

Filling the urban transport infrastructure gap

As a consequence of their economic take-off and rapid urbanisation, the two major Vietnamese metropolises, Hanoi and Ho Chi Minh City (HCMC), saw a tremendous increase of private vehicles (motorcycles and then cars) in their streets, leading today to severe traffic congestion. To address this critical issue, the cities have two responses. On the one hand, they build new roads to satisfy the emerging middleclass that can afford private vehicles. On the other hand, they attempt to modernise public transit networks, especially by developing large scale mass rapid transit systems. While the latter is considered an appropriate response to solve urban problems (e.g., traffic congestion, atmospheric pollution, and urban sprawl), the local authorities are facing various constraints that could jeopardise the construction of the expected public transit facilities. Hence the transportation sector provides another perspective to the challenges of the metropolisation process in both Hanoi and HCMC.

Clément Musil & Vương Khánh Toàn

IT HAS BEEN A LONG TIME since electric tramways were carrying people in Hanoi and HCMC's streets. This urban snapshot actually belongs to two different past periods. The Northern metropolis operated its tramway network until the early 1990s. Decades after the American bombing campaigns that heavily damaged Hanoi's transport infrastructures, the tramway was finally dismantled because of a lack of financial resources to maintain it. In the Southern metropolis, that back then was called Saigon and was the capital of the Republic of South Vietnam, the tramway only ran until the mid-1950s. The then president of South Vietnam, Ngô Đình Diệm, decided in the name of modernity to remove the tram to make room for imported cars as well as scooters and motorbikes.¹ Despite different trajectories regarding urban transportation, both cities do not yet have other collective transit services (apart from bus lines); while today private vehicles increasingly clog the cities arterials.

The ongoing urban transport transition

Due to a rapid economic development that has driven the country since the mid-1980s, and its positive consequences for the population, city dwellers started to have the financial resources to drop bicycles and abandon inefficient public bus services in exchange for individual motorbikes. Because this transport mode proved to be very compatible with the network of narrow alleyways in the two cities, Hanoi and HCMC quickly became two so-called 'motorcycle dependent cities', in the same way as other South-East Asian metropolises.² As a result, in 2015, the capital city had nearly 5 million registered motorbikes for an estimated population of 7 million; while the Southern metropolis counted more than 8 million inhabitants with 6.5 million registered motorbikes.³

Although the motorbike modal share is on average 80% (and less than 10% for public transit) in both cities, the dependency is evident today with inhabitants merging with

their motorbikes like Centaurs with their horses, on a never-ending commute through the city. Whereas motorbikes dominate the streets, cars emerge and appear as a strong competitor in terms of desirability, status and scarce road space. Even though the number of cars can still be considered low,⁴ it is rising by more than 10% every year in both cities.

The increase of vehicles has at least two most undesirable, yet well known, consequences: congestion and pollution. Congestion leads to an annual shortfall of USD 1.2 billion for the economic stakeholders in HCMC.⁵ In an effort to tackle congestion-related problems, to improve the environmental quality for city residents, and to cope with climate change-related adverse effects, the Government plans to fill the urban transport infrastructure gap by carrying out two sets of measures in each city. The strategy aims at expanding the existing road network (widening major axes, building ring roads, elevated highways and flyovers) on the one hand, and building extensive mass transit systems composed of metro lines and bus rapid transit corridors on the other. Urban transport is thus transitioning from being purely individual, to a transport system that provides public transit as an alternative.

The expected urban transport transition

Stimulated by vibrant economic growth (more than 8% on average this last decade) and by a rapid increase in population (between 3-3.5% since 2009), Hanoi and HCMC recently adopted ambitious public transit development plans. The 'Capital City Master Plan to 2030 and Vision to 2050', approved in 2011, foresees building eight metro lines (a total of 331 km), three monorail lines, plus nine express bus routes. In the south, HCMC adjusted its transport plan in 2013, which suggested that by 2030, the city would be equipped with eight metro lines, plus one tramway and two monorail lines, for a total of 216 km (see map 1) and will count six bus rapid transit corridors that bring an additional 100 km of public transit. The objective set out for both cities is a modal share of public transport reaching 25% of city travel by 2020.

However, between what the plans target and what is being realised today, there is a significant gap. Hanoi has two metro lines under construction (No.3 and 2A, of 12.5 km and 13 km respectively), a 15 km bus rapid transit corridor, and two other metro lines (No.1 and 2) in the detailed design phase. HCMC is building its first metro line (No.1) of 20 km, and line No.2 plus a section of line No.5, with the first bus rapid transit corridor barely in the detailed design phase. According to the Ministry of Transport, the first mass rapid transit that will run in Vietnam should be metro line No.2A in Hanoi; for which the opening ceremony is expected by the end of 2016 – though all projects commonly suffer critical delays and significant cost overruns.⁶

Even if construction of these public transit systems is slow, the process has been triggered. Consequently, the urban landscape in both cities will soon radically change. The new infrastructures will be built mainly with viaduct sections, and underground sections applied in high density areas only. Regarding their spatial orientation, these facilities will connect the inner city cores to their suburbs, where the local governments plan to develop satellite cities and new urban areas. These facilities will also bring ambitious and large-scale estate developments such as high-rise offices, housing, and shopping malls.

These urban development and renewal patterns are not unfamiliar in South-East Asia. In the era of globalisation, the construction of these new transportation systems confirms that the urbanisation process in Vietnam joins the 'single urban discourse'.⁷ This trend is also reinforced by the involvement of powerful private domestic real estate developers (e.g., Vingroup, Bitexco, Dai Quang Minh) who are investing in areas surrounding future metro stations and who manage to bypass the rigid public planning process.⁸ Both the transportation network and property development are features of 'urban convergence' observed since the late 1990s in the South-East Asian region. Today Vietnam is definitively part of this tendency with new mega-infrastructure projects underway. However, these projects are functioning under several constraints that could jeopardise the development of the expected mass public transit systems.

Constraints to the development of cities' public transit systems

Apart from technical issues that delay the construction of the metro lines and bus rapid transit corridors, the final realisation of the overall transport plans are challenged by various additional obstacles in both cities, namely financial issues and land acquisition difficulties.

Although the Vietnamese Government aims to develop modern public transit systems, the authorities face a severe lack of financial and technical resources. The authorities mainly lean on Official Development Assistance (ODA) provided by international donors, and secondarily on private sector capital. However, because public transit projects are today both costly and sophisticated,⁹ and it is uncertain whether they will generate any profit (all over the world public transit systems are mainly in deficit and subsidised), ODA mostly co-funds these initiatives. The Government contributes up to 20% of the construction costs of each project.

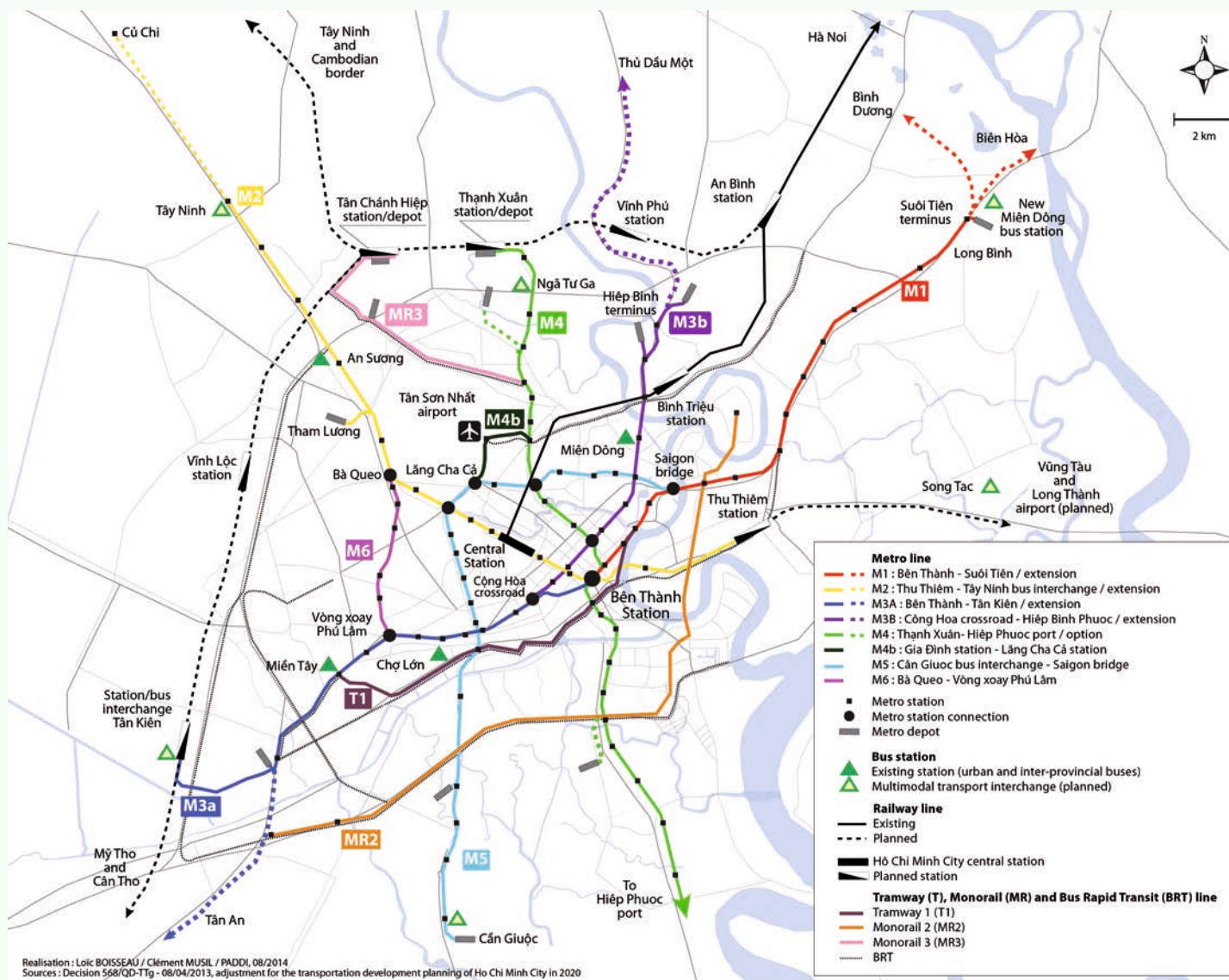
Today the situation seems to be troublesome and fragmented. Among all the projects that are under construction and in the detailed design stage (i.e., 9 in total), there are 9 different international donors involved. The Japanese International Cooperation Agency (JICA) co-funds metro lines No.1 and 2 in Hanoi and No.1 in Ho Chi Minh City; the Chinese Government finances one line in Hanoi (No.2A); the French Government and its cooperation agency (*Agence Française de Développement*) teamed up with the Asian Development Bank (ADB) and the European Investment Bank (EIB) to co-fund metro line No.3

Below left:
Hanoi daily traffic jams (photograph by author).

Below right:
Ho Chi Minh City metro line No.1 under construction (photograph by Clément Musil).



The challenge of building mass rapid transit systems



To cope with this challenge, the cities do have ambitious plans. But because of lacking financial resources and the sophistication of planned facilities like the metro lines, the future of the metropolitan public transit systems depends on foreign financial technology and aid. Challenges in land acquisition, tardy resettlement procedures, and land disputes have slowed down the completion of works. Furthermore, issues in governance of such on-going projects have tested the authorities. They are now pushed to design a suitable institutional architecture to ensure that facilities under construction may later function as a unique system.

Given these constraints, it is doubtful that urban public transit systems will be built faster than the road networks, in spite of the pledged construction of the first metro lines in Hanoi and HCMC. Regarding the metropolitan road network evolution in both cities, the local governments have technical know-how at their disposal without being reliant on foreign technology. They are also able to raise funds through partnerships involving the private sector based on proven and successful mechanisms. Moreover, a growing slice of the population that can afford a car will expect the development of road networks. The challenge that the authorities face does not only concern financial and technical aspects, but also its capacity to convince the citizens that public transport, instead of private vehicles, is the future of a modern metropolis.

Clément Musil is associate researcher to IPRAUS (France) and PADDI (Vietnam) and holds a PhD. in Regional and City Planning; Vương Khánh Toàn is an architect, urbanist and lecturer of the Hanoi Architecture University (Vietnam).

References

- For details regarding the tramways in both cities see Doling, T. 2012. *The Railways and Tramways of Việt Nam*. Bangkok: White Lotus.
- See Khuat Viet Hung. 2006. *Traffic Management in Motorcycle Dependent Cities*. Darmstadt University of Technology.
- See Tuổi Trẻ (15/09/2015) “Kẹt xe tại TP.HCM sẽ ngày càng trầm trọng” [“Traffic jams in HCM City will become worse”] and *Vietnam Economic Times* (10/09/2015) “Vehicles overwhelming Hanoi”.
- Respectively with more than half a million cars registered in each city in 2015, this amount represents half of the private cars in circulation nationwide (op.cit).
- See Vietnam Net (09/16/2014), “Kẹt xe gây thiệt hại 1,2 tỷ USD/năm cho TP.HCM” [“Traffic jams cause damage 1.2 billion/year for HCMC”].
- Regularly the local press reports news concerning the reassessment of both cost and schedule of the projects. As an example see following articles: Tuổi Trẻ (27/10/2015) “Chinese-contracted railway project in Hanoi suffers 57% cost overrun”; Thanh Niên (13/09/2014) “Metro vốn tăng ‘phi mã’, tiến độ ‘rùa bò’” [“Metro: cost increases with the speed of a galloping horse, project progress at the pace of the tortoise”].
- Without denying the local specificities, Dick and Rimmer (1998) in an article entitled “Beyond the Third World City: the new urban geography of South-East Asia”, suggest that since the late 1980s, and after the colonialism period, the process of urban convergence has re-emerged. (i.e., “South-East Asian cities are on the way to become more like Western cities”)
- Based on the case of Metro Manila, a similar trend has already been analyzed by Shaktin (2008) in “The city and the bottom line: urban megaprojects and the privatization of planning in Southeast Asia”.
- Depending on the technology and the contractors, building a metro line costs between USD 70 and 165 million/km. For instance the cost of the 20km line No.1 in Ho Chi Minh City is over USD 2.5 billion.
- Vietnam’s public debt is approaching the limit of 65% of the country’s gross domestic product, which is considered by the international donors as a threshold to review the grant loans’ conditions.
- It should be noted that there is no private land ownership in Vietnam. According to the 1992 Constitution, all land belongs to the People, and the State is responsible for its management. Since the land law promulgated in 1993, land users are supposed to have a land use right regulated by the administration. This right can be revoked by authorities to implement projects that are part of the city’s master plan and land users have to be compensated.
- For instance, on the land market in HCMC, one square meter on the outskirts costs around USD 500, and in central districts, the price reaches USD 4,000. But to calculate compensations, the administration refers to the official land price framework, which is irrelevant and lower than the market price. In recent years the gap between the administrated prices and real market prices has tended to decrease.

in Hanoi; the German and Spanish Governments also joined the ADB and the EIB to co-fund two metro lines in Ho Chi Minh City (No.2 and 5); and the World Bank grants loans to build the first bus rapid transit corridors in both cities. Despite this multitude of donors, the financing of numerous additional planned projects still requires confirmation, and although other donors, such as South Korean bilateral cooperation, as well as private investors have expressed certain interest, little discussion has been concluded and uncertainty remains.

While the Government is in need of financial assistance, ODA donors are in a comfortable situation to offer, and also to compete against one another. This is explained by the benefits that each ODA supplier can gain in granting loans to Vietnam. In fact, each donor imposes particular conditions for granting their loan. The Japanese assistance, which has the most attractive financial offer, is mainly characterised by a ‘tied’ financial aid. This means that the loan is conditioned by the use of Japanese technology and expertise. On the other hand, for facilities in which multilateral donors are involved, the financial aid is considered to be ‘untied’. The development banks allow open tenders for which both foreign and local contractors can submit their bids. However, these donors impose other strict requirements such as respect for ethical, social and environmental rules when implementing the project. The Vietnamese Government has then to meet conditions like minimising the project’s adverse effects on the environment and population, particularly when resettlement is required.

Diversified financing sources are certainly an advantage to the cities, helping them with access to required funds for project implementation. In return, however, these loans weigh heavily on the country’s debt and the authorities are made to comply with each donor’s conditions.¹⁰ They are often forced to depend on various foreign techniques and technologies, which may not be totally compatible with each other. Furthermore, diversification of financing parties has the effect of partitioning the projects. This approach could be counterproductive, as the goal is that all public transport facilities form a unified system in order to challenge private vehicles.

In addition to the financial aspect, access to land has been a major obstacle in every urban transport project initiated so far in Vietnam. Problems in accessing land increase the overall costs and delay the completion of the works. Expropriation, compensation and resettlement procedures are the most difficult stages in the project implementation. Unlike road building projects, the first studies on metro and bus rapid transit corridors seemed to have little impact on the land (as was the city authorities’ understanding). Indeed, metro lines are built off-ground and appear to be less land-consuming. As for bus corridors, they are integrated in enlarged road arteries and thus do not directly need land acquisition.

However, since works started in Hanoi and HCMC, the land issue has re-emerged as a major concern. Whereas the need for land acquisition is limited, resettlement is inevitable,

especially for works on train depots, access to stations, roads and other network deviations, installation of ventilation shafts and safety systems in underground sections. For instance, in the case of metro line No.2 in HCMC, more than 22 hectares of land located in urban districts are to be acquired and 400 households will be relocated and compensated, with the total cost estimated at USD 115 million. With such conditions, the local governments face two major challenges when building other public transit facilities: the establishment of land reserves and the management of resettlement procedures.

Although cities in Vietnam do not have the ‘urban pre-emption right’ to establish land reserves, both cities do have a Land Development Centre. This kind of public body is in charge of acquiring plots and compensating land users. However, they have had little room to operate so far since they have limited financial resources and land use planning is unclear. In this context, those Centres are in an unfavourable position to establish land reserves and to provide plots for building the expected infrastructures. Moreover, the land located around the future metro stations, where high land value increase is predicted, has already been acquired, notably by well-informed property developers.

Resettlement procedures related to public transport infrastructures pose another problem for the authorities. Whilst public transport projects are developed in the name of public interest, most of the land users who are affected by the projects are reluctant to transfer their rights to the administration.¹¹ Though land users do not oppose the legitimacy of the operation, they contest the amount of proposed compensation. Actually, land prices are often undervalued, while both cities periodically experience uncontrolled land price increasing.¹² Furthermore, from the first land assessment until the government’s request for site clearance, which may take several years, land prices may have surged, causing fresh disagreements with disaffected households. Moreover, opposition is stronger and more violent with households who do not have regulated land use rights. The administration estimates that the latter are only compensated for their lost property but not for the land, and the compensation amount for the building is often ridiculously low compared to the amount paid for the land. Hence, the progress of urban transport projects poses a critical issue of equity of households to administrative procedures, and questions the transparency of resettlement regulations.

The future of public transit depends on pragmatic policies

Due to Hanoi and Ho Chi Minh City’s rapid urbanisation, building modern mass transit systems is a priority to ensure sustainable and liveable urban development in the coming decades. To break with current practices of city travel mainly by motorbikes, the Government has no option but to invent a new way of mobility based on fast, efficient and attractive public transport, ensuring that commuting is viable across the entire metropolitan areas.

Map: Development of Ho Chi Minh City public transit system for 2020-2030 (Courtesy of PADDI).