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# Reclaiming Residual Spaces in Urban Life: The Act of Occupancy Beneath Pedestrian Bridges in Jakarta

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**Abstract:** A pedestrian bridge can be more than just a crossing facility as it provides a gateway that connects communities. While rush and flow are taking place on the bridge, there's also a possibility of underworld happening beneath a pedestrian bridge, as shown in several spots throughout Jakarta. Based on the data of the local government in 2015, Jakarta has 324 pedestrian bridges all over the city mainly used for crossing highways and mostly placed near transit areas. It is a very common sight; as the elevated urban infrastructures in public space constructed, some residual spaces subsequently appear; consumed and owned by no one but the public— which what de Solà-Morales describes as the “terrain vague” (1985) or “superfluous landscape” according to Nielsen (2002). The residual spaces beneath these pedestrian bridges connote freedom and opportunity for engagements. As the residual spaces are open to free way of perceiving, it provides potential outlets for unexpected and informal events. This paper explains further upon the phenomena of unexpected and informal events discovered beneath pedestrian bridges in crowded transit area using the study case of Lenteng Agung Pedestrian Bridge, located in South Jakarta.

Keywords: pedestrian bridges, residual spaces, terrain vague, superfluous landscape, informal events

## 1. Introduction

Pedestrian facility design procedures in developing countries in Asia, including Indonesia, adapting design standards assuming pedestrian to exhibit similar behavior and pattern of movement as shown in automobiles.<sup>1)</sup> However, this is partly inaccurate as pedestrians tend to exhibit complex movement pattern due to high level of flexibility in choosing walking routes.<sup>2)</sup> Presumably, the assumption was caused by the lack of consideration in the social-cultural aspects during the process of adapting the pedestrian facility design produce; which are mostly taken from policies that are applied in Western countries.

The 20<sup>th</sup> century was marked by significant changes in mobility across the city, where the requirement for private transport was raising at a significantly great rate.<sup>3)</sup> Cars are dominating due to the rapid growth and dominance of vehicles. These changes put pedestrians at a higher risk of accident, making them the most vulnerable user of the road.<sup>4)</sup> In 2015, the World Health Organization (WHO) explained that more than 275,000 pedestrians around the world were killed on the road every week. This was because of their needs for mobilization had been neglected for the interest of automobiles. To ensure the safety of pedestrians, especially when crossing, adequate crossing

facilities must be provided in several locations. Construction and development of crossing facilities become the main form of mitigation against the risk of accidents experienced by pedestrians on the street.<sup>4)</sup>

Several important factors are underlying the choices of pedestrians in using crossing facilities. Comfort, safety, and time are the most important factors underlying the pedestrian choices.<sup>4)</sup> Besides, a qualitative study in three regions in London, Birmingham, and Southend showed that pedestrian perception of crossing facilities were also influenced by accessibility; whereas studies in Athens showed that factors such as type of road, flow, and traffic control as the most significant causes.<sup>4)</sup> This has created variety in the use of crossing facilities, based on its physical and environmental context.<sup>5)</sup>

Pedestrian bridges are a type of crossing facilities with a vertical separation system between pedestrians and vehicles.<sup>6)</sup> The concept of vertical separation of traffic in pedestrian bridges— above or below the road — has been proposed since the 1930s.<sup>6)</sup> Implementing pedestrian bridges as crossing facilities has proven to significantly reduce the rate of pedestrian accidents.<sup>6)</sup> Therefore, pedestrian bridges becoming one of the most common crossing facilities in Indonesia, especially in Jakarta. By 2015, Jakarta has in total of 324 pedestrian bridges, spread

throughout the city.<sup>7)</sup>

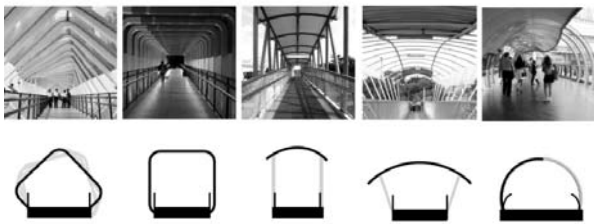


Fig. 1: Variations of pedestrian bridges in Jakarta

### 1.1 Pedestrian Bridges: A Crossing Facility vs Everyday Place

Pedestrian bridges are urban infrastructures constructed by and for the benefit of the society. As an urban infrastructure, pedestrian bridges are required to provide four main functions: 1) transport link between separated urban areas; 2) creation of an attractive exterior; 3) demonstration of modern technical capabilities; 4) construction of user-friendly structure.<sup>8)</sup> Yet the primary function of a pedestrian bridge is to make it easier for the pedestrian to pass from one place to another within the shortest route.<sup>9)</sup> Moreover, pedestrian bridges are also required to be aesthetically pleasing since it could be a demonstration of a city's economic growth and expansion during the period of the bridge construction.<sup>10)</sup>

Pedestrian bridges are identified as one of the safest crossing facilities to accommodate pedestrian traffic mobility in urban life.<sup>11)</sup> Pedestrian bridges afford slower mobility compared to the movement of vehicles; offering a different experience in moving and feeling urban space.<sup>12)</sup> Nowadays, pedestrian bridges have evolved from simple crossings to interconnected systems of elevated pedestrian walkway, leaving its existence to serve not only as a crossing facility but also as a public space that allows movement and activity of the city; demonstration of spatial quality a city could afford in terms of connectivity, verticality and complexity.<sup>13)</sup>

Although the construction of a bridge always has its initial purpose, the function itself may vary from time to time.<sup>14,15)</sup> For instance, a pedestrian bridge in Hong Kong called Mong Kok pedestrian bridge is currently used by the society as a place for everyday activities.<sup>13)</sup>



Fig. 2: The utilization of Mong Kok pedestrian bridge as "everyday place" by the public

This phenomenon shows the capability of a community in expressing their rights and abilities in occupying a

space<sup>16)</sup>; also opens up the opportunity for pedestrian bridges to establish a sustainable society<sup>17)</sup>; satisfying the demand of both present and future generations in urban life as its purpose of existence is adapting throughout the time.

### 1.2 "Space Below" Pedestrian Bridges in Jakarta

The construction of any kind of bridge will automatically create an "underworld" as the inevitable and essential shadow side.<sup>15)</sup> Therefore, the appearance of these pedestrian bridges as elevated infrastructures leaves spaces beneath the structure seen as urban residual space called "space below".<sup>18)</sup> This type of residual space could vary in terms of shapes and sizes, often left open yet uninhabited and abandoned for maintenance— refers to "space of uncertainty"<sup>19)</sup> and remain as wasted spaces merely utilized.<sup>20)</sup> Lacking primary use and purpose, "space below" considered as negative or void space to the city— which what Ignasi de Solà-Morales<sup>21)</sup> called as "terrain vague" or "superfluous landscape" by Nielsen.<sup>22)</sup>

When a space does not have clear regulations and ownership, it leaves to the public to be discovered. "Terrain vague" stimulates the imagination because it is empty and has no apparent function<sup>23)</sup>; the absence of determined use of the space actually enhances its essence of existence. It only requires the public to sense and perceive the space differently.<sup>24)</sup> The existence of "terrain vague" could be defined in either spatial context or on how the space is occupied.<sup>25)</sup>

On another side, Nielsen sees these abandoned spaces as the backside of the designed, others to the primary spaces of public life. The superfluous landscape is an alternative to the possibilities of a public appearance; responding to an increasingly formless and heterogeneous urban field.<sup>22)</sup>

Both "terrain vague" and "superfluous landscape" that took place in "space below" indicates freedom— open to free way of perceiving. The openness of "space below" hence generating a potential to transform these neglected spaces into meaningful and useful spaces through the act of reclaiming<sup>26)</sup> and appropriation. In Jakarta, this phenomenon appears in several spots, especially beneath pedestrian bridges located at the crowded transit spots. Furthermore, this paper aims to portray the act of reclaiming over "space below"— specifically beneath pedestrian bridges located at crowded transit spot— in respond to the existence of residual spaces in urban life.

## 2. Method

The method of this research includes literature reviews on the value of pedestrian bridges in urban life, theory related to residual space and the way it is perceived by the public (terrain vague and superfluous landscape), and observation towards a pedestrian bridge in a high-density area. The focus of this research is on the act of occupancy that a pedestrian bridge could offer beneath. The goal is to

find out how a pedestrian bridge offers the new opportunity of engagements to enhance the surrounding communities, not particularly hold the utility as the urban infrastructure (crossing facility). The case study will be involving Lenteng Agung Pedestrian Bridge in the Southern part of Jakarta.

### 3. Discussion

Lenteng Agung is the largest dense area in the sub-district of Jagakarsa, South Jakarta, reaching to 26,556.16 people/km<sup>2</sup>. Around 80% of Lenteng Agung area is residential, while the rest is commercial consists of restaurants, shops, small retail and small industries supporting the daily livelihood.<sup>27)</sup> Further discussion regarding the context will focus around Lenteng Agung Pedestrian Bridge as the object of the research.

#### 3.1 Spatial Settings of Lenteng Agung Pedestrian Bridge

Lenteng Agung Pedestrian Bridge (known as JPO Lenteng Agung) is a crossing facility that supports the pedestrian mobility around Lenteng Agung Railway Station. The Station is located between two highways (one on the west and the other on the east side) which pedestrians are obligated to pass the JPO, either to enter or exit the station area, to avoid the physical contact with vehicles. Besides the highways, Lenteng Agung Pedestrian Bridge has two other types of obstacles namely waterways and railways (fig. 3).

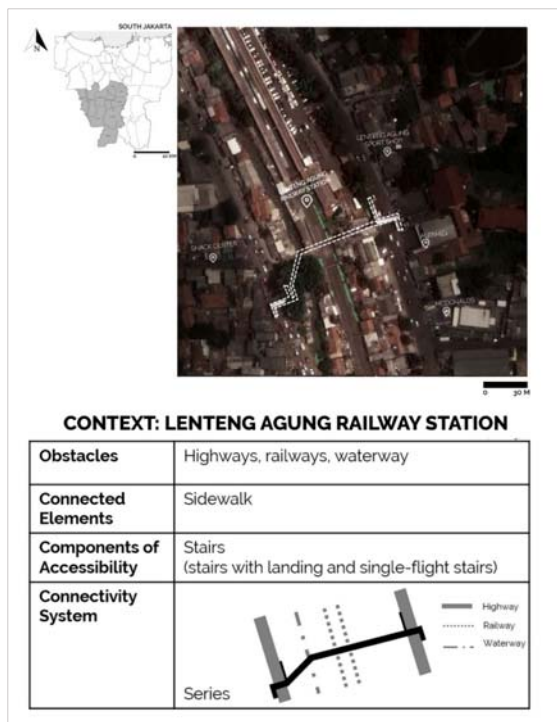


Fig. 3: Spatial settings of Lenteng Agung Pedestrian Bridge

Lenteng Agung Pedestrian Bridge has a series

connectivity system. The body of the bridge does not have branching, yet only consists of one path particularly used by pedestrian to cross three obstacles (highways, railways, and waterway) simultaneously. This series connectivity system caused the position of the Lenteng Agung Pedestrian Bridge relatively perpendicular to the position of the highways so that it requires several components of accessibility to use this pedestrian bridge.

#### 3.2 The Act of Occupancy Beneath Lenteng Agung Pedestrian Bridge

There are four components of accessibility in four different spots as shown in fig. 2; containing two different types of stairs (stairs with landing and single-flight stairs). The presence of these stairs automatically creates some spaces under, that identified as one of the residual space typologies namely "space below" (Villagomez, 2010). The act of occupancy was found in spaces beneath these stairs as "space below", which will be explained according to fig. 4.

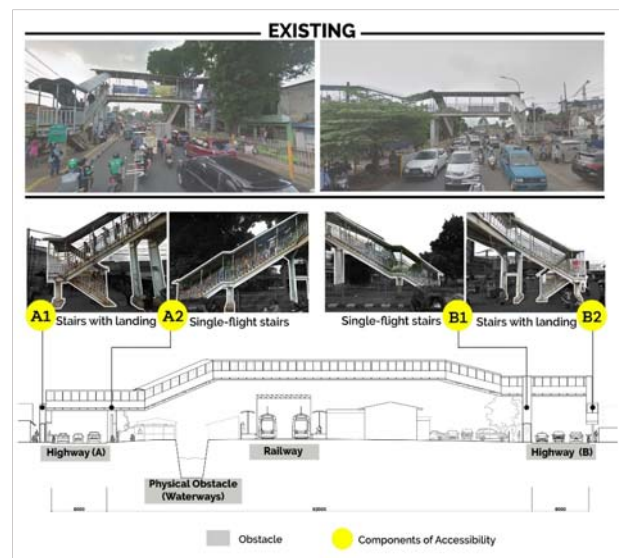


Fig. 4: "Space below" Lenteng Agung Pedestrian Bridge as sites for engagements

#### Components of accessibility: A1

The component of accessibility at A1 is stairs with landing; located on the left side of the street, lies upon an open sidewalk that relatively crowded by the passerby. These types of stairs create a triangular, steep slope space beneath. Yet because of its openness, some actors take the advantage to utilize this space for their interests, resulting in the following unexpected and informal acts of occupancies:

##### 1. Food trading by street vendors

Some street vendors utilize the space under the stair landing as their personal temporary "stall" since the width of the stair landing is approximately larger than the size of their cart. Therefore, it allows these street vendors to sell food without troubling the mobility of

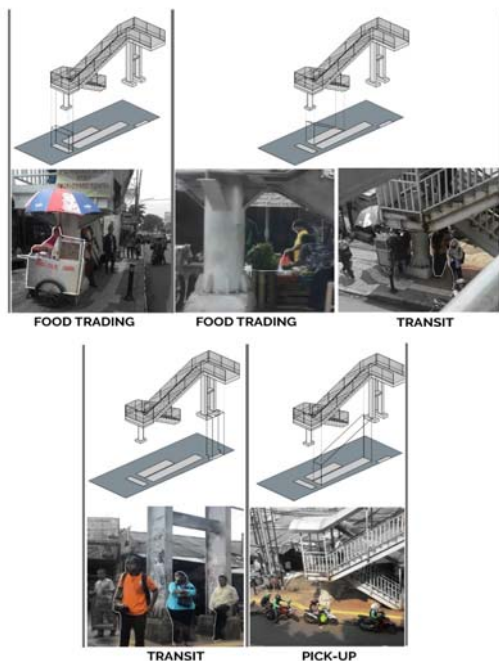
pedestrians who pass through the sidewalk. The stair landing also acts as a roof; offering protection from direct sunlight, allowing the street vendors to be sedentary for a long period of time.

## 2. Transit activities by commuters

Just like the street vendors, the commuters utilize the space under this component of accessibility as a roof for shelter while waiting for their vehicles. The difference is that the commuters tend to linger only for some brief minutes before changing to other modes of transportation such as *angkot* and *gojek* (online transportation).

## 3. Pick-up activities by online transportation

In relation to the situation (2), the commuters using the “space below” as a transit site while waiting for their vehicles. In this case, the “space below” also gradually becoming a pick-up site for online transportation.



**Fig. 5:** “Space below” and act of occupancy under A1 (stairs with landing)

### Components of accessibility: A2

The component of accessibility at A2 is single-flight stairs; located on the right side of the road, lies upon a sidewalk bordered with fences. Compared to the sidewalk at A1, the sidewalk at A2 is relatively quiet and rarely used by the passerby. This type of stairs produces “space below” which is also triangular and steep, but much larger in width and height. Such combination of physical and environmental conditions creates a different purpose; for informal parking site. This type of occupancy may be caused by how the sidewalk is bordered by the fences which then constructing a sense of secureness for the motorcycle owners to park their motorcycles (fig. 6).



**Fig. 6:** “Space below” and act of occupancy under A2 (single-flight stairs)

### Components of accessibility: B1

Spot B1 exhibits similar circumstances as the spot of A2; with single-flight stairs as the component of accessibility, located on the right side of the road, lies upon an uncrowded sidewalk bordered with fences. However, unlike the spot A2, the space under this component of accessibility often left empty and uninhabited despite being bigger (wider and higher) in size. The act of occupancy shown in B1 is occasionally aroused by a street vendor who takes a rest for a while. The fences had disallowed the pedestrians to access to the sidewalk, yet it is constructing a sense of comfort for street vendors to take a break (fig. 7).



**Fig. 7:** “Space below” and act of occupancy under B1 (single-flight stairs)

### Components of accessibility: B2

Spot B2 exhibits similar circumstances to the spot of A1; it is as landing stairs located on the left side of the road, lies upon an open yet relatively quiet compared to A1. This type of stairs also generating the identical space beneath the structure as demonstrated in A1; the triangular, narrow space. The act of occupancy shown in B2 are also similar to A1; which are:

1. Food trading by a street vendor  
Just like what occurred at A1, the street vendors use the space produced by the width of the landing stair as shelter. However, unlike the temporary “stall” at A1, the object beneath B2 is considered as sedentary, permanent, and fixed type of stall— known as *warung*.
2. Transit activities by motorcycle riders  
Similar to the spot at A1, the space under this component of accessibility is utilized as a transit site— yet instead, not for pedestrians but motorcycle riders.



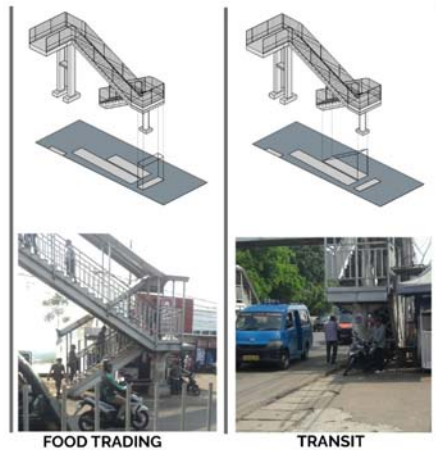


Fig. 8: "Space below" and act of occupancy under B2 (stairs with landing)

#### 4. Conclusion

Using the case of JPO at Lenteng Agung, this paper revealed how the rush and the flows are not only taking place on the pedestrian bridge, but also below the pedestrian bridge. The elevated crossing facility produced residual spaces at the intersections between the components of accessibility to the pedestrian bridge and sidewalks. These residual spaces fragmented in varying shapes and sizes. Referring to de Solà-Morales (1985) and Nielsen (2002) regarding "terrain vague" and "superfluous landscape", these residual spaces beneath pedestrian bridges can stimulate the imagination for the public to be perceived. Having neither clear regulations nor apparent purpose, the existence of these residual spaces becomes an alternative to public space, a space of freedom and discretion. We concluded that a pedestrian bridge— especially in a high-density area— offering another opportunity for assorted types of occupancy beneath. These residual spaces offer the opportunity to create a potential outlet for various unexpected and informal events.

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