Street design in some Asian cities

A study from the perspective of pedestrians and bicyclists on Manila, Tokyo and Mumbai

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1 Introduction

A street is defined as "*a public thoroughfare, usually paved, in a village, town, or city, including the sidewalk or sidewalks*". (Wordreference.com, 2017) While the buildings are designed by architects and the roads by civil engineers, it is not really defined who has the responsible for designing the streets. The way the streets are designed and used contributes to the quality of our lives. They are not only used for getting around from one place to another but they are used for different activities as well.

When I was walking around in Manila (study trip 2017), I couldn't stop thinking about how the streets are used there. I am not only talking about the transportation system and traffic there but more like how people where using the street as public space. People where cooking, children were playing, some people were waiting for something while some other people where just going somewhere else. The everyday life in the streets captured my interest.

When we are looking at the streets, they comprise approximately 25-30% of public spaces in the city (Planetizen.com, 2017). The streets fail to provide their surroundings with a space where people can safely and freely walk, bicycle and socialise beside driving and taking public transportation. The problem with the lacking of safe sidewalks and the absence of the bike lane is not only seen in Philippines but all over in the world. It is essential to design safe and attractive streets where people can walk around. I will look into the issues and into some

design proposals of the streets in Asian cities such as Mumbai, Tokyo and Manila. Copenhagen will be used as an inspiration.

2 Literature Review

Defining the issues in the cities

Rapid and uncontrolled urbanisation in the cities of e.g. both Philippines and India will lead to crowded cities with declining in the quality of life, social stress and greater environmental degradation among other factors. (Arceo-Dumlao, 2017) The streets in the cities play a significant role in how the cities will succeed in interacting, creating social places and opportunities for everyone. Hence, the design of the streets is very important to uplift the quality of the city.

But what makes a city great? The streets, buildings, activities going on in the city and much more add to the quality of it. Charles Correa in his text about housing and urbanisation in India, is looking into the qualities of Mumbai, then known as Bombay. Mumbai is the financial capital of India and has the most populous city in the country. Correa describes Mumbai as a great city, but a terrible place:

" *Everyday it gets worse and worse as physical environment... and yet better as city. That is to say, everyday it offers more in the way of skills, activities, opportunity*" and continues " *destroying Bombay as environment, while it intensifies its quality as city*"(Correa)

But what makes the city such a terrible place? Could it be the way streets were used? When we look into the text of Iderlina Matteo-Babiano and Hitoshi Ieda, they write about the colonial Manila and Edo, today known as Tokyo. These cities have similar monsoon-based climate and had in the past underlying similarity in terms of use of street space. Today, the cities are completely different, but when we are looking at the similarities in the Asian cities, whether it is Mumbai, Manila or Tokyo, they still have lots in common.

Jane Jacobs, best known for her influence on urban studies, wrote that "*streets serve many purposes aside from carrying vehicles while pedestrian part streets, or sidewalks, serve many purposes beside carrying pedestrians. This rationalizes the presence of various elements found within Asian sidewalks*"(Kost, 2011). As Mumbai previously was described as having a terrible physical

environment, it probably referred to the city being designed for cars and not for pedestrians, with a view to the city having a dense population.

Today, wee see that the carriageways are constructed and the medians marked, while there are undefined outer areas left for other purposes. These outer spaces are usually occupied by parking areas. There are little space for pedestrians, trees, street vending, social activities and utilities. Street vending is very much a part of the urban street life and it contributes to the livelihood of people. But these leftover spaces " *is not sufficient to safely and comfortably accommodate these essential functions of the street*." (Kost, 2011) Today, the designs of streets and roads usually focus on improving the vehicle mobility by allocating more and more space to it - e.g Beijing with it's many lanes for cars. By focusing on improvement of the traffic congestions, the safety for the pedestrians deteriotes as " *the lack of proper pedestrian infrastructure forces people to walk on the carriageway. The same is true for cyclists, street vendors, and public transport. Eventually, everyone ends up sharing what is constructed as a motor vehicle carriageway, leading to a reduction in the amount of space that is usable by vehicles*". (Kost, 2011)

Use of street space

In 1995, Bangkok city tried to "*reclaim its networks and creating a scenic vista within its urban space*" (Mateo-Babiano et al, 2010) by banning the street traders and hawkers which resulted in a lot of protests from stakeholders and academics that insisted that they were very much part of the streets as anyone else. But who can decide how to use the streets and by whom?
Streets (and buildings) are the identity of cities, and they are representatives of the lifestyle and culture of people. The design of the streets need to comprise the multitude of activities and functions within the street. Likewise in Manila in 2002, beside sidewalk activities there was a prohibition for other activities such as "*vending or selling, doing house chores and even the use of sidewalks for plants, trees and plant boxes*" (Mateo-Babiano et al, 2010). By wandering around in the streets in Manila, I have seen that it is clear that the prohibition hasn't changed anything. We still see all these in the city.

Looking at the Asian cities, one of the similarities between them is: "*The street user behavior tends to replicate traditional village interactions and communications along acces ways such as can be seen along access ways in*

various Asian settlements such as kampung in Indonesia, barangays in Manila, and sois in Bangkok (...). The Streets of Bangkok still serve as a social arena for a very rich street life and sois are areas where people live recreating the village." (Mateo-Babiano et al, 2010)

In order to better understand the sociology of street use, there has been looked into how the street were used in the past in the colonial Manila and Edo-period Tokyo (Mateo-Babiano et al, 2010). In every street culture, sidewalk users undergo both movement (walking, running) and non-movement (chatting, stopping, sitting, drinking, eating, pedding etc.) behaviour. According to Matteo-Babiano and Ieda, the use of streets for non-movement activities as described, was very common in the past in Edo and Manila. They further describe "*This encourages the emergence of small-scale, multifunction spaces. The presense of social spaces manifests the collective attitude fostered by the need for group acceptance. Asian cities, therefore, entails a different approach to sidewalk management and improvement which takes into consideration the diversity in street use (...)*" (Mateo-Babiano et al, 2010).

Considering the design of the each city, the streets have been influenced by cultures, whether local or foreign. For instance, the Philippines had been colonized by Spain for almost 380 years and the Spanish influence is seen on the urban planning, while Edo was under the sakoku policy (Japan was a closed country) for almost 250 years. These examples show how the history of the cities still influences the way the streets are used. Looking at the pedestrians, there are various activities that they engage in beside walking. In both Edo and Manila "*social interaction and communication was present in both cities*" (Mateo-Babiano et al, 2010). This shows us that street furniture, social spaces, just to name a few, are important part of the streets.
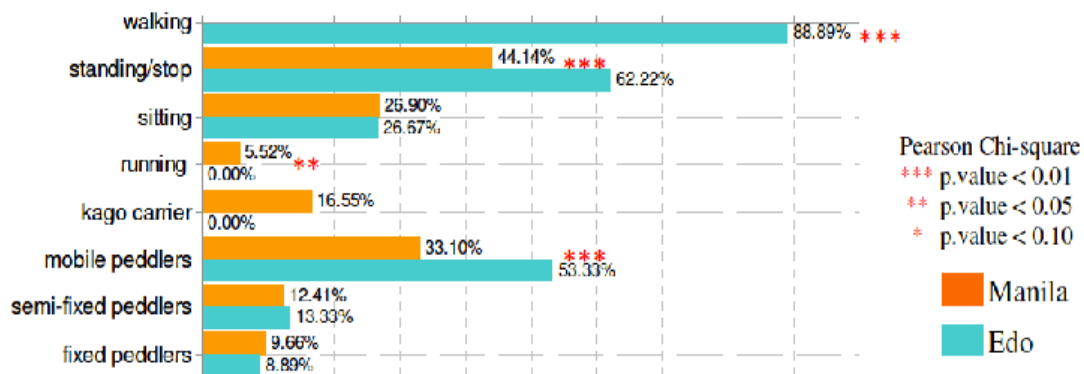

Table 1: Street activities and uses in Edo and Manila. (Mateo-Babiano et al, 2010)

"*As an example, in Edo streets peddlers seemed to move around while in Manila they tend to occupy a specific spot which implies that space flexibility is requisite in Edo while in Manila, semi-flexible spaces are more appropriate*". (Mateo-Babiano et al, 2010) Comparing Manila to Edo, Manila seemed to have more street vendors and peddlers. Today, there haven't been so many street vendor in Tokyo since 1970's. (Time, 2010), while in Manila, we still see vendors in the streets trying to sell something. In a way, this shows us that streets is considered as communication networks and not only as distribution. The streets should be designed to meet the social and functional aspects of the people in the cities. "*The social character of Asian spaces encourages interaction, communication and socialization among individuals*" (Mateo-Babiano et al, 2010).

Iderlina Matteo-Babiano and Hitoshi Ieda wrote in their text that depending on the time of the day, various activities are conducted. This means that "*morning activities differ from afternoon activities but are accommodated in one single space which reflects the vertical quality of Asian space that has to be taken into consideration when designing sidewalks*" (Mateo-Babiano et al, 2010). This is important to remember when designing the streets, so there is space within the sidewalk for a multitide of activities.

3 Argument, Critique or Discussion

Streetscapes

Streetscape is defined as *" the visual elements of a street, including the road, adjoining buildings, sidewalks, street furniture, trees and open spaces, etc, that combine to form the street's character*". (En.wiktionary.org, 2017)

When designing the streets, there are number of things that should be considered, such as consistent use of materials, details, street lighting, street furniture and public spaces. In order to make the street more efficient, signages, trees, paving and water features should be consideres as well. Today, the cities are looking into different ways of reducing the pollution in the air and the water. They are spending millions of dollars to include bulbouts, bioswales and bike lanes into the standard design elements of the streets: "*Smart street design can reduce area temperatures, absorb storm water, combat air pollution, and save cities money.*" (Planetizen.com, 2017).

Good design

As it is shown in the literature, when designing streets there are some factors that should be considered such as having bike lanes, public spaces and greenery and stormwater design should be considered as well. There are several reasons why it is difficult to design good streets, such as considering the variety of functions for different groups as it is difficult to design streets in order to please all users. Beside that, "*historically street design has been the role of the traffic engineer whose goal it was to move traffic through streets, rather than to attract people to lingerin shared public space*". It requires lots of communication between the involved designers and planners to solve this in a good and functional way. Time and money play an important role in making it all work, and further it requires "*vision and courage, but also patience and consistency for long-term change.*" (Planetizen.com, 2017). Street design not only affects our daily lives but also our physical health and mental well being. According to planetizen.com, 85% of people are feeling that "*the quality of the built environment makes a difference to the way that they feel*". (Planetizen.com, 2017). There have been lots of studies showing that "*people choose to sit on public benches in centrally located places rather than removed ones. Children prefer to play on streets, in parking areas, and in front of building entrances instead of designated play areas in their own backyards. The street, as an extension of the built environment, has an emotional value that should not be overlooked. As such, the psychology of space is making its way into progressive street design manuals.*" (Planetizen.com, 2017). Further, a new study by San Diego State University reports that people who live in a city a more likely to be physically active compared to those living in the suburbs (Planetizen.com, 2017). It is necessary to design, not only attractive, but also safe streets, where people and vehicles have shared spaces, but also streets that encourage people to be more physical active and social. Streets that look good can also be safer.

Street furniture and design can contribute to the identity of a place, e.g. the Superkilen in Nørrebro, Copenhagen where there is a characteristic red square with street furnitures.

Superkilen, Nørrebro. Source: Google

An example of good street design
Source: Google

But how should the streets be designed? There a number of factors that should be considered, for example infrastructure services such as water, storm water, sewage, electrical and telephone lines. These underground utilities need be well coordinated with the layout and functioning of the streets that should be designed properly. Streets should be safe, walkable and liveable, which lots of citites in Asia don't meet this requirements. They don't provide enough space for all users. In Beijing, Manila, Tokyo and other Asian cities, we se streets with no sidewalks, sidewalks with no shade, cars parked on sidewalks, pathways cluttered with telephone poles etc.

Here are some examples on poorly functioning streets:

Beijing

Cars parked on sidewalk. Photograph: Personal

Sidewalk occupied by furnitures and clothes hanging on string. Photograph: Personal

Cars parked on sidewalks and there is no space for bikes
Photograph: Personal

Wide road for cars and there is no lanes for bikes
Photograph: Personal

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These pictures show how the sidewalk are used for parking or clothes that hang on string. On bottom left, we see a road, where there are no space for bicycles.

Manila

People use streets for walking, and sidewalks are used for other purposes. Photograph: Personal

No space for sidewalks. Photograph: Personal

Roads are primarily for cars. Photograph: Personal

Wide streets with no proper sidewalks or lanes for bicycles. Photograph: Personal

Same disfunctioning of streets are seen in Manila as in Beijing. People use sidewalks for maintaining bicycles, poles etc. instead of using them for walking. The streets look very caotic and unstructural.

Tokyo

Small street with no proper space for pedestrians or bicyclists. Photograph: Personal

Cars use sidewalk for parking. Photograph: Personal

As in Beijing and Manila, same problems are seen in Tokyo. There is lack of proper design principles. If we compare these Asian cities to Copenhagen, which is known for its good street design, we can see differences in the way the streets are infrastructured. But what did work well for Copenhagen? If we look at the design of the streets in Copenhagen, there are lanes for bicycles. Urban planners basically started thinking about bicycles first and cars second. (citylab.com, 2017) While wandering around in Manila and Beijng (study trip 2016), I could see the difference in the way the streets where used. In the Asian cities, there is no bike lane, sidewalks are used for other purposes than for walking. In Beijing, people were hanging clothes on streets, preventing other people to walk freely on the sidewalks. In Manila, people were cooking and peddling.

Copenhagen

In most cities in Denmark, there are sidewalks, lanes for bikes and cars. Photograph: Personal

All users of the street are considered a part of the street. Photograph: Google

As in most Asian countries, we see the same types of streets in the old streets in Denmark. Photograph: Google

Magstræde in Copenhagen, a narrow and old street Photograph: Google

In Denmark, there are streets with sidewalks, bike and car lanes, which makes pedestrians and bicyclists feel themselves safer. Mostly, there are bike lanes in Denmark, but in old streets such as Magstræde in Copenhagen and some of the

oldest streets in Valby there are not bike lanes, and the width of the street is narrow compared to newer streets.

In Copenhagen, bike lanes has been a part of the street design since the beginning of 20th century. (Copenhagenize.com, 2017) Streets with bike lanes encourage people to use the bike as a trasportation system instead of using the car. Jan Gehl, known for his studies about urban design and public spaces, has stated that today in the world " *we have broken all the rules to make automobiles happy.*" (archdaily.com, 2017) He has based his whole career of designing cities for people. In an interview he told about the importantce of having a people-friendly city: " *It would be a city with good public spaces and a city that is rather compact. It would be a city that really invites people to walk and bicycle as much as possible. A good walking and cycling environment with a good public realm is also a good environment for public transport, so there is an important connection here as well. Strengthening public transportation will be essential in the future, in order to become less dependent on private cars and also in order for the city to become more people-friendly.*"(dac.dk)7

4 Urban Shelter Design

Street templates

Based on my literature review and discussion, here are some proposals for how streets can be designed to be more functional.
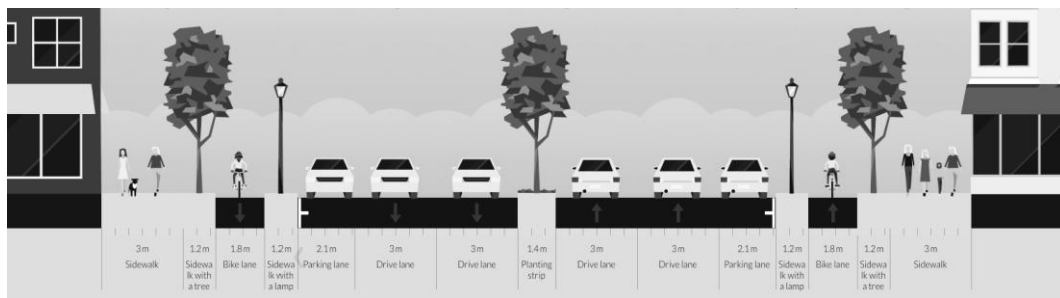

Figure 1. Street width: 32 m. Street consisting of sidewalks, bike lanes, space for greenery, drive lanes and parking lanes. Designed with streetmix.net.
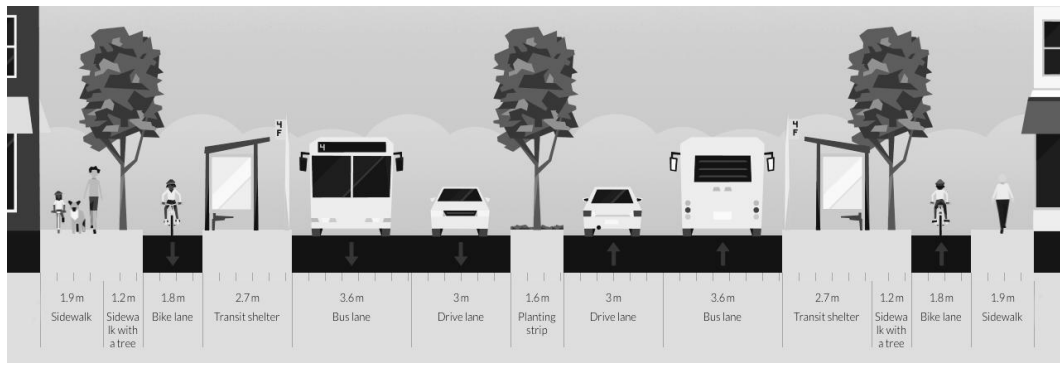
Figure 2. Street width: 30 m. Street consisting of sidewalks, bike lanes, space for greenery, drive lanes, transit shelters and bus lanes. Designed with streetmix.net.
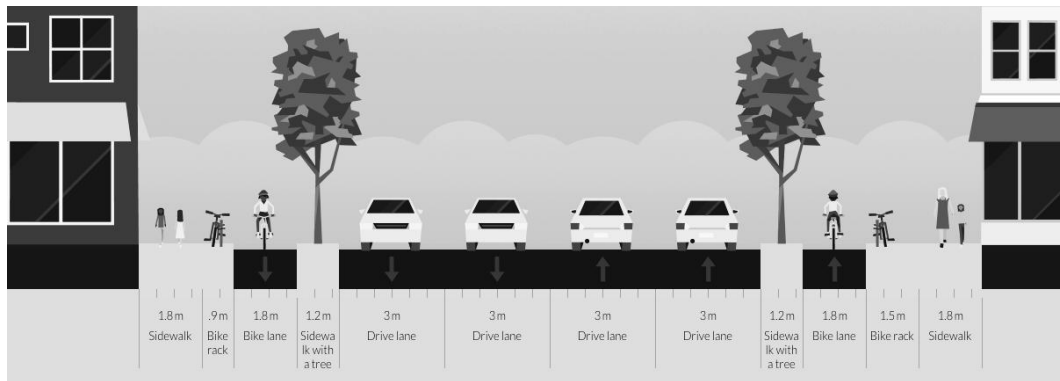

Figure 3. Street width: 24 m. Street consisting of sidewalks, bike lanes and racks, space for greenery and drive lanes. Designed with streetmix.net.
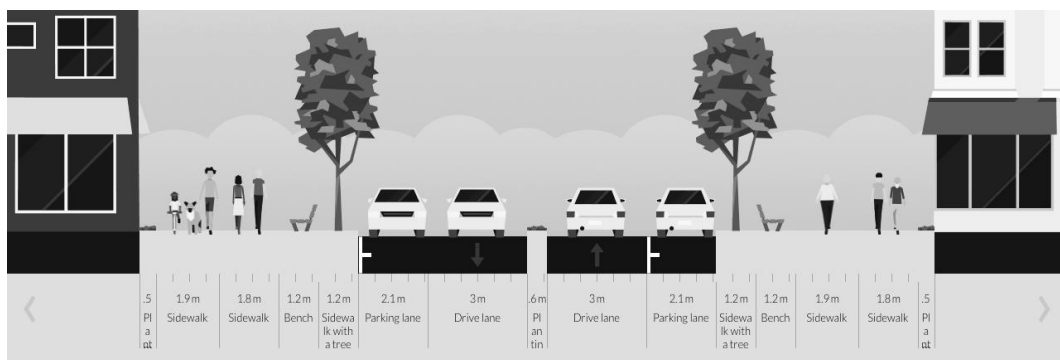

Figure 4. Street width: 24 m. Street consisting of wide sidewalks, space for greenery, drive lanes and parking lanes. Designed with streetmix.net.
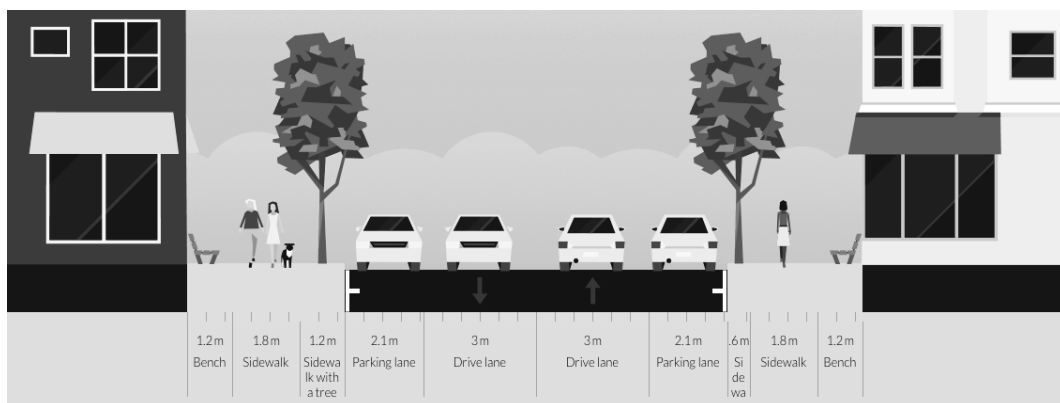

Figure 5. Street width: 18 m. Street consisting of sidewalks, space for greenery, drive lanes and parking lanes. Designed with streetmix.net.

There are showed 5 different street scenarious, where there are focus on different users, street-side activities, traffic volumes and adjacent street uses. Figure 1, There are wide sidewalks, where street vending and social activities can take place, and bike lanes, trees, parking, lanes for car and a median with trees. Figure 2 depicts a wider street of 30 m. The street is wider and more social with space for various transportation types such as cars, buses and bicycles. There are sidewalks for pedestrian with trees to provide shades. In figure 3, the street width is 24 m, where there is space for sidewalk for pedestrians and parking for bicycles, bike lanes, trees for shading and car lanes. Figure 4, here it's more focus on pedestrians with wide sidewalks, where there are space for street vending and social activities. In figure 5, the street is smaller with 18 m width. There are focus on pedestrians, trees and cars. These street scenarious are designed to accommodate the street cultures of most Asian cities such as Manila, Mumbai, Beijing and Tokyo, where street vending is common and where there are large number of vehicles on the streets.

5 The Role of Architects

How can architects design a better environment for people? An architect is desbribed as "*someone who plans, designs, and reviews the construction of buildings. To practice architecture means to provide services in connection with the design of buildings and the space within the site surrounding the buildings, that have as their principal purpose human occupancy or use.*" (En.wikipedia.org, 2017). Architects role is to design better environments for people. It can be designing sustainable buildings and sustainable urban design, but often, designing the streets are not in the field of the architect. Designing the streets are usually in the hand of urban planner and landscapes architects. As it is described here, "*urban design is about making connections between people and places, movement and urban form, nature and the built fabric.*"(Wikipedia) Jan Gehl, an architect known for his studies within urban design, has showed us that architects can work in different fields as well. There are many architects, who had worked with the design of a city. For instance, Antoni Gaudí, an Spanish architect, had influence on the development of Eixample in Barcelona. Eixample, designed by the urban planner Ildefons Cerdà, is characterized by long straight streets and for its strict grid pattern crossed by wide avenues and square blocks. Architect may today not

have so much influence on urban design, but they are still an important part in the process of building.

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