The potential sociability of building front set back areas in commercial corridor: Searching for typologies and variables

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Abstract. This paper attempts to examine the potential sociability of building front setback areas that were often overlooked as urban spaces, by searching for typologies and variables of building front setback areas that bring opportunity to promote social interactions. Based on the case studies at the commercial corridors of Lippo Karawaci and Jl. M.H. Thamrin Central Jakarta, this study discovered that direct/transparent and pedestrian setback was the typologies that were successful in promoting active social interactions, due to the following variables, such as direct building lines, face-to-face visibility, street attributes, sidewalk width, shade and shelter from trees, mixed-use, and canopies. The car setback typology was found as a dominant typology and was less likely to support the creation of sociable spaces. However, this typology was able to stimulate sociability in some areas due to the presence of numerous variables, such as wide pedestrian width, the accessibility of transits and public transportations, the presence of public facilities, recurrent of weekly events, the convenience of street furniture, ephemeral objects, openings, and landmarks. This study may provide implications that the understanding of typology and its variables should be more reflective into the future design of active building front setback areas in commercial corridors.

1. Introduction
City space is a place to accommodate various urban activities, which is not only to provide physical activities but also to accommodate the social interactions of its residents. The city space which invites people to interact will strengthen the potential for a lively city [1,2]. The livelihood of good city life can be measured by the diversity of activities, the number of users, the purpose of the activity, and the typology of interactions [3,4]. Building front setback areas are the interface between the private domain of a building and public domain of a street that has the potential to create livable urban life [3,5]. Building front setback areas are a public space which is utilized as a leisure area, sitting space, people-watching, and many more [6]. The orientation of building front setback areas are to support various social activities that strengthen the function of urban public space [7]. However, the design of the building front setback areas should not only be limited to the quality of social interaction but also should pay attention to the quality of imageability [8] as the eyes of the city [9] to attract community social activities [10,11].

In order for the building front setback areas to create sociable spaces, there were substantial aspects of urban context that needed to be considered, particularly in the commercial corridors. First, was the macro context, i.e. street system, plot system, block system, facilities and densities, as well as mixing uses [12,13]. The other was the micro context, i.e. the physical characteristics of buildings and streets.
[1,7,12] and the ephemeral objects [14]. Understanding how the substantial aspects of urban context collaborated will enhance the responsiveness of the crowd or people within the building front setback areas [2,7,15].

Previous studies revealed that the typologies and variables of the building front setback areas would determine the quality of social interaction [16]. For example, the pedestrian setback typology and direct/transparent typology were discovered to encourage the quality of active social interaction [16], while the car setback typology was found unable to create an active or passive social interaction [16]. However, in practice, the building front setback areas were still not utilized and perceived as urban spaces that connected with a street in creating social spaces [5,10,16,17]. Therefore, this study attempts to examine further the potential sociability of building front setback areas that were often overlooked as urban spaces. This paper aims to search for typologies and variables of building front setback areas by understanding how the macro and micro aspects of urban context collaborated in promoting social interactions.

2. Methods

2.1. Case Study

The research uses qualitative methodology to collect information and data about commercial corridors divided into along Jl. Jendral Sudirman to Jl. Taman Permata, Lippo Karawaci, Tangerang, Banten which contain diverse forms, heigh and sizes. There is also M.H Thamrin street which categorized with spacious pedestrian streets and high-rise commercial buildings like hotels and malls.

First, the 2.5 KM long commercial corridor located along Jl. Jendral Sudirman to Jl. Taman Permata, Lippo Karawaci, Tangerang, Banten. Jl. Jendral Sudirman was characterized by low to high-rise buildings. Low-rise buildings were seen only along Jl. Taman Permata. A variety of land uses were found along the commercial corridor, such as educational facilities, offices, malls, hospitals, and others. The building form along the corridor consisted of various types, for example, buildings with wide openings such as the Maxx Box, and buildings with few openings like the Mochtar Riady Institute building and buildings without openings, such as the Siloam Puskesmas.

Second, the 1.5 KM commercial corridor at M.H. Thamrin street, located in the central heart of Jakarta. This corridor is characterized by spacious pedestrian streets and high-rise commercial buildings, such as offices, hotels and malls. The building front setback areas along Jl. M.H. Thamrin had various attributes that supported its activities. These attributes were in the form of street furniture, bicycle parking lots, guideline blocks, road dividers, lighting lamps, trees, trash bins, road signs, hydrants, and other attributes.

Both cases studies were selected because they had specific macro and micro aspects of urban context that could be a value for this study in searching for typologies and variables of building front setback areas that promote social interactions.

2.2. Instruments and participants

![Figure 1. Instrument structure of research methodology.](image-url)
The study was conducted in several stages (Figure 1). First, the literature review is conducted to understand the context of building setbacks and attributes that contribute to the quality of social interaction. Second, data were collected through direct observation and surveys to identify the quality of building front setback areas and its relation to the occurrence of social activities. Third, analyses were conducted using various techniques, such as photography survey to identify ephemeral objects, diagramming, and overlay mapping. The micro and macro aspect of the urban context, i.e. the physical characteristics of the building and its surrounding areas, were identified using a nolli map, front view, pieces, diagrams, and atmospheric documentation.

3. Results and discussion
Both cases studies displayed different elements of macro context that composed their urban structure. At Lippo Karawaci (Figure 2), 20 building plots consisted of low to high rise buildings were identified (Figure 3). While at M.H. Thamrin, Jakarta (Figure 4), 27 building plots consisted of middle to high-rise buildings were identified (Figure 5). Both cases studies were dominated by commercial buildings along the corridors and had the same block system, which was mono-functional and a stand-alone building in its own plot. M.H. Thamrin Jakarta had higher density and more diverse facilities compared to Lippo Karawaci.

Figure 2. Map of commercial corridor Lippo Karawaci, Banten.

Figure 3. Elevation of commercial corridor Lippo Karawaci, Banten.

Figure 4. Map of commercial corridor Jl. M.H. Thamrin, Central Jakarta.
Based on the mapping above, Table 1 presented the macro aspects of urban context along the commercial corridor in Lippo Karawaci and in Jl. M.H. Thamrin. It described the street system, plot system, block system, density, facilities, and mixing-use of both case studies.

| Case Studies  | Macro context     | Description                                                                 |
|---------------|-------------------|-----------------------------------------------------------------------------|
| Lippo Karawaci| Street system     | Type of street: wrapped parallel.                                            |
| Jl. M.H. Thamrin | Plot system     | Type of street: fragmented parallel.                                        |
| Lippo Karawaci| Block system      | There are 20 building plots consist of the low - high rise.                 |
| Jl. M.H. Thamrin | Density and facilities | There are 27 building plots consist of middle-high rise.                  |
| Lippo Karawaci| Mixing-use        | Mono-functional blocks.                                                     |
| Jl. M.H. Thamrin | Density and facilities | Public transportation, shopping centre, school, campus, and hospital. |
| Lippo Karawaci| Density and facilities | Public facilities, shopping center, landmark, historical buildings, and integrated public transportation. |
| Jl. M.H. Thamrin | Mixing-use        | Offices, commerce, settlements, hospital, school, and campus.             |

The results are shown in Table 1 displayed similarities and differences in macro aspects of the urban context. Both case studies shared a similar block system and mixing uses. They dominated by commercial buildings along the corridors and had the same block system, which was mono-functional and a stand-alone building in its plot. However, both case studies had a distinctive contrast in the street system, plot system, and public facilities. Jl. M.H. Thamrin Jakarta had higher density and more diverse facilities compared to Lippo Karawaci.

The relations of building front setback typology and the social activities at Lippo Karawaci was observed and mapped (Figure 6). The car setback typology was found in the 1.7 KM long and had the least social activities observed. The direct/transparent and pedestrian setback typologies were seen as the most successful typology that supported social activities (optional and social), although it was only identified in 0.5KM along the corridor. These typologies were successful due to the diverse supporting variables, which were the availability of services, safety, greenery, openings, and ephemeral objects.
This study mapped the distribution of social activities along with the building front setback typology at M.H. Thamrin Jakarta (Figure 7). The car setback was the dominant typology found in the 2,5 KM of its corridor. Contrary to the previous findings at Lippo Karawaci (Figure 6), this typology was able to stimulate sociability in some areas because of the addition of variables, which were public transportations, public facilities, events, street furniture, ephemeral objects, openings, and landmarks. The other typologies, direct opaque and impermeable blank typology, were found less than 1 K.M. long of its corridor. Those typologies were only able to support the necessary type of social activity due to the accessibility of transit lines along its corridor.

Figure 6. The mapping of building front setback typology and its relation to social activities at Lippo Karawaci, Banten.

Figure 7. The mapping of building front setback typology and its relation to social activities at Jl. M.H. Thamrin, Central Jakarta.
Based on the mapping of building front setback typology and its relations to social activities in both case studies, Table 2 presented the typologies and variables and how they were related to promoting social interactions qualities.

### Table 2. Typologies, variables, and social interaction qualities in Lippo Karawaci and Jl. M.H. Thamrin.

| Cases     | Typology                  | Variables                                                                 | Social Interaction Qualities                        |
|-----------|---------------------------|---------------------------------------------------------------------------|-----------------------------------------------------|
| Lippo Karawaci | Direct/transparent | a. Direct building line.  
b. No walls.  
c. Face-to-face orientation.  
d. Short distance.  
e. On one level.  
f. Public sitting space.  
g. Street furniture.  
h. Sidewalk width.  
i. Shades from trees.  
j. Canopies.  
k. Gathering places.  
l. Variety of shops.  
m. The presence of retail.  
n. Tree planted in median.  
o. Edge.  
p. Ephemeral objects. | Active:  
Necessary and optional activities.  
a. Fleeting relationship.  
b. Quasy-primary relationship.  
c. Routinized relationship.  
d. Intimate-secondary relationship. |
| Jl. M.H. Thamrin | Car setback | a. Face up.  
b. Walls.  
c. Back-to-back orientation.  
d. Long-distance.  
e. Stacking.  
f. Public sitting space.  
g. Street furniture.  
h. Sidewalk width.  
i. Shades from trees.  
j. Canopies.  
k. Presence of gathering.  
l. Places a variety of shops.  
m. The presence of retail.  
n. Sunlight.  
o. Close to public transportation, public facilities, and landmark.  
p. Ephemeral objects. | Active:  
Necessary and optional activities.  
a. Fleeting relationship.  
b. Quasy-primary relationship.  
c. Routinized relationship.  
d. Intimate-secondary relationship. |
| Lippo Karawaci | Pedestrian setback     | a. Direct building line.  
b. No walls.  
c. Face-to-face orientation.  
d. Short distance.  
e. Stacking.  
f. Public sitting space.  
g. Street furniture.  
h. Sidewalk width.  
i. Shades from trees.  
j. Canopies.  
k. Presence of gathering.  
l. Places a variety of shops.  
m. The presence of retail.  
p. Ephemeral objects. | Active:  
Necessary and optional activities.  
a. Fleeting relationship.  
b. Quasy-primary relationship.  
c. Routinized relationship.  
Passive: Individual activities.  |

The quality of social interactions was found in the high category.
According to other studies [1–3,5–7,9,12,14,16], all typologies of building front setback areas were able to stimulate social interactions. However, the social interactions were considered had quality if various types of active activities occurred in the building front setback areas instead of passive activities [4,7,12,15,16]. As seen in Table 2, this study discovered that direct/transparent, pedestrian and car setback were typologies that able to support high category of active social interactions. Direct/transparent and pedestrian setback were typologies that were predicted to promote active social interactions [16]. The direct/transparent and pedestrian setback typologies were seen as the most successful typology that supported optional and social activities, although it was only identified in 0.5KM long of the corridor of Lippo Karawaci. These typologies were successful due to the diverse supporting physical and environmental variables. The physical variables were short distance, access, security, availability of services and gathering places, building openings, direct building lines, diversity of shops and entertainment venues. Those physical variables collaborated with environmental variables, such as greenery and the presence of ephemeral objects together affect the overall atmosphere that encouraged active social activities.

In the context of commercial corridors at Lippo Karawaci, this study found that building front set back areas required other supporting variables for able to strengthen active social interactions. They were the variety of goods and services, an independent retail shop with its personalization frontage, the articulation of building frontage, public and commercial seating, shade and shading from trees, canopies, and adequate width of sidewalks. Additionally, street life, social linkage, evening activities, and the variety of user were also needed to support the success of building front set back areas in the commercial corridors [11]. Those additional variables would drove communities to visit frequently, and at the end, would create social activities at the building front setback areas [10].

In the case of Jl. M.H Thamrin, this study found that the car setback was the dominant typology found in the 2.5 KM of its corridor. Contrary to the previous findings at Lippo Karawaci, this typology was able to stimulate sociability in some areas because of the determinant variable of rapid mass transportation along the corridor. Additionally, the corridor along Jl. M.H Thamrin was supported by street attributes, such as frontage, tree planted medians, street furniture, and livable edges. This corridor had a wide sidewalk width, large block size, lack of vegetation, and ephemeral objects along with the road space. The presence of landmarks and historical buildings were also contributed to the success of the commercial corridor to promote social interactions. The diversity of facilities, a variety of building functions, and car-free day events in Jl. M.H Thamrin was also given a significant impact on the overall quality of social interactions that formed in the building front setback areas. The other typologies, direct opaque and impermeable blank typology, were found less than 1 K.M. long of its corridor. Those typologies were only able to support the necessary type of social activity due to the accessibility of transit lines along its corridor.

4. Conclusion
This study concludes that both case studies in Lippo Karawaci and Jl. M.H. Thamrin had a strong integrated urban structure which was shaped by the macro aspects of the urban context, i.e. street system, variety size of plot system, public facilities, public transportation, mixing-uses of buildings and some additional facilities. At the micro context, the typologies of building front setback areas that were found in case studies that able to promote active social activities were direct/transparent, pedestrian setback, and car setback. The direct/transparent and pedestrian setback was able to develop various social relationships and activities due to the presence of numerous variables, such as direct building lines, face-to-face visibility, street attributes, sidewalk width, and shade and shelter from trees, mixed-use, and canopies.

The car setback typology of building front areas was considered to discourage social activities. However, in this study, we found that the car setback typology was able to stimulate various social relationships and activities due to the presence of numerous variables, such as wide pedestrian width, the accessibility of transits and public transportations, the presence of public facilities, recurrent of weekly events, the convenience of street furniture, ephemeral objects, openings, and landmarks.
Thus, to create interactive building front setbacks areas, this study offers several recommendations to the design of building front setback in commercial areas:

- It should consider the collaboration between macro and micro aspects of the urban context.
- It should incorporate with supporting variables, such as direct building lines, face-to-face visibility, street attributes (frontage, tree planted medians, street furniture, and livable edge), short distance, sidewalk width, and shade and shelter from trees, mixed-use, and canopies.
- It should also consider integration with public transportation facilities, public facilities, and the existence of landmarks.
- It should integrate typologies and variables of building front setback that may produce variations of necessary and optional activities that stimulated social interactions.
- The quality of social interaction of building front setback was not only determined by the typology of its own but also should consider the comprehensive implementation of the building’s function and the context in the area.

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