

Reinterpreting Traditional Malay In-Between Spaces to Support Neighbourliness in Contemporary Multi-Storey Housing

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ABSTRACT

Neighbourliness contributes to social cohesion and quality of life within residential environments. However, contemporary multi-storey housing often provides limited spatial opportunities for informal interactions between neighbours. This study examines how the spatial principles of in-between spaces in Traditional Malay houses can inform the interpretation of comparable spaces in contemporary multi-storey housing. Using an observational case study approach, selected traditional Malay in-between spaces were compared with foyer, yard and balcony configurations in contemporary residential layouts. An observational checklist, developed from predetermined events and chance encounters identified in the literature, was used to assess the spatial opportunities provided by these spaces. The findings indicate that differences in spatial configuration influence the extent to which in-between spaces can accommodate everyday activities, visual acknowledgement and informal encounters. The study suggests that principles derived from traditional Malay in-between spaces may be interpreted within contemporary multi-storey housing to create spatial conditions that better support opportunities for informal neighbourly interactions. These findings provide a spatial basis for socially responsive multi-storey housing and establish a foundation for future research examining how such spatial opportunities translate into everyday social interaction and contribute to the development of neighbourliness, social cohesion, and residential quality of life.

Keywords: Neighbourliness; Social Interaction; In-Between Spaces; Traditional Malay Housing; Multi-Storey Housing

INTRODUCTION

Rapid urbanisation and increasing residential density have contributed to the continued development of multi-storey housing as cities seek to accommodate growing populations within limited urban land. While vertical housing provides an efficient response to urban density, the quality of residential life is influenced by more than the provision of individual dwelling units. Of particular concern is how high-density residential environments support opportunities for everyday social interaction among neighbours. High-rise housing has been associated with social challenges including low levels of interaction, social cohesion and social isolation;

however, recent research demonstrates that the physical characteristics of residential environments can also influence residents' social networks, social cohesion, place attachment and feelings of loneliness (Nguyen et al., 2025). These findings suggest that contemporary housing development should consider not only the quantity and efficiency of residential provision, but also the spatial conditions that enable residents to encounter and interact with those living around them.

Neighbourliness represents an important dimension of the social experience of housing. Wilkerson et al. (2012) conceptualised neighbourliness through reciprocal relationships, trust, neighbourly knowledge and contact, interaction, social cohesion and the provision of semi-private spaces for informal encounters. These characteristics emphasise that neighbourliness is not simply a matter of physical proximity; rather, it develops through opportunities for repeated social contact and familiarity between residents. This relationship between housing and social life remains relevant in contemporary high-rise environments. Nguyen et al. (2025) found that the number of neighbours within residents' social networks can stimulate social cohesion, which in turn can foster neighbourhood attachment and reduce feelings of loneliness. The study further demonstrated that these social outcomes are affected by urban context, site characteristics and the provision of communal spaces within and around high-rise buildings. More recently, Malaysian housing research has similarly examined housing quality and access to facilities as an opportunity structure for trust, belonging, participation and mutual support, further reinforcing the relationship between the residential environment, social cohesion and community well-being (Mat Noor et al., 2026).

Within this relationship, in-between spaces are particularly significant because they mediate between private dwelling spaces and the wider neighbourhood environment. In the conceptual basis of this study, in-between spaces are understood as semi-indoor, semi-outdoor and transitional spaces (Zlatanova et al., 2020), while predetermined activities and chance encounters provide a means of understanding how such spaces accommodate social interaction (Ferguson, 2007; Can & Heath, 2016). Rather than functioning solely as circulation or residual areas, these spaces can provide settings for sitting, waiting, observing, greeting, talking and other informal encounters that form part of everyday neighbourhood life. Recent empirical research reinforces this interpretation. Félix and Organista (2024) found that inadequate design of neighbourhood in-between spaces can substantially affect both their use and social interaction among residents, while spatial legibility and appropriation influence their habitability.

The contemporary relevance of these spaces is further supported by Santos-Garcia and Aseguinolaza Braga (2025), who identify in-between spaces as important settings for addressing social needs within today's cities. Their historical review identifies the threshold character of in-between spaces as a primary characteristic and demonstrates how these spaces occupy different positions along the gradient between private and public domains. The authors further argue that in-between spaces can facilitate connections, foster a sense of community and contribute to feelings of comfort and safety (Santos-Garcia & Aseguinolaza Braga, 2025). Taken together, recent studies indicate that the social quality of residential environments may depend not only on formal communal facilities but also on smaller transitional spaces encountered routinely as part of residents' everyday lives.

Traditional Malay housing provides a useful spatial precedent for examining this relationship. The traditional Malay house is organised not only in response to environmental conditions but also according to social relationships, cultural practices and varying requirements for privacy (Hosseini et al., 2016). Spaces such as the *anjung*, *rumah dapur* and *lepau* operate between major domestic zones and between the household and its external environment (Wahab et al., 2016; Zin et al., 2012). In the original study, these spaces were identified as comparable in social function to the foyer, yard and balcony of contemporary multi-storey housing. Their significance lies not in reproducing the physical form of the traditional house within a high-rise building, but in understanding the spatial principles through which everyday activities, privacy and opportunities for informal interaction are negotiated. Traditional Malay housing can therefore be examined as a spatial precedent from which socially responsive design principles may be reinterpreted for contemporary residential conditions.

The research problem arises from the difference between these everyday opportunities for interaction and the organisation of social spaces commonly found in contemporary multi-storey housing. The socially oriented

transitional spaces of Traditional Malay houses are directly connected to domestic spaces and thus increase encounters in everyday life. Meanwhile, communal spaces in multi-storey developments were observed to be concentrated at designated locations or levels, potentially distancing them from residents' immediate daily routines.

Contemporary evidence reinforces the significance of this issue: Félix and Organista (2024) demonstrate that the design of in-between spaces affects their use and opportunities for social interaction, while Nguyen et al. (2025) show that the physical environment and provision of communal spaces can influence social outcomes among high-rise residents.

However, comparatively limited attention has been directed towards how spatial principles derived from traditional housing can be reinterpreted at the scale of everyday transitional spaces surrounding individual multi-storey dwelling units. This creates an opportunity to reconsider the foyer, yard and balcony not merely as functional components of residential units, but as potential settings for everyday neighbourly encounters.

Accordingly, this study examines selected in-between spaces in Traditional Malay houses and their contemporary counterparts in multi-storey housing. It aims to identify how their spatial configuration may provide opportunities for everyday activities and informal neighbourly encounters and to explore how principles derived from Traditional Malay in-between spaces may inform more socially responsive approaches to contemporary multi-storey residential design.

LITERATURE REVIEW

Neighbourliness and Social Interaction in Residential Environments

Neighbourliness extends beyond physical proximity between households and involves the development of social relationships through familiarity, trust, reciprocal support and everyday interaction. Wilkerson et al. (2012) identified reciprocal relationships, trust, neighbourly knowledge and contact, social interaction, social cohesion and the availability of semi-private spaces as important dimensions of neighbourliness. From this perspective, the residential environment is not merely the physical setting in which neighbourly relationships occur; its spatial characteristics can influence the opportunities residents have to encounter, recognise and interact with one another.

This relationship is particularly significant in high-density and multi-storey housing, where large numbers of households may live within close physical proximity without necessarily developing strong social relationships. Nguyen et al. (2025) found that neighbourhood social networks among high-rise residents can stimulate social cohesion, which may subsequently strengthen place attachment and reduce loneliness. Importantly, these outcomes were influenced by the physical characteristics of the residential environment and the provision of communal spaces within and around high-rise developments.

However, social interaction within housing does not necessarily occur only within designated communal facilities. Everyday encounters may occur while residents enter or leave their homes, wait, sit, observe their surroundings or pass through spaces shared with neighbours. This distinction is important because communal facilities generally require residents to intentionally access a particular location, whereas transitional spaces are encountered as part of everyday residential routines. Therefore, understanding neighbourliness within multi-storey housing requires consideration not only of formal communal spaces but also of the smaller spatial interfaces between private dwellings and the wider residential environment.

In-Between Spaces as Settings for Everyday Social Interaction

In-between spaces occupy an intermediate position between clearly defined private and public environments. Zlatanova et al. (2020) classify in-between spaces into semi-indoor, semi-outdoor and transitional spaces, through different physical relationships between interior and exterior environments where in residential

settings, these spaces may include thresholds, corridors, verandas, foyers, balconies, yards and other areas positioned between private domestic space and the larger neighbourhood environment.

The social significance of these spaces is evident through their ability to accommodate different forms of activity and chance. Ferguson (2007) distinguishes predetermined activities and unplanned social encounters, while Can and Heath (2016) demonstrate that transitional spaces can accommodate movement, stationary activities and informal interaction.

Accordingly, opportunities for social interaction do not necessarily depend on planned communal activities, but emerge naturally through everyday encounters, such as greeting a neighbour when entering or leaving the home, noticing activities from a balcony, or having a brief conversation at a shared threshold.

Recent studies by Félix and Organista (2024) examined the socio-spatial relationships associated with neighbourhood in-between spaces and found that their spatial configuration and legibility influence appropriation, activities and social interaction. Significantly, inadequate design substantially affected both the use of these spaces and interaction among residents. Santos-Garcia and Aseguinolaza Braga (2025) further identify the threshold character between public and private domains as a defining characteristic of in-between spaces. Their review suggests that such spaces can facilitate connections, foster a sense of community and contribute to feelings of comfort and safety.

These findings suggest that the importance of in-between spaces does not depend solely on their physical size or designated function. Rather, their social value relates to how they mediate accessibility, visibility, activity, transition and privacy. Consequently, improving opportunities for neighbourliness does not necessarily require the introduction of additional large communal facilities. It may also involve reconsidering the quality and configuration of the smaller transitional spaces residents encounter repeatedly in everyday life.

Traditional Malay Housing as a Spatial Precedent

Traditional Malay housing provides an established example of how transitional spaces can mediate social interaction while maintaining varying levels of domestic privacy. The spatial organisation of Traditional Malay houses reflects social, cultural and environmental considerations, with different spaces organised according to occupants' activities, relationships and requirements for privacy (Hosseini et al., 2016). The major domestic zones include the rumah ibu, rumah tengah and dapur, while spaces including the *anjung*, *lepau*, selang and different forms of serambi operate between these principal zones (Zin et al., 2012; Wahab et al., 2016).

The significance of this organisation lies in the gradual transition between public, semi-public, semi-private and private domains. Recent Malaysian research on Traditional Malay houses further demonstrates that spatial arrangements can maintain visual privacy while preserving community intimacy, hospitality and opportunities for social interaction (Ismail et al., 2023). Ahmad Fairuz et al. (2024) similarly highlight privacy as an important consideration when comparing traditional and modern Malay housing.

This balance is particularly relevant to neighbourliness. Socially responsive housing does not require the removal of privacy boundaries; instead, it requires spatial conditions through which residents can regulate the degree of interaction they experience. The Traditional Malay house demonstrates this through transitional spaces that neither belong completely to the private interior nor entirely to the public exterior.

Therefore, the value of Traditional Malay housing to contemporary research does not lie in reproducing its architectural form. Rather, it can be examined as a spatial precedent demonstrating how hierarchy, transition, activity and privacy can coexist within everyday residential environments. This distinction is essential when considering its relevance to multi-storey housing, where differences in density, construction, lifestyle and spatial limitations make literal replication neither practical nor desirable.

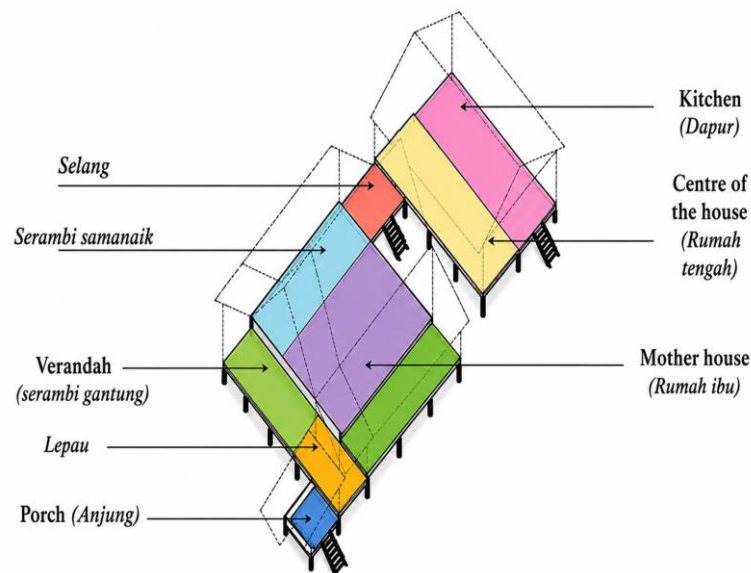


Figure 1. Typical spaces in a Traditional Malay house.

Reinterpreting Traditional Spatial Principles for Contemporary Multi-Storey Housing

The transition from traditional landed housing to contemporary multi-storey residential development has altered the relationship between the dwelling, its transitional spaces and the surrounding neighbourhood. In high-rise housing, shared social facilities are frequently separated from individual dwelling units and located within designated communal areas. In contrast, the in-between spaces identified within Traditional Malay houses are integrated closely with everyday domestic activities. The study therefore establishes functional comparisons between the anjung and foyer, rumah dapur and yard, and lepau and balcony as a basis for investigating whether similar social functions can be accommodated within contemporary housing.

The idea of learning from traditional housing principles for contemporary Malaysian housing is supported by existing research. Ahmad et al. (2022) argue that aspects of Traditional Malay house design can inform modern housing development by responding to socio-cultural and environmental needs and improving occupants' comfort and satisfaction. Seo et al. (2022) similarly investigate how domestic activities and spatial relationships associated with vernacular Malaysian living can be reconfigured within high-rise apartment housing rather than reproduced literally. Together, these studies support the broader proposition that traditional spatial knowledge can remain relevant when its underlying principles are adapted to contemporary residential conditions.

However, the present study differs by concentrating specifically on the social potential of everyday in-between spaces. Rather than considering the overall replication or adaptation of the Traditional Malay house, it examines how selected spatial principles can inform the foyer, yard and balcony of contemporary multi-storey dwellings. This approach is supported by current evidence showing that the design quality of in-between spaces influences social interaction (Félix & Organista, 2024) and that such spaces can support community connection and comfort (Santos-Garcia & Aseguinolaza Braga, 2025).

The conceptual relationship guiding this study is illustrated in Figure 2. Traditional Malay housing is examined as a spatial precedent from which selected principles of transition, accessibility, activity and privacy are interpreted in relation to contemporary in-between spaces. These spatial conditions are considered as opportunities for everyday neighbourly encounters rather than determinants of neighbourliness, which remains influenced by wider personal, cultural and contextual factors.

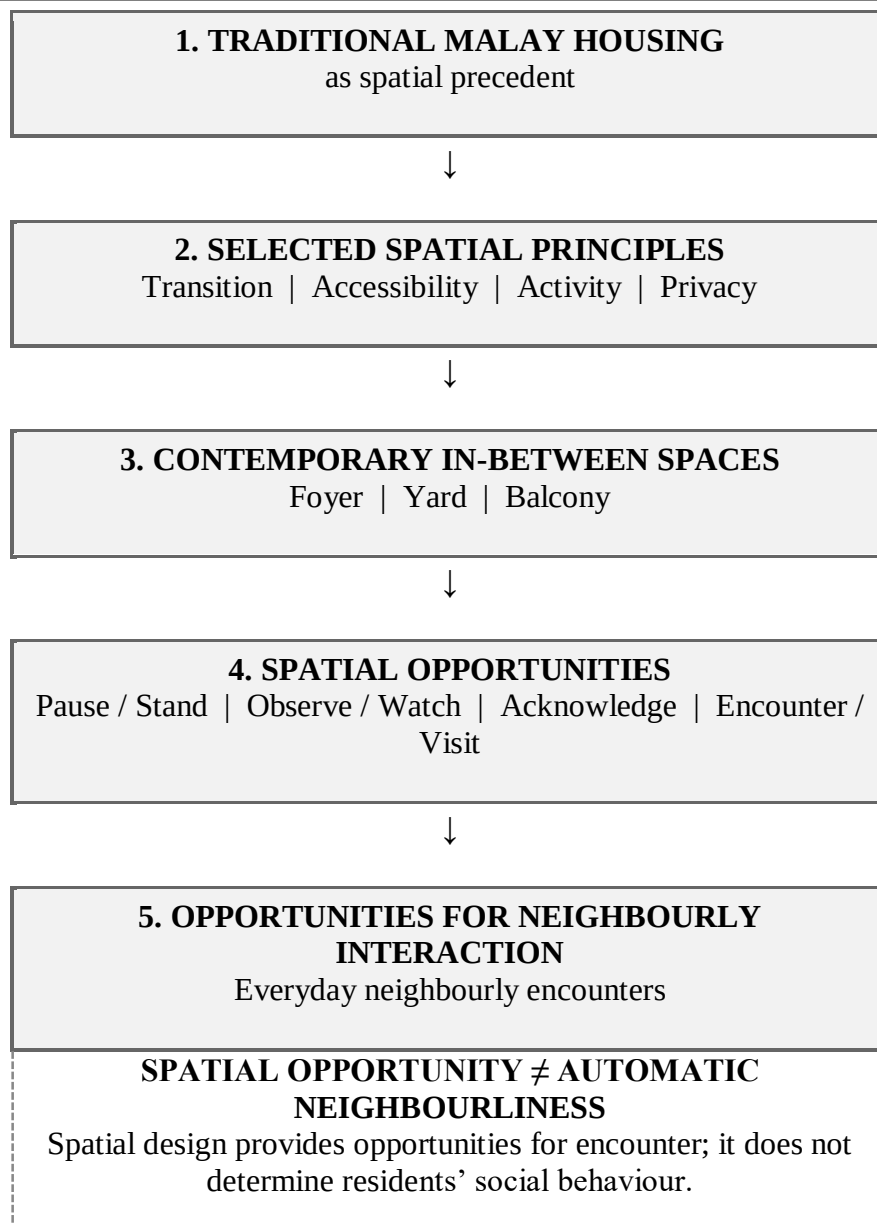


Figure 2. Conceptual relationship between Traditional Malay spatial principles, contemporary in-between spaces and opportunities for neighbourly interaction.

In-between spaces in Traditional Malay House	Description	Similar in-between spaces in a modern multi-storey house
‘Anjung’	This space connects the house compound and streets to the occupants. Here, the occupants can limit the extent of the guest’s proximity to the main house, while protecting its occupants’ privacy. It is a place to entertain guests, host informal discussions, and chat (Wahab et al., 2016).	Foyer
‘Rumah dapur’	For women, the ‘rumah dapur’ is where casual conversations between the occupants and their guests happen. The ‘rumah dapur’ consists of a cooking area and platform	Yard

	(Wahab et al., 2016). The ‘rumah dapur’ usually has its own entrance, therefore, it is inviting for female guests to approach the female occupants there.	
‘Lepau’	This is an extra space and is usually built to cater to the need for increased space. The ‘lepau’ is connected to ‘rumah ibu’, which is treated as a living area during the day, and a makeshift open sleeping area at night (Zin et al., 2012)	Balcony

Table 1. In-between spaces in Traditional Malay houses and comparable spaces in contemporary multi-storey housing.

RESEARCH METHODOLOGY

This study adopted an observational case study approach to examine the potential of selected residential in-between spaces to accommodate informal neighbourly interaction. The research was conducted in two phases. The first phase examined selected in-between spaces within Traditional Malay housing to identify their spatial characteristics and social functions. The second phase examined comparable spaces within contemporary multi-storey housing layouts to determine the opportunities they provide for everyday informal interaction.

Identification of In-Between Spaces in Traditional Malay Housing

The first phase involved an observational analysis of Traditional Malay housing layouts to identify in-between spaces associated with interaction between the internal domestic environment and the external social environment. Particular attention was given to how these spaces accommodate everyday activities and informal interaction while maintaining residents’ privacy.

Based on the literature and spatial analysis, the study focused on three selected spaces: the anjung, rumah dapur and lepau. Each was subsequently paired with a contemporary multi-storey residential space with comparable usage: the anjung with the foyer, the rumah dapur with the yard, and the lepau with the balcony. These pairings were used as a foundation to determine whether comparable opportunities for informal interaction could be identified within contemporary housing layouts.

The comparison does not assume that the traditional and contemporary spaces are physically or culturally identical. Rather, the spaces were examined according to their comparable usage and their potential to mediate between domestic activities and informal social interaction.

Analytical Variables: Predetermined Events and Chance Encounters

Two main categories of social interaction were established through the literature: predetermined events and chance encounters. Ferguson (2007) and Can and Heath (2016) highlight the role of social interaction in distinguishing spaces with different opportunities for interaction. Based on this distinction, the two categories were adopted as analytical variables for the second phase of the study and incorporated into an observational checklist.

Predetermined events refer to activities that can be accommodated by the spatial configuration of an in-between space. Five activities were evaluated: standing, sitting, watching, waiting and changing route. Chance encounters refer to potential informal social engagements within or around these spaces and were evaluated through talking visiting and exchanging polite waves.

The checklist focused on how the spatial configuration of the in-between spaces could accommodate these activities and encounters with attention to capacity, visibility, enclosure, orientation and position. These physical characteristics were considered in relation to the broader spatial principles of transition, accessibility, activity and privacy identified from the traditional Malay housing precedent.

Capacity was assessed in relation to the space available for occupation and interaction, while visibility, position and orientation were considered in relation to occupants' ability to observe, acknowledge or interact with neighbours and activities in adjoining spaces. Meanwhile enclosure was considered in relation to the degree of visual connection and privacy, between the in-between space and adjoining residential movement.

A positive observation therefore represents a spatial opportunity for an activity or encounter to occur rather than evidence of actual resident behaviour. The checklist was used consistently across the selected layouts to compare how their spatial configurations may enable or restrict opportunities for informal neighbourly interaction.

Selection of Contemporary Multi-Storey Housing Cases

The second phase examined contemporary multi-storey residential developments located within the Golden Triangle of Kuala Lumpur. An initial dataset of 10 contemporary residential layouts was identified from developments launched from 2020 onwards and available within the study area when the research was undertaken in 2023. The initial cases comprised three- bedroom units ranging from approximately 850 to 1300 sq. ft., providing a relatively comparable dwelling type and scale for the spatial analysis.

The ten layouts were subjected to an initial comparative screening to determine their suitability for detailed analysis. The screening assessed the layouts in relation to their Traditional Malay counterparts and according to the predetermined activities and potential chance encounters established in the analytical framework. Six cases was then determined through the comparative screening process allowing variations in spatial configuration to be compared across the cases. The identities of the developments were anonymized as the study focused on the spatial characteristics of contemporary residential layouts.

		
Layout 1	Layout 2	Layout 3

		
Layout 4	Layout 5	Layout 6

Table 2. Selected contemporary multi-storey housing layouts.

Observational and Comparative Analysis

Each of the six layouts was analysed according to the three selected in-between spaces: foyer, yard and balcony. The observation checklist was applied consistently throughout the layouts to identify opportunities for the predetermined and chance encounters established.

The findings were examined to determine how variations in spatial configuration influenced the opportunities provided by each space. The contemporary spaces were subsequently compared with their corresponding counterparts. The presence or absence of each spatial opportunity was recorded for the six layouts, enabling comparison between individual cases and between the three types of in-between space. The findings were then compared with the corresponding Traditional Malay in-between spaces—the anjung, rumah dapur and lepau—to examine how their spatial characteristics could inform the interpretation of contemporary foyer, yard and balcony configurations.

Through this comparative process, the study identifies spatial conditions that may enable or restrict opportunities for informal neighbourly encounters. It examines how principles observed in Traditional Malay housing may inform more socially responsive approaches to contemporary multi-storey residential design.

ANALYSIS AND DISCUSSION

The analysis examined the social potential of three in-between spaces—the foyer, yard and balcony—across six contemporary multi-storey housing layouts. As presented in Table 3, each space was evaluated according to five predetermined activities (standing, sitting, watching, waiting and changing route) and three forms of potential chance encounter (talking, visiting and exchanging polite waves). The findings represent the extent to which the spatial configuration of each in-between space provides opportunities for these activities and informal encounters rather than evidence of actual resident behaviour.

Overall, the findings reveal differences in the social potential of the three spaces. While all six layouts provide the physical conditions for certain activities, particularly standing, the range of activities and potential encounters varies according to the configuration of each space. The results demonstrate that in-between spaces can provide opportunities for neighbourly interaction, although the range and nature of these opportunities vary according to their spatial configuration.

Layout		1	2	3	4	5	6
A. Foyer, ‘Anjung’							
Predetermined events	Stand	√	√	√	√	√	√
	Sit		√				
	Watch		√				
	Wait		√				
	Change of route						
Chance encounter	Talk	√	√	√	√	√	√
	Visit						
	Exchange polite wave	√	√	√	√	√	√
B. Yard, ‘Rumah dapur’							
Predetermined events	Stand	√	√	√	√	√	√
	Sit	√	√		√	√	
	Watch	√				√	√
	Wait						
	Change of route						
Chance encounter	Talk	√				√	√
	Visit						
	Exchange polite wave	√				√	
C. Balcony, ‘Lepau’							
Predetermined events	Stand	√	√	√	√	√	√
	Sit	√	√	√	√	√	√
	Watch	√	√	√	√	√	√
	Wait						
	Change of route						
Chance encounter	Talk		√			√	
	Visit						
	Exchange polite wave		√			√	

Table 3. Observational analysis of predetermined activities and potential chance encounters in the foyer, yard and balcony.

Foyer and Anjung: Spatial Capacity, Visibility and Transitional Encounters

The foyer represents the immediate transitional space between the private dwelling and the external residential environment. Across all six layouts, the foyer accommodates standing, while opportunities for other predetermined activities are considerably more limited. Only Layout 2 provides sufficient spatial capacity for sitting, watching and waiting, while none of the layouts accommodates changing route. For potential chance encounters, all six foyer configurations provide opportunities for talking and exchanging polite waves, but none accommodates visiting. These findings indicate that the contemporary foyer functions predominantly as a short-duration transitional space rather than as a space that encourages residents to remain for longer periods.

The comparison with the Traditional Malay anjung highlights a different spatial condition. The original analysis identifies the anjung as capable of accommodating all five predetermined activities, supported by its larger spatial provision. In contrast, most contemporary foyers primarily accommodate standing, while Layout 2 demonstrates that a slightly larger foyer can support additional activities such as sitting, watching and waiting. This suggests that spatial capacity influences the range of activities that can occur at the residential threshold.

In addition to spatial capacity, the opportunity to watch is relevant to the social potential of the threshold space. Within the analytical framework of this study, watching represents an opportunity for occupants to maintain awareness of activities occurring beyond their immediate private space. Where a spatial configuration allows occupants to remain within the threshold while maintaining visual connection with the surrounding environment, opportunities may arise for acknowledging neighbours and developing brief informal encounters. In this sense, visibility does not itself constitute social interaction, but can provide a condition through which encounters become possible.

The distinction is particularly relevant when considering the anjung as a spatial precedent. Rather than functioning solely as an entrance, the anjung accommodates activities that allow occupants to stand, sit, wait and watch, creating greater possibilities for the threshold to be occupied rather than simply passed through. The contemporary foyer, by comparison, is more limited in the range of activities it accommodates. Nevertheless, the opportunities for talking and exchanging polite waves across all six layouts demonstrate that even relatively small entrance thresholds retain some potential for informal neighbourly interaction.

The implication is therefore not that contemporary foyers should reproduce the size or physical form of the Traditional Malay anjung. Rather, the anjung demonstrates how a residential threshold can perform both transitional and social functions. Contemporary foyer design could reinterpret this principle by providing sufficient space for brief stationary activities while maintaining an appropriate visual relationship with adjoining shared areas. Such considerations could increase opportunities for residents to observe, acknowledge and interact informally with neighbours as part of their everyday movement into and out of the dwelling.

Yard and Rumah dapur: Visibility and Everyday Activity

The yard demonstrates a different relationship between domestic activity and the external residential environment. Standing is accommodated in all six layouts, while sitting is possible in four layouts and watching

in three. None of the layouts provides opportunities for waiting or changing route.

The findings become more significant when the position, visibility and degree of enclosure of the yard are considered. The original analysis identifies that yards facing or positioned adjacent to the external corridor provide opportunities for watching activities occurring outside the dwelling. An open configuration incorporating a half wall and visibility from the corridor can further provide opportunities for talking and exchanging polite waves. In contrast, more enclosed yards with full walls and window enclosures restrict these opportunities because visual connection between the yard and external circulation is reduced.

The findings therefore reinforce the relationship identified above between watching, visual connection and opportunities for informal encounter. The ability to observe activity outside the dwelling does not itself represent social interaction. However, visual awareness can create circumstances in which neighbours recognise, acknowledge and potentially interact with one another. The yard is particularly relevant in this respect because everyday domestic activities can place residents within the space without requiring them to deliberately seek social contact.

The comparison with the Traditional Malay *rumah dapur* suggests that the social potential of this type of in-between space is connected not simply to its domestic function, but also to its relationship with adjoining spaces. The integration of everyday activity with an outward spatial relationship creates opportunities for

residents to remain connected with their immediate surroundings while performing ordinary household routines.

This distinction is important to the social argument of the study. Neighbourly encounters do not necessarily require organised activities or dedicated communal facilities. Opportunities for interaction may also emerge through repeated exposure and brief informal contact embedded within everyday routines. Consequently, the yard's potential as an in-between space depends not only on its dimensions and functional use but also on how its position and degree of enclosure enable or restrict visual connection with neighbouring circulation spaces.

The findings therefore suggest that positioning the yard adjacent to, or providing an appropriate visual relationship with, shared circulation areas may increase opportunities for informal encounters. However, this relationship should not be interpreted as advocating unrestricted visibility. The yard remains part of the domestic environment, and any visual connection should continue to acknowledge residents' requirements for privacy.

Balcony and Lepau: Orientation and Visual Connection

The balcony provides the greatest consistency in accommodating predetermined activities. All six layouts allow standing, sitting and watching, indicating that their spatial configuration provides opportunities for occupants to remain within and use the space. However, none accommodates waiting or changing route.

Despite this capacity for activity, the balcony demonstrates comparatively limited potential for neighbour-to-neighbour encounters. Only Layouts 2 and 5 provide opportunities for talking and exchanging polite waves. The original analysis associates this difference with balcony orientation and visibility. Most of the balconies face outward towards external vistas and consequently provide limited connection with neighbouring residential spaces. In Layouts 2 and 5, however, the offset balcony configuration increases visibility towards adjacent spaces.

This finding demonstrates an important distinction between an activity-supporting space and a socially connected space. All six balcony layouts provide opportunities for residents to stand, sit and watch, but only particular configurations provide opportunities for talking or acknowledging neighbouring residents. Physical usability alone therefore does not necessarily create the spatial conditions for neighbourly encounters; the relationship of the balcony to surrounding residential spaces is also significant.

The comparison with the Traditional Malay *lepau* further highlights the importance of the relationship between everyday activities and the surrounding environment. As with the *anjung* and *rumah dapur*, the value of the traditional precedent lies not only on the existence of the space itself but in how the space relates occupants to activities occurring beyond the immediate interior.

Within contemporary multi-storey housing, the findings suggest that balcony orientation and visual connection can influence social potential. The study proposes that an offset balcony configuration improves visibility towards adjacent spaces. Perimeter railings rather than completely solid walls in balconies provides greater visual connection. These observations should nevertheless be interpreted alongside requirements for privacy and safety rather than as an argument for unrestricted visual exposure.

The balcony therefore demonstrates that the provision of sufficient space for activities is only one component of socially responsive in-between-space design. Its orientation and relationship with neighbouring spaces can also influence whether everyday occupation of the balcony creates opportunities for informal social acknowledgement and encounter.

Reinterpreting Traditional Spatial Principles for Contemporary Neighbourliness

When the three spaces are considered collectively, a broader pattern emerges from the findings. Spatial capacity, position, visibility, enclosure and orientation influence the extent to which contemporary in-between spaces can accommodate everyday activities and provide opportunities for informal neighbourly encounters.

The foyer demonstrates the importance of allowing residents to pause and occupy the threshold, rather than using it exclusively for entry and exit. The yard demonstrates how everyday domestic activity combined with visual connection to shared circulation can create opportunities for informal encounters. The balcony demonstrates that usable space alone is insufficient when its orientation provides little relationship with neighbouring residential spaces.

Across all three spaces, watching becomes particularly relevant to understanding the relationship between spatial configuration and social opportunity. Watching does not constitute neighbourliness in itself; rather, it represents an opportunity for residents to remain aware of people and activities occurring within their immediate surroundings. When combined with spatial conditions that permit residents to pause or remain within an in-between space, this visual awareness can provide opportunities for acknowledgement, such as exchanging polite waves, and potentially for further informal interaction.

This relationship is visible within the findings. In the yard analysis, changes in enclosure and visibility correspond with differences in opportunities for talking and exchanging polite waves. Similarly, the balcony analysis demonstrates that although all six configurations accommodate watching, only those with greater connection towards adjacent spaces provide opportunities for talking and polite acknowledgement. The findings therefore suggest that social potential depends on the relationship between the activity accommodated within a space and its connection with the surrounding residential environment.

This supports the central proposition of the study: the value of Traditional Malay housing as a precedent lies not in reproducing the *anjung*, *rumah dapur* and *lepau* literally, but in understanding how these spaces integrate everyday occupation, transition, privacy and connection with the surrounding environment. Contemporary research similarly indicates that the configuration of in-between spaces can influence their appropriation and opportunities for social interaction (Félix & Organista, 2024), while the threshold relationship between private and public environments can facilitate connection and contribute to a sense of community (Santos-Garcia & Aseguinolaza Braga, 2025).

Importantly, the findings do not suggest that changing the physical configuration of a foyer, yard or balcony will automatically produce neighbourliness. Social relationships are influenced by individual, cultural and contextual factors beyond physical design. Instead, the results suggest that spatial configuration can either provide or restrict opportunities for everyday informal encounters. This distinction is important because architectural design can create condition for social interaction without determining the residents' behaviour.

From this perspective, the study shows how opportunities for neighbourliness may be incorporated into contemporary multi-storey housing. Rather than relying exclusively on designated communal facilities to facilitate social interaction, the findings suggest that opportunities for encounter can also be considered within the ordinary in-between spaces residents encounter as part of everyday domestic routines.

Traditional Malay housing provides a useful precedent for this approach because its transitional spaces demonstrate how everyday domestic activities can coexist with opportunities for visual awareness, acknowledgement and informal interaction while maintaining gradations of privacy. Reinterpreting these underlying spatial principles within contemporary multi-storey housing may therefore enable the foyer, yard and balcony to perform not only their conventional functional roles, but also a complementary social role by providing greater opportunities for neighbourly encounters.

CONCLUSION

This study examined how selected spatial principles associated with in-between spaces in Traditional Malay housing can inform contemporary multi-storey residential design to provide greater opportunities for neighbourly interaction. Through comparison of the selected spaces, the study demonstrates that in-between spaces have social potential beyond their conventional functional roles. The findings further indicate that the extent of this potential is influenced by the spatial configuration of these spaces and their relationship with the surrounding residential environment.

The comparison between the foyer and anjung demonstrates the importance of spatial capacity and the ability to occupy the residential threshold. While all six contemporary foyers provide opportunities for standing, talking and exchanging polite waves, only the larger foyer in Layout 2 accommodates additional activities such as sitting, watching and waiting. This suggests that providing sufficient space for residents to pause or remain at the entrance can extend the foyer beyond its conventional circulation function. It also creates additional opportunities for informal encounters. The Traditional Malay anjung demonstrates how an entrance threshold can simultaneously accommodate transition, everyday occupation and provide opportunities for social awareness.

The comparison between the yard and rumah dapur shows the importance of position, enclosure and visual connection between traditional and contemporary multi-storey housing. Yards provide greater opportunities for watching, talking and acknowledging neighbours, when they are able to maintain the relationship with external circulation; meanwhile, enclosed configurations usually restrict these opportunities. This demonstrates that maintaining an appropriate relationship with the surrounding residential environment fosters opportunities for informal social contact.

Similarly, the comparison between the balcony and lepau shows that having sufficient space for activities alone does not necessarily encourage social interaction. Although all six balconies provide standing, sitting and watching, only Layouts 2 and 5 provide opportunities for talking and exchanging polite waves between neighbour. The findings therefore highlight the importance of orientation and visual relationship with adjacent spaces. It suggests that the social potential of the balcony is influenced by its physical usability and how it connects occupants with their immediate residential surroundings.

The study is limited to the spatial analysis and therefore does not measure actual resident behaviour or the formation of neighbourly relationships. Future studies may extend these findings through resident surveys, interviews or behavioural observation to examine how the spatial opportunities identified in this study are experienced and used in everyday life.

Overall, the study contributes a spatial perspective to discussion of neighbourliness by demonstrating how lessons from traditional Malay housing can inform the design of socially responsive in-between spaces within contemporary multi-storey residential environments.

REFERENCES

1. Ahmad, S., Yetti, A. E., Ali, N. E., Sanusi, M. S., & Samsudin, P. Y. (2022). Adaptation of traditional Malay house design towards housing comfort and satisfaction. *Geografia-Malaysian Journal of Society and Space*, 18(3), 216–226. <https://doi.org/10.17576/geo-2022-1803-14>
2. Ahmad Fairuz, A. F., Kholid, M. F., Mohamad Zin, M. H., Mahamarowi, N. H., & Abdul Rahim, M. Z. (2024). Privacy from Islamic perspective: Comparison between the traditional and modern Malay house in Malaysia. *Built Environment Journal*, 21(SI), 312–325. <https://doi.org/10.24191/bej.v21iSI.2106>
3. Can, I., & Heath, T. (2016). In-between spaces and social interaction: A morphological analysis of Izmir using space syntax. *Journal of Housing and the Built Environment*, 31(1), 31–49. <https://doi.org/10.1007/s10901-015-9442-9>
4. Félix, L., & Organista, M. (2024). Understanding the neighborhoods' in-between spaces on spatial perception, social interaction, and security. *Frontiers of Architectural Research*, 13(1), 21–36. <https://doi.org/10.1016/j.foar.2023.10.001>
5. Ferguson, P. (2007). The streets of innovation: An exploratory analysis of knowledge transfer in the public realm. In *Proceedings of the 6th International Space Syntax Symposium*, Istanbul, Turkey.
6. Hosseini, E., Mursib, G., & Raja Shahminan, R. N. (2016). Implementation of traditional Malay design values in contemporary Malay houses. *International Journal of Built Environment and Sustainability*, 3(2), 93–101. <https://doi.org/10.11113/ijbes.v3.n2.125>

7. Ismail, N. H., Abd. Manaf, A., & Zamri, S. (2023). Investigating the visual privacy of house layouts in Negeri Sembilan Traditional Malay Houses. *Malaysian Journal of Sustainable Environment*, 10(2), 65–80. <https://doi.org/10.24191/myse.v10i2.23619>
8. Mat Noor, N. A., Mohktar, A., Mansor, H. N., & Masri, M. H. (2026). Determinants of community well-being in affordable housing: Social cohesion as a mediating mechanism. *International Journal of Research and Innovation in Social Science*, 10(7), 16183–16204. <https://doi.org/10.47772/IJRISS.2026.100701106>
9. Nguyen, L. P. M., van den Berg, P. E. W., Kemperman, A. D. A. M., & Mohammadi, M. (2025). Social impacts of living in high-rise apartment buildings: The effects of buildings and neighborhoods. *Journal of Urban Affairs*, 47(8), 2894–2915. <https://doi.org/10.1080/07352166.2024.2311165>
10. Santos-Garcia, A., & Aseguinolaza Braga, I. (2025). In-between spaces for today's city: Historical review for identifying their beneficial characteristics. *Frontiers of Architectural Research*, 14(1), 62–76. <https://doi.org/10.1016/j.foar.2024.06.011>
11. Seo, K. W., Abdul Ghani, M. Z., & Sarkom, Y. (2022). Relocating home activities: Spatial experiments in Malaysian apartment houses to accommodate the vernacular lifestyle. *Journal of Asian Architecture and Building Engineering*, 21(2), 311–325. <https://doi.org/10.1080/13467581.2020.1869558>
12. Şevik, E., & Çalışkan, O. (2022). Coexistence in space: Stimulating encounter in the socially fragmented open urban fabrics. *Built Environment*, 48(3), 364–392. <https://doi.org/10.2148/benv.48.3.364>
13. Wahab, M. H. A., Mohd Taib, M. Z., Abd Hamid, A. B., & Awang Lah, N. A. (2016). Malay traditional furniture: Form and space. In M. A. Abdullah et al. (Eds.), *Regional Conference on Science, Technology and Social Sciences (RCSTSS 2014): Business and Social Sciences* (pp. 89–99). Springer Singapore. https://doi.org/10.1007/978-981-10-1458-1_9
14. Wilkerson, A., Carlson, N. E., Yen, I. H., & Michael, Y. L. (2012). Neighborhood physical features and relationships with neighbors: Does positive physical environment increase neighborliness? *Environment and Behavior*, 44(5), 595–615. <https://doi.org/10.1177/0013916511402058>
15. Zin, M. H. M., Ibrahim, N. L. N., Zain, M. F. M., & Jamil, M. (2012). The social and environmental roles of verandah in tropical houses. *International Journal of Architectural and Environmental Engineering*, 6(8), 1702–1704. <https://doi.org/10.5281/zenodo.1060393>
16. Zlatanova, S., Yan, J., Wang, Y., Diakit , A., Isikdag, U., Sithole, G., & Barton, J. (2020). Spaces in spatial science and urban applications—State of the art review. *ISPRS International Journal of Geo-Information*, 9(1), 58. <https://doi.org/10.3390/ijgi9010058>