Bangkok's Everyday Transport Assemblage: The Formal-Informal Interplay and Meshwork Urbanism

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ABSTRACT

This paper seeks to render Bangkok's everyday transport assemblage with special attention to the informal transport systems/modes on the Thonburi side of Bangkok (western side of the Chao Phraya River). The main aim of the paper is to visualize/display the various existing typologies of informal transport practices along the main route of The Bangkok Mass Transit System (BTS Skytrain or in short - BTS). It will also examine the relationship between the formal and informal transport system and practices along BTS Thonburi line, especially at the intermodal connections/linkages at the various BTS stations.

This study adopts the 'assemblage thinking' as the theoretical and analytical framework in highlighting the formal-informal transport relationship. This paper applied several methods for the fieldwork survey and data collection including observation, informal conversational interview, mapping and photography. The analysis will emphasis on the co-functioning of various transport modes/systems, and the interwoven and the dynamic interplay of the formal-informal systems and networks will be discussed.

This study highlighted Bangkok's informal transport systems/practices have been paid little attention and did not gain much recognition by the State and authorities. As a result, there are discrepancies and fragments of Bangkok's comprehensive urban transport information and database. This paper also argues that the State and local authorities themselves are also the one producing these urban informality. By mapping and visualizing these informal everyday transport assemblages and meshwork, it could help to unpack Bangkok's complexity and dynamic relationship at play and could also help to understand how the whole urban transport system work. Hence, this study reaffirms that Bangkok need both formal and informal systems/ networks/ practices in sustaining and in making the everyday transport work.

Keywords: informal transport, assemblage, meshwork urbanism, interplay, Bangkok

INTRODUCTION

In 2017, Bangkok ranked as Asia's most congested city, and were amongst the top 11 most congested cities in the world (INRIX 2018). Interestingly, the earlier study in 2016 ranked Thailand as the worst congestion, with an average 61 hours a year lost to congestion at peak times (BBC 2017). Even though at both levels of the national and local governments, there were constant projects of improvements and updating the mass transit system, transportation services, infrastructures and road networks - but these severe complicated traffic problems would not disappear in any near future. However, there are also other mode of transportation that coexited and co-evolved along with the formal mode in providing additional transport service, they are that of the informal one. These two existing systems/modes of transport - that of the formal and informal complement one another and keep Bangkok urban transportation functioning in its own specific way, and provide wide ranges of travelling/commuting choices and diversities. Despite the contribution of the informal transport, and have been largely accepted and recognized by the public and city inhabitants, but many the times they are still being overlooked by the State and local authorities.

In terms of everyday commuting/travelling, the passengers/commuters/travelers who commute/travel everyday are well aware with the service routes, schedules, frequencies, and traffic conditions along those designated area/places. And over the time, those everyday passengers/commuters became familiar and acquainted to such rhythms and schedules, and thus have sufficient experiences and information to manage their trips/journeys each time accordingly. Many of the everyday passengers/commuters/travelers relied on intermodal transportations available from both the formal and informal ones, and they have adjusted to the city's severe traffic conditions.

But what if these inhabitants would like to or have to travel to other area besides their everyday routes/places, or even some of the business people or even the tourists (both Thai and foreign) would like to travel around Bangkok more efficiently using mass transit, how would they plan their trip/journey? Most importantly, how would they spend less travelling time as much as possible, if there is no transport information provided?

Currently, the travelling information that are available are mostly for the formal service of the mass transit and rail system such as BTS, MRT and Airport rail link, but not the informal one. There is no database or any comprehensive map that provide sufficient information for the inhabitants and travelers. Interestingly, as in my own planning for the trip from my house to Knowledge Exchange in Klongsan district close by to Wong Wien Yai BTS station, below in Figure 1. The result shows that only the formal mode of transport were suggested, whereas the informal mode or para-transit system are not shown or suggested by the Google travel apps., which also take longer traveling time than combining with other informal mode that are available. Furthermore, despite the active role of the informal practices in providing the everyday transport services, there has been little data/information and discrepancies regarding their numbers, schedules, routes and trajectories collected, stored and registered in one comprehensively set or database.

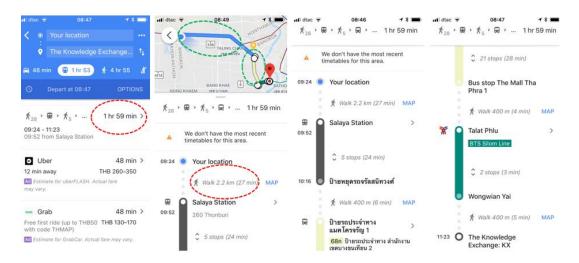


Fig.1: This show the travel time according to the formal transport mode suggested by Google, from Thaweewattana Road to KX of KMUTT in Klongsan district, which does not provide the information of the informal transport.

1.1 Why the BTS on Thonburi side?

The Bangkok Mass Transit System (BTS) first operated in 1999 with two lines, light green (running between MoChit and Sukhumvit stations) and dark green (running between the national stadium and Saphan Taksin stations). The dark green line extended the service to the Thonburi side in 2009 and opened two more stations. Then in 2013, the Thonburi line opened another four more stations. Thus making the dark green line on Thonburi side have all together of six BTS stations, as shown below in Figure 2. In this study, besides mapping and visualizing the existing informal transport, it is interesting to know what kind of practices were there before the arrival of BTS on the Thonburi side? Also, if there were already some informal transport operating in and around the BTS stations, how do they adjust to the arrival of the BTS, or are there any other new informal practices emerged along this line? So, in scoping the area of the BTS on Thonburi line could give this overall picture of some of the evolution and adjustment of these informal transport practices.

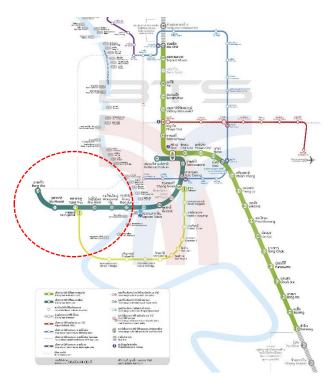


Fig.2: The BTS Thonburi line and the scope of study area along the six stations on the Thonburi side. (Photo source: http://www.bts.co.th/customer/en/images/Master_RouteMap.jpg)

1.2 The definitions of Informal Transport:

Before going into the next section, I would like to clarify some key terms here based on Cervero's (2000 and 2001) report and paper, in which he used the term 'transit' and 'transport' interchangeably. In this paper, I would prefer to use the term 'informal transport' and in some case as 'informal transport practice'. Cervero (2000) defined the informal transport as "fleets of small, low-performance vehicles driven by private operators that serve low-income neighborhoods...they provide lifts between markets and squatters whose narrow alleys and walkways are impenetrable by motor vehicles...offering feeder connections between mainline bus routes and nearby neighborhoods for a reasonable fare." He further referred these privately operated, small-scale services are varyingly referred to as "paratransit", "low-cost transport", "intermediate technologies", and "third-world transport".

Furthermore, Cervero also explained that "Informal transport is about 'as close to laissez—faire transportation as can be found. Through the invisible hand of the marketplace, those who are *willing—to—pay* for transport services make deals for lifts with those who are *willing—to—provide*'. One of the main significance for Cervero is that, "Informal transport services are also notable for their role as "gap fillers". They exist in large part to fill service voids left unfilled by formal public transport operators...It is only because regulations and rules are laxly enforced that unlicenced operators are "informally" able to step in and pick up where public transport operators have left off." (Cervero 2000: 3).

In his paper, Cervero (2001) referred to the term transit and defined the informal transit as indigenous forms of practices. "Entrepreneurial transit is about as close to laissez-faire transportation as you can find. Through the invisible hand of the marketplace, those who are willing to pay for transport services hook up with those who are willing to provide them. Many carriers are not licensed; hence "informal". Public transit finds itself in a free-fall of deteriorating service and falling revenues...In many megacities, informal carriers provide much-needed and much-valued mobility for the poor." (Cervero, 2001: 16).

1.3 Existing modes of Bangkok's public transport and mass transit system:

There are various modes of Bangkok's public transport, which could be broadly grouped into two systems/modes; formal transport service and informal transport service. The formal transport services are those of BTS, the underground mass transit (MRT), the Airport rail-link, the Bangkok bus service (BMTA) and that of private co-op buses, the rail networks provided by The State Railway of Thailand (SRT), and those of river and

canal boat services. The informal transport are those of motorcycle-taxi, tri-cycle or *samlor-teep, tuk-tuk* or rickshaw, *kapor* or box-taxi, and *songtaew* or two-row pick-up truck. There is also another well-accepted and popular paratransit system of van service, or van shuttle, which sits in-between the formal and informal sector. And in this study, the van service will be considered as the informal transport, as what Cervero (2000 and 2001) defined as indigenous forms of entrepreneur, and filling in the transport service gap left by the formal ones. And in this study, the existing modes of everyday transport are shown in Figure 3 below.





Fig.3: This picture showing the various existing forms of Bangkok everyday transport systems, comprise of 1.Formal -2. Paratransit -3.Informal, found operating on the BTS-Thonburi side.

The numbers of motorcycle-taxi in 2014, were about 166,856 motorcycle-taxis, and allocated in various 9,003 wins or groups around Bangkok and Bangkok Metropolitan Region (Yanyong 2016: 16). In Bangkok alone, there were about 105,894 motorcycle-taxis operating in 5,445 wins (Thaipublica 2016). Whereas the numbers of *kapor* used to be about 8,000 kapor taxi operating, but now maybe at maximum of 1,000 (Yanyong 2016: 115). For the van services, there were about 5,400 vans in service, and running in 128 routes in and around Bangkok Metropolitan Region (Dailynews 2013). But for *songtaew*, there is no update for such numbers, but it is estimated to be more than 1,000 of them.

2. CONCEPTUAL AND THEORETICAL FRAMEWORK

There are growing numbers of works about cities could be viewed, conceived and studied as flows, circulations and networks. The basic infrastructures within the cities are the main areas where the flows and circuits are found. Recent works and studies that focus about cities are more than just the physical layout, or more than just the infrastructures, it is about the flows, rhythms and tempos of the cities (Ward 2014: 5). The earlier work of Amin and Thrift (2002) also suggested similar way of conceptualizing the cities as flow and fluidity. Also, Brighenti and Mattiucci (2008) noted that "the modern city emerges as an environment of flows and *circulation*, in which mobility is essential... As the city becomes a site of flows and circulation, it turns into a complex territorial composition of vectors, trajectories, paths and directions that are both sustained top-down, through planning, and shaped bottom-up, through interaction." (Brighenti and Mattiucci 2008: 1). From such conception of cities as flow, fluid and circulation and mobility, the related strands of thinking are those of Deleuzoguattarian (Deleuze and Guattari) inspired thinking, in which influenced this urban study and planning discipline.

In this sub-section below, I would like to explain two related key concepts and theoretical framework, one is the 'assemblage thinking' and the other is 'meshwork urbanism'.

2.1 Assemblage thinking:

The concept of 'assemblage' was developed in Gilles Deleuze and Félix Guattaris' two books *Anti-Oedipus* and *A Thousand Plateaus*. "The assemblages are in constant variation, are themselves constantly subject to transformations." (Deleuze and Gauttari 2013 [1987]: 95).

Another definition of assemblage is:

"What is an assemblage? It is a multiplicity which is made up of many heterogeneous terms and which establishes liaisons, relations between them, across ages, sexes and reigns – different natures. Thus, the assemblage's only unity is that of co-functioning: it is symbiosis, a 'sympathy.' It is never filiations

which are important, but alliances, alloys; these are not successions, lines of descent, but contagions, epidemics, the wind" (Deleuze and Parnet, 2007 [1977]: 69).

Aassemblage theory was then developed further particularly by DeLanda (2006) in which he translated Deleuze and Guattari's assemblage as '...a notion of parts to whole in relationship. The parts need to interact with one another in such a way to yield a whole in property of its own, that is the property which is irreducible to the property of the part and decomposable – with emergent property.' DeLanda's latest book in 2016 – *Assemblage Theory*, further emphasised the notion of assemblage should be treated as a verb as well as a noun. The English word used as translation captures the impression of a product not a process (DeLanda, 2016: 1). Dovey (2012) also translated the term 'assemblage' from of the French '*agencement*', which is akin to 'layout', 'arrangement', or 'alignment' – it suggests at once a dynamic process and a diagrammatic spatiality". Similarly, Buchanan (2015) suggested that 'assemblage' could "be translated as arrangement, in the sense of a 'working arrangement', provided it was kept clear that it described an ongoing process rather than a static situation." (Buchanan, 2015: 283).

In relation to the study about urban informality, Dovey (2012) suggested that the idea of assemblage can help to re-think the formal/informal framework, "It is clear just how intermeshed informal and formal processes are in all urban assemblages – even those that may appear highly formal or informal. The informal/ formal conception is both fundamental and non-dichotomous – it is a single twofold concept rather than two concepts in opposition" (Dovey 2012: 363). Furthermore, the work of Frichot et al. (in 2016) also adopted Deleuzian theoretical perspective to investigate and understand the city/urban. They suggested the term assemblage or *agencement* could also refer to 'arrangement', as, 'machinic assemblage' or 'machinic arrangement', or complex arrangement.

2.2 Meshwork urbanism:

Though the concept of 'meshwork urbanism' is directly referred from the work of Amin and Thrift (2017), but it also shared some reference from the earlier work of Lefebvre (1968, 1991) and Ingold (2007). For Lefebvre, the term 'mesh' – relate to the 'urban fabric', "More than a fabric thrown over a territory, these words designate a kind of biological proliferation of a net of uneven mesh, allowing more or less extended sectors to escape: hamlets or villages, entire regions" (Lefebvre 1968: 71). Lefebvre also explained further that, "The urban fabric can be described by using the concept of ecosystem, a coherent unity constituted around one or several cities, old and recent...urban fabric is not limited to its morphology. It is the support of a more or less intense, more or less degraded, 'way of life': urban society" (Lefebvre 1968: 72)

In relation to architecture and space, Lefebvre noted that "it is helpful to think of architecture as 'archi-textures', to treat each monument or building, viewed in its surroundings and context, in the populated area and associated networks in which it is set down, as part of a particular production of space" (Lefebvre 1991: 118). In the similar vein, Ingold (2007) borrowed the term 'meshwork' from Lefebvre as well, who speaks of 'the reticular patterns left by animals, both wild and domestic, and by people (in and around the houses of village or small town, as in the town's immediate environs)', whose movements weave an environment that is more 'archi-textural' than architectural. (Ingold 2007: 80). Ingold further emphasized that, "The lines of the meshwork are the trails *along* which life is lived...it is the entanglement of lines, not in the connecting of points, that the mesh is constituted." (Ingold 2007: 80-81).

As in the case of Amin and Thrift (2017), they viewed city in the urban age that "the future of the world economy and the wellbeing of cities may well rest on the state of urban infrastructure" (Amin and Thrift 2017: 116). They further elaborated that, "...infrastructures operating as a meshwork through which things pass and connect, through which the city comes together as an entity, through which repetitions are secured and novelties channelled, and through which memories of the past and scripts of the future are stored" (Weinstock 2013; Amin 2013 in Amin and Thrift, 2017: 118). "In short, meshwork urbanism invests in the infrastructure on a just-in-case basis, rather like the welfare state sought to do in the social arena of post-war Europe, investing in slack and redundancy to anticipate need and the unforeseen, and suspicious of just-in-time provisioning (Amin 2014 in Amin and Thrift, 2017: 119).

Amin and Thrift (2017) further stated that, "Meshwork urbanism is more than a technical challenge, for urban infrastructure are far from neutral. They are political in every way: governed in favour of particular interests, biased in their affordances and allocations, shot through with calculative logics and mechanisms designed to distribute unevenly, and arenas of considerable power struggle." (Amin and Thrift, 2017: 120).

As such, the concept of 'assemblage thinking' and 'meshwork urbanism' will be helpful to disentangle and unpack Bangkok's everyday transport systems and infrastructures.

3. RESEARCH METHODOLOGY AND DATA COLLECTION

This study applied the ethnographic fieldwork survey for empirical data collection, along with other methods of observation, informal conversational interview, mapping and photography. Secondary data and other literature reviews were also collected and reviewed to shape up an overview of the both what had been studied, literature gap and also what are the existing informal transport practices. The primary data were collected during mid-January to mid-February 2018. The initial fieldwork survey was carried out in the first few days to identify various informal transport practices that were found operating along the six stations of BTS's Thonburi line. Then after the informal practices were identified and base map of the six BTS stations were made. Furthermore, detailed mappings and photography along the six stations were carried out, along with participant observation. During the brief fieldwork, I had interviewed with some of the informal service providers such as the motorcycle-taxis, as well as a few numbers of the passengers/users to get more understanding in terms of everyday uses and experiences and also the nature of such demand-supply. Also, I did took up a few of those services and used the GPS tracking of sports application (Endomondo Sports Tracker) to track and map out the routes and trajectories, and the area coverage of these services. With such GPS tracking application, one *kapor* route and two *songtaew* routes were mapped in Figure 4. Then these information and data were generated into visual mappings and diagrams, which will be elaborated in the following sub-section.

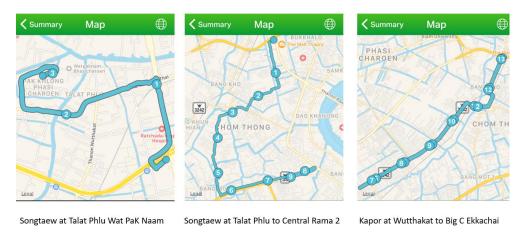


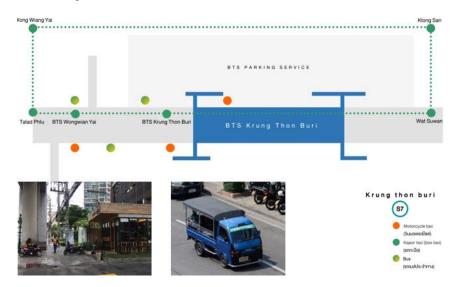
Fig.4: These are GPS tracking application of *songtaew* and *kapor* routes being mapped, and also show where the informal transport routes extended from the BTS to other area.

3.1 Mapping and visualization of the informal transport

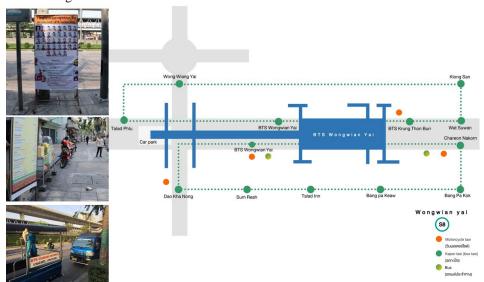
This sub-section is the generation of the data collected, and generated into mapping and visualization of the informal transport practices found in and around the six BTS stations. Mapping in this study will help us to understand and see in broader picture and the interconnectedness of not just the overarching mode of formal-informal transportation, but also those variations amongst the two. As Corner (1999) reminded us with such a view of maps that 'are means to an understanding of how cities work and generating new ways of thinking about them' (Corner in Dovey and Wood 2015: 2).

The set of figures below are the mappings of the informal and formal transport practices that are found along and around the six BTS stations.

3.1.1.Krung Thonburi station



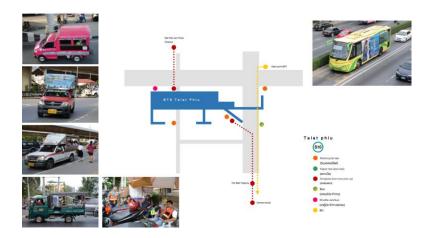
3.1.2. Wongwien Yai station



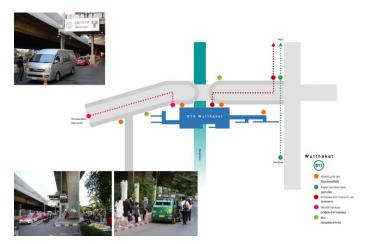
3.1.3. Pho Nimit station



3.1.4. Talat Phlu



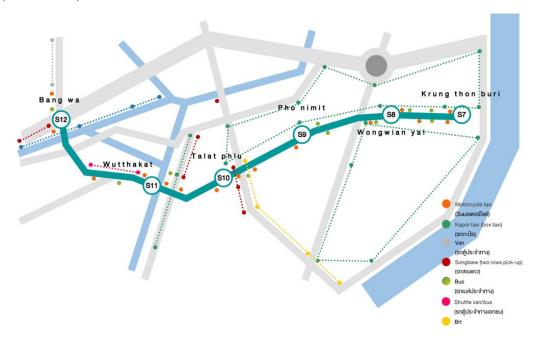
3.1.5. Wutthakat station



3.1.6. Bang Wa station



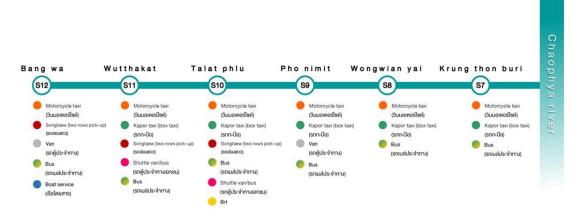
3.1.7. This map below showing the six stations with integrated informal practices as mapped with the accurate (non-distorted) view.



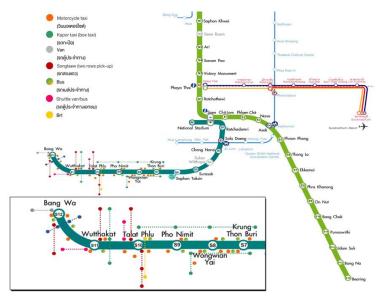
3.1.8. This map below showing the six stations with integrated informal practices as mapped with the graphic friendly (distorted) view.



3.1.9 . This map below showing the six stations with integrated informal practices as mapped with the graphic friendly (distorted) view onto the BTS map.



3.1.10 . This map below showing the six stations with integrated informal practices as mapped with the graphic friendly (distorted) view onto the BTS map, displaying what formal-informal interplay and meshwork look like.



4. DISCUSSION

From the previous sections, along with mappings and data visualizations, I would like to discuss some of the analysis and findings as follows:

4.1 The operation of informal transport service along the Thonburi BTS line.

In terms of numbers and typologies, from the fieldwork survey and mappings, it is found that the motorcycletaxi is the most popular mode of informal transport. They are found providing the services in all the six BTS stations' entrances and exits. Then the second popular mode is the *kapor* or the box-taxi, and they are found in five BTS stations and followed by *songtaew*, and they are found in three BTS stations and the van services are found in fewer stations.

In terms of their service operation, all the informal mode except the van were providing the services already before the BTS operated. Both before and after the arrival of BTS line, the motorcycle-taxi operated along the existing *sois* of Thonburi already. So, when the BTS arrived, the motorcycle-taxi adjusted to locations of the entrance/exit points of each stations as to tap in more smoothly with the BTS passengers/commuters. Some had just moved or shifted around those locations of entrance/exit where they used to operate. Thus, as a result the motorcycle-taxis' *wins* or stations re-arranged accordingly to those BTS entrance/exit points. From the informal conversation with some of the *wins*, the number of each *win*'s members also increased over the years as the demand of the service has increased. Even though the cost of trip is higher than other services, but because they could snake and move through the traffic faster and quicker, or even drop the passengers right in front of the entrance or the door of the designated destination.

Other informal transport practice such as the *kapor*, whereby in some few cases they are found also adjusted the service stops and routes in accordance with the BTS arrival. For example, in the case of *kapor* at Wutthakat station, where the *kapor* to Talat Plu had cut off its few stops to the market and provide the starting point of the route at a new stop near Talat Plu BTS station, as shown in Figure 5. They even put up the signage of 'BTS' as their main destinations.





Fig.5: These pictures show the rearrangement of the *kapor* win near Talat Plu BTS station.

The *songtaew* service had also adjusted and extended some of the routes to that of the BTS arrival. Besides the readjustment and extension of the public *songtaew* service, there are also some other private *songtaew* service for those new residential buildings, condominiums, or apartments that provide service for their residents only as in Figure 6.



Fig.6 a and 6b: The pink *songtaew* provided for the residents from the new private residential projects, whereas the white *songtaew* seen behind the pink one, are the service by the informal provider.

The van service or the paratransit, are not found in all the BTS stations, but are found in three stations of Wutthakat, Bang Wa and Pho Nimit. The van service at Bang Wa station provide the link to outskirt of Bangkok to Salaya in Nakhon Phathom Province, and the other at Pho Nimit station provide the inter-link to Mahachai,in Samut Sakorn Province. The van service from Bang Wa staion to Salaya has been recently operated since late 2017. This is due to the 'broken' or 'incomplete' line of the overall mass transit that connect the whole Bangkok to its outer region, and when there are high demands, these informal services tapped in. Also, the new residential complex along the Ratchapruek road have provided their own van services for the residents at reasonable price, after the BTS on Thonburi line operated, as shown in Figure 7. Thus, the van service operate as feeder into other area of Bangkok are found along the two stations, and the van service of city interlink between Bangkok and other neighboring provinces are found in one station. As it has been widely and discussed, it could be reaffirmed that the paratransit always finding the service gap to fill in, and hence they are the true 'gap filler'.





Fig.7: The service van here provided by the new residential complex along the Ratchapruek road.

4.2 The Formal-Informal Interplay and Meshwork Urbanism

4.2.1 The Formal-Informal Interplay

As explained earlier, the assemblage thinking has the two-fold concept, which is a useful framework to understand the urban informality or those of the informal transport practices. This notion of two-fold concept moves beyond the dualistic or binary views, and it look at the function and role of all the players/actors in a more synergising way. When viewing Bangkok's everyday transport assemblage, as clearly seen as in the mappings and visualizations in the previous section, those informal practices have tapped-in, connected and distributed the passengers/commuters and even travelers and tourists to various destinations. They help in fulfilling the basic commuting and travelling desires every day alongside with the formal mode. Both the formal and informal modes are interwoven, and enmeshed one another. Any passenger would depend on various modes of transportation, and with such availability and the co-function of both the formal and informal transport that made any trip or journey possible. Thus in the bigger picture of Bangkok, both the formal and informal work together as co-functioning in a symbiotic way, providing the everyday transport services to the city inhabitants. With the concept of assemblage thinking, the everyday transport system could be seen as ongoing or 'working' arrangement and re-arrangement of the formal and informal practices.

In term of the formal-informal interplay and their interwoven relationship, the formal provide a more overall services, focusing the central areas, but still have limited routes and area coverage, which allow the informal transport to step in, circulating/distributing people/passengers into various places. The formal transport system, in this case-the BTS play a role of a more reliable mode of transportation, with reasonable price, in getting into and out of the city center. Even though the motorcycle-taxis could be competitive in term of time factor. But BTS is far more safety and in some cases might be even cheaper, especially during the peak/congested hours. Whereas most of the informal transport in each stations play as the local feeders into those areas where the passengers/commuters alighted from the BTS stations. During those peak hours, the familiar scenes of people/passengers queuing up and waiting for the motorcycle-taxis at each *pak-soi* (or *soi* entrance) near or next to the BTS stations are common sights. There are also those informal transport act as a longer link, but cheaper than the motorcycle-taxi like that of the *kapor*, *songtaew*, running into those BTS stations. There are van service, in some cases they run from the BTS terminal station to other outer area of Bangkok, or even to other neighboring provinces. Thus, the interwoven relationship between the formal and informal transport is created by the people/passengers themselves, and they are the living thread that connect and weave through these transport infrastructures every day.

The formal system has taken all the prime or most demand or high potential areas, and has left out some of these routes and zones, especially those inner and outer regions. Thus, it could be said that the State or the government are the one of the actors who produce and allow such informal transport practices to emerge. And in return, the informal practices provide the services and capitalize such opportunity which benefit both the State and government in saving some investments in those area/places. And also these become a source of income, creating livelihood for the providers, and the people/passengers get the benefit, thus they could consume both the formal and informal transport systems according to their choices, preferences and costs. The informal practices are thus one of the actors/players in providing the transportation services, and are the co-producers of such Bangkok transportation systems and services.

4.2.2 Meshwork Urbanism:

As explained earlier, the notion of meshwork related to urban fabric and ecosystem of a city, which not just the physical part or buildings and spaces that are important, but the area around and surrounding them are also important. In similar view, the BTS stations and the extended urban fabric around them are also important, no matter being how small they are. In such cases, the other informal practices that connect or surround the BTS stations create enmeshed spatial morphologies and sustain way of life in those particular places.

From the mappings and visualisations in previous section, it could be seen that these lines of the informal transport are the lines of the everyday life and everyday practices. They made the local trips/journeys possible, it is what Ingold (2007) called the line in which 'life is lived' and that 'the meshwork is constituted', and further sustain their everyday life and also their ongoing life projects, whatever they are. Thus, the meshwork created by the informal practices might look messy, or chaotic, but it is with such intensity and diversity that such entanglement of these informal lines are crucial to the urban fabric and urban life. It is not the nodal points or

connecting points that are important, but it is the flow within these formal and informal transport that are more important, and thus create meshwork urbanism of Bangkok along and beyond those stations and places. In many cases, as Amin and Thrift (2017) pointed out, these meshwork urbanism are not just technical challenges, but are political in every way, and in accordance to the spatial, economic and social aspects. "Profit, powers, ownership, regulation and infrastructural design are tightly interwoven" (Amin and Thrift, 2017: 120).

Furthermore, the informal meshwork urbanism might share what Dovey (2016) discussed about the urban synergies between density, mix and access. In urban planning language, Dovey referred to two related set of triangles, which are the triangles of connectivity, co-functioning and concentration and the other triangles of forms, functions and flows. As in the case of Bangkok, the flows of both formal and informal practices here, generated from the functions of these transport modes, and these informal practices have their own particular ways of mediating through the urban forms and urban fabrics. This is where an enmeshed image of Bangkok formal-informal transport nexus becomes critical, and also challenges the dualistic and binary views within the urban planning discipline. Thus, with such entanglement of the formal-informal meshwork, it render the overlooked and taken for granted picture of Bangkok's everyday transport system more vividly how they are interconnected and interwoven.

4.3 Beyond the ordinary everyday informal transport practices:

Besides the functionality and efficiency of the services provided by the informal transport, they also added other social dimension to Bangkok urban life:

4.3.1 Social interaction and humane city.

In various forms of informal transport, there still exist other kind of social and more humane interaction amongst the providers and the passengers/customers. These social interaction take place at such points of connections, and might happened instantly or even prolong a few minutes later. But when such encounter happened and repeated often, there could be some sense of familiarity between the passengers and the providers. Thus, this could stir up or allow certain kind of interaction beyond the customer's relation and even could move from strangers into more acquainted persons. As a result, this build up a kind of informal and loose relationship and interaction amongst the providers and customers. There are also other different atmosphere between that of the BTS (formal) and those of the other mode of informal transport. With the informal mode and service, some of the passengers/customers may felt more relax and at ease and could even chat and talk with the service providers and as well as to the customers/passengers riding along that trip. There are of course certain kind of inefficiencies in relation to their practice, where one might stop over a bit longer or might even drive slower than they should be. Other instances there are the more of humane touch and feelings through such as those of paying the trip costs, as both the passengers/customers might came up with certain kind of conversation when paying the trip costs or even sometimes while riding, during the congested hours.

These human related activities show that the city is still place for people to interact with each other through these mundane everyday acts. In some aspects, the automated machines and smart technology that are equipped within the formal system, though in a many way they are very efficient and modern, but in a way it is also quite dry and lifeless. Thus, some of these informal practices could allow and might open up a more realistic and humane city for some of the inhabitants.

4.3.2 Urban safety and extra social service

The other issue concerning the urban dwelling and getting around the city is the safety factor. Jane Jacobs (1961) had pointed out long ago that one simple way for the safety on sidewalk and street to be achieved by the concept of 'eyes on the street'. Jacobs explained that those 'eyes' are the natural proprietors of the street, and in the case of Bangkok, motorcycle-taxis are one of those 'eyes' that are spread out in various wins around and close to the BTS stations, in Figure 8. Even the other informal practices are considered to be such eyes on the street, but they are fewer in numbers if compared to the motorcycle-taxi. During both day and night time, in those areas where the informal practices are presence, it could ensure certain degree of visibility, safety and some passengers might feel a bit more secure rather than the absence of them. In other incidents, these practices also helped out in other emergencies, such as fire incidents, road accidents, or other domestic incidents that need help, they collaborated along with other local or private organizations in order to ease out such emergencies/incidents.



Fig.8: The motorcycle-taxis as the 'eyes on the street', along with other formal and informal practices.

There are also other special social service that could be found among these informal practices. In one case, during the fieldwork, there is a blind man who needed to make his trip from the BTS to his home, as shown in Figure 9. The BTS security guard then first walked the blind passenger down the stairs from the train platform, to the motorcycle-taxi win. Then after the destination was informed, the blind man rode onto the motorcycle-taxi, and then both of them went off to the man's place. This case, the blind man, riding the formal transport and accompanied by the guard, and then the blind man take on the informal service. This is one way to render how the meshwork urbanism and the formal-informal interplay manifested through such circumstance. Though, many could object here that there are better service and provision for the handicapped people in most of the developed or advanced nations, but for Bangkok case - this might take a while. With this complementary from the informal transport, it could provide such specific service to those passengers/commuters who might need some extra or special cares.





Fig.9a and 9b: showing that the motorcycle taxi provides the service for a blind passenger, with the accompanied by the BTS security guard.

5. CONCLUDING REMARK

As discussed in the previous section, this study also highlighted and portrayed the productive role of the informal transport systems/practices and also how they have been paid little attention and did not gain much recognition by the State and authorities. Despite their co-existence and their collaborative contribution to the urban transportation, there is still lack of complete collected and registered data, both from the State/government and also that of the private organizations. As a result, there are discrepancies and fragments of database of the Bangkok's full comprehensive transport information as a whole unity. The study also shows that there are also increasing numbers of existing demand of the informal transport services, and also the new informal transport services are constantly emerging in order to serve the increasing demand of the city inhabitants.

The nature and operation of these informal practices are self-regulated, self-organized, and quite spontaneous, highly adaptive and resilient. By mapping and visualizing these informal everyday transport assemblages, it could help to unpack Bangkok's complexity and formal-informal dynamic relationship at play. With their interwoven and symbiotic relationship of their desires of urban transportation, it could render a more visible

meshwork urbanism and it could also help to understand how the urban transport systems work. This study also reaffirms that informal transport is the 'gap filler', especially those incomplete gaps of urban transport service left by the State and local authorities, which many the times led to the rise/emergence of the informal transport services/practices. Thus, it could be argued that the State and the local authorities themselves are also the ones producing these urban informality.

In conclusion, the informal transport systems/ networks/ practices also play an important role in providing and fulfilling a more comprehensive and sufficient services for everyday commuting and travelling. Hence, Bangkok need both formal and informal systems/ networks/ practices in sustaining and in making the everyday transport work in a more synergize way. Finally, some considerations for urban planning and management professions when formalizing these informal transport systems/practices, they should do it in such a way that won't kill off the creative, innovative spirit and efficient, resourceful solution.

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REFERENCES:

Amin, A., and Thrift, N., Seeing Like A City, Polity, Cambridge, 2017.

Buchanan, I., Assemblage Theory and Its Discontents, Deleuze Studies vol.9, no.3, pp. 382-392, 2015.

Cervero, R., Informal Transport in the Developing World, A Report for the United Nations, 2000.

Cervero, R., Informal Transit: Learning from the Developing World, *ACCESS*, Spring Issue, no.18, pp.15-22, 2001.

DeLanda, M., A New Philosophy of Society: Assemblage Theory and Social Complexity, Bloomsbury, London, 2006.

DeLanda, M., Assemblage Theory, Edinburgh University Press, Croydon, 2016.

Deleuze, G., and Gauttari, F., Anti-Oedipus, Bloomsbury, London, 2013 [1972].

Deleuze, G., and Gauttari, F., A Thousand Plateaus: Capitalism and Schizophrenia, Bloomsbury, London, 2013 [1987].

Deleuze, G. and Parnet, C., Dialogues II, Columbia University Press, New York, 2007.

Dovey, K., Becoming Places: Urbanism/Architecture/Identity/Power, Routledge, Cornwall, 2010.

Dovey, K., Informal Urbanism and Complex Adaptive Assemblage, *International Development Planning Review*, vol. 34, no.4, pp.349-367, 2012.

Dovey, K., Urban Design Thinking: A Conceptual Toolkit, Bloomsbury Academic, London, 2016.

Dovey, K. and Wood, S., Public/private urban interfaces: type, adaptation, assemblage, *Journal of Urbanism*, vol.8, no.1, pp.1-16, 2015.

Frichot, et al., Deleuze and The City, Edinburgh University Press, Croydon, 2016.

Ingold, T., Lines: A Brief History, Routledge, Oxon, 2007.

Jacobs, J., The Death and Life of Great American Cities, Vintage, New York, 1961[1992].

Lefebvre, H., Writings on Cities, translated by Kofman, E. and Lebas, E., Blackwell Publishing, 1996.

Lefebvre, H., The Production of Space, Blackwell Publishing, 1991.

Ward, K., (ed), Researching the City, Sage, London, 2014.

Yanyong, B., (ed), Bangkok: Handmade Transit, Afterword, Bangkok, 2016.

ONLINE REFERENCES:

English references:

Brighenti, A. and Mattiucci, C., "Editing Urban Environments: Territories, Prolongations, Visibilities", 2008. https://www.researchgate.net/publication/30531241_Editing_Urban_Environments_Territories_Prolongations_Visibilities (accessed January 2018).

Recio, R.B., et al. 'Revisiting policy epistemologies on urban informality: Towards a post-dualist view' in *Cities* 61, pp. 136–143, 2017. http://dx.doi.org/10.1016/j.cities.2016.08.018 (accessed February 2018)

'Global INRIX 2017 Traffic Scorecard' (accessed February 2018)

http://inrix.com/resources/inrix-2017-global-traffic-scorecard/

Thai references:

"ไทยรถติดที่ 1 ของโลกฯ"

https://www.bbc.com/thai/thailand-39038498 (accessed February 2018)

"วาระกรุงเทพ 2560 (3): "วินมอเตอร์ไซค์ 'vs 'GrabBike' รัฐสวนกระแสเศรษฐกิจคิจิทัล"

https://thaipublica.org/2016/06/bangkokpublica-3/ (accessed February 2018)

"กทม. จัดงบ 53 ล้านปั้น เป็น "มหานครแห่งอาเซียน" เริ่มจากทำแผนที่รถเมล์ - กส.บ. เดินหน้าปฏิรูประบบเดินรถฯ"

https://thaipublica.org/2016/07/bangkokpublica-4/ (accessed February 2018)

"รถสองแถวโวยคมนาคมจัดระเบียบเดินรถ"

https://www.dailynews.co.th/economic/189354 (accessed February 2018)