commercial buildings versus approximate car ownership



Source: Barter, 2011.

Japanese parking policies have inadvertently resulted in market-based outcomes. Proof-of-parking is required before vehicle registration in Japan. This ensures motorists have no excuse to park illegally overnight on the streets and has led to local markets in overnight parking. In addition, in Tokyo, minimum parking requirements are set very low for buildings (see Figure 1 below) and there is limited on-street parking (Barter, 2011). In Hong Kong, a thriving parking real estate market exists. Car owners can spend more than HK$1 million to purchase a 2.5 m by 5 m parking lot for their cars. High parking costs and a public transport system that has been ranked number one in a recent global study on urban mobility have contributed to keep car ownership rates low (see Figure 1).

VI. Motorcycles

In estimating its urban mobility index, the report mentioned in the previous paragraph (Arthur D. Little, 2014) placed cars and motorcycles in a common 'private motorized vehicles' category. Yet, the challenges posed by motorcycles are quite distinct from cars. Asian countries have high rates of motorcycle ownership rates and motorcycles comprise more than 60 percent of total motor vehicles registered in several Asian countries including China, India, Indonesia, Thailand, Taiwan and Vietnam (Posada et al, 2011). In addition to car strategies, every Asian city needs to have in place clear long term policies on how motorcycles are to be managed.

There are several reasons for the popularity of the motorcycle. It is convenient, weaves in and out of traffic jams, reduces travel time, provides door-to-door service, and is easy to park. In addition, motorcycle taxis provide a source of income where unemployment rates are high; motorcycles are also useful goods and passenger transport vehicles (Kumar, 2011). Motorcycles however generate

congestion, noise and air pollution; accident and fatality rates are multiple times that for cars and their use has often been associated with urban crime.

Asia is urbanizing at a rapid pace in a context where motorcycles have become less expensive over time, are available on easy credit and often unregulated or under regulated. Where public transport systems are inadequate or absent, the motorcycle has become the dominant mode choice. The statistics for the Indian city of Pune typifies the pattern of motorcycle ownership and usage in cities of developing Asia, Africa and Latin America: in Pune, motorized 2 wheelers (M2W) represent 77% of registered vehicles and 55% of overall transport mode share (EMBARQ India, 2014).

There is clearly a need for M2W to be recognized as a separate mode with policies crafted to manage the negative externalities generated. In Singapore, motorcycles are subjected to similar measures as cars. Motorcycles come under the motor vehicle quota scheme and motorcyclists pay half the congestion charge that cars pay. Some Asian countries ban M2Ws in entire cities or zones, or on freeways, expressways and major arterial roads. Such bans exist in China, Japan, Korea and Taiwan. It is interesting to contrast the motorbike policies adopted in China and Taiwan.

Motorcycle ownership and usage grew rapidly in Guangzhou in the 1980s. The Guangzhou city government decided from 1991 to impose travel restrictions on motorcycles from outside Guangzhou. Within the city itself no new registration was allowed from 1995. From 2002, the government required older motorcycles to be scrapped. This was followed by travel time restrictions. Motorcycles were banned on Dongfeng Road from 2006 and completely banned in Guangzhou urban areas from 2007. Guangzhou's experience with progressive restrictions on motorcycles has since been followed by other Chinese urban areas. The Guangzhou city government paid compensation for scrapping with the amount calculated according to age and cost of the motorcycle. Employment support measures were also provided for displaced motorcycle drivers. Arising from the ban, noise and emissions were reduced, criminal cases declined by 15.3% between Jan and Aug 2007, and snatch theft cases declined by 44.3% over the same period (Zhu, 2011). After the ban, however, traffic speeds on several major arterials rapidly deteriorated as nearly one fifth of motorcycle riders shifted to car use.

In contrast to the bans in Chinese cities, Taiwan policymakers decided to introduce safety and other traffic measures. The motorcycle has been a popular transport mode in Taiwan from the 1970s. Contrary to expectations, its popularity did not decline with income growth. In 2013, there were more than 15 million motorcycles in Taiwan or 68 bikes for every 100 people. Motorcycles are a major safety issue in Taiwan as they account for 88% of traffic accidents involving injuries and fatalities in 2011 (Wang, 2013). This is despite safety measures introduced over the years. A nationwide Mandatory Helmet Law came into effect in 1997. Taiwan also introduced motorcycle bans on expressways and freeways as well as motorcycle specific traffic management policies. From 1984 motorcyclists were required to make left turns in two stages at major intersections in Taipei. Left turning motorcycles needed to proceed straight across the intersection to a painted two-stage left turn motorcycle box and wait there for the other traffic signal to turn green.

A motorcycle waiting zone in front of cars at major intersections was introduced in 1997 and exclusive motorcycle lanes were introduced on major roads from 1999. Traffic studies indicate that a segregated motorcycle lane may be called for if there are more than 1000 motorbikes per hour and the traffic composition is greater than 10% and less than 60% motorcycles (ITDP, 2009).

Taipei began enforcement of no parking on sidewalks from 1999 and progressive parking fee implementation on a zone-by-zone basis from 2003. Yet these measures may not be sufficient to reflect the total costs of motorcycle usage. One estimate places the private costs paid by the Taiwan motorcyclist at 35% of the total costs (Chang, 2013).

Policymakers in Asia's cities are faced by a policy dilemma on the M2W. The motorbike is an extremely useful and low private cost transport mode. However, its use in dense urban areas also creates numerous negative externalities with high accident and fatality rates a cause for major concern. Policy delays with regard to the motor vehicle management are especially problematic when motorcycle ownership and usage can increase very rapidly within a short period with urbanization and income growth. Delays in infrastructure investment and inadequacies in public transport provision further exacerbate the problem.

Should the motorcycle be banned as is the case in major Chinese cities, or managed as is the case in Taiwan? What if motorcycles continue to be underpriced or under-regulated? A ban on a very popular and useful mode of transport may not be justifiable in most cities. The banning of this major mode in Guangzhou was supported by the community as it was perceived to be a crime reduction measure (Zhu, 2011). Congestion in urban areas is also likely to worsen if motorcycle riders shift to cars. Mobility and employment for low and middle income groups can be seriously impacted. Measures to discourage the motorcycle therefore need to be complemented with public transport improvement. It is not surprising that the motorcycle ownership rate in Taiwan is lowest in Taipei City as it has the most comprehensive public transport system.

Containing the negative costs of motorcycles in Asia's cities will require policy action on many fronts that will need to be suited to the local context. If left unregulated or under regulated, and if public transport provision continues to lag urbanization and income growth, the motorcycle will become entrenched as *the* massive mode of transport in Asian cities. As time passes, altering the status quo will become harder, not easier. The motorcycle will then, because of government failure to organize and regulate the market, become the future of urban transport in rapidly growing Asian cities. That is the scenario which policymakers must take immediate steps to avoid.

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Motorcycles and Sustainable Development in Ho Chi Minh City

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Abstract: Mixed traffic with motorcycle is a specific traffic type which has an important role in big cities of Vietnam, especially in HoChiMinh city (HCMC) and Hanoi. The traffic flow mixed with motorcycle becomes more hazardous because of the conflict between motorcycles and other vehicles, especially near bus stops, at intersections, or when a curb-parking vehicle interrupts flow. Studying of characteristics of motorcycle traffic and its effects on the mixed traffic will help policy makers find the most appropriate policies and countermeasures to enhance the traffic performance, restrict the motorcycle growth rate, and support the urban transport system (bus system) for the sustainable development of HCMC in the future. It also helps the industry to supply motorcycles with the right strategy.

Key-words: motorcycle, traffic jam, sustainable development, HoChiMinh city

1. Socio-Economic situation and traffic situation of HoChiMinh city

1.1. Socio-economic Situation of HoChiMinh City

HoChiMinh city (HCMC), which has an area of 2095 km^2 and population of 7,8 million residences plus approximately 1,9 million non-residences, is the centre of financial-economic, industry, science-culture and transportation of Vietnam. HoChiMinh city includes 19 urban districts and 5 suburban districts. The average population density is about 3700 people/km^2, whereas the population density of urban districts is from 23.000 to 44.000 people/km^2.

HCMC has the near-equatorial tropical rainy climate. Besides the heavy rain, flood-tide is the reason for flood lasted 1-2 hours/day in some low-level area of HCMC. The peak of flood-tide appears at 6:00 to 6:30 am caused severe congestion during the rush hour in some roads. The Gross Domestic Product (GDP) of HCMC in 2013 is approximate 20% GDP of the country. The average GDP growth rate of HCMC is around 9.2%.

1.2. Traffic situation of HoChiMinh City

The street system of HCMC has 3584 roads in 3666 km length. The length of major corridors and urban inter-zone roads contributes to 19% of total road length. The average road density is 1,43 km/km^2. The area of land used for transportation is 51,92 km^2 which makes up 2,4% of total area of the city. This rate is very low in comparison with the standard of other big cities, usually from 18% to 20%.

Most of roads are quite narrow: only 14% of them are over 12m in width, 51% are from 7m - 12m wide, and the rest 35% are less than 7m wide. The other transportation methods are:

Railroad: there is only one national railroad comes to Hoa Hung station located in the centre of the city. There are 14 co-level intersections between the railroad and other urban roads, which cause congestion and unsafe situation.

Seaport: the old seaports such as Tan Cang, Ben Nghe, Tan Thuan, Sai Gon seaport are located within the city. The newly built seaports such as VITC, Nha Be seaport are in the suburb. Because

the exclusive roads for seaport do not exist, all trucks use the urban roads to go to the ports and make severe congestion.

Waterway: because of the flood-tide and low passable characteristic of river bridges, the waterway of HCMC can not use for public transportation.

Airport: there is only one airport, Tan Son Nhat airport, with a capacity of 7 to 10 million passengers per year. Because it is located within the city, the congestion happens frequently on the main entrance road into the airport.

1.3. Motorcycle growth in HCMC

In HCMC, there is more than 6,2 millions registered vehicles, among them are 5,8 millions motorcycles, which make up 90% of total registered vehicles. Figure 1 shows the registered motorcycle in recent years.

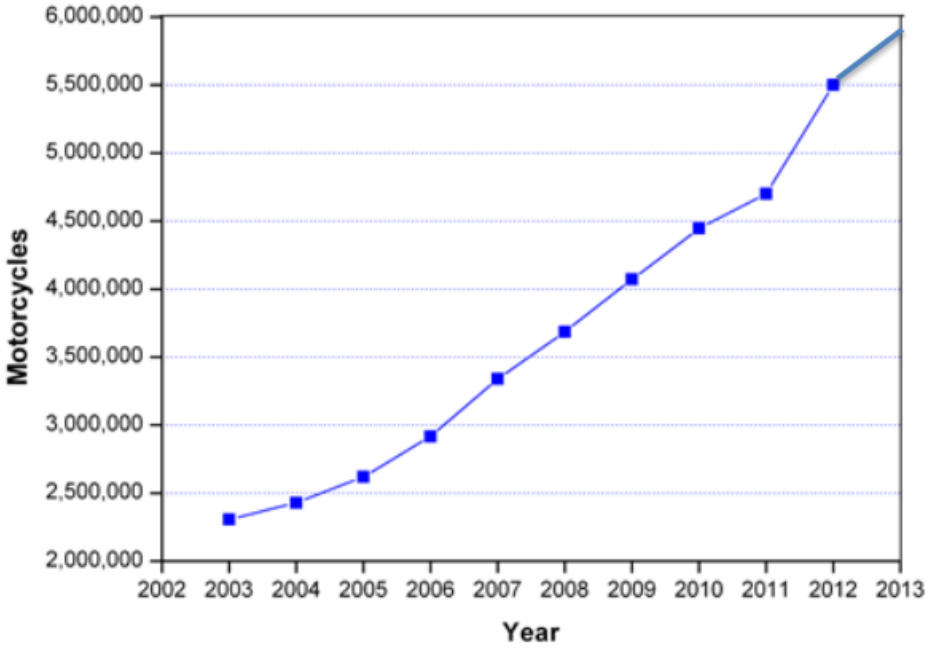

Figure 1 Registered motorcycles of HCMC

HCMC has seen very rapid growth of motorcycle recently, approximately 300.000 to 550.000 units per year. There are about 700.000 to 1 million motorcycles from neighboured provinces travel in HCMC every day. Many Vietnamese nowadays consider motorcycle as the most suitable vehicle for their private transportation.

HCMC now has the highest motorcycle ownership in the world with 745 motorcycles per one thousand people, compared to 400 in Hanoi (Vietnam), 350 in Taipei (Taiwan), 265 in Bangkok (Thailand), 175 in Delhi (India), and 160 in Jakarta (Indonesia).

The characteristics of motorcycle traffic in the mixed traffic of HCMC are:

- Motorcycles are mainly supplied by the domestic joint-venture companies (Japan, China) or Vietnam companies. The size of motorcycle engine is from 70 to 110 cc.

- Motorcycles are relatively small in size, giving flexibility and the freedom to park anywhere, even on the pedestrian sidewalk.

- The price of motorcycle which was made by Vietnam or China companies is affordable by many people which have middle income, so there is a drastic increase in number of motorcycles recently, especially since the year 2000.

- In the mixed traffic flow, the motorcycle always try to get in between queuing vehicles to get to the front of the queue. This situation makes a difficulty in left turn of the vehicles in the flow at the intersections and the approach of bus in the bus stop, even in the main roads or freeways. Motorcycles often make a U-turn crossing the street and subsequently cause hazardous situation for other vehicles in the flow and from opposite direction.

- Motorcycle is the most hazardous vehicle and may be the source of other social problems such as motorcycle racing, road robbery …

- Motorcycles can park anywhere, usually on the pedestrian sidewalk. Most of motorcycle parking sites occupies a large area within the city, and there is a nominal fee for motorcycle parking. Motorcyclists use horn frequently due to many conflicts in the mixed traffic.

- There is no technical control from Vietnam Register on motorcycle safety, motorcycle specifications, and environmental pollution. There is no regulation of government on motorcycles and their operation on the road, except that motorcyclists must wear safety helmet since 12/2008.

- It is easy to obtain the motorcycle driving license although there are many procedures to do. Many people who live in suburban area or have low-income level don't have enough knowledge of transportation rule.

- The frequent use of motorcycle (any time, any purpose, any distance) make people get unfamiliar with walking, therefore the pedestrian sidewalk is used mainly for motorcycle parking.

- Another important factor is the motorcycle-taxi. This type of transportation is more convenient, cheaper than taxi and very popular in HCMC as well as other cities in Vietnam.

- In a low-income country as Vietnam, motorcycle is a legacy for people, so they consider the motorcycle as a fortune which can be used in difficult time. Consequently, there are many households which have more than one motorcycle per person.

- In addition to these factors, motorcycle is a symbol of richness. Some people have luxury motorcycles just to show off or for recreation purpose.

2. Effects of motorcycle in the mixed traffic in HCMC

2.1 Motorcycle in the mixed traffic

Figure 2 shows the traffic composition in the mixed traffic flow of HCMC.

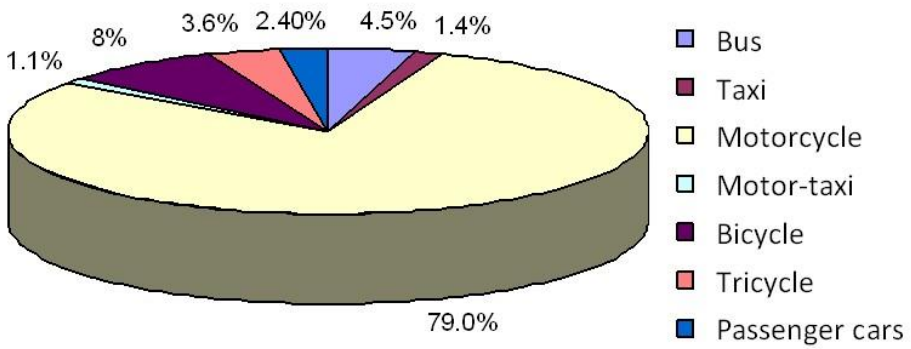

Figure 2 The traffic composition of HCMC

In HCMC, motorcycle is the major mode in traffic flow and makes up 79% of the traffic composition.

Figure 3 shows a typical congestion in HCMC. One characteristic of mixed traffic is that motorcycles usually break the transportation rule by infringing the car lane, riding in opposite direction … When the congestion occurs, the motorcycle flow becomes ruffled reel of thread, and consequently, the congestion becomes more serious.

Figure 3 The mixed traffic in congestion of HCMC

2.2. Congestion due to motorcycles in mixed traffic

Because of high motorcycle volume, the congestion occurs frequently in most urban roads, especially during the rush hours. Figure 4 shows the traffic volume of vehicle per hour per direction on the North-Southern corridor of HCMC.

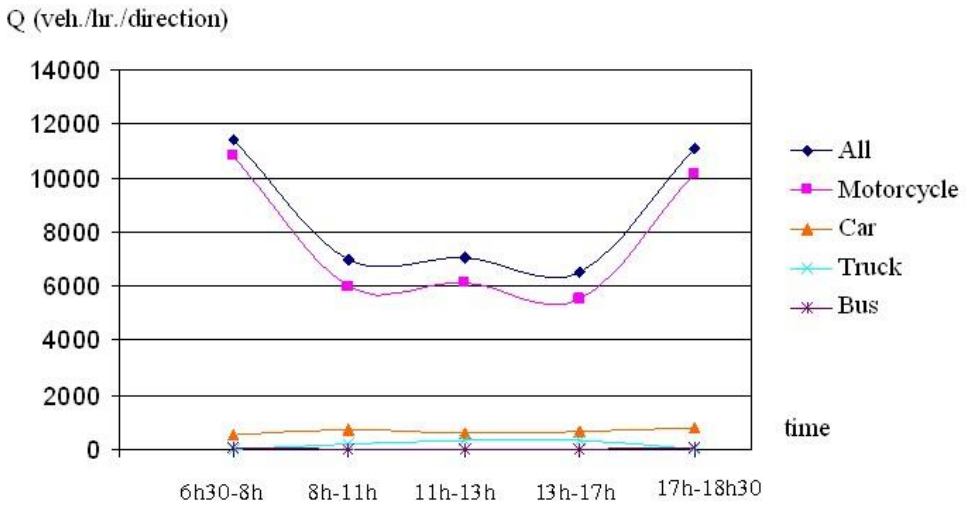

Figure 4 The traffic volume on the North-Southern corridor

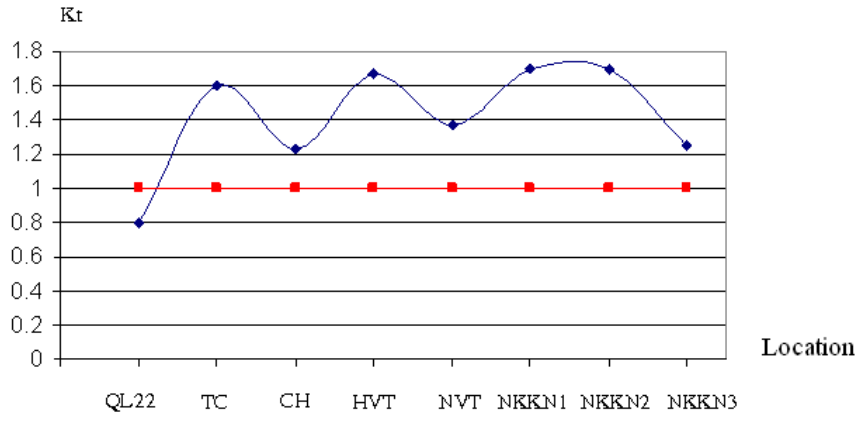

Figure 5. Congestion coefficient volume on the North-Southern corridor

During the rush hours in the morning and afternoon, motorcycle volume may reach over 11,000 veh./hr./direction, which makes up 93,5% of traffic volume. The congestion coefficient K_t at the intersections of the North-Southern corridor is almost higher than one, as shown in Figure 5.

2.3 Effects of mixed traffic with motorcycle

2.3.1. Accidents

According to the official statistic of HCMC Police Department, annual transportation accidents resulted in approximate 1000 death and thousands of injuries. Accidents occur mainly in the urban area and motorcycles are involved in 71%, as shown in Figure 6. The fatal rate is 1 person over 2500 vehicles, higher than that in USA which is 1/3162.

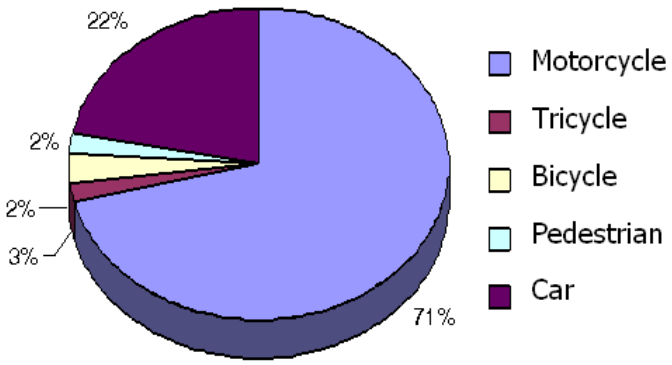

Figure 6 Fatal traffic accidents in HCMC

2.3.2 Fuel consumption

The fuel consumption per hour per direction of motorcycle is much higher than that of bus. As shown in Figure 7, motorcycle consumes 27 times higher of fuel than bus and 48 times higher regarding to passenger-km. Every year, it costs 0,84 million USD for motorcycle fuel in HCMC.

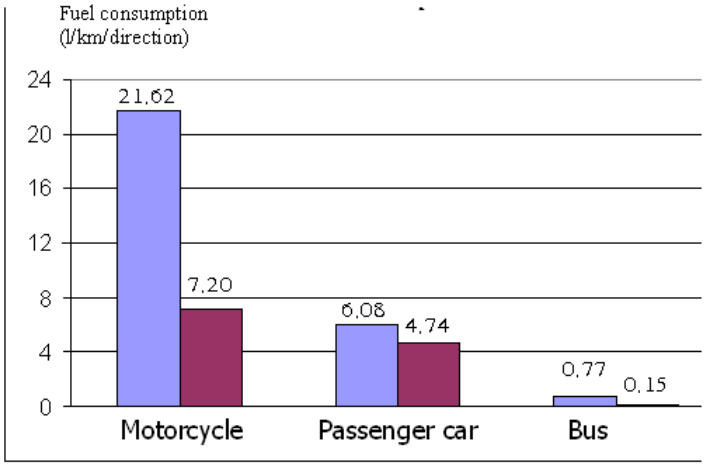

Figure 7 Fuel consumption of vehicles in HCMC

2.3.3 Environmental pollution

Motorcycles consume a large amount of fuel, therefore they cause severe environmental pollution in HCMC, especially during the rush hours in the main roads. Figure 8 shows that the exhausted emissions from motorcycles are 40 times higher that that of bus.

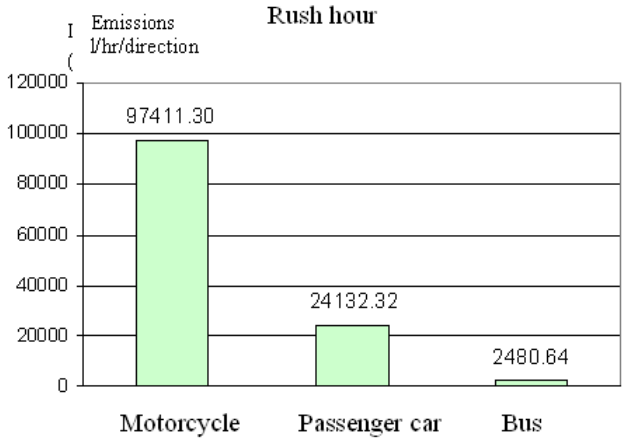

Figure 8 Emissions of vehicles in HCMC

Motorcycle usage is convenient for private transport (from door to door) but it is harmful for the community, even for each individual. The total annual loss due to motorcycle is approximately 1,07 million USD, equivalent of 11,2% GDP of the city, and higher than the average GDP growth rate of HCMC, which is 10% per year.

3. Motorcycle traffic countermeasures

Some authors (Nguyen Xuan Dao, 2003) considered motorcycle as another transport mode in a traffic stream and as a portion of automobile using the Passenger Car Equivalence (PCE) concept to treat it.

This may have led to other concepts regarding motorcycle-oriented road design for Asian cities including HCMC such as motorcycle exclusive lanes. These concepts lead to big problems involving road system reform, which is difficult to solve in a couple of years, and the existence of motorcycle impacts on the development of civilized city in the future.

In our opinion, motorcycle should be considered conventionally as a private transport mode which has negative effects as shown above, and the motorcycle traffic composition in the mixed traffic flow must be restricted under 50%

Since 2004, many seminars have been held by HCMC metropolitan government and many researches have been done to restrict motorcycles. However voices have been raised aggressively against these countermeasures. Many different terminologies have been used to reduce these emotions such as “decline the motorcycle traffic”, “dispirit the motorcyclists” … The possible solutions are:

- Operation fee: in order to travel on the road, the motorcycle owner has to pay the operation fee. This fee is calculated based on the motorcycle engine, the number of motorcycles they owned.

- Congestion fee: be charged in the parking fee in the urban area. The city will be divided into many zones based on the distance from the centre. The closer the centre is, the higher the congestion fee is.

- Pollution fee: be charged annually when the motorcycle is checked pollutant emissions at Register.

- Reduce or stop producing motorcycle. It must be considered and synchronized with other strategies related to motorcycle industry, because the new strategy of motorcycle mass production until 2020 was just released with 33 millions units/year.

- Public transportation fee: companies which have more than 10 employees must pay the public transportation fee. This fee may be from 1 to 10% of company sales.

All fees are collected by the Public Transportation Development Fund and is used to promote the operation of bus system and other public transportation mode (metro, tramway, …) to attract people using public transportation system, thus reducing the amount of motorcycles.

How to treat with the 50% rest of motorcycles in the mixed traffic? There are some suggested solutions:

- The traffic flow characteristics of motorcycle should be studied carefully in the future when the public transport vehicles increase and the motorcycles decrease.

- Having strategies and countermeasures to compromise the conflict between mobility and safety related to the motorcycle traffic.

- Development of traffic management and design methodology for motorcycle traffic.

- Development of modelling for traffic system with mixed /or segregated motorcycle traffic, priority for bus traffic (public transportation).

4. Conclusion

Mixed traffic with motorcycle has negative effects on social-economical activities and traffic flow in HCMC and Vietnam. However, motorcycles play an important role in transportation and this situation still remains in the future.

Studying the characteristics and effects of motorcycles in the mixed traffic therefore still is a big issue. The target is how to decrease the motorcycle volume and increase the public transportation mode in the mixed traffic in the future.

Based on these studies, more suitable policies and countermeasures will be found for better treatment and management of motorcycle. More research efforts should be given for the sustainable development of HCMC in the future. It also helps the industry to supply motorcycles with the right strategy.

5. Acknowledgment

This study is a part of a scientific research project of HCMC. The authors would like to thank for the Department of Science and Technology of HCMC which funded for this project.

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Motorcycle Management Lessons in Taiwan

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Introduction

Motorcycle is emerging as a dominant transportation mode in many Asian cities. Factors contributing to the growth of motorcycles include the low ownership and operating cost, free and convenient parking, better mobility and accessibility on the road lanes, lack of sufficient and good quality public transportation, and mild climate condition. Taiwan has experienced a high motorcycle growth and its resulting traffic and environmental problems in the past 50 years and taken several mitigation strategies to reduce its negative impacts in recent 30 years. The lessons learnt from Taiwan are discussed as follows and could be a reference for the developing Asian countries.

Lesson 1 Too late to impose the motorcycle restraint measures

Taiwan had a population of 23.4 million with a density of 645 persons per square kilometer and per capita income GDP is about 20,958 US dollars in 2013. The total number of motor vehicles registered has increased from 7,950 thousand in 1985 to 21,563 thousand in 2013, almost tripling in 28 years. In the same period, passenger cars rose from 3,874 thousand to 7,368 thousand, a 90% growth. At the same time the number of motorcycles increased from 8,517 thousand to 14,195 thousand, a growth of 67%. Passenger car ownership in 2013 was 315 passenger cars per thousand people and motorcycle ownership was 607. This implies that there is one passenger car for every 3.2 people and one motorcycle for every 1.6 people. Substantial rates of growth have caused more road traffic accident.

In Taiwan, motorcycles accounted for about 20% of all registered motor vehicles in the early 1950, followed by an increase to 60% in the early 1960s, and then rose to over 85% during 1970s accompanied by economic booms in Taiwan. Since then on, motorcycles still comprised of two-thirds of all registered motor vehicles. (Yeh, 2010)

Since Taiwan did not take any strong pricing or non-pricing policies to control motorcycle growth in the early stage, it is difficult to restrain them when motorcycle has become a popular commuting mode in people's daily life.

Lesson 2 Put motorcycle parking in order

Motorcycles have enjoyed the free and disorderly roadside parking for a long time which reduces the road and sidewalk capacity and creates many urban traffic and parking problems. To put motorcycle parking in an orderly manner, Taipei has specially designed motorcycle parking bays on roadsides and delimited the parking spaces on local lanes (Figure 1). In addition, the building codes in Taipei require the minimum parking provision for motorcycles such as a motorcycle parking space per $100m^2$ for an apartment.

(a) Parking in Local Lane

(b) Parking Bay on Roadside

(c) Public Parking Lot

Figure 1 Orderly Motorcycle Parking

Lesson 3 Impose a motorcycle parking fee

To internalize the social cost of motorcycle usage, Taipei began to charge parking fee for roadside motorcycle parking in some strategic areas, such as central business district in 2004. In addition, all the public parking lots have been required to install the motorcycle parking spaces, and to charge the motorcycle parking fees such as 20NT dollars per parking. (Figure 2)

Figure 2 Motorcycle Parking Fee in Some Areas

Lesson 4 Separate motorcycle from automobiles

The driving behavior of motorcycle riders tends to maintain shorter vehicle following distance, and to travel faster than other types of vehicles but with various speeds. In the mixed traffic flow situation, one of traffic engineering approaches to reduce the traffic accidents is to separate motorcycle from automobile by providing the motorcycle exclusive or priority lane with different pavement colors. This motorcycle exclusive or priority lane approach has been implemented in many cities in Taiwan. (Figure 3) The execution results in reducing accidents are different. The effects in the existing congested roads are not significant due to the large number of motorcycles. However, it is significant in the less congested road because the separation could keep motorcycle riders in the exclusive or priority lanes.

Figure 3 Motorcycle Exclusive Lane

Lesson 5 Implement a two-stage left turn regulation

To avoid the traffic conflicts between the left turn and the opposite straight vehicles, a two-stage left turn regulation were implemented in 1985. The left-turning motorcycles need to travel straight to an exclusive waiting box zone in front of the pedestrian crossing line and wait for the green light to move on. The other exclusive stopping box zone is designed behind the stop line and in front of stopping cars for the traveling straight motorcycles when waiting for a green light. (Figure 4) This special traffic engineering design has shown a significant reduction of left-turn traffic accidents.

(a) (B) (C)

Figure 4 Two-stage Left Turn Design

Lesson 6 Enforce a motorcycle helmet wearing regulation

Motorcycle fatality and injury rate has always been higher than other motor vehicle type and increase sharply. The younger motorcycle riders, especially aged 18-24, have relatively high injury rate. To reduce the fatality and injury, Taiwan enacted a helmet wearing regulation without fine in 1981, and began enforcing a mandatory helmet wearing with a fine of 500 NT dollars for motorcycle riders in 1996. The results of the helmet wearing regulation revealed a positive influence on motorcycle head injuries and fatalities and significant savings in associated medical cost, down by 11.5% in two years. (Chen and Liu, 2012)

Lesson 7 Promote the motorcycle education

Taipei has established a Taipei City Driving Safety Education Center in 2009 to offer a range of courses free of charge including motorcycle safety, first time bicycle-riding, defensive-driving skills, and etc. The responses have been positive.

The Bureau of Highway has implemented a trial policy in April, 2013(BOH, 2013), that requires all new motorcycle riders to take a two-hour road safety course provided free of charge by the

government in some vehicle registration offices nationwide. The course materials include the knowledge of defensive driving, right of way and videos of real traffic accidents. The Highway Bureau has worked with school authorities to reinforce road safety education because young students contribute the high motorcycle accidents.

Summary

It is better to implement the motorcycle restraint polies at the beginning stage in order to reduce motorcycle ownership and usage. It is too late to control the motorcycle growth in Taiwan, therefore, we put much effort to reduce the motorcycle accident, put motorcycle parking in an organized way, and discourage motorcycle usage through charging parking fees. In addition, to set the motorcycle emission standards and to promote electric motorcycles and etc. have also been implemented. To increase the cost of owning and using a motorcycle in the future should be considered as a basic and important strategy.

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Lessons Learned from Seoul's Bus Reform

Gyeng Chul Kim

In 2004, Seoul took on the grand challenge to make its public bus system more efficient. Seoul City implemented this bus reform by adopting a push and pull policy, transit oriented development and integration of public transportation modes. As a result, Seoul succeeded in encouraging great numbers of residents to use public transportation. Additionally, it led to an improvement in air quality, lowered the number of car accidents and reduced energy consumption.

So what made Seoul successful in this bus reform compared to previous ones? In this presentation, I would like to explore lessons learned in Seoul's bus reform and deliver them to developing countries. First, the reform made it possible to scientifically manage bus operation by adopting information technology. Second, the reform focused on promoting bus operation speed and thus adopted a median bus lane scheme. Third, it transformed bus operation in a way that protected public interests by transitioning family-oriented bus companies into a quasi-public bus operation system. Last but not least, there was strong political leadership supporting the reform. It is necessary to understand how these individual lessons can be applied to developing Asian countries, as there is no one size fits all answer.

Transit-Oriented Development and Sustainable Cities

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Policy Context for TOD

Over the next several decades, around 90 percent of the world's urban population growth will be in the Global South (UN Habitat, 2011). If developing countries continue on their trajectories of the past decade -- i.e., annual population growth rates of 2.5 percent and a decline in built-up densities of 1.5 percent a year -- the world's cumulative area of built-up, impervious surfaces will double in 17 years and triple in 27 years (Angel, 2011). The long-term ecological consequences of converting land from natural habitats and open space to urban functions—diminished water supplies, the release of more pollutants into the air, heat-island effects, and lost agricultural land—could be devastating.

The role of public transport and its ability to support more sustainable patterns of urban development is increasingly recognized as way to moderate climate change, curb auto dependence, and increase the mobility of the poor. This is particularly so for rapidly urbanizing and motorizing developing countries. At the 2012 Rio+ 20 Conference, international development banks announced a "game changer" commitment to sustainable transport and pledged substantial financial support over the next decade for this purpose (World Resource Institute, 2012).

The coupling of public transport investments and urban development – what can broadly be defined as Transit Oriented Development, or TOD – yields arguably the most efficient and sustainable type of cityscape (Cervero et al, 2002; Curtis et al., 2009). Experiences show that well-designed TOD not only increases ridership by drawing more travelers out of cars and into trains and buses, it can also serve as a hub for organizing community development and revitalizing long-distressed urban districts (Bernick and Cervero 1997; Cervero 1998). TOD is thus about much more than simply inducing transit ridership. It aims to be the focal point of local communities – a place to not only "pass through" but also "to be", whether for public celebrations, demonstrations, outdoor concerns, farmers markets, or any other activity that helps build community (Bernick and Cervero, 1997; Bertolini and Spit, 1998).

Today, TOD is most fully developed in Europe, and in particular Scandinavia. One notable example is the "Green TOD" of Hammarby Sjöstad, a brownfield redevelopment in Stockholm that marries transit orientation with green architecture and urban(Cervero and Sullivan, 2011). A tramway interlaced by an interconnected bikeway and pedestrian network serves as the community spine. Renewable energy from solar and wind as well as bio-fuels created from recycled organic waste and wastewater sludge provide near energy self-sufficiency. Land that might otherwise be given over to surface parking instead goes to community gardens and playgrounds. The combination of TOD and green urbanism has shrunk the project's carbon footprint to one-half that of otherwise comparable communities with similar household income levels (Cervero and Sullivan, 2011).

Linking public transport investments and urban development in those parts of the world where they might have the greatest long-term impact – i.e., rapidly developing cities -–– is far more challenging than in Scandinavia. In China, for example, a number of cities have officially embraced TOD. Beijing and Shenzhen, for instance, have adopted TOD as a guiding design principle in their most recent long-range master plans (Li and Huang, 2010). Failure to articulate densities (e.g., tapering building heights with distances from stations), the siting of stations in isolated superblocks, poor pedestrian access, and a lack of co-benefiting mixed land uses, however, have undermined TOD

efforts in these and other Chinese cities (Zhang, 2007; Cervero and Day, 2008). Also hampering the coordination of public transport and land development is that the reality that the benefits are often not evident until a decade or more in the future. Nevertheless, opportunities abound and simply cannot be overlooked when massive public transport investments are being made in some of the world's fastest growing and congested cities. This chapter explores this challenge further by examining experiences in several large global cities that have invested in Bus Rapid Transit (BRT) systems. Before turning to this challenge, it is important first to think more strategically and critically about public transport and its role in the city, and more specifically when, where and how it might play more of a mobility versus a place-making role, or some combination thereof.

2. TOD Process and Typologies

TODs do not automatically sprout around transit stations, in a vacuum, but rather are the products of both market forces and strategic planning efforts to channel growth into desired settings. The economic drivers of clustered development around rail and BRT stops include market demand in employment sectors that benefit from agglomeration and spatial clustering (e.g., knowledge-based industries and services). Employment growth in fields such as finance, law, real estate, and architectural design mean a market demand for clustered development that allows knowledge transfers and face-to-face deal-making (Venables, 2007). Transit stations in major urban districts are where such businesses naturally gravitate. These basic-employment jobs in turn spawn business-serving sub-clusters as well as demand for housing, some of which can similarly end up near transit stations. Making sure they do means preparing station-area transit plans that identify the functional roles and urban design qualities of station catchments, backed up with effective implementation tools and strategies.

Defining the future roles of various station areas along a system often starts with creating a typology of TODs. Typologies are generally defined in terms of: (1) *land uses* – predominantly employment, predominantly residential, or balanced/mixed use; (2) *market scale* – regional, sub-regional/district, or community/neighborhood; (3) *urban intensity* – high-density, medium-density, low-rise; and (4) *market activity* – strong, emerging, or static. For successful TOD to take shape, every station can and should be classified in terms of these four characteristics. In the case of Portland, Oregon, America's most successful TOD region, such an approach toward building TOD typologies has been in place over the past decade. There, factors like trends in land prices and building densities as well as urban design features (e.g., average block sizes and street connectivity indices) have been used to classify each of the region's 57 existing and planned rail stations. Station areas with a mix of strong real-estate market trends and transit-supportive built environments are targeted for pro-active TOD planning and public-sector leveraging. This means preparing specific station-area TOD plans as well as introducing supportive land-use zoning and complementary infrastructure investments (e.g. sidewalk enhancements, expanded sewerage trunkline capacities). In neighborhoods with more tepid local real estate markets for which TOD is desired for social or environmental reasons, financial incentives like property tax abatements and low-interest loans might also be introduced to entice private investors.

If a station is to be more than a jumping-off point to catch a fast train or bus, it is important to define its role along a spectrum of node versus place. The absence of TODs in many parts of the world often reflects the inherent tension between the place-making versus logistical roles of stations (Bertolini and Spit, 1998; Dittmar and Ohland, 2004). On the one hand, stations are logistical nodes wherein cars, buses, taxis, delivery trucks, pedestrians, and cyclist converge for accessing transit and allowing inter-modal transfers. Here, function takes precedence over form. The engineer's perspective wins out over the architect's or planner's. On the other hand, stations and their immediate environs can also be places for creating or rebuilding community hubs. In such a role, a TOD serves both functionally and symbolically as the centerpieces of communities. Here, form takes precedence over function. In terms of physical designs, architecture and urban planning subsumes engineering. Such place- and people-oriented TODs aim to not only increase transit ridership but also enliven community life, build social capital, and increase commerce and economic activities.

Absent efforts to build TOD typologies and define stations on the place-versus-node spectrum, functionality almost always precedes form, due to factors like statutory design codes and liability concerns. Whenever the logistical needs of a station win out, the resulting road designs and parking layouts often detract from the quality of walking, creating more of a transit-adjacent development (TAD) than a transit-oriented one (TOD).

With limited institutional capacities and resources to conduct strategic planning, many cities designing and building TODs give little thought to the functional roles of specific stations. Stations planned for a more residential orientation will be best suited for place-making roles. Those with more commercial and logistical orientations are apt to be better suited for nodal and intermodal roles. Failure to define the function roles of stations and create a typology of TODs can result in some stations taking on a schizophrenic persona – trying to play both place-making and logistical roles and as a result doing neither particularly well. Such characterizes the dilemma facing many rapidly growing cities of the world, especially those investing in high-capacity busway systems, a subject to which we now turn.

3. BRT TOD

Bus Rapid Transit (BRT) systems have gained popularity worldwide as a cost-effective alternative to pricier urban rail investments. Currently, BRT investments are found in more than 160 cities worldwide and at least as many cities are various stages of contemplating, planning, designing, or investing in new systems. Current systems span a spectrum of design and service types, from "BRT lite" with minimal features (e.g., partially dedicated lanes and wider station spacings) to high-end exclusive-lane and full-service operations that offer speed advantages similar to those of metrorail systems. As shown in Figure 1, Brazil has emerged as the global leader, extending the success of Curitiba's BRT pioneering system to 30 other cities. Other Latin American countries, notably Colombia and Mexico but also Chile, Peru, and Ecuador, have since followed Brazil's lead. Latin America is today the epicenter of the global BRT movement. A third of BRT route kilometers and nearly two thirds (63%) of ridership are in Latin America (BRTDATA.ORG, 2013). Latin American systems are also the most productive, averaging more than 2 ½ times as many weekday riders per BRT kilometer as Asian systems, more than 3 times as many as Oceana and African systems, more than 5 times as many as North American systems, and nearly 6 times as many as European systems.

China is following Latin America's footsteps in aggressively building BRT, with more than ten cities, including Beijing, Hangzhou, Xiamen, Jinan, and Guangzhou, having opened dedicated-lane BRT services since 2005. Over the past eight years, China has added BRT lane-kms at a faster pace than anywhere (Figure 3). All have been high-end investments. Figure 1 shows the world's most motorized country, the United States (797 motor vehicles per 1000 inhabitants), actually ranks third in number of BRT systems. However, with the exception of Los Angeles's Orange line and Eugene, Oregon's EmX system, most fall in the category of BRT lite.

BRT will play an increasingly prominent mobility role in coming years because the bulk of the world's population growth will be in intermediate size cities, the very places where BRT is often more cost-effective than metrorail systems. According to UN Habitat (2011), most of the 2 billion new urban dwellers between now and 2030 will be in cities with populations of 100,000 to 500,000. Future growth of not only population but also economic outputs is likely to occur in intermediate size cities (Glaeser and Josh-Ghani, 2012).

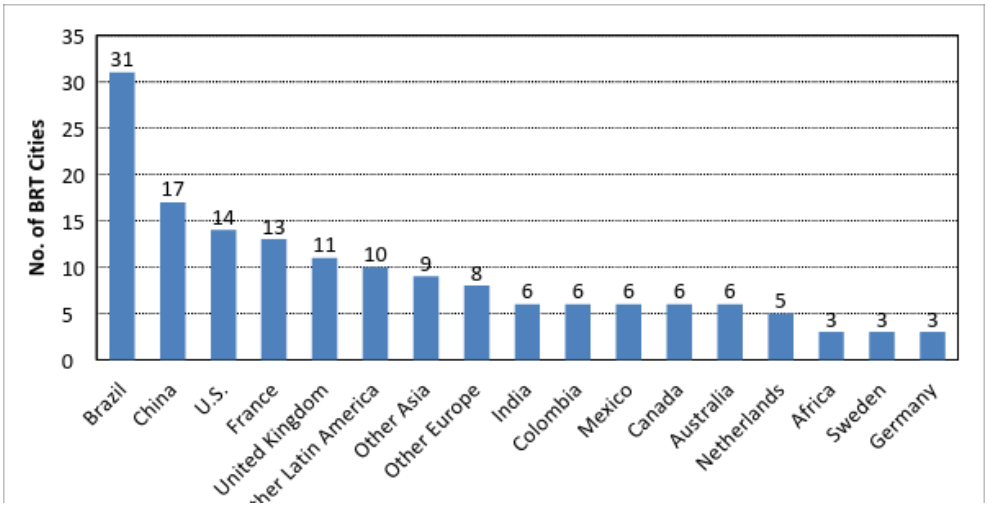

Figure 1. Number of Cities with BRT Systems, by National and Regional Settings, 2013. *Source:* BRTDATA.ORG.

Whether BRT can promote TOD on a significant scale remains an open question. Some question the city-shaping potential of BRT, in part due to a belief it delivers fewer regional accessibility benefits than rail but also to the social stigma some assign to bus-based forms of mass mobility. BRT and TOD are often not mentioned in the same breadth. A 2002 survey of TOD in the U.S. found fewer than 8 percent were oriented to bus transit systems (Cervero et al., 2004). Yet buses remain the workhorses of most regional transit systems, carrying a majority of public-transport passengers in all but the largest global cities. By some accountings, BRT is well-positioned to occupy particular TOD types, generally more residentially oriented ones with densities that are below that of metrorail systems (Calthorpe, 1993; Ditmar and Ohland, 2004; Chen, 2010).

4. BRT TODs in the Developing World

Outside of Curitiba and Ottawa, Canada, the track records of BRT in spawning transit-oriented growth has been limited (Cervero, 1998). This has partly been because most investments have sought to enhance mobility with very little thought given to their city-shaping potential. Engineering, cost-minimization perspectives have mostly won out over urban-planning, development-maximization perspectives. That is, stations and their environs have been mostly conceived and designed as logistical nodes, not places.

From a systems design perspective, short-term economic concerns have often eclipsed longer term considerations. In the drive to economize on investment costs, there has been a tendency to follow the path of least resistance. This has often meant siting BRT lines and stations in the medians of busy roadways, often with poor pedestrian access, because of relatively cheap available rights-of-way and the avoidance of building demolitions and relocation costs. Thus near-term cost-minimization principles were applied at the expense of suppressing longer term land development opportunities. Costs have also been minimized by routing corridors in economically depressed and marginalized urban districts where land is not only cheap but the risks of a Not-In-My-Backyard (NIMBY) backlash were minimal. There is, of course, nothing inherently wrong with siting transit lines in least-cost corridors however when it comes to the access points of these lines, namely stations, then officials must be prepared to off-line some stations, and incur higher upfront investment costs, in order to site stations on land parcels that are most likely to support TOD.

The next two sections explore the land-development contexts of two high-profile BRT investments in the developing world: Bogotá, Colombia and Ahmedabad, India. In both cases, BRT systems were

built quickly and cheaply for political gain but at the expense of suppressing land development opportunities.

4.1 The Challenges of TOD in Bogotá, Colombia

Bogotá, the capital of Colombia and home to 7.6 million inhabitants, has gained a reputation as one of the world's most progressive cities, underscored by the 2000 opening of what has been called the gold standard of BRT, the 84-km TransMilenio system. While its carrying capacity of some 45,000 passengers per direction per hour is said to match that of many metro systems, reshaping urban form and land-use patterns has not been a primary focus.

Bogotá's planners designed a trunk-feeder system, marked by segregated, exclusive-lane bus operations on several major arterial roads and feeder buses operating on regular roads that tie into end-of-the-line stations. The system was built over three phases (Figure 2). Phase one opened 42 km of high-capacity BRT services mostly in the medians of two major arterials. Phase two, which opened in 2007, added another 42 km of mostly median-lane services, and the third phase, currently under construction, will add 28 kms, for a 112 km system at build-out. Feeder buses, which add 200 kilometer of service coverage, operate at no-charge in low-income neighborhoods on the urban periphery. Today, TransMilineo's daily ridership exceeds 1.5 million, accounting for 74 percent of total public transport trips in the city (Suzuki, Cervero, and Iuchi, 2013).

Since TransMilenio's 2000 opening, Bogotá's population has grown by 21 percent. Building densities have increased throughout the city, but mostly in areas away from TransMilenio corridors. The initial TransMilenio lines were built quickly in response to worsening traffic congestion but also to build political momentum and curry political favor for future expansions. Aligning corridors in mostly economically stagnant zones that were largely built out has suppressed land development. So has siting BRT stops in busy roadway medians, which limited land supplies for leveraging TOD and resulted in mostly unattractive pedestrian environment immediate to stations. Minimal pro-active station area planning or incentives for private property-owners to redevelop parcels also tempered TOD activities.

Cadastral data obtained from the city of Bogotá for the 2004-2010 period reveals the degree to which urban growth turned its back on TransMilineo. Stations' impact zones were set at 1000 meters, corresponding to BRT's walkshed. For feeder bus lines, a 500 meter impact zone was selected. Using data on floor area ratios (FAR – i.e., building area divided by land area) for all of Bogotá's registered residential and commercial buildings, Figure 3 shows that building densities increased by 7 percent throughout the city. For TransMilineo corridors, densities increased 5 percent in Phase I and slightly more in Phase II, and by 5 percent for the Phase III corridor now being built. Less densification occurred after Phase I than for subsequent phases partly because TransMilenio's initial lines were built along corridors which were already developed. The nearby stock of mostly old, decrepit 2-3 story residential buildings were left untouched following TransMilineo's opening.

More building activities occurred near feeder lines, which witnessed a 7 percent increase in FARs between 2004 and 2010. The availability of comparatively low-cost vacant parcels and opportunities to convert informal housing to higher-quality formal housing accounted for higher levels of building near peripheral feeder lines. By comparison, the rest of the city, representing the non-impact-zone of BRT, saw a 10 percent increase in building densities over this period. Overall, the average building density increase was 6 percent for areas near trunk and feeder lines versus 10 percent for the rest of the city.

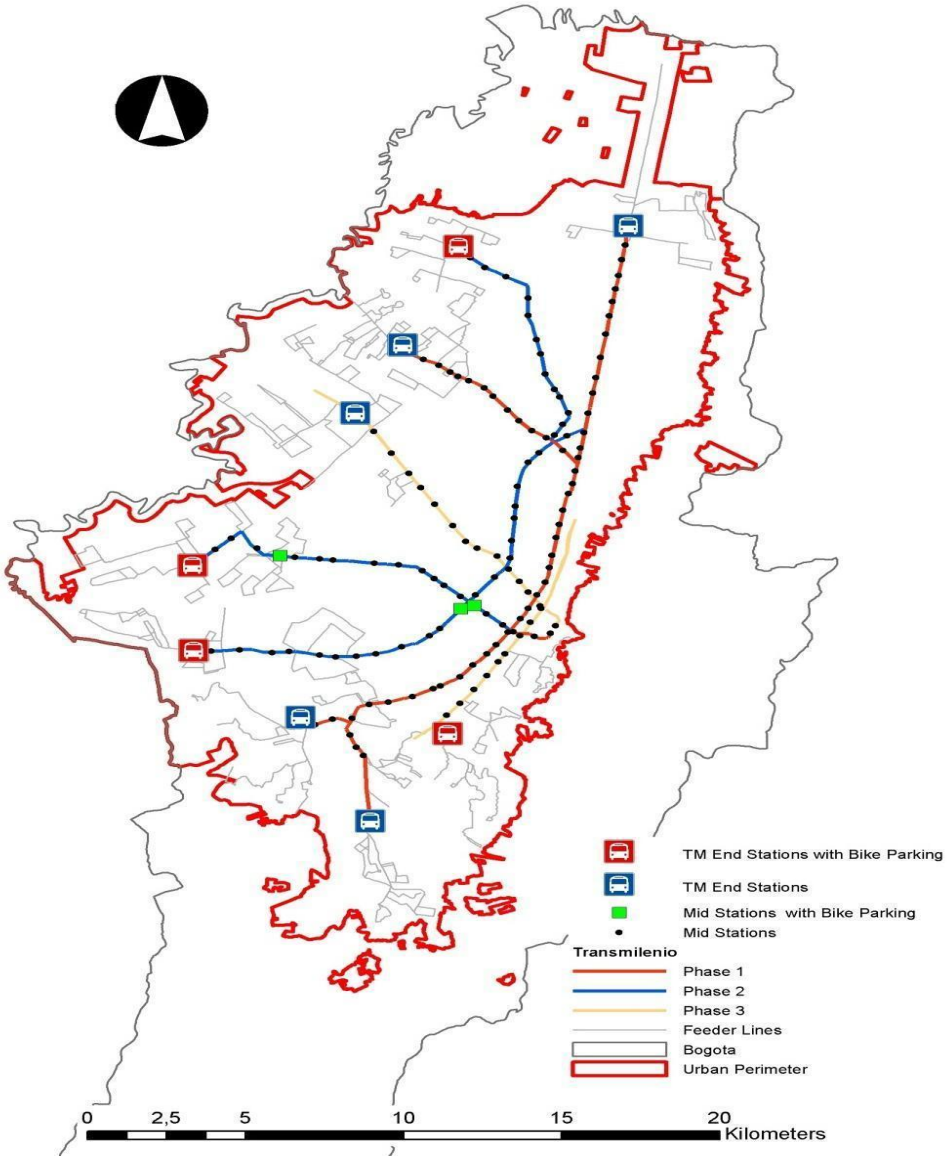

Figure 2. Bogotá's TransMilenio BRT System, Built Over Three Phases, and Connecting Feeder Lines

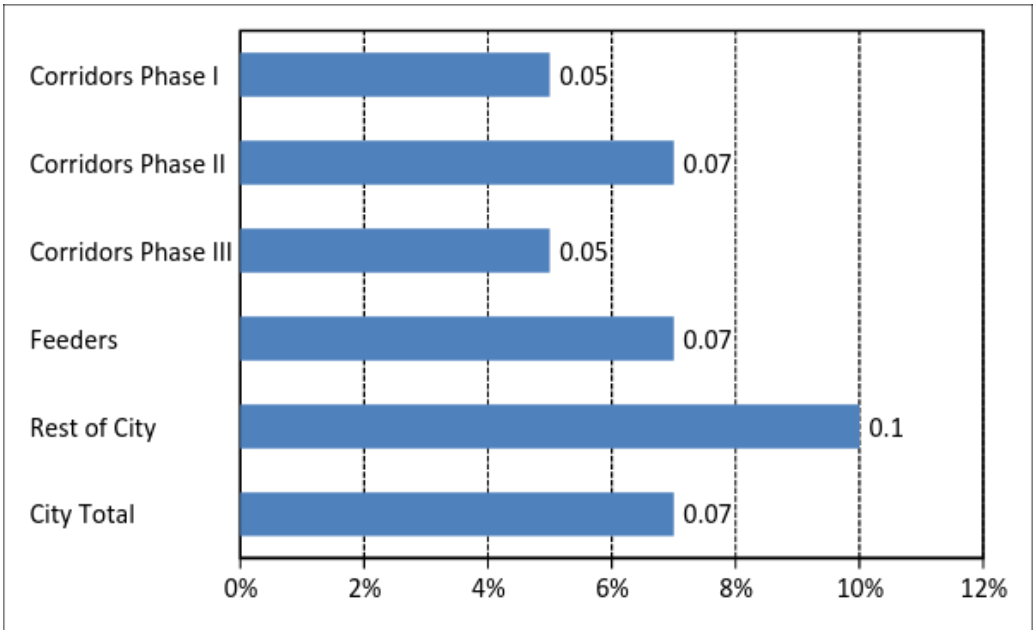

Figure 3. Percent Changes in Building Floor Area Ratios for Impact Zones of Bogotá's BRT Corridors and Feeder Lines Compared to the Rest of the City and Citywide Totals, 2004 to 2010.

Source: Suzuki, Cervero, and Iuchi, 2013.

More fine-grained match-pair comparisons further reveals TransMilenio's weak land-use connection. Changes in building area footprints were examined for 1-km radii around BRT stations and control areas (non-BRT stations) that are otherwise very similar (e.g. in terms of neighborhood incomes, land uses, and sub-regional locations). Changes in building footprints between 1998 and 2011 were compared be BRT stations and control areas for four intermediate stations (i.e., stations not at the ends of lines) as well as three pairs of end-of-the-line stations. For intermediate stations, more building activity was found away from than near stations. Figure 4 shows one paired comparison for an intermediate station on a Phase II line toward the southwest of the city, near the low-income neighborhood of Kennedy. Far less new development occurred within 1000 meters of the BRT station than the control area off the line. For terminal stations, however, there tended to be relatively more new building activities than in control areas, as revealed by one of the matched-pair comparisons shown in Figure 5, for the Americas terminal station. Other researchers have similarly found more land-use densification near TransMilenio's terminal stations than control areas (Bocarejo, Portilla, and Perez, 2012). This higher degree of station-area activities was largely due to the commercial opportunities at terminals, representing busy transfer points between feeder buses and trunkline BRT services.

Figure 4. Footprints of new developments in Station Area and Control Area for an Intermediate Station, 1998 to 2011. Source: Suzuki, Cervero, and Iuchi, 2013.

Figure 5. Footprints of new developments in Station Area and Control Area for an End-of-the-Line Station, 1998 to 2011. Source: Suzuki, Cervero, and Iuchi, 2013.

The fact that comparatively little development has occurred around many of Bogotá's BRT stations supports findings from earlier assessments of transit investments and urban development (Knight and Trygg, 1977; Cervero and Seskin, 1995; Cervero and Landis, 1997), namely that transit cannot overcome weak local real estate markets. Station siting also matters. Placing stops in the medians of active roadways inevitably means a poor-quality pedestrian-access environment and thus little commercial development near the stations themselves. TransMilenio's design gave little weight to the pedestrian experience. The visually prominent skywalks that connect to BRT stops create lengthy, circuitous walks, can be noisy (resonating like steel drums during peak traffic conditions, by some accounts), and can be difficult for the elderly, disabled, and semi-ambulatory individuals to negotiate. Bogotá's experiences further show that planning matters. Neither the city nor neighborhood districts (where detailed land use planning is regulated and implemented) prepared station-area plans to

orchestrate private development, change zoning (including increasing permissible densities), introduce complementary improvements (like streetscape enhancements) to entice private investments, or take any other pro-active steps to leverage new development.

The one area for which local leaders win kudos has been the bundling of transit investments and the provision of affordable social housing for the poor. In 1999, at the time Bogotá's successful Transmilenio BRT system was being built, an innovative land-banking/poverty-alleviation program, called Metrovivienda, was launched (Cervero, 2005a). Under Metrovivienda, transportation and housing are treated as bundled goods. The city acquires plots when they are in open agricultural uses at relatively cheap prices and proceeds to plat and title the land and provide public utilities, roads and open space. Property is sold to developers at higher prices to help cover infrastructure costs with the proviso that average prices be kept under US$8,500 per unit and are affordable to families with incomes of US$200 per month.

To date, four Metrovivienda sites have been created near one of Transmilenio's terminuses, each between 100 and 120 hectares in size and housing some 8,000 families (Figure 6). At build out, the program aims to construct 440,000 new housing units. Putting housing near stations helps the city's poor by "killing two birds with one stone" – i.e., providing improved housing and public transport services. Those moving from peripheral illegal settlements into transit-served Metrovivienda projects enjoy both "sites and serviced" housing and material improvements in access to major economic centers in the city. It is estimated that job-accessibility levels via transit within one-hour travel times increased by a factor of three for those moving from illegal housing to legal Metrovivienda projects (Cervero, 2005a).

An important aspect of the program is the acquisition of land well in advance of BRT services. Because Metrovivienda officials serve on the Board of Transmilenio, they are aware of strategic plans and timelines for extending BRT. This has enabled the organization to acquire land before prices are inflated by the arrival of Transmilenio. Acquiring land in advance has enabled Metrovivienda to keep prices affordable for households relocated from peripheral "clandestine" housing projects. Transmilenio also makes commuting more affordable. When living in the hillsides, most residents used two different public transit services (a feeder and a mainline), paying on average US$1.40 a day to leave and return home (Cervero, 2005b). With Transmilenio, feeder buses are free, resulting in an average of US$0.80 in daily travel costs.

Metrovivienda serves as a model of multi-sectoral and accessibility-based planning in a developing country. By coupling affordable housing with affordable transport, Bogotá leaders have improved access to jobs, shops, and services while reducing the joint costs of what often consumes two-thirds of the poor's income: housing and transport. Whether Metrovivienda makes a serious dent in the city's housing shortages and traffic woes remains to be seen, however most observers agree that it is a significant and positive step forward.

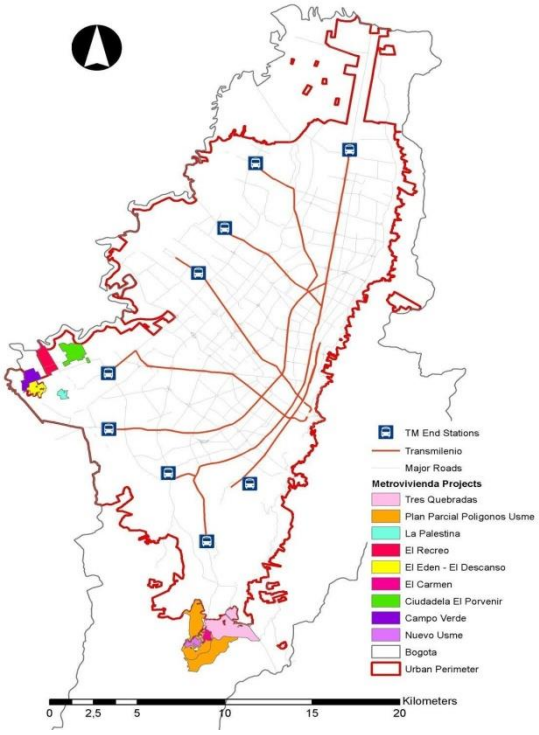

Figure 6. Bogotá's Metrovivienda Projects and TransMilenio BRT Lines. Source: Suzuki, Cervero, and Iuchi, 2013.

1.2 The Challenges of TOD in Ahmedabad, India

In the 2009, Ahmedabad opened India's first and what today remains the country's largest BRT network. Called Janmarg ("People's Way), the current 45 km system was built to relieve mounting traffic congestion in India's fifth largest city. With some 5.5 million inhabitants, Ahmedabad is listed as one of the world's fastest growing cities (Forbes, 2010). The ingredients are thus there for BRT to shape future urban growth: rapid growth and motorization coupled with increasingly worsening traffic congestion that increases market demands for transit-accessible locations. To date, however, few significant changes have occurred near Janmarg stations.

As in Bogotá, Janmarg was envisaged and design as a mobility investment, not a city-shaping one. Short-term political priorities took precedence over long-term sustainability ones. Janmarg, slated to span some 220 kilometer at build-out (Figure 7), was aligned according to both cost-minimization and accessibility principles – 20 percent of Ahmedabad's population lives within one kilometer of the 45-km phase-one system and this share is expected to increase to 73 percent when the entire system is built. Janmarg lines were and are being selected to serve the city's fastest growing areas, more so than in the case of Bogotá, however little attention has been given to the physical integration of BRT stops with surrounding neighborhoods or increasing the share of future populations and workers near BRT. A fairly high-end system is being built by standards of Asian development cities – dedicated and exclusive lanes with some grade-separations and full-service bus stations – thus the city-shaping potential of Janmarg is high.

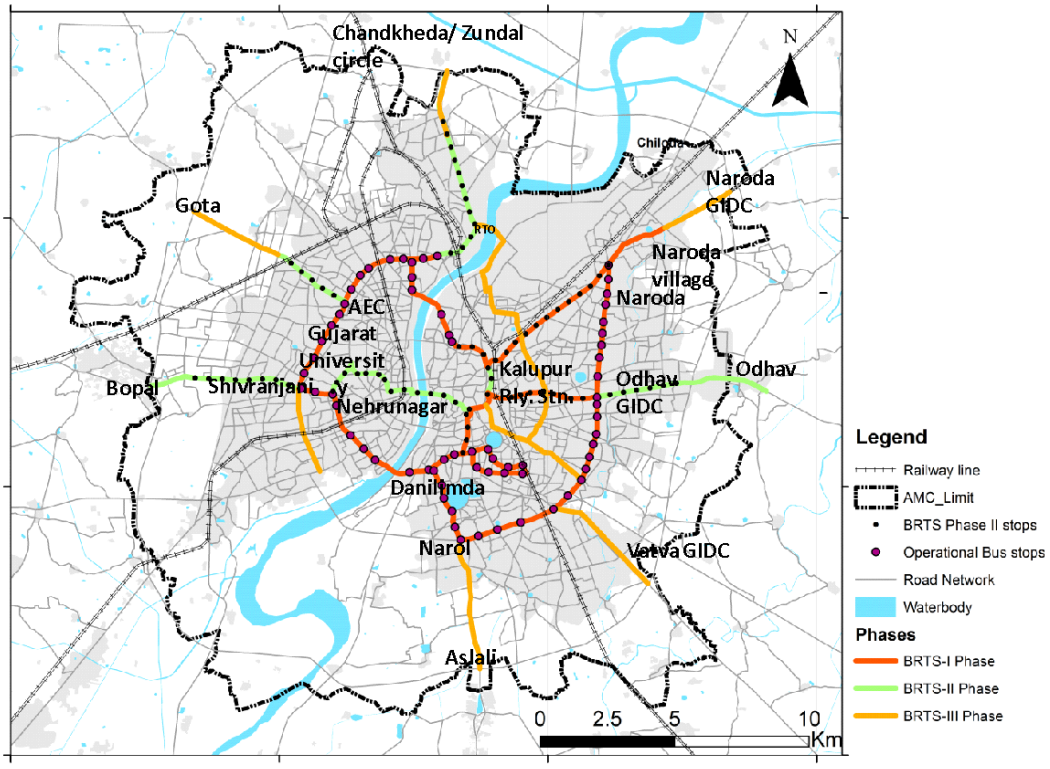

Figure 7. Ahmedabad's Janmarg BRT Sytems: Phases I (completed), II (currently under construction), and III (planned). Source: CEPT University, Ahmedabad.

To date, no land-use or TOD plans have been developed for any Janmarg stations. What land development is occurring has been left solely to private market forces. Janmarg serves mainly built-up areas of the city, where land for new development and densification is limited. Most high-end growth is now occurring in knowledge-based employment zones west of the city, featuring tall, modern buildings on superblocks with few pedestrian-ways in between and far removed from existing or planned BRT. There has been some brownfield redevelopment of former state-owned textile mills, once the economic backbone of the city, including sites near Janmarg stations. However redevelopment has been slow, mainly due to unsettled legal issues.

Notwithstanding the city's lethargic stance on TOD, land markets appear to be responding to Janmarg's presence. Prices of land near stations nearly doubled between 2006 and 2011 (Suzuki, Cervero, and Iuchi, 2013). Seeking to reap profits, individual property developers have built individual projects near some stations, however absent station-area plans, piecemeal development has failed to add up to coherent or well-integrated transit-oriented development. Interestingly, Ahmedabad is as well suited as any city in the developing world to prepare TOD plans due to its long-time use of what is called a Town Planning Scheme. This is essentially a land-readjustment program that allows local government to assemble irregular-shaped agricultural and informal plots of land and to create functional and fully serviced housing and mixed-use developments from the consolidated parcels. Since first introduced in 1915, nearly three-quarters of the city's 300 square kilometer land area has been developed under this scheme. Also conducive to TOD is Ahmedabad's ability to grant density bonuses as a means of generating revenues. In 2002, a law was passed allowing the sale of additional FAR for properties abutting streets 18 meters wide or wider, which includes all BRT corridors. The current permissible FAR of 1.8 can be increased to 2.25. In 2011, 4.5 percent of Ahmedabad's total revenues came from this "guidance value" density-bonus scheme. City officials are currently considering raising FARs for properties near a proposed metro and BRT corridors to 3.5. Recapturing the added value created by transit would all the city to generate much-needed funds to not only pay off transit capital investments but also to improve neighborhoods around stations

themselves, as successfully done in Hong Kong under its Rail+Property program (Cervero and Murakami, 2009).

So far, Ahmedabad officials have opted to maintain uniform densities throughout the city, regardless of how close parcels might be to transit corridors. This has been done to disperse trips and thus decongest the city. It has also been done for socio-cultural reasons, namely to avoid creating a privileged class of land owners whose new-found wealth is create through government fiat. However keeping densities uniform also shifts growth to the periphery, in a more auto-oriented configuration. In the near term, the city may experience less traffic congestion as a result of density caps however over the long term, the resulting auto-oriented urban form that unfolds could backfire, creating more traffic congestion and air pollution for the region as a whole.

The practice of spreading growth to decongest the core had been adopted not only in Ahmedabad but virtually all large Indian cities. A sample of city centers in large Indian cities found an FAR of 1.6, lower than permissible densities in the suburbs (Bertraud, 2002; Glaeser, 2011). Like a tube of toothpaste, restricting growth in one place simply pushes new growth elsewhere, particularly from transit-served urban cores to more auto-oriented peripheral zones. Several design shortcomings also need to be overcome if Ahmedabad is to spawn TOD. Janmarg was and is being designed as a closed system, requiring users to access stations sited in the medians of roadways by foot, bicycle, car, two-wheeler, three-wheelers, and surface-street buses. Little attention, however, has been given to perpendicular connectors to BRT stops. No secondary feeder systems were designed at the time Janmarg was built to ensure efficient and safe pedestrian, bikeway, and transit connections to mainline services. While a substantial network of cycletracks was built in conjunction Janmarg, for the most part bike-paths run parallel rather than perpendicular to the busway, thus functioning more as competitive than complementary systems. Moreover, there is no bicycle parking at stations. What few pedestrian ways exist near Janmarg stops are often occupied by motorcycles and fast-moving three-wheel vehicles.

5. Conclusion

A fairly fundamental change in thinking about the role of large-scale infrastructure investments like BRT is needed, particularly among public officials and city leaders in the developing world. Notably, BRT should be conceived as more than a *mobility investment*. It also presents an unprecedented opportunity to restructure urban and regional growth in ways that promote the many dimensions of sustainable urban growth. BRT can also be a *city-shaping investment*, providing a backbone for guiding growth in a more compact, mixed-use urban form – one that not only promote transit riding and less driving, but also curbs costly suburban sprawl and preserving precious farmland and open space.

The cases of Bogotá and Ahmedabad reveal that in the absence of proactive planning and attempts to entice private development near stations, few land-use changes occur. In both cases, long-range strategic planning and urban development objectives have been largely usurped by near-term engineering and cost-minimization objectives, resulting in lines being routed and stations sited in areas with minimal development potential. In truth, similar stories could have told of BRT experiences in Bangkok, Jakarta, and many other rapidly growing cities facing political pressures to get systems built quickly and at an affordable cost. Moreover, experiences have not been much different in the developed world, whether for light-rail investments (Cervero, 1984) or metrorails (Cervero and Seskin, 1995).

Fortunately, there are good-case examples that showcase the positive impacts of proactively leveraging development opportunities from BRT investments. Curitiba's experiences are well-known and for the most part reveal the payoffs of linking good urban planning practice with BRT investments over multiple decades. Recent experiences in Seoul, South Korea reveal that in a crowded, congested, and land-constrained city, access improvements conferred by BRT prompted property owners and developers to intensify land uses along BRT corridors, mainly by converting

single-family residences to multifamily units and mixed-use projects (Cervero and Kang, 2011). There, market forces were steered by pro-active planning that among other things created high-quality walking environments along BRT corridors. In addition to Seoul, several Chinese cities, notably Guangzhou, have designed high-quality connections to BRT stops, in contrast to cities like Ahmedabad where pedestrian access was a secondary consideration (Figure 8). Guangzhou's BRT features seamless pedestrian connections through gently sloped footbridges and same-level integration with the second floors of adjoining commercial buildings (Figure 9). Owing to the combination of high-quality BRT services and pedestrian connections to stations, high-rise commercial development is gravitating to Guangzhou's BRT corridor, increasing real estate prices by 30 percent during the first two years of BRT operations (Suzuki, Cervero, and Iuchi, 2013).

Figure 8. Contrasting approaches to pedestrian access to median-station BRT: Guangzhou (left), Seoul (middle), Ahmedabad (right). Sources: ITDP China, Cervero and Kang (2011), and author's photo.

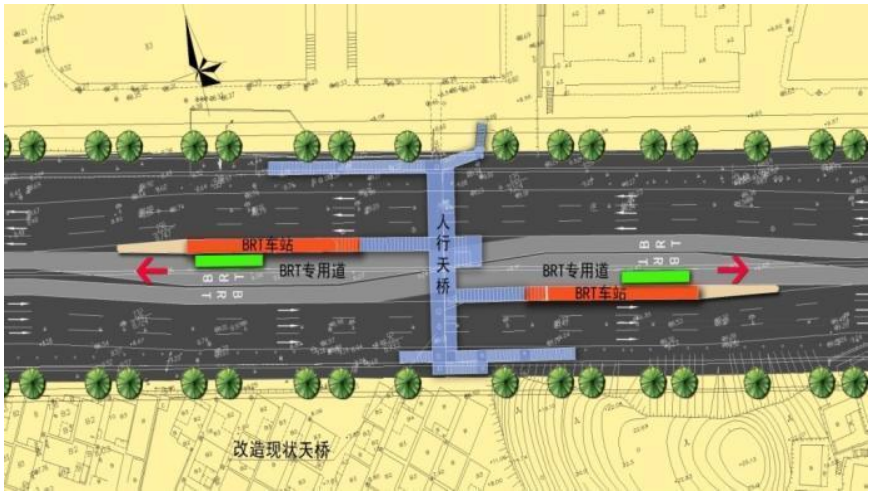

Figure 9. Planned View of Pedestrian Integration with Guangzhou's BRT stops. Source: ITDP China, 2012.

A number of significant barriers need to be overcome if future transit investments are to significantly shape urban form in rapidly growing cities of the world. Among these will be the need to balance the current focus on short-term problem-solving with an ethos of forward-looking, strategic planning. The fragmented institutional structures for planning transportation systems and managing urban growth will also have to be revamped. Financial constraints also stand in the way of TOD. Moreover, plans need to extend beyond a single sector, as in the case of Bogotá's Metrovivienda scheme which ties BRT to slum clearance and the provision of affordable, sites-and-serviced housing. One way to overcome barriers and bring about change would be for international aid organizations and donor agencies to tie financial assistance for BRT projects to bona fide local efforts to improve the coordination and integration of transit and land development projects. Prodding local governments to introduce value-capture schemes would generate much-needed revenues to help jump-start TOD. As experiences in cities like Hong Kong shows, a virtuous cycle can be set into motion in which denser, high-quality TOD generates income which can go into creating future high-quality TODs, which further increases income and so on.

As urban growth shifts to cities in the developing world, unprecedented opportunities exist for linking land development and transit infrastructure. Given that the vast majority of urban growth is projected for smaller and intermediate size cities, a bus-based form of TOD interlaced with high-quality infrastructure for pedestrians and cyclists is best suited for placing many global cities on a sustainable pathway Many cities of the developing world have the prerequisites needed for BRT investments to trigger meaningful land-use changes, including rapid growth, rising real incomes, and increased motorization and congestion levels. Supportive planning and zoning, public-sector leveraging and risk-sharing, attention to facility siting and design details to maximize development potential, and the institutional capacity to manage land-use shifts are also needed.

Acknowledgement

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Land Use for Whose Livability?

Prof. Annette M. Kim
Massachusetts Institute of Technology/University of Southern California

I first visited Vietnam in 1996, when I was part of my professor's consulting team for Saigon South / Phu My Hung. We stayed at the CT&D compound with the Ting family when Saigon South was just swampland. During the next 20 years, I and the world have seen Vietnam's incredibly rapid and successful economic growth. Usually when urbanization happens this quickly there are a number of predictable negative externalities that accompany the economic rise such as pollution, traffic congestion, inequality, etc. And while Vietnamese urban areas have witnessed these as well, I have to admit that I am biased in that I think HCMC is special, relative to other ASEAN and East Asian country cities that I am familiar with. Despite the typical rapid urban re-development of land uses and the accompanying displacement of households and loss of historically significant architecture, the city has somehow retained many elements of its distinctive qualities. I would describe this quality as an exceptionally aesthetic and humane civic life. And this public life is related to the city's unique public space, a legacy of both French and Chinese urban design. It has an expansive network of sidewalks, rationally laid out.

I have an upcoming book that will be published by the University of Chicago Press called *Sidewalk City: re-mapping public space in Ho Chi Minh City*. While a scholarly work, it is also a love letter to the city. HCMC is at a point in its development where it has some important choices to make. As other Asian countries that have been able to reduce poverty with rapid economic development, there comes a point in their trajectory where the goal for GDP growth does not trump all others and starts to be accompanied by other objectives. In places like Seoul, Tokyo, Taipei, and now starting to happen in Chinese cities, after decades of an all-out push to develop economically, heroic efforts really, the cities start to reflect and there is recognition of loss. They often find that the urban environment is less than desirable and even unlivable. So, they try to clean up, fix, and recover some of what is lost. But often it *has* been lost and the pockets of authentic livability are few and far between in these metropolises.

As I said, I believe it's not too late for HCMC to both grow economically, an important goal especially given the recession, as well as make policies in such a way that it retains and builds upon its unique assets. Today I will talk about one of its most important and under-appreciated assets: its public space culture. HCMC's public space culture is not just a nice peripheral extra. It is important for its tourism, which is one of the economic sectors that have been targeted for growth. It is also a major site of employment and supply, the everyday livelihood of its citizens (Cahihon et al. 2006, Lincoln 2008). Sidewalk space and use has also been a source of social conflict in cities across the globe and needs to be resolved peaceably.

As a way to discuss what an alternative approach that would integrated both economic development and inclusive, cultural development might look like, I present a project of mine. I have been working with HCMC 's Department of Planning and Architecture off and on for the last 15 years. On May 10, 2011 the HCMC People's Committee approved a pilot project that I proposed to create a tourist pedestrian path in the city, No.2139/UBDN – ĐTMT. I would like to share briefly about the proposal, what I learned from it, and what the implications are for rapidly urbanizing regions in Asia more generally.

a) The proposal

Before I introduce my proposal, I should explain the policy context within which it was given. For over ten years, the HCMC city planning department and traffic department have been studying how to introduce a pedestrian street that is closed to vehicular traffic. According to my interviews with city planners, city leaders were inspired by the examples in Spain. However, the city's approach to pedestrian paths has been under-developed. One of the supervisors later commented to me that their proposals were too ambitious in the number of streets it was suggesting to close to vehicular traffic, causing an outcry from property owners and businesses afraid of losing customers.

Other ideas for promoting pedestrianism being generated by city departments are aimed at modernizing the city and protecting tourist safety. Their ideas have a heavy infrastructure investment focus: increasing traffic lights, traffic police, sidewalk paving and landscaping.[1] In conversations with planners I learned they had considered constructing an elevated path to separate tourists from the grittiness of the street. In fact, many of the strategies for protecting tourists isolates and almost infantilizes them: creating a separate path for tourists, employing young staff to accompany tourists as they cross the street, and clearing off vendors from the sidewalk. These ideas reflect the public service professions involved such as civil engineering and urban planning, and not on an understanding of why tourists come to Vietnam and what they hope to experience. Indeed, the policies to clear the sidewalk of street vendors is partly justified on the argument that it makes the city unattractive and backwards, which would hurt its image to the international community.

My proposal suggested a completely different approach. Instead of separating tourists, it guided pedestrians through the living city. It is inspired by Boston's popular "Freedom Trail." In my study of tourist pedestrian paths around the world, I found that few other cities have actual lines on the ground. Most have maps and signs or symbols implanted in the city but they are more difficult for tourists to find.[2] Our study found that having an actual line on the ground is surprisingly powerful. People stick to the line as if it were a magnet. It allows visitors to spend much more time observing the city instead of wayfinding. This gives the visitor a sense of security, especially in a foreign context where one does not speak the language or read the scripts. It also gave people increased sense of security to deviate from the path to explore nearby diversions they might have seen as well as freedom to pace themselves as they wished, to take breaks, and to begin and end wherever they chose.

Boston's Freedom Trail is successful because of the variety of experiences it offers along the way: historic sites, shopping, waterfront, parks, restaurants. The path has no dead-ends – it is one continuous line so there is no confusion for users, as there was on the Salem trail. The path is also near to transit lines so people can enter and exit the path to get back to their hotels. The line was easily visible and the path gave sightlines to alternative diversions. For example, the path passes by the outer edge of the historic Fanueil Hall/Quincy market area, which has become a popular tourist shopping/dining area. It is easy to see that one could enter this colorful area and return to the line. Importantly, the path does not force tourist to go into the complex and shop. It is the tourist's choice.

The Freedom Trail also incorporates street vendors and performers on the sidewalk and in open areas. Tourists walk through the everyday working city, not only tourist zones, and local vendors provide refreshments, souvenirs, and entertainment. What the Freedom Trail did was subtle and powerful. It involved very little physical investment into the built environment and did not intervene much. Rather it packaged an experience. It made a legible route where tourists can visit historic monuments, shop, dine, and rest. The route provides variety, drawing tourists through the downtown with skyscrapers, through small narrow alleyways in an immigrant Italian neighborhood, up high to look down on the skyline, by crowded shopping halls and quiet parks. Tourists end up seeing much more and appreciating more of the city than they would probably have without it. The trail provides an infinite amount of flexibility because it is self-guided and gives sightlines to alternatives. Any one of its destinations would not have been a big enough draw alone to come to Boston but together, packaged as the Freedom Trail, the whole is greater than the sum of its parts.

I presented the merits of Boston's Freedom Trail to Ho Chi Minh City's Department of Planning and Architecture at an informal meeting in January 2010. I emphasized Boston's and HCMC's similarities. Both are cities with colonial architectural heritage, waterfronts, and similarly-sized land areas. I showed photograph examples of what other "world class Asian cities" have been doing to incorporate some vending back into their sidewalk systems. They were intrigued and invited me to return with a proposal of how it might be adapted to the Ho Chi Minh City context.

Currently, tourists to Vietnam do not spend much time in Ho Chi Minh City but instead use it as a platform to other places. When they are in the city, the tourists primarily visit five colonial buildings in the heart of District 1: Notre Dame church, the Post Office, Opera House and Ben Thanh Market. Some may also go visit the War Remnants Museum and Reunification Palace for war history. These are destinations that tourists may seek out, but the goal was to transform these into an experience of the living city by providing a broader array of ambiences in the city. The largest group of tourists are from China or the Chinese diaspora and they were already making their own way to the city's Chinatown, Cholon. This was further fueled by Taiwanese investment to build large hotels in the neighborhood and by the itineraries of Chinese guided tour companies. So, I developed the strategy of twin paths that could be connected by tourist shuttle buses and allow tourists to experience two neighborhoods of the city with distinct urban designs, languages, and foods: the French colonial downtown and Chinatown. This plan resonated with how the city was originally formed as two symbiotic towns that later merged into present day Ho Chi Minh City. This would also serve the strategic purpose of extending the stays of tourists and conveying the rich diversity of the city. The proposed path's total length is similar to the Freedom Trail's 4 kilometers:

Cho Lon trail distance: 1.38mi / 2.2km

Sai Gon trail distance: 2.38mi / 3.8km

Combined distance: 3.76mi / 6.0km

Each path was created to transform tourism in HCMC from a city with few destinations into a rich experience by leading tourists along different kinds of neighborhood streets, from the broad avenues with monumental buildings to the quieter narrow alleyways. The routes were informed by research about what tourists enjoyed and based on my knowledge of the city. I fine-tuned the path selection by walking the path with a group and discussing alternatives.

SÀIGÒN

ALONG THE PATH

WAR REMNANTS MUSEUM
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COLONIAL DISTRICT
This neighborhood boasts a high concentration of colonial buildings and delicious Vietnamese restaurants.

REUNIFICATION PALACE
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NOTRE DAME BASILICA
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POST OFFICE
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CITY HALL
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OPERA HOUSE
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ĐỒNG KHỞI AREA
This area is home to many international boutiques and restaurants as well as many late night hotspots.

BẾN THÀNH MARKET
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BẾN THÀNH MARKET AREA
The anchor in this area is the market building itself but the streets surrounding it also offer many goods and transform into a delicious night market in the evenings.

LÊ CÔNG KIỀU ANTIQUE STREET
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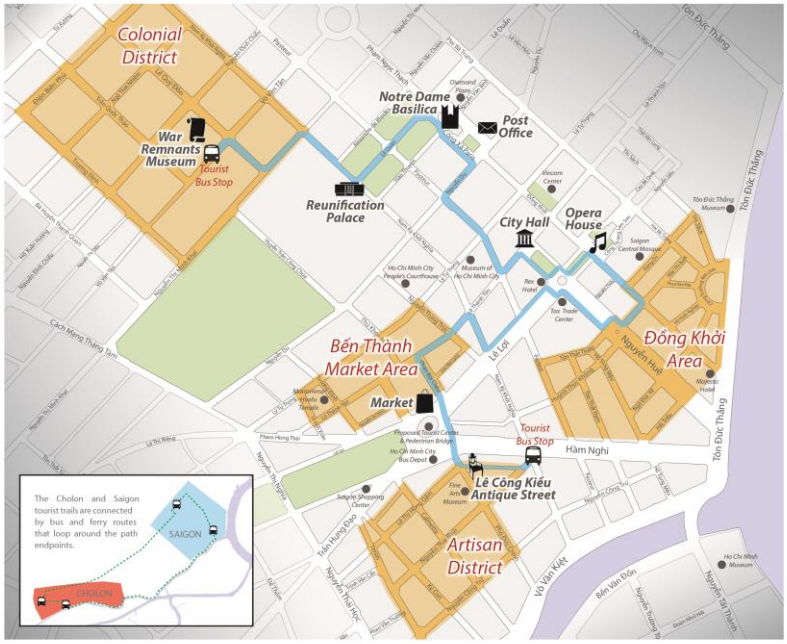
ARTISAN DISTRICT
The anchors in this district are the Fine Art Museum and the antiques on Lê Công Kiều Street. There are also many artisans at work on these streets.

Total path distance: 3.8km



CHỢLỚN 堤岸

ALONG THE PATH

BÌNH TÂY MARKET
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NINE DRAGONS PARK
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CLOTH MARKET
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ÉCOLE and PAGODAS
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LION DANCE STREET
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TRADITIONAL MEDICINE STREET
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CHOLON HISTORY MUSEUM
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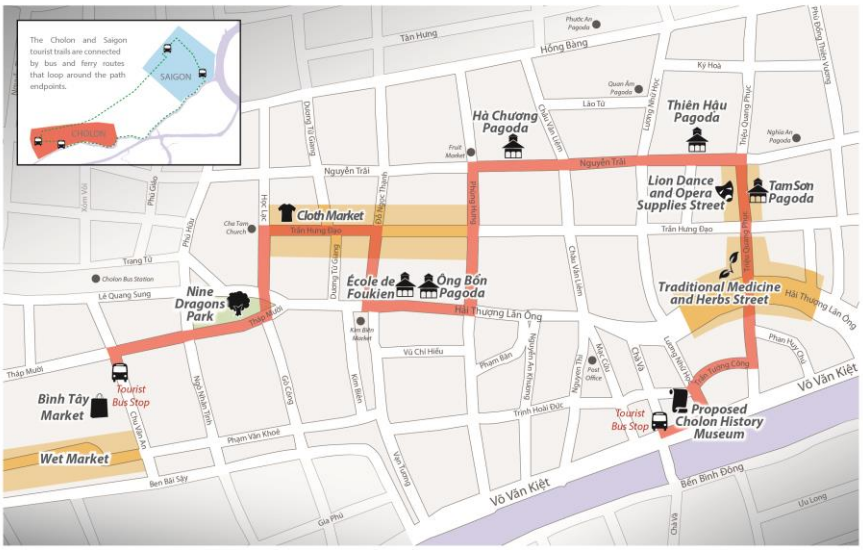
Total path distance: 2.2km



b) Sidewalk life as a tourism asset

Instead of efficient infrastructure, I would argue that tourists who come to Vietnam are looking for something else entirely. Since integrating sidewalk life into tourism was central to my proposal, I wanted to investigate the assumption that foreign tourists had negative associations with Ho Chi Minh City's sidewalk life and vending. I had often heard western tourists relate back to me that the streetlife and their interactions with locals were their favorite part of their trips. But, I also suspected that there might be some geographic variation in tourist preferences. In particular, I wondered if perhaps Northeast Asians would have less appreciation for pedestrianism and street vendors because their governments had cleared their own sidewalks a few decades ago and perhaps these tourists would favor a more sanitized version of a city. My anecdotal impression of Asian tourists was that there was a split in preferences by age: while younger Asian tourists could be backpackers who might enjoy sidewalk life, older tourists might prefer the ubiquitous Asian guided bus tours, which elevates and speeds them by the sidewalk and gives them limited free time to explore.

Therefore, my research questions were: 1) Is there any evidence that tourists value or dislike HCMC's sidewalk life? And 2) Does it vary by the tourist's country of origin?

The General Statistics Office keeps track of the nationalities of foreign tourists to Vietnam. What we see is that tourism to Vietnam has been growing and that Vietnam's tourists are primarily a mix of northeast-Asian and western tourists. Of the roughly 4 million tourists who visit Vietnam each year, the largest group of foreign tourists are from China who seek low-cost value travel (Truong and King 2009). The next three largest groups of Asian tourists – from South Korea, Japan, and Taiwan – happen to also be from the countries with the earliest and largest sources of foreign direct investment into Vietnam.[3]

In order to find answers to my questions, I collected data on the internet of what international tourists self-reported about their experiences visiting Ho Chi Minh City and Vietnam more generally. We also collected written impressions from tourism professionals. Sources included travel industry professional websites, lay traveler reviews and travel tips websites, personal blogs, and photo- and video-sharing websites. We searched in the languages that represent the major groups of foreign tourists who visit Vietnam: English (including North Americans and Australians), Chinese (including mainland Chinese, Hong Kong, and Taiwanese), Japanese, and Korean. Native speaker research assistants did the searches in order to know best where to look and how to interpret the comments. For example, my Japanese research assistant stated that it is uncommon to make an explicitly negative comment in the Japanese culture, so he inferred negative sentiments from the text.

Eventually, we developed a spreadsheet of 448 observations by primarily lay people who had taken the initiative to post what they found was noteworthy about visiting Vietnam. We then conducted content analysis to locate which posts mentioned anything about a pedestrian experience or sidewalk life. These included experiences or encounters we assumed happened on the sidewalk, such as mentions about vendors, eating outside, or enjoying the architectural ambience. We then classified each pedestrian experience comment as either a positive comment, negative, or neutral/ambiguous. Neutral comments were still interesting to us because the person had still found sidewalk life noteworthy. The postings' dates ranged from 2000-2011, but the majority we found were made between 2008-2011, which is presumably a function of the popular increase in using the internet for travel research.

There are advantages and disadvantages to using the internet to search for opinions of foreign tourists relative to the alternative of conducting questionnaires. We were able to get a relatively large dataset for very little cost or time. However, this sample will be biased to those in the population who are internet savvy and go to the trouble of writing a post. They may be younger and more apt to design their own tours by research instead of joining a packaged tour. These independent types may be more inclined to enjoy street life. However, our observations included those who had been on packaged tours and the reviews of their experience still included comments about street life. It is also unclear

whether people might be more inclined to make posts if they have had a negative experience or a positive experience, or perhaps both extremes inspire one to write. This would bias our results and interpretations in either under- or over-reporting the enjoyable elements of touring Vietnam.

While I was looking for significant differences in the comments between tourists from different regions of the world, what I found was overwhelming commonalities. The most common topic from people from different areas of the world was the food, and in particular street food: sweets, juices, noodles, soups. A mainland Chinese tourist writes: "HCMC is truly the heaven of delicious food." People comment again and again on how delicious, fresh, diverse, and cheap the food is. And part of this gustatory experience is how dining is conducted, mixing with locals in a way of everyday life that is missing in their home countries. A Japanese tourist writes, "It seems that the road is not just the place where we walk along but the place where we spend time." Another notes, "There are many people on the streets who are eating, taking a nap, or, amazingly, having a birthday party. They look like they enjoy freedom." The photos and videos that tourists from Europe, Asia, North America, and South America posted online had many images of HCMC's streetlife, including the moped congestion, sidewalk vendors, adults and children playing on the sidewalk, and the activity in narrow alleyways.

My initial hypothesis that northeast Asians might express disdain for Vietnamese street food and sidewalk life was proven wrong. Instead, rather than viewing streetlife as foreign and exotic, tourists from Asia expressed nostalgia because it reminded them of "Korea in the 1980s" or "a little Hong Kong." Other comments also spoke about the city being the "Paris of Asia." A Japanese tourist lamented, "I felt sad when I imagined that HCMC would develop and become like the cities in Japan in several decades."

As Table 1 shows, the vast majority had positive comments to make about sidewalk life (61%-85% depending on the language group). Of course, there were negative comments as well. These comments shared several commonalities: traffic, food safety, and haggling. There was a common annoyance with aggressive cyclo and taxi drivers who tried to overcharge them – tourists were wary of being taken advantage of in a foreign place and of being seen as dehumanized sources of money.

Overall, tourists find the street and sidewalk life to be one of the most enjoyable aspects of visiting Vietnam. However, there are elements related to it that are also experienced negatively. Given the government's desire to increase tourism and sidewalk life is one of the most notable and enjoyable aspects of Ho Chi Minh City, one could plausibly argue that sidewalk life with vendors should be retained, but better managed.

Table 1: Foreign Tourists Impressions of Vietnam's Sidewalk Life

Language	# of sources	References to Sidewalk Life	Positive References	Negative References	Neutral References
English	210	293	232	30	32
Travel sites, Press, Blogs		*139.5%*	*79.2%*	*12.9%*	*10.9%*
Japanese	43	33	25	9	1
Blogs		*76.7%*	*75.8%*	*27.3%*	*3.0%*
Korean	56	23	14	9	1
News and Blogs		*41.1%*	*60.9%*	*39.1%*	*4.3%*
Chinese	59	40	34	4	2
Blogs and Articles		*67.8%*	*85.0%*	*10.0%*	*5.0%*

c) The Sidewalk as a way to make a living and as a way of life

In addition to being an asset for tourism, Ho Chi Minh City's sidewalk life is important for other reasons.

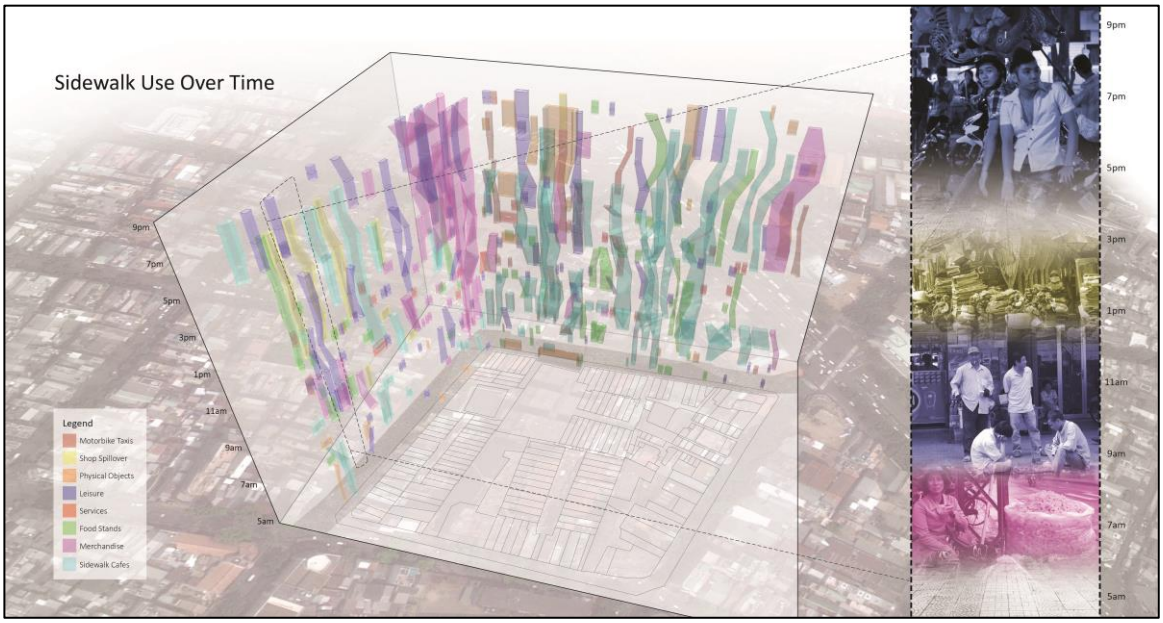
The city's sidewalks is a major site of the informal economy. The General Statistics Office conducted an August 2007 labor force survey on a national representative sample of 170,176 households, including 3,170 in Ho Chi Minh City (HCMC). In a first for Vietnam, this survey counted the informal sector. Their methodology probably undercounts employment, especially since they also undercount the official population. Still, the survey provides important insights such as that one-third of households earn all or part of their income from an informal production unit (Cling et al. 2009).

During 2010 I conducted two extensive studies of Ho Chi Minh City's sidewalk life. Research teams went out and analyzed how this space was being used in a multiplicity of ways. We surveyed and mapped the spatial patterns of various kinds of uses, including the identification of what kinds of commerce were being transacted and the number and gender of vendors. One of the findings was that public space in Ho Chi Minh City exhibits an exceptional amount of cooperation between multiple parties. For one, the neighbors and shopowners as well as local police in essence have to allow them to do their activities regularly and negotiate with them the terms of their use: the amount of space, its location, the time of use. Furthermore, more than one party will use the same area of sidewalk in a day, sometimes changing hands four times. This means that people are coordinating the sharing of this public space. (see Figure 3).

Ho Chi Minh City's sidewalk life shows how urban public space is not constrained by square meter boundaries but rather has many dynamic possibilities if one considers space-time. However, unleashing this requires local governance and social institutions that support this kind of coordination a.k.a. sharing.

HCMC has a long-standing practice of using the sidewalk in this way, defying the formal regulations and intended urban design through various regimes. This tradition helps to legitimize its persistence today. And as discussed above, this tradition could be an asset to unleash as well as support the livelihood of one-third of its citizens, if managed deftly.

Figure 3:



3) The need for a paradigm shift away from public space as exclusively transportation corridors

Around the globe, streets and sidewalks in cities are being re-conceptualized and contested as spaces that should be used for more than transportation. Even streets in major streets are being turned into pedestrian and bicycling zones as in the famous cases of Bogota's Ciclovia, New York Cities' Times Square, and San Francisco's parklets. In these cases, there was a remarkable reconceptualization of the precious public open space of the street and an entertainment of the possibility that this space does not necessarily have to be primarily reserved for automobile use (Kim, 2012). This paradigm shift accepted the demographic realities and spatial constraints of the city's urban design legacy.

In HCMC, a paradigm shift would also mean changing ideas of what is a modern and "world class" city. As a recipient of development aid, Vietnam policy discussion are usually framed with the assumption that it needs to develop and catch up to other cities. While the latest trends of global cities in advanced economies is to increase pedestrianization and to revitalize public spaces with a variety of uses, often the mega-cities in the global South have plenty of density and pedestrians and actually seek to de-populate and increase order in the inner city. However, the visions of urban planning and design order imagined often adopt western paradigms from the less populated 1960s and 1970s. There is a fundamental mismatch in the numbers of people, the amount of space in the city, and these ideals. Still, the professions continue to train and perpetuate these outdated paradigms and the plans generated in offices exhibit a disconnect with what is happening outside.

An urban order that would include the population that exists in the city would require valuing and integrating their spatial practices. I was impressed at the possibility of evolving urban planning paradigms in Vietnam through my experience in presenting my tourist pedestrian path proposal.

Maps and visual material are important for engaging with city government departments since Vietnam's planning institutions are still organized as primarily physical planning and urban design institutions. When I presented my proposal, I showed visualizations of the city that incorporated photographs of how tourists currently enjoy Vietnamese sidewalk life and how aesthetic and compelling it is. In other words, Vietnamese sidewalk life was being shown as an asset. The reaction to the proposal was surprisingly enthusiastic. One city planner remarked that the department had been approaching pedestrianism as a logistics problem and had not considered that the path would be running through communities to appreciate. He proposed that we take a walk with him right then to go enjoy this sidewalk life, which he seemed to be seeing with new eyes.

Another common reaction from the planning department and Saigontourist, the state-owned tourism bureau was the realization that they had made assumptions about what foreign tourists might be seeking. My data on foreign tourists was compelling because previously, no one had investigated the demand side in these proposals. One staff member remarked that our approach had surprised him and presented an entirely different view of tourism. Planners also commented that "walking as a way of tourism is a new concept."

Some members of the Department of Transportation questioned a plan that incorporated vendors. Some thought vending causes traffic problems as well as being a major impediment to pedestrian flow. Because of my research, I was able to counter with my data that showed that motorbike parking was taking more space than vendors while contributing less employment in many parts of the city. In the end, my proposal gained unanimous support from all the departments and was swiftly presented to the HCMC People's Committee who then approved a pilot project. Unfortunately, since then the project has been stalled in implementation. Still, I was struck by the potential of evolving Vietnam's sidewalk planning paradigms.

As Vietnam continues to develop its economy in the midst of historic population migration to the urban centers, as in other cities particularly in Asia, it will have to resolve the multiple claims to its public spaces such as sidewalks. As it searches for a way to spatially accommodate demographic

changes, Ho Chi Minh City has the opportunity to take advantage of its unique assets, a spatial use traditions that build upon high degrees of social capital.

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Endnotes

[1] Interestingly, I have found that tourism is used as a justification for major World Bank international development infrastructure projects, the rationale being that large capital investments and debts taken on to develop better roads, sanitation, and drainage facilities will pay off in increased tourist demand and the monies that tourists will spend in the country (World Bank 1999).

[2] Exceptions include:

a) Hannover, Germany has a red painted line called the "Red Thread" that is 4.2 km long, and connects 36 points of interest. Their brochure is available in German, English, French, Italian, Spanish, Polish, Turkish, Russian, Japanese and Chinese.

b) Ayora, Spain has developed "The route of the Red line" that crosses the town and is supplemented by informative panels and audio devices that guide visitors.

c) Sydney painted a blue line for the marathon races of the 2000 Olympics, a 42.2 km route from northern Sydney to the Olympic stadium. Portions of the line remain today as a public artwork installation.

3 This causes us to question whether these people who are entering the country as tourists are motivated simply by tourism or whether they are business-affiliated people who are using tourist visas out of convenience since the procedures for getting business visas became more difficult in the mid 2000's. At one point, the policies were such that it was possible to get a one-year tourist visa while the maximum business visa was for six months. It could also be the case that since Vietnam has become more familiar to people from these countries due to increasing economic ties and ex-patriate communities, more friends and relatives are curious to visit. In any case, the government has recognized that tourism is an important economic sector and eventually waived visa requirements for visitors from its major tourism markets: China, Japan, South Korea, and the ASEAN countries, as well as some European countries.

Land And Land Use Policy

Phan Chánh Dưỡng

Land is spatial and living environment of all creatures. It is invaluable natural endowment that not only attaches to life individual and households, but links closely to interest of a community or country. Land is a premier input of production in any national economy that if effectively explored would generate benefits to the whole nation. Yet land is also source of chronic disputes among stakeholders. Therefore, without a proper land use right policy in place that legally fits into a specific economic context, land will fail to be determinant of economic growth, and become an incentive for human being to live by their instinct and lead society into poverty.

A. Land value, as capital input from economic perspective, will depend on the following factors:

1/- Land use policy and planning

This is an obvious observation. Supposed an area with infrastructure and natural endowment were planed into three zones: A for industrial parks, B for manufacturing, and C for residence, then land value in zone C would be higher that of zone B, and zone B higher than zone A. And if the plan were kept and implemented smoothly, it would be obvious that government policy and direction could create different economic values in the same area.

2/- Infrastructure

Any part with better infrastructure (road, electricity, water…) would have higher value than other in the same planned zone. This means that infrastructure investment will increase value of the neighborhood. Moreover, at macro level, transportation system will allow allocation of population density, urban scale and networks regionally and nationwide. Transportation system also influences economic performance of a region or country. This is crucial to countries that are still developing infrastructure and economy nowadays.

3/- Importance of land user

Land users often know how to take advantage of location, choose the right business and have expertise to maximize land performance. For example, Mr. A owns a beverage store on street P, he earns $500 each month and pays tax $50. Mr. B sees potential of opening a cosmetic shop in the same location and is willing to acquire the beverage store at double price, because based on his calculation, his potential cosmetic shop would earn him $3000 monthly with a tax payment of $500. Similarly, in agriculture, transition of land from low productive to higher productive use is an optimal answer that national leaders must find out.

Therefore, for all economies, governments need to devise proper policy and plan for land use, invest in infrastructure, and set out specific rules facilitating the transfer of land use right. This is one of the most important tasks of government in order to promote economic development of its country or location.

B. Land value as living environment for human

Historically, human being lives by the natural environment, especially those in fishery, forestry and agriculture. For some reasons, if they had to move out of their familiar living environment, the biggest difficulty would be facing new settings that change their routine, spiritual and social relationship which formed their lives and nature. An analogy would be a farmer moving to city, or fresh water fish

move into sea. If there were no mentality preparation or enough time for adaptation, it would be disater waiting for them in the new setting.

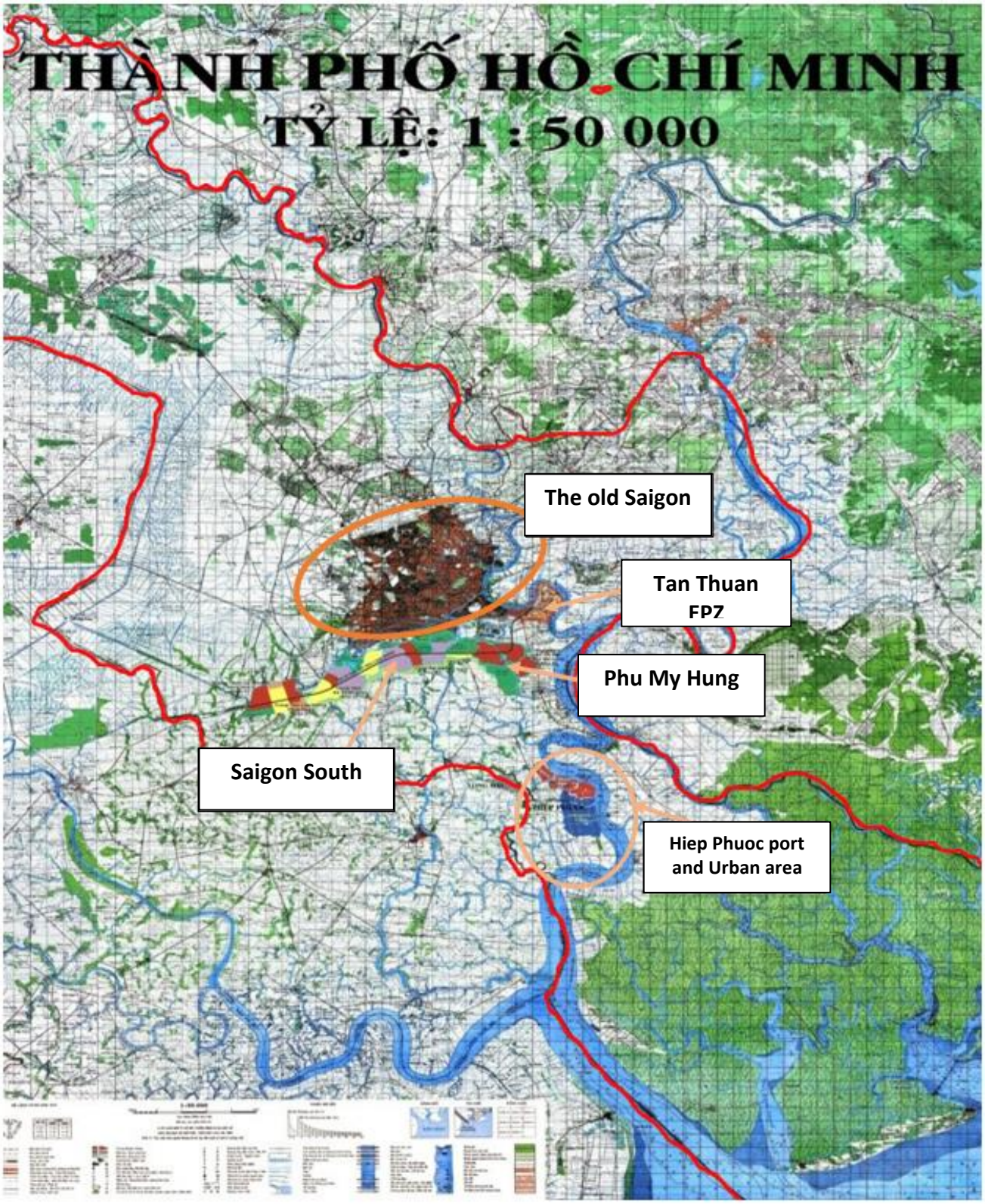
In many countries that are pursuing modernization and industrialization, much rural areas and small towns have transformed into industrial parks and new urban areas. Therefore, the government must adjust land use plan based on new requirements of the nation's development strategy. As a result of resettlement and land clearance, rural life turns into urban one, households are forced to move. Reasonable reimbursement policy should be made for land clearance (economically feasible for citizens) so that people will accept it and be economically satisfied.

Yet a new setting or living environment might be modern but not the same as before. Adaptation problem arises. Those with elder parents living in rural areas would understand it best since their parents would refuse to move to city with their children. Resettlement and land clearance are not simply a social issue, it means livelihood of people.

In order to clarify how land use transfer, transportation system building and infrastructure investment transform economic structure of a poor region, and to highlight roles of government policy and businesses in an economic development plan, I would like to share with you a case study, an ongoing project that HCMC has been implementing for the past 20 years:

HCMC (formerly Saigon of 140 sq. km and 3 million people in 1975) includes former Gia Dinh Province, Cu Chi and Can Gio areas. Today, the city is about 2000 sq. km with a population of 8 million. In the last 20 years, urbanization in the outskirts took place quickly, largest scale and with best plan are found in the southern area of the city (Nha Be District). The southern part of HCMC include Nha Be District and part of Binh Chanh District. This was a wetland, saline area, and without infrastructure. Land value was dispensable.

Since the construction of Tan Thuan Processing and Export Zone in 1991 and the North Nha Be – South Binh Chanh highway which was 17,8 km in length and 120m width (later renamed to Nguyen Van Linh), and a 2600 ha Saigon South new urban area along the road, this wetland has been transforming. Land becomes invaluable, providing opportunities for local and foreign investors to come and do business. Phu My Hung new urban is 409 ha (constructed by PMH joint venture). This is new urban project is one of the 21 functional blocks of Saigon South, which after 20 years of development has become the most modern urban district in Vietnam.



C. Saigon South planning – the experience of Phu My Hung

1. Content of Saigon South Planning

PMH joint venture (as a business) got approval from HCMC leadership (public sector) on functions and objectives of the new Saigon South on an area of 2600 ha, and an investment to build an arterial

road through this new urban area (Nguyen Van Linh boulevard). Role of this new urban area to HCMC future development was also clearly defined. This would be a stretching development (Nhà Bè and Binh Chanh District) along the old arterial urban Saigon- Cholon (the old Saigon). Its function would be developing with the existing inner city, with expansion and add-in land toward the East sea, pump-priming following development projects (see map).

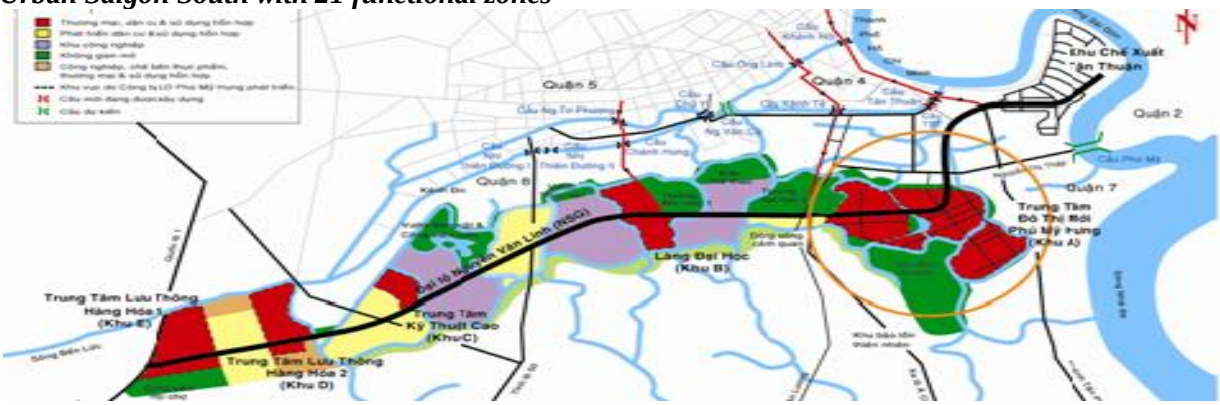
To realize this role and functions, we needed firm with experience and expertise that would help with technical infrastructure planning. Given the approval from the city leadership, an international planning design contest was organized with participation of companies from US, Japan, Taiwan and Vietnam. US Skidmore, Owings and Merrill (S.O.M) was then awarded the contract to do master plan for 2600 ha. A Japanese firm, KenzoTange Associates, was assigned to work on detail planning for each functional areas.

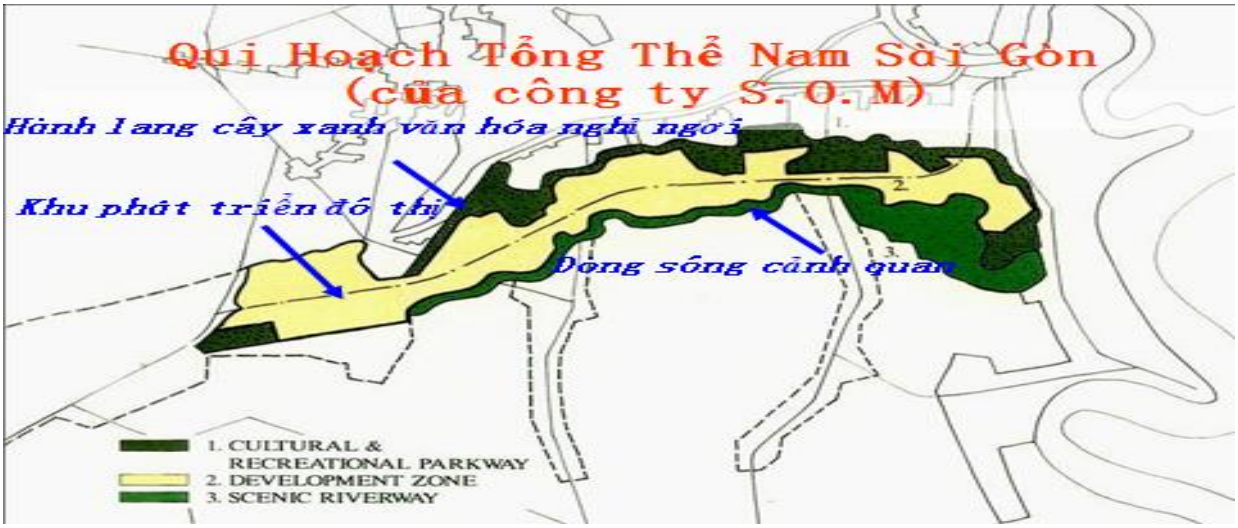
According to the approved plan, an area of 2600 ha was divided into 21 functional zones, of which Nguyen Van Linh Boulevard, as transportation function, already took away 210 ha. The remaining land was split up into 20 other functions, of which PMH JV was responsible for 5 zones (A, B, C, D and E, totally 600 ha), laying technical foundation needed for social infrastructure such as hospitals, schools, administration office, entertainment, parks …with a total of 150 ha. Firstly built was zone A with 409 ha, the largest among others, which is now a modern and neatly designed urban place known as PMH.

In terms of land use space planning, the entire 2600ha was planned into 3 areas:

- **Green and leisure area:** located on the north side of Nguyen Van Linh Boulevard, this are connected other functional zones that have green areas such as mini golf court, university campus, sport, botanical and zoo, water park, eco-lake…mingling along this green range is a walk way and bicycle path. This green area will not only serve residents of PMH, but also an add-in to the old Saigon where green parts are limited.
- **The second green zone** located downstream of NVL boulevard called **scenery river**. This was actually Rach Doi (Bat Canal), with the upstream part located in Binh Chanh District that was comprised of small and unconnected flows. If this upstream part was dredged and widen, connecting Rach Doi and Can Giuc river, with a green reservation of 20 m kept on each side along the river, we would then have a scenery waterway that represents the south nature (Nha Be area).

Urban Saigon South with 21 functional zones





- Land along Nguyen Van Linh boulevard was used for urban development with modern structures and architecture (PMH now). Thus there would be a modern eco-urban, a city that blends into natural environment. With that concept, Saigon South planning proposal was awarded "urban sustainable development" prize by US Institute of Architecture.

D. Phú Mỹ Hưng Construction

Following the approval of Saigon South plan (2600ha), IPC (local partner in PMH JV) established Saigon South JS company whose members were mostly housing management companies from local districts and large state-owned firms in HCMC. Saigon South JS would be responsible for land clearance and reimbursement, and manage an area of 1600 ha (apart from the area under PMH management). The purpose of this arrangement was to engage local governments via this JS company to build up Saigon South beside PMH JV.

For PMH JV, they started the construction of Nguyen Van Linh phase 1 and proceeded with earthmoving to level out the area after the land was clear. The route of 17,8 km length, 120 m wide with 20 bridges and sewage system sideline (3 large bridges crossing Ong Lon, Rach Ong and Can Giuc rivers) was completed in one year (1997).

Next was technical infrastructure construction such as road, water supply and drainage, power lines…and social infrastructure such as schools, entertainment center, commercial center, residential buildings… the second phase of NVL construction then followed with expansion to 14.75 m wide, others construction items were completed in 2003.

During this time, marketing engine actively operated to create urban atmosphere. Community activities like flying kite contest, children drawing, fairs and exhibition, flower market during Lunar New year were organized. All aimed to attract people and businesses to come and search for business opportunity. Real estate market then established. Trading shops, services and residents started to emerge, urban spirit and setting accumulated. Prosperity followed.

Following was emergence of commercial center, villas, high-end apartment buildings and dwellings for mid and low income earners, then schools were built by foreign investors themselves from Japan, Korea, Taiwan, England…then rose supermarkets, hospitals along with banks, securities firms, international exhibition center, mini golf court…all created a modern and well planned district. For the JV developer PMH was a milestone to celebrate its 10th year of commencement (1993-2003).

Since then PMH has become a trade mark nationwide. Construction was speeded up. 2007 Nguyen Van Linh boulevard was finished as planed and designed, becoming the most beautiful and widest

road in the country. And urban PMH of 409 ha has been shaped into a modern urban area. It was recognized as national model of urbanization by Ministry of Construction in June 2008. PMH JV has yet faced difficulties in the past years which still remain unsolved today. Nevertheless, it is still a tourist destination, an example of a proud achievement for HCMC.

E. **Determinants of new urban establishment**

Having had 20 years experience developing PMH, I would like to share with you some ideas. To construct a new urban area, there should be three stakeholders involved: the state, business, and citizens. I will briefly describe roles and participation of these three stakeholders.

a. Important role of the state: leadership and management of state when approving functions and task of the new urban area, in line with objective demand, meeting local socio-economic development requirement. This is the center of all. The state would allow investors to choose planning designers for technical and socio-economic infrastructures, resulting in concrete land use and infrastructure plans. An administration would then be set up at appropriate scale to facilitate investors managing socio-economic environment of the place.

b. Thus, construction of a new urban area must first and foremost be of the right kind design for urban society and economy; this is the content of a product. Technical planning is the packaging (packaging follows products). Content is always followed by packaging. Strict order as it might be. We cannot build packaging or an urban area, without knowing what to expect, what sectors would come, who would be its residents…Result would be a waste of time and complete failure.

c. In order to know if the plan meets its required contents and is feasible, we should publicize the socio-economic objectives and infrastructure plan. Consultation with business, getting input from citizens especially the youth would help gather customer suggestions and insights, since they are users of the urban area later on. This is an opportunity to promote our product. Feasibility would then be higher. PMH experience is to make citizens and business's demand for choosing a permanent place to live and work an obvious goal in all planning contents, including designing, construction, management and social services. And PMH becomes what it is today.

d. Important role of business. This is true in their inputs which we use to promote our product. It creates conditions for business opportunity and brings about more financing opportunities when implementation starts. Potential residents would even book their place by deposits or in the form of investment capital advancement. Urban shape will form and emerge gradually. A new urban area that fails to attract businesses would be unattractive to residents because limited employment opportunity. It will turn out to be administrative district where residents are mainly government officials and their families. And it will not be a leverage for local economic advancement.

e. Urbanization takes several decades to implement. It requires consistent policies and adhesiveness to planning contents, that would help build up confidence among businesses as well as people who choose to live and work there. Without this adhesiveness and consistency, objectives and functions of urban district will be distorted. This is the case of the Saigon South today.

The experience of Saigon South planning and construction on the wetland of Nha be district shows that development plan should start with a redefining land value as follows:

- Policy and objective for land use with planning content based on objective requirement of the economy

- Thorough investment in infrastructure, facilitating transformation of economic structure based on new use.
- Policy to attract local and foreign investment, in search of efficient economic development plan and land use. Right there in the wet and saline land of Nha Be, as soon as HCMC implemented its plan of Saigon South with Nguyen Van Linh boulevard at the core of the project, this low land has become a land of opportunity for investors.
- During construction phase, the project attracted lots of businesses. It proved to meet local economic development need and satisfy investment demand. And it becomes as it is today.

(PMH has been recognized as a sustainable model for urbanization by the Ministry of Construction and is now a successful demonstration of land-use reform and new urbanization in HCMC.).

1/5/2014

Strategies of Transit-Oriented Development in Ho Chi Minh City: Challenges and Opportunities

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Abstract (English)

Since *Đổi mới* policy in the late 1980s, Vietnam cities have been expanded at an unprecedented speed and size. After two major waves of urban growth in Vietnam, with the peaks in the mid-1990s and in the mid-2000s, it becomes eventually obvious that efficient public transportation networks, linked with affordable transit oriented developments (TOD), would be urgently needed as an effective tool to turn current challenges for urban and economic growth into opportunities.

Transit-oriented development could be one of the most important planning solutions to help big Vietnam cities such as Ha Noi and Ho Chi Minh City, as well as other Asian cities, to respond to new urban challenges of the 21st Century. However, until now, there has been no successfully built mass transit or TOD project in Vietnam yet.

This paper argues a redefinition of TOD that is workable for Vietnam and is useful to communicate with policy makers. It reviews three case studies in Ho Chi Minh City (Ben Thanh – Suoi Tien Metro Line Project, Existing and New Downtown Projects, and Long Thanh & Tan Son Nhat International Airports Projects) to discuss important development strategies and visions of public transit and transit oriented development.

Transit-Oriented Development in Vietnam

Since *Đổi mới* policy in the late 1980s, Vietnam cities have been expanded at an unprecedented speed and size. Still, urban developments have been mostly out of control that the master plans of urban areas, revised every five years, seem to record the new changes, rather than to direct the developments.

After two major waves of urban growth in Vietnam, with the peaks in the mid-1990s and in the mid-2000s, it is eventually obvious that efficient public transportation networks linked with affordable transit oriented developments (TOD) would be urgently needed to turn current challenges for urban and economic growth into opportunities.

In recent decades, transit-oriented development has largely been used in the world as a tool for smart growth, guiding the development of compact, walkable communities gathered at clusters and strips along transit systems. TOD could be one of the most important planning tools to help big Vietnam cities such as Ha Noi and Ho Chi Minh City, as well as other Asian cities, to respond to the urban challenges of the 21st Century (Ngo Viet, 2011c, 2013). However, until now, there has been no successfully built mass transit or TOD project in Vietnam yet.

This paper reviews selected case studies in Ho Chi Minh City to discuss important strategies and visions of public transit and transit oriented development to respond to urban challenges and opportunities.

A Redefinition of Transit-Oriented Development

In the literature, there are different ways to define transit-oriented development, depending on the objectives, existing conditions, and project location, and the views of planners (Calthorpe, 1993; Katz,

1994; Dittmar and Ohland, 2003; Suzuki et al., 2013). There has not been any successfully built TOD project in Vietnam yet, though many projects look like or claim to be TOD, but in fact they are not real TOD. This reality shows that beside scholarly definitions, we need a simple definition of TOD that is workable for Vietnam and is easily understandable and measurable for Vietnamese public policy makers and investors.

The following redefinition of TOD comes up during the reviewing process of potentials to develop transit system and TOD in Vietnam generally, and in Ho Chi Minh City specifically. However, it would be useful to present this redefinition first, before reviewing the case studies, so that we can use specific terms and concepts in arguments.

> *Transit-Oriented Development (TOD) is the vertical or horizontal mixed-use development, built up within walking distance to adjacent transit stations, with the goals of creating a financially feasible, sustainable, livable, and mixed live-work-play environment.*

Specifically, TOD could be defined by the following components:

- An area of influence of the transit system, generally include cluster areas centered by stations, measured by walking distance to the main and secondary transit stations, and the strip areas along the transit lines, with a width of 50m or more beyond the right of way. For high-volume transit such as metro, walking distance to stations should be less than 800-1000m. For low-volume or secondary transit, such as bus, that helps to transfer riders to the mass transit stations, walking distance should be less than 400m. If free parking is provided within walking distance to high-volume transit station, the area of influence could be extended further for a driving range of 5000 m (about 10 minutes of driving in residential area). Available sites located within an area of influence would become sites of opportunities for TOD development.

- A mixed-use combination of development functions horizontally or vertically, including residences, offices, schools, healthcare and social services, shops, … that provide various choices for residences in the area of influence to get everyday needs of living-working-playing, without having to rely on private transportation.

- TOD magnets to generate the flows of critical mass of people who use the transit system to/from and between magnets. These magnets could be centers of activities (such as the Central Business District, mixed-use centers, sport and culture centers, university campuses, centers of employment, …), centers of high-density residential area, or suburban stations with large parking lots nearby for people in the vicinity to park free and ride transit. At the initial phase of a new transit line, it is useful to develop first TOD magnets at the ends and at important intersections of the transit lines. These magnets will boost the transit traffic volume, helping to stimulate the growth of other TOD projects alongside the line. This process will continue over time in a chain reaction, until all stations are surrounded by livable and affordable development catalysts that eventually become community centers.

- An interconnected transportation network convenient for pedestrians flow to conveniently link with different types of public transportation services (metro, light rail, bus, taxi, water taxi, airport, …), as well as with other types of private transportation (parking and drop-off for motorized and non-motorized transport means), allowing pedestrians to fully rely on transit, or to alternatively choose other transportation options to commute.

- Pedestrian-friendly physical-form settings (including pedestrian paths, interior passage, arcade, roofed walkways, pedestrian bridges,…) that allow convenient, safe, weather-protected pedestrian flow everyday between transit stations, mixed-use centers, and surrounding residential areas within the area of influence.

- Livable communities and/or groups of people who mostly lives in the area of influence and walk or use transit everyday for living, working, or playing activities.

- Stakeholders' cooperation to explore mutual benefits for transit and TODs in the area of influence, in which transit is the driving force to make TOD projects more financially feasible, and vice versa. The stakeholders could include local residents, local officials, investors, business people, employers, employees, service providers, and visitors. That's why transportation and urban planning, especially land use planning, should be studied and implemented together.

TOD strategies: challenges and opportunities to enhance the feasibilities of three multi-billion projects in Ho Chi Minh City

The selected case studies below are discussed to explore the strategies of transit development and TOD to make more feasible projects, better urban environment, and better economic growth for Ho Chi Minh City.

Ben Thanh – Suoi Tien Metro Line Project

Ben Thanh-Suoi Tien Metro Line (line 1) has been the first mass transit line of a future metro system in Ho Chi Minh City, with 14 stations, a length of about 19.7 km, and a budget of US$ 2.4 billions. The line uses Japanese technology, started construction in 2012, and would be completed in 2018 **(Figure 1).**

Figure 9 – Ben Thanh-Suoi Tien Metro Line (Line 1) and stations (Source: Management Authority for Urban Railways, 2012)

Bến Thành station, located in the CBD with a nearby regional bus center, will become the most important hub connecting all major lines of metro, monorail, and bus network. Suoi Tien station, next to a future regional bus terminus connecting to the eastern regions, will become an important transit center that can extend transit connection further towards Binh Duong and Bien Hoa downtowns.

Except for the three underground stations with existing and on-going high-density projects in the surroundings, other stations are above ground, with many available sites of opportunities for TOD projects. The following strategies would enhance the feasibilities of Ben Thanh – Suoi Tien Metro Line and promote related TOD Projects:

- *Seek interdisciplinary cooperation to explore financial opportunities for the transit project and socio-economical opportunities to develop livable places*. The current project was

primarily controlled by the Department of Transportation, who practices little association with other departments (planning and architecture, construction, finance, environmental resources,…). As a result, there are currently no master plans or land use plans for the areas of influence, except for a recent urban design vision study that deal mostly with the aesthetics of the physical forms. For the area of influence, there are not yet practical tax policies and financial planning, to seek potential returns to pay back the debts from the increasing real estate land values, from TOD projects, and from other potential sources of income arisen from the development of the metro line. There is also no planning for developing new livable places at the major magnets, except for the existing CBD that is already livable and active.

- *Obtain adequate land at the initial development phase, including areas of influence and potential sites of opportunity, to build not just the metro project, but also TOD projects and linkages to them.* This will help to increase potential ridership volume, develop good planning and architecture projects along the metro line, and acquire financial gains from TOD projects actively to help paying back the debts to build the metro line. The current project area only has an average width of 20m, meaning that the authorities only work on the metro project, and overlook the potential to promote and direct TOD projects on the sites of opportunities. Finding capital for paying land compensation in early stages would not be a problem as some officials have worried about, because with the right policy, the strong potentiality of land values' increase during the development process will ensure potential profits that attract potential investors in Vietnam and abroad.

- *Prepare for simultaneous developments of interconnection between metro stations with other modes of transport and TOD projects located in the related areas of influence*. This is the first important goal of the interdisciplinary cooperation, mentioned above because metro system would not be effective without such interconnection and TOD projects (Phuong Thanh, 2011).

- *Prepare underground planning, especially for CBD areas, to connect the underground of future high-rise complexes and high-density TOD projects with underground metro stations.* As Ben Thanh will be the most important transit hub of Ho Chi Minh City, early underground planning will help manage very high volume of pedestrian flows in the future, to prevent possible "pedestrian jam" at ground level at peak hours in the future. Until today, there is not any underground planning for the CBD yet.

- *Encourage to simultaneously develop TOD magnets when Ben Thanh-Suoi Tien line is under construction.* To make Ben Thanh station a magnet, there is the need to plan a pedestrian network, including underground paths, sky pedestrian bridges, and sidewalk improvements that help to connect the station with existing and future complexes. The current facilities around Suoi Tien Station are not enough to make it a magnet, though there are currently a university campus, a theme park, and a future bus center in the surroundings. There should be new plans for construction of mixed-use high-rise complexes, including housing, shopping, and services, parking, … interconnecting with one another and with the transit station through a convenient pedestrian network. Moreover, Binh Duong also can strengthen a transit magnet at its City Center and develop TOD projects along a future extension transit line that connect with Suoi Tien and then with the CDB of Ho Chi Minh City (Ngo Viet, 2014).

- *Define early National Metro Standards for all metro projects* in Ho Chi Minh City, and perhaps, for metro projects in other Vietnam cities as well, to gradually prepare for the development of a transit industry in Vietnam in the future. This transit industry will support the operation and maintenance of the system locally. It is possible to take references of the metro standards and technology from the most important service providers (such as Japan), to adjust accordingly to make standards fitting with the particular conditions and transit goals of Vietnam. Centers of transit operation and maintenance could be developed as centers of

employment. Unfortunately, due to financial pressure, local government has currently accepted different foreign technologies for different metro lines, instead of applying only one set of metro standards for Vietnam that foreign contractors have to follow. In Ho Chi Minh City, current metro constructions, technologies, and financial supports are from Japan (for Line 1), from Germany & ADB & EIB (for Line 2), and from Spain & ADB (for Line 5). Those 3 lines have used 3 different types of metro standards. This implies long-term threat for very complex and costly operation and maintenance when the metro system is completed (Phuong Thanh, 2011).

- *Enhance the efficiency of bus service system as both extension and backup plans for metro service, and encourage TOD projects at key intersections of major bus lines*. Metro system could fail, and thus would greatly affect city economy when millions of riders do not have other choice of transit. Thus, besides the bus lines that transfer riders to metro stations, we also need to set bus lines running parallel with metro line as additional service in peak hours and backup plan in time of needs. We also need to revise the efficiency of the existing bus network and make plans to upgrade it, for a recent data from the People Committee of Ho Chi Minh shows that the bus system only serve 8% of mobility needs of city residents (Dinh Muoi and Mai Vong, 2014). Without a good bus and other public transport service, helping to transfer pedestrians from metro stations to various desired destinations of local residents, it is doubtful that the majority of city residents would leave their convenient motor bikes to use metro to commute everyday when the metro project is completed.

Existing and New Downtown Projects of Ho Chi Minh City

Ho Chi Minh City has had 300 years of development, but until the end of the 20th Century, most of constructions have been on the west bank of Saigon River. Since the 1990s, city authorities have planned to build a new downtown on Thu Thiem Peninsula, just across the Saigon River from the existing downtown.

In 2003, the East river bank's Thu Thiem New City Center Master Plan Proposal of Sasaki Associates (Sasaki Plan) was chosen in an international urban design competition. The Detailed 1/2000 Master Plan was approved in 2005 then was revised in 2012 by municipal government. Expected maximum height is about 150m and lower towards the river, except the height of an observation tower could be up to 260m.

In 2007, the West river bank's Existing Downtown & Extension Master Plan Proposal of Nikken Sekkei (Nikken Sekkei Plan) was selected in another international urban design competition. This 1/2000 master plan , approved in 2013, propose 5 strips of development on a site of 930 Ha, listing in the order from inland towards the Saigon River as follow: the villa strip (max height=100m), the cultural & historical strip (max height of 100m), the commercial& financial CDB (max height of 150m), the adjacent strip of the CBD (max height=150m), the west river strip (max height of 230m).

Despite the approved master plans for the city center on both sides of the river, the constructions seem not to go as planned. In 2011, when most of the land of 647 Ha has been acquired and cleared to be ready for construction, Thu Thiem had to pay about 200.000 USD per day, just for debt interests. However, until today, there have been only some important infrastructure projects in Thu Thiem, including a tunnel and a bridge. The Sasaki Plan has not been able to attract any important real estate projects to be built there.

On the West river bank, many high-rise buildings and complexes have continued to be constructed on the west-bank downtown, but the investors have usually seek permit to pass over the height limit, set by Nikken Sekkei Plan, or to construct illegally. It put very high pressure on existing downtown, where there have been overloaded infrastructure systems, traffic congestions at peak hours, and floods after heavy rain. Nikken Sekkei Plan also raises many concerns for traffic and environment issues

when promoting a future "wall" of high-rise towers along the Saigon River, with increasing height from inland towards the river.

The following strategies would enhance the feasibilities of Sasaki and Nikken Sekkei Plans and promote related TOD Projects:

- *View the planning of both existing and future city centers as a whole*, rather than as 2 separated projects, because there are strong mutual impact between them, so that planning visions should not be limited by district's administrative boundary. Thus, there should have been only one design competition for city center on both sides of the river, instead of two, to address these issues effectively. Better connectivity should be made, in terms of transportation, physical form, and activities, as we discuss below.
- *Make better physical connections and activities' continuation between Thu Thiem and the Existing Downtown to create new opportunities for TOD projects* (Ngo Viet, 2011b, 2012). Three most important types of connection that the city center should currently prioritize include: (1) Connections between the existing and new city center through Ton Duc Thang Bridge and Ham Nghi Bridge, especially for pedestrians and buses, are the most important connections. Ham Nghi Bridge is not on the current list of future bridges. However, it was planned by Wurster, Bernardi and Emmons (1972) as one of the most important connections between existing downtown and Thu Thiem, and is still valid today as a strategic connection. The pedestrian bridge, located between these two bridges, is simply a recreational connection, not a crucial connection to stimulate developments in Thu Thiem (Ngo Viet, 2011a; Phuong Thanh, 2011), so that it should be the last bridge to be built, to reserve capital for more important constructions; (2) Transit and road connection towards the direction of Suoi Tien - Bien Hoa – Binh Duong, because that would be one of the most important direction for urban expansion the future (thanks to the higher land level, good infrastructure, and future projects such as Long Thanh International Airport); (3) Transit and road connection to the other areas of Ho Chi Minh Metropolitan Area.
- *Create a continuous and transit-oriented high-rise core spreading over both sides of the river*. Electric shuttle buses running along the boundary of this core can fully serve pedestrians in the CBD core and connect to metro and regional bus centers on both West (Ben Thanh Center) and East sides (Thu Thiem Center). This will make the Eastern and Western high-density cores of the City Center to become most important magnets for the Transit system of the whole Ho Chi Minh City Metropolitan Area (**Figure 2)**.
- *Stimulate the first phase of construction in Thu Thiem with Ham Nghi Bridge and TOD projects nearby*, that link the heart of Thu Thiem new downtown with the heart of existing downtown (Ngo Viet, 2011b, 2012). This connection allows residents or employees in Thu Thiem to walk to existing downtown within 10-20 minutes, thus, ensure the attraction of potential buyers for new mixed-use developments. With the same strategies, those developments would later continue to stimulate the development of adjacent areas in a domino effect, until the whole Thu Thiem project is completed.

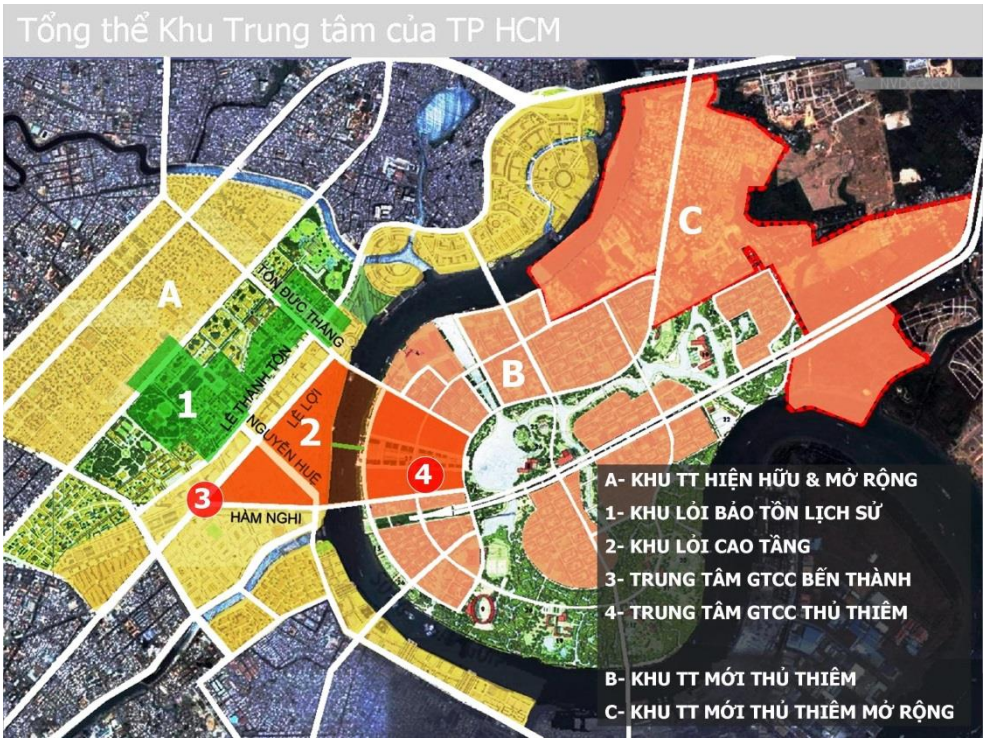

Figure 10 - Ho Chi Minh City Center (Source: Ngo Viet, 2013)

A-The existing downtown and expansion (West river bank)

B-Thu Thiem New Downtown (East river bank)

C-Extension area of Thu Thiem New Downtown

1-Historic District (proposed)

2-High-rise core on the West and East river bank (proposed)

3-Ben Thanh Transit Station

4-Thu Thiem Transit Station

Long Thanh and Tan Son Nhat International Airports Projects

Vietnam authorities have been planning to build a new international airport in Long Thanh, about 50km northeast from Ho Chi Minh City Center. The project seeks to make a future regional hub that can serve up to 100 millions passengers annually, and would compete with other hubs in Hong Kong, Singapore, and Thailand. The first phase, with a budget of 7.8 billion USD, is scheduled to start in 2017 and complete by 2023, to serve 25 millions passengers annually **(Figure 3).**

The existing Tan Son Nhat International Airport (TSNIA), with a current maximum capacity of 25 million passengers per annum, will maintain operations for domestic flights, even after the completion of Long Thanh International Airport (LTIA).

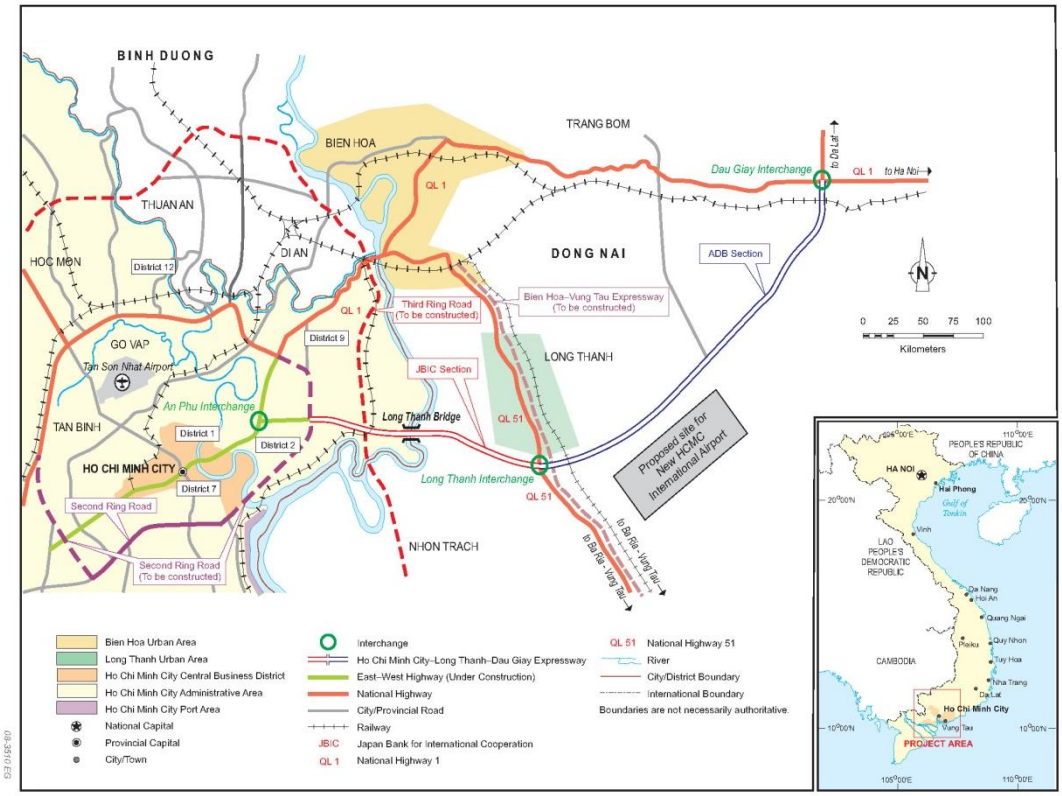

Figure 11 – Locations and connections between Long Thanh Airport, Tan Son Nhat Airport, and Ho Chi Minh CBD (Source: Asian Development Bank)

Even though the Airport Corporation of Vietnam (ACV) and Ministry of Transportation (MoT) urge the Central Government to quickly approve the first phase of construction, many concerns raised from an old case study report (Dapice and Nguyen, 2008) are still valid: (1) Unconvincing facts and calculations to support the need to build a new airport now, not based on actual needs, but on uncertain prediction of future service demands; (2) The lack of solid ground to ensure the primary goal that LTIA would feasibly become a regional hub after completion; (3) The possibility that congestion and adverse environment impacts from the development of LTIA would be very much higher than the existing TSNIA; (4) The lack of economic viability when future income would not be able to cover building, operating and maintaining costs.

The following strategies would enhance the feasibilities of Long Thanh International Airport and promote related TOD Projects:

- *Keep only one, rather than have both airports operating at the same time* as separated domestic and international airports, with 43 km apart. It is more feasible either (1) to expand TSNIA, or (2) to build LTIA then transfer the whole operations in TSNIA to the new airport, then change TSNIA into a new Mid-town TOD project that helps paying back the debt to develop LTIA (Dapice and Nguyen, 2008; Tuan Phung, 2013). It is advisable to start upgrading TSNIA to use it for the next decades, until it reaches its full capacity first. Then, whether we select to keep or not keep TSNIA, the infrastructure upgrade are still useful. It is also crucial to study the inefficient cases of keeping two close-by airports, such as in Montreal and in Manila, to review possible gains and loss of LTIA project.

- *Define the right timing and phasing to build LTIA based on scientific studies, not on subjective will.* Current experts' discussions mostly concentrate on the questions of whether we should build LTIA or not. Actually LTIA could be very valuable, if the real questions

could be answered convincingly: When is the right time to build it feasibly and effectively? And how? Without the right timing and good preparation, LTIA could become a heavy burden, instead of an important contribution to the progress of city economy.

- *Calculate and compare development scenarios, based not just on the capital needed to build or to upgrade an international airport, but to build all needed investments to make an airport becoming a hub.* To make LTIA a future hub, LTIA should not be considered as a single project, but as part of a bigger project—a future airport city. Total cost of building new or upgrading of an airport complex to similar capacity, on-site and off-site infrastructures, surrounding mixed use developments, and connecting transportation network (highway, metro or rapid transit, …) should be assessed to compare the financial efficiency and feasibility of projects, whether to upgrade TSNIA or to build a new airport (Tuan Phung, 2013). Thus, it's not true that the cost of constructing LTIA is cheaper than that of upgrading TSNIA, as ACV has argued. Without proper transport connection, supporting facilities, service providers, and communities of airport employees in the surroundings, a single airport alone would not work out. Moreover, in the vicinity of TSNIA, there are many illegal constructions on illegal lands that formerly belonged to TSNIA, so that they still do not have legal certificate of ownership, meaning that the cost of land compensation cost would not be as high as calculated.

- *Build first highway and transit connections with the CDB and other urban centers, as well as TOD projects in the areas of influence of the whole network linking to LTIA, then start LTIA construction when the right time comes.* It is safer not to build hastily to serve uncertain forecast of future passengers, but to willingly accept a short "inconvenient period" of over-capacity at TSNIA, so that we can start LTIA construction only after TSNIA nearly reach matured level. This could protect us from much greater losses, if we build then later find out that LTIA is not really needed and would never become a hub, as in similar situation of Mirabel Airport case in Montreal. During the "inconvenient period", selected domestic and international flights could be diverted to nearby airports, such as Can Tho International Airport, to reduce pressure. TOD projects in the vicinity of LTIA could be feasible with good highway and rapid transit connection to the CBD of Ho Chi Minh City, even when LTIA is not built yet.

Conclusion

In such a short paper, we could not fully review many aspects of the three case studies above, but only to argue the important roles of transit and transit oriented development, in responding to challenges and exploring opportunities of those projects. The findings could also be useful for Hanoi, and other cities in similar situations.

TOD projects would not only mutually enhance the feasibilities of transit projects, but also providing people with more choice of lifestyles and choice of transportation modes, making affordable developments, creating walkable and livable communities, and promoting green living and sustainable environment.

The fact that Vietnam has not had successful TOD projects implies great opportunities to learn selectively from international experiences, as well as to explore new ways of thinking and new solutions that would possibly contribute to the advancement of knowledge about TOD.

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Ho Chi Minh City Finance and Investment Corporation: An Efficient Model to Mobilize capital for Urban Development Projects

Công ty Đầu tư Tài chính nhà nước Thành phố Hồ Chí Minh – Mô hình doanh nghiệp nhà nước hiệu quả trong nền kinh tế thị trường định hướng Xã hội Chủ nghĩa tại Việt Nam

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Kính thưa quý vị đại biểu,

Chúng tôi xin tham gia hội thảo với báo cáo tham luận về ***Công ty Đầu tư tài chính Nhà nước Thành phố Hồ Chí Minh – Mô hình doanh nghiệp nhà nước hiệu quả trong nền kinh tế thị trường định hướng xã hội chủ nghĩa tại Việt Nam.***

Công ty Đầu tư tài chính Nhà nước Thành phố Hồ Chí Minh (HFIC), tiền thân là Quỹ Đầu tư phát triển đô thị thành phố (HIFU). HIFU là một thể chế đầu tư đặc được thiết kế để chính quyền thành phố HồChí Minh có một định chế tài chính công phục vụ cho mục tiêu phát triển cơ sở hạ tầng. HIFU có địa vị pháp lý của một tổ chức tài chính nhà nước trực thuộc Ủy ban nhân thành phố, có vốn điều lệ và bảng cân đối tài sản độc lập. Nhiệm vụ của HIFU là huy động vốn trung và dài hạn từ các tổ chức và cá nhân trong và ngoài nước để tiến hành đầu tư vốn; tiến hành cho vay đầu tư, góp vốn thành lập các doanh nghiệp về phát triển hạ tầng kinh tế xã hội; HIFU cũng được giao nhiệm vụ nhận ủy thác quản lý vốn từ Ngân sách thành phố và thực hiện nghiệp vụ phát hành trái phiếu chính quyền địa phương.

Thời gian qua, Quỹ Đầu tư phát triển đô thị thành phố (hiện nay là Công ty Đầu tư tài chính Nhà nước Thành phố Hồ Chí Minh - HFIC) thực hiện vai trò huy động, định hướng cho dòng vốn của các tổ chức tài chính, các doanh nghiệp thuộc mọi thành phần kinh tế trong và ngoài nước tham gia đầu tư xây dựng cơ sở hạ tầng kỹ thuật và hạ tầng xã hội đóng góp một phần cho sự phát triển kinh tế xã hội của thành phố.

1. Về quá trình hình thành Quỹ Đầu tư phát triển đô thị (HIFU) và bước chuyển đổi thành Công ty Đầu tư Tài chính Nhà nước thành phố Hồ Chí Minh (HFIC)

Thành phố Hồ Chí Minh là một trung tâm kinh tế, chính trị, văn hóa, khoa học lớn của cả nước, là đầu mối giao lưu quốc tế của khu vực phía Nam, là cửa ngõ giao thông quan trọng, nơi hội tụ các tuyến đường bộ, đường sắt, đường thủy và cả đường hàng không, nối Thành phố Hồ Chí Minh với các tỉnh, thành trong nước và nhiều quốc gia trên thế giới; từ nhiều năm qua, hạ tầng kỹ thuật và kể cả hạ tầng xã hội của Thành phố không chỉ phục vụ cho nhân dân Thành phố mà còn đảm nhiệm vai trò phục vụ cho một bộ phận nhân dân các tỉnh thành lân cận. Chính vì thế, trong nhiều năm qua, mặc dù Thành phố đã có rất nhiều nỗ lực, tìm mọi phương thức huy động các nguồn vốn cho đầu tư phát triển, nhưng vẫn không thể đáp ứng yêu cầu phát triển kinh tế và cải thiện dân sinh, dẫn đến tình trạng hạ tầng kỹ thuật đô thị ngày càng xuống cấp và quá tải, đặc biệt là tình trạng kẹt xe, ngập nước, ô nhiễm môi trường… ngày càng trầm trọng.

Về cơ chế huy động các nguồn tài chính cho đầu tư phát triển, thành phố được phép huy động vốn cho đầu tư phát triển với mức tổng dư nợ các nguồn vốn huy động cho đầu tư dự án, công trình thuộc nhiệm vụ đầu tư từ ngân sách thành phố không vượt quá 100% tổng mức vốn đầu tư xây dựng cơ bản (tỷ lệ 1/1) của ngân sách thành phố được bố trí hàng năm và một trong những nguồn vốn bổ sung chính là nguồn phát hành trái phiếu đô thị. Tuy vậy, chỉ với nguồn thu được chia theo tỷ lệ của ngân sách địa phương và nguồn phát hành trái phiếu đô thị không thể đảm bảo đủ vốn cho đầu tư phát triển hạ tầng kỹ thuật - xã hội và một số ngành công nghiệp mũi nhọn của thành phố.

Được sự quan tâm, hỗ trợ của Thủ tướng Chính phủ và các Bộ ngành Trung ương, Quỹ Đầu tư phát triển đô thị thành phố (sau đây gọi tắt là HIFU) đã được thành lập theo Quyết định số 644/TTg ngày 10 tháng 9 năm 1996 của Thủ tướng Chính phủ. Với chức năng chủ yếu là huy động vốn trung, dài hạn trong và ngoài nước; đầu tư các công trình, dự án thuộc các chương trình mục tiêu theo chiến lược phát triển kinh tế - xã hội của thành phố; tham gia các hoạt động trên thị trường vốn; tiếp nhận và quản lý các nguồn vốn ủy thác từ ngân sách nhà nước, các tổ chức và cung cấp dịch vụ tư vấn đầu tư cho doanh nghiệp, HIFU đã trở thành một công cụ huy động vốn hiệu quả cho thành phố, bổ sung phần nào sự thiếu hụt nói trên.

Qua 11 năm hoạt động, có thể nói Quỹ Đầu tư đã thực hiện tốt vai trò là một công cụ tài chính hữu ích của chính quyền địa phương trong việc thúc phát triển kết cấu hạ tầng kỹ thuật đô thị, bước đầu xác lập chiến lược đầu tư vào kết cấu hạ tầng. Tuy nhiên, khuôn khổ hoạt động của HIFU cũng chưa đáp ứng kịp yêu cầu đầu tư phát triển của thành phố. Đặc biệt là sau khi nước ta trở thành thành viên chính thức của WTO, thành phố cần có một tổ chức tài chính đủ mạnh để huy động vốn xã hội, trong nước và nước ngoài để chia sẻ trách nhiệm cùng với Trung ương trong lĩnh vực đầu tư phát triển kết cấu hạ tầng kỹ thuật đô thị, hạ tầng xã hội và các lĩnh vực kinh tế thiết yếu trên địa bàn, đáp ứng nhu cầu của nhân dân thành phố. Do đó, Ủy ban nhân dân thành phố đã cùng Bộ Tài chính kiến nghị Thủ tướng Chính phủ cho phép thành lập Công ty Đầu tư Tài chính nhà nước thành phố Hồ Chí Minh trên cơ sở tổ chức lại HIFU.

Đến ngày 02/02/2010 Công ty Đầu tư Tài chính nhà nước Thành phố Hồ Chí Minh (HFIC) được thành lập theo Quyết định số 576/QĐ-UBND của Ủy ban nhân dân thành phố, hoạt động theo mô hình Công ty TNHH một thành viên do Nhà nước làm chủ sở hữu 100% vốn, được tổ chức theo mô hình công ty mẹ - công ty con. Việc chuyển đổi mô hình hoạt động từ Quỹ Đầu tư phát triển đô thị sang Công ty Đầu tư Tài chính là bước chuyển cả về chất lẫn về lượng. Ngoài việc thực hiện thực hiện chức năng huy động vốn và đầu tư phát triển kết cấu hạ tầng đô thị và các lĩnh vực kinh tế thiết yếu, HFIC còn được giao thí điểm chức năng đại diện chủ sở hữu vốn nhà nước tại các doanh nghiệp trên địa bàn nhằm đáp ứng nhu cầu hội nhập kinh tế quốc tế.

2. Kết quả hoạt động

Từ nguồn vốn ban đầu được ngân sách thành phố cấp là 200 tỷ đồng, Công ty đã tổ chức hợp vốn với 16 tổ chức tài chính; tham gia cho vay khoảng 299 dự án thuộc nhiều chương trình khác nhau với tổng giá trị giải ngân lên đến 10.160,2 tỷ đồng. Trong đó, HFIC đã tài trợ cho 212 dự án chiếm 46,2% tổng số dự án hạ tầng kỹ thuật và hạ tầng xã hội theo kế hoạch, chương trình của thành phố trong giai đoạn 2000-2013. Nhìn chung HFIC đã tham gia đầu tư gần như đầy đủ các lĩnh vực trọng yếu của Thành phố; riêng lĩnh vực y tế, giáo dục HFIC đã tham gia 75,6% số lượng dự án từ các lĩnh vực này (149/197 dự án) trên địa bàn Thành phố trong thời gian qua (Không kể các dự án đầu tư từ nguồn ngân sách cấp). Ngoài ra, đơn vị còn được Ủy Ban nhân thành phố giao nhiệm vụ tổ chức phát hành thành công 7 đợt trái phiếu đô thị giá trị 17.850 tỷ đồng.

- HFIC là tổ chức tài chính công huy động được nguồn vốn từ các tổ chức nước ngoài như: Ngân hàng Thế giới với dự án HDP có số vốn giải ngân 50 triệu USD, dự án LDIF đang trong quá trình chuẩn bị giải ngân trước mắt ước tính 20 triệu USD; Cơ quan phát triển Pháp (AFD) với hạn mức tín dụng 1 # 30 triệu EUR, hạn mức tín dụng 2 # 20 triệu EUR;... ngoài ra HFIC hiện đang tiếp cận và đàm phán với Ngân hàng Tái thiết Đức (KWf), Ngân hàng hợp tác quốc tế Nhật Bản (JBIC), Ngân hàng phát triển châu Á (ADB).

- HFIC đẩy mạnh tham gia công tác đầu tư cải tạo bảo vệ môi trường, ứng phó biến đổi khí hậu thông việc tài trợ, thu xếp nguồn vốn đầu tư vào hệ thống xử lý môi trường, xử lý chất thải, hệ thống đê điều, bờ bao chống ngập... theo đúng chương trình hành động nhằm giảm ô nhiễm môi trường, chương trình giảm ngập nước;

- HFIC là đơn vị được Ủy ban nhân dân thành phố giao và đã thực hiện đầu tư các công trình hạ tầng giao thông, đặc biệt là công tác phát triển phương tiện giao thông công cộng nhằm thực hiện chương trình giảm ùn tắc giao thông trên địa bàn thành phố.

- Kết quả hoạt động của HFIC (sau khi chuyển đổi mô hình) đều tốt hơn so với giai đoạn 04 năm cuối của thời kỳ HIFU. Cụ thể: chỉ tiêu doanh thu tăng 132,6% (từ 1.079,78 tỷ đồng lên 2.511,7 tỷ đồng); lợi nhuận trước thuế tăng hơn 135,7% (từ 713,2 tỷ đồng lên 1.680,78 tỷ đồng); nộp ngân sách tăng 174,7% (từ 104,72 tỷ đồng lên 287,63 tỷ đồng); giá trị vốn điều lệ và vốn chủ sở hữu giai đoạn HFIC cũng tăng hơn so với giai đoạn HIFU, đặc biệt là sau khi tiếp nhận 05 doanh nghiệp thành viên cuối năm 2012.

3. Những đóng cho cơ sở lý luận từ mô hình HFIC

Chủ trương thành lập Quỹ Đầu tư phát triển đô thị của Thành phố Hồ Chí Minh (nay là Công ty Đầu tư Tài chính nhà nước Thành phố Hồ Chí Minh) vào năm 1997 mang tính đột phá trong thể chế kinh tế; Mô hình này là mô hình thí điểm duy nhất lúc bấy giờ của cả nước nhằm huy động vốn để đầu tư cho địa phương. Từ đây, việc đầu tư cơ sở hạ tầng kỹ thuật, hạ tầng xã hội không còn phụ thuộc vào nguồn vốn (hết sức eo hẹp) của ngân sách thành phố. HIFU chủ động lập dự án đầu tư, phương án thành lập doanh nghiệp dự án mời gọi các tổ chức kinh tế trong và ngoài nước thuộc mọi thành phần kinh tế cùng góp vốn tham gia đầu tư hoặc huy động vốn thông qua kênh thị trường chứng khoán.

Từ thực tiễn này đã đóng góp về mặt lý luận như sau:

- Doanh nghiệp nhà nước được các tổ chức tài chính quốc tế tín nhiệm đầu tư vốn để thực hiện các dự án chứng tỏ rằng hoạt động đầu tư có hiệu quả trong điều kiện cạnh tranh bình đẳng của thị trường. Dòng vốn nước ngoài đổ vào Việt Nam để đầu tư cho các dự án hạ tầng kỹ thuật và hạ tầng xã hội theo đúng chiến lược –kế hoạch của thành phố. Phục vụ trực tiếp cho cho mục tiêu phát triển kinh tế xã hội của địa phương, nâng cao phúc lợi cho người dân. Đây chính là mục tiêu định hướng chủ nghĩa xã hội mà doanh nghiệp nhà nước thực hiện vai dẫn dắt dòng vốn nước ngoài đầu tư vào Việt Nam.

- Không giống như các doanh nghiệp nhà nước khác, ngoài mục tiêu lợi nhuận, các hoạt động kinh doanh của HFIC phải hướng đến đầu tư phát triển hạ tầng kỹ thuật, hạ tầng xã hội của thành phố. Không chỉ riêng HFIC, các doanh nghiệp thuộc các thành phần kinh tế khác khi được mời gọi tham gia đầu tư cùng HFIC phải hướng đến mục tiêu này. Qua từng dự án đầu tư của HFIC và các doanh nghiệp cùng đầu tư thì thành phố có thêm các công trình : Trường học, bệnh viện chất lượng cao, điều kiện giao thông, môi trường được cải thiện… Không chỉ người dân thành phố mà người dân các tỉnh cũng được hưởng điều kiện tốt hơn về phúc lợi và an sinh xã hội.

- Về hiệu quả sử dụng vốn, khi thực hiện vai trò "vốn mồi" thì số liệu thống kê cho thấy một đồng vốn của HFIC đã thu hút được 53 đồng vốn của xã hội tham gia đầu tư theo định hướng chung của thành phố.

- Khi giao HFIC thực hiện thí điểm chức năng đại diện chủ sở hữu vốn nhà nước, Ủy ban nhân dân thành phố đã có chủ trương chuyển giao doanh nghiệp nhà nước về HFIC. Chủ trương này, đã khắc phục tình trạng phân tán và sử dụng vốn kém hiệu quả nguồn vốn nhà nước tại các doanh nghiệp. Hơn thế nữa, khi tập trung quản lý về một đầu mối sẽ nâng tầm HFIC, tập trung nguồn lực đầu tư vào các chương trình dự án trọng điểm của thành phố. Thông qua việc chuyển giao các doanh nghiệp thuộc thành phố về HFIC, Thành phố tiếp tục thực hiện chủ trương phân định rõ chức năng

quản lý hành chính kinh tế của nhà nước và quản lý sản xuất kinh doanh của doanh nghiệp phù hợp với xu thế hội nhập kinh tế toàn cầu.

- Xét về mặt quản trị doanh nghiệp, mô hình HFIC khác với mô hình tập đoàn. Với mô hình tập đoàn, doanh nghiệp nhà nước đầu tư đa lãnh vực , đa ngành nghề. Ngược lại với mô hình HFIC, HFIC tập trung vốn từ các doanh nghiệp nhà nước nhiều lãnh vực, ngành nghề khác nhau để đầu tư theo định hướng phát triển chung của thành phố.

Tóm lại, từ sự năng động sáng tạo của Chính quyền thành phố, mô hình HFIC ra đời đã và đang chứng minh tính đúng đắn và hiệu quả trong việc vận dụng chủ trương đường lối Đảng ta vào thực tiễn cuộc sống. Bài học trên đây đã chứng minh doanh nghiệp nhà nước có vai trò chủ đạo trong nền kinh tế thị trường định hướng xã hội chủ nghĩa. Hay nói khác đi chỉ có doanh nghiệp nhà nước mới thật sự là công cụ để Đảng và Nhà nước điều tiết nền kinh tế thị trường theo định hướng xã hội chủ nghĩa.

Xin trân trọng cảm ơn sự chú ý lắng nghe của Quý vị. Chúc Hội thảo thành công tốt đẹp!

The Private Finance of Public Infrastructure : Indonesia PPP Outlook[1]

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Abstract. Based on various motives, governments all over the world are looking increasingly to attract private finance to bridge public infrastructure gaps. It is believed that involving private finance will accelerate infrastructure provision, ease fiscal constraint, spur economic growth and reduce poverty gap. In Indonesia, bilateral and multilateral supports for PPP infrastructure development are continuously flowing, however, the progress is very slow and when the project lists were brought to market, transaction is very seldom occurred. Despite past negative experiences, the Government of Indonesia continuously streamlines and develops national PPP policy, guidelines and recently established financial institutions to further support and guarantee private financing in infrastructure development. In the absence of championship and policy direction from the top level, maintaining project governance and management is simply impossible. Participation and partnership will be fruitful if there is strong political leadership, robust and transparent assessment procedure, aided by expertise and entrepreneurial bureaucrats. The purpose of this paper is to provide a brief review on private sector participation in public infrastructure development, to see the PPP market outlook and opportunities and to highlight obstacles that should have been tackled in order to accelerate its implementation. Final sections set out policy recommendations.

Keywords: *private finance, private finance initiative, public private partnership, value for money, public sector comparator, risks assessment*

1 Introduction

Since the 1997 Asian financial crisis Indonesia investment in infrastructure has now returned to the level of 3.2% of GDP. The recent positive and strong economic growth, though much been contributed by consumptions, nevertheless if continued, Indonesia is forecast to have the world's seventh largest economy by 2030, surpassing the UK and Germany according to a report by McKinsey Global Institute [1] and even the fourth largest in 2040 according to a Citibank report, trailing only China, India and the United States. If the 2014 election goes smoothly and if the backlog in many public infrastructures (brownfield and greenfield) were delivered timely, keeping pace with the recent continued population growth and increasing urbanization, Indonesia economy may even reach one of the top countries earlier in the quarter century.

Role of private finance is indeed very crucial to pursue the above-mentioned economic forecast, which has long been a very fashionable concept in infrastructure discourse in Indonesia. Starting from the Washington Consensus that advocates deregulation, trade liberalization and privatization, in 1991 the World Bank began offering loan TAP4I (Technical Assistance Project for Public & Private

[1] Forthcoming in ITB Journal, Eds. 2014

Provision of Infrastructure) to the Government of Indonesia, then this continues with PPITA (Private Provision of Infrastructure Technical Assistance), CIDA, JICA and recently IRSDP (Infrastructure Reform Sector Development Project) through the ADB loan. Total financing of hundreds of millions of dollars has been absorbed; the results are yet to be seen as executions were always hampered by various incomplete procedures and unpreparedness.

However, it is still strongly believed that involving private finance will accelerate infrastructure provision, ease fiscal constraint and spur economic growth. Having hit twice by financial crisis in 1998 and 2008, the infrastructure investment has not recovered to pre-crisis levels, though the nominal has been increasing up to 3.2% GDP[2].

The purpose of this paper is to provide a brief account on worldwide policy trend in managing private sector participation in infrastructure development, specifically for Indonesia is to see the PPP market outlook and opportunities and to highlight obstacles that should have been tackled to accelerate its implementation. Finally, for more sustainable PPPs development in Indonesia, the future roadmap will be outlined.

2 PFI , PPP and the Prerequisite

Although the recent infrastructure laws intended to end public monopolies and open the infrastructure market to private entities, only certain market such as telecommunication grew rather rapidly, then power, waters and toll roads seems to develop rather slowly, while other sectors such as ports, airports and railways are even slower.

Revision of the 2010 Presidential Regulation on Negative Investment List is in progress, the amount of foreign ownership or share in infrastructures are planned to be more open in the future, including: the management and operation of ports, airports, land terminals and dry-docks.

Having revised Presidential Decree No. 67/2005 on PPPs twice (Presidential Decrees No. 13/2010 and No. 56/2011, respectively), regulating competitive tender as mandated by this decree remains political and draws controversy. Placing contestability first and foremost often delays and jeopardizes project delivery. Frequently, a number of PPP pre-qualification and tenders were repeated, because private parties' responses underwhelmed, or rather the information given in the "info memo" was unclear due to poor project preparation. None of "ready-to-offer" projects then come to a closing. If so further implementations always hampered, due to land acquisition, or licensing disputes between authority and subnational (local) government. Finally because of delay, the cost to realize the project continues to swell.

The recent 2025 Master Plan for the Acceleration and Expansion of Indonesia's Economic Development (MP3EI) and the upcoming Five Year Development Plan (RPJMN-III 2015-2019) are heavily relies on private finance sources. From a recent RPJMN-III round table discussion it is estimated that government budget can only cover around 30% of US$ 489 billions total funding needs, the amount of which more than double the previous RPJMN-II 2009-2014. Another 30% estimated expected to be covered by the state-owned enterprises (SOEs) funds. Therefore, at least 40% funding gap expected to be contained by private finance, PPP or any other creative financing scheme. As past achievement on PPPs closing was meager, of course, these will pose issue of realism also challenges to all of infrastructure players in the country.
Based on payment or revenue stream, private finance of public infrastructure can be categorized in two types. First is the Private Finance Initiative (PFI), based on availability-based payment, private developers or service providers receive a unitary (annuity) charge from the government to recover the capital investment. In PFI private sectors take most of the risks, while public sector only takes

[2] Rate of 4 to 5% GDP is regarded as moderate. In comparison to India and China, infrastructure financing is on the range of 7 to 9 % GDP.

demand risk. In UK, PFIs were getting momentums since the early 1990s, peaked in 2006 and start to decline in 2008 then was moribund in 2010. This is partly due to difficulties in raising finance during the 2008 crisis but mainly proof of value for money (VfM) become tighter, also the on-balance sheet asset requirement was reinforced with the adoption of IFRS in 2009, see Winch [2]. Being regarded as leading PPP market and implementer, a thorough review that relied more on evidence and submissions from a broad range of stakeholders are now under investigation in UK. Private Finance Initiative (PFI) has been challenged as providing government's giant credit card to the private entities. Having published "A New Approach to Public-Private Partnerships" HM Treasury [3], son of PFI (dubbed PF2) has recently been introduced. PF2 aims to reinvigorate the infrastructure sector while addressing criticisms on the ground that the previous scheme (PFI) did not deliver value for money in some projects, it involved a slow and expensive procurement process and employed insufficiently flexible contracts. This forward-looking PPP undertaking will most likely provide inspiration for other PPP units around the world in the coming years.

Performance Based Annuity Scheme (PBAS), comparable to PFI, is being envisaged to be adapted in Indonesia PPP. Basically it is similar to a regular Build Transfer Operate (BTO) but the concessionaire periodically earns sum of money from the government. The payment could be annually or semi-annually, given a requirement that the concessionaire delivers the complete asset and subject to random performance (operation and maintenance) check during the concession period. PBAS is potential to be enhanced to cover the social infrastructures such as hospitals, schools, universities and government building complex, the scope of which are urgent to be included too in the future PPP market.

Secondly, the PPP is a business relationship between a private-sector company and a government (public) agency for the purpose of completing a project that will serve the public. It is a method for enabling appropriate intervention by the government so as to ensure that private enterprises are able to earn reasonable returns through user pay principle, albeit leaving most risks are borne by private sector including the demand risk. The premise in PPP is that it must deliver value for money (efficiency gains) both for the public and the investor; risk transfer must be adequate also revenue and cost must be accurately identified and quantified. Figure 1 illustrates the value for money (VfM) concept, where PPP is less costly than that of public sector comparator (PSC) of traditional procurement, mainly due to innovation and transferable risk.

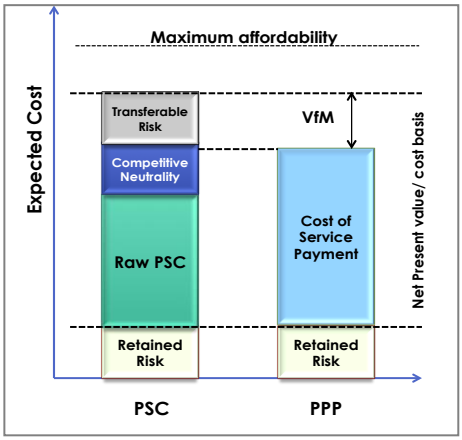

Figure 1 Value for Money

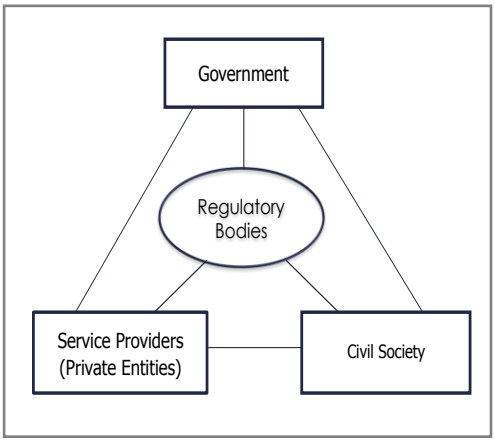

Figure 2 PPP Prerequisite

Having accounted the competitive neutrality[3] on public sector enterprises, VfM consists of a combination of cost savings, efficiency gains and risk transfer. Competitive neutrality does not apply

[3] Competitive neutrality is about ensuring fair competition in PPP market. For example, the presence of State-

to non-business, non-profit activities of government. PPP projects involve private funding and in terms of structure and viability, they need to be acceptable to financiers and debt holders. Apart from this, the financial strength of the operators is also critical as much of the risk during asset development stage rest with them.

The bottom line is, VfM can be accomplished only when a PPP delivers high-quality services at a lower cost than the government (PSC) could provide. Nevertheless, all too often governments pursue PPPs for reasons other than efficiency gains. Efficiency gains as the basic argument in PPP application seems to be much less important in the emerging countries like Indonesia. Therefore priority to seek private capital, in some cases, is pursued whatever the cost borne to the customers.

By tradition most public infrastructures were delivered solely by government funded fully by public money or tax, and then service providers such as contractors were selected through competitive tender[4], see Figure 2. In contrast to fully public funding, Public-Private Partnership will demand a very unique environment: good public and corporate governance, accountability and transparency. Ideally (independent) regulatory bodies are required to balance the interests of the stakeholders. To ensure good quality PPP is delivered to the public, the prerequisites include: clean government, private entities or providers are capable and professional, civil society mature and finally the PPP market to some degree are already competitive.

Indonesia PPP market is not yet contestable, because innovation and efficiency are rare. It was often found that qualified bidders are lacking and competition is simply not in place. Such factual economic environement then pose a very fundamental question: whether private finance of public infrastructure can still demonstrate value for money compared to the public sector procurement? Furthermore, the use of PPPs raises very complex issues and choices, while solutions are often case-by-case and project specific, as stated in Lubis [4].

Within the current regulation, unsolicited proposal from private sectors may also be submitted to the government so long it is fully funded by the initiator. However, the object of concern must not be listed in the PPP book or any other master plan, and private sector should bear all the burdens of development costs, capital investment also all risks associated with the project. To the best of our knowledge only toll road in Bali, which was opened to public last year, was successful in this regards. Many unsolicited proposals like the monorails plan in some cities, the progress has not been seen, in fact very unlikely, as evidenced by the prolonged delay in the completion of the monorail in Jakarta.

3 Ambiguity in Legal and Institutional Set Up

At least there are three institutional issues to be resolved in the future. Firstly, the current PPP procedure which is governed by Presidential Regulation number 56/2011 is no longer convincing, therefore needs to be upgraded. To ensure consistency in PPP policy and to convince the potential private partners, it is desirable to upgrade the hierarchy up to a Law or Act level. An ad-hoc arrangement such as the memorandums of understanding (MoU) on facility coordination and PPP acceleration in infrastructure issued two years ago amongst the Finance Ministry, the National Development Planning Board (Bappenas) and the Investment Coordinating Board (BKPM), as the taste of the pudding is in the eating, in reality such inter-agency coordination was easily drafted than done. Cycle of PPP projects from planning to operation and until the assets are handed back to the state may effectively exceeds the period of one or two governments or presidential office terms.

owned enterprises (SOEs) vis-à-vis pure private enterprises in a PPP bidding, they do not always compete on equal terms. It is the goal of competitive neutrality policy to offset the inequalities where appropriate. The inequalities of concern may arise from differences in tax treatment, differences in the need to provide a return on investment, etc. State Government of Victoria, Australia, for example, establishes Victorian Competitive and Efficiency Committee (VCEC) to oversee this issue.

[4] Worth noting that during Dutch colonization, Indonesia railways asset were built by private finance, then they were nationalized soon after the independence.

Neighboring countries such as the Philippines and Thailand continue to improve the legal and institutional framework of their PPP undertaking. Malaysia is far ahead in front other ASEAN countries. Consequently, this is a very tough job for the upcoming new government to accomplish, because there are a lot of overlapping legal and regulations that need to be amended.

Secondly is related to a function of regulatory bodies. Formerly, the roles of government Ministries or Directorate Generals are responsible for all kind of regulatory functions. But according to the new infrastructure laws, for examples, the Toll Road Regulatory Body (BPJT) and Port Authority although they are not acting as independent regulatory bodies, they do act as an economic regulator and contracting agency or landlord in their respective sectors. However, in rail sector neither economic regulator nor asset manager is mentioned in the railway law. In the absence of (independent) regulatory agency, two essential regulatory tasks – price control for (natural) monopoly and safeguarding competitive climate – are difficult to be fairly imposed to all service providers. Urgently, for PPPs to be effective, ownership of state-owned assets need to be settled and recorded accordingly either on the GCA's balance sheet or asset manager's or SOEs'.

Sometimes, when a project is dropped from the list of PPP tender, justifications are often weak and inherently political. A direct appointment to SOEs or private entities through Presidential Decree, such as Port Kalibaru was viewed as against the market-oriented policies as mandated in the infrastructure laws. The competitive neutrality policy is not yet known in Indonesia PPP. The role and involvement of SOEs in PPP tenders varies across sectors. In electricity, for example, PT PLN played a role as government contracting agency (GCA) in the recent Central Java power plant tender. Other SOEs, such as the Toll-Road Corporation (PT Jasa Marga) and Railway Corporation (PT Kereta Api) are positioned purely as service provider i.e. operational functions. In the recent Port Kalibaru development, IPC (PT Pelindo II) functions as a landlord, in in which busines-to-business dealt with other private entities are directly managed by IPC -- future port development deals should have not been like this. In the future role of Port Authority and SOEs (Pelindo) should be re-organized so as to follow mandate stated in the Law no. 17 /2008 on Shipping.

To date, the position of public institutions as regulatory (Safety, Health, Environment) and reposition of landlord or GCA as (independent) economic regulators are yet to be settled. Likewise, SOEs function solely as service providers as mandated by infrastructure laws need to be settled too. In case a vertical restructuring of the business is envisaged, such as in rail sector, asset ownership and management issues all need to be clarified prior to formation of a new asset and partnership.

Finally is related to the functions of PPP agency in providing centralized knowledge and a process for approving and implementing large-scale PPP programs. Now, the PPP Center is attached to Central Planning Agency (Bappenas) and is under developing. The recent ambivalence whether to go for public spending, PPP funding and or SOE funding as witnessed repeatedly needs to be ended by establishing a dedicated PPP Center, professionally run and separated from routine administration. The PPP Center conducts a proper value assessment during the PPP preparatory stage prior to tendering stage. The center should conduct the PPP cycle in transparent, competitive and equitable manner to reach the right and best price of infrastructure services to the communities. The Center is best placed directly under the office of the President, alternatively it may be placed closer to the office of the Ministry of Finance, where fiscal policies are taken care of. In the PPP Center experts are pooled, at the same time the PPP nodes in the ministries and sub-national governments can access them and ask for advice.

4 Developing Value Assessment Method

As part of developing a standardized PPP value assessment amongst ASEAN countries, Lubis & Majid [5] proposed a complete framework that can be adapted depending on the PPP maturity level in particular country. The flow of project preparation up to the tendering stage are basically managed under two phases of decision i.e. decision to invest and choice of procurement. For non-PFI (PPP) projects, it is recommended that subsequent to evaluation on absolute affordability and financial

sustainability and is subjected to Cost-Benefit Analysis (CBA). This is for a simple reason that the projects have implications on larger audience. There are clear benefits and costs to the society at large.

For PFI projects, they are actually an extension of services purchased by the Government in the normal course of business. Instead of those services being procured or generated internally, private companies now provide them. Examples of these include school, hospital, prison and administrative complex. Hence, what really matter for these projects is the affordability of the Government to bear the financial commitment and whether PPP can give VfM. This is why having satisfied absolute affordability test it will continue directly to relative affordability test, which is the choice of procurement options.

The recommended assessment was not for immediate implementation, howerever, the proposed framework can be used as a guidance to plan a further PPP work program to develop the required list of supporting information and skill requirement, especially within the Government's PPP unit, refer to Lubis & Majid [5] for more detailed explanation.

5 Conclusion and Recommendation

Having managed private finance for public infrastructure for more than twenty years with all positive and negative experience, it is expected that in the upcoming new term of government all remaining regulatory, institutional and inter-agency difficulties can be resolved to speed up PPP/PFI project implementation. The role of central government nevertheless is very crucial to carry on completing and enforcing governance and international best practice. The missing link between the huge demand of private finance for public infrastructure and the availability of capital in the market are blocked by improper value assessment start from the very beginning of PPP/PFI projects preparation, more specifically due to unsatisfying assessment on risk-reward ratio to investors.

In contrast to traditional procurement, PPP scheme demand a totally different set of mind, therefore all PPP cycle activities from planning, preparation, tender and closing should be managed exclusively in a PPP center of excellence directly under presidential office and out of the existing routine line ministries. The center should conduct the PPP process in transparent, competitive and equitable manner to reach the right and best price of infrastructure services to the communities. The existing PPP Center is now attached to Central Planning Agency (Bappenas) and is now under developing. To be strong and productive, a pool of permanent experts and supporting consultants should back up the unit. The center and its experts should also be accessible to subnational governments. The competitive neutrality policy should eventually be introduced when competitive environment and the PPP market are getting mature.

Until now social infrastructure such as hospital and medical care equipment, schools or campus and the facilities, and government offices all have not been included in the PPP scope. These types of infrastructures, particularly health services and medical equipment are urgently needed by the mass population below the middle income class, and are suitably financed through availability payments (PBAS) with or without user charges. Finally, as cycle of PPP projects from planning to operation, and to end of life may last beyond administrative and presidential office terms, in a longer run Indonesia would need a PPP Law.

As for universities and academic communities, challenges in PPP implementation require them to develop the core competence in infrastructure planning and management, also in legal and finance. The competitive neutrality policy should eventually be introduced when competitive environment and the PPP market are getting mature. Moreover, the faculties need to work inter-disciplinary in conducting research on this challenging issue in order to accumulate empirical knowledge of certain elements in the PPP project management, and offer courses and trainings to help disseminate them nation-wide.

6 Acknowledgements

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Financing Successful Cities: Public or Special Interests?

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Older development economists will remember the idea of "urban bias" promulgated by Professors Lipton and Bates as it applied in developing nations – the tendency for national governments to spend excessive amounts in and around the capital or major cities and ignore other places, particularly rural areas. The reason was that political power was mainly in urban areas, so political power led to wasteful and excessive spending in urban areas to the economically inefficient detriment of other places.

As over half of the world has become urban, a contrary idea has also appeared. If most new jobs, economic growth and investment took place in cities, was there sufficient attention and infrastructure allocated to them? Especially in countries where political power was more widely distributed than increasingly concentrated population, it was sometimes observed that cities became cash cows for rural or minor urban regions which received more investment and government transfers than they really needed. In other words, economic rationality would have indicated *more* investment in growing urban areas than was actually observed. Japan is perhaps an obvious case of this, though Indonesia with its county level concentration of natural resource income might be another.

If we leave the analysis at these opposing views, there is a simple choice to be made: is the system over-indulging the major cities or the rural areas? However, reality is often more nuanced than simple academic dichotomies. What we often observe is something different from either idea.

What is happening in many urban areas is due to their (lack of suitable) sources of financing. Because they avoid taxing urban property at even a modest fraction of its worth (say ½ of 1% of market value), they lack any significant source of revenues except land rental and sales. This gives the authorities a compelling reason to push up the price of land so they can maximize revenues. Land speculation is also a primary way to accumulate wealth for both well connected business people and government officials. The implications of high land prices for urban development patterns are substantial.

High land prices make it attractive to build tall buildings that maximize usable rental or living space relative to their footprint on the ground. This is only a tendency – it gets very expensive to build very tall buildings and high speed elevators are not cheap.[1] Even so, building thirty or fifty story buildings is feasible and often attractive economically. This creates tremendous traffic around these buildings as people go or come to work, take their children to school, or go shopping. The result is extensive congestion and pollution. The solution is to provide high density mass transit (or move residences closer to work, school and shopping), but this requires more resources than the city can easily afford due to its limited tax base. Mass transit seldom can recover all costs from ticket sales. The result is an extended period of severely sub-optimal urban growth, such as Bangkok experienced in the past and Jakarta is now enduring. It is difficult to plan meetings as travel times become wildly variable. People begin to shift their residences to be closer to their jobs or children's school, though this is not always possible. As congestion becomes intolerable, a new equilibrium is reached in which the advantages of living in a city – better jobs, more business services, improved health and education, etc. are counterbalanced by the inconvenience, health damage and even danger of living in the city.

This is the recent situation in Jakarta, though its new mayor has instituted a more realistic assessment of property prices and real estate taxes are expected to rise by 82% in 2014 to nearly $600 million.[2]

[1] http://www.fig.net/pub/fig2007/papers/ts_4g/ts04g_02_lau_yam_1670.pdf discusses the cost per m2 of high rise buildings in Hong Kong. It finds costs go up in a jagged trend to 35 storeys but costs fall after 35 storeys.
[2] http://www.thejakartapost.com/news/2014/03/21/menteng-residents-seeking-property-tax-break.html

Still, a house assessed at Rp 60 billion that was paying only Rp. 14 million will be charged only Rp 35 million under the new policy. The new charge would be far less than one-tenth of one percent of the true property value and it is eliciting howls of protest. (Rp. 10,000 = $1) Jakarta has no metro and a very limited rapid bus transit scheme that is used by few people.

Of course, not all cities find themselves in such a bind from very low real estate taxes. Shanghai, for example, has an extensive subway system with 14 metro lines, 329 stations and 538 km of route length. These totals are growing and by 2020 the route length will grow by 63%. Last year there were 2.5 billion subway trips alone on the Shanghai subway. Jakarta, whose metro region had a similar population[3] as Shanghai's had fewer than ½ billion trips by train, express bus and large bus. It cannot be an accident that property values in Shanghai are higher because of its much better urban infrastructure. Ordinary apartments in Shanghai cost $3500 per square meter compared to $2500 in Jakarta. The Chinese government is also testing property taxes in Shanghai with a tax of roughly ½ of 1% of market value. Of course, Jakarta has put a high priority on expensive road development while Shanghai aims to have 60% of motorized trips by public transport at the end of this decade. It is ironic that adequate provision of public transport supports the creation one problem (high urban property prices) even while it addresses another (huge congestion costs.)

Pollution is, of course, a problem in both cities. Coal is a major fuel in China and heavy industry in surrounding provinces creates downwind pollution that the city itself cannot easily solve. The cold climate leads to heating with coal in apartments and this adds to the local pollution problems. None of these problems occur, or if they occur they are of much less importance in Jakarta. In Jakarta, the main sources of pollution are from cars and other vehicles, especially motorcycles and trucks. However, in spite of rapidly growing numbers of vehicles, the switch to cleaner-burning engines and nonleaded fuel has kept total pollution levels at a lower level than Shanghai. A recent news article reported PM 10 levels, a good indicator of general pollution at 81 mg/m3 in Shanghai and only 43 mg/m3 in Jakarta.[4] (Singapore is only 29, though it suffers from seasonal fires used to clear land in nearby Indonesian islands.) The heavy rains in Jakarta (100 mm or more per month except in June-September) may help this outcome, but so does the relative lack of nearby heavy industry. The dry months in Shanghai are October thru March, also the period of heavy coal burning for heating.

Most Chinese cities do not have a real estate tax and in the 1994 fiscal reform were forced to take a cut in their share of taxes (down to half, with the central government taking the rest) while shouldering 80% of spending responsibilities. The response has been to take over nearby rural land held by farmers and develop it as a source of urban income. In 2001, land-related revenue made up a sixth of urban income; by 2011 the share had soared to 75%![5] This has led to growing social tension and instability.

In the case of HCMC, most motorized trips (90% or so) are by motor cycle and plans for a high density subway or metro are uncertain due to the difficulty in financing the high costs of investment. Lines 1 and 2, first proposed more than a decade ago, are supposed to open in the next five years and will cost more than one billion dollars each. Fares for the metro have been proposed at only 2500 dong per ticket, an amount that is unlikely to recover costs. Yet in 2010, development expenditure in the city for all purposes was about $1 billion. Revenues from land and housing revenues and land use right assignments amounted to about $700 million in 2010. Total taxes were $8500 million, but most of these went to the central government. Only about a third of revenues were kept for local purposes.[6]

[3] Recent metro area population estimates are 28 million for Jakarta and 24 million for Shanghai. Jakarta proper has 10 million population on 4400 km2 while Shanghai metro area is 6344 km2. The urban bus system in Shanghai is the largest in the world, but is not broken out by type of bus so was not included for comparison.

[4] http://www.traveldailynews.asia/news/article/51430/asia-has-the-world-rsquo-s-most

[5] The Economist, April 19-24, 2014, p. 10 in "Building the Dream". This is a special report on Chinese urbanization.

[6] http://www.mof.gov.vn/portal/page/portal/mof_en/State_Budget/dosb/ds/Final_accounts/70749475/Expenditure of provinces cities under authority for 2010?p_folder_id=70428914&p_recurrent_news_id=7043120

Note that the land and housing related taxes do not mainly come from annual urban property taxes but from transfer (sales of property) taxes, sales of land and land use rights, and related charges. Annual taxes on property are quite modest, even lower than in Jakarta. It would appear that HCMC is closer to typical Chinese cities or Jakarta as it was until recently in terms of revenue and its sources. Certainly, the land prices in central HCMC are high and this tends to drive migrants into outlying districts and necessitate long commutes. Since motor cycle ownership is cheap, necessary and almost universal among adults, traffic is likely to increase in line with population unless people can live closer to their work or use mass transit. This has led to considerable congestion and growing pollution. One recent article claimed Vietnam (and HCMC and Hanoi in particular within Vietnam) was among the ten most polluted countries in the world, even worse than China.[7] The major sources were said to be industry and traffic, including trucks and motor cycles. It is true that motor cycle engines tend to be relatively dirty and this may account for the surprising report. The lack of coal burning and limited amount of heavy industry would have led to an expectation of lower pollution than China, especially given the lack of cold weather and the lack of need for heating. One article reported that 90% of young children in HCMC had respiratory problems. This would be consistent with pollution issues. [8] An official 2013 report found pollution levels, especially for toxic lead dust, to be two to four times the maximum limit set for health. [9] Lead is, of course, a neural toxin that reduces intelligence and intellectual development in children.

As in China, HCMC has found itself in a trap where high land prices, cheap but polluting motor cycles, and a lack of property taxes push local government towards a destructive equilibrium. Cities get more congested and polluting, hurting the health of all people but especially children. Funds for normal urban operations, much less ambitious rapid transit, are lacking. Property owners are influential and resist imposing property taxes of any significant amount – say the percentage amount in Shanghai. This is the dilemma of many Asian cities. How or if they will find a way out is unclear.

Appendix: Economist (EIU-Citi) Rank of Asia-Pacific Urban Competitiveness – 44 Cities

1. Singapore	11. Kuala Lumpur	21. Mumbai	31. Ahmedabad	41. Colombo
2. Hong Kong	12. Osaka	22. Tianjin	32. Hangzhou	42. Karachi
3. Tokyo	13. Nagoya	23. Bangalore	33. Pune	43. Bandung
4. Sydney	14. Shenzhen	24. **Jakarta**	34. Hyderabad	44. Dhaka
5. Melbourne	15. Inchon	25 Dalian	35. Almaty	
6. Seoul	16. Bangkok	26. Chengdu	36. Hanoi	
7. Auckland	17. Fukoka	27.Suzhou	37. Chennai	
8. Taipei	18. Guangzhou	28. Manila	38.Kolkata	
9. Beijing	18= Busan	29.Chongqing	39.**Ho Chi Minh City**	
10. **Shanghai**	20. Delhi	30. Qingdao	40. Surabaya	

[7] http://tuoitrenews.vn/features/482/vietnam-air-pollution-among-the-worst-in-the-world
[8] http://link.springer.com/article/10.1007/s11869-010-0087-2
[9] http://www.vietmaz.com/2013/09/hcmc-hanoi-seriously-polluted-with-lead-dust-report/#.U1R9JlfGy8A