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Navigating the interface: exploring public-private building and street dynamics of Chinatown in Pasar Besar street, Malang City

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ABSTRACT

The Chinatown area, recognized as the hub of commerce and residence for the Chinese community, spans across nearly all Indonesian cities, including Malang City. Pasar Besar Street is a main access route for visitors exploring Chinatown in Malang City. During the British colonial era, the implementation of the five-foot way policy, which mandated the construction of sidewalks along roadsides, significantly influenced this area's physical and social landscape. This concept connects public and private spaces, facilitating social interactions and economic activities, known as the public-private interface. This research employs a qualitative-descriptive approach to examine the characteristics of the public-private interface, focusing on building frontages and street spaces. The findings unveil a variety of public-private interface typologies, including impermeable, direct, and setback types, which can adapt to other typologies to accommodate user behavior and the surrounding environment. This study holds the potential to offer insights into how the public-private interface shapes the identity and sustainability of urban areas.

Introduction

The legacy of Chinese communities, known as *Pecinan* (Chinatowns), represents distinctive settlements and commercial centers of the Chinese ethnic group in Indonesia (Handinoto 1999). These Pecinan areas, functioning as both commercial hubs and residential neighborhoods for the Chinese community, are dispersed across various Indonesian cities, including Malang. The historical significance of Pecinan as a commercial area stem from the role of Chinese individuals as intermediaries between Chinese traders and the indigenous population. These areas are consistently lively and vibrant due to the interaction between residents and the original Chinese community, encompassing buyers, sellers, and visitors. This interaction contributes significantly to the sustainability of the area (Antariksa Sudikno 2016; Widayati 2004).

During the Dutch colonial administration, Pasar Besar Street was referred to as *Chineeschestraat*, a Dutch term meaning "Chinese street" (Riztyawan, Antariksa, and Maulidi 2015). Pasar Besar Street serves as an arterial road functioning as a traditional commercial center for the Chinese community and has now become a primary access point for visitors to the Pecinan area in Malang City (Wulandari, Asikin, and Pratiwi 2023).

Under the British administration led by Governor of Batavia, Thomas Stamford Raffles (1811–1816), the five-foot way policy was introduced, mandating the construction of sidewalks along the edge of streets with a standard height of 33.5 cm and a width of five feet (150

cm), following British traditions (Barnard 2018; Hadi 2018). The *kaki-lima*, or five-foot way, in traditional Southeast Asian urban centers functions as a comfortable pedestrian corridor and supports sidewalk commerce along rows of commercial shophouses (Harding 2018; Kusumo, Cho, and Powell 2023; Zwain and Bahauddin 2020)

The five-foot way serves as a transitional space between the private and public realms, facilitating movement between these domains. This space fosters both social and economic interaction, shaping productive urban practices (DeLanda 2019; Živković 2020). As such, the integration of public and private realms is an outcome of this spatial openness (van Nes and Yamu 2021). This interface space embodies concepts such as 'eyes on the street' and 'active edges', which promote commercial and social interaction (Jacobs 1961).

The front portion of buildings is often designed to encourage engagement between occupants and passersby, frequently incorporating semi-public zones such as porches or storefronts oriented toward the street (Mellen and Short 2023; Muminović 2023). Streets within Pecinan are designed with features such as generous width, sidewalks, and seating areas to comfortably accommodate public activities while maintaining connectivity with adjacent private spaces (Zhu 2023; Nusaputra and Dwisusanto 2022). The interface space between private and public realms possesses adaptive potential in response to changing needs and behaviors, influenced by factors such as evolving land use or increased commercial activity (Dovey and Wood 2015; Kamalipour and Peimani 2019).

Public-private interface spaces in street morphology have been extensively studied by researchers worldwide. Dovey and Wood (2015) investigated the architecture of interface spaces in Australia, emphasizing their importance in urban design and social interaction within commercial zones. Kamalipour (2017) extended this study by employing urban mapping techniques at both macro and micro scales to illustrate typologies of urban interface spaces. In Canada, Standal and Børrud (2019) explored the relationship between building frontages and streets in city planning through urban micro-morphological analysis, particularly focusing on interface spaces. In Indonesia, Tyaghita and Nur Utami (2018) examined the diversity of interface spaces stemming from the functional evolution from residential to mixed-use areas and their impact on quality of life. Natasia Heindri and Prakoso (2019) highlighted how interface space typologies, such as direct transparent and pedestrian setback types, shape activities and social interaction in commercial areas, particularly evident in Lippo Karawaci. Additionally, Kartamihardja (2018) conducted research on the interface spaces between buildings and streets in shophouses, emphasizing the cultural adaptation of Chinese immigrants in Indonesia.

Public-private interface spaces remain relevant as components of public space today; however, within the context of urban morphology, they require further scholarly attention (Madanipour 2019; van Oostrum 2020; Heath, Oc, and Tiesdell 2011); Public-private interface spaces are crucial for vibrant street life (Mehta 2007), and this phenomenon is particularly evident along Pasar Besar Street, the largest and oldest commercial area in Malang City.

Several researchers have explored the Pasar Besar Street corridor and the Pecinan area in architectural and urban contexts. Dewi, Antariksa Sudikno, and San Soesanto (2005) discussed how commercial activity shapes interior spaces within the shophouses in Pasar Besar. Riztyawan, Antariksa, and Maulidi (2015) analyzed the history, architectural styles, and identity development of the area. Setiamurdi and Herry Santosa (2017) detailed the influence of building façade elements on the development of the Pasar Besar area, particularly in terms of modern architectural styles. Jordan, Purwanita Setijanti, and Endang Titi S. B. Darjosanjoto (2016) argued that urban image elements such as paths and nodes enhance the visual quality of Pasar Besar Street.

Several academic studies have examined public-private interface spaces in urban environments; however, discussions on the adaptation of these interface spaces to user behavior and their implications for the sustainability of a given area remain limited.

This study aims to investigate the typological characteristics of public-private interface spaces, focusing on building façades and street spaces, and the potential transformation of public-private interface forms to adapt to user behavior and their surrounding environment (Jacobs 1961). emphasized that such interface spaces encourage both commercial and social interactions. Despite the significance of these interfaces, further

research is necessary, particularly concerning interfaces in historically commercial corridors such as Pasar Besar Street in the Pecinan area, underscoring the need for deeper investigation to preserve their historical significance.

The concept of interface space

The evolution of spatial knowledge suggests that the creation of space involves the interaction of multiple stakeholders, shaped by political and economic dynamics (Lefebvre 1991). Space is socially constructed through these interactions. Kostof (1992) elaborates on how urbanism and architecture integrate buildings into a network of public streets, emphasizing the relational nature of the built environment.

This conceptual foundation supports the socio-spatial theory of interface space, which centers on the interaction between individuals, families, and businesses with their surroundings (Kumera and Woldetensae 2023). The productivity of a region emerges from dynamic interactions among people, objects, subjects, and environments (Schmid 2022). These exchanges foster productive relationships in urban contexts (Deleuze and Guattari 1987).

The collaboration between building interface spaces and the street contributes to both economic and social sustainability by promoting active social interaction within commercial zones (Kickert, Gregg, and Gökce 2025). Such collaboration among diverse interface spaces fosters dynamic interactions and encourages urban vitality (Llewelyn-Davies 2007).

Gehl (1987) categorized interface spaces along a continuum of soft (social and permeable) to hard (anti-social and impermeable), based on their social appeal. This classification considers various factors such as movement speed (pedestrian versus vehicular), transparency, activity levels, diversity, design quality, and spatial dimensions (Gehl 2007). Building on this, Dovey and Wood (2015) sought to refine the typology of public–private interfaces by advancing Gehl's framework into a more detailed set of interface forms. Their typology includes Impermeable (Blank, Car Blank, Transparent Blank), Direct (Opaque, Transparent), Setback (Pedestrian, Car), and Secondary Interface (figure 1).

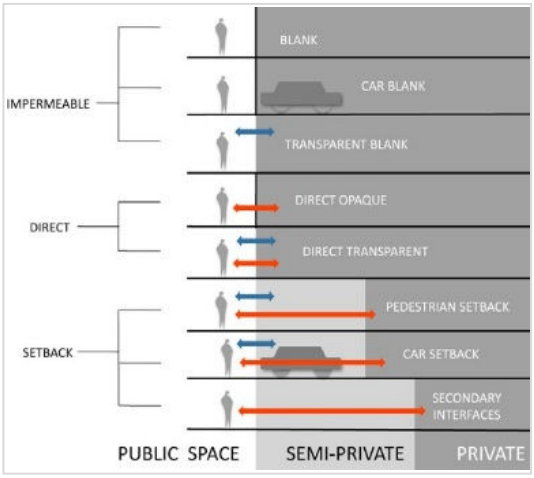


Figure 1. Building and street interface space types
Source: (Dovey and Wood 2015)

To examine the category of distant or impermeable interfaces, Kamalipour and Peimani (2019) proposed a typological framework for opaque interfaces based on two keys dimensions: accessibility and proximity. These impermeable boundaries are characterized as passive, antisocial, and impenetrable, effectively restricting interaction between public and private realms (Porqueddu 2022).

Direct interfaces occur when pedestrians enter private spaces directly from the street without any transitional semi-private zone (Dovey and Wood 2015). In such contexts, most storefronts are directly accessible to pedestrians, and some may offer only minimal semi-private buffering. This spatial condition enables opportunities for social interaction and commercial exchange (Geng et al. 2022).

Interfaces with setback characteristics refer to the spatial relationship between the interface and the public boundary, incorporating elements such as setback, set forward, and alignment (Zhang et al. 2023). The setback typology comprises pedestrian setbacks and car setbacks, creating semi-private zones by providing pedestrian-accessible building edges and vehicle parking spaces (Natasia Heindri and Prakoso 2019).

Methods

This study employed a qualitative descriptive approach to investigate specific events, groups, or social interactions (Creswell 2017). The research method followed several key stages involving

data collection and analysis. The first stage consisted of field observations along Pasar Besar Street, which were documented through sketches and photographs. The second stage involved analyzing the characteristics of interfaces and building functions. In the third stage, buildings were grouped based on interface types and represented in both two-dimensional and three-dimensional formats. The fourth stage included a case study to explore the variations of interfaces in greater depth. Data from field observations and analyses were then compared with existing literature and previous studies. The final stage involved synthesizing data from various sources to develop a holistic understanding of the public-private interface on Pasar Besar Street.

The criteria for identifying public-private interfaces were determined by interface height, decoration, and the unity-diversity of the interface, which together help to define the characteristics of each public-private interface (Kartamihardja 2018). Moreover, building façades contribute to the nature of the interface and can be categorized as Closed Façade, One-Way Transparent Façade, Transparent Façade, and Permeable Façade (Standal and Børrud, 2019).

The typologies of public-private interfaces were classified as impermeable, direct, and setback, serving as the primary units of analysis in this study. The typological framework of public-private interfaces on Pasar Besar Street was divided into these three categories: Impermeable, Direct, and Setback.

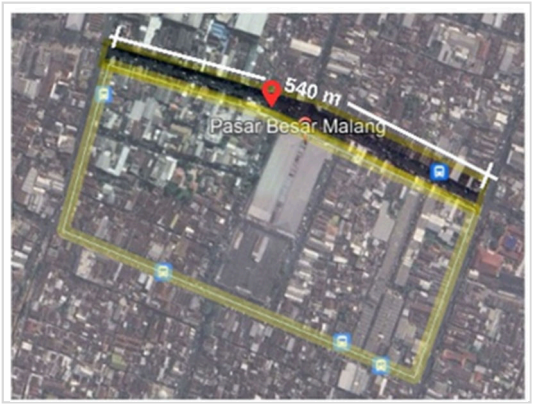
A total of 144 buildings along Pasar Besar Street were documented and analyzed, focusing on their public-private interface characteristics. Building façades were arranged sequentially using montage techniques to facilitate façade analysis in relation to the adjacent street space. A comparative analytical approach was used to categorize public-private interfaces, focusing on 19 purposively sampled buildings that represent each typological category. The study employed a systematic approach to integrate the relationship between building façades and street space in categorizing public-private interface typologies and their contextual adaptations in Pasar Besar Street, Chinatown district, Malang City.

Results and discussion

Overview of surveyed area: Pasar Besar Street, Chinatown, Malang City

Pasar Besar Street in Malang City is lined with a variety of shophouses that have been owned by generations of Chinese-Indonesian families, reflecting the economic dominance of the Chinatown area (Dewi, Antariksa Sudikno, and San Soesanto 2005; Zuliana, Jenny Ernawati, and Herry Santosa 2022). Eng An Kiong Temple serves as a cultural symbol of Chinatown and plays a vital role in the social and spiritual life of the local Chinese community in Malang (Farani and Winarni 2019). The architectural style of the buildings in this area is a hybrid of European and Chinese influences, particularly adopting elements of the Dutch Nieuwe Bouwen style (Zuliana, Jenny Ernawati, and Herry Santosa 2022; Setiamurdi and Herry Santosa 2017).

The research area covers several blocks on both sides of Pasar Besar Street, extending from Optik Diamond store to the Arema Sport store on the west side, and up to the intersection leading to the Eng An Kiong Temple on the east side, which acts as a prominent landmark of the Chinatown district. This area spans a total of 21,820 square meters, with a street corridor stretching 540 meters from west to east. Zainul Arifin Street borders it to the north, Kopral Usman and Sersan Harun Street to the south, Sultan Syahrir and SW Pranoto Street to the west, and Gatot Subroto Street to the east (figure 2).



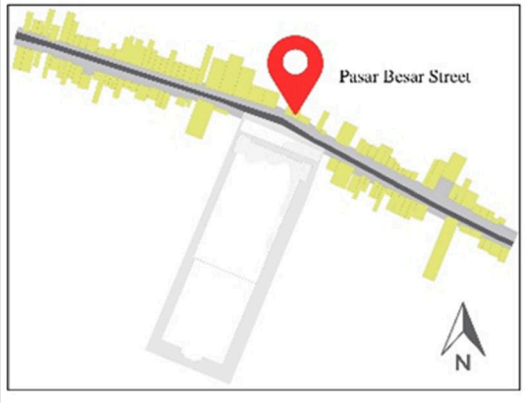


Figure 2. Research location

According to the Spatial and Regional Plan (RTRW) of Malang City for 2010–2030, the Pasar Besar area is designated as a strategic economic growth zone located in Klojen District, aimed at supporting the development of a modern agribusiness-based economy (RPJMD Year 2018–2023). The area's socio-economic activities reflect a distinct urban and architectural context, which constitutes a vital part of Malang City's historical and cultural identity (Astutik and Ramadhoan 2020).

Key Plan Zone A and Key Plan Zone B are designed to facilitate the division of Pasar Besar Street into Segments 1 and 3, which fall within Zone A, and Segments 2 and 4, which are included in Zone B, to illustrate the study area. These zones are highlighted by the location of buildings marked in yellow (figure 3).

Figure 3. Keyplan Pasar Besar Street

Articles within Malang City Regional Regulation Number 2 of 2016 state that the one-way Pasar Besar Street corridor (Zone A), particularly Segment 1 of Zone A (1-A) and Segment 3 of Zone A (3-A), is designated as a cultural heritage building area, marked in yellow blocks on the western side (figure 4).

Segment 1 of Zone A (1-A) spans a road length of 310 meters and comprises a total of 40 buildings, including 32 active buildings and 8 inactive ones. Segment 3 of Zone A (3-A) also extends 310 meters in length, consisting of 33 buildings in total, with 30 active and 3 inactive buildings.

Figure 4. Keyplan Pasar Besar Street zone A

Zone B is designated as a service and commercial area, although it is not classified as a cultural heritage zone. Within Zone B, there are Segment 2 (2-B) and Segment 4 (4-B), both marked with yellow blocks on the eastern side (figure 5).

Segment 2 of Zone B (2-B) covers a road area of 310 m², comprising 41 buildings in total, with 30 active buildings and 11 inactive ones. Segment 4 of Zone B (4-B) spans 215 m² of road area, containing 30 buildings in total, of which 22 are active and 8 are inactive.

Figure 5. Keyplan Pasar Besar Street zone B

Photographs of each building were compiled using a montage technique to identify the characteristics of the public-private interface for each structure. This was done by examining the relationship of the building's façade elements such as doors and windows, walls, openings, setback spaces, and the building's interaction with Pasar Besar Street.

A total of 19 building cases (BC) were selected from 144 buildings through purposive sampling, based on the criterion that each case represents a specific typology of public-private interface. These typologies include the impermeable type with subtypes such as *car blank* and *blank*, the *setback* type with *pedestrian setback* and *car setback* subtypes, and the *direct*

type with *direct opaque* and *direct transparent* subtypes (figure 6).

Figure 6. Locations and photographs of the building case public-private interface

The observation of public-private interfaces focused on buildings exhibiting characteristics aligned with specific interface types, building functions, and user diversity. The mapping of public-private interfaces continues to evolve and adapt from its initial morphological typologies such as *impermeable*, *direct*, and *setback* towards combinations and hybrid forms integrating other interface types (table 1).

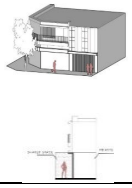
Table 1. Comparative analysis of public-private interface on Pasar Besar Street

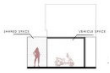
Building case (BC)	Elevation	Functional usage
BC-01		Optical Store
BC-02		Clothing Store
BC-03		Rear Entrance to Plaza
BC-04		Gadget Store
BC-05		Bank
BC-06		Bank
BC-07		Grocery Store
BC-08		Vacant Building
BC-09		Bank
BC-10		Electrical Store
BC-11		Vacant Building
BC-12		Bakery
BC-13		Baby Supply Shop & Music Store
BC-14		Hotel
BC-15		Motorcycle Dealer
BC-16		Bakery & Pharmacy
BC-17		Electronic Store
BC-18		Bank
BC-19		Vacant Building

Public-private interface building and street comparative analysis

In Segment 1-A, the public-private interface is categorized into three main types, comprising the impermeable type with the impermeable car blank subtype, and the direct type with the direct opaque subtype including direct transparent, setback type, with the subtypes of car setback and pedestrian setback. Each building representing a specific interface type undergoes transformation and adaptation, resulting in combinations of two interface types. For instance, BC-01 exhibits two building façades with different interface types, namely, direct transparent and impermeable car blank. BC-02 features a single door as visual and spatial access, characteristic of the direct opaque type, but also provides a setback space utilized by street vendors and as a resting area for pedestrians, thus adapting to the pedestrian setback type. BC-03, functioning as a rear entrance to a plaza, corresponds to the pedestrian setback type, yet incorporates a wide opening that enables visual and spatial transparency, a feature of the direct transparent type. BC-04 includes glass doors and windows that remain transparent during business hours but transform into an impermeable blank interface once operational hours end. BC-05 allocates a setback space in front of the building for both vehicle parking and pedestrian circulation, effectively integrating both car setback and pedestrian setback types (table 2).

Table 2. Analysis public-private Interface for segment 1 zone A (1-A)

BC	Elevation	Public-private interface adaptations		
BC-01			↔	
		Impermeable Blank		**Direct** Transparent
BC-02			↔	
		**Direct** Opaque		Pedestrian **Setback**
BC-03			↔	
		**Pedestrian** Setback		**Direct** Transparent

BC	Elevation	Public-private interface adaptations		
BC-04			↔	
		**Direct** Transparent		**Impermeable** Blank
BC-05			↔	
		Car **Setback**		Pedestrian **Setback**

In Segment 2-B, the public-private interface is categorized into three (3) types, including the impermeable type with the subtype impermeable blank; the direct type with the subtypes direct opaque and direct transparent; and the setback type with the subtype car setback and pedestrian setback.

BC-06 features two building façades with different interface types, namely direct opaque and car setback. BC-07 includes a single door serving as visual and spatial access, characteristic of the direct opaque type, yet it also offers a setback area used by street vendors and as a resting place for pedestrians, thereby adapting to the pedestrian setback type. BC-08 is an unoccupied and vacant building, with no internal activities, which characterizes the impermeable blank type. BC-09 incorporates a setback area intended for queuing, representing the pedestrian setback type, while the building's front façade is made of glass, adapting to the direct transparent type for visual and spatial transparency. BC-10 is equipped with transparent glass doors and windows during store operating hours and adapts to an impermeable blank type once the store has closed (table 3).

Table 3. Analysis public-private interface for segment 2 zone B (2-B)

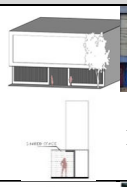
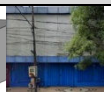
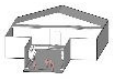
BC	Elevation	Public-private interface adaptations		
BC-06			↔	
		Car **Setback**		**Direct** Opaque

BC	Elevation	Public-private interface adaptations
BC-07		 **Direct** Opaque ↔  Pedestrian **Setback**
BC-08		 **Impermeable** Blank
BC-09		 Pedestrian **Setback** ↔  **Direct** Transparent
BC-10		 **Direct** Transparent ↔  **Impermeable** Blank

In Segment 3-A, the public-private interface is categorized into three (3) types, namely: the impermeable type with the subtype impermeable blank; the direct type with the subtypes direct opaque and direct transparent; and the setback type with the subtype car setback and pedestrian setback. BC-11 corresponds to the impermeable blank type, as the building is unoccupied, thereby preventing both visual and spatial access.

BC-12 features a single door serving as visual and spatial access, characteristic of the direct opaque type; however, when the windows are fully opened, they provide visual and spatial transparency, allowing adaptation to the direct transparent type. BC-13 represents the direct transparent type due to its wide glass openings intended to attract visitors, but it transforms into the impermeable blank type after operating hours. BC-14 falls under the car setback type, as it serves both as a motorcycle display area and a parking space for transport vehicles; nevertheless, it also accommodates space for street vendors, thereby allowing adaptation to the pedestrian setback type. BC-15 provides a setback area in front of the building for both vehicle parking and pedestrian circulation, combining the characteristics of car setback and pedestrian setback types (table 4).

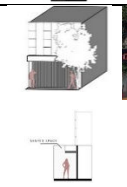
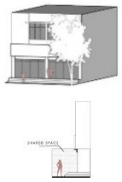
Table 4. Analysis public-private interface for segment 3 zone A (3-A)

BC	Elevation	Public-private interface adaptations
BC-11		 **Impermeable** Blank
BC-12		 **Direct** Opaque ↔  Pedestrian **Setback**
BC-13		 **Direct** Transparent ↔  **Impermeable** Blank
BC-14		 Pedestrian **Setback** ↔  Car **Setback**
BC-15		 Car **Setback** ↔  Pedestrian **Setback**

In Segment 4-B, the public-private interface is categorized into three (3) types, namely: the impermeable type with the subtype impermeable car blank; the direct type with the subtype direct transparent; and the setback type with the subtype car setback and pedestrian setback. Unlike other segments, this segment does not contain any buildings that adopt the direct opaque type. BC-16 and BC-17 provide a wide setback space, including benches (BC-16) and steps (BC-17), allowing pedestrians to rest, thus categorizing them under the pedestrian setback type. They also adapt to the direct transparent type due to their wide, unobstructed openings without doors, enabling spatial and visual transparency. BC-18

offers a setback space in front of the building for vehicle parking and pedestrian circulation, combining the characteristics of both car setback and pedestrian setback types. BC-19 corresponds to the impermeable blank type, as the building is unoccupied, and the street space is utilized by street vendors to display their goods (table 5).

Table 5. Analysis public-private interface for segment 4 zone B (4-B)

BC	Elevation	Public-private interface adaptations
BC-16		 ↔  **Pedestrian** Setback ↔ **Direct** Transparent
BC-17		 ↔  **Direct** Transparent ↔ Pedestrian **Setback**
BC-18		 ↔  **Car** Setback
BC-19		 **Impermeable** Blank

The buildings and street spaces in each segment and zone along Pasar Besar Street exhibit diverse façades and street characteristics, resulting in the adaptation of public-private interfaces as an integral part of the evolving urban morphology.

Segment 1 and Segment 3 of Zone A, which are located within the heritage conservation area, feature a greater number of active buildings and building types beyond shophouses, including banks, malls, hotels, and vehicle dealerships. As a result, these segments experience a higher level of social interaction compared to Segment 2 and Segment 4 of Zone B, which contain more unoccupied buildings and a more limited variety of building types. The diversity of public-private interfaces within the dynamics of urban space is also influenced by the activities of building owners as well as those occurring outside the buildings.

The dynamics between private spaces and public spaces at the public-private interface give rise to three primary interface typologies, including:

1. Impermeable public-private interface type

Most activities along Pasar Besar Street involve both formal vendors, such as shop owners or tenants, and informal vendors, commonly referred to as street vendors, reflecting the diversity of everyday community-based enterprises within a dynamic urban architectural setting (Walawengu, Ngarawula, and Wiyani 2023).

Vacant buildings lacking activity obstruct pedestrian access both spatially and visually (Abdelmonem 2022). These buildings often function as spaces for vending, vehicle parking, or temporary shelter for pedestrians, marked by minimal activity. Active buildings operating during the morning and afternoon hours may also adapt to this interface type, becoming impermeable at night when business activities cease (figure 7).

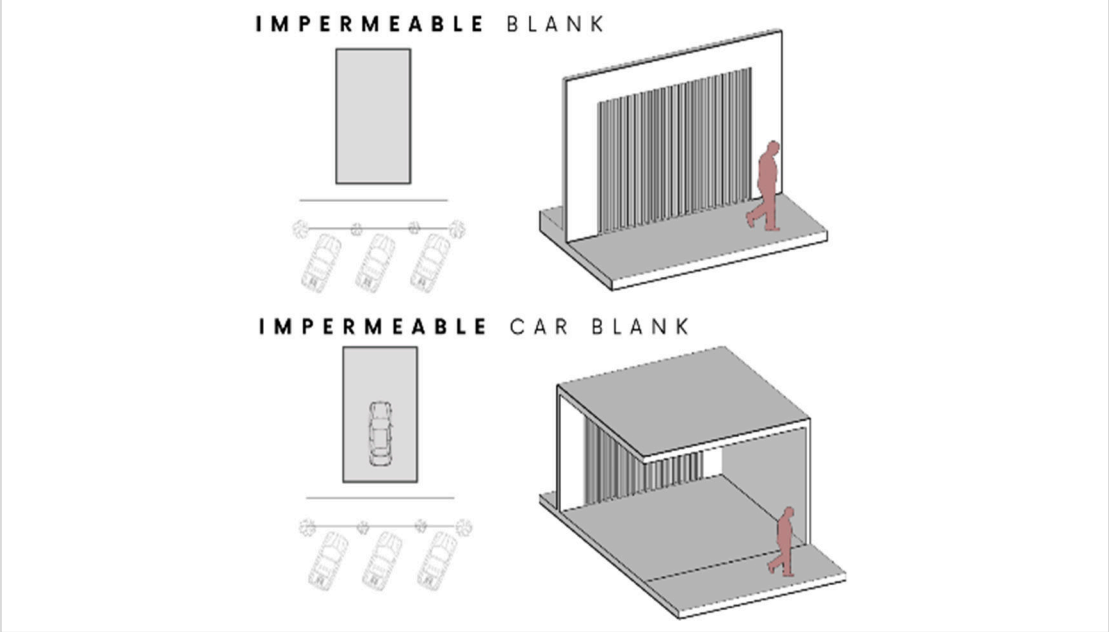


Figure 7. Form of impermeable type public-private interface

2. Setback public-private interface type

The setback type requires passing through a setback zone, characterized as semi-private space, before entering a fully private area. This type consists of two subtypes: pedestrian setback and car setback. These subtypes interact with buildings that have a non-zero setback, thereby creating semi-private spaces that are distinguished based on their function (Alian and Wood 2019).

The pedestrian setback subtype serves as a social space accessible to pedestrians (N Heindri, Prakoso, and Dewi 2021), while the car setback subtype functions as a parking area. Along Pasar Besar Street, these subtypes may coexist, with the setback space serving both as a parking area and a social space for customers or pedestrians (figure 8).

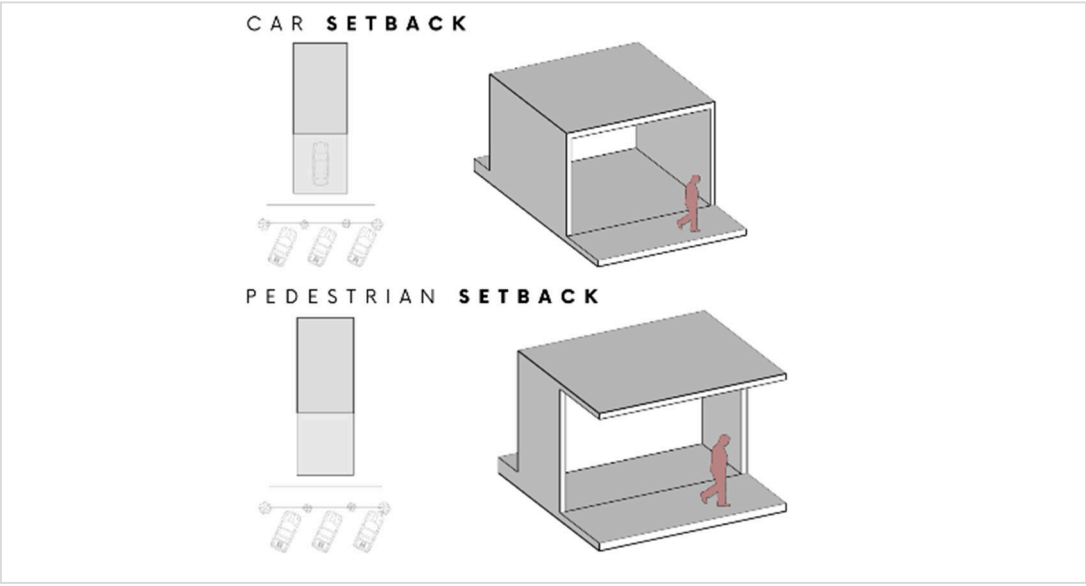


Figure 8. Form of setback type public-private interface

3. Direct public-private interface type

This type is commonly found in bustling retail environments and includes the subtypes of direct opaque and direct transparent. The direct opaque subtype permits pedestrian access but offers limited visual and spatial permeability through a single door and sealed windows. In contrast, the direct transparent subtype provides broad accessibility through wide and transparent openings. Windows significantly influence the interface, drawing visual attention and enhancing social interaction (Al Mushayt, Dal Cin, and Barreiros Proença 2021). Along Pasar Besar Street, these types are capable of adapting to one another for instance, a direct opaque can transform into a direct transparent by enlarging openings such as doors and windows (figure 9).

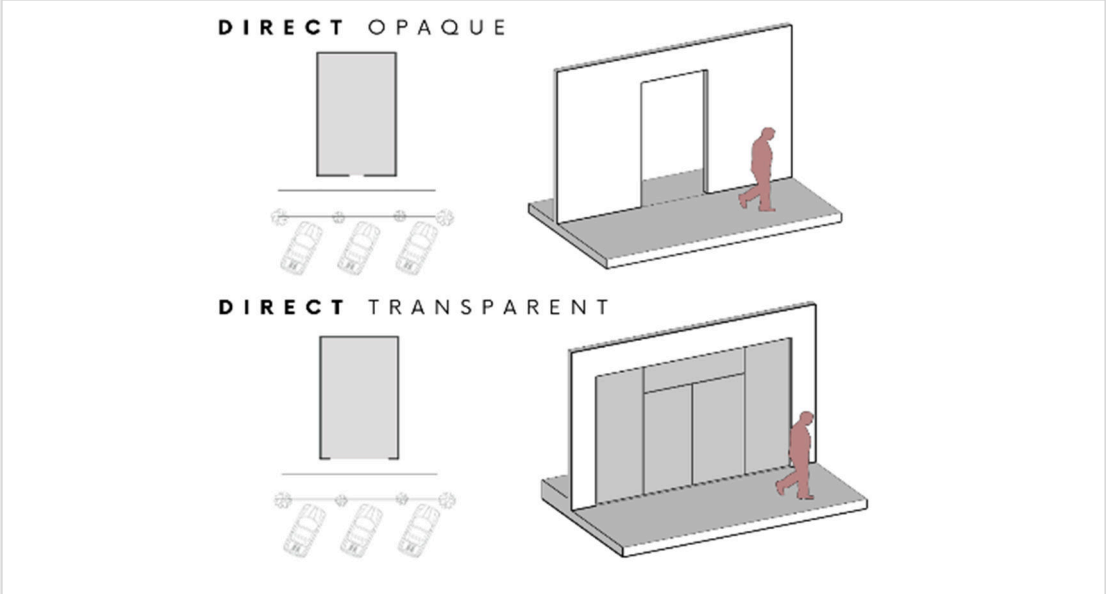


Figure 9. Form of direct type public-private interface

Conclusion

Along the Pasar Besar Street corridor, the public-private interface found on the ground floor of buildings plays a vital role in attracting pedestrians, as it contains storefronts and entrances that contribute to the urban atmosphere. These elements serve as catalysts for social interaction and economic activity, thereby enhancing the vibrancy and functionality of the urban environment (Simpson et al. 2022).

The diversity of public-private interfaces between buildings and streets constitutes a key component of urban morphology that stimulates activity, social interaction, and productivity within the city. Variations in public-private interface are identified in three typologies: impermeable, direct, and setback.

The impermeable type is often found in uninhabited buildings. Once operational hours end, shops close their doors, windows, and street interfaces, thereby limiting both visual and spatial access. This type comprises two subtypes: impermeable blank and impermeable car blank. Buildings categorized under the impermeable blank subtype feature front facades consisting of blank walls with no doors, windows, or visible interior activity. Meanwhile, the impermeable car blank subtype refers to building facades used solely for vehicle parking, lacking pedestrian access. Along Pasar Besar Street, which is predominantly lined with shophouse-type buildings, such buildings and street space configurations are often utilized by street vendors to expand their trading areas.

The direct type is commonly found in buildings serving commercial and service functions, including shophouses. It consists of two subtypes: direct opaque and direct transparent, which primarily differ in terms of setback space and visual access. The direct opaque subtype is characterized by a single door

as the sole means of visual and spatial access, whereas the direct transparent subtype typically employs wide openings or glass elements to create visual and spatial transparency. Buildings employing the direct transparent type are usually designed to attract visitors' attention, such as for displaying merchandise or product information by shophouse vendors. Adaptation between direct transparent and direct opaque subtypes may occur to regulate the level of public or private visibility.

The setback type is frequently found in buildings other than shophouses, such as malls, banks, and hotels. It is divided into two subtypes: pedestrian setback and car setback, differentiated primarily by the function of the setback space. The pedestrian setback subtype serves as a gathering area or pedestrian circulation space leading to the building, whereas the car setback subtype is intended for vehicle parking. Buildings with a car setback may be converted into a pedestrian setback and vice versa, as the setback space functions as both circulation and a transitional area from the public street space to the private building.

Buildings and street spaces may adapt toward other interface typologies due to changes in access, such as the creation or blockage of pedestrian routes, variations in setbacks where the space can be used either for pedestrian activity or parking, and changes in transparency to control visitors' views. This study aims to explore the role of public-private interfaces in shaping urban spatial identity and to provide insights for urban planners, architects, and government authorities in creating more vibrant and sustainable urban environments.

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Syaffin Humaira Hasibah contributed to the research concepts preparation, methodologies, investigations, data analysis, visualization, articles drafting and revisions.

Antariksa Sudikno contribute to methodology, supervision, and validation.

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