Planning for walkability and accessibility:
An exploration of planning process and shaping form of housing estates in suburban Bandung, Indonesia

A thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

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January 2019
DECLARATION

I certify that:

a) Except where due acknowledgement has been made, the work is that of the author alone;

b) The work has not been submitted previously, in whole or in part, to qualify for any other academic award;

c) The content of the thesis is the result of work which has been carried out since the official commencement date of the approved research program;

d) Any editorial work, paid or unpaid, carried out by a third party is acknowledged;

e) Ethics procedures and guidelines have been followed.

Fenita Indrasari

January 2019
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<tr>
<td>KBB</td>
<td>Kabupaten Bandung Barat (Bandung Barat District/Regency)</td>
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<td>KBU</td>
<td>Kawasan Bandung Utara (Northern Bandung Area)</td>
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<td>BCR</td>
<td>Building Coverage Ratio</td>
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ABSTRACT

There has been a significant change on travel patterns found in Indonesia in the past two decades. The change has been marked with high vehicle ownership and notorious traffic jams in its large cities. By comparison, there was only one tenth of the current vehicle ownership back in the late 1990s. Yet, this time is also marked with the emerging middle-class aspired to living in a housing estate. It is suspected that such change has received some influence from how housing estates have been developed and taken shape.

Housing estates are built by separating themselves from kampung. As the indigenous form of housing, kampung seems to have been largely disregarded within planning and development practice. Since access to kampung is made limited, its alleys are rarely found to be connected to the roads within housing estates. Following how the built form has taken shape, there have been significant implications for travel behaviour. People were used to walking to warung and taking public transport but now they no longer travel in these ways. People, including the underage children, are riding their motorbikes and cars everywhere.

Drawing upon the example of housing estate development in the northwest suburb of Bandung—a city in Indonesia—where the development of gated communities are prominent (Hun, 2002; Kusno, 2013; Leaf, 1996; Leisch, 2002), it would seem that the form of housing estates is making it difficult for its residents, as well as those living outside the estates, to access a range of destinations on foot therefore limiting travel options. For kampung dwellers who live adjacent to housing estates, their paths are truncated and their access completely cut off. This is a problem for accessibility and walkability.

The thesis aims to provide a nuanced and in-depth understanding of planning process and how this process shapes the form of housing estates. There are factors shaping Indonesian planning and these factors have also led to the undermining of walkability and accessibility. These factors are explored through a study of housing estates, as one
significant change to the built form in Indonesian cities. In terms of method, walkability and accessibility assessments on housing estates were done in addition to semi-structured interviews with local planners and developers as well as policy analysis.

From the assessments it has been revealed that the housing estates have low walkability and accessibility. The form of housing estates disrupts the interwoven network of street and path made by any previous residential development including kampung. As a result, lengthy detours shaped by cul-de-sac and long blocks lower the merit of walking; making it harder for public to access uses and street hawkers to roam the residential area. However, in some cases there are street hawkers and warung (local small shop in kampung) offering a variety of goods for purchase.

Interview participants provided their viewpoints on the planning process in shaping such form. It was found that planning process is practiced as though it is a routine. This promotes a degree of clientelism whereby planners maintain a personal approach in dealing with developers throughout the permit process, regard developers as their clients, and act only to serve them. This is to the detriment of the built form outcomes. Using a hands-off approach in shaping the form, planners are merely a facilitator of development–far from being an advocate for walkability and accessibility. In this context, developers are given considerable freedom to shape the form of housing estates. The research also found that the permit process has been commodified. The form of housing estates is determined through a set of market processes, and is only moderately shaped by the actual processes of planning. The housing estates built are characterised by a distinct set of physical features, particularly gates, walls and cul-de-sacs for reasons related to land acquisition, budgeting strategies, and profit maximization of the developers.

The thesis concludes that the planning system in suburban Bandung has produced a form of housing estates that discourages walkability and accessibility. Planning has been practiced in a very limited manner. Instead, housing estates are being shaped by developers and market demand. The practice shows how planners have a minimalist
role. In the end, the problem of walkability and accessibility could not be resolved by simply bringing about different forms or pedestrian facilities though it would be good to provide more space for the pedestrian to safely walk along the roads.

The thesis contributes to the literature on Indonesian planning. It does so by examining how the culture of planning, which has been determined by the country’s colonial Dutch history, along with the relatively recent introduction of housing estates, has shaped planning and housing form. It suggests that a stronger role for planners is critical to the development of walkable and accessible urban environments, including housing estates.

**Keywords:** Planning, walkability, accessibility
Chapter 1 Introduction

The idea for this research was sparked in 2010, where my observations of travel behaviour in suburban Bandung led me to question the influence on this of the urban form. It is common now to see pre-teenage children riding motorbikes. The reduction in people of all ages walking was also noticeable to me. I had a contrasting experience as a child in the late 1980s to early 1990s. Being raised in a suburban housing estate where *kampung*¹ and paddy fields were common surroundings, I used to walk to *warung*² at the adjacent *kampung* to buy vegetables or seasonings for my mother to cook with. To ride occasionally on *angkot*³, I used to walk through the *kampung* alleys leading to public roads where it was possible to hail *angkot* anywhere along the roadside.

As housing estates are now commonly gated, and public access is restricted by guards working on the already limited pedestrian access points, I have observed that walkable and accessible environments are lacking. With this truncated access, *kampung* are more hidden amid the housing estates and strips of commercial use along the roads; only some of the *kampung*’s entrances are visible and a few of its narrow alleys are connected to the roads. Consequently, it is not surprising to find motorbikes parked in many *kampung* houses, along with cars on the sides of public roads from dusk until dawn. Private vehicles that were previously associated with the middle-class are no longer luxury items but are a necessity for people of every class.

Such automobile-dependent travel behaviour did not occur instantaneously but has been growing noticeably for three decades. I remember that my mother used to drive me and my sister to school every morning during our primary and junior high school

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¹ *Kampung* is an Indonesian word that describes a traditional form of settlement. Further discussions of *kampung* will be provided in section 2.2.

² A small grocery shop, usually part of a house. Descriptions and a specific discussion of *warung* are included in Section 6.2.1 in relation to accessibility.

³ *Angkot* is an abbreviation for *angkutan kota*—a minibus which used to be the primary (public) transportation within and around metropolitan Bandung.
years. While most of my school friends were either dropped off by their parents or arrived riding angkot, only during my later high school years (in the late-1990s) did I have a few friends who drove themselves to school.

Since that time, the problems of automobile dependence have escalated. During my university years, ample parking spaces were available on my university campus. Four years later (around a decade ago) one could hardly find a space to park a car, as most of the car park was full of private vehicles—mostly motorbikes. Private vehicles also filled up school parking areas. This phenomenon is a critical example of automobile dependence, as the legal driving age in Indonesia is 17 for cars and one year younger for motorbikes\(^4\). Apparently, the legal driving age neither inhibits students from driving to school nor parents from consenting to their underage children driving\(^5\).

In addition to its effect on parking spaces, automobile dependency has also affected travel times. A drive of 12 kilometres (km) that previously might have taken 20 minutes now takes an hour, or with heavy traffic, one-and-a-half hours. Angkot, while found operating abundantly on the roads, are rarely filled with passengers. Clearly, travel behaviour in Bandung is problematic. Walkability and accessibility—as two non-car-based concepts—must be considered to encourage alternatives. After all, walking is the basic way to travel and an essential complement to other transit modes (Lo, 2011; Park, 2008).

The observations that both the urban form and travel behaviour have been changing, have led me to consider if a relationship exists in the context of Indonesian urban planning, and if new housing estate forms might be contributing to a move away from

\(^4\) The legal driving age of 16 for motorbikes is reasonably common in some countries. In Indonesia, the driving license for motorbikes is differentiated based on age and the engine capacity. However, a learners’ permit is not required nor is it a requirement to have someone in the vehicle supervising, which are requirements typically found in Australia, the US and across Europe. Currently there is no literature explaining why the age differences exist. Drawing on media reports, 16 years is considered an adult when it comes to obtaining a drivers license (https://www.otomart.id/berita/batas-usia-minimal-buat-sim-kendaraan.html). Additionally since a motorbike can only carry two people, it is presumed that there is less risk or casualty in the case of accident.

walking as a form of travel. The development of housing estates in Indonesia has increased substantially since the 1980s and been characterised with large scale and grid layout. While a ‘boom’ in housing estate development occurred in the late 1980s to the early 1990s (Firman, 2000), the northwest suburb of metropolitan Bandung, the subject area examined in this thesis, did not experience a significant surge in housing development until the 2000s. Along with this increase, the housing estates differ—built as pods of estates that form clusters and surrounded by perimeter walls representing gated communities.

The suburbs and their housing estates are now regarded by many in the growing Indonesian middle-class as a desirable home ownership option. Suburbs offer affordable land upon which to build houses. Most housing estates offer enclaves in which the middle-class can dissociate itself from the kampung and the rest of the city. While non-gated or non-enclave housing estates also exist, they are mostly inhabited by the lower middle-class.

In Indonesian suburbs, the residential street network appears to result in low connectivity. This reduces the viability of transport modes that offer alternatives to private motorised vehicles, making travel for non-car users difficult. Because of the fortified boundaries, the small scale of housing estates and lack of facilities within estates, it would seem that pedestrians must travel further than they otherwise would to access shops located outside the estate’s boundaries. Once frequented shortcuts offering direct route are no longer available due to the estates’ walled boundaries. Additionally, pedestrians must compete with motorised vehicles when using the street space because there are no footpaths. When footpaths do exist, they are disjointed, used to park motorbikes, or are inhabited by street hawkers (Lo, 2011).

While many suburban residents in Indonesia encounter the above-mentioned problems, the Indonesian planning system does not seem to be doing anything about the problem. Planning policy does not appear to make any attempt to direct the design of new developments to consider walkability and accessibility.
1.1 Research Aim

The aim of this thesis is to determine whether the identified roles of policy, planners and developers contained in planning practice have contributed to shaping the form of housing estates to discouraging walkability and accessibility. Therefore, the thesis will firstly explore the influence that the common form of new housing estates in Indonesian cities might have on residents’ ability to walk to access local destinations, and secondly the influence that planning has on this urban form.

The research will contribute new knowledge of the Indonesian planning process. Currently this literature is underdeveloped, especially in relation to its implementation in housing estate development. This thesis will contribute to the development of planning in Indonesia by critiquing the built form of these estates.

While a noticeable change in travel behaviour over the past couple of decades is evident, this thesis seeks to understand why this change has occurred, looking at one particular aspect that might be contributing—the design and form of housing estates.

This thesis will also examine the spatial relationship between housing estates and kampung and will seek to understand the perspectives of both planners and developers in shaping housing estate development practice. The factors influencing Indonesian planning and how these might have contributed to the undermining of walkability and accessibility are explored through a study of housing estates, as one significant change to the built form in Indonesian cities.

1.2 Research Questions

This thesis is therefore about Indonesian planning, focusing on the northwest suburb of Bandung. It is guided by the following overarching research question:

Is the planning system in suburban Bandung contributing to a form of housing estates that discourages walkability and accessibility? If so, why?

In order to answer this main research question, this thesis will be guided by the following sub-questions:
1. What is the form of new housing estates in Indonesia and particularly suburban Bandung?
2. What implications do they have for walkability and accessibility?
3. What influence does the planning process have in shaping the form of housing estates?
4. What role do planners play in shaping the form of housing estates?
5. What role do developers play in shaping the form of housing estates, and how much are they influenced by planning?

These questions will guide the research which will adopt a mixed methods approach to its investigations. The existing form of housing will be methodically analysed in order to understand the extent and nature of the problem. The history of the planning system and current legislation, policies and practices will be investigated in order to provide an in-depth and nuanced understanding of how planning policies and practices shape the form of housing estates. This will provide an explanation for why housing estates are built to a specific form and an understanding of the role that developers, planners and planning play in the resulting developments.

1.3 Significance of Research

Globally, Indonesia is recognised as a country of importance from many aspects. According to a joint World Wildlife Fund (WWF) and Asian Development Bank (ADB) report (2012), along with Malaysia and Brunei Darussalam, Indonesia contains part of the largest remaining rainforest in Asia. Indonesia’s per capita ecological footprint for 2008 is much lower than that of either Australia or Singapore, whose ecological footprints are among the highest. Yet due to its population size, Indonesia (along with China, India and Japan) contributes to more than three-quarters of the Asia-Pacific region’s total ecological footprint (WWF & ADB, 2012).

The WWF-ADB report also argued that a newly emerging middle-class has driven this rise in the country’s ecological footprint. The aspirations of the emergent middle-class are presumed to be resulting in higher levels of home and vehicle ownership.
According to BPS⁶, Indonesian statistic figures show the number of motorbikes owned has escalated from a little less than 20 million in 2002 to more than 100 million in 2016. A relatively smaller spike occurred for cars (privates as well as public angkot) from less than 3.5 million to more than 14.5 million in the same period throughout Indonesia.

![Figure 1.1. Growth of cars and motorbikes in Indonesia according to year](https://www.bps.go.id/linkTableDinamis/view/id/1133)

Examining the study area more closely, we can see that in northwest suburban Bandung, the statistics of private vehicle ownership in the Bandung and Cimahi municipalities have grown by 62 and 41 per cent over the 2011 to 2015 period for cars and motorbikes, respectively—resulting in a total ownership of 497,400 cars and 1,499,753 motorbikes (BPS-West Java, 2016). These figures show proportionally, in addition to 75 per cent car ownership across all households, each household also owns two or more motorbikes. This is notable, as a significant proportion of the population remains on low incomes despite many aspiring to join to the middle-class.

Not including motorbike ownership, while the Indonesian statistics of private vehicle ownership show considerably lower rates than North American and Australian cities, Asian cities experience more congestion due to their limited road space (Banister, 2005). As such, it is unsurprising that a rapid increase in traffic congestion has occurred within the last two decades in metropolitan Bandung. According to the Tomtom traffic

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⁶ Statistics Agency in Indonesia
index\textsuperscript{7}, the capital city of Indonesia, Jakarta is in third place just below Mexico City and Bangkok for its notorious traffic congestion. Meanwhile, the Inrix scorecard shows that other Indonesian cities, such as Bandung, Malang and Yogyakarta\textsuperscript{8} are included in the ‘big 60’ with its roads congested for more than 45 hours a week.

While air pollution frequently reaches unhealthy levels\textsuperscript{9}, the above figures reveal a significant health impact. The numbers of overweight and obese people are increasing. Indonesian obesity prevalence rates were 6.8 per cent in 1993, 8.5 per cent in 2007, 14.2 per cent in 2010 and 20.7 per cent in 2016—these worrying figures make Indonesia as the 10th countries with highest obesity rates across the globe (Rachmi, Li & Baur, 2017; Balitbangkes, 2016; Roemling & Qaim, 2012). These numbers are not far behind countries such as Australia and the United States (US)— Australian rates were 16.2 and 28 per cent in 2006 and 2015 respectively while US obesity prevalence rates were 23.9 and 39.8 per cent in 2001 and 2016 respectively (Australian Institute of Health and Welfare, 2015; Bassett, Pucher, Thompson & Crouter, 2008; NCHS, 2017).

Looking at how low walkability and accessibility have multiple effects and complex causes, anything that may exacerbate these effects warrants investigation. One such aspect is the role that planning might be able to play in ameliorating these trends through better housing estate design.

Looking at the statistical patterns in Figure 1.1 and 1.2 and knowing that no population boom had occurred during the period, it seems that the rapid suburban development which takes form as gated communities in the 1980s have resulted in automobile dependent children who had become adults by the year 2000s. Children whom do not only belong to the middle-class but also the lower-class may have become accustomed to driving to overcome the segregated uses and further distances involved in new

\textsuperscript{7} https://www.tomtom.com/en_gb/trafficindex/
\textsuperscript{8} Based on the analysis of congestion in 1360 cities in 38 countries across Asia, Africa, America, and Europe which ranked Los Angeles and New York City at the first and second place, Bangkok at the 16\textsuperscript{th}, Jakarta at the 17\textsuperscript{th}, and Toronto at the 49\textsuperscript{th}. More information can be found at http://inrix.com/scorecard/
\textsuperscript{9} http://aqicn.org/city/jakarta/
housing development. While this argument may hold some truth, there are of course many other factors involved, such as tax deregulation, the absence of congestion pricing, and the absence of vehicle ownership and parking restrictions, which lie beyond the scope of this thesis. Nonetheless, this thesis may be a starting point in examining these aspects through its critique of the form of housing estates and exploration of the processes shaping their form.


Figure 1.2 Indonesia’s population growth

This thesis argues that housing estates need to be more walkable and accessible. This requirement is based on a change in travel behaviour: people in the past used to walk and take public transport. Increasingly, people are becoming dependent on private motorised vehicles. Housing estates constitute a significant part of the urban form that influences people’s travel behaviour. The form of housing estates is shaped by the tension between the middle-class and the kampung through a market-determined process. It produces scattered housing estates with gates and perimeter walls. The kampung remains outside these walls.\textsuperscript{10} This creates a problem for not only travel, but also health and social equity: the situation promotes increased obesity, unequal access to urban facilities and spatial segregation based on socio-economic status.

\textsuperscript{10} See Chapter 5 for more detail on the tension and the outcome it produces.
The primary focus of this thesis is on the planning and development of housing estates. The secondary focus is on how these processes shape the extent to which new housing estates support walking and accessibility. Housing estates, or neighbourhoods, have been the subject of an active debate around walking and travel (Banister, 2008; Cao, Mokhtarian & Handy, 2009; Cervero & Radisch, 1996; Khattak & Rodriguez, 2005; Schwanen & Mokhtarian, 2005). However, there is little focus on the role that planning can play in creating built form outcomes that increase walkability and accessibility from both empirical and theoretical perspectives. Another shortcoming in the literature relates to contextual awareness of appropriate built forms. This research aims to address such problems. It seeks possible solutions in planning policies, in a specific Indonesian context, to increase the walkability and accessibility of housing estates.

Empirical studies on the relationship of form to travel behaviour show mixed results. While there is a possibility that current housing estate development practices in Indonesia affect travel behaviour negatively—predominantly due to the gates and walls that reduce connectivity and increase walking distances—exceptions still exist where some estates do not have fortified boundaries and include more than one public pedestrian access point. Logically, the latter would result in shorter distances towards more mixed uses and should be more conducive to walking. However, this is a theoretical perspective; the argument of true mobility still needs to be supported by statistical figures (which unfortunately are unavailable for the Indonesian case) or empirical data. Despite this, the reasoning behind developers’ decisions to provide or deny such access remains largely unknown.

While using empirical evidence about suburban Bandung, this research locates its argument within a much larger historical and theoretical context. Addressing issues subsumed by the impact of urban form on travel options, it examines housing form while also exploring planning practices overshadowed by global planning ideas. It seeks to invert the general understanding of urban form and travel. It does this by not taking the urban form as fixed, instead accounting for the ways in which past and
current planning policies have altered and continue to alter the specific form of housing estates.

The wider significance of this study is that it provides a careful examination of planning policy and practice in housing estate development in a specific place. Designs that enable greater accessibility must determine what is appropriate for the local situation. To generate a reliable basis for the conception and implementation of a form that will ensure travel options, an exploration should emphasise many aspects. These can include cultural contexts that affect the use of travel options and planning contexts that affect the provision of such options. In terms of developers’ behaviour, and in contrast to large-scale estates (Dieleman, 2011; Firman, 2004; Leisch, 2002; Winarso, 2002), small and medium-sized housing estates have yet to be studied within the Indonesian planning context. This has resulted in a gap in the literature, which this thesis intends, at least partly, to overcome. Understanding the process of planning and development of a housing estate in its particularity is essential, as each location is influenced by different factors such as topography and socio-economic conditions, which result in different solutions regarding the question of urban form (Frey, 1999; Neuman, 2005). Yet the nuanced understanding of such particularities does not necessarily mean a reduced contribution, as this understanding will allow a critical dissection of other contexts that might have similar or contrasting features.

The complex relationship among plans, land use regulations, development patterns and individual preferences, and the interplay between markets and governance processes are largely overlooked in the literature on travel (Boarnet, 2011; Boarnet & Crane, 2001). It is necessary to examine planning practice, and investigate the perspectives of both planners and developers in shaping the form of housing estates. As a preliminary step towards understanding the realm in the context of practice, acknowledging this is crucial to direct the future development of housing estates so they achieve greater walkability and accessibility.
1.4 Overview of Thesis Structure

This thesis is arranged into nine chapters. Chapter 1 introduces the research, provides a background, and establishes the study’s position within the literature. Chapter 2 presents a review of the literature on housing development in Indonesia, the forms of housing estates, and how those forms affect walkability and accessibility. Throughout its discussions, the thesis also addresses why such forms are developed. As such, an in-depth understanding of the planning process in practice is vital. Planning and housing in Indonesia, and how planning may occur in reality are reviewed in Chapter 3. Chapter 4 presents a detailed discussion of the approach and methodology undertaken in this research. A case study approach is determined as the most effective methodology. After presenting the methodology, the development of an assessment tool is provided. In Chapter 5, the current context of Bandung is discussed. This chapter also details the findings about the form of housing estates in the northwest suburb of metropolitan Bandung, an analysis of the spatial and physical characteristics of housing estates, the wider physical relations to existing kampung and street networks, and an assessment of walkability and accessibility. Chapter 6 explores planning permits and regulations, how planning processes conducted in practice as contained within statutory planning are provided, along with an understanding of the planners’ role. This chapter also tries to identify planners’ efforts to overcome the problem of walkability and accessibility. Chapter 7 elaborates developers’ perspectives on the overall process related to shaping the form of housing estates: location, design and business strategies within a market-oriented realm. This chapter also examines issues related to the post-construction form. Following this, Chapter 8 discusses the relations of the findings about shaping the form of housing estates in Bandung to bodies of literature. Finally, Chapter 9 concludes this thesis by examining the research questions being asked, the implications of the findings, and what future work may be needed in the field.
Chapter 2 Housing Development in Indonesia: The Rise of Housing Estates

This chapter examines the literature on the development of Indonesian cities and housing. Cities are planned and developed within particular contexts that are structured by relationships between different actor groups in real life events (Cowherd, 2002; Graham & Healey, 1999). Unpacking housing development in Indonesia requires an introduction of its history to develop an understanding of the current practice. This understanding will produce insights into how housing development in Indonesia affects walkability and accessibility. Walkability (in this thesis) is defined in relation to safety, pleasantness and ease (see i.e. Brownson, 2005; Clemente, Ewing, Handy & Brownson, 2005; Forsyth & Southworth, 2008; Hoehner, Ramirez, Elliott, Handy & Browson, 2005; Kelly et al., 2011; Krambeck, 2006; Pikora, Giles-Corti, Bull, Knuiman, Jamrozik, & Donovan, 2000; Speck, 2012). Accessibility is about the distance that one needs to overcome and the time that one takes to reach a destination—it links transport and spatial use (Cervero & Kockelman, 1997; Curtis & Scheurer, 2010; Handy, 2002; Hoehner et al., 2005). This chapter will begin to address the first and second sub-questions: What is the form of new housing estates in Indonesia and particularly suburban Bandung? What implications do they have for walkability and accessibility? The chapter concludes by arguing that the form of housing estates should not only be analysed and described, but also critiqued through the lens of walkability and accessibility.

This chapter contains five sections. The first provides an historical overview of how Indonesian cities have been developed and how planning has influenced its shape. The second section specifically discusses kampung as Indonesia’s indigenous form of housing. Following this, the third section outlines the development of housing from kampung to gated communities. The relatively new forms of housing estate which have received considerable attention in Western academic literature, gated communities and new urbanism are included. The fourth section provides preliminary thoughts on the form of housing estate that will affect walkability and accessibility.
Drawing on the literature on land use, transport and urban design, shows there is a need to produce urban environments that not only cater for automobiles but also for pedestrians and transit users—offering a variety of travel options. The ramifications of housing estate for walkability and accessibility are then discussed in relation to the Indonesian context. This is to determine if differences arise through the presence of kampung. This chapter’s concluding remarks highlight the history of housing development, the form of housing estates and the practical relationship this has to walkability and accessibility.

2.1 Development of Indonesian Cities: Historical Development from Kampung to Gated Communities

Planning, and the resulting types of urban form, is embedded within a long history. The history of planning in Indonesia can be traced back to the period of Dutch colonisation. Since this time, several foreign influences have followed and each historical period has contributed to the characteristics of Indonesian planning culture (see Table 2.1). Most notably however, is the American influence of suburban forms, namely the gated community.

Table 2.1 shows that foreign influences have shaped the evolution of Indonesian planning. In many Asian countries, such as Indonesia (Cowherd, 2005; Kusno, 2000, 2012b, 2013) and India (Vidyarthi, 2010), planning ideas from North America and Europe are regarded as modern. Aspiring to such modernity, Indonesia has adopted ideas from countries such as the US, Netherlands, Germany, and the United Kingdom (UK) (Cowherd, 2005; Kusno, 2000, 2012b, 2013). Unfortunately, as shall be identified in this section, these ideas were adopted without careful examination of the planning ideas in relation to their geographical origins and related socio-cultural and political contexts, as suggested in the literature (e.g., Dolowitz & Marsh, 1996; Fainstein, 2005; Watson, 2002, 2009a). Contextual differences between localities where planning ideas have been developed and implemented, which is crucial to the understanding of their successes, have gone without careful attention throughout Indonesia’s planning history.
Table 2.1 Historical periods of Indonesia’s planning and housing development

<table>
<thead>
<tr>
<th>Period</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1620–1942</td>
<td>DUTCH COLONISATION: FORMALITY AND INFORMALITY</td>
</tr>
<tr>
<td>1942–1945</td>
<td>JAPANESE RULE</td>
</tr>
<tr>
<td>1945–1966</td>
<td>POST-COLONIAL: MODERNITY</td>
</tr>
<tr>
<td>1966</td>
<td>NEW ORDER: AMERICAN INFLUENCE AND NEOLIBERALISM</td>
</tr>
<tr>
<td>1980s</td>
<td>Real estate boom period</td>
</tr>
<tr>
<td>1999–onwards</td>
<td>DECENTRALISATION</td>
</tr>
</tbody>
</table>

Many studies of Indonesian planning have focused on the period of Dutch colonisation (1620–1942), but as Cowherd (2005) argues, planning was already happening during pre-colonial times. This is relevant to the values that appeared long before Dutch colonisation.\(^\text{12}\) Despite this long-term influence, this research does not include the pre-colonial period in its review, as it is less relevant to current Indonesian planning practices, however it is noteworthy for its influence on the early form of Indonesian cities. Such examples can be found in Java’s cities, including Bandung; they also occurred in the early post-colonial period due to President Sukarno’s ethnic Javanese background\(^\text{13}\) (Kusno, 2000; Sunaryo, Soewarno, Ikaputra & Setiawan, 2011). Arguably however, Indonesia had no cultural concept of a ‘city’ before the Dutch colonial

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\(^{12}\)Foreign influence was brought by traders from China and India in the first centuries, Islam in the fourteenth century, and the Portuguese in the sixteenth century before the Dutch (Cowherd, 2005).

\(^{13}\)Before the Dutch arrived, Indonesia was comprised of separate kingdoms. See Sunaryo et al. (2011) for a morphological discussion on the colonial and traditional development of ten cities in Java.
period; historically, a settlement’s centre was a palace and not a town (Evers, 2007). The following section discusses how the Dutch originally shaped Indonesian cities through an exploration of housing examples from Bandung and Jakarta.

2.1.1 Formal and informality as colonial influence (1620–1942)

Bandung is surrounded by volcanic mountains and as such, it incorporates a vast plantation area due to its fertile soil—a key attraction to the Dutch. During the seventeenth and eighteenth centuries, the Dutch East Indies Company (VOC) opened tea plantations in the Bandung area, and constructed a road connecting the plantation area to Jakarta in 1786 (Ashworth, 2009).

According to Ignasia (2008), the establishment of Bandung as a town was made by cutting through the pre-existing kampung, the native settlements, located on the Bandung plateau. In addition, spanning 1000 km from the west to the east coast of Java, the Great Post road (Groote Postweg) construction passed through Bandung in 1810.14 The centre of Bandung was then moved from its old centre in Krapyak 10 km north to the junction of Cikapundung River and the Great Post road. The former Bandung is now known as Dayeuhkolot or ‘the old city’ in the traditional Sundanese language (Devisanthi, 2007). As shown in Figure 2.1, the Great Post road crossed the pre-existing dust roads that linked the settlements, following north-south ridges and riverbanks. This has divided Bandung into two different topographic areas: a hilly part in the north and a flat marshland in the south (Ignasia, 2008).

14 It was a response to a perceived vulnerability of the Dutch Indies Governor, H.W.Daendels. This largely strategic requirement led to the relocation of many colonial administrative and military functions inland away (it was hoped) from the reach of the Royal Navy. However, Java was then occupied by the British from 1811 to 1816 (Ashworth, 2009).
The Dutch proposed the first development plan in the early nineteenth century, based on Ebenezer Howard’s ‘Garden City’ (Raksadjaya, 2007). However, as Hall (2002) has described extensively, the implementation of the Garden City idea is highly varied and depends on the development agent as well as the contextual particularities of place, time and culture. While many places were influenced by the Garden City movement, its implementation in Bandung was closer to a garden suburb model rather than the self-sufficient Garden City conceived by Ebenezer Howard (Côté, 2014).

15 Unwin and Parker first interpreted and developed a garden city in Letchworth and Hampstead (in Britain). According to Hall (2002), they did not necessarily comply with Howard’s ideas of a garden city as self-sufficient. These two places resemble more as a garden suburb partly because they had no industry and were openly dependent on commuting. The garden city as Howard proposed was more about diagrammatic relationships to decentralise crowded urban core through the use of new satellite towns connected by the rail —each would be a self-contained community which have jobs–housing balance represented by housing and gardens in layers concentrated around a central park, civic buildings, and retail (Curtis & Olaru, 2010; Hall, 2002; Larice & Macdonald, 2007). At the periphery,
Following the relocation of a weapons factory from Surabaya to the south-eastern side of Bandung in 1898, settlements for army officers and migrant workers were established, including those in the adjacent area of Cimahi (Ignasia, 2008). At the beginning of the 1920s, the Dutch colonial government conceived a scheme to move the entire capital of the Dutch East Indies from Batavia, the previous name for Jakarta, to Bandung.\(^\text{16}\) By the early twentieth century, Bandung had become not only an administrative town, but also a resort city for European administrators, bankers and plantation owners. Bandung then received the title of “the Paris of Java” for having developed luxurious hotels, restaurants, cafes and boutiques (Ashworth, 2009, p. 102). Due to this rapid development, Bandung’s population consisted largely of indigenous Indonesians, Chinese and Europeans.\(^\text{17}\)

The structure of Indonesian society affected planning decisions and caused a separation of the regulatory framework between the indigenous Indonesians and the rest of society during the gemeente state (1906–1926). This period is marked by the Dutch government refraining from dealing with the indigenous Indonesian population, factories were situated together with a greenbelt to provide farming, clean air, and places for recreation (Calthorpe, 1991; Hall, 2002; Larice & Macdonald, 2007).

\(^{16}\) Bandung was to be extended to the north where a new government district was to be created on existing farmland. This district was to be aligned along a 2.5 km processional way starting at the main government headquarters (the present-day Gedung Sate) and terminating in a monument: it was to be flanked by the various buildings of government ministries. In addition, the local government built a new City Hall at the north end of Braga Street to accommodate the new European civic government, judicially and spatially separate from the indigenous system. In 1920 the colonial military headquarters for the Indies was moved from Batavia to Bandung, which led to the development close to the new City Hall of military offices, barracks, housing and a residence for the Commander in Chief, and military housing. The headquarters of the state railway and telecommunications companies were also relocated here. Nonetheless, the move of making Bandung as the new capital did not happen; it was vetoed by the Dutch Queen (Ashworth, 2009).

\(^\text{17}\) The changing population in Bandung was noted with “a number of Chinese came to Bandung to help run the facilities, and services to the new industries. The development of Chinatown dates from this period. The indigenous houses were scattered mostly south of the Great Post road. The European and other first class citizen houses were built along streets that ran uphill in the northern part of the city” (Raksadjaya, 2007, p. 3). Ashworth (2009 p. 102) mentioned that “by 1900 the population had grown to 38,000 and expanded further to 70,000 by 1916 and 160,000 in 1932. In particular the city proved attractive to Europeans who already numbered some 2800 by 1910 and increased to more than 10,000 or around 5 per cent of the population by 1940”.
instead restricting its power to only managing European elements (Reerink & van Gelder, 2010). Physical segregation resulted from this decision: European houses were built along streets developed by the Dutch government. The undeveloped land left in between the European houses became the *kampung* of the indigenous inhabitants. The European houses were subject to building codes, while *kampung* were not.

In 1926, autonomous rule of the regent was abolished—the indigenous and the *kampung* areas were now included under the administration of Dutch municipal services (Leaf, 1993; Reerink & van Gelder, 2010). Under this new administration, the municipality started to enhance the city’s environmental quality through land use planning, planned city expansion, infrastructure development and *kampung* improvement.\(^\text{18}\) Yet the early arrangement of a separated regulatory framework had already framed the basic form of present-day Indonesian cities, with large blocks of European mansions fronting broad avenues and traditional *kampung* filling the inner blocks (Leaf, 1996).

As a Dutch colony for almost 350 years, Indonesia received strong guidance in formal planning and zoning from Thomas Karsten (Bohl, 2003; van der Heiden, 1990), a Dutch architect and planner, who was familiar with the regulation of open spaces, streets, buildings and setback lines, as well as zoning (Cobban, 1992). He produced the first Indonesian Town Planning Act in 1938 (Cobban, 1992). In this act, Karsten suggested a zoning system which designated where to plan buildings, open space, traffic routes, water mains and pipes, agriculture and defence (van der Heiden, 1990). The building zone, for example, encompassed building types like villas, *kampung*, *toko* (shops) and industry.

Although Karsten proposed zoning based on the function of spaces and building types, he was concerned with the social aspect of housing. His proposed zoning did not

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\(^{18}\) The *kampung* improvement programme was launched in the spirit of the Ethical Policy. This policy considers the Dutch to have ethical responsibility for the welfare of their colonial subjects including Indonesia and proposed to act on irrigation, transmigration, and education (Leaf, 1993; Reerink & van Gelder, 2010).
necessarily segregate use and building types. Karsten considered that ‘nothing was wrong with the land use patterns typical of the Indonesian city: disorder of built-up and open areas; mixture of large stone houses amid kampung; native structures made of palm leaves over a bamboo frame (atap) standing on the same street as European buildings; and bits of kampung settlement scattered amidst Chinese or European housing’ (Cobban, 1992 p. 332). Such a mixture, according to Karsten, was laudable. In fact, Karsten reiterated that copying Western solutions blindly would be hazardous as they might be out of place in Indonesia (Cobban, 1992; Coté, 2014). The essence of Karsten’s view is the importance of Indonesian society’s socio-cultural context and maintaining the local character of indigenous settlements (Kusno, 2000, 2012a). Hence, despite the kampung becoming a source of distress due to the lack of hygiene, sanitation and drainage infrastructure required for the population density, the redevelopment of the kampung was not intended to eliminate its traditional character.

Other than the built form, legal systems, policies, and colonial working practices from the colonial period remained in the post-colonial period (Healey & Upton, 2010). It is thus noteworthy to track these legacies up to the periods afterwards and the current nature of housing estate development.

2.1.2 Modernity during the early post-colonial period (1945–1966)

After the Dutch colonial period, Indonesia was occupied by the Japanese for three and a half years arguably to supply the oil the Japanese needed during their war in China (Colombijn, 2014). During Japanese rule, it was said to be Indonesia’s darkest time for at least two reasons: obtaining food was difficult and women forced to be geishas (Colombijn, 2014; Kenichi, 1996). Partly reflecting the short period of occupancy, there is a lack of literature regarding the Japanese influence on Indonesian planning and housing. After Japanese rule, the independent Republic of Indonesia was declared in 1945 which was recognised by the Netherlands in 1949 (Ashworth, 2009). Indonesian cities had deteriorated during Japanese occupation and the subsequent struggle for independence. As Ford (1993, p. 378) describes: ‘In Jakarta, the old city had decayed
and the new city (around the Medan Merdeka or Freedom Square) was only partially developed.’

Under Sukarno\textsuperscript{19}, the Republic’s first president, the post-colonial period began as a time of obsessive development into modernity—creating forms that differed from the traditional Indonesian and Dutch forms (Kusno, 2000). Modernism exemplified by the work of architect Le Corbusier, was developed from a criticism of European traditional forms. Modernism suggested a paradox: to decongest city centres by increasing their density, which could be achieved with a utopian vision of geometrical high-rise buildings and highways (Hall, 2002; Larice & Macdonald, 2007). This would also improve circulation patterns and increase the amount of open space. Nonetheless, this approach has been criticised for its lack of respect for heritage and its approach favouring clear sites as the ultimate means to build a city—proposing to demolish existing buildings and rebuild a new one (Calthorpe, 1991; Hall, 2002).

This period of Indonesian planning was also marked by the influence of the ‘City Beautiful’ movement that originated in Europe but was promoted by the American architect Daniel Burnham (Hall, 2002). This movement called on planning to produce monumental places by placing buildings with wide spaces between them (Hall, 2002). As described in Kusno (2000), President Sukarno (who was proud to be called a megalomaniac architect) embraced large-scale monumental buildings, boulevards and bridges.

Taking references from Paris (France), London (England) and Rome (Italy), Sukarno viewed modernity as a relation to the external world. With an objective to position Indonesia as the beacon of Asian and African emerging nations, by the mid-1950s attempts to create new symbols for the capital city Jakarta had begun (Kusno, 2000). Kusno gives as an example the erection of a 132-metre-high national monument, or

\footnote{Sukarno studied Civil Engineering focusing on Architecture at Technische Hoogeschool te Bandoeng (the previous name for the Institute Technology of Bandung). Whilst there is no known literature explaining the beginning of Sukarno’s interest on modernity, it is possible that he was influenced from lectures on modernity during the course of his study.}
Monas, topped with a huge gilded flame in 1961 at the vast Medan Merdeka field. Elsewhere in Jakarta, pedestals topped with statues of heroic figures carrying a variety of swords, chains and flames graced the lawns of governmental buildings and major traffic intersections (Ford, 1993; Kusno, 2000). Ford (1993 p. 379) states: ‘Such embellishments were part of Sukarno’s obsession to impinge upon Jakarta’s image’.

Sukarno’s obsession led him to interfere with some major planning and development decisions in what became known as the period of ‘guided democracy’ (Ford, 1993; Kusno, 2000). This was seen in his prioritisation for spectacular capital projects instead of increasing the low-income housing stock, upgrading dilapidated kampung, and improving basic services for the existing two million people (Ford, 1993; Kusno, 2000). Even the effort to develop Jakarta’s spatial plan as an example for the rest of Indonesia’s cities was dismissed simply because Sukarno had a grand vision for Jakarta; he considered it incomparable to the other cities (Kusno, 2000; Silver, 2008). Silver (2008, 2015) further describes an example when Sukarno disagreed with Sudiro, Jakarta’s then Governor, and directed him to remove the (what Sukarno considered) decrepit Dutch electric tram system in favour of modern cars and buses. Jakarta’s trams disappeared suddenly and completely, a situation followed by other Indonesian cities, such as Surabaya and Semarang. However, this was not the case in Bandung as no tram networks were available due to the different topography. Jakarta, Surabaya and Semarang have flat coastal plains while Bandung is surrounded by hills.

The influences from the two planning ideas discussed above implied a neglect of the traditional values of Indonesia’s urban form. Urbanisation took course as many people left their villages to move to Jakarta. Hoping for the opportunities available there, many found themselves jammed into kampung (Kusno, 2000). Kampung were mistreated for symbolic and political reasons, exemplified by the following developments. For instance, a six-lane wide boulevard connecting the monumental sculptures and vast plazas provided a thoroughfare for the 1962 Asian Games. This was

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20 http://www.dw.com/id/nostalgia-trem-di-indonesia/g-19172935
built by cutting through the *kampung* which latter resettled 47,000 people (Cowherd, 2005; Kusno, 2000). The urban form that has taken shape reflected Sukarno’s legacy, which was ‘good symbolism but poor basic urban facilities such as water, sewerage, and transportation’ (Ford, 1993, p. 379).

This is also reflected in housing. An example of this is the new town of Kebayoran Baru, constructed six kilometres south of Medan Merdeka. Kebayoran Baru was developed as ‘the epitome of modernity, complete with spacious governmental buildings, modern department stores and Western-style housing’ (Ford, 1993, p. 379). The new town was conceived by a Dutch planner, van Romondt, with 7,000 houses from luxury-villas to more modest houses, providing a quality residential community for civil servants and other professionals; it was also linked to employment centres in the city by a new highway (Harun, 2011; Silver, 2008). Similar to the planning of Bandung as discussed in the previous sub-section, Kebayoran Baru was also inspired by the Garden City model, but again the result was closer to the garden suburb model than the original ideas of self-sufficiency proposed by Ebenezer Howard (Silver, 2008).

Several housing development projects were built during Sukarno’s regime, mostly for government officials in the form of detached houses and a few walk-up apartment buildings. According to Silver (2008), however, one prominent plan for mass housing existed during this period. The Pulo Mas plan, as Silver refers to it, was developed by three Indonesian architects who had graduated from the Royal Danish Academy in Copenhagen. The housing was intended initially to be a ‘self-contained’ settlement linked to the rest of the city through a new ring road. The plan proposed a series of interconnected neighbourhood units, each accommodating about 3,000 people. Groups of houses were clustered around small open spaces. Similar to Clarence Perry’s neighbourhood unit so widely used for community planning in the US in the 1960s, the Pulo Mas residential units were linked to community institutions such as primary schools. In common with worker’s housing complexes in European cities, neighbourhood shops were also included (Silver, 2008).
Pulo Mas began in 1966, the first year of the New Order period and provides an early example of how the market oriented mechanism of housing provision occurred in Indonesia. The original plan of Pulo Mas was meant to use public funds completely; however, this plan was abandoned because of constraints on the city’s budget. An alternative was then proposed to combine public and private funds; the former for land acquisition and the latter for construction. However, the mass housing scheme was not financially feasible from a private sector perspective without public subsidy. As a result, more feasible upscale housing for the middle-income market, at significantly lower densities, was built instead. The proposed commercial and civic centre was also replaced by a horse-race track (Silver, 2008).

During this period, most planned developments occurred in Jakarta. Despite this, Bandung was regarded as Indonesia’s fastest growing city, as the population grew four-fold reaching one million inhabitants. This was mainly due to refugees fleeing the West-Javanese countryside that had become a battleground over the establishment of an Islamic state between the Republican Army and the Darul Islam movement (Reerink, 2006). Nonetheless, it was not until 1965 that spatial planning was directed to address the increased population.

2.1.3 Middle-class primacy and suburban housing estates during the New Order (1966–1998)

After 1965, with President Suharto’s New Order, Indonesia began to imitate the American 1950s suburban boom. Suburban development in the US may have been strongly influenced by American architect Frank Lloyd Wright, who focused on the individual home and the family it represented (Calthorpe, 1991). This approach differed from both Howard’s neighbourhoods in a Garden City and Le Corbusier’s high-rise environment (Calthorpe, 1991; Hall, 2002). As with Le Corbusier’s ideas the street grid was still the primary ordering device but with a contrasting horizontal development, Wright proposed an extremely low-density development (Calthorpe, 1991). Wright (as Calthorpe, 1991) argues was nonetheless not the pioneer of such idea: the seeds of suburbia were cast with the railroad suburbs of the 1890s.
Taking an example from spatial planning, a significant change in direction during the New Order resulted in the development of the rail-based plan by the Dutch. But this plan was misdirected by American ideas which instead supported the creation of road-based suburbanisation. In planning for Jakarta and the surrounding counties of Bogor, Tangerang and Bekasi (known as Jabotabek), the Dutch had introduced the planning paradigms of bundled deconcentration. This is described as the development of high-density sub-centres which allow growth outside overcrowded centres (Cowherd, 2005). This approach was well suited for adaptation in Indonesia due to the compact nature of its settlements. With limited development to the north due to environmental considerations and assuming the likelihood that public transportation would remain the primary means of travel in the future, a rail-based east-west corridor was then proposed (see Cowherd, 2005). Yet there was little hope for changing the informal practices that had historically shadowed land use planning and regulation. As a result, it was the linear pattern of infrastructure that ended up shaping land use patterns (Cowherd, 2005).

In the 1980s, President Suharto was strongly guided by the World Bank which took over funding for Jabotabek planning (Lo, 2010; Silver, 2008). He commanded a shift from state-directed approaches in favour of market-driven economic liberalisation (Kusno, 2000; Marks, 2007). It was said that ‘the new regime was pro-Western, pro-capitalist, pro-development, and pro-foreign investment’ (Ford, 1993, p. 380). The World Bank guidance affected the original plan for Jabotabek: from an east-west rail-based corridor to an east-west toll road. This marked a more general shift in Indonesian planning toward greater motorisation and suburbanisation based on roads (Lo, 2010).

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21 By contrast, as partly resulting from changes in planning direction in the middle of New Order period, currently the main transportation mode is private motorised vehicles.

22 The said guidance coming from supranational institutions such as IMF and World Bank has been acknowledged to happen globally and has brought accelerated implementation of neoliberal policies as a result (Chang, 2005). It was a precondition to receiving loans which after the 1980’s crisis transformed into a mechanism to secure repayment as a kind of guarantee (Colás, 2005).
This suburbanisation was also fuelled by an emerging middle-class fascinated by the imagery of American lifestyles and consumption patterns (Jellinek, 2000). During the New Order, heroic realist statues were no longer created. Instead, Pizza Hut and Kentucky Fried Chicken signs began to decorate the city’s landscape (Ford, 1993). While the actual American lifestyle was only affordable for the wealthiest 7 to 10 per cent of Indonesia’s population, its overwhelming promotion encouraged many Indonesians to aspire to its values (Cowherd, 2005; Jellinek, 2000). Jellinek (2000) describes the change from kampung to consumer culture. Houses were cluttered with consumer goods, with many purchased on credit. Even though Indonesians had more material possessions than ever, they still aspired to own more. In kampung, people no longer had time to sit along pathways talking to each other; instead, they hurried to work or sat inside watching television. Outside the kampung, the middle-classes shopped in mega-malls (Jellinek, 2000).

The emergence of the middle-class in Indonesia in the 1980s is represented by the erection of two-storey houses and garages in kampung. It is also signified by the displacement of kampung dwellers from the city centre to suburban housing estates. Housing estates, as Kusno (2000) and Leisch (2002) have argued, were offered to the middle-class as exclusive residential neighbourhoods away from the kampung, to fulfilling the middle-class’ status-based inspiration. Other than some English names, according to Kusno (2000), the three dominant factors that had been exploited by the estate developers were availability of urban services, location (in relation to tollroads or highways), and security of tenure (having a registered title). Kampung were usually built on unregistered land, and not in accordance with land use and building construction codes (Ford, 1993; Leaf, 1996; Kusno, 2000);23 housing estates are the opposite. This does not necessarily mean that housing estates are built at a distance to avoid kampung. In fact, taking the form of a gated community with perimeter walls and gates, housing estates are constructed principally through setting themselves

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23 Yet, the codes refer to the modern standard of housing that lack appreciation of the traditional standard that might have had similar values to the modern material or structure (Kusno, 2000).
against the *kampung* but adjacent to each other (Kusno, 2000; Leaf, 1996; Lesich, 2002).^{24}

The economy of the New Order relied upon oil values, related to the oil boom of the 1970s and early 1980s. As such, it is not surprising that elevated highways and housing estates were developed in the suburbs. The phenomenon of *desakota* expresses the breakdown in the distinction between city and countryside (Firman, 1996; Leaf, 1996). Derived from the Indonesian word *desa* meaning village and *kota* meaning town or city, a *desakota* (as McGee defines it) is a region with an intense mix of agricultural and non-agricultural activities, and is usually found along the corridors that link cities (Firman, 1996; Leaf, 1996).

During the New Order, large-scale housing estate developments were initiated, mainly by developers with close relations to Suharto’s circle (Dieleman, 2011; Leaf, 1996; Silver, 2008). This is not surprising: during his leadership, Suharto controlled political life in Indonesia and further restricted it to a circle around himself that included his family and an alliance of Chinese conglomerates (Cowherd, 2005; Kusno, 2000). Ciputra, an Indonesian-Chinese who was a pioneer of new town development, developed Bumi Serpong Damai on Jakarta’s outskirts and Kapuk Indah in northern Jakarta (Dieleman, 2011; Firman, 2000; Leaf, 1996). Dieleman’s (2011) study provides an excellent example of how political engagement drove housing estate development and planning in Indonesia during this time.

In another instance, a suburban new town in Tangerang, Lippo Karawaci’s plan borrowed heavily from the US approach; US planning consultants were hired and the owner’s experience living in Southern California informed the project (Silver, 2008). Flourishing new town developments in Jakarta were then considered a significant failure because they were never as exclusive and self-contained as promoted by the

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^{24} As always been the case since the Dutch colonisation, the propinquity of socioeconomic classes which this settlement pattern allows is instrumental in facilitating the economic and social interdependency of classes (Leaf, 1996).
developers, but rather contributed to an increase in traffic volumes (Kusno, 2013). Workers who serviced the resident’s (housemaids, vendors, security guards, drivers) came mainly from the adjacent kampung that had already existed prior to the estate’s development (Hun, 2002).

By the 1990s, housing prices in the formal sector rose at three to four times the rate of incomes, ensuring that housing was a popular investment for wealthy Indonesians. This resulted in a low occupancy rate of 20 to 50 per cent in many luxury housing estates (Cowherd, 2005). Additionally, in the mid-1990s, a trend of Islamic housing estates arose, largely in Depok (just south of Jakarta)\textsuperscript{25}. This was partly due to the political influence from an Islamic political party during the election of Jakarta’s governor in late 2000 (Kusno, 2013). After a few years, Islamic housing estates began to proliferate closer to Bandung. Despite ideas based on the Islamic law of Sharia—characterised physically by the layout of space inside the house and a prominent orientation toward the mosque—the Islamic estates also emulated the common paradigm of housing estates that included single gates with a security system. It is not clear why gated communities have become a common feature of housing; as Kusno (2013), Hun (2002) and Leisch (2002) argue, this feature used to be associated with ethnic Chinese communities. This was partly because the Chinese were excluded from areas for indigenous Indonesians during the New Order (Kusno, 2000, 2013), and because originally, they have more ability to purchase houses in such exclusive enclaves. Along with the increased affordability of the middle-class, the phenomenon

\textsuperscript{25} The news stated that Islamic housing estate was meant to include the Islamic principles in every facet of living, including the financing of its development and the mortgage through cooperation with only Sharia banks. It was said that the residents of Islamic housing estate should not worry about their neighbors’ behaviours that may be considered as forbidden according to Islamic laws. However, developers also mention that residents living in such housing estate can rest assured knowing that they can trust their neighbors to take care of their children since the residents become one moslem community. To make one whole community moslem means that non-moslem are unallowed to purchase such housing—a clear indication of gated community. See http://www.abc.net.au/news/2017-07-24/gated-muslim-communities-rising-popularity-in-indonesia/8736246; https://www.thejakartapost.com/academia/2018/08/16/islamic-housing-a-divisive-business-idea.html.
of gated communities is no longer associated with the Chinese but rather the middle-class in general.

Bandung’s population increased by two million in 1990 due to economic growth following the late 1970s to early 1980s oil boom. Facilitating the growth, the master plan of Bandung envisioned the city as a metropolitan centre surrounded by the four satellite towns of Cimahi, Ujung Berung, Lembang and Dayeuh Kolot (in 1987); two of these towns were included within the administrative boundaries of Bandung, excluding Cimahi and Lembang from the Greater Bandung plan (Ignasia, 2008). Following this master plan, Bandung was designated for industry, trade and commerce. This opened the city to rural-urban migration and resulted in industries and trade flourishing along the major roads (Ignasia, 2008).

Afterwards, during implementation of the 1985 to 2005 master plan, Bandung’s urban area almost doubled from 8,098 to 17,000 ha. The demand for housing caused by the population increase formed the background to this urban growth. The city’s master plan was revised in 1990/1991, and the new master plan proceeded until 2001. In the new master plan, arterial roads and highways were introduced along the urban periphery to create alternative urban corridors along the city’s outskirts. This ring road has become so popular that commercial uses were developed rapidly along its corridors without proper planning and monitoring. New developmental areas were mostly allocated to housing, except for locations along the major roads, which were allocated as mixed-use areas (Ignasia, 2008).

An economic crisis hit Indonesia in 1997 and halted many large-scale developments.\textsuperscript{26} Some industries collapsed, yet Bandung’s garment industry survived by supplying current well-known factory outlets, which have become tourist attractions in Bandung. Nonetheless, in many ways \textit{kampung} and their informality have regained a dominant position in the surviving urban environment (Jellinek, 2000). Many people whose

\textsuperscript{26} Interestingly an opposite argument has been proposed by Winars and Firman (2002) that excessive housing development has triggered the monetary crisis.
houses were stocked with consumer goods sold their possessions. The middle-classes lost their jobs in factories, offices, banks and mega-malls and discovered informal survival strategies; for example, household-scale industries and ojeg (Jellinek, 2000; Kusno, 2016).

2.1.4 Suburbia’s aftermath and decentralisation: From Reformasi (1999–2004) onwards

The Reformasi period began when Suharto’s leadership was forcibly ended by the reformasi in May 1999, signified by riots in Jakarta (Kusno, 2000). Planning was moved from a centralised governance model to one of decentralised planning. This was intended to create the following effects: district and provincial spatial plans would become the basis for a national spatial plan (Moeliono, 2011); a closer relationship between the government and its citizens would occur through empowering local governments, legislature councils and communities (Firman, 2009); a more effective and efficient use of public funds would occur, in line with local development needs and improvements in the quality of public service provisions (Firman, 2009); a stronger local government role for planning and development control (Bunnell, Miller, Phelps & Taylor, 2013; Rukmana, 2015); and a greater focus on the neighbourhood scale made possible by local leadership.

Regarding spatial plans, the municipal government established several planning regions (wilayah perencanaan), each of which was subdivided into zones (i.e., residential, educational, commercial, industrial, military and conservation) with a different set of rules regarding their use. These covered: the minimum amount of green open areas within a block; the building coverage and floor area ratio; and the technical and safety regulations pertaining to road construction. Each planning regions are meant to be further elaborated as detailed spatial plan (Rencana Detil Tata Ruang [RDTR]). This provides practical guidance for government agencies and individual land owners about how a piece of land may be used in the best interest of society (Moeliono, 2011). While the spatial plan is a guide corresponding to development
control (Rukmana, 2015), it is nonetheless common to find spatial planning stopping at the regional level, rendering the RDTR absent.

The role of local governments, reflected in local leadership (Bunnell et al., 2013), is important due to the change brought by decentralisation. There are indications that current Indonesian planning, particularly in local governments, is focused on the neighbourhood level. This is clear in the current acts made by several mayors during the 2000s. However, it was not until the late 1990s that Indonesia experienced similar effects as the 1960s’ changes to planning in North America, Europe and Australia, when a move towards a more responsive and pragmatic approach was evident (Larice & Macdonald, 2007). During this time, smart growth, the compact city, and new urbanism were promoted globally due to concerns about urban sprawl. Each of these required a different scale of planning: from the region and the city to the neighbourhood.

Several notable examples of local leadership are provided by the following elected mayors: in Surabaya, Tri Rismaharani has applied strict treatment towards the private sector, establishing urban public spaces and pedestrian footpaths since 2010 (Dewi, 2017); Joko Widodo (who was then the mayor of Solo before becoming governor of Jakarta, and is currently Indonesia’s president) is renowned for his populist approach, replacing and formalising street vendors as part of an effort to revitalise urban public spaces (Bunnell et al., 2013); Ridwan Kamil, one of Indonesia’s celebrated architects (and the elected mayor of Bandung for 2013 to 2018) has made a similar and significant effort to establish public spaces and promote non-automobile travel by restricting parking regulations and providing school buses and bike lanes. He has proposed the ‘recehan’ (small pieces) strategic idea with the hope that every small piece will contribute to a larger whole and thus collectively save Indonesian cities (see Kusno, 2013).

The change to decentralisation has not yet brought the goals it was intended to due to lack of institutional capacity (Firman, 2009). Centralised command is still present in that all decisions from legislatures and administrators at the local government level
must be reported to the central government, specifically the Ministry of Home Affairs (Silver, 2003).

Historically, efforts towards decentralisation in Indonesia have been pursued by the international donor community since the 1970s, these were not successful until the passing of the New Order (Silver, 2003). Hadiz (2004) and Silver (2003), however, have argued that Indonesia’s interpretation of decentralisation is not aligned to that of the international donor community. Rather than the transfer of power and authority, decentralisation in Indonesia focuses instead on the delegation of responsibility. On the one hand, there is the strong influence (inherited from the New Order) of contestation by an array of powerful interests—national and local—many of which seek to preserve old predatory relations (Hadiz, 2004). On the other hand, the ‘unanticipated demise of the Suharto regime and subsequent passage of radical decentralization legislation’ have accelerated Indonesia’s local government reform process, troubling some international donors and government leaders and calling for ‘retrenchment and even recentralization’ (Silver, 2003, p. 423).

The central government was concerned about districts disregarding national interests. Moeliono (2011, p. 155) mentions that ‘government officials at the provincial and district level spoke out about otonomi kebidasan (autonomy spinning out of control)’. Subsequently, the district authority in the determination of land use through spatial planning was diminished by the enactment of Regional Government Law 32/2004 as a legal instrument for re-arranging the balance of power by redistribution of authorities between the central, provincial and district governments (Moeliono, 2011).

In terms of housing, decentralisation has brought about a similar outcome as in the Dutch colonial and New Order periods, favouring the affluent. A development agenda to build 1,000 apartment towers for those on low incomes was launched in 2006, however, developers instead built towers to attract the upper-middle-classes (see Kusno, 2012a). The program ended in 2010 and was replaced by the ‘one million houses program’, which aimed to provide houses specifically for those on low incomes by helping them to afford a house through providing specific credit as well as assisting
the developers to build infrastructure and facilities within such housing estate. The current trend in housing estate development, however, is still to promote exclusive residential neighbourhoods away from the *kampung* (similar to the 1980s’ situation) with the intensified physical characteristics of gating and walling that create spatial segregation. The latest marketing brochures found on several websites show that developers are still keen to develop the form which resembles a gated community that was preferred in the 1990s.  

Having seen how Indonesian planning and housing development has changed across the four historical periods, there are some indications that influences from abroad, particularly Western, have dominated. As the following sections reveal, this influence has also been identified from the built form of *kampung* to the development of housing estates. Along with an examination of the *kampung*, an extensive review of the form of housing estates and their origins in North America is undertaken as a point of comparison. Understanding the context and origins of housing and its forms is vital for understanding its usefulness, suitability and implications for use in other places. As *kampung* is the Indonesian traditional form of housing, the other forms originated from the North America are considered new.

### 2.2 Kampung as the Built Form that Preceded Gated Communities

*Kampung* is an Indonesian word that describes a traditional form of settlement. Ford (1993, p. 392) argues that ‘there is no really acceptable English-language definition of the word *kampung.*’ *Kampung* are highly variable and their characteristics are different to settlements found in English-speaking countries. Historically (as discussed in Section 2.1.1), *kampung* constituted a separate system and were almost always isolated and poor (Ford, 1993). A *kampung* is not a village (*desa*) although it shares many of the attributes of a traditional Indonesian rural enclave, such as being developed incrementally, and being a place of farming and public gathering. The *kampung* have

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become more urbanised in the past three decades; in the process, some have been improved and made accessible while others have deteriorated. While some kampung could be described as predominantly middle-class, differences remain between a planned middle-density residential zone and an informally developed kampung (Ford, 1993; Silver, 2008). Jellinek (1991, 2000) describes the kampung as a place where 80 per cent of Jakarta’s population have built their own homes and will continue to do so in the future.

Kampung have been framed as slums due to their physical characteristics, mainly inadequate infrastructure (Ford, 1993; Silver, 2008). While acknowledging the inadequate hygiene and living standards in some kampung, other kampung have contrasting characteristics. All but the poorest kampung contain large and well-furnished houses that reflect middle, if not high-middle, income groups (Ford, 1993; Kusno, 2000).

Different patterns can be discerned between inner-city kampung, mid-city kampung, rural kampung, and temporary squatters’ kampung, as proposed by Ford (1993). These kampung differ in terms of demographics, population density and infrastructure. Density in the inner city can reach as high as 100,000 people per square kilometres, along with many temporary residents, living among open sewers and areas prone to flooding. Density in the mid-city reaches 40,000 per square kilometres, with many areas being involved in kampung improvement programs, becoming more pleasant than the inner-city kampung. Many mid-city residents have built on their dwellings, which are two-storey buildings. In rural areas, density is low and areas are inhabited by generations of families. Many pathways are unpaved and services are scarce (Ford, 1993). These differences reveal that the local context is crucial in examining urban form and planning policy. The presence of kampung and many of its dwellers, who are relatively poorer as opposed to estate residents, needs to be considered in directing this study of providing travel options through housing estate development. This is necessary because many activities could be established by the kampung dwellers yet kampung presence is threatened by the forms of housing estates being built.
\textit{Kampung} are also associated with informality. ‘Informality’ in the planning context refers to planning strategies that are neither prescribed nor proscribed; it also connotes casual and spontaneous interactions and personal affective prescribed ties among people (Innes et al., 2007). These ideas have been supported by Roy (2009a) in her work examining planning in India. Roy (2009a) posits that informality is not synonymous with poverty, as is commonly argued. She argues that many cities have had informal subdivisions that have become expressions of class power in commanding infrastructure, services, and legitimacy. This marks some informal settlements as substantially different from the landscape of slums.

Jellinek (2000) estimates that almost 70 per cent of Jakarta’s population in 1990 earned most or part of their income in various informal ways in or near their communities. She describes how women earn money by sewing clothes for neighbours and selling cooked food at stalls. All types of cooked food and vegetables can be obtained within minutes. Traders or street hawkers move from house to house delivering fresh vegetables, fruit, ice creams and cakes.\(^{28}\) The street hawkers, some with families, usually rent a unit or a room located in the \textit{kampung} or informal settlements.\(^{29}\) These rental units and rooms are built by the home owners as a source of income and vary in typology according to the location (see Hidayah & Shigemura, 2005; Kusno, 2015; Nurdayi & Harun, 2010; Wulandari & Mori, 2014). Some \textit{kampung} dwellers also use part of their houses as small shops\(^{30}\) that sell groceries and cooked

\(^{28}\) Jellinek (1991) describes such commodities as petty. Her book on the history of the poor community in Jakarta’s \textit{kampung} provides detailed stories of how \textit{kampung} dwellers fulfil their livelihoods and survive in their hard struggle living in the city.

\(^{29}\) Informal settlement in this study does not refer to the temporary squatter settlement closely associated with slums. It refers instead to the land rights due to colonial legal structure (see Leaf, 1993) or the process of development that does not build through the formal permit process as regulated. It has largely developed incrementally as the land is owned individually and constructed without having construction permits but has resulted in a unique urban \textit{kampung} character and adequate infrastructure as to not develop into a slum.

\(^{30}\) Frequently, these activities occupied only a small space within a house and required only part-time labour along with occasional family help, such as the many small dry-goods stalls, often called \textit{warung}, which might be nothing more than a shelf in a front room or on a front porch from which a woman, typically, sells mosquito coils, soap, cigarettes, matches and other small sundries (Newberry, 2008).
meals, or even operate as hairdressers. Other than these informal ways of living, houses are also built informally, without permits and standards. Most often, people build dwellings by themselves based on the practical knowledge they have gained through learning-by-doing and trial-and-error approaches.

In theory it is argued that informality (such as that found in *kampung*) does not merely reflect a survival mode but is indirectly produced by the government itself (Kusno, 2016; Roy, 2005; Watson, 2009a). According to Roy (2005), the determination between what is informal and formal, as well as what kinds of informality will thrive, is dependent on planning and its practice. Kusno (2016) argues that the poor being able to provide dwellings for themselves is supported by the availability of an informal land market. Looking at the long-term historical background and current practices, the government allows this market to accommodate the need to house the poor. It could be argued that, it is a government arrangement for the poor to live in the city rather than merely illustrating a weak government that cannot provide social housing and therefore has to rely on the informal land market to serve the poor (Kusno, 2016). Social and political relations between the elites and marginalised populations, as well as the economy, requires cheap migrant workers to build a city and make that city work—meanwhile, the poor need somewhere to live (Kusno, 2016).

Several scholars have shown that *kampung* informality has dualistic characters (Budiarto, 2005; Reerink & van Gelder, 2010). While some *kampung* dwellers do not own a legal title to their land parcel, residents are still obliged to pay for electrical connections and supplies. While *kampung* are not subject to formal planning activities, some arrangements do exist for sharing parts of individual land parcels, regulating access by personal spatial contributions, and providing space for pathways or alleys. Thus, pathways of less than one metre wide are common, leading to wider pathways within a crooked layout. As seen in figure 2.1, pathways within *kampung* (the *kampung* area is surrounded by yellow dash border) is in sharp contrast to the housing estates: crooked, curvy, and can hardly be seen from satellite images since some parts of the alley ways are covered by a roof or a second storey. The shared private access areas to
the pathways in *kampung* usually serve as spatial extensions, with terraces and low walls that people sit on as benches. Oriented towards outdoor spaces, verandahs or terraces have become places to gather with neighbours (Mateo-Babiano & Ieda, 2007; Rahaju, 2006).

![Figure 2. 1 Satellite view on kampung among housing estates](image)

Budiarto (2005) notes that the *kampung* space has been intelligibly constructed; this is evident from the different spatial patterns that correspond to the occupations of *kampung* dwellers. An inner-city *kampung*, for example, whose dwellers are mostly involved in hawking-related activities, has a simple grid pattern with dense intersections. Peripheral *kampung* have a labyrinthine structure that impedes non-locals entering the gardens or workshops. The residents’ produce needs to be marketed somewhere else and are less ordinary than what is being produced and sold in the inner-city *kampung* (Budiarto, 2005).
Along with the rise of the middle-class, the *kampung* environment is considered by many middle-income earners as less appealing than a housing estate. Estates offer to residents a sense of order, they allow ‘middle-class’ residents to live among other ‘middle-class’ residents, and they also provide a sense of security (Kusno, 2013). Nevertheless, this is not to say that affordability is the only thing preventing people from leaving *kampung*. The residents of *kampung* do not necessarily leave estates when they are affluent enough. Many middle-class inhabitants are still found in *kampung*, although their houses are distinctive from the rest. The reasons for their presence could be due to many things. They might have grown up in a *kampung*, they may prefer the sense of community offered by *kampung* dwellers, or they may prefer the strategic location of the *kampung*.

The presence of middle-class inhabitants in *kampung* is also indicated by vehicle ownership. Other than motorbikes in *kampung* alleys, it has also become usual to see cars (not inexpensive or wrecked cars, but quite expensive ones valued at more than 50 million rupiah—equal to five thousand Australian dollars) covered and parked on roadsides during the night. Arguably, this may be due to the lack of garages or parking spaces in *kampung*.

Owning motorbikes and cars has become a necessity, but one not necessarily followed by the introduction of private garages or carports.

### 2.3 Housing Estates as a New Form in Indonesia

This section focuses on housing estates by asking, how do estates differ from *kampung* and what impacts have these estates had on development? Since the early 1980s, the development of private housing estates in the suburbs dominated state-provided housing, and housing in Indonesia has taken a similar form to that of North American suburban gated communities with fortified boundaries, single access entry points and

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31 The common scene has been considered as a traffic problem for some local government. In Jakarta for example, Perda no. 5/2014 about Transportation requires car owners to have parking space or a garage. Along with the enactment, some illegally parked cars have been towed reaching a total of 14,739 cars in January to September 2017.
gated entrances (Blakely & Snyder, 1997, 1998a; Grant, Greene & Maxwell, 2004; Leisch, 2002; Rahadi, Wiryono, Koesrindartoto & Syamwil, 2013).

Nonetheless, even with such similarity, a close examination of the literature concerning the origins and evolution of gated communities is necessary. The similarities and differences among Indonesian housing estates found in Indonesia can be identified through understanding their origins and evolution. Looking specifically at the suburban landscape, this section reveals in detail the characteristics of suburban development at the neighbourhood scale. This relates to debates on walkability that have been addressed mostly due to the concern that housing has been developed in a concentrated way with a lack of activities—what should have been developed as neighbourhoods (Duany, Plater-Zuberk & Speck, 2000). Gated communities and neo-traditional neighbourhoods stand in arguably polarised positions in which the former is seen as a problem and the latter as a solution in relation to walkability and accessibility. However, as the following sections detail, this may not necessarily be the case.

‘Suburb’ as a place has no unanimously agreed upon description. Instead, the suburb is associated with rather diverse characteristics globally. These characteristics are based on five key points: peripheral location, residential character, density, culture, and community identity (see Forsyth, 2012; Harris & Larkham, 1999).32 Notably, for this study ‘suburb’ is defined in terms of location and relative newness: suburbs are located between the city’s core and the countryside and are relatively new in comparison with other areas of a city. Other aspects, such as density, land use, or lifestyle, must be described in its particularities. Chapter 5 will examine these aspects in relation to Bandung.

32 Peripheral location and residential character are likely to be similar between suburbs. Yet, density, culture, and community identity are highly atypical. In developing countries, suburbs are closely associated to informality and sometimes mixed as periurban (Leaf, 2011; Legates & Hudalah, 2014; Woltjer, 2014).
Other than Australia, a significant amount of the literature on suburbanisation derives from a North American context, partly because it has proliferated for more than a century (Davison, 2006), long before World War II as some might suggest (i.e. Duany et al., 2000; Grant, Nelson, Forsyth, Thompson-Fawcetts, Blais & Filion, 2013). While suburbanisation has undoubtedly occurred globally, in the US it has been linked to new roads that open up new areas of land, land use zoning and also the ‘baby boom’ from 1946 to 1964 in which 76 million babies were born. When they become adults many of these baby boomers aspired to leave the perceived deprivation in the city centre and seek home ownership in the suburbs that offered a better environment in which to raise children (Baxandall & Ewen, 2000; Duany et al., 2000; Grant et al., 2013; Hall, 2002). Houses in the suburbs were initially considered cheaper, while offering a uniform economic class; this was part of pursuing the American dream (Baxandall & Ewen, 2000).

An opportunity to own a house has been a defining feature not only in the US, but also in Australia (Dingle, 1999; Harris & Larkham, 1999) and Indonesia (Monkkonen, 2013a, 2013b). In Australia, while large-scale developments of master-planned estates have dominated suburban landscapes over the last 20 years (Johnson, 2010). From the beginning of European settlement Australian cities were predominantly made up of suburbs giving Australia strong claims to being the pioneer suburban nation (Dingle, 1999). Dodson (2007) noted that unfortunately, the expansion of Australian suburbs was socially differentiated. Only households that can afford a home or rents and the additional costs of daily commuting move to the suburbs (Dodson, 2007).

The two examples found in the American and Australian suburbs are in contrast to Indonesian suburbs, where kampung, with a majority of low-income dwellers, are present in the suburbs as well as inner-city areas (Jellinek, 1991). Unlike in the US, suburbanisation in Indonesia proliferated in the late 1980s due to the real estate boom that was partly caused by the emerging middle-class and their aspirations for home ownership (Cowherd, 2005; Evers, 2007; Jellinek, 2000; Kusno, 2000; Leisch, 2002)—not necessarily due to a population boom as statistics in Figure 1.2 may suggest a more
linear growth to Indonesia’s population. More precisely gated communities, rather than suburbanisation, are associated in general with the middle-class. Gated communities have created social segregation rather than a neighbourhood.

The above issue has arguably occurred alongside the concept of Clarence Perry’s proposed neighbourhood unit. Perry (1929/2007) proposed that a neighbourhood unit was based on the proportion of a population served by one primary school; it was not defined by the size of an area. Attention is given to how activities within and outside the neighbourhood unit are undertaken; thus, the unit should be bounded on all sides by arterial streets and equipped by an internal street system that is well connected to the arterial streets but does not encourage thoroughfare (Perry, 1929/2007). Hall (2002) argues that socio-cultural reasons were the basis for Perry’s proposal. Perry proposed such ideas because he had experienced the benefits of homogenisation while living in a suburb; hence, the neighbourhood unit was meant to enforce social boundaries between neighbourhoods while encouraging homogeneity within them (Vidyarthi, 2010). As such, it is not surprising that Perry’s ideas were criticised as encouraging neighbourhoods as a means of social division (Larice & Macdonald, 2007).

2.3.1 Gated community

While originating in North America, the gated community as a global phenomenon is generally associated with housing estate developments in suburban areas (i.e. Bagaeen & Uduku, 2010; Goodman & Douglas, 2008; Grant & Mittelsteadt, 2004; Harris & Larkham, 1999; Hogan, Bunnell, Pow, Permanasari & Morshidi, 2012; Hun, 2002; Kozak, 2008; Kusno, 2013; Le Goix & Webster, 2008; Leisch, 2002; Low, 2001; Tedong, Grant & Aziz, 2014). As has been defined by Blakely & Snyder (1998a, p. 2), ‘gated communities are residential area with restricted access in which normally public spaces are privatized’. Even though these communities existed prior to the twentieth century, Blakely and Snyder (1998a, 1998b) contend that earlier gated enclaves were very different to the gated communities found today. Gated communities used to be considered ‘uncommon places for uncommon people’ (Blakely & Snyder, 1998a, p.4). The phrase has been elaborated further by Blakely (2008 pp.257-258):
“The wealthiest Romans built compounds for their families and entourages outside the smelly polyglot city. Their walls protected "real" Romans from the potential dangers of the lower classes who inhabited the city and who kidnapped and stole from the wealthy. In England, retired Roman soldiers built gated or walled communities as early as 300 BC. Gated communities as a residential settlement type date to the 1870s in the United States. Gates were part of the robber baron era, when the very rich built private streets to insulate themselves from the less fortunate masses”.

However currently, those who are merely affluent and even many in the middle-class place barriers between themselves and the rest of the society in the form of walled or fenced perimeters, and gated or guarded entrances (Blakely & Snyder, 1998a, 1998b).

According to Blakely and Snyder (1998a, 1998b), the first gated communities in the US available to the mass market were those of master-planned retirement developments in the late 1960s and 1970s. The gated concept soon spread to resorts and country club communities and then to middle-class suburban subdivisions; finally, they are becoming increasingly ubiquitous in most urban areas in the US (Blakely & Snyder, 1998b). Blakely and Snyder (1997, 1998a) classify these communities into three main categories: lifestyle communities where the gates provide security and separation for the leisure activities and amenities within; prestige communities where the gates symbolise distinction and prestige and protect a secure place on the social ladder; and security zones where community safety is the primary goal. They are located in city centres or suburbs, in wealthy or poor areas. In addition, gated communities primarily provide protection from threats, both real and perceived. In the first two categories, the developer builds gates as a status symbol and perceived security to sell the properties; in relation to security, residents retrofit gates to shield their neighbourhoods from external crime (Blakely & Snyder, 1997).

Although it is a global phenomenon, the characteristics of gated communities vary according to location. Grant and Mittelsteadt (2004) argue that the characteristics of gated communities outside the US do not entirely correspond to those described by Blakely and Snyder. As such, despite the undoubted US influence, gated communities are developed according to a diverse set of origins and influences in the local context.
While the impermeable boundaries and enclosures of gated communities have been used by housing developments in many Asian cities, and characterise urban expansion (Kozak, 2008), the characteristics in Indonesia are unlike those in the US or Australia, where gated communities are part of large-scale master-planned estates (Goodman & Douglas, 2008; Harris & Larkham, 1999; Low, 2001). Most gated communities in Indonesia are independent small-scale housing estates and have become the common form built since the late 1980s. In addition to this structural difference, the racism that is arguably a major contributor to gated communities in the US (Low, 2001) is unlikely in metropolitan Bandung. Nonetheless, several studies do mention the tension that exists between the Indonesian-Chinese community and indigenous Indonesians; this tension has contributed to the development of gated communities in some Indonesian cities, such as Jakarta, particularly developed after the Reformasi started in 1999 (Hun, 2002; Kusno, 2013; Leisch, 2002).

Despite the specific reasons behind the emergence of gated communities, similarity remains between contexts in which the middle-class experience fear. This fear could be real or perceived, a fear of encroaching crime and contamination from elements of society that do not share their socio-economic status (Bagaeen & Uduku, 2010). While the existence of housing estates and the estate form are linked to a location’s socio-cultural context, it is undeniable that increased wealth enables people to purchase privacy and control their relationships with others. Gated communities serve as a containment of human uniformness (Blakely & Snyder, 1997; Leisch, 2002).

Examining gates and walls in greater depth, Marcuse (1997) contends that any wall has two sides. The representation of walls on housing estates carries different meanings that resemble the specific sets of relationships between people on opposite sides of the boundary. They signify domination for some and subordination for others (Marcuse, 1997). Gated communities are elite because of what they include, as well as what they exclude; that is, the public, strangers and undesirables (Blakely & Snyder, 1998a).
It is obvious that what distinguishes a gated community from a non-gated enclave is the existence of fences, walls and security features (Blakely & Snyder, 1997; Le Goix & Webster, 2008; Low 2001; Roitman, Webster & Landman, 2010). Such features prevent the neighbourhood from maturing, establishing mixed uses, and may promote a ‘not in my back yard/NIMBY’ attitude (Duany et al., 2000). These features are alleged to bring effects on low crime rates and high property values, but it has also promoted high social segregation (Le Goix & Webster, 2008; Roitman et al., 2010; Sanchez, Lang & Dhavale, 2005).

Suburban gated enclaves are also criticised in relation to travel: the enclaves are a pod of houses without the necessary connections, mixed use and travel access (Duany et al., 2000). They include private roads, which limit public access (Charmes, 2010; Grant & Curran, 2007) and single-access gates, which creates a kind of cul-de-sac where all traffic accumulates at one point. In effect, enclaves limit residents’ ability to travel and are incompatible with life stages from childhood to growing old (Duany et al., 2000). This shows disregard of walkability and accessibility. Despite this, one idea that relates neighbourhood form to walkability and accessibility is new urbanism, which is discussed below.

2.3.2 New urbanism and traditional neighbourhood

New urbanism is commonly described as emphasising alternatives to automobile use by proposing mixed use, attractive public realms and high-quality design (Grant, 2006b). It is also regarded by many as promoting rigid principles of form (Ellis, 2002; Krieger, 2002): front porches, transparent building façades, back alleys, and neighbourhood centres are a few of its predominant physical characteristics (Grant, 2009; Moule, 2002). Yet some scholars have also argued that new urbanism contains no underlying stylistic code; the formal determinism embedded in new urbanism’s charter was intended to encourage an increase in the exploration of urban forms (Moule, 2002). However, numerous new urbanist examples display the consistent physical characteristics mentioned above.
New urbanism originated from a specific concern about suburbanisation and its development of mass housing, an associated lack of activities and its effect on the way people travelled such that fulfilling daily needs require people to drive from one place to another due to the separation of uses and the distance between them (Duany, 2013; Duany et al., 2000). These concerns are based in the distinction made between adjacency and accessibility created by suburbanisation (Duany et al., 2000). While many destinations in daily suburban life are often located close to each other, only rarely are they easy to reach directly. For instance, a local grocery shop may be located only 200 metres from one’s home in an adjacent area, but the estate is surrounded by perimeter walls, designed with cul-de-sacs, and the main gate is located 2 km away. While the shop might have been within walking distance if no wall existed, the housing estate form (with its restricted access) ensures this is impossible.

Based on the above concerns, new urbanism proposes neighborhoods as one of the fundamental organising elements of the urban form. Duany and Plater-Zyberk (1994) define neighbourhoods as urbanised areas with a balanced mix of human activity as well as mixed income sources—in other words, a mixed-use area that features dwellings, retail, schools, places of employment, worship, and recreation. Ideally, a neighbourhood has a centre and an edge, with an optimal size of 800 metres or a quarter mile, a fine network of interconnecting streets that connect neighbourhoods seamlessly to the rest of the city, and with priority given to public spaces (Duany & Plater-Zyberk, 1994; Ryan & McNally, 1995).

New urbanism is classified as a group of three planning ideas that appeared in the late twentieth century (Grant, 2006a, 2006b). By the early 1990s, two of these ideas were united as America’s version of new urbanism: Calthorpe’s Transit Oriented Design or

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33 Other than the neighbourhood, or ‘the neighbourhood, district and corridor’, as stated in the charter, new urbanism promotes interrelated design concerns at two other scales: the region and ‘the block, street and building’ (Duany & Plater-Zyberk, 1994; Moule, 2002). This was meant to include a full sweep of planning issues within the metropolitan region instead of simply focusing on suburban reformation (Katz, 2002). Nevertheless, new urbanism is most strongly associated with the neighbourhood dimension.
TOD, which refers to neighbourhoods around public transportation networks, and Duany and Plater-Zyberk’s model that specifically refers to the neo-traditional neighbourhoods that Grant (2006a, 2006b) then named Traditional Neighbourhood Design or TND.

Moule (2002) contends that new urbanism does not necessarily advocate for the traditional neighbourhood though it promotes neo-traditional residential development. Yet, such mix up is unsurprising as new urbanism proposes urban form that hinges from careful examination on the existing neighbourhoods. The proponents of new urbanism may simply conclude that traditional neighbourhood, mainly the pre-twentieth century form in Europe, is better than the conventional suburb development in terms of activities made possible due to the mixed of uses that is arguably more walkable and accessible (Duany & Talen, 2001; Grant, 2006a, 2006b; Jabareen, 2006; McCann, 1995; Moule, 2002; Walter, 2007).

New urbanism’s charter and principles refer to a walkable distance being prescribed to reach the neighbourhood centre (Duany & Plater-Zyberk, 1994). Despite this, in order to have amenities established, a certain density threshold should be achieved (Cervero & Kockelman, 1997), and so such walkable distances may not be viable. It has become more prominent if we look at the densities of new urbanism projects, which are too low to support much mixed-use development, let alone public transportation (Krieger, 2002).

Criticism of new urbanism has also addressed how it encourages the development of the private realm while supporting enhancement of the public realm, and how it builds suburban enclaves but advocates urban forms (Grant, 2006b). New urbanism makes it easy for affluent people to flee the city and choose suburban living by creating attractive, insulated enclaves. Grant (2006b) argues that in doing this, new urbanism is effectively anti-urban.

Nonetheless, a neutral view on this matter does exist, as offered by Passell (2013). With respect to suburbanisation, it cannot be said that new urbanism is a revolution or
a rejection of suburban development. New urbanism is rather a pragmatic realignment of the private sector (Passell, 2013). As the private realm is an inherent dimension of housing estate development, it is not surprising to find that in practice, planners more often supervise the development of gated enclaves even though they support the theory behind new urbanism (Grant, 2007). Critics argue that, regardless of how attractive the utopia offered by new urbanism is, it privatises the public realm, increases reliance on the private management of communities, has helped to produce relatively homogeneous demographic enclaves, and has largely turned away from the city; this is all similar to the effects of gated communities (Grant, 2007; Krieger, 2002). New urbanism is thus arguably aligned to neoliberalism but is often disguised as sustainable urban design (Gunder, 2011). People interpret and criticise planning ideas in many ways, but the above arguments in particular do not necessarily apply to new urbanism but rather apply to all kinds of private housing estate development that largely taken in the suburb. Duany as cited in Bohl (2003 p. 216) contends, ‘new urbanism is conceived as private-sector and market-driven’. New urbanism’s nature is contradictory yet hard to adapt because of how the market operates.

2.3.3 New housing estates in Indonesia

Not long after the boom period of the 1980s, housing estate development in Indonesia became the subject of a number of empirical studies (Firman, 2000; Goldblum & Wong, 2000). Most attention was directed towards large-scale estates and development firms, including the master-planned estates that proved popular as new developments in Indonesia (Dieleman, 2011; Firman, 2004; Leisch, 2002; Winarso, 2002). The emphasis in many studies has been on the estates’ exclusion from the rest of the city. Leisch’s (2002) study examined large-scale estates because they are divided into clusters of gated community. Despite sharing similar features, Leisch found that the motivation behind many gated communities in Indonesia differed from those in the US. While gated communities in America are characterised mainly by a motivation to provide security (Blakely & Snyder, 1997), in Indonesia, status is considered the dominant motivation (Leisch, 2002). In another study examining sizeable developers,
Winarso (2002) focuses more on their ability to create new access points, such as toll roads that link the outskirts of estates to the urban core.

While gated communities or master-planned estates may apply restrictions on decorating and maintaining the house and garden, where to park a car or hang out clothes to dry (Klaus, 2000), this is not the case for the majority of housing estates in Indonesia. Regardless of similar physical boundaries—walls and gates—housing estate developers in metropolitan Bandung do not bind their residents with a written agreement on such matters.

Another difference is also evident when examining the built form. Housing estates in metropolitan Bandung are usually small-scale, with many covering a range of less than 1 ha up to 10 ha area. Many housing estates in Indonesia are quite small; some contain fewer than 50 dwellings; others can feature hundreds of dwellings. Unlike American suburbs, where housing estates are developed as large subdivisions in greenfield areas, housing estates in Indonesia are most likely developed as in-fill. These estates usually appear as enclaves, with single or only a few access points, and fortified boundaries surrounding the estate. In Indonesia, these are referred to as clusters. Because of their size, these estates are more likely to be for residential use, without other facilities but mosque and green spaces. Therefore, residents must usually travel outside the estate to fulfil their needs.

2.4 Implications for Walkability and Accessibility

While new urbanism and gated communities may differ theoretically, they do not necessarily differ in their practical implementation. In practical terms, both may have similar implications for walkability and accessibility. In the first sub-section, the international literature on connections between the form of housing estates, walkability and accessibility will be discussed. First, the concept of walkability and accessibility will be detailed in technical terms that relate to the spatial and physical characteristics of housing estates. This is necessary to provide concrete examples from daily life. The form of housing estates is worthy of examination because it can impact
on walkability and accessibility. The second sub-section will address the implications of the new housing estates for walkability and accessibility in Indonesia. As the previous sub-section described, the form of Indonesian housing estates differs slightly to those from which they originated, yet reveal a sharp contrast to traditional Indonesian settlements; consequently, the impact on walkability and accessibility will also differ.

2.4.1 Walkability and accessibility in theory and practice

Notwithstanding the debate on whether housing estate forms, design or neighbourhood characteristics influence the way people travel, limited travel options present a significant problem, according to many authors (i.e. Bassett et al., 2008; Boarnet & Crane, 2001; Burton & Mitchell, 2006; Cervero & Kockelman, 1997; Jenks, Kozak & Takkanon, 2008; Williams, Burton & Jenks, 2001). This can be seen not just in the theoretical and empirical studies, but also in the problems communities face every day. An example of a person living in a suburban gated housing estate could be described in this way: one morning he or she could not turn on their motorbike, leaving taxi or public transport as the options available to go to work. Not having a lot of money, to reach the nearest bus stop adjacent to the estate, he or she would have to walk for 15 minutes through the main street and pass the only gate. He or she would then have to wait for the bus to come as scheduled. After 45 minutes in the bus and a walk to the office, he or she arrive at 9.30 am, one-and-a-half hours late, and would be sure never to allow their motorbike to break down again. This example reveals one possible travel experience; should an emergency occur in the home the situation could be much worse.

Reflecting on the above example, exactly how might the form of housing estates limit travel options? To answer this question, the issue of walkability must be paired with accessibility, as the latter element usually determines one’s travel destination (see Figure 2.2). As Cervero (2013) argues, mixed use features (within walking distance) add an extra component to differences in travel patterns. Accessibility is poor in suburban developments where spatial uses are normally segregated—residential use is separated from commercial and other uses (Duany et al., 2000; Ewing, 1997; Newman
& Kenworthy, 1999; Salingaros, 2006). Nonetheless, the segregation of uses may or may not be a problem. This depends on several factors, such as distance, weather, physical difficulty, and safety or fear of crime (Handy, 1996b). Regarding the above factors, distance has become the main determinant for whether people walk or drive as it results in travel time or cost when one needs to overcome distance between uses (Handy, 1996b).

The problems created by the perimeter walls, gates and cul-de-sacs that shape the form of housing estates create further distance between uses. Take the case of an American suburb studied by Duany et al. (2000). A cul-de-sac, originally conceived to provide more spaces for children to play, results in children losing independent mobility due to increased distance, in addition to the segregation of activities. Being dependent on an adult to drive them around, children cannot run simple household errands, such as picking up a carton of milk (Duany et al., 2000); in Indonesia, the equivalent would be jajan\(^{34}\) or buying vegetables or seasonings for their mothers to cook. Perimeter walls and gates (a cluster) produce an effect similar to a cul-de-sac, in which access points are limited or singular, forcing everyone to overcome a lengthy distance to reach desired facilities.

\(^{34}\) See sub-section 5.3.2 for definition of jajan.
Notably, the effects of walkability and accessibility are not universal—they vary according to lifestyle, household structure and different capacities to overcome distance (Maher, 1994; Nicholls, Phelan & Maller, 2015). It is obvious that after distance and its associated time and cost, the second predominant factor that most affects whether people walk or drive is their socio-economic, physical, sensory and mental condition. From an equity perspective, income levels may effect travel options. While options are available, not all are considered viable due to limited affordability. One’s physical ability determined by age could also be taken as an example: for instance, not only do elderly people need to have a direct route provided with high connectivity to uses but they also require the route to be safe and secure (Burton & Mitchell, 2006). This is where the literature on walkability requires reviewing; first however, further examination of accessibility is required.

Accessibility and travel has received much attention and became a large body of literature. Nonetheless for the purpose mentioned above, particular works written by Curtis & Scheurer (2010) and Curtis & Olaru (2010) is highly useful as they have highlighted some of the literature on accessibility as well as travel minimization. In its most notable definition, accessibility is ‘intricately linked to, and primarily determined or enabled by transport infrastructure and urbanization patterns’ (Curtis & Scheurer, 2010 p. 57).

Accessibility, according to Curtis & Scheurer (2010) is a concept that has been defined with various strands and measured in various ways. Curtis & Scheurer (2010) identified such differences and categorised the measurements into five approaches: spatial separation, competition, time-space, utility, and network. They have argued that there is no single perfect measure; rather, several measures in combination are critical to inform planning. One of the measurements is network approach. In network approach, distance is termed as connectivity—it shows directness or ease of travel between two points (Cervero & Kockelman, 1997). Connectivity emphasises increasing the number of routes through an area; this might include streets, footpaths, pathways and other thoroughfares (Duany et al., 2000; Talen, 2011). In time-space approach, accessibility is
measured by the type or attractiveness of different uses and the impedance factor that reflects the time or cost of reaching facilities (Handy, 2002; Hoehner et al., 2005).

Street layout becomes a way to achieve connectivity. It has been argued that a grid street layout provides more options for pedestrians to choose and hence more opportunities to alter their route. Options make walking more interesting, while reducing the distances between destinations (Southworth, 2005; Speck, 2012). Beyond providing a well-connected pedestrian network, however, connectivity also means making links to other modes of transportation that connect residential areas to the city and region (Park, 2008). Such connectivity to transit modes adds travel options that enable the reduced use of cars (Cervero & Kockelman, 1996; Ewing & Cervero, 2010; Handy, 1996b; Hoehner et al., 2005; Khattak & Rodriguez, 2005; Rodriguez, Khattak, & Evenson, 2006; Schwanen & Mokhtarian, 2005).

Other than accessibility, there are other characteristics that entice people to walk. Ensuring a walkable environment is linked to the argument that walking is the basic way to travel and an essential complement to other transit modes (Lo, 2011; Park, 2008). A walkable environment may also potentially minimise car travel (Lee & Talen, 2014). Similar to definitions of automobile dependency (see Newman & Kenworthy, 1996, 1999), walkability has been defined as:

the extent to which the built environment supports and encourages walking by connecting people with varied uses/destinations within a reasonable amount of time and effort, providing for pedestrian comfort and safety, and offering visual interest in journeys throughout the network (Southworth, 2005, p. 248).

This suggests that a walkable environment embraces multifaceted definitions. It is also related to other functionalities, such as accessibility and connectivity (Handy, 1996b, 2002; Learnihan, Van Niel, Giles-Corti & Knuiman, 2011). For walking in particular, a specific radius catchment area within a reasonable walking distance is the parameter. The distance, usually 800 metres, is derived from 10 to 20 minutes walking at a medium speed (Hess, Moudon, Snyder & Stanilov, 1999; Southworth, 2005). This universal parameter seems reasonable because while some argue that pedestrian
behaviour is culturally specific, the average range of walking speed found both in Western and Eastern cultures falls within the radius mentioned above.\(^{35}\) Within planning, it has long been integrated into walkable neighbourhood concept developed by Stephenson at the British Ministry for Town and Country Planning in 1943 in the UK (Curtis & Olaru, 2010) but with 400 metres radius or 5 minutes walk to determine the threshold for provision of schools, shops and community services facilities.

Complementary to distance, the ease of walking (or physical difficulties) must be considered, as this shapes the walking experience: starting from standardised widths, footpath materials and kerb height (Hess et al., 1999; Hoehner et al., 2006; Kelly et al., 2011) and including the cleanliness and obstructions that affect the flow of pedestrian travel (Kelly et al., 2011; Krambeck, 2006; Lo, 2011).

Safety for walking is another important factor to ensure that pedestrians are prioritised. Safety is highly relevant to defining the flow of movement and compares the presence of pedestrians as opposed to other modes of transportation. The parameters of safety are modal conflict, motorist behaviour, crossings and traffic volume (Boarnet, 2003; Hess et al., 1999; Hoehner et al., 2005; Jacobs, 1993a; Kelly et al., 2011; Krambeck, 2006).

Other than being close to a variety of uses, barrier-free, equipped with pedestrian infrastructure, and safe in terms of perceived crime or perceived traffic, a walkable environment is basically pleasant (Forsyth & Southworth, 2008). A walk that offers changing scenes and social encounters is more likely to be repeated than one that is unpleasant. Pleasantness can be related to the quality of the pedestrian environment, such as the presence of street lighting, benches, landscaping, trees and other amenities (Forsyth, Hearst, Oakes & Schmitz, 2008). Streets that are pedestrian-oriented are thought to influence the degree to which people are willing to walk

\(^{35}\) In general, pedestrians in Southeast Asia do not walk as quickly as their European counterparts. This does not apply to pedestrians in Japan, where the walking speed of Japanese individuals varies between 81 to 93.6 metres per minute. In contrast, the average walking speed of pedestrians in Southeast Asia varies between 70 to 80 metres per minute (Mateo-Babiano & Ieda, 2007).
(Forsyth et al., 2008). Despite empirical evidence suggesting this link is weaker than the correlation between walking and proximity to destinations or connectivity (Joh, Nguyen & Boarnet, 2012), it is still highly relevant to the ambience of residential streets.

In the urban design literature, walkability is associated with liveable public space in which livable space is at the opposite of traffic condition. Appleyard (1980) and Kulash (1996) suggest that less traffic is more desirable in order to produce a more livable space where people can walk, do activities, and engage in social encounters. Urban form (or urban design, to be more precise), arguably plays a greater role when deciding to walk because ‘the pedestrian sees, hears, smells, and feels much of the surrounding environment’ (Handy, 1996b, p. 135). As such, every feature should be adjusted to the human scale. Features such as those termed ‘enclosure’ and ‘transparency’ are defining characteristics. Enclosure refers to the extent to which a space, such as a street, is enclosed by buildings and vegetation, potentially creating outdoor rooms (Clemente et al., 2005; Speck, 2012). Streets lined with tall canopy trees, for example, can be more comfortable than a large parking lot with little vegetation. Enclosures in relation to building height and setback are essential in shaping the experience, and in relation to overshadowing and providing shade (Hoehner et al., 2005; Jacobs, 1993a; Park, 2008). Transparency, which is also used as a parameter for security, refers to whether people can see human activity beyond the edge of the street or other public space. The physical elements that influence transparency include walls, windows, doors, fences and landscaping (Clemente et al., 2005). This term is particularly relevant to the argument that more ‘eyes on the street’ increases the natural surveillance resulting from the presence of people either on the streets or viewing from inside their houses (Jacobs, 1993a; Newman, 1973; Pikora et al., 2000). This is argued to prevent crime by making potential offenders feel as if they are being monitored, and will thus hesitate to commit a crime. Additionally, perception and street lighting also influence one’s decision to walk due to security reasons (Kelly et al., 2011; Krambeck, 2006; Park, 2008).
Walkability and accessibility are values which bring benefit for everyone—if walkability and accessibility levels are low, this will not only affect estate residents, but also everyone outside the estate. To cope with the further distance resulting from the disconnected street layout between areas within the housing estates and the existing road network, people who reside in an adjacent settlement may need to own private vehicles. This is particularly so if their access to a direct route is cut off. As a result, automobile dependency would be higher if travel options were restricted, as evidenced in Indonesia as well as other developing Asian cities (Barter, 2000; Bowen, 2006). The logic of a walkable and accessible environment that allows people to travel differently applies here (Handy, 2002; Rosa, 2007).

Yet, the implication of housing estate form for travel may need to be understood as a part of residential attachment. Residential attachment studies in North America show that people are attached to suburban housing estates as they develop emotional bonds with their physical, social or symbolic values (Feldman, 1996; Jean, 2015). Of these, physical attachment is most associated empirically with travel (Handy, 1993, 1996a; Talen, 2001). Feldman (1996, p. 422) argues that such an attachment is developed through ‘an individual’s habitual and satisfying everyday experiences of the tangible surroundings of the home place.’ People do not only choose places to live that match their preferences, but also adjust their views to favour their current circumstances regardless of increasing public awareness about travel behaviour (Talen, 2001). In this sense, the underlying cause of the public finding it difficult to accept different forms of housing estates is because the new forms are more likely to direct them away from a common perspective, or in the case of middle-class gated communities, their comfortable exclusive zones. Studies on residential preference in North America tend to reflect the current gated environment of the residents (Feldman, 1996; Talen, 2001).

Unfortunately, the above pattern does not apply both ways. Schwanen and Mokhtarian (2005) determined that it was much easier to convert to automobile use no matter where one lived, rather than keeping up using other transportation modes if
one lived in a suburb. The argument implies that regardless of the availability of public transport and the walkability of the environment, people who prefer to drive could live anywhere as opposed to the ones who could not drive as the latter either have to walk or use public transport. This is worrying, as enclave housing estates are common and have resulted in the discouragement of walkability and accessibility. Despite public awareness creating a reluctance to use this form, people may have become used to enclaves, adjusting their preferences accordingly. Consequently, it may be more difficult to encourage walking, bike riding or taking public transport: people may have become accustomed to driving without the presence of other factors (i.e., increased parking fees, traffic congestion charge) to outweigh the benefits of driving. These arguments add to the merit of walkable and accessible environments by showing how beneficial it is to address shaping the form of housing estates as a priority rather than leaving it to the last minute when problems have become significant. After all, it is easier to build something new than to alter what has been built—let alone what people have become accustomed to in relation to a certain housing form.

2. 4.2 What has the change from kampung to housing estates brought in terms of walkability and accessibility?

The thesis argues that it is critical to respect what is local to the Indonesian housing context, including its implications for walkability and accessibility, to recognise its difference to other places. Along with Indonesia’s post-1990s rising middle-class and their aspirations for gated housing estates, at least three social and spatial implications can be recognised. The first and most obvious is the widening social gap. Housing estate perimeter walls and gates cut off the previously adjoined kampung in terms of both visual and spatial connections. This marks the urban landscape with socio-economic class divisions.

The second implication relates to walking culture. While traditionally walking has been regarded as a basic travel mode, in which people walked for kilometres from their homes to plantations during the Dutch colonial period, this is no longer the case. In cities, electric trams were introduced as an alternative form of transport to the horse
carriage (Lo, 2010). However, in the early post-colonial period, people were directed towards car use, with the electric tram network eliminated and road development encouraged (Silver, 2008, 2015). During the New Order, car dependence became more marked, with the city’s outward expansion to the suburbs (Lo, 2010). The last period, decentralisation, saw alternatives to car use promoted but these were not necessarily followed by most people. The disconnected street layout, perimeter walls and gates created by housing estates created further distance between uses, which inhibited people’s ability to walk.

The third implication relates to the presence of kampung. Looking closely at the socio-economic and cultural context of Indonesian cities, a range of uses may be contained compactly within a kampung due to their strong connection to the notion of informal activities—a great example of accessibility. The disconnections created by housing estates can reduce kampung dwellers’ incomes due to the lack of a market for their informal livelihoods. Additionally, the dwellers’ expenses can increase due to the time and cost of daily travel.

Nonetheless, it should be noted that even though kampung are arguably walkable and highly accessible, this may not be comparable to universal standards such as transportation planning. In terms of walkability, the pathways within kampung are considered as a being so finely grained, whereas some parts are covered by the second floor of houses, that they cannot be identified on aerial-perspective maps. Pathways are formed organically through local cooperation between homeowners sharing parts of their land, sparing those portions from development and public use (see Section 2.2). In terms of walkability and accessibility, this will be further examined in Chapter 5.

Generally, these implications also play out at the regional scale. This has been evident in the past few decades with traffic congestion in major Indonesian cities worsening and becoming more common. This situation has developed due to the change from a walking culture to one based on car dependence. Kenworthy and Laube (1999) foresaw that the challenge facing Asian cities would be to ensure that the form of
future development remained strongly oriented towards non-motorised modes of transport, including walking. This is not only due to the socio-cultural context, but also to the large proportion of low-income people. Unfortunately, this development would have to be achieved under an increasingly strong pressure to build Western-style low density models, with heavily zoned areas in response to growing car and motorbike ownership (Kenworthy & Laube, 1999). When examining how planning is embedded in Indonesia’s history (see Section 2.1), such pressure does not only come from international donors or market aspirations, but also from Indonesia’s government. As such, addressing the problem of car dependence in Indonesia has become far more challenging.

2.5 Conclusions

The history of Indonesian planning and urban form (according to the literature) involves the influence of global planning ideas such as the Garden City movement, modernism, and the development of suburbia. These were introduced to Indonesia in sequence and were mirrored in the Indonesian government’s changes to planning policies. Yet the local kampung character remains relevant when studying Indonesian urban form and how it affects people’s travel. The traditional and cultural context of the kampung has been recognised since city planning ideas were first introduced by the Dutch, throughout Indonesia’s early independence and still pertains to current housing estate development. An early indication exists that the role of kampung may become more apparent in the middle of current development of gated community housing in Indonesia.

Noting the necessity to develop an urban landscape that offers travel options (drawn from the literature on land use, transport and urban design), reduced walkability and accessibility is a significant problem that must be addressed when shaping the form of housing estates. Design for walkability and accessibility matter because of how these elements shape travel behaviour which has implications for health, air quality, congestion, pollution and many other aspects of city living.
Additionally, I argue that housing estates built as cul-de-sacs and clusters have a similar effect on travel as do gated communities, with their disconnected street layout. This is specifically due to the erection of gates and perimeter walls. The spatial and physical elements representing such forms have increased the distance between uses, produced unsecured and unpleasant environments for walking, and have forced pedestrians to walk through unsafe streets full of motorised vehicles.

In tandem with the segregation of uses, the resulting form could be said to reflect a disregard for the poor, the elderly, and for children’s travel needs. Housing estates must have accessibility and walkability so then no one is prevented from fulfilling their travel needs, regardless of their capacity, lifestyle and household structure.

Gated communities and neo-traditional neighbourhoods originated from North America have influenced the form of Indonesian housing estates, along with global housing forms. By examining the original context of suburban development and gated communities, one can understand that the aspirations of the middle-class do not much differ in Indonesia. Yet, other factors are also at play. In Indonesia, housing estates are physically separated from the rest of the city, but more precisely from the kampung. The public and kampung dwellers are considered subordinate to the middle-classes who live in housing estates.

While other things can be learned from Indonesian cities—such as the informal provision of gang (alleys) within kampung that serve as highly connected pedestrian paths—informal commercial activities also provide a rich example of the kampung’s uniqueness regarding accessibility, which is currently being eroded by housing estate developments. In the Indonesian context, the form of housing estates has resulted in additional implications specific to the presence of kampung: the social gap is widening and walking is a declining habit. The characteristics that contrast to housing estates make the interface between estates and kampung, and the built form, interesting. These will be assessed and further understood in this thesis. Yet, this thesis also contends that bigger challenges must be overcome to provide a walkable and accessible environment through planning.
Chapter 3 Planning in Indonesia

This chapter critically reviews the key debates on Indonesian planning with respect to the planning process. It is argued that the form of housing estates is having a negative impact on walkability and accessibility. The previous chapter highlighted the arguments in support of walkable and accessible urban environments, and revealed that the introduction of housing estates has produced many challenges in Indonesian cities. In this chapter, a literature review will provide a basic understanding of Indonesian housing development in practice. This will include a discussion about how the actors interact with each other and the kinds of relationships this interaction produces. This review will provide the context for the case study and the interpretive approach used in this thesis. The review will inform efforts to answer the third, fourth and fifth sub-questions: 1) What influence does the planning process have in shaping the form of housing estates? 2) What role do planners play in shaping the form of housing estates? 3) What role do developers play in shaping the form of housing estates, and how much are they influenced by planning? Further examination of how planning plays out in practice, what may limit its effectiveness, and how much developers are influenced by planning will be discussed (based on empirical data from suburban Bandung) in Chapters 6 and 7.

This chapter has three sections. The first captures the development of Indonesian planning and housing. It argues that Indonesian planning is overshadowed by how planning was conducted during the colonial period, aspired to in the early post-colonial period, practised during the New Order and evolved under decentralisation. These processes have resulted in a strong market influence on housing development, although informality is still significant. Permit processes tend to benefit developers over the public yet are still considered troublesome by developers and are either not adhered to or negotiated informally in practice. The second section compares the intentions of planning for housing and for walkability and accessibility in Indonesia. Planning for housing takes the need to provide shelter for health and safety as primary concerns, and differs to planning for walkability and accessibility. In the latter, bringing
health benefits and being accessed equally by all citizens are the planning imperatives as suggested in the literature. The conclusion rounds off the chapter by highlighting the connection between planning intention and its practice.

3.1 The Development of Planning and Housing in Indonesia

The role of planning is comparatively stronger in developed countries such as the UK, the US, Canada and Australia where there is a longer tradition of formal planning. By comparison, planning in a still developing country such as Indonesia, remains weak. Despite the Dutch’s early influences on Indonesian planning, its relative weakness can be explained through Indonesia’s tradition of informal planning and settlement patterns. Given this context, this chapter examines how planning and housing in Indonesia has developed.

3.1.1 Unpacking planning culture through history

Section 2.1 discussed the influences of planning ideas from abroad, and acknowledged their presence in the history of Indonesian planning. Nonetheless, the social and environmental impact of settlements patterns and the need to respond to specific demands including access to housing must be considered without resorting to simplified imports from very different parts of the world (Watson, 2002). As a result, ideas about planning or urban form must be tailored to suit the context, rather than just be applied directly. This highlights the importance of examining the culture of planning in a place like Indonesia to understand the relationship between new forms of housing being produced and the practices of planning in a specific context.

The literature on planning culture incorporates studies that examine instruments of planning employed under the influence of economic, political, and social forces beyond that considered to lie within the usual scope of planning (Cowherd, 2002). In these studies, the complexity of intertwined phenomena and forces in history is well acknowledged. Planning culture, as Sanyal (2005) and Friedmann (2005) have defined, is the ways in which both formal and informal spatial planning in any multi-national region, country or city is conceived, institutionalised and enacted. Even though it
draws upon the contributions of other societal actors, planning is deeply embedded in the political culture of the country and/or individual cities. As such, it is always historically grounded. Hence, a critical reading of planning history is vital to explore planning culture and the appropriateness of implementing a specific planning idea.

For developing countries, this entails extensive discussions on informality. Knowing that informality is highly relevant to the Indonesian context and noting that a large proportion of housing is still being developed informally in kampung, this study is informed by planning theory that considers informality. In contrast to the American and European context, it is useful to share Watson’s (2009a) argument on the difference created by informality in South Africa. Watson (2009a), in her reviews on new approaches to urban planning, stresses the dangers of further inappropriate borrowing of ideas from different contexts. She argues that some important shifts and new ideas exist, but that no ready-made solution is available for implementation, especially in locations with a high number of informal activities. Informality, in the context of planning, has been prominent to bring planning differences to the developed countries. As Watson (2009b) highlights, understanding the role informality plays in the creation of settlements is a crucial element to understanding planning in developing countries’ context. Informality must be acknowledged because it has become one of two existing planning cultures of governing and of survival. As in South Africa, informality has become a prominent planning culture in Indonesia.

A brief overview of Indonesian planning history is provided here, building on some of the material presented in the previous chapter, in relation to the above argument. Dutch colonisation marks the differentiation of society, which treated the indigenous differently to others, as well as a normative planning influence. Society was separated by a regulatory framework during the gemeente state (1906–1926), when the Dutch government restricted its power to deal with and manage European society, which consisted of European citizens as well as non-Europeans granted European status by law (Reerink & van Gelder, 2010). Leaving the indigenous kampung out of their scope, the colonial municipality kept these villages autonomous as legal enclaves that applied
their own *adat* law (called ‘regent’) instead of the land rights system created by the Dutch Civil Code (Kusno, 2015; Leaf, 1993; Reerink & van Gelder, 2010). Here, housing provision was defined by the Dutch as catering to a fragment of society instead of society as a whole: the European, but not the indigenous population.

When the autonomous rule of regent was abolished and the *kampung* areas were brought under the administration of Dutch municipal services in 1926 (Leaf, 1993; Reerink & van Gelder, 2010), a *kampung* improvement program was introduced. However, this did not include any meaningful development for the *kampung*. The improvement program was undertaken principally because of possible threats, such as health concerns, to the more affluent neighbourhoods of the European residential enclaves (Silver, 2008). The *kampung* improvement program aimed to provide a better infrastructure rather than to redevelop the *kampung* and its dwellings.

Thomas Karsten’s Town Planning Act in 1938 introduced a zoning system in which the function of spaces and building types in a zone was subdivided into detailed plans based on building regulations (Bohl, 2003; Cobban, 1992; van der Heiden, 1990). The zoning proposed by Karsten did not necessarily segregate use and building types, as he saw nothing wrong with the land use patterns typical of the Indonesian city: a disorder of built-up and open areas and bits of *kampung* settlement scattered amid European housing (Cobban, 1992; Coté, 2014). This view highlights the socio-cultural conditions of urban Indonesian society and implies that the local character of indigenous settlements should be kept intact (Kusno, 2000, 2012a). Yet, despite recognising the *kampung* as a traditional form worthy of retention and improvement, indigenous Indonesian communities were still not included in the broad formal planning scope.

The early post-colonial period was marked by a guided democracy, the influence of modernism and the start of liberalism in housing development. Guided democracy gave the first president, Sukarno, a powerful intervention in major planning and development decisions, which suited his desire to make Jakarta a beacon of the emerging nations in Asia and Africa. His priorities were to showcase capital projects rather than to address the housing needs for the low-income, improvement of
dilapidated *kampung* and basic services (Ford, 1993; Kusno, 2000). The effort to make Jakarta’s spatial plan an example for other Indonesian cities was dismissed simply because he had a grand vision for Jakarta and considered it incomparable to the other cities (Kusno, 2000; Silver, 2008). During this time, planning served the vested interests of symbolic and political needs instead of the public interest (Ford, 1993). Liberalism in housing development was exemplified in Pulo Mas as previously discussed (see Silver, 2008). The Pulo Mas project which began in 1966 had resulted in housing for the affluent and equipped with horse-race track rather than the proposed commercial and civic centre (Silver, 2008).

The New Order period was characterised by American style large-scale suburban development. Emulating American models, the second president, Suharto (1966–1998), commanded a shift away from state-directed approaches in favour of market-driven economic liberalisation (Kusno, 2000; Marks, 2007). This was partly due to external pressures from supra-national institutions in the 1980s (Dolowitz & Marsh, 1996; McCann, 2011), proposing a number of planning directions such as the east-west toll road for Jabotabek (Cowherd, 2005; Lo, 2010; Silver, 2008). Additionally, road-based suburbanisation was fuelled by the fascination of the emerging middle-class for American lifestyles and consumption patterns (Cowherd, 2005; Jellinek, 2000; Leisch, 2002).

During the New Order, Suharto literally controlled Indonesia’s political life and reserved it for a circle around the president which comprises of his family and an alliance of Chinese conglomerates involved in private housing development (Cowherd, 2005; Dieleman, 2011; Kusno, 2000; Leaf, 1996; Moeliono, 2011; Silver, 2008). Emerging in the late 1970s in Jakarta and proliferating ever since, housing estates are a contradiction to the *kampung*, with the gated community’s built walls and gates providing a separation from the surrounding area (Ford, 1993; Kusno, 2000; Leaf, 1996).

By the early 1980s, Indonesia’s macro-economic policy had shifted towards a more outward looking economy. It had also experienced the deprivation of rural areas along
with the migration of labour to urban *kampung* (Firman, Kombaitan & Pradono, 2007; Reerink & van Gelder, 2010). The *kampung* was considered to contain urban excess, whereas inhabitants who could not afford to live in the city’s formal areas were delegated to places hidden from public view (Kusno, 2000). Examining these arguments, the *kampung* was clearly subordinate to the housing estate, as well as other parts of the city. Yet, the economic crisis that hit Indonesia in 1997 halted large-scale housing developments and made the *kampung* and informality the dominant urban living model (Jellinek, 2000).

During decentralisation, planning became a regulatory activity of the local government, but with national guidance from the central government. In terms of housing provision, houses in *kampung* were still not to be touched by planning regulations—making them informal.

### 3.1.2 The history of housing development: Between government, developers and buyers

Other than bringing specific characteristics to the built form, informality has also brought distinctive features to planning in general. Inheriting the Dutch colonial dualism of treating the *kampung* differently to the formal sector, housing provision in Indonesia is undertaken in a very limited way so it does not interfere with informal practices in the *kampung*. As an enabler and not a provider of housing, the government’s role is only to provide a regulatory framework. Housing is an individual’s responsibility: this is not problematic for those who are affluent, but may be so for the less wealthy. While the development of middle- to upper-class housing is left to market mechanisms, *kampung* dwellers must contend with any physical, social and economic consequences the market may bring.

The formal private sector started to be involved in residential development during the New Order (in the early 1970s). This was aimed at accommodating the increasing demand for housing due to an increased population (Winarso, 2002). During this period, the National Housing and Urban Development Corporation (PERUMNAS as the abbreviation in Bahasa Indonesia) was born. It was founded primarily as part of the
government’s obligation to provide housing for low-income groups (Harun, 2011). In the process of PERUMNAS’s development, Dutch expertise in housing and spatial planning was sought by the Indonesian government (Cowherd, 2005). PERUMNAS built estates which with time passed turned to have distinctive characteristics to the enclaves commonly built afterwards by private developers. PERUMNAS estates tend to blend in with the surrounding area without any fortified boundaries. While most of its projects were initially designed for civil servants, it now targets lower income groups, as well as the middle-class (Winarso, 2002; UN Habitat, 2008).

While PERUMNAS’s role was significant during the early boom period due to an agreement with the National Savings Bank (Bank Tabungan Negara [BTN]) for down payment and interest sharing for mortgage (UN Habitat, 2008), by 1987 the share of housing built by the private sector had exceeded that built by PERUMNAS (Winarso, 2002); this remains the case. The one million houses program introduced during Jokowi’s presidency started in 2015; this is a formal plan that aims to provide 700,000 houses for lower income groups and 300,000 houses for middle-class participants each year. The program works by simplifying administrative requirements in planning permits and requiring a 1 per cent down payment among other things. The program built 699,770 houses in 2015, 805,169 houses in 2016 and 904,580 houses in 2017. For 2018, it aims to build 906,000 houses. Of these houses, only one-fifth were built by the government and PERUMNAS—the rest were built by private developers. Previously, private developers produced about 100,000 housing units in 1988 and nearly 200,000

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36 The Dutch also influenced the founding of the National Savings Bank (BTN) as well as research on local low-cost housing and revising Karsten’s national planning law (Cowherd, 2005).

37 There are large numbers of estate developing firms which target a wide array of markets and are even divided into members between the associations, APERSI and REI. While REI (Indonesian Real Estate), founded in the same year as PERUMNAS, is intended for developers in general, APERSI (Indonesian Association of Housing and Estate Developers) is the medium for developers who conduct small-type housing project using subsidised loan as being prerequisite since the late 1990s and usually targeted at low to middle income groups (Harun, 2011).

38 Cited from various news sources on the million housing program.
in 2005 (Hoek-Smit as cited in Monkkonen, 2013b); apparently, they have become much more productive.

Along with the growth of privately developed housing, as with many developing countries in Southeast Asia, the legitimacy of regulatory planning authorities in Indonesia is significantly weakened by municipal governments’ inability to provide public and social goods (Zhu, 2010). Dieleman (2011), looking at how private developers have taken over the provision of housing, services and infrastructures in the form of new towns at the outskirt of Jakarta, claims that when public governance fails, private governance arises. As recognised by Ferguson and Hoffman (1993), Winarso (2002) and Dieleman (2011), a lack of coordination between government agencies that approve location permits and deliver infrastructure has resulted in a shift of responsibilities. These scholars’ research confirms that the streets and the role of infrastructure provision has been transferred from the public to the private sector. Nonetheless, while provision of housing estates and the streets is undertaken privately, the management and maintenance of assets remain under the local government’s authority in de jure even after all lots are sold to buyers. However, it is de facto different: some estates are managed by their residents and so through-access is controlled.

An increasing number of qualitative studies (i.e. Grant, 2009; Monkkonen, 2013b; Winarso. 2002) are addressing planning policies and estate developer behaviour. Nonetheless, few have related policy to shaping form through the developers’ perspectives. In the midst of the undesirable and problematic negligence around accessibility and walkability this thesis argues that the continuity of suburban housing estate development may show that the market wants the elements of gates, perimeter walls and guarding posts. Cities are undeniably shaped by economic forces. Regarding privately developed housing estates, physical separations that discourage walkability and accessibility (as mentioned in the previous chapter) were influenced by the housing market.
Low-density suburbs are sometimes considered the result of neoliberalism’s influence on the lack of planning and foresight, which has allowed developers to do as they wish (Dingle, 1999). While many imply that the market’s role is important when constraining and affecting development practice, the planning process has been largely conceived in ‘black and white’ terms (Grant, 2009) presenting no room for negotiation. Developers may want to build and sell as many houses as they can on a piece of land but planners have to establish a limit of coverage which can be built for environmental reasons as well as the possible effects on traffic and social relations. However, the said polarised positions may not necessarily be true in practice.

What has become rather common in Indonesia is instead a complex situation where developers tend to assume a market preference that contrasts with planning values without actually conducting any proper market studies (Rahadi et al., 2013). The assumptions about what factors influence customers when purchasing real estate create additional factors, such as security issues, to boost the selling price. Yet, a study of gated community residents in Bandung (Hapsarianity et al., 2013) has shown empirically that residents were looking for a better environment and security, which was marketed by the developers. Unfortunately, this study does not correlate such qualities explicitly with perimeter walls and gates.

By making assumptions, developers may think that market preferences are the same in all Indonesian cities. Yet Healey (1992b) argues that all land and property markets are local, linking demand for property in specific locations with specific sites and buildings. Winarso’s (2002) study confirms that location and land value are the prominent factors for developers in acquiring land for housing development (other than housing demand in the area). The land acquisition process determines the amount and shape of housing development sites that are planned and designed. The resulting sites are often irregular in shape, due to the prolonged land acquisition process. These irregularities bring another level of complexity in the design process to meet both financial feasibility studies and property boundaries (Buitelaar & Segeren, 2011). Formal housing developments and flourishing gated communities in Indonesia then become a
complex interwoven phenomenon. Instead of merely being a design problem that facilitates targeted market preferences (as implicitly suggested by Leisch, 2002), the problem could originate in the land acquisition process and financial feasibility (Ferguson & Hoffman, 1993) that sets aside relationships with adjacent areas.

As locations and building configurations are unique, the fine detail of spatial variation is critically important for land and property markets, including housing (Healey, 1992b; Monkkonen, 2013b). For some types of development, the fine detail of design and layout is critical. At a larger scale, however, the environmental qualities and status of neighbourhoods, as well as material attributes—such as access and infrastructure—play a major part in differentiating land and property markets within urban regions (Healey, 1992b). These local factors must be identified to explore the practices of housing estate development. This thesis considers that every decision made in relation to planning and developing the built environment must be examined simultaneously from every possible viewpoint of the actors involved, instead of considering the views of planners or designers separately.

When considering the above, an institutional approach is useful. This approach views the shape of cities as resulting from the interaction between institutions (Adams, Watkins & White, 2008; Healey, 2007). Emphasis then needs to be placed on governance by constructing shared meanings between regulators and actors. It is then argued that a key dimension for understanding the qualities of places is to move beyond actors and incorporate the networks of social relations within which systems of meaning and ways of acting are constituted (Healey, 1992a, 2003, 2007). Places in urban studies are seen as not merely the spatial organisation of phenomena in a particular area, but as social constructs whereas an ensemble of concepts through which meaning is given to phenomenon and contested (Jacobs, 1993b). For suburban Bandung, this could mean that how housing estates are built resembles the tension between the middle-class and kampung dwellers.

While acknowledging that contextual differences are crucial for understanding the planning and development of housing estates in Bandung as a developing city, certain
values remain universal (Watson, 2003). The most obvious reason for the housing market’s emergence was the force of tradition; that is, aspirations to home ownership. This desire is present not only in North America, but also in Australia, Indonesia and elsewhere (Harris & Larkham, 1999; Monkkonen, 2013a). Such aspirations to ownership create demand in the housing market. Developers then encroach upon the suburbs and race to acquire vacant land as cheaply as possible—with their available capital and planning restrictions as the only limit. As Grant and Perrott (2011) argue, the rollout of motorised vehicles has created a demand which developers have responded to by acquiring land for development in places previously beyond reach (due to the absence of street networks or public transportation). In other words, developers no longer have restrictions on accessibility. Land that is cheap and suitable for building housing estates will be bought by developers.

In this study, it is unlikely that developers’ behaviour will be shown to differ between developing countries and in developed countries. They adjust to market aspirations, as presented in Grant’s (2009) study on practice in planning the Toronto suburbs. Another noteworthy influence for understanding the actions taken by private developers is related to how developments are financed. Few real estate projects are funded entirely by developers themselves; most depend on large loans from banks and other institutions looking for safe investments (Duany et al., 2000). Such investors, they argue, typically require market surveys demonstrating the success of previous similar projects. To qualify for funding, projects must be presented as not too different from comparably success ones; unsurprisingly, the outcome is repetitive projects (Duany et al., 2000).

These market aspirations also play an important role in the physical forms of housing estates. Cox (2002) contends that people should be allowed to live and work where and how they like. As people become more affluent they want more space and the freedom of mobility and access afforded by automobiles (Cox, 2002). Contained within the concept of residential self-selection, such arguments feed into the flourishing of
suburban gated communities. Examining how common such forms are, the features of gated and conventional neighbourhood forms that appeal to home buyers must be understood. Ways to address these needs must be determined in such a way that they can simultaneously align with other planning values (Grant, 2007; Grant et al., 2004). Rather than simply judging that one form of housing estate is flawed in terms of walkability and accessibility, it is more beneficial to gain a nuanced understanding of the shaping of form and suggest a solution that does not completely abandon market preferences.

In Indonesia, popular housing estates taking shape as gated communities are separating their residents from the adjacent *kampung* dwellers. The latter are considered to have a lower socio-economic status, and may be perceived to increase the threat of crime for estate residents. This perception of security and exclusivity that shapes the middle-class market preferences is taken as granted by both developers and the buyers.

Because of its extreme opposite to the middle-class aspiration, a design with a grid layout and open boundaries might not be an appropriate solution for providing walkability and accessibility. As such, compromises may be necessary, such as providing exclusivity (to appeal to home buyers) while still providing a walkable and accessible environment. Despite how easy this may seem in principle, the reality is likely to prove more difficult.

For instance, Cox’s (2002) argument about people’s freedom to choose the housing options they like (as mentioned in the previous paragraph) completely disregards less affluent people. These people are most likely to be affected by the physical separation commonly created by middle-class housing estates: the need to overcome longer distance may demand prioritising vehicle ownership over the basic needs such as food, shelter, and education. The responses of private developers to the middle-class

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housing market may lead to a disregard for planning walkable and accessible estate forms. This is what planners need to identify very carefully: how housing estates or indeed any project might affect other people and the public in general. After acknowledging such effects, planners need to balance impacts when directing a development to minimise the negative effects that might occur. In so doing, what are the practical roles of planning regulation is a question that shall be unpacked shortly.

3.1.3 The permit process and guidelines for housing estate development in Indonesia

Studies of Indonesian housing estates have long been concerned with the physical and social transformation driven by private developers and the middle-class (Kusno, 2013). However, little attention has been paid to the planners’ role in the practice, particularly in relation to the policy that shapes housing estate forms within the planning permit process. Healey (2003) contends that examining the implementation of plans means exploring how the various principles and norms have been adopted and used in the multiple, ongoing interactions of project development and implementation. Implementation, as Healey (2003) asserts, is described as a negotiated process, involving exchange and bargaining among a range of actors. In the case of housing estate development in Indonesia, interactions usually happen between developers, planners in the local government, and the existing communities that live around the projects.

The series of permits—beginning with the principal permit and ending at construction permit—to be obtained by developers in Indonesia is shown in Figure 3.1. This regulation guides the administrative flow of obtaining permits to develop housing estates within statutory planning. The process that occurs after developers have lodged their applications begins with obtaining a location permit from the National Land Agency (NLA); their development proposal is reviewed in coordination with the Local Planning Agency (LPA) and granted by the head of the district or the mayor. The location permit allows developers to purchase land.
Land use permits then must be obtained from the LPA and the City Planning Office (CPO) or Public Works (these institutions vary among local governments), by attaching a neighbour permit. These are intended to ensure that neighbours do not mind having housing estates developed in the area and that the proposed site plan submitted adheres to plans made by the local governments. Land use permits are produced as an advice plan drawing, which contains the main building envelope rules for physical development, such as right-of-way (ROW) and floor average ratio (FAR).

![Diagram of permits flow](image)

**Figure 3.1** Flow of permits to be obtained by developers

Once developers have the land use permit, they are required to obtain technical recommendations from several other local offices. Foreseeing impacts that may result from the development of housing estates, such technical recommendations play a
rather limited role in shaping housing estate form. Sometimes they can affect changes to the access points; for example, if a housing estate was to be built adjacent to a national road, then access points need to be carefully designed so they do not disrupt traffic. Most of the time, new housing estates are located in green fields, so there is no limit on access points. Having worked through all these steps, developers then apply for a construction permit, which is issued by the CPO. The whole process ends when the developer has obtained a construction permit that allows them to start their on-site preparation.

A different regulation was passed in light of the million houses program: Ministerial Decree of Home Affairs No. 55/2017 about Implementation of Low Income Housing Development Permits and Non-permits at the Local Government. The decree mandates the abolishment of location permits, flood level recommendations, cut and fill permits, and an analysis of traffic impact. The intention of these changes are said to update housing provisions to address increasing population levels and the lack of affordable housing without compromising housing quality; though may bring the opposite effect on the environment.

Despite differences at several steps within the planning permit process, the core of statutory planning remains intact. This thesis specifically focuses on this core—the work of the LPA and CPO (as framed in Figure 3.1’s red-dotted box). This focus was chosen deliberately because the design of housing estates takes shape during land use verification. The design of form is processed iteratively between developers and planners, while also being influenced by neighbouring dwellers (through the neighbour permit).

Examining the series of permits, studies have uncovered some notable problems found in their practical applications. These problems are visible at the beginning of the process which is the location permit stage. Initially, location permits are designed to allow local governments to monitor and shape private developments at an early stage. However, rather than benefiting the government, since their establishment in the 1970s, the permits have always favoured the interests of the developers (Ferguson &
Hoffman, 1993; Firman, 2004). According to the Ministerial Decree of Agrarian Affairs no. 2/1999, location permits should be revoked if a developer cannot purchase an entire piece of land within one to three years (depending on the specific case). This requirement was replaced by the Ministerial Decree of Agrarian Affairs no. 5/2015, which states that location permits should be revoked if the developer fails to acquire 50 per cent of the land within three years. Additionally, the permit is renewable. Another problem is evident: no particular timeframe was mentioned in the old decree but the new decree clearly states that permits can be renewed for one year only if the developer has obtained 50 per cent of the land. However, the time limit is not always enforced in practice (Monkkonen, 2013b).

Similarly, limits on the land amount specified in location permits are overridden by developers using parent companies. These companies order subsidiary companies to request several site permits within one area or in different regions. This legal loophole has been employed by many developers, as having subsidiary companies is very common (Cowherd, 2005).

The regulations on location permits have also been disobeyed by making hidden agreements between NLA officials and developers while becoming a powerful land speculation tool (Cowherd, 2005). It is unsurprising that Monkkonen’s (2013b) study shows that the transaction costs related to land construction and construction permits can be more than the cost of the land. It can take several years for a full housing project to be registered and permitted. Monkkonen (2013b) also found that the land registration and subdivision process was consistently described by developers as cumbersome, costly and time consuming. For these reasons, in many cases the series of permit rules is not followed.

From many studies on formal housing development practices in Indonesia, it is obvious that the policy setting favours developers. The setting has been interpreted by many developers as a way of acquiring vacant land at a reasonable cost therefore the policy does not serve its intended use by the government to monitor and shape private developments at the earliest stage (Ferguson & Hoffman, 1993; Firman, 2000, 2004).
Firman (2004) also mentions conflicts involving land owners, developers, and local governments that happen frequently during land acquisition. These conflicts usually ended up with land owners being evicted because they have no other options but to sell their land (Firman, 2004). Once a location permit is obtained by one developer, no other parties can purchase and develop land within the permit area without obtaining formal consent from the developer/permit holder. The combination of the land market and these regulations enables land monopolies to occur.

However, history clearly shows that housing estate developments in Indonesia were shaped by several structuring dimensions, not just the planning contained in the permit process. As Healey (1992b) has mentioned, permits and plans are only one part of one mechanism (planning regulation) through which public policy affects land and property markets, as well as the development process. Other parts, such as the national economic policy, taxation policy, the public sector’s roles in land use and environmental regulation, and its institutional relations, all impinge on supply and demand conditions in land and housing markets (Healey, 1992b).

3.2 The Intention of Planning

Through understanding Indonesian planning and housing characteristics, further efforts shall be made to understand the intentions of planning for housing as well as for walkability and accessibility. In its most basic form, the profession of city planning originated in a vision of the good city (Fainstein, 2009; Friedmann, 2000; Hardy, 2000; Pinder, 2010). This mainly originated from health concerns about overcrowding in the nineteenth century; planning primarily sought to produce environments that might result in better health standards (Hall, 2002). Planning sought to address ‘collective values either in the sense of interests generally shared by everyone or in terms of a normative standard against which judgements is made concerning collective interests’ (Campbell & Marshall, 2002, p. 174). However, ultimately intentions and practice often do not align. Such examples could be seen in the practice of planning for housing discussed below.
3.2.1 Planning in housing development

The first Congress of Housing was conducted in Bandung in the 1950s at which time it established housing provision as a responsibility of the government. The second Congress, which took place in 2009, reconfirmed this commitment. The second Congress was then followed by the enactment of Law No 1/2011 on Housing and Settlements. This law states that the government is responsible for the implementation of housing and settlements. However, the definition of ‘responsible’ in this context is quite limited, as the responsibility operates through guidance. This includes planning, regulation, control and supervision. The law also states that it is the government’s duty to facilitate the provision of housing and settlements. The law is further defined in PP No 14/2016 on Housing and Settlements Implementation. This requires that housing fulfils different prerequisites to settlements, as the two terms differ in scale: housing consists of individual houses, while settlements consist of several housing. Settlements are comparable to master-planned estates. In housing, facilities and infrastructure are planned only for residents within the housing area through monitoring the number of houses and the service capacity. Meanwhile in settlements, facilities and infrastructure are planned as integrated with existing networks found adjacent to the planned area.

The government’s commitment is evident in the number of houses built by both the private and public sectors. It has accelerated efforts to fulfil housing needs related to health and safety concerns. The housing problem in Indonesia is commonly framed as backlog in which housing is outnumbered by people. In 2010, Indonesia’s population had already reached nearly 240 million people and has since grown to become 250 million in 2017. These numbers comprise 82.4 million families, of which 13 million live together as extended family groups. With dilapidated houses numbering nearly 4 million, Indonesia had a total housing backlog numbering nearly 17 million in 2017 (BPS, 2012; 2017).

Aside from the quality and number of houses being built, however, housing should be seen in unity with its surroundings in terms of the physical, spatial, social, economic
and cultural aspects. As a problem established by this thesis, housing in the form of gated communities merely addresses private interests while it affects wider society negatively. The preference for gated communities assumes a relatively homogeneous community with recognizable common values, but these are not the same that are found in reality: the reality society is fragmented and the interests of the various individuals and groups are incredibly diverse (Alexander, 2002b; Fincher & Iveson, 2008; Moroni, 2004).

Moroni (2004) reminds us that the public interest is not a real interest of any one specific person but is rather the potential interest of anyone. As Moroni elaborates, the idea contained in ‘public interest’ is that a value exists that overrides other values. In this sense, the common values and interests worthy of becoming the public interest is most likely related to basic human needs. Examining the primary human need for shelter, food and clothing, these are essential to maintain both physical and mental health.

In this way, values such as public health and social equity will not be compromised by one’s actions; in addition, they cannot be forced on one’s mind or behaviour. In planning, while clearly the public interest cannot be abandoned, the practice is rather hazy. Any action will represent an imposition of one group on other groups (including the state), as groups operate within different and often conflicting rationalities (Watson, 2006). It is not possible for planning interventions to operate simultaneously to everyone’s benefit, rather than weighing one person or groups against another (Alexander, 2002a; Moroni, 2004), weighing one need over public welfare, gain or advantage (Campbell & Marshall, 2002). Judgements of what is considered in the public interest ultimately depend on individual evaluations of what is ‘good’ or ‘bad’, ‘better’ or ‘worse’—subjective interpretations (Campbell & Marshall, 2002). Following these interpretations, planning raises questions about what should be done, for whom and by whom, and with what benefits or losses (Watson, 2003).

Such concerns have created distinguished procedural and substantive versions of the public interest (Alexander, 2002b). In a procedural sense, the public interest is
identified with political decision-making or the planning process. For housing development, these concerns are addressed in the permit process. Plans are examined and verified on site to ensure that planning advice from the authority is followed. Written permits from neighbours are obtained. In a substantive sense, public interest is defined through examining spatial planning outcomes and the implied distributive impacts (see Watson, 2002). Plans are also assessed in terms of how they may affect the surroundings, such as increasing the traffic burden or causing pollution that may affect people’s health. However, such assessments usually involve debate about the weight given to specific interests, and how to balance competing interests and avoid or minimise the negative effects of development (Alexander, 2002a; Campbell & Marshall, 2002; Moroni, 2004).

While ideally planning plays a crucial role in deciding which kinds of development occur for the public’s sake, it is necessary to question the actual role of planning in the Indonesian context. Arguably, planners alone could not know what is in the best interest of the general public, as this requires a vast knowledge of many things: a planner may only know one thing in-depth, rather than many (Davidoff, 1965). This argument has been interpreted in the following way: that a government cannot act effectively in the interests of its citizens (Alexander, 2002b; Moroni, 2004) and that a minimalist state would be the preferred governance mode (Campbell & Marshall, 2002). This approach proposes neoliberalism, as the argument suggests that a person’s interest is best addressed through market mechanisms, where people may provide for themselves as they can afford to. Neoliberalism should invoke the power of choice. In the case of the middle-class, its members can choose from a range of living options: gated communities, open housing estates or kampung.

In theory, neoliberalism is to deliver more efficient processes in the production of urban space (see Campbell, Tait & Watkins, 2014; Harvey, 2007). Problems such as unemployment and poverty are considered to be caused by inefficient conditions where markets have been constrained; that is, by labour unions, the state and social practices based in culture and history (Marks, 2007; Shaikh, 2005). Supporting such
arguments, a considerable body of literature has measured how planning interventions influence the housing market and resulted in unfavourable outcomes, such as fewer housing options and higher prices (for reviews, see Bramley, 2013; White & Allmendinger, 2003). The questions within this literature focus on whether land use zoning and wider urban containment policies represent artificial barriers to housing supply by restricting the market’s allocation of development land, thereby inflating land and housing prices (Bramley, 2013; White & Allmendinger, 2003). However, it should be noted that land is not a commodity like any other as it is a limited resource which makes it inelastic to market demand.

The role of planning is limited when individual choices or preferences are expressed through the market (Watson, 2006). In market-led planning, it is assumed that a neutral state can ensure that the rights of free of equal citizens can be upheld (Watson, 2006). The market is put into account on almost all processes that manifested into form and makes the shift away from public and collective values toward private and individualistic values (Barnett, 2010). Shaping urban form has a minimal role; instead, this planning approach facilitates, rather than interferes with or limits, development to suit a broader interest group (Campbell et al., 2014; Gleeson & Low, 2000; Murphy & Fox-Rogers, 2015). Markets are represented as optimal and self-regulating social structures (Shaikh, 2005). Nonetheless, much research has determined that the market creates social inequality by favouring some and excluding others (Allmendinger, 2009; Harvey, 2003; Sager, 2011). As Harvey (2003 p. 940) states: ‘Free markets are not necessarily fair. The rich grow richer and the poor get poorer through the egalitarianism of exchange. No wonder those of wealth and power support such rights. Class divisions widen’.

Such negative social externalities as one of the main criticised aspects addressed in housing development are claim for government intervention and for the public interest to be further defined and justified (Allmendinger, 2001, 2009). Awareness should be built on ‘planners’ moral obligation to work in the interests of marginal and disempowered stakeholders especially when they are competing with ‘marketmovers’
(i.e. developers) that are equipped with enormous economic and political power’ (Murphy & Fox-Rogers, 2015, p. 237). To prevent developers manipulating the planning system in a way that disproportionally benefits their interests and is almost invariably at odds with the public interest, planners should not act as neutral observers and intermediaries (Murphy & Fox-Rogers, 2015). Instead, planners—as the authority—should take a stand. For housing, it should be clear that the basic need for shelter is primarily intended for health and safety concerns rather than security, let alone perceived security or images as contained in the gated community.

Examining the discussions, it is evident that these studies rather justify the need for planning as a way to constrain supply in the middle of a strong neoliberal influence; they do not undermine the role of planning. Gurran and Phibbs (2014 p. 239) argue that ‘when the predominant policy mood is one of neoliberal deregulation, the planning system appears as a last frontier of government intervention in the market’. Practical findings have shown that an efficient and just outcome does not result from the market supremacy proposed by most neoliberals. Instead, a market with greater levels of freedom has greater levels of inequality and more power monopoly (Harvey, 2003). The efficiency sought by neoliberalism therefore does not apply (Allmendinger, 2009). Other than that, and in contrast to the theory, neoliberalism has been implemented differently in practice, due to the influence of locally inherited institutional frameworks, policy regimes, regulatory practices and political struggles (see Brenner & Theodore, 2002; Harvey, 2007; Sager, 2011).

3.2.2 Planning for walkability and accessibility

Walkable and accessible environments support good health and social equity. The literature on land use, transport and urban design has shown the need to produce urban environments that offer travel options and healthy lifestyles. In addition, the literature highlights the need for urban environments to promote equity. This section examines the reasons behind these requirements.
Planning for mobility, which caters to automobile, is different to planning for accessibility. The former assumes that city dwellers will gain access to services required to support their daily needs through transport systems based on high levels of mobility by car, to some extent regardless of the relative location of land uses. The latter incorporates a need to consider proximity of land use activities as well as the transport network itself (Curtis & Scheurer, 2010). Planning for accessibility result in an environment which offers varied travel options as the alternatives to automobile dependence. There is a wave of change from planning for mobility to planning for accessibility within what Kulash (1996) refer to as the third motor age. He explained that in the first motor age cars were being incorporated within the existing streets, but then cities were rebuilt to accommodate cars during the second motor age. Such cars supremacy is then dethroned in the third motor age which concerns on providing more livability rather than automobile mobility.

As argued in the literature, many problems are associated with automobile dependence, in particular, it is not sustainable in terms of fuel consumption (see Moos, Whitfield, Johnson & Andrey, 2006; Reisi, Aye, Rajabifard & Ngo, 2015). However, the literature also sees the problem as originating from the current environment that caters for motorised vehicles rather than offers alternative non-motorised travel options (Boarnet & Crane, 2001; Brindle, 2003). Travel options are made available through infrastructure and the provision of amenities as well as better planning in locating land use. Even though a change in travel behaviour is not only enabled by the available options, but also by individual preferences and attitudes (Bassett et al., 2008; Boarnet & Crane, 2001; Cervero, 1994; Haybatollahi, Czepkiewicz, 2003).

Newman and Kenworthy (1996, 1999, 2015) coined the term ‘automobile dependence’ and defined it as a problem that occurs when cities develop with the assumption that automobile use will be dominant. These assumptions (not only held by policy makers) have arguably been relied upon by estate developers, as they enable them to acquire cheap land in the suburbs (Grant & Perrott, 2011) and develop housing estates where the residents travel by cars—mostly associated with upper- and middle-class communities. Streets are built to provide access to places, yet are also designed to cater for cars, disregarding pedestrians’ needs. Automobile dependency then has taken evidence on kind of infrastructure being built and the urban form that materialises along with the current urban lifestyle and consumption patterns—the context of physical, social and economic environment (Brindle, 2003).
Laatikainen & Kyttä, 2015; Kitamura, Mokhtarian & Laidet, 1997; Krizek, 2003; Lucas, 2009; Schwanen & Mokhtarian, 2005), viable travel options must still be provided. Planning is the ideal process for producing such flexible environments.

A variety of travel options is not just necessary for environmental sustainability, it is also important for equity. People who are vulnerable to transport disadvantage in locations with no other option but to use a car or motorbike, such as the kampung dwellers in-between the housing estates, will suffer disproportionately (see Southworth, 2005; Whitzman, Worthington & Mizrachi, 2010). Individuals should have equal access to and opportunities for a variety of travel options (Currie et al., 2010; Delbosc & Currie, 2011; Lucas, 2012). An environment like this will provide more travel choices to vulnerable people such as the urban poor, children, and the elderly who may need to rely on non-motorised forms of transport; travel that would otherwise be unaffordable for the less affluent or inaccessible for the physically limited (Forsyth, Oakes, Lee & Schmitz, 2009; Hensher, 2007). The poor, who cannot afford to pay public transportation fares, let alone own private vehicles, can simply walk everywhere. Children can play safely in the streets and walk to their friends’ house in the neighbourhood. The elderly can travel independently without requiring other people to drive them when they need to buy something, meet their friends and relatives, or take a stroll (Burton & Mitchell, 2006; Cui, Loo & Lin, 2017; Duany et al., 2000). Being independent is good, particularly for increasing confidence in children and the mental health of the elderly (Burton & Mitchell, 2006).

Catering for walkability and accessibility for children and the elderly is vital. As behaviour varies across situations and over time, life cycle is also a significant factor to be catered in planning (Goddard, Handy, Cao & Mokhtarian, 2006; Leary, 2012; Rosa, 2007). Rosa (2007) argues that life cycle which resembles changes in household structure affect attitudes towards travel: Having a baby tends to result in people using cars for convenience which carries on until the children have reached the driving age though some trips may also be conducted on foot or by public transport. Goddard et al. (2006) supports such argument with their findings on women with children under
who drive more than the counterpart. Following this stage, as the family matures and the parent grows older, homes can become an ‘empty nest’ (Duany et al., 2000; Hayden, 2003). People whose children have left home may eventually give up one or all their cars. In the beginning of a household’s formation, owning a car offers a degree of practicality, but for a single person it may end up as a bother since it has to be regularly serviced and takes a good amount of money to be maintained. The degrading eyesight and hearing conditions that inhibit the elderly from driving safely are also cited as one of the reasons for this change (Burton & Mitchell, 2006; Cui, Loo & Lin, 2017; Rosa, 2007).

Offering travel options also relates to health. While in the nineteenth century, public interest in planning was primarily sought to produce better health standards (i.e., sanitation) within a crowded city (Hall, 2002), these health concerns remain yet with a different problem. Suburban areas are associated with a reduction in active travel behaviour which is partly linked to obesity which can lead to certain diseases later in life (Bassett et al., 2008; Lo, 2011; Park, 2008; Stevenson et al, 2016). People now rely on motorised vehicles to go everywhere—even to buy small items from shops 200 metres away. A walkable and accessible environment would result in less effort being required for people wanting to minimise driving (Cao et al., 2009; Handy, 2002). Within the notion of equity, walking options are a low-cost way to promote better health, as everyone (regardless of their status) can remain active, exercising their body, muscles and cardio functions (Stevenson et al, 2016). A walkable environment would promote active travel as part of a healthy lifestyle. All these concerns about health and equitable travel options serve as the basis for including walkability and accessibility in planning.

### 3.3 Conclusions

The chapter has tried to answer the third, fourth, and fifth sub-questions being asked in this thesis: What influence does the planning process have in shaping the form of housing estates? What role do planners play in shaping the form of housing estates? What role do private developers play in shaping the form of housing estates, and how
much are they influenced by planning? The chapter has described how planning has helped to maintain informality. Planning has interacted with market mechanisms and result in a market-oriented practice that has been mistakenly thought to bring efficient planning that produces options for all people. It is the values determine by the market that determine the shape of housing estates. Yet arguably, when planning fails, the affluent triumph and the less affluent experience the negative effects of this failure. Viewed in this way, planning has minimal influence, as its effectiveness is significantly limited by the market.

Several serious problems concerning the nature of planning and the role of planning practitioners have been raised. Planners have adjusted to become more aware of and favoured the middle-class market preferences. Considering their profit seeking nature, developers tend to consider the market more important than to adhere to planning regulations. However, tensions between the market and planning must be acknowledged in order to be properly addressed, particularly since it is critical to ensure that walkable and accessible environment is provided.

Planning ensures that everyone has access to decent housing and that housing is built without affecting its surroundings negatively. Generally, in practice, the form of housing developments (especially gated communities) has implications that neglect health and equal travel options. Nevertheless, the basic argument in this thesis is that no matter what people prefer or what they can afford, viable travel options for social health and equity should be provided. In the case of planning for walkability and accessibility through housing estate development in suburban Bandung, it is vital to understand the processes that shape the form of housing estates.
Chapter 4 Research Methodology

By exploring housing estate development in the northwest suburb of Bandung, this research seeks to provide an in-depth and nuanced understanding of the factors and forces that shape the form of housing estates. To this end, a case study approach is required; this will be presented in the first section. An interpretive approach is given in the second section, and part of the case study is also included here. The third section discusses the detailed methods that have been undertaken in this research, starting from case selection to data collection and analysis. Aligning with the need to recognise form in the contextual differences between places (Frey, 1999; Neuman, 2005), the fourth section captures the derived process of the walkability and accessibility assessment tools employed in this research. The social, economic and cultural context is recognised as crucial to understanding how travel choices might differ between places (Forsyth, 2015; Frey, 1999; Lo, 2009, 2010; Neuman, 2005). For this thesis, the housing estate form has specific effects on walkability and accessibility, not just for its residents but also for the public in general.

4.1. Theoretical Framework

This thesis has adopted the following theoretical framework to explore how the planning process shapes walkability and accessibility (see figure 4.1). As has been broadly suggested in the literature, neighbourhood form, or on the case of this thesis, the housing estate form, have affected travel patterns by changing the quality of walkability and accessibility. The housing estate form encourages automobile dependence. This is evidenced by the high level of vehicle ownership and traffic congestion, as well as the phenomenon of under age driving. Lacking infrastructure for walking and increasing distance between uses has been sought as two of many reasons people are resorting to being dependent on motorised vehicles. Whilst the correlations between form and travel patterns have been largely addressed in research, there are a few studies on understanding how such form has taken shape and why.
This thesis takes into account the history of Indonesian cities and how the change of *kampung*, as the indigenous form of housing in Indonesia, over the course of half a century is important to be acknowledged. The change of *kampung* to become housing estates and how the change has spatially put *kampung* in between housing estates is embedded within the change of Indonesian planning culture from informality to somewhat formal. In relation to the formal planning process, the behaviour of private developers is also relevant. A coherent view on the problem addressed in the thesis is provided in figure 4.1 below.

![Figure 4.1 Theoretical framework](image)

4.1 Case Study Approach

This study tries to unveil the planning and development practice shaping the form of housing estates, as this occurs within a specific context. When acknowledging place-specific behaviour within planning practice, an exploratory case study approach is useful. Case studies enable the meaningful characteristics of real life events, which are complex and have no single set of outcomes, to be retained (Yin, 2009). Adding to the
suitability of the case study approach, webs of relations within the planning permit process can be captured (Graham & Healey, 1999). In this study this also enables greater insight into planning and housing estate development practices within the Indonesian planning system, a system that involves several parties.

While needing to be contextualised in time and place to allow rich situational understanding, the case study approach must also be transparent about the roles and values of those involved (Flyvbjerg, 2001; Watson, 2002). In this thesis this means that the planners and developers involved in housing estate development must clarify their own values and roles in accommodating the shaping of housing estate form. It is vital to acknowledge the perspectives of local planners as regulators and private developers as actors. Factors contributing to planners and developers’ behaviours, which are explored within a real context, aid in understanding the complex interrelationships contained within the process of shaping housing estate forms.

A case study approach is important for developing a nuanced view of reality that provides practical knowledge that differs from place to place and thus from case to case (Flyvbjerg, 2006). For this thesis, such knowledge is particularly important to comprehend the processes leading to shaping housing estate forms. However, limitations exist regarding the generalisability of case study research findings; this is because every case has a unique and specific context. Comparative case studies try to overcome such problems (Yin, 2009).

Offering the advantage of being able to compare the results of one case with the results of others, the case study approach can reveal certain rules or determine case-specific and general features (Yin, 2009). By exploring multiple case studies of housing estates, differences as well as similarities can be identified. This is important, as it could unveil what the differences are, and how each relates to different forms—making case selection, as well as data analysis, a crucial part of the research method. It is worth noting that Flyvbjerg (2006) and Ruddin (2006) assert that the careful and strategic choice of cases adds significantly to generalisability. This will be discussed in Section 4.3.1.
At its core, the case study approach is generalisable to theoretical propositions; thus, the yielded propositions can be tested further in other cases (Yin, 2009). The aim of such research is to compare the empirical results with previously developed studies. As this thesis intends to determine whether the identified roles of policy, planners and developers contained in planning practice have contributed to shaping the form of housing estates to discouraging walkability and accessibility, the findings will be compared to the research literature on Indonesian planning. This research does not seek to make representative, statistically generalisable statements about the causal relationships between developers or planners action and form of housing estates. Rather, this thesis is an in-depth and qualitative study of the factors and forces shaping walkability and accessibility of Indonesian cities, done through a case study of the planning processes producing housing estates. This method allows for a focus on: 1) the role of the planning process and planners; 2) the role and influence of developers; 3) the changing demands for housing estates by residents of Bandung and; 4) the impact this has been on walkability and accessibility. The thesis tries to extend the body of literature on planning processes and form, as partly presented in Chapters 2 and 3.

Another potential contribution of the case study approach is that it may influence real world problems (O’Leary, 2005). From understanding the shaping of housing estate form, this research informs the practitioners by producing insights into the possible driving factors influencing decisions on form. Shaping the policies on housing estate development that affect the built form is one way to do this, but more may be identified through understanding the whole practice. It is done so as to move forward in shaping a more walkable and accessible environment from the housing provision by the private sector.

4.2 Analytical Framework

As this research seeks a nuanced understanding of the shaping of housing estates, pairing the case study with an interpretivist approach is suitable. This combined approach argues that one’s language does not simply mirror or picture the world but
instead profoundly shapes one’s view of it (Fischer & Forester, 1993; Porta & Keating, 2008). The ontological issue of interpretivism is seeing the objective and subjective as intrinsically linked; as such, knowledge is inseparable from human subjectivity (Porta & Keating, 2008). Subjectivity as hereditary within interpretive approach lies on the nature of qualitative research which has been long debated and discredited for having a different take on how to see reality: The interpretive approach sees the world as subjective and reality is socially-constructed while the positivist approach sees reality as objective and waiting to be discovered (Lincoln & Guba, 2000). Notwithstanding the debate, however, this does not necessarily mean that interpretive approach lacks the validity as compared to the positivist approach as will be explained in the following paragraphs.

For this thesis, unpacking the processes contained within the shaping of housing estates in suburban Bandung is inseparable to my personal experience of growing up. This experience has enriched the narratives, particularly those on form and travel. Yet it also requires careful thinking to maintain objectivity in my arguments. For this reason, I have separated the data into two parts to focus the analysis. One part focuses on the interview data which reveals insights about the planning process and how decisions are made. The other part focuses on the visual data obtained from observation which allows me to consider how the form shapes walkability and accessibility. According to Madison (1988) and Nielsen (1995) in Angen (2000), interpretive research is a chain of interpretations made by the researcher. This chain must be documented in order to serve as evidence of the thoroughness and comprehensiveness of the understandings used to form the resulting interpretations. The evidence will then reflect trustworthiness of the meanings arrived at in the end. This way, the researcher can apprehend the criticisms of subjectivity that may suggest that the research is just their opinion or even just the opinion of their participants (Angen, 2000).

Here, it is important to position the interviewee in his or her own subjectivity as planner or developer, particularly in a case study that relies on narrative. The
particular reason behind this is because the interviewee is interpreting his or her own life experience and discussing that with the researcher. Insiders’ perspective can never fully be achieved as the researcher cannot fully or completely understand the world of the interviewee (Angen, 2000). Therefor, it is also important to position the researcher in relation to the research. As Creswell (1998) posits, our subjectivity is an integral part of our understanding of ourselves, of others, and of the world around us because we cannot separate ourselves from what we know. As a consequence, the researcher’s values are inherent to all phases of the inquiry process (Angen, 2000). The interpretations of the researcher are important as they carry the context of the interaction with the research participant with them.

Additionally, attention must be paid to qualitative interviewing. The previous knowledge owned by the interviewer should be separated during the interview to gain as much of the interviewee’s voice as possible and to avoid directing the interview towards the interviewer’s preference, particularly when seeking nuance and subtlety (Rubin & Rubin, 2005). For such reasons, careful considerations is given to phrasing the questions so they are as neutral as possible, not giving specific directions or dominating the conversations (Patton, 2002). Having a set of semi-structured questions to guide the interviews is thus useful.

To enrich the analysis of interview records and walkability and accessibility assessments, this thesis also applies policy analysis. Policy is meant to address problems; however, problems can be represented in many languages, discourses and frames (Fischer & Forester, 1993). These representations are problematic because they lead to different views of the world and create multiple social realities (Fischer & Forester, 1993). For such reasons, this thesis examines policies dealing with housing estate development, particularly of the framing associated with the housing problem, the processes of shaping the form, and the resulting form of housing estates (see further discussion in Section 4.3.3).
Table 4.1 Research questions and methods

| Main Question: |  |  |
|----------------|-----------------------------|
| Is the planning system in suburban Bandung contributing to a form of housing estates that discourages walkability and accessibility? If so, why? |  |  |

| Sub-questions: |  |  |
|----------------|-----------------------------|
| 1 What is the form of new housing estates in Indonesia and particularly suburban Bandung? | To identify the form of housing estates | Literature review Assessment | Descriptive analysis |
| 2 What implications do they have for walkability and accessibility? | To identify the impacts of form to walkability and accessibility | Literature review Assessment | Descriptive analysis |
| 3 What influence does the planning process have in shaping the form of housing estates? | To understand planning process in shaping the form of housing estates | Literature review Interview | Discourse analysis |
| 4 What role do planners play in shaping the form of housing estates? | To understand the behaviour of planners within planning process and their responses to the form of housing estates | Literature review Interview | Discourse analysis |
| 5 What role do developers play in shaping the form of housing estates, and how much are they influenced by planning? | To understand the behaviour of developers in shaping the form of housing estates in respect to planning and market | Literature review | Synthesis |

Sharing a similar core with the interpretive approach, this research has adopted an interpretive policy analysis method that focuses on meanings. Interpretive analysis explores what, how and to whom a policy may have a particular meaning (Fischer, 2000; Yanow, 1993). For this thesis, planners and developers may have their own interpretations of policy language. These interpretations may differ between planners
and developers, as well as among themselves, and may diverge from a policy’s intent. Such interpretations are not entirely open to analysis as objective facts and much of their meaning can only be elicited by an act of interpretation on the part of the researcher (Yanow, 1993). Acknowledging the role of planners and developers, it is the researcher’s task to interpret how each of them thought about their actions which has contributed to the shaping of housing estates.

4.3 Methods

This thesis has been guided by one main research question, broken down into five sub-questions. It employs several methods corresponding to the framework detailed above. Case studies of housing estates have been purposefully selected while acknowledging the context of the study area. Data have been collected to capture the process of planning and housing estate development. This included obtaining policy documents, conducting assessments and physical mapping, and interviews. Different methods of analysis were applied to each type of data. Table 4.1 provides detailed information linking the data collected and the analysis undertaken with the research question they aim to address. This information is explained in the following subsections.

4.3.1 Case selection

The research objective of this research is: to determine whether, and in what way, the identified roles of policy, planners and developers contained in planning practice have contributed to shaping the form of housing estates to discouraging walkability and accessibility. To satisfy this objective the selection of housing estates as case studies for the northwest suburb of metropolitan Bandung was undertaken through examining the context for each estate. A brief background of the suburb is detailed to provide a base for case selection, although this shall be discussed in more detail in Chapter 5. Within the region of metropolitan Bandung, several suburbs have experienced substantial construction of new housing. Although housing estates are found in almost every part of this region, the northwest suburb provides an excellent example of how
housing estate developments have increased and influenced travel options in a profound way. A suburb where the property prices have escalated rapidly, in contrast to more modest increases in other suburbs, is considered a growth area. In the past two decades, rapid development has also instigated changes in the administration status of local governments. 41

Housing estates in the northwest suburb are commonly regarded as small to medium in size due to the number of lots and houses. Some estates have under 50 dwellings and others have hundreds. The estates built within the last decade generally include distinctive gates and walls, usually located as in-fill between tracts of land commonly referred to as clusters (for further descriptions see Section 5.2.1).

In purposively selecting information-rich (Patton, 2002) and comparable (Yin, 2009) cases, the focus is on privately developed housing estates that provide examples of the phenomenon being studied; namely, forms that represent a variety of walkability and accessibility elements. To unveil what different characteristics lead to different forms in these cases, certain aspects should be similar whilst allowing some other aspects to be different. Several considerations lie behind the selection of the cases. They are: 1) the year of building and the applicable regulation that may vary; 2) the similar market segment that relates to the logic of travel behaviour and presumably the developers’ design strategies; 3) the similar estate’s coverage area that relates to the scale of developers; and 4) an accessibility that suits the logic of travel options, represented by amenities and gates that may vary.

Indonesia’s planning policies and regulatory framework have changed in the past two decades; as such, the housing estate’s year of development relates to its compliance

41 The northwest suburb of metropolitan Bandung is a highly dynamic interface area of three municipalities. Previously, up until 1987 with the enactment of PP No. 16/1987, the northwestern part was divided between Bandung city and Bandung Barat district. A change was made in the early 2000s after decentralization took course: Cimahi city was established and made one part of Bandung Barat boundaries inserted in between the two cities. As a result, it is not unusual to have housing estate to be part of more than one local government’s jurisdiction, for example P1 (see location provided in figure 4.1) has been divided into three jurisdictional parts of Cimahi city, Bandung city and Bandung Barat district.
requirements. Based on the practicality of obtaining information about the process of shaping housing estate form, newly built housing estates were chosen as case studies. Older estates were also included for observations and assessments to enrich the analysis of walkability and accessibility.

Different market segments presumably exhibit different travel behaviours that may encourage developers to build different housing estate forms. The market segment was included in the analysis to understand the developers’ perspectives and was considered in relation to the development year, being linked to planning policies and regulatory frameworks. In relation to the scale of development firms, while the numbers of private developers are significant, according to data from the Indonesian Real Estate Developers Association (REI), until 2012 the majority of developing firms were actually very small. This aligns with Struyk et al.’s (1990) division of estate developers in Indonesia into two groups: one with a small number of sophisticated developers and one with a large number of small firms. The two groups may differ in resource funding and the practice of development. This shall be analysed in Chapter 7 by comparing the empirical data gathered in this thesis to the literature on the topic.

While drawing on the work of Flyvbjerg (2006) and Ruddin (2006) on case study generalisability, the case studies here will ideally include an array of coverage areas and market segments. Nevertheless, these characteristics are spatially bounded in relation to topography, the land market and planning regulations, as with other kinds of development. For this thesis, patterns in the form of housing estates in suburban Bandung first had to be recognised by conducting two preliminary tasks. The first task was a preliminary mapping of the housing estates that captures the above characteristics. This mapping enabled a sub-set of housing estates to be gathered for exploration. The preliminary mapping also served to justify the case selection because there is no available record on the exact numbers of enclaves or gated communities, even though it is well known that these are abundant in Indonesia (Kruger & Landman, 2003; Leisch, 2002). The second task was developing a walkability and accessibility assessment tool (presented in Section 4.4). The tool was informed by the international
literature on travel behaviour and is focused on the literature about developing Asian cities, acknowledging the contextual difference.

A preliminary list consisting of 32 housing estates is presented in Table 4.2 and mapped in Figures 4.2 and 4.3. The list was made based on the data obtained from REI, internet searches and preliminary observations of housing estates on fieldwork. It should be noted that quite a number of developers might not be included in the list for the following possible reasons: 1) the developer is not a member of REI (they may have membership in other developer associations; 2) the developer is not a member of any associations (they may be individuals who have subdivided their land and are acting as a developer). The list shows that within the early boom period, housing estates were developed for certain corporate workers (Code C) and were initially unavailable for public sale. These were made available for public sale only when the initial residents wanted to sell their houses. The development was then followed by private developers targeting public sale (Code P). The list also shows that gated housing estates are more commonly aimed at higher and middle-class market segments despite some lower to middle-class estates applying a similar form. Interestingly, early observations also revealed that two non-gated estates (PS and P18) had a public transportation thoroughfare route. This accessibility should be advantageous to residents. However, the presence of public transportation is not the focus of this thesis, which concentrates on walkability and accessibility in terms of the uses and distances resulting from design.

Judging by the coverage area, the housing estates in this suburb are usually small-scale. This is relevant to the study and enables more effective direct observations of the housing estates and kampung as one socio-cultural context that shadows housing estate development in Indonesia. It highlights the interaction between formal and informal housing developments in terms of spatial connections that affect travel options, such as the pedestrian access points and main gates. As shown in Figure 4.3, pattern differences in the built-up areas show that kampung are present amid housing estates.
### Table 4.2 Housing estate characteristics in northwest suburb of metropolitan Bandung

<table>
<thead>
<tr>
<th>Code</th>
<th>Estimated year built</th>
<th>Developer</th>
<th>Market segment</th>
<th>House type</th>
<th>Floor area (sqm)</th>
<th>Number of houses</th>
<th>Amenities</th>
<th>Gated</th>
<th>Area (Ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Parks</td>
<td>Shops</td>
<td></td>
</tr>
<tr>
<td>P5</td>
<td>1979</td>
<td>Perumnas</td>
<td>Low-medium</td>
<td>Single &amp; semi detached, rows, flats</td>
<td>21 - 72</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>C1</td>
<td>1990s</td>
<td>Corporate workers</td>
<td>Detached</td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>1994</td>
<td>Private</td>
<td>Corporate workers</td>
<td>Detached, rows</td>
<td>36 - 100</td>
<td>300</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>C3</td>
<td>1980s</td>
<td>Corporate workers</td>
<td>Detached</td>
<td></td>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C4</td>
<td>1980s</td>
<td>Corporate workers</td>
<td>Detached</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C5</td>
<td>1980s</td>
<td>Army officers</td>
<td>Single &amp; semi detached, rows</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>1990s</td>
<td>Private</td>
<td>High-medium</td>
<td>Detached, rows</td>
<td>150</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>15</td>
</tr>
<tr>
<td>P2</td>
<td>2000s</td>
<td>Private</td>
<td>High-medium</td>
<td>Detached</td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3</td>
<td>2010</td>
<td>Private</td>
<td>High-medium</td>
<td>Detached</td>
<td>54; 103</td>
<td>27</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P4</td>
<td>2008</td>
<td>Private</td>
<td>Low-medium</td>
<td>Single &amp; semi detached</td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P5</td>
<td>1990s</td>
<td>Private</td>
<td>Detached</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P6</td>
<td>2013</td>
<td>Private</td>
<td>Detached</td>
<td>48 - 100</td>
<td>65</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P7</td>
<td>1990s</td>
<td>Private</td>
<td>Low-medium</td>
<td>Detached</td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>P8</td>
<td>1992</td>
<td>Private</td>
<td>Low-medium</td>
<td>Detached</td>
<td>36 - 70</td>
<td>350</td>
<td>Yes</td>
<td>Yes</td>
<td>9</td>
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<tr>
<td>P9</td>
<td>1990s</td>
<td>Private</td>
<td>High-medium</td>
<td>Detached</td>
<td>350</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>10</td>
</tr>
<tr>
<td>P10</td>
<td>1980s</td>
<td>Private</td>
<td>Low-medium</td>
<td>Detached</td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P11</td>
<td>2002</td>
<td>Private</td>
<td>Low-medium</td>
<td>Detached</td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P12</td>
<td>1990s</td>
<td>Private</td>
<td>Low-medium</td>
<td>Detached</td>
<td></td>
<td></td>
<td>Yes</td>
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<tr>
<td>P13</td>
<td>1980s</td>
<td>Private</td>
<td>Low-medium</td>
<td>Detached</td>
<td>70 - 100</td>
<td>150</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P14</td>
<td>1990s</td>
<td>Private</td>
<td>Detached</td>
<td>500</td>
<td>Yes</td>
<td>Yes</td>
<td>4</td>
<td></td>
<td></td>
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<tr>
<td>P15</td>
<td>1990s</td>
<td>Private</td>
<td>Detached</td>
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<tr>
<td>P16</td>
<td>2013</td>
<td>Private</td>
<td>High-medium</td>
<td>Detached</td>
<td>45 - 88</td>
<td>140</td>
<td>Yes</td>
<td>Yes</td>
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<td>P17</td>
<td>1990s</td>
<td>Private</td>
<td>Detached</td>
<td></td>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<tr>
<td>P18</td>
<td>1990s</td>
<td>Private</td>
<td>Low-medium</td>
<td>Detached</td>
<td>300</td>
<td>Yes</td>
<td>Yes</td>
<td>43</td>
<td></td>
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<tr>
<td>P19</td>
<td>1990s</td>
<td>Private</td>
<td>Low-medium</td>
<td>Detached</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>P20</td>
<td>1990s</td>
<td>Private</td>
<td>Low-medium</td>
<td>Detached</td>
<td>650</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>P21</td>
<td>1990s</td>
<td>Private</td>
<td>Low-medium</td>
<td>Detached</td>
<td>390</td>
<td></td>
<td></td>
<td>10</td>
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<tr>
<td>P22</td>
<td>1990s</td>
<td>Private</td>
<td>Low-medium</td>
<td>Detached</td>
<td>900</td>
<td>Yes</td>
<td>Yes</td>
<td>15</td>
<td></td>
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<tr>
<td>P23</td>
<td>1990s</td>
<td>Private</td>
<td>Low-medium</td>
<td>Detached</td>
<td>450</td>
<td></td>
<td></td>
<td>6</td>
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<tr>
<td>P24</td>
<td>2012</td>
<td>Private</td>
<td>Medium</td>
<td>Detached</td>
<td>30 - 45</td>
<td>25</td>
<td>Yes</td>
<td></td>
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<td>P25</td>
<td>1990s</td>
<td>Private</td>
<td>High-medium</td>
<td>Detached</td>
<td>150</td>
<td>Yes</td>
<td>Yes</td>
<td>14</td>
<td></td>
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<tr>
<td>P26</td>
<td>1990s</td>
<td>Private</td>
<td>High-medium</td>
<td>Detached</td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: tabulated from REI data, websites and preliminary observations
This research uses comparative case studies of housing estates by focusing on form, and the processes that shape the form. Accordingly, a variety of estate forms built by the small to medium scale developers was selected to represent the northwest suburb’s characteristics: different gates and access point but with rather similar perimeter walls. Other forms are not included since they are rarely found within the suburb: The master planned estates are built by large developers at Bandung city outskirt; most open (non-gated) estates were built by the National Housing Corporation closer to the city center 4 decades ago.

From the preliminary list, five housing estates were included in the assessment and their developers were interviewed. An additional nine housing estates were also included, making a total of 14 housing estates (the locations are provided in Chapter 5). These additions were selected for observation so the characteristics of housing estates built by the small to medium scale developers could have better visual descriptions. These housing estates were added as more housing estates had been developed since the REI data’s data up to 2012. This will become apparent in Chapter 7 from interviews with the developers. The selection of 14 housing estates was made to capture the characteristics found in both new and old housing estates—housing estates built in the last decade with its gated community characters and in the 1990s with the non-gated—as well as to enrich the walkability and accessibility assessments. Nevertheless, the case selection does not necessarily represent the projects of interviewed developers due to the observations occurring prior to finalising the interview arrangements. Obstacles became apparent when arranging the interviews; this will be explained in the next section.

4.3.2 Data collection

Data collected in this research is divided into three groups: walkability and accessibility assessments, policy documents, and interview records. Each group informs the others either by providing the context of policy, practice or physical form that relates to the planning and development of housing estates. Ultimately, while also being informed by the literature, all three groups of data shape understanding of the factors and
forces influencing the form of housing estates in this location. The data then enriches
the thoughts about the forms of housing estate that encourage walkability and accessibility.

The walkability and accessibility assessments in this study were guided by a checklist
and analysed based on walkable distance. Because of the small scale of estates, the
accessibility assessments record local uses at adjacent areas still within the walkable
distance radius from the housing estate. These areas may include other housing
estates, commercial strips, and *kampung*, depending on where the housing estate is
located. For the walkability assessments, rather than the scoring method generally
used in other studies, the tools in this study include a list of elements for inventory and
mapping. Therefore, in terms of scale and width for analysis of walkability, no
measurements were undertaken. Dimensions were estimated based on photographs,
recorded plans and drawings, as well as information gained from interviews. These
dimensions were then analysed to understand how the human scale proportions are
relevant to walkability.

To capture the conditions and variety of uses within walking distance from the housing
estates, the instrument for assessment was intended for use both by car and on foot.
While such assessments are ideally undertaken on foot to gain a closer understanding
of what matters for walkability, the time available for fieldwork did not allow this.
Quick assessments by driving the car at low speed were carried out and at times were
continued with further detailed assessments on foot. Assessments were undertaken in
relation to street hierarchy rather than on each street segment, as similarities of street
design in housing estates make walkability assessments redundant.
Figure 4.2 Preliminary map of housing estates in the northwest suburb
Figure 4.3 Satellite view of the northwest suburb
While conducting the assessments, public or street observations were also undertaken. These observations did not require consent. Pedestrians’ and street hawkers’ presences were observed twice on each estate: weekday and weekend mornings from 7 am to 10 am. However, one must understand that this study focuses on the process of shaping housing estate form and how that form has affected walkability and accessibility according to the literature and personal observations. This thesis, therefore, does not examine the actual travel from traffic counts or perceptions of people in detail. The thesis does not examine empirically whether one neighbourhood has higher car use than another.

The second group of data—policy documents—consist of regulations on housing estate development, which includes the spatial plans referred to in the planning process. These were mainly sourced from government websites. However, direct personal requests were also made during the interviews with local planners. From face-to-face meetings, it was evident that the documents made publicly available on websites were only the legally binding documents. Academic scripts such as complete strategic plans, spatial plans, maps and images that were necessary for this study, had to be requested in person.

The third and largest group of data is interview records. The duration of interviews ranged from 45 minutes to nearly two hours. Interview data was collected from a total of 20 interviewees: nine developers who had built 22 small-scale housing estates in this suburb, and 11 local planners with expertise ranging from statutory planning (5 persons), management (2 persons) and strategic planning (4 persons). Two sets of semi-structured interview questions, one for planners and another for developers, explored the interviewees’ experiences. The questions aimed to uncover perceptions and behaviour in relation to housing estate development so that planners’ and developers’ perspectives could be compared and contrasted.

Prior to finalising the case selection and arranging interviews with developers, 15 different housing estates from different developers were visited during
fieldwork. With the contact information for developers obtained from local planners and websites, these developers were contacted in person and by writing to introduce the topic. Subsequent contact was made to gain permission to arrange appointments for interviews. In the process, the developers sometimes appeared unwilling to suggest a suitable person to be interviewed or an appointment time. Upon subsequent contact, only ten developers agreed to be interviewed and these were mostly small-scale developers. One had to cancel a scheduled interview due to an unforeseen scheduling problem. The developers of a sub-set of housing estates in the preliminary map provided in Figure 4.1 have been included in addition to the newer housing estates built after 2012. A total of nine developers were then interviewed in person.

Even though the small- to medium-scale of estates was the common type found in the northwest suburb, initially this research also sought to capture the influences of planning ideas as one force shaping Indonesian planning. According to the literature, large-scale developers tend to have influence; thus, exploring these estates was desirable. Initially, large-scale developers were included as a contrast with the behaviour of small-scale developers. This plan was altered, as the fieldwork did not allow enough time to obtain access.

Nevertheless, the project of one developer is not included in this thesis as it was still at a premature stage of site preparation. Ultimately the decision to exclude this developer was made because of the limited time I had during fieldwork and the difficulties of arranging an interview. A long-term approach was necessary with developers whose estates were established; meanwhile, approaching developers during the construction stage on site tended to result in prompt responses.

In contrast to the rejections received from developers, arranging interviews with local planners was not difficult. Eleven local planners were finally interviewed personally. Some were available on the spot and some needed interviews scheduled. On other occasions, I was directed to the right person. The interviews focused on their knowledge and experiences of statutory planning, as well as
insights on strategic planning from the perspective of form, travel and housing development. Interviewing planners was focused on obtaining information to gain an understanding of the role of planning policies and regulatory frameworks in shaping the form of housing estates and recognising which ideas influence the planning and development of housing estates. These insights allow a nuanced understanding on the process, as well as the forces and factors shaping the form of housing estates in suburban Bandung.

This research includes a relatively homogeneous group of cases—that of small-scale housing estate—yet it still uses comparisons of the built form. Comparative case studies must consider the different contexts of housing estate projects. This can potentially lead to very specific characteristics and developments. The political and social contexts, for example, are particularly important in understanding the shaping of form. This is addressed in the interviews: these contexts instigate developers to apply different strategies in shaping the form of housing estates.

With the developers, interviews were focused on the process of planning the housing estates; events and activities contained in the process which cannot be observed directly in regard to decision-making processes about the built form (Taylor & Bogdan, 1998). This is particularly apt when remembering that the process of estate development can last for years between obtaining the land permits and when residents first move in. The set of questions was arranged as semi-structured and was informed by the process of obtaining permits. In seeking to establish their reasons for constructing the built form as it appears, developers were asked about the timeline of development, including their thoughts on selecting locations, the existing conditions permitting development and the cooperation involved in the process between the planners and developers. On built form matters, they were asked about their views on forms, and specifically whether any trends occurred and what opinions they had about these forms.
As this research accessed information that might be considered sensitive, during the introduction, I clarified that the names of interviewees, housing estates, and developers would be confidential. Despite this, a few developers were reluctant or had concerns about detailing their permit process. Nevertheless, useful insights were still obtained from other interviewees.

After introducing the study, the semi-structured interviews began by asking how long they had been working within the field of housing estate development. Starting with the easiest questions eases the interview process (O’Leary, 2005). This question also helps to determine their credibility in relation to sharing their experiences and perceptions on housing estate development.

Richards (2005) argues that one’s recall of interviews is imperfect: instead of focusing on what an interviewee is saying while conducting interview, much attention is given to one’s own presentation of what one is asking. To overcome this, the interviews were audio recorded. This allows careful analysis of the interview transcripts instead of relying on interview notes. It also ensures the accurate reporting and management of data. Relying on note-taking alone is considered insufficient because important material may be missed or excessive amounts of irrelevant material may be produced at a later stage of analysis; audio tapes increase the data’s fidelity (Lincoln & Guba, 1985).

The literature suggests obtaining data from enough interviews to reach a level of saturation. This is defined as the point at which no additional data are found (Guest, Bunce & Johnson, 2006; Mason, 2010). Because one occurrence of a piece of data (or a code) is necessary to ensure that it becomes part of the analysis framework, a qualitative sample has a diminishing point of return—as the study goes on, more data do not necessarily lead to more information that add to the overall story (Mason, 2010). For this thesis, such early signs of saturation were observed after collecting 17 interviews. Having reached saturation, vast numbers of interviews are considered unnecessary and do not lead to a better complete picture (Rubin & Rubin, 2005). However, qualitative samples must be large enough to ensure that most, or all, of the perceptions that
might be important are uncovered. At the same time, if the sample is too large data become repetitive and counter-productive (Mason, 2010). For this thesis, a total of 20 interviews was considered sufficient to uncover an in-depth understanding of shaping the form of housing estates.

While saturation is desirable, determining whether the number is sufficient during fieldwork was highly problematic, as it was not possible to undertake a thorough analysis of the data. Nevertheless, Guest et al. (2006) and Suri (2011) remind us that the more similar participants are in their experiences with respect to the research focus, the sooner one might expect to reach saturation and especially so if data selection is purposeful. A sense of saturation may also be acquired soon after finishing the interview process, even if a thorough analysis has not been undertaken. Suri (2011) notes that the more precise the question, the more quickly it reaches data saturation. This is true for this thesis, as will be discussed shortly.

4.3.3 Analysis

Analysis of the data obtained in this research was undertaken subsequently, in accordance with each sub-question asked. Each analysis, along with the literature review, contributes to answering the main research question (for the research questions and analysis, see Table 4.1).

Similarly, with the order of sub-questions, the stages began with a descriptive analysis of the built form, walkability and accessibility of housing estates. According to the descriptive analysis, the names of housing estates were coded and kept confidential (in addition to the interviewed individuals). The analysis is presented in maps, drawings and photographs of housing estates in aggregate, instead of separately. This allows a comprehensive description of characteristics found in the northwest suburb. Nonetheless, to provide a more effective image of how accessible the housing estates are, individual maps of a sub-set of four housing estates are also provided. From the analysis and discussions in relation to the body of literature on urban form and travel, an identification of the more walkable and accessible housing estate form is identified.
Following the descriptive analysis, the results were compared—through discourse analysis—with understandings about the planning policies and practices of housing estate development. Discourse analysis enables an understanding of power relations relevant to the nature and role of interviewees in influencing planning or practice changes (Sharp & Richardson, 2001; Jacobs, 2006). Noting that the practices of housing estate development are entangled with many driving forces, this is beneficial.

Discourse analysis was incorporated into the method of analysing policy, aligning with the interpretive approach. Yanow (1995) argues that policy analysis often focuses on the explicit, formal language of legislation, nevertheless policy meanings are also communicated through agency acts that take place in settings—hence the need for interviews. Policy analysis that sees the built form as policy settings can learn much by including policy enactments; and the response to policy mandates. The built form tells stories, but these stories may be read in different ways by policy legislators, agency executives, or architects as the authors (Yanow, 1995). Understanding housing estate development plays in the similar ways.

For this thesis, how policy frames the housing problem is a useful perspective for understanding the shaping of housing estate forms. As Fischer and Forester (1993) argue, the framing of a policy issue always takes place within a nested context. Policy issues tend to arise in connection with government programs. These exist in some policy environments, as part of some broader political and economic settings. In turn, these are located within a historical era. At least four nested contexts exist (Fischer & Forester, 1993). The first is the internal context. This changes over time through the replacement of personnel. The second is the proximate context, where the policy environment in which a program operates and exists in interaction with other programs. The third is the macro context. This may change the directions of policy or the institutions designed to carry out the policy. Finally, global shifts of context involve changes at the broadest level, including changes in the historical eras in which the reframing of policy issues
may occur. These nested contexts inform discourse analysis. Understanding the present form of housing estates requires explaining the history of planning. In this case, it applies to both the existing physical condition and the political events that might have influenced the process of shaping housing estate forms.

In this study, the discourse analysis was transcribed and coded in Indonesian. Instead of undertaking a verbatim analysis on the transcriptions, some thematic codes were extracted, with their importance determined by the number of individuals independently expressing the same idea. This was based on the common experiences they had shared in the process of planning and developing housing estates (Guest et al., 2006). The codes that emerged and the related quotations were then translated into English. A professional interpreter was not consulted for the translations to avoid a loss of nuance and meaning that may have resulted due to the language style (non-formal Bahasa and some Sundanese) being used. However, the translations, provided as quotations in Chapters 7 and 8 may not be as subtle as in a native speaker of English. For these reasons, quotations from Bahasa Indonesia (the Indonesian language) are provided in the appendices and are sorted chronologically.

Guest et al. (2006) show that codes can be identified from analysis as early as within six interviews, and therefore very little appears to have been missed in the early stages of analysis. Yet, completing an analysis too soon runs the risk of missing more in-depth and important content (Guest et al., 2006). The connections among the codes that eventually comprised the overarching themes may not be apparent in the early stages of analysis. It is important to describe in the analysis how saturation is achieved (Mason, 2010). As mentioned in the previous section, early signs of saturation were evident during fieldwork. This happened as no new insights were given by planners and developers during the interviews. This was because questions about the policy and processes of shaping housing estate forms were highly focused. In this case, gaining more data would not necessarily lead to more information that added to the overall story (Mason, 2010). Codes and themes then emerged during early analysis in
the transcriptions and did not change throughout the subsequent analysis. Nonetheless, the later analysis uncovered more detailed findings that brought an in-depth and nuanced understanding to the study. For example, the main reason for developers erecting gates and perimeter walls was identified in the theme, but it was not until the subsequent analysis that the timeline of one housing estate development was identified as being interrelated with these reasons.

Following the analysis, research synthesis took place; again, this was interpretive (Suri, 2011). An infinite number of ways exists for interpreting qualitative data, and the chosen approach depends on the researcher. Nevertheless, this research does not rely completely on interview transcripts. To understand the planning and development of housing estates, policy analysis as well as the descriptive analysis of the built form are all vital. By analysing the three groups of data, the synthesis allowed a nuanced understanding of shaping the form of housing estates and the factors and forces influencing this process.

4.4. Developing Assessment Instruments

In order to assess walkability and accessibility, consideration needs to be given to the influence that culture has on the production of space. Instruments used in assessing walkability and accessibility must be suitable for the socio-cultural context of the northwest suburb of Bandung. After all, accessibility is a multifaceted concept, not readily packaged into a one-size-fits-all indicator (Curtis & Scheurer, 2010). The discussions in this section are informed by the international literature on travel behaviour, with a focus on how socio-cultural factors are considered. In developing the instrument for assessing walkability and accessibility of housing estates, it was effective to compare the existing assessment methods and tools. This was a practical way of identifying the usefulness for the context of the study area. It also determined the suitability of the descriptive analysis of the built form, based on the objectives of this research.
For this thesis, the assessment tool was developed by exploring and reviewing the existing visual assessments on urban design, ranging from checklists, participatory assessments and graphical techniques. While there are differences and similarities in measuring the physical characteristics, checklists and mapping are considered suitable for this study. A checklist captures the elements of design (Forsyth, Jacobson & Thering, 2010) and mapping captures the places or uses that relate to walkability and accessibility.

4.4.1 Assessment methods and instruments in comparison

There are many walkability as well as accessibility assessment tools available. Yet these vary in terms of measurement and the presentation of results. One classic method of assessing walkability is to examine the actual presence of people, where human beings walk on the streets (Soderstrom, 2008). This is used in current walkability measurements found in the literature. While looking at the presence of people, this thesis does not intend to count and provide the figures, merely looking at presence as an indication of use.

While collecting the existing accessibility measurement methods, studies have shown that using secondary data sources, such as Google Street View, can be appropriate and efficient sources for obtaining data on the physical environment particularly for inventory. In other words, many physical environmental features related to walkability can be measured without in-person observation (Lee & Talen, 2014). The first attempt during data collection in 2014 to 2015 to obtain such data resulted in identifying that only the best-known streets, for example Kuta Street in Bali, are available. Therefore, Google Street View was unsuitable for this study. A second attempt, made in 2017, showed some street segments were available but again these were only for public roads. For the study area of this thesis, particularly private roads within housing estates and kampung in Indonesia, the data are still very limited. Another concern exists, however, regarding the time when the images were collected. This may not be similar between places, making these images incomparable for the purpose of pedestrian and children mobility observations and unsuitable for this thesis.
In terms of assessing the walkability of neighbourhoods, Lee and Talen (2014) reviewed micro-scale evaluation methods that characterise the quality of walkability and built environments using indicators generally collected through on-foot surveys of neighbourhoods (Day, Boarnet, Alfonzo & Forsyth, 2006). While it is common to assess a neighbourhood by scoring the variables, the assessments for this study are not presented in scores or indexes that reflect whether the area has low or high walkability in aggregate. Instead, it dissects descriptive images that exhibit the physical characteristics found. It highlights the following elements: what will you find if you decided to walk. Despite the options being intact, the kinds of conditions that are found must be described and analysed. The images describe the travel options available, not only for the resident but also for the wider public. Due to the way of presenting the results, it is then useful to focus on established assessment methods that use qualitative measurement.

From the existing qualitative assessment tools (see Table 4.3), some were found to be very useful and suitable for assessing the neighbourhood characteristics in the northwest suburb of Bandung. One of the earliest qualitative methods of walkability established is the Systematic Pedestrian and Cycling Environment Scan (SPACES) developed by Pikora et al. (2000) for metropolitan Perth42. It identifies 37 indicators of neighbourhood characteristics to be assessed for both sides of a street segment, defined as a section of street between two intersections. The assessment records the mixed uses found on the segment while providing a visual description of neighbourhood characteristics as guide for categorical records of pathways, kerbs, slopes, frontages and trees. It also records the observers’ perceptions of the segment’s level of attractiveness and physical difficulty for walking.

42 https://activelivingresearch.org/systematic-pedestrian-and-cycling-environmental-scan-spaces-instrument
### Walkability assessment tools

<table>
<thead>
<tr>
<th>No</th>
<th>Walkability assessment tools</th>
<th>Description</th>
<th>Suitability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Systematic Pedestrian and Cycling Environment Scan (SPACES)</td>
<td>Research audit tool to assess the physical environment in local neighbourhoods for walking and cycling. It estimated that an observer can collect information from 1 kilometer in approximately 40 minutes. It assess street segments and contains 37 items including: Types of buildings and features; A general assessment of paths; A general street assessment; and Perceived attractiveness and difficulty for walking and cycling.</td>
<td>Types being measured for land use diversity is not detailed instead of looking at the main use found on street segment. Do not measure sidewalk width.</td>
</tr>
<tr>
<td>2</td>
<td>Pedestrian Environment Scan (Peds) Tool</td>
<td>It measures environmental features that relate to walking in varied environments in the US based on SPACES but differs in terms of way of measuring the street segment. Instead of mapping both sides of streets like SPACES, Peds require the observer to firstly walk carefully and look at every direction without filling in the form. Observers could fill in the form during the second walk.</td>
<td>Path obstructions is very useful remembering that motorized vehicles sometime parked on sidewalks. Include final subjective assessment of observer on attractiveness of segment to walk.</td>
</tr>
<tr>
<td>3</td>
<td>Neighborhood Environment Walkability Scale (NEWS)</td>
<td>NEWS assesses residents' perception of neighborhood design features related to physical activity, including residential density, land use mix (including both indices of proximity and accessibility), street connectivity, infrastructure for walking/cycling, neighborhood aesthetics, traffic and crime safety, and neighborhood satisfaction.</td>
<td>Unsuitable for use by observers</td>
</tr>
<tr>
<td>4</td>
<td>Global walkability index</td>
<td>It consists of a field walkability survey to assess pedestrian infrastructure in four areas: commercial, residential, educational, and public transport terminals. The survey also identified pedestrian preferences, and analyzes government policies and institutional setup.</td>
<td>Has been modified by CAI for Asian context</td>
</tr>
<tr>
<td>5</td>
<td>Walkability Audit Tool</td>
<td>Developed by the Government of Western Australia. There are similarity of indicators with SPACES but using different format.</td>
<td>Lack in measuring land use diversity</td>
</tr>
<tr>
<td>6</td>
<td>Land Transport New Zealand Walkability Tool</td>
<td>Focuses on technical requirements for pedestrians.</td>
<td>Lack in measuring land use diversity</td>
</tr>
<tr>
<td>7</td>
<td>Analytic and Checklist Audit Tools</td>
<td>It measure street segments that differs mode of data collection by tool, auto, and both; to understand the relationships between street-scale environments and rates of physical activity. Features of the street-scale environment include types of destinations, sidewalk quality, presence of litter and graffiti, presence of trees, availability of public transit, and types of recreational destinations.</td>
<td>Types being measured for land use diversity is very detailed yet is based on visibility from street segment, hence might not be appropriate for due to gates and location at adjacent. Availability of alternative transportation modes is not defined clearly? Measure the sidewalk width would be useful in comparison to amount of people visible on the street segments and how they might use the sidewalk.</td>
</tr>
<tr>
<td>8</td>
<td>Walking and Bicycling Suitability Assessment (WABSA)</td>
<td>Audits the walkability and bikeability of urban streets.</td>
<td>Not detailed enough in capturing the characteristics on accessibility and walkability instead of merely as preliminary assessment added with annual average daily traffic figure</td>
</tr>
<tr>
<td>9</td>
<td>Path Environment Audit Tool (PEAT)</td>
<td>Focuses on amenities.</td>
<td>Lack in land use diversity</td>
</tr>
<tr>
<td>10</td>
<td>City of Kansas Walkability Measure</td>
<td>Measures five pedestrian level of service as follows: Directness – does the network provide the shortest possible route?; Continuity – is the network free from gaps and barriers?; Street Crossings – can the pedestrian safely cross streets?; Visual Interest and Amenities – is the environment attractive and comfortable?; Security – is the environment secure and well lighted with good line of sight to see the pedestrian?</td>
<td>Similar to SPACES and Peds but in particular is useful in presenting analysis result in descriptive maps and continuity of sidewalk.</td>
</tr>
<tr>
<td>11</td>
<td>Walkable America</td>
<td>Brief one-page check list form designed to assess walkability and bikeability in the local neighbourhood. developed by the Pedestrian Safety Centre in the United States. The walkability checklist includes questions about: footpath presence and condition; ease of crossing streets; behaviour of drivers; ease of complying with safety rules; and aesthetics.</td>
<td>Not detailed enough in capturing the characteristics on accessibility and walkability instead of merely as preliminary assessment</td>
</tr>
<tr>
<td>12</td>
<td>Active Neighborhood Checklist</td>
<td>An observational tool designed to assess key street-level features of the neighborhood environment that are thought to be related to physical activity behaviour. It assesses five general areas: land use, public transit stops, street characteristics, quality of the environment for a pedestrian, and places to walk and bicycle. Similar method with Peds</td>
<td>Similar to SPACES and Peds</td>
</tr>
<tr>
<td>13</td>
<td>Pins3 Neighborhood Audit Instrument</td>
<td>Developed from SPACES, it assesses street-level characteristics that may be related to walking and bicycling. The instrument objectively measures the following: arterial road or thoroughfare, walkable neighborhood, physical incivilities, and decoration.</td>
<td>Added presence of people.</td>
</tr>
<tr>
<td>14</td>
<td>Clean Air for Asian Cities (CAI-Asia) Walkability Assessment Tool</td>
<td>Walkability report on 13 Asian Cities published by the Asian Development Bank and the Clean Air Initiative for Asian Cities.A modified version of the Global Walkability Index . This tool includes number of people walking (pedestrian count) during the time of the survey and the length of the stretch being surveyed due to eliminate the inherent bias generated by the number of people walking on a certain stretch and its length.</td>
<td>Very useful in assessing Asian context while providing a descriptives photos of variables being assessed</td>
</tr>
<tr>
<td>15</td>
<td>Walkability assessment by Lo (2011)</td>
<td>Modified the walkability assessment developed by Park (2008) to measure Transit Users’ Mode Choice and Walking Distance to the Station to suit the condition in Indonesia</td>
<td>Very useful in assessing the specific Indonesian context</td>
</tr>
<tr>
<td>16</td>
<td>Measuring Urban Design Qualities—An Illustrated Field Manual</td>
<td>Assess quality of street space based on urban design and use photo analysis</td>
<td>Suitable to look at safety concerns. Useful in photo analysis on nuances of streets from human scale views</td>
</tr>
</tbody>
</table>

*Table 4.3 The suitability of established walkability assessment tools*
Table 4.4 Parameters of travel options and the chosen established walkability assessment tools

<table>
<thead>
<tr>
<th>Travel choices parameters</th>
<th>Measurement</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>persons or houses per land area</td>
<td>Cervero and Kockelman, 1997</td>
</tr>
<tr>
<td>Diversity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance</td>
<td>Radius catchment walkable</td>
<td>0.8 km</td>
</tr>
<tr>
<td></td>
<td>Street or network distance</td>
<td>Handy &amp; Clifton, 1998, 2001; Hess, Moudon, Snyder, Stanilo, 1999</td>
</tr>
<tr>
<td></td>
<td>Mixed uses location amount per land area</td>
<td>Handy, 1992, 1996; Handy &amp; Clifton, 1998, 2001; Hoehner, Ramirez, Elliott, Handy, &amp; Browson, 2005; Khattak &amp; Rodriguez, 2005; Rodriguez, Khattak, &amp; Evenson, 2006; Cao, Mokhtarian, &amp; Handy, 2009</td>
</tr>
<tr>
<td></td>
<td>Level of attractiveness on uses perception</td>
<td>1-5 scale</td>
</tr>
<tr>
<td></td>
<td>Walkability connectivity by proportion of streets</td>
<td>Hess, Moudon, Snyder, Stanilo, 1999; Krambeck, 2006</td>
</tr>
<tr>
<td></td>
<td>Sidewalk width</td>
<td>Lands, 2001; Hoehner, Ramirez, Elliott, Handy, &amp; Browson, 2005; Park, 2008</td>
</tr>
<tr>
<td></td>
<td>Cleanliness</td>
<td>1-5 scale, presence of open sewers, littering, graffiti</td>
</tr>
<tr>
<td></td>
<td>Pavement material</td>
<td>1-5 scale</td>
</tr>
<tr>
<td></td>
<td>Kerb height</td>
<td>1-5 scale</td>
</tr>
<tr>
<td></td>
<td>Obstructions</td>
<td>1-5 scale</td>
</tr>
<tr>
<td></td>
<td>In relation to building height and setback</td>
<td>1-5 scale</td>
</tr>
<tr>
<td></td>
<td>Uses amount of pedestrian static use 1-5 scale</td>
<td>Lo, 2011</td>
</tr>
<tr>
<td></td>
<td>Street layout block size length x wide</td>
<td>Hess, Moudon, Snyder, Stanilo, 1999; Frank, Schmid, Sallis, Chapman &amp; Saelens, 2005</td>
</tr>
<tr>
<td></td>
<td>Proportion of four-way intersections percentage</td>
<td>Boarnet &amp; Sarmiento, 1998</td>
</tr>
<tr>
<td></td>
<td>Gateway or portals location</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pedestrian Access location and distance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Traffic calming elements location</td>
<td>Boarnet, 2003; Ewing, 2005; Park, 2008</td>
</tr>
<tr>
<td></td>
<td>Safety modal conflict</td>
<td>1-5 scale</td>
</tr>
<tr>
<td></td>
<td>In relation to street width measured by number of lanes or meter</td>
<td>Lamont, 2003; Boarnet, 2003; Emery, 2003</td>
</tr>
<tr>
<td></td>
<td>Motorist behaviour yielding to pedestrians 1-5 scale</td>
<td>Krambeck, 2006</td>
</tr>
<tr>
<td></td>
<td>Crossings presence and distance</td>
<td>Hess, Moudon, Snyder, Stanilo, 1999; Krambeck, 2006; Kelly, Tight, Hodgson, &amp; Page, 2011</td>
</tr>
<tr>
<td></td>
<td>Traffic volume amount per hour</td>
<td>Kelly, Tight, Hodgson, &amp; Page, 2011</td>
</tr>
<tr>
<td></td>
<td>Amenities buses average number per km of road</td>
<td>Jacobs, 1993; Hoehner, Ramirez, Elliott, Handy, &amp; Browson, 2005; Krambeck, 2006; Park, 2008</td>
</tr>
<tr>
<td></td>
<td>Shades bench</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Security perception from crime</td>
<td>Krambeck, 2006</td>
</tr>
<tr>
<td></td>
<td>Frontage transparency level of building transparency 1-5 scale</td>
<td>Jacobs, 1999; Lamont, 2003; Boarnet, 2003; Park, 2008</td>
</tr>
<tr>
<td></td>
<td>Street lighting light coverage 1-5 scale</td>
<td>Kelly, Tight, Hodgson, &amp; Page, 2011</td>
</tr>
<tr>
<td></td>
<td>Connectivity to transit meter location of bus stops</td>
<td>Handy, 1996; Meurs &amp; Haaster, 2001; Hoehner, Ramirez, Elliott, Handy, &amp; Browson, 2005; Khattak &amp; Rodriguez, 2005; Schwane &amp; Mokhtarian, 2005; Rodriguez, Khattak, &amp; Evenson, 2006</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Reference Tools</th>
</tr>
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<tbody>
<tr>
<td>Global</td>
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<tr>
<td>-----------------</td>
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<tr>
<td>Y</td>
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<tr>
<td>Y</td>
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<td>Y</td>
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<td>Y</td>
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<td>Y</td>
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</tbody>
</table>
SPACES was then modified for use in the US and was renamed PEDS (Clifton & Handy, 2001). PEDS assesses street segments differently, based on the traffic volume, where a low volume road is audited on both sides and a high volume road is audited only on one side. PEDS identifies 39 indicators by replacing a few and adding the categories of medium-high traffic volume, degree of enclosure, building height and setbacks, also identifying temporary obstructions made by parked cars on the original SPACES indicators.

Another modified version of SPACES, PIN3 Neighbourhood Audit Instrument was developed by Evenson et al. (2009) in collaboration with Caughey et al.’s (2001) neighbourhood measurement. PIN3 assess 43 indicators, which includes a category of visible people and the presence of porches and types of front yards. In the end, the modification of SPACES has added the following elements: visible people and the presence of porches, degree of enclosure, building height and setbacks, and temporary obstructions made by parked cars. In proposing the instrument for this study, both PEDS and PIN3 are compared to the literature (see Table 4.4). Yet considering how it has been developed for measurement in Australia and US, this instrument may not be suitable for the Asian context.

Meanwhile there are assessment tools that have been used to assess the Asian context: Clean Air for Asian Cities Walkability Assessment Tool (CAI) and the assessment method undertaken in Lo’s (2011) study. CAI is a modified version of the Global Walkability Index (GWI), which was originally developed by Krambeck (2006). It consists of a field walkability survey, a pedestrian preference survey, and stakeholder survey instruments. For this study, only the walkability survey instrument and the measurement are discussed. CAI uses a one-to-five categorical rating based on the images provided as guiding examples. CAI captures the characteristics of pathways, amenities, and pedestrian safety concerns by acknowledging the possibility of conditions when such characteristics are not necessarily required, such as controlled crossings when pedestrians can cross safely wherever they like, with vehicles and pedestrians coexisting. Apart from capturing the travel related context in developing Asian
cities, CAI is likely to be more suitable for urban areas and lacks adaptable instruments that can capture the Asian traditional neighbourhood characteristics—hence needs modification. Lo (2011) adopted the instrument developed by Park (2008), which was informed largely by the literature on urban design. Lo (2011) have been successful in mapping the street hawkers, in addition to Park’s method of combining the building height and setbacks to analyse the neighbourhood characteristics in street sections, along with more detailed categories of frontage transparency. Both of these instruments are thus identified as suitable for modification in order to assess the walkability of housing estates in suburban Bandung.

4.4.2 The applied assessment instrument

Four assessment instruments discussed in the previous section were combined and modified to capture the physical characteristics of housing estate form found specifically in the northwest suburb of Bandung. Notably, instead of quantifying the assessment result, I will provide descriptive images as a method of analysis. Photos, maps and street sections will describe the neighbourhood’s physical characteristics assessed (see Table 4.5). The proposed assessment tool has been guided by the four established instruments and the literature to define the parameters and the visual examples, so the parameters can be qualitatively assessed, but a number of alterations to the protocols, parameters, measurement and analysis have been made.

The protocol is not to assess each street segment, as occurs in most other instruments, but rather to assess housing estates. As such, the designed physical characteristics are usually typical and hierarchical for residential streets. These are also available from site plan drawings. The parameters are mapped by surveying the housing estate and its adjacent areas within a walkable radius catchment area on foot as well as by car. The parameters have been modified in a few ways: 1) the level of attractiveness of uses, motorist behaviour, and perceptions of crime are replaced because they are not able to be observed directly by looking at physical characteristics or presence, instead of surveying
the residents; 2) street hawkers’ presence, gateways or portals, and pedestrian access were added as they apply in the context of the study area; 3) street hawkers, uses of footpaths, and traffic volume parameters that are not physical characters but are likely affected by design decisions are included; 4) cleanliness and obstructions are included to enrich capturing the walkable environment conditions. The measurement changes are made to comply with an analysis method that uses descriptive images. The chosen parameters (see Table 4.5) are then transferred into an assessment tool (provided in the appendix).

<table>
<thead>
<tr>
<th>Table 4.5 The chosen parameters for assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel choices parameters</td>
</tr>
<tr>
<td>Street layout</td>
</tr>
<tr>
<td>Proportion of four-way intersections</td>
</tr>
<tr>
<td>Gateway or portals</td>
</tr>
<tr>
<td>Pedestrian Access</td>
</tr>
<tr>
<td>Traffic calming elements</td>
</tr>
<tr>
<td>Design</td>
</tr>
<tr>
<td>motorist behaviour</td>
</tr>
<tr>
<td>crossings</td>
</tr>
<tr>
<td>traffic volume</td>
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<tr>
<td>Amenities</td>
</tr>
<tr>
<td>roof shades</td>
</tr>
<tr>
<td>bench</td>
</tr>
<tr>
<td>Security</td>
</tr>
<tr>
<td>from crime</td>
</tr>
<tr>
<td>street lighting</td>
</tr>
<tr>
<td>Connectivity</td>
</tr>
</tbody>
</table>

As the literature review in Chapter 2 described, the specific context made by the patterns of kampung and housing estates in suburban Bandung may be beneficial to walkability and accessibility. The chosen parameters are useful for capturing the spatial, economic and cultural characteristics. However, some
challenges were identified during data collection; not all the chosen parameters were relevant or useful. These include block size, the proportions of four-way intersections, crossings, street lighting, and benches. Block size and the proportions of four-way intersections are quantitative and thus were not useful for describing the qualitative measurement of residential environment sought here. Street lighting was not relevant as the observations took place during the day and the travel behaviour in this thesis does not include travel at night. Benches were not relevant as the residential streets being observed are private and do not provide benches for people to sit on while enjoying scenery or waiting for transport.

5. Conclusions
In seeking an in-depth and nuanced understanding of the shaping housing estate forms, a suitable model involves case studies paired with an interpretive approach. The methodology chosen was designed to: 1) assess the extent of the problem of lack of walkability and accessibility in housing estates; 2) establish how the planning process allows this to occur; 3) investigate the views of planners and developers; and 4) enable conclusions to be drawn.

This research has gathered and analysed three groups of data: walkability and accessibility assessments, policy documents, and interview records. Informed by the literature, the synthesis of this research will focus on: 1) the role of the planning process and planners; 2) the role and influence of developers; 3) the changing demands for housing estates and; 4) what the impact of this has been on walkability and accessibility. Taking walkability and accessibility as the unit of analysis, this study has incorporated the social, economic and cultural contexts to understand how travel options differ between places and how the form of housing estates has specific effects on walkability and accessibility, not only for its residents but also for the public in general.
Chapter 5 The Form of Housing Estates in Bandung’s Northwest Suburb

This chapter presents stage one of the empirical study, which explored the different ways that housing estates placed limits on walkability and accessibility. Guided by the first and second sub-questions: ‘What is the form of new housing estates in Indonesia and particularly suburban Bandung?’; What implications do they have for walkability and accessibility? This chapter begins by discussing the key spatial and physical characteristics (e.g., walls, gates and street layout) of a mix of 14 older and newer housing estates. This is to systematically test the impression that new estates are reducing walkability and accessibility. A comparison is made between housing estates built in the past one-and-a-half decades\(^{43}\) to older housing estates built in the 1990s. This comparison will identify the factors shaping the characteristics of these estates.

Framed by the socio-cultural context in the northwest suburb of metropolitan Bandung, walkability and accessibility assessments will be described for a sub-set of four housing estates. The data collected provide an illustration of the common characteristics found, and those that were missing. The observations were undertaken twice on each estate: once on a weekday and once on the weekend, between 7 am and 10 am. They capture the presence of pedestrians and street hawkers. It should be noted that as the data collection coincided with school holidays, this may have affected the results relating to children’s presence.

In terms of methods, the findings discussed in this chapter were obtained from on-site assessments that were comprised of a descriptive inventory of items included in the site observation checklist. As discussed in Chapter 4, informed by the literature on walkable design, the instrument for assessments was developed by combining and adapting existing walkability instruments. This was done for

\(^{43}\) As data were collected in 2015, housing estates built in 2000 onwards are considered newly built.
two reasons. The assessments were not intended to provide an index but to describe the key spatial and physical characteristics visually. The assessments were also intended to capture the social and cultural specificity of the northwest Bandung suburb.

5.1 Bandung Metropolitan Area and the Northwest Suburb

In searching for an answer to the overarching research question, it is crucial to first understand the planning context found in the study area. To understand the complexity of the planning practices and processes shaping form of housing estates, descriptions of the Bandung metropolitan area and the Indonesian planning context are indispensable.

![Figure 5.1 The northwest suburb of Metropolitan Bandung](image)

With automobile-oriented transportation policies, Newman and Kenworthy (1999) argue that Asian cities (including Indonesia) arguably require little change
to their urban form to reduce automobile dependency due to being considerably denser than Australian and North American cities. However, urban expansion in metropolitan Bandung (as will be discussed shortly) is characterised by suburban housing estates with less connectivity, which means that although the city is denser, uses are not well connected and within walkable distances. Social segregation heightened by gated communities making changing the urban form might not be as simple as argued above.

Metropolitan Bandung, as the third largest metropolitan region in Indonesia, is inhabited by nearly eight million people, with an urban density of 14,736 and 14,745 people per sqkm in the Bandung and Cimahi municipalities respectively (BPS-West Java, 2015). Since 1980, the area has expanded four times due to a growing population and now spans more than 30 kms (see Figure 5.1). In metropolitan Bandung, the northwest suburbs have a density that varies from almost 11,000 to 16,000 individuals per sqkm (BPS-Cimahi, 2010; BPS-West Java, 2010). Based on the available marketing brochures and personal observation, the new houses are built to have 36 to 80 sqm of space on 70 to 200 sqm sized lots. New housing estates can contain up to four times the number of houses built in the early 1990s, as lot sizes have been reduced from the previous 200 to 300 sqm to become 70 to 200 sqm. Assuming that a new housing estate would have a one Ha size, with an average lot size of 100 sqm and one-fifth of the area for streets and facilities, then the new housing estate would have a density of 80

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This spatial expansion makes Bandung municipality, Cimahi municipality (jurisdiction boundaries shown in Figure 5.1 upper map and left lower map respectively), Bandung Barat district and Bandung district became four jurisdictions which together form Bandung Metropolitan Area. While the most densely populated areas could be found in Bandung and Cimahi municipalities, this thesis focuses on the rapidly growing interfacing area on the northwest suburb of metropolitan Bandung that consists of Cimahi municipality and a part of Bandung Barat district (see Figure 5.1 lower right map). Cimahi, located at the northwest part of metropolitan Bandung gained the municipality level status in 2001 as result of Indonesia’s decentralization reform. Compared to Bandung, Cimahi is a city with much smaller area (merely 20 per cent of Bandung area) yet it has comparable high density and more rapid pace of urbanization within the past two decades. Combined with the completion of a toll road to the capital city Jakarta in the early 2000s, development in this city led to an increase of property prices of up to 200 per cent within the past ten years.
units per Ha. If this is assumed to include kampung, then the density would have increased significantly.

In 2012, total private vehicle ownership in the Bandung and Cimahi municipalities was 306,070 cars and 1,058,365 motorbikes (BPS-Bandung, 2015; BPS-West Java, 2012), which equates to 105 cars and 360 motorbikes per thousand people. Considering that the average household size in Indonesia is four persons, on average each household has at least one motorbike. Additionally, almost half of these households also own a car and another motorbike—so a household may have three private vehicles. Notwithstanding the worrying figures on automobile dependence, vehicle ownership is still increasing rapidly as the statistics in 2016 show: 497,400 cars and 1,499,753 motorbikes ownership in Bandung and Cimahi (BPS-West Java, 2016). The figures show a growth of 62 per cent and 41 per cent over four years for car and motorbike ownership, respectively. Even with a population increase, vehicle ownership of 124 cars and 436 motorbikes per thousand people suggests a greater dependence on automobiles. While three-quarters of the households own a car, each household now owns two or more motorbikes.45

In terms of travel options in metropolitan Bandung, trains and buses are available, but with very limited routes. The common form of public transportation available is mini-buses; these are private and individually owned as paratransit. The mini-buses operated without fixed schedules and stops (Joewono & Kubota, 2007), despite regularised routes initiated by the local government.46 Similarly to other privately owned vehicles, the drivers (not

45 This figure is comparable to the rate of motorbike ownership in Hanoi, Vietnam, with two and a half motorbikes per household—a city infamous for its sheer number of motorbikes (Hansen, 2016).

46 There are 68 routes regulated by Bandung municipality and 23 routes regulated by Cimahi municipality. Because para-transits are privately owned, the schedule largely varied. However, para-transits serving the main roads can be found all day and night despite being infrequent and low in number. This could be because of their use late at night and up till dawn due to the presence of traditional markets. The green grocers who operate as street hawkers (tukang sayur) usually ride these para-transits to get supplies from the traditional markets.
necessarily the owners) can easily abandon passengers at any point (Tarigan, Susilo & Joewono, 2014), or *ngëtem* (a slang Sundanese term for waiting at one stop for a period of time which may take half an hour or more for *angkot* to achieve full capacity). These characteristics contribute to increased private mobility, along with the fact that private vehicles have become more affordable for the middle-class.

Lo (2010) argues that historically, Indonesian deregulation of low import taxes, inexpensive vehicles and more accessible consumer loans has resulted in a boom in car and motorbike ownership. As also evidenced in China and India, people are likely to abandon non-motorised vehicles as soon as motorbikes or cars become economically feasible (Midgley, 1994). Other than these factors, the low price of gasoline, particularly in the 1990s, has undoubtedly affected automobile dependency due to increased affordability. This affordability, according to Banister (2005) is fraught with challenges. Due to the limited road space, city roads in developing countries become more congested with higher levels of car ownership when compared to North American and Australian cities (Banister, 2005).

Through the perspective of form and travel, Leisch (2002) acknowledges that Indonesian estate development follows the American concept; hence, it is possible to experience the same history of travel consequences (that is, high automobile dependency). The preferred use and ownership of motorbikes instead of cars, as found in Indonesia as well as other Southeast Asian countries, is also affected by cultural lifestyle (Hansen, 2016; Tien-Pen, Sadullah & Dao, 2003). Motorbikes, which ‘feed on traffic congestion as a condition for their existence’ (Kusno, 2016, p. 53), allow manoeuvres that are very useful in the network of the narrow streets and pathways found in Southeast Asian cities and they do not require large parking spaces, being easy to park on street footpaths (Hansen, 2016; Tien-Pen et al., 2003). In relation to the traditional form of house with no garage, motorbikes can be parked on terraces or even inside the house. It is then unsurprising that more people are buying motorbikes, and streets are
widened to facilitate more private motorised traffic at the cost of pedestrian footpaths (Lo, 2011).

However, the spatial and social contexts of informality in Indonesia that may make a difference to travel behaviour enable possibilities. Options exist that may afford changes from the use of private motorised vehicles towards the alternative of walking: these are described in the following sections.

5.2 The Built Form of Housing Estates

The locations of each case study in this research are dispersed (shown as the yellow overlay in Figure 5.2). Four of the cases are located in the far north and six in the southern area. Most housing estates built in the last decade are in the north and are relatively smaller in size, whereas the southern area contains mostly older and larger housing estates. From the identified spatial pattern, the difference between the organised and the seemingly unorganised patterns of roads and buildings shows that kampung are present amid housing estates, fields and vacant land. This pattern is unique to the nature of housing estate development in Indonesia (Kusno, 2000; Leaf, 1996; Lesich, 2002); as such, I also include these characteristics in the discussions.

As the density of the built-up area lessens gradually in the northern part, dwelling units in kampung, as well as the housing estates, are still found among the green fields. This is due to the livelihood of native kampung dwellers, who rely on seasonal farming. Even though initially it may contain only a small number of dwelling units, a kampung is likely to expand spatially as migration from rural to urban areas occurs in the process of urbanisation (Firman, 2000; Firman et al., 2007; Ignasia, 2008; Reerink & van Gelder, 2010).
Figure 5.2 Cases of housing estates being assessed and/or whose developers interviewed
As physical development increases the density, these pockets of *kampung* are increasing as well. Rural migrants usually reside in these *kampung* and obtain their livelihoods through informal activities. Other than the option of being street hawkers or seasonal farmers, they may work as domestic cleaners, gardeners, laundrywomen, servants, nannies, or even builders. They usually offer their services to the housing estate residents on an occasional, daily or weekly basis. Nonetheless, in relation to uses, *warung* is the most common use in residential areas—*kampung* as well as housing estates.

**5.2.1 Gated, cluster, cul-de-sac, and in-between: The characteristics of housing estates**

Over the past two decades, newly built housing estates in the northwest suburb of metropolitan Bandung have been characterised by their distinctive gates and walls. In the last decade however, the housing estates have been built to a smaller scale and are commonly referred to as clusters or cul-de-sacs. In reflecting its European and North American origins, the term ‘cluster’ describes an efficient pattern of land that can accommodate more green spaces, as the houses are grouped tightly in pods. These pods become parts of a larger estate that manages the whole entity (Whyte, 1964). In Indonesia, however, the cluster has been adapted to have different meanings. It is used to represent several houses (from tens to hundreds), but the pod exists independently. In addition, the lots within a cluster are usually built with high walls on the rear and low walls on the sides, yet with no fences at the front.

The interview data reveals that clusters have been the dominant housing estate form since the mid-2000s. This contrasts to the boom period in the late 1980s to the early 1990s, when housing estates were built to contain hundreds of houses. Today, it is rare to find new estates with such large numbers of houses. In terms of location, new estates are built as in-fill development and they are found further north. Arguably, this is due to the significant factors of site topography and land availability at the northern part of this suburb (to be discussed in Chapter 7).
As shown in Figure 5.3, one cluster in this suburb contains 65 houses. The only access point into this cluster is through a gate with a guard post. It is surrounded by perimeter walls which are made from the rear walls of each lot. The streets are walled and gated, and some have dead-ends. Even though there are two potential points to connect the housing estate and adjacent *kampung* (marked by ‘x’), these points are instead cut off by walls, which according to the interviews have several purposes (to be discussed in Chapter 7). As a result, especially for the estate residents who live at the far-end of the cluster, a cul-de-sac-like effect on travel is created, through increasing the distance to travel on foot. As fewer houses are present, along with a smaller population base, the estate did not reach the threshold required to initiate the delivery of new amenities.\(^47\) The limited amenities that are provided usually comprises of green open spaces and a playground or little mosque.

\(^{47}\) Economies of scale and facilities provision within housing estates (from developers’ perspectives) are discussed in Section 7.2.
Despite the name, clusters have defining physical characters that show similarities with gated communities: restricted access, gates, guarded entrances, and walls (Blakely & Snyder, 1997, 1998a, 1998b; Roitman et al., 2010). As shown in Figure 5.4, many housing estates have a single entry point with elaborate signs, many of which were built prior to the construction of housing (bottom-left photo). Some housing estates may have more than one entry point, but some can be made unavailable for entry by locking the padlock on the gate or portal (upper photos). This signifies that the housing estate is a private space.

Figure 5.4 Gates, portals, guarding posts and elaborate signs of housing estates

Housing estates are also made restrictive by employing a guard who opens and closes the gate every time someone comes in or out, preventing penetration by non-residents (aligning with the social character of gated communities) (Marcuse, 1997; Roitman et al., 2010). Yet, although these fences and gates look intimidating, outsiders are not actually prohibited from entry. During observations, not one person was asked for identification by the guards. Guards
also do not ask which house visitors are seeking. Instead, the visitors voluntarily talk to the guards to ask for an exact address, for example when visiting a relative or delivering a parcel. The presence and movements of outsiders can however be observed by the security guards. This kind of surveillance represents symbolic surveillance, as termed by Hun (2002), for housing estates in Indonesia.

On other occasions during my observations, the guard posts and portals were not staffed and kept open (bottom-right photo). Based on such use, the gates and guards appear merely to differentiate middle-class from lower-class people. The need to be able to identify the lower-class is arguably based on its association with *kampung* dwellers and for security reasons. As such, there is no possible way to distinguish anybody else from the residents, as long as one appears to belong in the middle-class. From these observations, it could be argued that gates exist to give a perceived advantage of exclusivity.

As Figure 5.5 shows, the perimeter walls surrounding the housing estate physically demarcate private from public space. This is indicated in the middle photograph that shows an early phase of construction: walls and streets are two of the first elements built by developers. The *kampung* is clearly confined, as seen in the upper and middle photographs. Ironically, as seen in the bottom photographs of a fully constructed housing estate, sometimes what is left between housing estates is only a street lined by two- to three-metre-high solid walls—seemingly a smaller version of a fort.

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48 The author entered many housing estates by car and just waved to the guards without having any kind of verbal communication.

49 Physical appearance that reflects the middle-class lifestyle may be seen with driving a car, dressing up neatly, holding smart phones.
In relation to travel, these walls create what Duany et al. (2000) refer to as the paradox of distinction between adjacency and accessibility. This paradox is worth mentioning to show how close two places might be without being linked directly. The destinations of daily life are often next to each other, within a radius of less than 400 metres, as suggested by the term ‘adjacency’. However, few are easy to reach. As an extreme case, one might have to take an automobile to reach these destinations because the shortest paths along the street network require a
walking time of nearly 30 minutes. As will become apparent in Section 5.3.1, while destinations located in an adjacent area within the walking radius could have been reached easily on foot, the street layout made this impossible, instead creating longer travel distances (including lengthy detours shaped by cul-de-sacs and long blocks). Due to the privatisation of what should have been highly connected public roads, further travel is required just to get out of the estate, let alone reach certain destinations.

In terms of walkability, the perimeter walls of housing estates are not pedestrian friendly. These walls are too high, usually more than 2 meters and some may be 6 meters. The height depends on storeys of the houses where the walls sometimes also serve as lot ownership boundaries. Additionally, openings of any kind are absent. Openings in walls provide a pleasant experience that entices people to walk, such as shop windows and doors (Forsyth & Southworth; 2008; Forsyth et al., 2008; Joh et al., 2012). Openings and frontage transparency as such is important for walkability: more ‘eyes on the street’ increases the natural surveillance that occurs with the presence of people behind openings (Hoehner et al., 2005; Jacobs, 1993a; Krambeck, 2006; Newman, 1973; Pikora et al., 2000). Natural surveillance is argued to prevent crime by making potential offenders feel monitored by the presence of people on the streets, as well as from inside houses—in the end creates a sense of security (Jacobs, 1993a; Newman, 1973).

5.2.2 Wider relations to the kampung and existing network

Noting that housing estates tend to contrast with kampung, this section examines and describes how housing estates relate spatially to kampung and to the existing street network. In addition to discussions that dissect both the social and physical characteristics of kampung, pedestrian access points that usually lead to neighbouring kampung are explored. These access points contribute to the connectivity of housing estates as they create accessibility for some informal activities and establishments (i.e., street hawkers and warung). This section will explore these points.
Some housing estates, particularly the cluster, have no pedestrian links and yet others have multiple links. The form itself is varied: from just an opening in walls, to doors and gates (see Figure 5.7). Some access points are in poor condition. The upper-left photograph shows a one-metre-wide gate placed on a wall and connected with a one-metre-wide sloped bridge about one meter above a gutter. Even though the bridge is short, this is highly unsafe and mostly unusable, especially for children.

Figure 5.7 shows that gates are lockable and can prevent two-way access. Of all the case studies, two applied a curfew by locking the gates at 9pm and unlocking them at 5am. Looking at where handles and locks are placed, on the inside of the gate, suggests that the keys are held by estate residents or developers. This locking ability indicates a non-mutual positioning that places kampung dwellers lower than the estate residents. This is problematic, as kampung dwellers are dependent on the estate for through-access to allow travel along shorter paths.
Prior to examining the connections between housing estates and *kampung* further, it is necessary to consider the characteristics found in *kampung*. *Kampung* have always been the traditional Indonesian housing form. While they are generally associated with informality, they are not necessarily associated with poverty and slums. Instead, as Roy (2009b) argues and as I have discussed in Section 2.3, the informality within a *kampung* differs substantially from the slum landscape. This is also evident in several other dimensions, as the following paragraphs describe.
Figure 5.8 Mixed uses and dwellings found in _kampung_ that contain a wide range of low- and middle-class residents

In socio-economic terms, a _kampung_ does not only contain people with low incomes, but also middle-, if not upper-middle-class people (Ford, 1993; Kusno, 2000; Leaf, 1993). This is suggested by the presence of large houses, as seen in the upper photograph in Figure 5.8. Such houses are present as building large houses in a _kampung_ is more affordable than buying one in a housing estate. Additionally, having similar building materials and structures as those used in housing estates, a _kampung_ is not associated only with the lower classes. This is one reason that _kampung_ continue to survive to this day.

As also shown in Figure 5.8, some dwelling units within a _kampung_ can have multiple uses: as rental units and small shops or stalls to sell groceries, beverages or cooked meals. Most frequently, these activities occupy a small space within a house, perhaps nothing more than a shelf in a front room or on a front porch,
and require only part-time labour, along with the occasional help from a family member (often called warung) (Jellinek, 1991; Newberry, 2008).

Looking closely at the socio-cultural character of kampung, housing estates with connectivity to an adjacent kampung may benefit from this direct link. Other than warung, such benefits include street vendors and hawkers selling anything from plastic wares and groceries to cooked meals (see Figure 5.9). In the upper photograph, a street hawker is selling handmade cleaning supplies. The middle photograph shows vendors on wheeled carts selling cooked meals. The carts are stationed on a street sidewalk leading to the main gate of a housing estate. From the photograph, another street hawker is visible on a motorbike leaving the housing estate. Finally, the bottom photograph shows a mobile greengrocer serving three people on a street sidewalk (there was actually only one consumer: a young mother with her two servants, according to my conversation with them).

Street hawkers have experienced changing modes of transportation: previously walking with carts on their shoulders, to pushing wheeled carts, and finally driving motorbikes and cars. These changes indicate that they have adapted to how housing estates are built. Examining how they are present in even the least accessible housing estates, the street vendors’ and hawkers’ market coverage is no longer limited by distance, as long as they can afford a motorised vehicle to reach consumers who live further away. Additionally, these changes indicate that this informal activity is not only applicable to the lower classes.

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50 Mainly found on the city’s main roads, street vendors in cars are visible anywhere. Within residential areas, this kind of street vendor usually sells plasticware and cooked round tofu.
In terms of housing estate form, gates and walls do not seem to prohibit street vendors and hawkers from entering housing estates. Guards as well as the estate residents welcome them. Arguably, this is because they are considered beneficial for estate residents, as is evident from the residents who buy from them. This suggests that street hawkers will always be found in the residential areas of suburban Bandung. Yet, without (rental units in) kampung to live in, these street hawkers could not survive and be found working in housing estates.

Outside the perimeter of housing estates, a variety of uses (see Figure 5.10) are found along the corridors of the jalan desa (village road). The upper photograph
shows a corridor where tyre repair, hair dressing, cooked meals, dry goods, a copier, and rice are on offer by *kampung* dwellers. In the bottom photograph, a weekend market is found in an area adjacent to a lower-middle-class housing estate. This type of market also relies mainly on the presence of street hawkers, mostly selling vegetables, fruits, toys and cooked meals.

**Figure 5.10** Mixed uses and a weekend market found in the bordering area of housing estate

This situation signifies that street hawkers and *kampung* are relevant and will remain so into the future, as they are rooted in Indonesia's culture. The mixed use is a traditional character of Indonesian settlements. Nevertheless, it is endangered by a lack of community support to keep shops open because people travel in their cars and prefer to shop at the chain minimarkets (Sundari, 2015; Ziyan, 2016), rivals to the traditional markets and *warung* (with the latter mostly hidden within the *kampung* fabric).

Despite both being located in the suburb, the *kampung* has physical characteristics that contrast to those of the housing estates. As mentioned in Chapter 2, pathways or alleys in *kampung* are usually formed through local
cooperation between homeowners. The aim is to share land that is exempted from private development and instead given to public use. As this sharing is voluntary, it is common to find pathways less than a meter wide in some parts; these normally lead to a wider pathway in a crooked layout (see Rahmi, Wibisono & Setiawan [2001] for another example of an Indonesian kampung). Alleys, as shown Figure 5.10, may have a width of one to two metres.

Because of such arrangements in providing public paths, alleys usually operate as semi-public areas that extend from the dwelling units. While other kampung alleys may be used as kitchens where people cook with gas stoves (and wash their dishes) (Rahmi et al., 2001), alleys in the kampung I visited are either used as a place to dry clothes, park a motorbike or cart, or are equipped with terraces and low walls sometimes used as benches. A front yard may also be fenced with bamboo (as seen in the bottom-right photograph) or with iron (as seen in the upper-right photograph). Oriented towards the outdoor spaces, verandah or terraces become places to gather with neighbours (Mateo-Babiano & Ieda, 2007;
Rahaju, 2006; Rahmi et al., 2001). Often, children play while adults gather in the alleys (as seen in the right-side photographs in Figure 5.11).

In some spots, alleys with porches and benches are pleasant for walking along. Nevertheless, along with the development of housing estates (see the left-side photograph in Figure 5.11), perimeter walls are present. When these walls are erected by developers, they characterise not only the housing estate but also the kampung. Alleys are no longer pleasant for walking along, as pedestrians see an empty space with high walls, instead of people gathering on porches.

5.3 Travel Options Assessed

Having discussed the built form of housing estates, this section focuses on the walkability and accessibility assessment of the form. The discussion tries to clarify that the development of housing estates results in limited travel options for not only estate residents but also kampung dwellers. As such, the accessibility of housing estates is assessed by examining the variety of uses within the walking distance area, which includes those provided through the presence of street vendors and hawkers. The assessments are illustrated by an accessibility map, as well as photographs showing street sections, uses and activities. Regarding walkability, the assessment is based on observed travel and the physical characteristics of housing estates related to ease, security, safety and the pleasantness of walking.

5.3.1 Accessibility

To examine the accessibility of housing estates, four maps are provided and discussed here. Each map represents information on the boundary of the housing estate being assessed, any nearby housing estates, the main gate(s), pedestrian access points, portals, main roads, public transport routes and ojeg51

51 In suburban Bandung, owning a motorised vehicle is not merely a middle-class lifestyle. It could also offer an income by the owner becoming tukang ojeg—an informal motorbike driver
stations if present. Within a walkable radius, the map also provides the locations of schools, and any formal uses (including facilities provided by developers) and informal uses (including street hawkers and warung), as well as houses within the housing estate converted for commercial uses.

The first map (see Figure 5.12) is of a housing estate built in the 1980s; building was halted in 1997 due to the Asian financial crisis that occurred in the same year. Around 2010 however, the development was restarted by another firm that subdivided the unsold lots into several smaller sized lots. This housing estate has three gates, but only one is used daily. The other two are locked and unguarded. All three pedestrian access points, on the other hand, are always open. Residing around 20 metres from the public roads with a public transportation route (see bottom-left photograph in Figure 5.12), the estate residents may benefit from the many informal uses found along the roads in addition to the street hawkers who enter the housing estate.

In terms of formal use, within the estate there is only a sport hall that also operates as a community meeting room or wedding venue. The estate has no mosque, as one is available across the public road. There is one primary school and a carwash alongside this road. An ojeg station (shown in the bottom-right photograph in Figure 5.12) is located just outside the second main (locked) gate. All are within walking distance from the housing estate’s centre. Pedestrians and children were present in some segments of the housing estate (as seen in the upper and middle photographs in Figure 5.12).

who offer a transportation service similar to a taxi but without the meter; the cost is either determined by the driver or negotiated prior to any trip. These drivers usually gather on one location while waiting for passengers to come. Yet in the past few years, with the GOjek application (similar to UBER,) they no longer have to wait at a certain place.
Figure 5.12 Accessibility and walkability of housing estate BSW
With another case study (see Figure 5.13), development of the housing estate began in the 1980s and was finalised in the 1990s. This housing estate has three main guarded gates and one portal in the centre. It also has two pedestrian access points leading to the adjacent *kampung* (seen in the right-side photographs in Figure 5.13). This housing estate is surrounded by three main roads with public transportation. Many uses can be accessed along the main roads (bottom-left photograph in Figure 5.13) and in the *kampung* and are within walking distance. During the observations, a few street hawkers were found walking through the *kampung* alley as well as the private street. In terms of formal uses, a traditional market and sports field are within a walkable distance. This housing estate contains a mosque and shophouses located just before the main gate (see upper-left photograph in Figure 5.13). It is not unusual to have a considerable proportion of shophouses within a housing estate, particularly for those located along main roads. Yet, from an accessibility perspective, in most cases residents are left without many options apart from automobile travel. Despite a few residents converting their houses to operate as shops, a mixture of uses is rare within the estate.
Figure 5.13 Accessibility and walkability of housing estate KMS
Another housing estate has no perimeter walls and gates (see Figure 5.14). It was also built from the 1980s to the 1990s. The developer then built another housing estate, also without gates and walls, adjacent to this one. As time passed, these housing estates and the neighbouring settlements formed one continuous neighbourhood except for a few clusters nearby. As a result, two weekend markets are found within a walkable distance, selling fruits, vegetables and cooked meals as well as clothes (see the upper photograph in Figure 5.14). There is quite a lot of informal use, mostly located at the weekend market, despite this element appearing insignificant when looking at the map. Formal use within the estate is represented in a sports hall and a mosque, in addition to at least two chain minimarkets located within walking distance.

Located around 200 metres from the main public roads, with public transportation routes, this housing estate also has one public transportation route passing through it (see bottom photographs in Figure 5.14). Additionally, an *ojeg* station is present within the housing estate. The estate has quite a lot of through traffic, so it is unsurprising to find several portals intended to limit the traffic to the inner road segments. Presumably they were erected also in consideration of pedestrians and children’s safety, as they are present in many segments of the housing estate (as seen in the photographs in Figure 5.14).

In contrast, the newly built housing estates are in a poor condition in terms of accessibility and walkability (see Figure 5.15). The map shows two adjacent housing estates that had begun to be developed in the 2010s. In terms of scale, these are significantly smaller to the other case studies. Yet both have perimeter walls, one main guarded gate and no pedestrian access points (as seen in the upper and lower-left photographs in Figure 5.15).
These housing estates are located on a village road with no public transportation. The only route and an ojeg station are located more than one kilometre away in the south, where most of the informal uses are found (see middle-right photograph in Figure 5.15). Unlike the previously discussed cases where several travel options result from the existence of street hawkers, an
increasing physical distance is prevalent in this housing estate. Consequently, the residents here have few options other than private vehicles to undertake their daily activities, including shopping.

5.3.2 Walkability and observed travel

Moving on from accessibility, the discussion on walkability is undertaken in relation to four elements: safety, amenity, pleasantness and children’s mobility. These first three elements are considered complementary to accessibility, which involves the concept of distance between uses. While accessibility is the main determining factor for walking, as argued in the literature (Handy, 1996b), these elements also encourage walking. Children’s mobility is included within the discussions on walkability as one specific group of pedestrian which behavior requires attention.

Safety for walking is vital to ensure that pedestrians are prioritised through the parameters of modal conflict, motorist behaviour and traffic volume (Boarnet, 2003; Hess et al., 1999; Kelly et al., 2011; Krambeck, 2006). Pedestrians are easily found in both lower- and middle-class housing estates on weekend mornings (see Figure 5.16). By examining the parameters from both drivers’ and pedestrians’ behaviour, it seems that both are aware of the need to share the street space and respect each other’s presence. Drivers gave way to pedestrians, while pedestrians revealed their alertness by moving to the side. The combination of modal conflict, motorist behaviour and traffic volume found within the housing estate in this suburb seem to be working in harmony, creating a safe environment.
Figure 5.15 Accessibility and walkability of housing estate CCV-PAR
Outside the housing estate, however, such harmonious sharing might not exist (see Figure 5.16). Shared streets are made possible within housing estates because of the low traffic levels. In contrast, on public roads with high traffic levels, neither the capacity nor the behaviour found in housing estates is present. There is not enough space for motorised vehicles, bicycles, street hawkers and pedestrians to share the road and not enough caution is taken by vehicle drivers on the street. Despite this, most street segments are designed as shared streets. Pedestrians must walk on the leftover space on the roadsides, without any supporting footpath facilities.
Nonetheless, a paradox exists: when streets are widened, drivers of motorised vehicles speed and are unaware of their surroundings. This is a safety concern: an optimum street width is required for sharing the road space if a pedestrian footpath is not provided (Boarnet, 2003; Hess et al., 1999; Kelly et al., 2011; Krambeck, 2006). Addressing safety concerns is not just about removing obstacles to enable a smoother and speedier flow of vehicular traffic. Instead, safety concerns must be incorporated into the design, which should reduce vehicle speeds and increase driver caution. This would result in an environment with improved proximity to promote walking and would allow pedestrians, social interactions and local retail to flourish (Morris & Kaufman, 2009).

Other than safety, the quality of pedestrian environments is also a concern for pedestrians. This includes landscaping, trees and other amenities that are considered determinants of walking behaviour (Forsyth et al., 2008). An urban design perspective may suggest that by providing such amenities, walking will be more pleasant and attractive for recreation, in addition to utility walking. Yet, as seen in both Figures 5.15 and 5.17, no pedestrian footpaths or any kind of
pedestrian infrastructure are provided in housing estates. This applies to both housing estates built two decades ago as well as those more recently built. In addition to the long distances between different uses of space, the lack of pedestrian amenities may affect the numbers of pedestrians seen on the street, as it makes walking less attractive.

Nonetheless, there are exceptions where some street segments are equipped with a pedestrian footpath, as shown in the bottom photograph in Figure 5.19. This was located in a non-gated housing estate. Yet the footpath is obstructed by trees and parked cars. While the trees may have been intended for shade and add to the pleasantness of walking, such obstructions have ironically negatively impacting on the walkability itself.

Looking at how the trees grow they seem to have been planted prior to the footpath hardscaping. It suggests that footpaths are not properly planned. They are instead developed later as the road status changes from a private one to become a public thoroughfare. This was seen in the non-gated housing estate case study. While this case is exceptional, it highlights what should happen to roads in a housing estate: they are handed over and managed by the local government to become available for public use.

Nonetheless, there are cases which have properly planned for footpaths. Pedestrians are illustrated in the street section drawing (see Figure 5.18): drawn walking on top of covered sewer lines. This is how space for footpaths within housing have been standardised in Indonesia as in SNI 03-6967-2003 and regulated by the Ministerial Decree of Public Works number 20/PRT/M/2010.
Figure 5.18 Lack of pedestrian infrastructures within housing estates
In terms of children’s mobility (see Figure 5.19), from the observations (which were done mostly in the morning and coincided with school holidays), some children were seen walking and riding bicycles—some with presumably their sibling or friend (see the upper and middle photograph in Figure 5.19) and some others with their parents or carers (see the bottom photograph in Figure 5.19). Yet these patterns are only found within gated housing estates. Further observations have seen them going to or coming from the neighbouring kampung. This suggests that the spatial connections between housing estate and kampung enable children to be mobile locally. Children’s mobility to warung may not have changed since the 1990s. If not buying something to help their parents, children in suburban Bandung like to jajan.52 During observations in an open estate, no children were found in the main street. In addition to modal conflict, relatively high traffic levels are presumably considered unsafe for children.

Figure 5.20 provides such parameters, describing how pleasant and secure it is to walk within the housing estates. Yet, outside the perimeter wall of the housing estate, the opposite is more likely. The upper photograph in Figure 5.20 shows the characteristics found in a new gated housing estate where lots are small and unfenced. Based on an urban design perspective, this provides more appeal for walking (as opposed to the other photographs in Figure 5.20). The middle and bottom photographs (see Figure 5.20) were taken in two older housing estates that unfortunately have extremely low walkability with wide streets and high fences.

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52 Jajan is an Indonesian term refering to buying a snack or light meal.
Figure 5.19 Children’s mobility found within housing estates
Observations on pedestrians show the rarity of pedestrians in upper-class estates. It suggests that the affluent rely more on vehicles to travel—rarely do they walk to nearby *kampung*. Additionally, when examining the presence of street vendors and hawkers, it seems they are more prominent in the lower end of the middle-class estates. While they are present in the upper-middle-class estates, those vendors are much less prominent. There are a few possible reasons for this. The affluent rely more on formal uses within reach of an
automobile rather than street hawkers. While pushcarts offering food are still found, as identified by Ford (1993) in the high-class housing estates in Jakarta, they serve servants and gardeners instead. Even though it is possible that the upper-middle-classes may still find the commodities that street hawkers offer appealing, it is more likely that they ask their household servant to buy the food. This was suggested in an informal interview with one street hawker I met during my observation. Another reason is that larger houses and lots mean greater distances for street hawkers to overcome and for fewer potential buyers no less.

As such, other than environmental sustainability, walkable and accessible housing estates may also offer social and economic benefits to support local businesses (Talen & Kochinsky, 2014). In suburban Bandung, walkability and accessibility reduce the distances for the mobile street vendors, enables the residents to shop at warung and to use other kinds of services offered by the kampung residents.

5.4 Conclusions: The Relation of Form to Walkability and Accessibility

Having described gated communities visually, the key spatial and physical characteristics of housing estates in suburban Bandung are shown as problematic in terms of walkability and accessibility. These problems have been exacerbated by the unique pattern of housing estate development in Indonesia: housing estates and kampung that exist side-by-side but are set in opposition. As green field developments, like most housing estates built in the 1990s, housing estates can result in the production of disconnected street networks. By delineating the estate from other suburban areas with perimeter walls and guarding them with one access point, housing estates become exclusive places. But they are not entirely exclusive as the hawkers, the kampung children and the public generally are able to get in through the alleys as well as the main gate without security checks of any kind.

Subsequently, as in-fill development, private roads of housing estates are disconnected from the public street network. In a way, this disrupts the
interwoven network of streets and paths made by previous residential developments, including *kampung*. As a result, lengthy detours shaped by cul-de-sacs and long blocks decrease the merits of walking. On foot, these patterns affect not just the estate residents, but also the public and *kampung* dwellers. It is difficult to publicly access the different uses in residential areas, and it is especially difficult for street hawkers to roam residential areas—requiring the use of a car or motorbike.

It could be said that the older housing estates in suburban Bandung are better able to address walkability and accessibility. As they are located in the inner part of the suburb, surrounded by *kampung*, and have pedestrian access points, the older housing estates contrast to the newer housing estates with minimal access. Despite the pleasantness of local streets in new housing estates, the lack of accessibility caused by their distant location on the fringe and the low density in *kampung* are prominent alongside the walls and gates.

Even though the essence of the middle-class does not differ between the residents of housing estates and *kampung*, the resulting forms contrast: homogeneity is found in housing estates, while in *kampung* mixed social classes blend and create a crucial supporting role for urban lives. What separates the *kampung* dwellers is only their private property, but they reside in the same area as other classes and have the same access as others to any urban space and facilities.

Being in close proximity to the *kampung* thus produces several benefits: providing local uses, dwelling units for street hawkers and walkable alleys. These are contained within the notion of walkability and accessibility. Despite the tendency of housing estates to be built as distinctly separate to a *kampung*, an estate’s links to a *kampung* was not only relevant in the past (as Indonesian history has shown) but will remain relevant. As such, this must be addressed in future planning.
Chapter 6 Planning in Practice: Planning Process and Role of Planners

Having dissected the built form, and the walkability and accessibility of estates in Chapter 5, this chapter focuses on how planning in the northwest suburb of metropolitan Bandung has influenced its form. The chapter will analyse the ways in which the planning system, and planners’ thoughts and actions, have influenced the form of housing estates and affected walkability and accessibility. This will contribute to an understanding of the reasons why a form the literature sees as disadvantageous for walking (and more importantly, for the poor and children) (see Duany et al., 2000; Maher, 1994; Nicholls et al., 2015) has been allowed. The sub-questions addressed here are: What influence does the planning process have in shaping the form of housing estates?; and what role do planners play in shaping the form of housing estates?. Included in the effort to answer these questions is an examination of how walkability and accessibility are planned for (if at all), focusing on the role of the planner.

Policy documents and interview records with planners (Code P) and developers (Code D) are analysed. As a starting point, the first section tries to identify what has been problematised by planners regarding the form of housing estates currently found in suburban Bandung, and whether the form is associated with walkability and accessibility or represents other concerns. The second section discusses the flow of the permit process within statutory planning to identify the formal roles of policies and planners. Regulations that may affect the design of housing estates are outlined in the third section. The nature of the planners’ role in practice is discussed in the fourth section. Their specific role and the obstacles to accessibility are discussed in detail in the fifth section. The sixth section covers the efforts that planners have made and the proposals offered to overcome the problem of accessibility and walkability. This chapter concludes by summarising processes that occur within statutory planning, along with a summary of how
such planning processes and planners play a role in shaping the form of housing estates.

Chapter 5 identified that while many housing estates have gates and walls, some are built without them. Looking at the year of their construction, open estates were developed in the early 1990s, while gated estates or clusters have been developed since the middle 2000s. This pattern tells us little about what truly happens in the planning realm or about shaping the form of housing estates and what this entails for walkability and accessibility. Uncovering the story behind the form is required. Planners and developers’ engagement with planning policy operates as a departure point within the journey to understanding the complexity of shaping the form of housing estates in practice. The policies that will be discussed relate to statutory planning, which deals with the mechanism of obtaining permits and the adherence to standards or plans.

6.1 Recognising Problems Associated with Housing Estates Form

As argued in Chapter 5, the form of housing estates is problematic in relation to walkability and accessibility. Yet, seen from the planners’ viewpoint, other problems may be associated with the form, about which they are more concerned. This section addresses this notion.

One problem that is recognised by planners relates to how the development of housing estates has widened the social gap with existing settlements. As an extreme example, one planner interviewed referred to one particular housing estate built by a large-scale developer that was still being expanded to the adjacent areas. Housing estates are clearly differentiating their residents from the rest of the society by building physical boundaries. From observations on site, in the process of acquiring land, this developer has built perimeter walls to separate the housing estate from the surrounding areas of mostly kampung. Over time, the housing estate has expanded and the area has become gentrified. Meanwhile, the rest of the kampung dwellers who remained face an increased
social gap with the estate residents due to the separation of space and access. In time, the traditional identity of the *kampung* will inevitably be eradicated. As the concerned planner states:

[In] the X estate, [the concern is] that estate [residents] are excluding themselves from the surroundings ... eliminates the identity of *kampung*, it is gone. It is a pity. Now the streets have shifted ... it is difficult [to pass through] ... my biggest concern is that estate developers are excluding the *kampung* houses. The citizens do not have access, like toll roads that split (an area), estates are like that ... usually there are pockets of *kampung* between estates, the X estate does not have this pattern. This land is owned, that land is owned, so every land, the (existing) streets could be eliminated. (P16)

This quotation suggests it is very likely for this kind of development to alter the existing public street network to become private. As more land in the adjacent area is acquired by one developer to expand a housing estate, the whole area may become private. In the case referred to by the planner, the housing estate is separated into clusters in which each cluster has a portal and a guarded post. The area in which this housing estate expanded has become separated into pockets of private residential areas with leftover public streets surrounded by high walls, leaving only a few *kampung* houses along the streets.

In contrast to what has been built, most interviewed planners contend that housing estates should have been integrated into the neighbourhood with the existing settlements, such as those built in the 1970s. While walls have existed for decades, unlike the current form, they were built to demarcate lots and signify the private ownership of lots by each resident. The interviewed planners argue that walls should not be built to privatise streets and alienate one community from another—or one housing estate resident from other urban communities. As one planner stated:

Integrated with the surrounding ... housing estates should have been [built] like that. In the past, there were also [physical] boundaries of housing made by the perimeter walls of each lot—unlike the boundaries found these days. (P04)
The long detour made necessary by the street network contributed to the high use rates of private vehicles. This dependency on private vehicles is widely recognised. Despite this, it is not recognised by planners that this is partly a result of how housing estates have taken shape. Rather, planners see the high use of private vehicles as the problem, and the provision of public transportation as an alternative to private vehicle use as the solution. Without trying to discover what may have caused the problem, the planners’ solution does not encourage developers to build a different form of housing estate. As one planner explains:

The lower-middle-class, in the west suburb ... they use motorbikes [as the main transportation means]. That is our problem. One solution, based on our thoughts here, is to establish public transportation. We are trying to figure out how [to provide] public transportation so not everyone uses private vehicles. (P08)

Additionally, the same planner quoted above also infers that within the BMA region, school children not considered when it comes to planning for public transport. School children are not considered as a demand for public transportation presumably because most children go to school in their parents’ cars and on motorbikes if they are not driving themselves.53 Planners think that this common and acceptable practice does not need changing. This is in contrast to the argument in the literature on travel that it is important to address the travel needs of various groups to reduce dependence on others or private vehicles (Currie et al., 2010; Delbosc & Currie, 2011; Duany et al., 2000; Hine & Mitchell, 2001; Lucas, 2009, 2012; Southworth, 2005). Yet it seems that school children who go to local schools are not adequately considered.54 As one planner stated:

53 The legal driving age in Indonesia is divided into two based on the vehicles: 16 years old for motorbike and 17 years old for car.

54 There are no statistical figures that indicate the volume of children being driven (or driving themselves) to school, yet it has been indicated as one of the main travel problems in which school buses are made free of charge in Bandung as one of the solutions (http://news.detik.com/berita-jawa-barat/2711957/ridwan-kamil-bercita-cita-bandung-punya-100-bus-sekolah-gratis). Students are prohibited from driving themselves by car and motorbike.
The one [public transportation mode] that we have now is only small *angkot* which basically has insignificant use….If only to serve around Cimahi, it seems the demand is almost none. Maybe only the school children...the demand is likely to be none. (P08)

Travel within and around the residential area is mostly overlooked. Both developers and planners are likeminded in viewing these travels as not requiring attention, due to low traffic levels. Local pedestrians are considered safe sharing the street space with motorised vehicles. Shared streets are then found everywhere within and around the residential areas, on both private and public streets. As one planner states:

> For other than the large-scale developers, the traffic is not too high therefore pedestrian footpath is considered as not so necessary. Developers try to sell [as many house] but I think selling estates with such facilities might be better [for profit] and more attractive [for buyers]. (P03)

Although sharing the street space, pedestrians are still considered by planners as mostly non-existence. While vehicle traffic is relatively low, the streets are still designed to cater to vehicle flows in both directions, rather than to facilitate both vehicles and pedestrians fairly. This confirms Lo’s (2011) findings on vehicle superiority within the Indonesian planning realm.

One planner added to this argument by sharing his experience dealing with permit approvals in which developers felt burdened by the requirement on street width. Adjusting to this condition, planners bargained to minimise this requirement:

> Sometimes developers, when we require for the ROW to be 8 metres width, [feel] it is too big. So the minimum for a street with a hard surface is 5 metres to facilitate two ways of direction for vehicles. (P04)

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Nevertheless, planners think housing estates that offer walkable facilities might be more appealing to buyers and would result in greater profit for developers. Planners interviewed indicated that they would have personally suggested that developers provide such facilities but they think that most developers (with their profit-minded approach) wish to build as many houses as possible on their land for efficiency. Exceptions may be found on some housing estates, but according to my observations, walkable facilities are only provided on the main streets. The rest are similarly designed as shared streets.

Personally, I would like to suggest placing a median in the streets, or pedestrian footpaths...however they [developer] may say that they are short on land. Yet the good developers, they have designed it as such because they do not only sell houses but also the residential area ... a good environment could increase property prices. (P02)

While planners may think in the way indicated by this quotation, this is not the case for medium-sized developers building middle-class housing estates. Thinking that their buyers have limited financial ability while focusing only on how to make the most profit, developers are hesitant to provide facilities as this restricts their profits and makes the selling price above the range of the middle-class’s ability to pay. Yet the newly built housing estates have already been priced beyond what most people can afford. It is to be expected that providing walkable amenities, such as pedestrian footpaths, would increase prices somewhat. So perhaps providing these amenities is unlikely to happen in the future. House prices have increased in Indonesia because property had become sought as a financial asset rather than as shelter—encouraging the more affluent to buy more than one house with this trend beginning from people who live outside Bandung.55 While walkability is not the main element attracting middle-

class buyers, such facilities would only resonate with what developers and planners think of as waste, as shown in the comment below:

At housing estates, pedestrian [footpaths] are needed on the primary streets. It is better to provide one...for example when the block is long usually there is pedestrian [footpath]...but if it is not on a primary street, only local street, a pedestrian [footpath] is a waste. (P04)

This section has clarified that the form of housing estates is troublesome and the provision of walkable facilities is mainly thought of as beneficial yet unnecessary. Such provision by developers, according to planners’ experiences, is very carefully weighed up against the developer’s profit and the property sale price. As a result, most street segments in residential areas are designed as shared streets that are not equipped with walking amenities and facilities.

6.2 Complying with Planning Permits

This section addresses the practice of complying with the permit process that developers should adhere to in the construction of housing estates. However, it should be noted that an administrative change influential to the permit process occurred that applies to the Kabupaten Bandung Barat (KBB) district as one part of this suburb. This district was only formed as a separate jurisdiction to Bandung district in 2007. Prior to and within the early years of the change, the permit process was undertaken by the office of the sub-district (kantor kecamatan) instead of the CPO. This was rather unusual because the office was supposed to serve citizenship administration and deal with social matters of the sub-district’s local citizens. In the case of housing estate development, the kantor kecamatan is supposed to facilitate meetings between developers and the community to obtain neighbour permits, rather than provide technical advice and issue permits for developers. Interviewed planners stated that the prior arrangement was meant to make public services more accessible to citizens living in the west part, so they did not have to go to the east part of metropolitan Bandung (which is 30 km away). Despite this, it was used rather liberally by local authorities to push
more development rather than to control development with regulations to gain a better control of land use. As explained by the planner:

During the forming of KBB there were still few authorities given to kecamatan so as to provide easier and nearer services. The site plan verification was at kecamatan ... it [such authorities] was then made limited just after we had our own regulations. (P03)

The permit processes for a whole housing project to be registered and permitted could take several years (Monkkonen, 2013b). It depends on the developers’ effort to adhere with regulations. One interviewed developer mentioned that it took two years to acquire land, and another two years to obtain a permit. However, another developer indicated that the permit process takes a ‘client- hood’ approach such as termed by Hudalah, Winarso & Woltjer (2014). This means that permit submission is conducted through personal interaction with one officer instead of the official planning agency as an institution:

The permit process took pretty long, about a year. But in principle, it was fairly quick. The location permit was quick. Other permits had some problems. It [the site plan verification] was not finished when our trusted person [planning officer] was retired ... The environmental impact test took long because it was affected by the site plan [changes]. (D11)

While the flow of the permit process may be understood by developers, interviews showed that the time needed to obtain all required permits did not inhibit some developers from undertaking market promotions at the earliest stage possible, before the process was even finished. Developers even considered that having a location permit was a guarantee that allowed them to develop a housing estate despite the final permit—the construction permit—not being in their possession:

Having obtained the location permit, then we could start marketing [the housing estate]. Even a booking fee could be accepted. (D15)

In many cases, developers also start work on the site prior to obtaining the construction permit. According to local planners, developers are mostly regarded
as defiant. Based on the common occurrence of these cases, it is unlikely that developers are unaware of the requirements. This indicates that along with assuming they have a guarantee, they are willing to bend the rules to reassure potential buyers. As one planner states:

In reality we are trying. Yet because housing is a basic need, people [developers] may tend to insist [to build as many houses] despite the rules or guidance that we have established ... the most dominant [problem] is, for example, developers can only start to build when the construction permit is already at hand, in some cases, many have not got a permit before the construction. (P08)

Other than a time-consuming process that leads to the above behaviour, obtaining permits can result in a substantial cost even though there are no government rules mandating permit fees. Monkkonen’s (2013b) study on Indonesian housing and land use regulations reveals that the (informal) transaction costs related to permits can cost more than the land itself. Consequently, this unfortunately increases the selling price of the house. It is unsurprising that the permit process in Monkkonen’s (2013b) study is referred to as cumbersome, costly and time consuming. Developers mentioned that the lack of clarity resulted in an over calculated budget plan:

The fee is unclear, without standard ... while we hire a consultant [to deal with the permit process], the consultant said ‘[the fee is] this much’. Actually there is no money [being charged], except for the construction permit. But in Indonesia nothing gets done without money. They [the government] have rules but they are lacking in transparency particularly on fees ... Finally in calculating the budget plan, we exceeded [the estimated cost of obtaining a permit] to reduce the risk ... meanwhile the budget plan determines the selling price of the houses. What happens to [obtain] a permit is not cheap, it’s very expensive ... But better to be expensive and clear, no problem [with that], so we could precisely calculate the budget plan. (D18)

Undeclared fees and personal connections between the planner and the developer is far from ideal as it encourages bribery. Regrettably, it does not only happen with the interactions between developers and planners, but also with the community as developers have noted that the neighbour permit is another costly element. To obtain a written permit from dwellers living in areas bordering
housing estates, developers usually hold several meetings and invite every household. These meetings are meant to discuss whether the neighbours are opposed to, or have objections to, a housing estate developed adjacent to their settlement. If so, developers try to settle things down. However, it is not uncommon for developers to involve a limited number of community leaders with whom they have private meetings:

While the regulation requires developers to have a neighbour permit, sometimes developers obtained it from only certain selected people whom they give money to and it is done. The rest of the neighbouring dwellers then are left wondering why [the project] suddenly [happened] like that. (P01)

In these meetings, developers try to compensate neighbouring residents in order to reach agreement. One developer mentioned that it took them two months to get the neighbours’ approval. While the most common form of compensation seeks to improve the physical conditions of the facilities and infrastructure, this varies between cases. In some cases, developers are required to keep pedestrian access points open. Additionally, sometimes the dirt paths leading to these access points are also upgraded through being widened and resurfaced:

There are a few [kampung] residents’ access [points] that we keep and [since it was] requested by the [kampung] residents ... they [the access points] were used to be [connected to] dirt paths but then we had them [the paths] upgraded, widened, and layered with cement. (D11)

Considerations to keep the existing pedestrian access points open, or maintain access, were usually made by weighing up the importance of allowing the housing estate development project to proceed without opposition from the neighbouring community. Should the access be removed, the project may be put at risk, and developers would not do it:

[If] there used to be dirt paths for the residents, those cannot be cut off. While actually if [people were] using vehicles they can go through the street but for the sake of keeping things conducive with neighbours we could not do it [cutting off access] just like that. They [the previous land owners] have given their land for making pathway to kampung ... it usually becomes one of the clauses on the neighbour permit. (D09)
While the forms of compensation agreed to by developers and the kampung dwellers are highly specific, unfortunately they are not listed in the written neighbour permits submitted to the local government. In most cases, the agreement only mentions that the kampung dwellers allow the housing estate development to happen. If the clauses were written, the physical requirements could be verified by local planners, and as such could be a useful avenue for planners to informally direct physical forms outside the scope of their statutory planning routine.

There are also cases where developers are asked to hire neighbouring residents as construction workers to work on upgrading the paths. These requests are mostly made if many unemployed people live within the bordering community. Other than construction workers, residents might also be employed as security guards:

> We had some meetings with the residents, [to know] what do they demand from us and finally there were 13 ... paths to be fixed ... 60 per cent of manpower [for construction] was to come from the dwellers ... pathways behind the estate were to be made 1.5 metres wide. (D15)

In other cases, the neighbouring residents may ask for monetary compensation. Some developers have mentioned common ‘pocket money’ given to each household within the bordering community or several community leaders. These amounts may seem small individually but comprise a substantial part of the total budget:

> We had meetings with 1RW and 3RT\textsuperscript{56} at the village office [kantor desa]. The demands from [neighbouring] dwellers were many. We built the RW office for 30 million [rupiah]. Compensation per household was in the form of money, [a total of] 25 million [rupiah] was given for the dwellers ... it is common everywhere ... different locations require different compensation, it depends on the environment. In the urban environment, the dwellers may be more educated but

\textsuperscript{56} RW (Rukun Warga) and RT (Rukun Tetangga) are neighbourhood units in Indonesia. One RT usually comprises of around 50 households and one RW has varied amounts of RT. Tetangga literally means neighbour.
they also demand more. A neighbour permit is complicated. One of my colleagues constructed only 28 house units but he spent 280 million [rupiah] just on compensation. (D18)

Assuming 50 households per neighbourhood unit, each household mentioned in the above quotation would have received 160 thousand rupiah to compensate for any effect resulting from the housing estate development. This is such a small amount of money by middle-class standards, which could be very quickly and easily spent at the shopping mall, to compensate the closing of their direct access and the longer distance created between places. In contrast to the lower income class, according to the statistics of monthly expenses of West Javanese households (BPS-West Java, 2015), these amounts may cover nearly half of their monthly food expenses.

Where several community leaders control how a development should proceed, if they are given money the rest of the community is left to wonder about this. As a result, complaints are often addressed to local planners. If amplified, the process of obtaining neighbour permits encompasses social factors that can drive the pace of development in an area. If the dwellers demand too much, they might inhibit development and this could result in fewer developers being willing to take on a project in the area:

There was a location where development was discontinued due to problems caused by the neighbouring residents: they were demanding too much ... sometimes some people came and demanded some things, the neighbour leader came and demanded as well ... even though seen from the [strategic] position of the site on that location, to develop [a housing estate] would result in great profit ... basically if the neighbouring residents are in good [supporting] condition then surely many investors will come. (P01)

Returning to obtaining neighbour permits, developers do not only offer compensation but may also persuade the bordering community. This is done by describing a possible increase in land values as well as the numbers of consumers that may come to their warung or shops, or other commercial activities that may
result from a population increase. One developer confessed to this as a kind of trick to outsmart the neighbouring dwellers:

We can communicate the benefits to the [neighbouring] dwellers - that along with the development their economy could be improved. They may run a business, [local] shops which will gain more profit due to more residents living in the area. Then the land price, if previously [valued at] 1 million [rupiah] after the developer arrived and has done the marketing promotion, the vacant land will be built on and automatically house values of the [neighbouring] dwellers would also increase ... we have to be clever to explain this [to the neighbouring dwellers]. (D17)

This section has clarified that the current permit process, while being widely understood, is not well planned and is not complied with, due to several factors: the lengthy process, the cost without a standard levy, and client-hood nature in which permit submission is conducted through personal interaction with one officer instead of the official planning agency as an institution. Obtaining neighbour permits could directly shape the form of housing estates but are accompanied by the challenge of tackling developers’ tactics including cutting off access and offering the kampung residents money, along with other kinds of compensation and persuasion. Similar to the provision of walkable facilities, neighbour permits may also indirectly increase the property selling prices set by developers.

6.3 The Regulation and Guidelines on Form

One step in the process of the gaining permits is land use verification. This is based on a set of regulations and guidelines influential in shaping the form of housing estates. In the permit process, developers are required to adhere to a spatial plan. Planners stated in the interviews that no ideas about the urban form have been proposed, including any that may be relevant to increasing accessibility and walkability. In most cases, planners thought there is a lesser need for intervention to shape how physical development in the suburbs affects the environment. It is unfortunate that within statutory planning, planners are averse to shaping the form of housing estates. As one planner argues below:
Policies also have not focused on the suburban areas, the way of thinking is still in the city...let’s say it’s messy, who do we have to sue, the private [developers] or the government? On one side if there is no private [developers who build housing estates], who would like to maintain the suburbs that government overlook? (P20)

While some ideas define the physical characteristics as well as the spatial form of cities, other ideas act more around conceptualisation of how cities work. These have gained more popularity at the local government level, as shown in the quotation below. This is unsurprising because these ideas are open to interpretation, and yet have been discussed in relation to specific physical or spatial forms. Similarly, local regulations operate top-down, planning ideas also come from the central government and are most likely already packaged with certain definitions. Otherwise, it is unlikely that local governments would be familiar with such ideas. As one planner argues below:

Government may advocate green city, liveable city, something that is still too general and have not got to a specific spatial concept. It is like a norm, just to add more green [spaces] … but if we talked about compactness, the local governments have not much heard of that because the multi-storey flats are coming from the central government. (P20)

Things that were concerning to some planners interviewed could not be easily translated into regulations. Instead of careful examination of what is considered for a local area (as shown in the quotation below), most of the time, local regulations are established by automatic reference to and adoption of national regulations set by the central government. As long as the national regulations do not mention walkability and accessibility issues, then they are treated as advisory rather than as mandatory by local planners:

It has not been regulated by law … while the local regulation usually refers to the [national] government regulation. (P03)

Local spatial plans in Indonesia are hierarchical, from the regional spatial plan and the detailed spatial plan to the building layout plan, (RTBL), as mentioned in Chapter 3. Such plans regulate zoning for uses as well as building coverage and
While each local government issues their own plans and guidelines, they still refer to the central government’s policy, as directed by Law No 26/2007 on Spatial Planning. Nonetheless, RTBL is largely absent (Moeliono, 2011), due to the number of detailed plans and the investment plan required. In the northwest suburb of Bandung, up until the time when interviews were conducted, the RTBL was still being developed, with publication slated for 2016.

According to Law No. 26/2007 on Spatial Planning, the strategic plan is part of the spatial plan’s implementation. It indicates the investment amount included and refers to a program that consisted of the budget, and the budget source, executor and schedule.

Returning to statutory planning, being located within two jurisdictions, the northwest suburb of Bandung is characterised by the rural aspect of KBB and the mostly urbanised Cimahi city. Each jurisdiction has different priorities in regulating and controlling housing development. In the Perda (Peraturan Daerah) KBB No 2/2012 on Spatial Plan, explanation on article 65 states:

The permit process is based on considerations of protecting the public interest, avoiding negative externalities and ensuring development in accordance with plans, standards and minimum qualities established by the local government (p. 77).

This is a very broad objective, as the public interest and negative externalities have not been defined in specific technical terms. This leaves planners to their own interpretation of what is in the public interest for planning in practice.

Rather similar in referring to public interest, Perda Cimahi No 4/2013 on Spatial Plan article 4 mentions:

The Spatial Plan is established based on these principles: a. utilisation for every need in an integrated, useful, balance, cultured and sustainable manners; b. partnership, equity, justice and safeguarding public interest; and c. open, accountable and public participation.
Further, the regulation also states that the permit process is a form of control and arrangement of land uses which focuses on environmental sustainability and is a result of the increasing population. These two concerns are problematised in planning, which influences the provision of housing while ensuring that development respects the environment. Further in the regulation, the planning strategy for housing development is divided into three areas: to be controlled in accordance to Perda Jawa Barat No 1/2008 on Spatial use control in North Bandung Area (Kawasan Bandung Utara [KBU]); to develop housing with a control on intensity in accordance with the spatial carrying capacity; and to develop vertical housing and increase the degree of environmental health through supporting basic infrastructure and assisting the provision of liveable dwelling units (rumah layak huni). All three areas are within a similar vein as the permit process focus. Knowing what has been said in these regulations, how the two municipalities treat housing development in practice is interesting, particularly with the new regulation limiting the development of housing estates in the northern part of the area.

The new regulation was passed in 2008 by the provincial government of West Java. It addresses spatial developments for the northern area of metropolitan Bandung (KBU), which both the KBB and Cimahi governments have adopted into their local regulations. The northwest suburb in this study is then separated into two parts in relation to its height above sea level: the north area is included in KBU, which is 750 metres or more above sea level, and the other area is from 680 to 750 metres above sea level. Based on the interviews, it appears to have become a well-known regulation that has significantly affected the way developers design housing estates as more green spaces must be preserved, and I will unpack this later in Chapter 7.

The KBU regulation has been adopted by the local government of Cimahi in the Perda Cimahi No 4/2013 on Spatial Plan (Cimahi LPA, 2013). The northern suburb is divided into two parts with different densities, hence the different set values: a
maximum of 40 per cent Building Coverage Ratio (BCR) with 0.8 FAR for low-density housing, and 60 per cent BCR with 1.2 FAR for medium density housing, with the building height to be 45 degrees angled for both parts. Furthermore, one planner mentioned that 36 sqm rather than the more common 21 sqm has been set as the minimum house size. This is meant to prevent the reduction of green space should residents expand their houses, as in the case of 21-sqm-houses. As one planner explains below:

The minimum limit for house type is 36 [sqm]. We never give a permit for type 21 [sqm]. What is the reason? Because the type 21, may be termed as lower-middle, and is not planned [for possible extension in the future]. It will be renovated [as bigger house] for sure. Type 21 usually has 70 [sqm] lot, that is surely not enough. (P04)

The future extension mentioned above is very common in both housing estates and kampung. In fact, most houses do not have backyards any more due to these extensions. The green space is normally only found at the front. This common practice by residents is made possible because they do not obtain building permits due to their lack of knowledge about implementing regulations. Even for the middle-class (as one developer mentioned for the case of a housing estate in KBU) buyers ask for their standard house type to be extended prior to settling in. Yet this is not allowed by the BCR requirement. In this case, the developer asked the buyer to process the building permit themselves.

Another reason for the minimum house type, according to the planner, is related to the number of private vehicles: smaller lots would result in more residents who would have a greater effect on the traffic, outweighing the already very limited road capacity. As such, planners may seem to underestimate the effect of housing estate form on travel patterns that could potentially reduce the effect on traffic:

With type 21 then the amount [of lots within a site] would be much more than type 36. From the transportation viewpoint, surely the amount of vehicles [going in and out of the housing estate] would much differ. Meanwhile roads in Cimahi are narrow since the beginning [of how it was planned]. The roads could
not be widened [due to the buildings that have already been existed for many years]. (P04)

The KBU regulation has also been adopted by KBB in the Perda KBB No 2/2012 in the Spatial Plan. This plan mentions that housing development is allowed in the north suburb of metropolitan Bandung as long as it has a low density that suits the building regulations within each part. That is, it should have 40 per cent BCR maximum for the urban area and 20 per cent BCR maximum for the rural area. Both urban and rural parts have a 0.7 FAR maximum. Within the suburb, a maximum of only 30 per cent of the total area can be built as lots. It means that 70 per cent of the area should be for streets, facilities and green spaces.

While the adoption of KBU regulations by these local governments has not resulted in large lots with small houses, which may be suitable only for the middle- and upper-classes, the excess of unsaleable land has caused developers to tag the properties with high prices. This has also been reflected in the current land and housing market. Ultimately, it has resulted in barely affordable housing estates for the lower end of the middle-class, as will be discussed in detail in Chapter 7.

Both requirements set by the two local governments determine how houses sit on each lot (see Figure 6.1). Assuming an average house size of 36 sqm with a 6 m-wide-street, the minimum lot size would have to be 75 sqm. In this case, houses must be placed 4 metres from the street. In terms of walkability, such proportions between height and distance result in a pleasant scale that encourages walkability.
Figure 6.1 Building envelope and lot regulations on drawing

In terms of implementing the regulation, most planners describe developers as sometimes delinquent - they are unlikely to agree to the set of regulated values. If we look at the built form and the year of housing estate construction, this judgement of developers seems apt:

Their delinquency for example is when the BCR is regulated between 20-40 per cent, it could be more than 40 [per cent]. (P08)

Nevertheless, this has not occurred without reason. While it may seem that developers are not complying with the new regulation, a loophole exists in it. As it is common for developers to have a location permit in place years before they conduct any physical work on site, the requirements only apply to developers who are yet to obtain location permits. Developers who obtained the permit prior to this new regulation are not affected practically:

Actually since 2008 no more new permits have been issued officially [by the local government]. In the northern suburb, the BCR of only 20 per cent, from business calculations this does not bring much profit. Too much [raw] land for sale. If new a permit was to be obtained, it has to get provincial recommendation. Therefore housing estates around this location surely [were built] based on the old permits ... my other project, even though just being constructed, the permit was obtained in 2007. (D09)
In this case, instead of having a 40 per cent BCR, the houses built by the developer quoted above occupy around 55 per cent of each lot. Looking at the timeline of this developer’s project (see Table 6.1), the loophole is apparent. This is possible because there was cooperation with Developer X as the location permit holder and the location permit could be renewed.\(^{57}\) Despite the small scale of housing estates being studied, in terms of area and the absence of amenities, the time frame for one housing estate could still span decades. In the following case, it took more than 30 years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Stages of development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980s</td>
<td>Developer X obtained permit application, made subdivision with large houses and lots and sold them</td>
</tr>
<tr>
<td>1997</td>
<td>Idle, leaving some lots vacant</td>
</tr>
<tr>
<td>1999</td>
<td>Developer Y made cooperation with developer X</td>
</tr>
<tr>
<td>2012</td>
<td>Developer Y obtained new construction permit</td>
</tr>
<tr>
<td>2014</td>
<td>Developer Y made subdivision of the vacant lots into smaller lots and sold them</td>
</tr>
</tbody>
</table>

The previous Developer X had the permit in the 1980s. Developer X then made the site preparation, lot subdivision, and built houses in large sizes as the 1980s market required. Then the development was halted in 1997, leaving some lots unsold and houses unbuilt.\(^{58}\) Developer Y then approached Developer X to develop the vacant lots. Having reached an agreement, a new construction permit was obtained by Developer Y to subdivide the large lots into smaller lots.

\(^{57}\) For the extensive discussions of location permit, about the duration, renewal process, and how developers are benefitted in Indonesia, see Ferguson and Hoffman (1993), Firman (2000, 2004) and Monkkonen (2013b).

\(^{58}\) While the interviews did not mention the reason for being idle in the 1997, history shows that the financial crisis had halted housing estate development. Interestingly, it has also been argued that the crisis was partly caused by extensive housing development (see Winarso & Firman, 2002).
Up until the interview took place, Developer Y was still marketing several remaining houses. The 55 per cent BCR currently built were not subject to the new regulated BCR of 40 per cent due to the original location permit. Thus, new land use verification was considered unnecessary.

The changes considered for review only related to house sizes, and therefore the new construction permit. While the new regulation was aimed at preserving the green area, there is evidence that the policy deliberately (or through the operation of the housing and land market) had the effect of attracting relatively middle- to high-income buyers. While this trend has not been explicitly stated by planners as deliberate, the regulation of BCR is the determining factor. Some planners think it is a matter of developers translating the regulation, even though it would not be possible, budget wise, for developers to build estates for those on lower-incomes at the north suburb due to the restrictions. However, planners do encourage this trend, in order to comply with the regulation:

The north suburb is a prime location, certainly there is strict regulation … we ask the developers at the beginning [of permit application] ‘what kind of housing estate are you going to develop?’ if we talk about the modest estate with 21 sqm. houses, it is going to be dense, hence it could not be located in the northern suburb - so we tell them from the beginning. If they insist to have it built there, for example because they have already acquired the land, they have to change the concept, not for high density but for large lots with small houses because the BCR [regulation] is smaller…we ask [the developers] for the concept since the beginning, usually preliminary site plan … then we direct them to comply with the regulation. (P05)

This quoted planner stresses that developers are warned about the implications for lot sizes and types of housing estates implied by the regulation at the very beginning. Compliance with regulation then becomes important. However what other concerns exist, and whether walkability and accessibility are considered alongside the effort of regulating housing estate development, is a question that will be discussed next.
Despite the top-down reference as mentioned previously, guidelines are available that may have a positive effect on walkability and accessibility. One example is the specific values for block length. In the literature, block length has become a determining factor in relation to distance. Nevertheless, while this value may affect distance, it was sought to prevent fire hazards rather than to deal with the issues of walkability and accessibility:

Maximum [length] for one block is 100 metres, [if more than that] it should have a break. But that is to anticipate fire hazards. (P04)

Other than block length, regulations and guidelines that matter to the practice of housing estate development do not prescribe residential streets or even mention pedestrian needs. Perda Cimahi No 4/2013 on Spatial Plan mentions that pedestrian footpaths are to be planned for several main streets of the city but no mention is made of residential streets. Regarding the standards for streets, as confirmed by planners in the following quotation, they cover everything but the residential streets. This gap contributes to developers’ actions to deliver a built form that benefits them the most: gated housing estates that unfortunately fall short in providing walkable and accessible urban environments. This is enabled because the local governments do regulate only certain elements of the physical form:

Standard [specifications] for streets regarding ROWs that apply for national, provincial, village, regency (kabupaten) streets, is clear. Meanwhile as far as I know for the residential streets, such specific regulations do not exist thereafter we tend to do what the developers want. At least, we will correct them if the street width is too narrow. (P02)

In the middle, between the locale and the wider or broader dynamics at play within land and housing markets, lies the framing of problems contained in policies (Fischer & Forester, 1993). This section has been informed by the

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59 Such break in Indonesian building standard is termed dilatation. It is usually meant for safety concerns such as to avoid the spreading of fire or structural collapse in building.
literature. From the data analysis, the permit process is framed towards environmental sustainability (due to the increasing population), protecting the public interest, and avoiding negative externalities. However, even though one of the stated purposes of the permit process is to address the public interest, it has not yet done so. In fact, the permit process in practice deals only with the principles and values established in the regulations. How this situation has developed will be addressed in the following section.

6.4 Planners’ Role and Positioning in the Permit Process

Knowing that developers can be defiant, planners lack confidence when dealing with them, particularly the large-scale developers. This was particularly the case with one housing estate. The estate was built by a large-scale developer who bounded their housing estate with perimeter walls, expanded their project, and ensured it was physically separated from the rest of the area. Planners, despite having some concerns about the built form, are reluctant to interfere with what has been built on site, due to lack of budget along with being disarmed by the lack of supporting regulation. Adding to the problem, planners also implied that the practice of bribery in the permit process allowed developers to entice communities into accepting their developments:

Indeed, the monitoring process is a little difficult, the plan was good, but then we came there [to the project and found that the boundaries’ walls were too tall], how could we scold them, or demolish [the walls] when the government does not have the budget ... we do not have power to manage this [housing estate development]. Sometimes [local] governments lose to the large-scale developers ... Meanwhile the regulations do not restrict [such development] ... as long as there is capital, the citizens are lost. (P16)

Dieleman’s (2011) study on one of the leading Indonesian developers, Ciputra, provides a possible explanation for a statement of this kind. It has been widely acknowledged that agency officials often issue permits for housing projects that might not comply with regulations due to pressure from superiors and powerful business people (Dieleman, 2011). Unlike what may seem straightforward in the
permit, as illustrated in Figure 3.1, many more webs of relations are embedded within housing estate development in Indonesia. However, this is likely associated with large-scale developers who can afford such connections and hence work their way towards obtaining approval by bending the rules.

Interviews with small-scale developers, on the other hand, show that apart from some non-compliance, they are willing to adhere to regulations as long as they are clear. It would be too risky and costly for them not to comply - their project may get halted should their permits are not processed by the local governments which may result in lost time. It means lost money paid for labour:

Because it is the regulation we could not do anything about it ... we have to comply with the regulation because if we do not then we will not obtain the permit on our hands. So we comply. (D13)

There is, however, a problem adhering to the regulations. One developer suggested that meeting regulations was inhibited by jealousy due to the unequal treatment of planners on which some values are negotiable, on a case-by-case basis. While specific treatment in the planning response is unavoidable as each housing estate has different site characteristics and neighbouring socio-economic conditions, developers may see this as unfair. Developers further elaborated that enforcement of regulations must be equal, as indicated in the quotation below:

If we are affected by regulations, and they are clear regulations, I think we will comply. But now [we] become unwilling because the regulations are half grey, the line between allowing and not is really thin. We are troubled, on the one hand we are willing to comply with the regulations yet [on the other hand] the neighbouring estate [developer] is unlikely. [It would be good if we could] follow the regulations with clear red string ... [otherwise] it will cause quite a jealousy. (D09)

In addition, another difficulty exists when planners are dealing with permits for developers. If developers propose some unusual creative designs or ideas, planners may be confused about what advice to give because they have a limited interpretation of regulations, in addition to an already limited set of regulations.
Such awkward position may be caused by the planners’ lack of confidence in their authority:

There was once a developer who wanted to imitate another estate but because their design was unusual, and not referred to directly within the regulation, we had some trouble in communicating [the design in adherence to the regulation]. Developers have ideas from everywhere. Hence I need a peculiar study: how to calculate the green space and FAR [for that case]. It may be accountable from structural viewpoint but questionable from the spatial planning. [We] need comprehensive study. (P05)

Most planners mentioned the housing backlog as one entangled problem dealing with private developers. This suggests that local planners want to be able to issue as many permits as possible to deliver more houses. While the backlog statistics mentioned in the interviews vary, the term backlog was mentioned when local planners discussed their role in dealing with housing estate developers. This could indicate that the local planners were trying to justify their lack of willingness to direct the physical development. Like the developers, local planners are mostly concerned with their direct scope of work only:

The housing backlog has reached 15 million, right? Actually, the role of local governments is unseen. We are only taking care of [in regulating] developers ... As long as housing estates are to be in compliance with the spatial plan and the land has been acquired, that is all. (P02)

Clearly, planners tend to see their role as only helping the process along and looking at compliance with regulations, rather than trying to direct housing development towards a better built form. Hence, they are less willing to interfere with the actual physical form. While some problems have been recognised (as mentioned above) and planners are aware of their constraints, they have yet to realise their legitimate role as government who lead and think strategically:

The position of local governments everywhere is merely as facilitator because the design, the physical implementation, related to access and so on, developers usually plan themselves, starting from the street width, house size, façade ... we
control the things related to green areas, BCR, drainage ... the techniques are up to the developers. (P16)

These interviewees are suggesting that no solutions are set by planners to make proposals suit regulated planning values. The output of planning recommendations is mostly an assessment based on calculation of values such as FAR and BCR. From such assessments, developers are given advice on how to alter their plans to suit the values accordingly. However, it is up to the developers to follow such advice and how to accord their plans to the regulated values:

The things that we examine are for example the BCR, then the minimal lot size, then the green space, then the setback. After they are [ensured to be] in accordance to the regulation then we verify the site plan ... developers surely want to turn everything to be saleable. From their proposed plan we then examine ... they usually go back and forth during the consultation process ... on one hand they are looking for the maximum profit and on the other hand we still have the regulations to comply ... we give the numbers [of the regulated values] ... then they [the developers] are free [to design] ... then we calculate. (P04)

However, it seems that this is not always the case because some developers see planners as quite involved in revising the plans. Advising them to design a cul-de-sac is one example. Nevertheless, it is subject to the willingness of developers to cooperate with local planners. Unwillingness to cooperate may cost them more time to obtain the required permits. As one developer explains below:

We re-made the site plan. We were the ones who designed it but with their [planners] advice so they got involved, such as where the street ends. Our concept is cluster, only one gate at front, so they suggested the site plan as such. This dead-end street was not planned [initially] then the corner lots made larger. (D15)

Planners usually mentioned the values of BCR and FAR when dealing with permits, suggesting that gates and perimeter walls are allowed. How many and how high these features should remain unregulated to allow flexibility of design, yet attention needs to be paid as some planners have raised concerns as discussed in the earlier sections. In fact, in one case noted above, the planners
advised a developer to build one gate. Assuming the previous developer wanted several access points, this is rather disappointing. This suggests that some neglect or maybe obstacles exist in practice. These possibilities will be further unpacked in the following section.

6.5 Shaping Accessibility through Permit: Current Effort and Obstacles in Practice

It seems that planners do not interfere much with the forms of housing estates. They also have limited involvement in how the perimeter walls around housing estates are erected. Such lack of interference and the limited constraints of the current regulations allow enough room for developers to design freely. However, planners think that weaving a connected street network matters. Yet this is typically made on a case-by-case basis. Despite the perimeter walls being erected, planners may suggest making street connections to adjacent areas:

For several locations, for example in the north, we have negotiated with developers so that street networks are connected. When they [developers] want to acquire land, we ask them ‘it is allowed, but [you need to] acquire this land as well’, except for example at locations with lack of [street] connections. (P08)

Such requests are only made if the existing built form allows it: in a way, street network could provide a link between the new estates and the older estates or settlements. Nevertheless, while the connections may be drawn on the plan, they may not be established. This depends on the developers and residents of each estate. Dead-end streets then become the most common feature because the residents are unwilling to accept some changes to the housing estates they have been living on for quite some time:

That [perimeter walls and access points to neighbouring areas] is examined in the site plan verification. If it is still possible to create access to the neighbouring areas then we require [the developers to create] access despite, for example, currently still walled but the connection to the adjacent site exists [in the plan]. Hence if the residents need it [the connection] to be open then just open [demolish] the walls … we have made such arrangement in the planning [permit]… so on the site plan, it has been designated for through access even
though currently it is still a dead-end street ... however, if the land parcel [of which the housing estate will be built] is too small and has been surrounded by existing settlements, usually [the developers build] clusters. It would not be possible to make through access [street connection] if the surrounding areas are all built-up. (P04)

While planners might encourage providing a connected street plan between housing estates, in practice, developers have to make quite an effort to do this. As such connections might be rejected by the residents of the housing estates as well as the neighbouring areas, efforts may be required to make negotiations and give compensations. As one planner elaborates:

Sometimes the residents do not want to be bothered by other residents ... [for example] even though it still has perimeter walls because the [residents of] the neighbouring estate do not yet want to be open for access. There will be a government’s facilitated dialogue. At present, the [public] access may not be needed but one day, because streets are not increasing [in its capacity] while the vehicles increase, it [through access] will be needed and felt by both estate [residents]. The residents from this estate who want to go there [will think] it is too far, and likewise from that [neighbouring] estate, that is certain, even though security guards or portals may be placed. (P04)

Apart from a possible dialogue facilitated by the local government, developers must negotiate with either another developer or the residents of the adjacent housing estate. Similar to obtaining a neighbour permit, they must obtain the residents’ or developer’s consent in writing. This allows them to make connections between their project and the existing street. To obtain a permit that allows these connections, it might cost them financially and time-wise:

If developers wanted to make an access point to the adjacent housing estate then that is between them. Have to get a written consent. (P02)

Yet in regard to the housing estate and its relation to the wider street network, there is a limitation of access points set onto certain roads, based on a hierarchy. This hierarchy is determined by spatial plans made by both municipalities. These plans say that access point limitations apply on arterial and collector roads due to the traffic load that resulting from the housing estate:
Access for entrance and exit to national roads is made limited because it disrupts the traffic. As long as it is possible to access from another street then it should be the one to be activated and opened. (P04)

Because of using public roads, there has to be an entrance permit (izin jalan masuk) … it is limited to prevent traffic congestion due to many intersections, moreover if the distance is only a few metres away. Therefore, usually only one access point and then made as cluster. (P02)

From a developer’s viewpoint, establishing street connections or adding more access points is not based on local planners’ advice. Developers tend to consider it as an added benefit they can offer to buyers, particularly if the access is on a busy street. Meanwhile, access points on local streets, where most of the suburban housing estates are located, are not limited as no regulations apply. For that reason, it seems that access points to quiet local streets or to adjacent kampung are not considered beneficial by developers; they may even be contrary to market demand. Other than that, developers confirm that awareness of providing such connectivity to adjacent areas is not usually present, and certainly has not been bounded as a legal requirement:

[The reason of] adding more access [points] is not because of recommendations [given by the local government] but from our initiative to boost selling. If we provide more access points, it becomes nearer [the estate will be thought by buyers] so people from Bandung [would say] ‘it is better to use this access’ … because there is no such obligation set by the local government then we do not make it [more than one access point], the street network to be connected with the adjacent kampung for example. There is no awareness to that direction yet. (D09)

The spatial plan made by local governments may have been made for better accessibility. Nonetheless, the planners interviewed indicated that the plans have not been implemented in a timely manner. This casts some doubt as the developers wonder if the plan will ever be realised. At the same time, developers are pushed to build their plan by constructing on site and may have to end their project before the local government’s plan is finally realised. As a result, there are no links between the government’s spatial plan and the streets that developers build, even though the permit granted covered such links. This
mismatch between plans and reality is yet another problem for asset hand over, as will be discussed in Section 6.6.

The developers should have sufficient information [in regards to the spatial plan] but sometimes it does not happen. The government may not have disseminated [the plan] well. Meanwhile up until now the streets may not have been built yet, developers then get confused ‘why do I have to correspond to the local government’s plan while the street is getting more and more packed with settlements’. Acquiring land becomes very difficult. (P16)

On the other hand, by knowing that the spatial plan benefits developers it allows them to anticipate some costs as well as to secure future profit; for example, to increase the selling price of the house. The safest way for them is to not rely on the government plan. Instead, developers progress with their own plan and make some adjustments later if the government plan is carried forward, as one interviewed developer below describes. A nearly doubled increase in value in four years did not occur due to a government plan for better regional accessibility. This was also the result of the property market:

There is an alternative route here [100 metre from the site]. This year the government will acquire land to make a thoroughfare. It was planned more than 10 years ago … We did not consider it in calculating the house price back then, but we do now. The price in 2010 was 390 million [rupiah], relatively cheap for 120 sqm. lot size which usually sold around 400 [million rupiah] … Now the price has reached 650 million (rupiah). (D15)

Statutory planning, as discussed in these five sections, has provided a basis for understanding how the planning process shapes the form of housing estates. Statutory planning’s role is limited. Is there a more suitable way to increase walkability and accessibility? This is a question that needs to be addressed and is what the next section tries to answer.

6.6 Overcoming the Problems of Accessibility and Walkability?

Being aware that most people have become dependent on private vehicles, planners have foreseen that the lack of road capacity will undoubtedly lead to more congestion. A need to provide accessibility in a well-established street
network to cater for this growth has occurred to planners, yet this relates to local conditions such as the land market and residents’ willingness to embrace change. As one planner states:

Because all these times much [people] use private vehicles, certainly we need some kinds of engineering. Meanwhile making a new road is difficult, [due to] expensive land, resistance from residents. (P08)

Not only that, planners’ foresight is also compromised by underestimating their role in modifying the built form, as well as shaping the form yet to be built. This is particularly debilitating for providing walkability. To overcome such problematic conditions, the planners interviewed indicated that they relied on an asset handover as the most suitable solution to manage the urban form. This is to be expected as planners seem reluctant to directly shape the built form, which is further confirmed in the quotation below. An assets handover has been mentioned as a practical way to provide connectivity by allowing the government to have legal title over streets and other facilities within the housing estate. As such, an effort to establish physical connections between housing estates and adjacent areas, be it another housing estate, kampung, or other kinds of urban fabric, could be activated. Such connections might be made possible by establishing more access points or demolishing perimeter walls previously built by developers. From the developers’ creation of private spaces physically separated from the rest of the city, or as the planner describes it, as ‘cities within city’, planners are seeking to move towards one city:

The solution is by handing over facilities and infrastructure to the government, to be managed by us therefore to minimize the presence of ‘cities within city’. By becoming city assets, it certainly eases us to connect all the street networks … but not yet towards anticipation as to prevent cul-de-sac to be developed. (P08)

While the problems associated with statutory planning have been discussed, the local planners’ proposed solution to take over once the assets are built is not unproblematic. The time span of each project varies greatly, from months to decades, making it difficult for planners to monitor and catch up with the
development progress followed by a handover process. This difficulty is due to the regulations and what the planners think of their limited resource capacity:

The monitoring may be [an obstacle] because we have limited human resources so that after all [houses] are sold then we forgot ... It also relates to time because the sale is not for 1 or 2 months, it usually takes even more than 5 years. (P08)

Making streets connected has raised another obstacle: resistance from the housing estate residents. To avoid this resistance, the handover must be done as soon as the physical constructions are finished and undertaken from developers to local government directly, without any intervention from residents. Once residents start to take over in maintaining the streets and facilities within the housing estate (as described in Section 8.4), for security reasons they are likely to further distance themselves from the rest of the city. Nonetheless, having known developers’ behaviour to increase property values, this seemingly practical solution does not seem possible. As long as the construction process happens at the same time as the residents start to occupy their properties, it would be difficult to eradicate the residents’ sense of belonging; hence, their increased willingness for privacy. As one concerned planner states:

When these [the houses] are handed over to residents, the residents usually protect themselves. Like in X estate, it supposed to be handed over to us [local government] and yet it [the access point] is closed [by the residents]. We also made some mistakes as the handing over was not supposed to be made from the residents but rather from the developer, so that the resistance would not be too high. (P08)

Related to the failure of catching up with the development process, planners are unable to track developers’ presence to obtain a legal certificate for facilities within the housing estates developers have built. This creates an awareness of the necessity to handover assets. Unfortunately, a problem still applies to housing estates built more than a decade ago, as well as those built by individuals. In saying that, only a few housing estates have successfully been handed over to the local governments. As described by one planner below:
Sometimes after finishing up the construction, developers just went away ... it happens more if they only develop clusters ... as such, the developers are not firms, usually individuals. It is hard to track them. (P16)

One planner interviewed, who is quoted below, indicated that assertive action to take over assets has not become a choice for local governments and may result in future land disputes:60

The old estates are left by the developers ... the residents still request the facilities to be handed over [to local government] but our regulations have some requirements ... when developers are gone, they took with them the legal certificate. The residents do not have it. They only have the legal certificates for their houses and lots. The legal certificates for facilities, streets, there is of course the legal title to these, which they (the residents) do not have ... let us say that it [the streets and facilities] could be given away but there is no legal title, we could not accept that. What if one day someone come and demanded for it [and say] 'it is my land, how come it is given away'. (P01)

Adding to this possible dispute, the interviewed planners said that they were reluctant to take over assets as they have difficulty obtaining the finance to maintain such assets. To be financially feasible, they may need to select which facilities and parts of the infrastructure should be handed over. In this case, only the parts that are crucial may be taken over by the local government:

The regulation is even though [the facilities and infrastructures] have not been handed over, we could still be able to take over them. However, if the government wants to take over assets, the assets have to be maintained. Then where should the budget come from. If taken over [the assets], it may be the primary streets providing through traffic, so the residents still have to maintain [the other assets]. (P04)

Also due to budget constraints, planners are reluctant to gather information and initiate a hand over process for housing estates. Instead, they simply wait and

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60 In some cases, some land dispute may happen later in the future when a landowner is revealed and wish to claim their legal rights of the land that is designated as green space. Because there is no evidence of legal title owned by the residents, most of the time they lose in the trial. Yet, it is widely known that later legal titling over green space tend to be associated with wrong doing.
see if any problem or complaint has been raised by the community. As one planner states:

If there is no complaint from the community then we just stayed still because we would not know otherwise. (P01)

Should a complaint be addressed, they will then react and if necessary start the hand over process. This brings into question the role of local government. As most houses are either built individually or by private developers, it seems that local government try to maintain a hands-off approach to everything that requires maintenance. Local government avoids spending money since they do not have enough money as mentioned previously.

Adding to this problem, once developers have left, residents may also add illegal private uses. The green space within the housing estates is mostly regarded as leftover land, neither owned nor maintained. As such, some residents may take it over to maintain the green space, while building a fence around it, making it private. In another instance, as quoted below, some may put it to commercial use (once these things happen, no regulating actions are taken until necessary, for example for assets handover to the local government):

If the estate is left by the developer, the residents usually do whatever they like ... for example if there is one vacant land or lot, (they must have thought) what if we build some small shop (warung)? (P01)

Meanwhile, where the legal documentation of asset ownership is available, planners argue that problems may arise due to incompatibility of the built conditions with their standards that specify technical requirements. What happens then is that planners try to encourage the residents to access available funds from private sources and use them to fulfil the technical requirements established by local governments:

When we came to the site, indeed it [the asset] is good [in terms of quality] but it did not match the [required] technical specifications. So [the process] became long ... the follow-up thus far is, what happens at site, we attempt to suit the specifications. They [the residents] need to sort this out themselves [financially]
... for example, to ask for the CSR [Corporate Social Responsibility] fund from the surrounding firms and manage themselves until they are able to fulfil the specifications. (P01)

Resorting to private funding to maintain assets is considered necessary as long as the assets have yet to be handed over to the local government. Since the regulations do not require local government to do anything about private assets, it is the very least a local government can do to facilitate the estate residents as part of their citizenship rather than leaving them stranded:

As long the handing over process is not finished, then the [obligation of] maintenance still belongs to the developer, if the developer still exists. When the developer no longer existed, the residents are basically our citizens also. (P01)

These problems are entailed in the form of housing estate that affects planners’ resolutions to fixing the form, suggesting that form should not be shaped only by developers. It is vital that planners take assertive actions within the permit process for housing estate development.

6.7 Conclusions

The processes incorporated within statutory planning cover only the elements being regulated by law as part of the statutory planning routines. This chapter has shown that housing estate development is seen to be overcoming a housing shortage and might also be seen to be controlled by regulations. However, the latter is not the case. Problems that may occur in housing estate development and that are associated with walkability and accessibility are largely overlooked by planners. Most planners do not think that the current form of housing estate manifests any travel problems. It seems that only if the policies and regulations were to mention the associations between housing estate development to walkability and accessibility, then planners would be aware of travel implications and act accordingly. While some planners are concerned about the forms of housing estates, most do not see them as a problem that needs to be addressed by better planning.
There is a problem within the permit process itself. The lengthy and costly permit process is likely creating the conditions that are leading to poor built form outcomes being produced by the private development sector. Developers fail to comply with the process timeframe by starting their marketing and construction work without regard for the regulated permit process. The interviews indicate that an unclear and unequal enforcement of regulations promotes ambiguity for developers and discourages them from complying with regulations. It is then implied that developers tend to belittle the planning role. Such behavior is understandable with the clienthood character of Indonesian permit process. Clientelism creates a hidden cost in the permit process. Such non-transparency has brought an unnecessary increase to property prices, in addition to what has the market brought to increase the price as well, which has contributed to affordability problems for the majority of the middle-class. Additionally, regulations have been said to contribute to divide the suburbs into a market segmented location in which some is suitable only for the middle- and upper-class housing estates and some others could only reside in kampung. This has implications for the lower-middle-class’s striving to live in the kampung area while maintaining its traditional identity or being relocated by gentrification.

The planning process does not seem to be directly shaping the form of housing estates. The planning process contributes to the creation of problematic conditions made by the current form of housing estates. Chapter 6 has identified that while some housing estates have gates and walls, some are built without them. Looking at the year of construction, open estates were developed in the early 1990s while gated communities or clusters were introduced in the mid-2000s. What caused such a difference between these two timeframes is the market: the mid-2000s was a more challenging period, with a rapidly decreasing land availability and increasing land prices. As the form corresponds closely with the changing market, planning does not seem to play a strong role in shaping the form of housing estates. Instead of intervening in the market for the sake of the public interest, planning has become subject to a market mechanism in which all
decisions are made to suit market demand, even incorporating the commodification of the permit process. Negligence is further kept alive through the maintenance of residential street and facilities. What limits the effectiveness of planning is the many things left to be carried out by market mechanisms.

The role of planners appears very limited. Acting merely as facilitators of development, planners see their role as only helping the process along. They simply look at compliance with regulations rather than trying to direct housing development towards the better built form.

In terms of providing physical connections, the research has identified one crucial role played by the bordering community. When developers ask for their consent in obtaining the neighbor permit, this community could request their settlement be physically connected through a pedestrian access point at the very least, or even have a perimeter wall completely removed if possible. Other than that, the dwellers of this community could potentially determine the pacing of development in the area through this avenue. Yet, this possibility is encountered through the persuasion of developers, who may offer increased property values or ‘pocket money’ as financial compensation. Decisions on the built form then would always be contested and prone to dilemmas. Within this situation, it is the planners’ responsibility to guide the community and ensure that no vested interests outweigh the walkability and accessibility of the broader public.
Chapter 7 Developers and the Middle-class

The built form demonstrates the effectiveness or otherwise of the planning process, and how planners and developers are related to one another in shaping the form of housing estates. While the previous chapter explored the process of statutory planning and how it contributes to producing poor walkability and accessibility outcomes, this chapter discusses the factors that influence how the form of housing estates is determined through the private nature of developers. Mainly dealing with the developers’ perspective, this chapter also includes discussions on the local market and the regulations affecting the developers’ behaviour in shaping the form of housing estates. It does this by addressing the fifth sub-question ‘what role do developers play in shaping the form of housing estates, and how much are they influenced by planning?’

This chapter presents the findings from interviews with nine developers who have built 22 small-scale housing estates in the Bandung suburb. It is also enriched with interviews from local planners. The chapter is structured into five sections. The first examines the market on location and discusses how developers chose the location for their projects and how this may affect the form of housing estates built. The second section addresses other reasons behind the form of housing estates. Following this, developers’ actions are discussed in relation to the middle-class market they seek. A further section contains discussions acknowledging that shaping the form of housing estates for the middle-class does not stop when developers finalise construction, but continues to post-construction, where assets are handed over to residents. A concluding section then follows that summarises the way of thinking and working behind developers in shaping the form of housing estates. It also tries to link the developers’ role and the influence of planning.
7.1 Choosing a Location for a Housing Estate

As locations and building configurations are unique, the fine detail of spatial variation is critically important for land and property markets—making these markets local (Healey, 1992b; Monkkonen, 2013b). Informed by such arguments, this section examines the reasons behind developers’ decisions to choose the northwest suburb of metropolitan Bandung for their project. As this area has been included in KBU since 2008, it has restrictions on development. Nevertheless, this location still sells more rapidly than its counterparts, such as the eastern and southern suburbs of metropolitan Bandung. Housing estate development in the northwest suburb is still booming, as shown by the quotation below, even though it has increased rapidly since the early 2000s:

The reason is because Cimahi area is booming. Ours [other projects] in the southern and Western suburb of Bandung do not sell really well ... the [project in] Cimahi sells faster because the water is clean, closer to Jakarta, more strategic, and the streets are better. Buyers prefer it ... despite its tight regulation. (D13)

Based on market demand and permit requests, the restriction has somehow made this suburb more appealing and created an even more competitive land market. Other than the practical reasons mentioned above, looking at the values the middle-class aspires to, this is presumably because owning a house in a privileged location is a source of pride:

Housing growth demand happens in the north. Other than the convenience of the land, probably the price that made the land in the north is reasonably high and the high-income class go there. From the parameter of permit [request] viewpoint, the market demand for housing development in the north is very high. (P08)

As an inseparable accessory to location, land value is confirmed by most planners and developers as another prominent factor. It affects developers as they set high values for house prices. From this market mechanism, it is the planner’s impression that no lower income housing will be built in this suburb. The lower income groups can only reside within pockets of kampung:
It is supposed to be [that in the north suburb there will no longer be estates for the lower middle-class] because the [land] value has reached 400-500 thousand rupiahs per meter. It is just beyond the range [for the lower-middle-class]. (P05)

It should be noted that land values are increasing very rapidly regardless of the lack of infrastructure in the area. As described by one developer below, regardless of: the narrow streets (usually no more than 7-metres wide); the lack of a drainage system that means floods occur on the streets after heavy rain; the presence of holes and bumpy surfaces; the houses are still highly valued. A newly built 36 sqm house on less than 100 sqm lot is sold at around one billion rupiah (equal to one hundred thousand Australian dollars) by developers. As a comparison, a house of double the size, with a double-size lot, located in an older housing estate within the same suburb, but with better infrastructure and accessibility, has been valued with a similar price. Looking at this comparison, the argument about a highly demanded location being due to pride may be apt. As the developer states:

The buyers on average are coming because of the location ... let alone when it is going to be no longer allowed [for housing development in KBU]. Bankers say that this location is an anomaly: the streets are not wide, broken [with many holes], expensive houses, yet it has good sale ... if nearness, [compared to] the eastern suburb, this location is more appealing ... the buyers in average work in Cimahi, or this [Western] part of Bandung city. There was one [buyer] who works at Soekarno Hatta who mentioned: the reason [why I bought the house] is location. (D09)

In choosing a location, developers no longer need to think about accessibility, as it is no longer considered a prerequisite. Rather, private vehicles become a prerequisite for buyers to own a house in this suburb. This private vehicle ownership is undoubtedly parallel to a condition when a buyer decides to buy a house and reflects on what has been termed as ‘forced car ownership’ (Banister, 1994; Gray, 2004). This is created in a context where the built environment exacerbates the need to travel over longer distances and hence generates a higher degree of car reliance. For this condition, car ownership becomes a sign of deprivation or necessity rather than a sign of affluence (Gray, 2004). The
interviews also indicate that developers rely heavily on the assumption that cars and motorbikes are cheap and that the majority of households can afford to own one. Considering the mushrooming credit facilities that make it easy to own private vehicles, developers are certain this is the case:

On average the residents own private vehicles, surely at least they own motorbike. The car has no longer become a luxury thing so people think when they purchase a house they also [need to] buy a car. Or sell the car first [in order to have the money] to purchase a house, then buy another car. (D09)

Nonetheless, this does not necessarily relate to residential selection as a buyer may choose a particular form of housing estate to suit their travel preferences (see for example empirical studies by Cervero, 1994; Haybatollahi et al., 2015; Kitamura et al., 1997; Krizek, 2003; Schwanen & Mokhtarian, 2005). Consequently, public transportation is not an important feature of housing estates for the middle-class. Based on developers’ track records, selling houses located far from public transportation is fine:

For middle- and upper-class estates, the angkot [public transportation means] route is actually no longer attractive [as a pull factor] because the segment is different ... Motorbikes are cheap, cars are abundant ... At our other site, located about 1 km from angkot route, the selling is still pretty good. (D09)

Developers even said that a demand for housing in the area is proven as housing estates could still be found and sold even in the least accessible location. Rather than a prerequisite, accessibility is now an added feature to attract buyers:

Personally, [for choosing a location firstly] I see whether there is housing estate in the area, [if there is] that means there is market in the area. Secondly, we compare the prices [of the existing housing estates], then we see whether the land value is within our [purchase] range. After confirming the land value, other factors follow. One of them is whether there is public transportation. But it might not be necessary if there are housing estates already existed. Even though it [the public transportation] is not available, houses are still saleable because the middle-class surely own [private] vehicles ... the public transportation then merely considered as an added plus. (D18)
In addition, developers consider buyers as making multiple trips prior to coming home. Local trips or strolls around the neighbourhood are not widely recognised to be catered for in the form of housing estates developers build. As private motorised vehicles are commonly owned, residents are more likely to travel outside their neighbourhood. It is unsurprising to find that one developer even mentioned that the presence of shops or other local commercial uses does not determine the location to build a housing estate:

There was [one buyer] who works at Soekarno Hatta ... [he said] when he comes home that means to stay at home and does not go anywhere. Coming home means to stay at home. Shops, the minimarkets are everywhere. It is not an attractive point [to promote]. (D09)

It has been clarified here that location is the base from which developers select their projects. Nonetheless, this is viewed from an accessibility perspective at the regional scale (accessibility to schools, hospitals, toll roads) rather than the neighbourhood scale. Accessibility at the neighbourhood scale (as well as in relation to public transportation options) is meaningless for developers, as middle-class buyers mostly travel in private vehicles. This also influences the form of housing estates, as discussions in the following section shall explain.

7.2 Gated, Clusters, Cul-de-sacs and In-between: Influential Factors on Form

This thesis has used the terms ‘gated’, ‘cluster’, and ‘cul-de-sac’ to describe the physical characteristics of housing estates in the northwest suburb of metropolitan Bandung. As was discussed in Chapter 5, while housing estates are found to have many similar characteristics to those in Australian, North American or European countries, they differ slightly. The very definition of each term is then varied to suit the common conditions found in the context of this suburb.

The physical characteristics of a gated community are shaped by the elements that either the developers construct and sell, as addressed in this section, or that the residents have erected, such as the portals or barricades installed during
post-construction. The latter will be addressed in Section 7.4. While ‘gated community’ is a well-known term among planners, developers have familiarised themselves with the term ‘cluster’. This is even though developers confirming they include gates to provide an image of exclusivity. From observations and interviews, gated communities and clusters do not have distinctively different elements. Yet finding promotional flyers that use the term ‘gated community’ is difficult. One possible explanation for this is because gated communities, according to many scholars (e.g., Le Goix & Webster, 2008; Sanchez et al., 2005), is an adverse term that reflects ignorance and separateness from the rest of the community.

In this suburb, it is not a simple gate that is usually built by developers, but an elaborately designed gate. This gives an image of luxury regardless of the number of houses within a project. The gate distinguishes the estate from the rest of the area. Nonetheless, sometimes developers get carried away in designing gates that do not resonate with the images found within the housing estate itself. For example, found during data collection were gates with gigantic elements and massive decorated wallst while small houses on narrow streets were found behind the walls (see Figure 7.1). Such contrasting images between gate and the interior are intentional according to developers. For some developers, gates are considered more appealing for the middle-class buyer than are other design elements:

Cluster X [that we developed] consists of twenty-something houses. It is more exclusive, has fewer amounts of houses, and has its own gate, the nice [luxurious] one ... so that when the buyers come and see the gate they would think that we have done the best ...regardless the few amounts of houses [in it], it feels exclusive. (D12)
Other than luxury, gates and walls are built to offer a perception of security for buyers. The fortified boundaries of estates in Indonesia are presumably a promotional tool to attract buyers (Rahadi et al., 2013). They do so by giving misleading ideas about security. After construction work is finished and houses are handed over to residents, the gates are usually guarded by security personnel paid for by the residents; however, they are ineffective for security reasons, as mentioned in Section 5.2.1. Most developers believe that perimeter walls are crucial factors in selling security even though they are also aware that exterior walls do not necessarily make the properties less vulnerable to theft.
Security, gates and walls are clearly a priority for most developers when selling their properties, regardless of their knowledge about the effect of gates and walls on excluding non-residents, as one mention below. The previous suspicion about developers’ hesitation to use the term ‘gated community’ in their promotional brochures is then confirmed. Instead, developers use ‘system cul de sac’, ‘one-gate-system’, ‘cluster’, or ‘24 hours security’ to promote security (see Figure 7.2), which is also clear in this response:
Walls are built for residents’ convenience … their security (the perception of our buyers actually). It has to be built like that. If we made it [the estate] open for the kampung residents, indeed it is like excluding themselves actually but it turns out that it is the best. If we made [the estate] too open, they [the buyers] would find it inconvenient … security is quite a selling point. A few hundred sqm [housing estate], walled, with one access [point], is relatively more attractive as opposed to estate with alley [refers to grid layout street]. Despite we always inform [buyers] that we have 24 hours security, our tens hectare site may cause controlling for security a bit harder. On the contrary, the cul-de-sac with one hectare, well it is kind of an attracting factor for buyers, even though getting theft just happens … it is just to support marketing to make the sales persons more confidence in selling [houses]. (D09)

While many developers tend to consider gates and walls as a necessity, the priorities of property price and security need to be considered in the balance. One interviewed developer could be exempted from this point. This developer did not build any kind of perimeter wall. This decision was made because of the impacts these walls have on the property price. For this developer, keeping the property price low was their main priority, because they were targeting the lower end of the middle-class market. This corresponds to what I found on site: there were no walls found that separated the estate from Kampung. While it is true that they are keeping the cost down to suit their selling price, looking at their project on site, this developer does not necessarily need to build perimeter walls to create a security effect, since the site is surrounded by steep hills and river as natural boundaries. As the developer states:

The access point [for our project] is only one but it is not cluster … because from the viewpoint of [selling] price, it [cluster] will be more expensive … our price, compared to the surrounding area, is still below average because the others are clusters, fewer number of houses, individually developed. Meanwhile we have more houses … Because they built clusters, the wall itself automatically affect the [selling] price. (D11)

Other than the cost of construction, the perimeter walls also require housing estates to be guarded by security personnel. Developers are also aware of this cost. Nevertheless, this does not seem to burden the developers, remembering that once all construction work is finished then the housing estates will be
handed over to local governments. Yet this is not what happens in Indonesia, as shown in Section 6.6. The cost that may be incurred from this employment, as one developer describes, is not cheap, and while the developer can afford it, problems related to the management of human resources may also result. In the meantime, while buyers prefer estates with gates, walls and guards, once they become residents and the developer’s construction work is finished, the residents will be left with an additional financial burden. The residents may then be unwilling to pay, particularly if a human resources problem occurs, such as in the quote below. By recognising these problems, one developer resorts to a design grid street layout that can easily be converted to a cul-de-sac by installing portals. The developer states:

Cluster[s] certainly will be more expensive, because it needs security personnel to guard the gate … for example the housing estate where I live, it was planned as clusters with a main gate, main road with large houses … with security guards at each cluster, [then I asked the developer] ‘when will they guard the gate? will it be morning, noon, afternoon, or night?’. [The developer answered] ‘24 hours, Sir’. But now where are they [the guards]? since CCTV were installed they just hang around together … because the cost is big … who wants to pay [more for their salary]? Therefore we [prefer to] develop grids. Once the residents [wiling to] put portals, 3 or 4 way streets will be converted to only 1 [way], with control. (D12)

From the developers’ viewpoint (and while having a deeper concern about socio-historical changes in Indonesia), it seems that ‘the walling or fortifying up’—as Blakely and Snyder (1998a) defined as the process of erecting walls to create gated communities—is partly related to protecting property values. It allows developers to take undesirable land for development because it separates their realm from the surroundings (Lang & Danielsen, 1997); namely, the kampung and its distinctive socio-economic characteristics. Further, it is also widely acknowledged in Indonesia that walls allow developers to access the surrounding land for a lower price.

Having known that perimeter, boundary, or exterior walls are built based on developers’ thoughts about their buyers, one developer (as shown in the quote
below) admitted that the decision about whether walls were necessary was also made in relation to the process of land acquisition. Developers may deliberately block the access for rear land parcels on land they are still yet to purchase. This action might concern residents who would not be able to use their land due to the lack of connection to a street. In the end, land owners will be forced to sell their land to developers, most often at a much lower value. As the developer states:

> My other project for the first stage has 96 house units. There is still 10 Ha of land for the second stage that has yet to be acquired. It is in the rear but we have blocked [the access for] it. (D18)

Planners are aware of these actions taken by developers and consider them as tricks to obtain land. Unfortunately, while these problems are recognised, most planners only allow themselves to engage with problems addressed within the regulations. Planners are concerned only with the elements that have a direct effect on the environment. Planners’ negligence in relation to cutting access is clear:

> It is developers’ trick, for example they acquired land here then built [perimeter] walls. Then the land became cheap. It is already common, happens everywhere … [yet] we focus on coverage … we do not think that cases with perimeter walls influence the environment hence beyond our focus. (P01)

Another problem that the perimeter walls may cause is a greater travel distance for residents due to the lack of access points. This is worsened if only one access point is available for both pedestrians and vehicles. While this may not necessarily be a problem for people who drive cars or motorbikes, it surely is a problem for pedestrians, particularly if their destinations are beyond a walkable distance. Access points for pedestrians are quite critical to providing an accessible environment, but developers will not make them unless they are required to do so (as discussed in Section 6.2). For housing estate development undertaken on green field sites where the bordering community is relatively unpopulated and live within a certain distance from the project (such as one of
the interviewed developers), it is most likely that developers would erect perimeter walls without any pedestrian access points.

Having mentioned that the gated community and cluster have similar physical elements in gates and walls, there is another factor that creates a cluster. Piecemeal development in the form of clusters, according to planners, is occurring due to the booming estate development that encourages individual land owners to subdivide their land and convert it into lots and houses. One of the interviewed planners even admitted that he used to be one. These individuals may act in-person and hire builders to develop housing estates and most of the time they do not have permits. This is a common practice in this suburb and this practice can be found in kampung where people subdivide their lots to build units for leasing (kontrakkan). The logic of subdivision to build houses for sale is likely to be the same here:

Property is currently booming [hence] there are many recurrent developers [pengembang kambuhan] ... because one has 1 hectare of land (then he decided) let us just make housing estate, divide it into lots ... that is without permit ... as such there are plenty who do not have permit because they think that they have the capital. One the other hand [they also think] it is also their rights since they own the land. ‘It is my land, none of your problem’, like that. (P01)

This situation signifies the lack of awareness in formal planning where only a handful of people are familiar with the planning process and regulations. It also seems that regulations only apply for formal processes, such as purchasing land, establishing a development firm and building a housing estate. The case is different for a landowner who decides to subdivide his land, build houses, and sell them individually. Even though it is principally the same activity as a developer, the individual landowner’s action is regarded as incremental and organic, as with subdivision in the kampung.

While individuals are attracted to development, they may have limited financial resources or lack the business insight for this. Such limitations, according to planners, would make them an adverse risk for developing a cluster of houses
(usually spanning less than a hectare). Building housing estates on a smaller scale would entail a lesser risk for these individuals, while allowing them to have a first-hand experience worthy of exploration:

New firms are emerging due to the high profit [that they may gain by becoming housing estate developers]. The small-scale developers only dare [to start] with a cluster, so they can play [in the business], they would not dare to play in hectares. (P02)

However, as time passes and more experience is gained, these developers may gradually establish small-scale developing firms. As one developer quoted below has described, he started his business six years ago with a project consisting of four houses that then steadily increased; currently he has more than a hundred houses to build:

I was involved for the first time in housing projects in 2011. My first project was a cluster of four house units then gradually developed more clusters of tens, under 20, house units. This project has 62 house units. My other project for the first stage has 96 house units. (D18)

Due to the regulation that sets a limit of land for individual purchase, it seems that the expansion of individual developer to become a development firm would allow the firm to purchase larger tracts of land to be developed. Such expansion would also enable them to be a part of housing estate developer associations which boost their prestige as a developer as well as to increase potential buyers’ trust. Nevertheless, such an expansion also means that firms must abide with the whole process of statutory planning. This should not be a problem as developers have mentioned they are willing to oblige, apart from some defiance found in practice (discussed in Sections 6.3 and 6.4).

Other than the developer’s capacity, clusters are also flourishing because of the changing conditions of the land market. While vast areas of vacant land may still exist, it is either expensive or located on the outskirt. Responding to this condition, clusters are mostly found as in-fill between tracts of built-up land within an area that has increased its land value. From the developers’ and
planners’ perspectives, reduced land availability, as well as the increase in vacant land value, have become two of the main contributing factors causing developers to build housing estates at smaller scales. While previously vast areas of vacant lands are still abundant and relatively cheap, a profound change has occurred within the last decade where land is becoming scarce and more expensive due to housing development. The only available land for development in this suburb is mostly small and located within an existing settlement:

Depends on the size of the site, if it is small and the surrounding areas are [built-up] settlements then it would be cluster ... the developers currently have limited options ... when in the past they can develop 10 hectares now only 1 hectare ... the lands available now are only in-fills. (P04)

The trend of clusters is caused by the increased land price ... because land availability has reached the limit. (D09)

Having a keen eye for vacant land to be developed, the two factors discussed above lead small-scale developers towards another avenue to acquire land. Instead of purchasing land, four out of nine interviewed developers cooperated with some land owners on a shared-profit basis. This kind of cooperation allows individuals who own small land parcels and are eager to sell their land, and developers with small amounts of capital to have a mutual relationship. Developers can proceed towards a permit process and construction work on site without having to spend their capital on purchasing land:

Developers always looking for land to be developed mean while acquiring land is getting more difficult because of the price. For our projects, some lands are bought and some are in cooperation with the land owners. We designed then we split the profits. (D17)

Within such arrangements (while physical development is still taking place), land owners are not being fully paid until every house is sold. This is presumably for the developer’s advantage so that they minimise their risk should sales not eventuate. With such cooperation between landowners and developers, it is unsurprising that clusters are flourishing, let alone with an accompanying high demand from the middle-class. As explained by one planner below:
In the form of cooperation, only when the houses are sold, the land [owner] is fully paid. There are many small-scale developers in this suburb: with only 4000 sqm land, they make housing estates. Lands for clusters are abundant and interested buyers are many. (P02)

Nonetheless, cooperation with land owners is not only done with individuals but also private firms or other developers who hold location permits with unfinished projects. One interviewed developer called this practice *Ngorehan sisa-sisa* (a traditional Sundanese language phrase for looking for scraps). As mentioned in Chapter 6, such cooperation with the holder of an older permit allows developers to build estates within a larger tract of land as such old permit is excluded from the new restrictions passed in 2008:

I have another project. It was being constructed since 1987 ... It [that housing estate project] collapsed in 2004 then was sold to another developer. In 2012 we got it back, the land of 2 Ha at the northern part of the project, which included in the old permit, is being planned for further development. *Ngorehan sisa-sisa* whereas we utilise the ones that could still be sold. (D09)

Apart from the calculation of land values, developing small-scale housing estates in the form of clusters is also beneficial in relation to the facilities that are required. This reflects the limited capacity of small-scale developers, as discussed in the previous paragraphs. The current facility requirement is that, the bigger an estate, the more facilities need to be provided, while smaller ones are only required to provide green spaces or a mosque. Developers, however, argue that developing small-scale housing estates brings them more profit. Regardless of being more time consuming and costly, developing at a small-scale somehow results in greater profit than developing larger housing estates. One probable cause for this profit because fewer facilities are required:

There are a few requirements that no longer apply when the size [of the site] is less ... for example the X [new town project] with its enormous size has to facilitate schools and hospital. In business calculations, 5+5 is more beneficial than 1x10 seen from the cash flow ... the cost is bigger actually because of the [obtaining a number of] permit but once we calculate it at the end of the project, our cash on hand [as revenue] is bigger from the small ones [projects]. (D09)
There is a tandem element to clusters: lots without interior fences. Whereas fences used to be found on each lot, they no longer appear in the newly built estates. Having security personnel on the gates to guard a narrow area of a cluster, such fences are no longer necessary. Security of both the house and the residential area has become the guards’ responsibility instead of the home owners:

The [current] trend is for houses without interior fences, within clusters ... because we have security personnel at front ... in spite of large-scale, housing estate is made into clusters with security personnel [on guard]. (D18)

However, developers also mentioned that this only applies for the small-scale middle-class housing estates that are usually around or less than a hectare. It is inferred that if the area is bigger than this, interior fences are needed. Interior fences are also required for the large lots of the upper-class to provide more control and privacy:

The trend of lots without interior fences occurred in 1990s. But if the guarding area is too large then we make the interior fences. Also if the lots are large ... more than 500 sqm. (D19)

Clusters are also regarded as identical to cul-de-sacs as they create privatised area. While a cul-de-sac is essentially a street without a through connection, the term is used to refer the layout of an area with a single access point. Developers once again suggest that the market preference forces them to build such forms. Otherwise, as one developer mentions below, they would not sell well enough and their price would be lowered (developers might also have to install some portals to create the same effect of privatisation on streets):

The market preference is cul-de-sac ... it sells better ... I had once developed an estate that is not cul-de-sac, then many people asked ‘why not so’, they did not like it much. It was made up of ten units of houses, but it was located on a public street ... in the end I had to sell them cheaper... then we also installed some portals. (D18)
Dead-end streets are commonly found within housing estates. Developers use them to enable future connections. Should they want to expand their project to an adjacent area, the dead-end street can easily be connected to the newly designed block of houses (presented in bird eye view model in Figure 7.3).

![Figure 7.3 Stages of development example](image)

Whether it continues as a dead-end street depends on the availability of land. Nonetheless, as admitted in the quotation below, developers are always looking for profit maximisation, so they ensure that they can sell most of the land as lots instead of streets. Dead-end streets, accompanied by perimeter walls (shown in pink in Figure 7.3), are essentially beneficial for developers regardless of whether they make an effort to purchase land for their project’s expansion. They may say this because a fully constructed housing estate, or a few units of houses within the project, will increase the value of the whole project because of how the market operates:

We always think that one day we will further develop the location so our street design always has a dead-end. One day it can be opened and we build new blocks. Always like that ... if we make it around, I will lose two lots ... 1 sqm times x million [rupiah], that is the calculation, lost ... in the end it will be site effectiveness for sale ... we as the seller have to be very effective [in developing the site]. (D09)
Unfortunately, the planners in this study supported this strategy, but in a slightly different manner, as will discussed in Section 6.5. Planners tend to accept the built form of housing estates with dead-end streets. Similar to the developers’ way of seeing dead-end streets as providing connections, planners encourage developers to establish dead-end streets at the same points as in the already existing neighbouring housing estate. Planners argue that dead-end streets from both sides of a housing estate could establish a thoroughfare once the exterior walls that separate the two are demolished and (most importantly) should both estate residents be willing.

7.3 Business as Usual: Market Aspiration and Marketing Strategies

Having discussed the factors that influence the forms of housing estate from a developer’s viewpoint, this section elaborates ideas on form in relation to the housing market. In terms of ideas, planners have said that the small-scale developers are likely to emulate models found locally and sourced from the large-scale developers. While the large-scale developers have a high capability, resources, and certainly confidence to create new demand (and hence the ability to shape trends), small-scale developers react to demand and follow these trends. Looking at the background of their origins as individual land owners, this behaviour is to be expected from small-scale developers:

   Sometimes developers create new demand instead of following demand … such as portals. Back then people did not feel the need [for it] but now everyone depends on that. That is the phenomenon particularly for housing estates in the suburb … for example Orange County\(^\text{61}\) there are a few icons being exposed as to create an effect … the psychology of Indonesian people ‘wow there is new stuff, it is from California’. The pioneer developers always construct new goods, the large-scale developers [that is]. While the small-scale developers follow demand: now cluster [is trending] then everyone makes clusters. (P20)

\(^\text{61}\) Orange County, with a motto of ‘The new California city’ is a high-rise mixed-use project in Jakarta developed through cooperation between Indonesian and Japanese firms (\text{http://orangecounty.co.id} accessed in February 2016).
Tracing the development of gated communities or clusters within large-scale housing estates in the outskirts of Jakarta since the 1990s (as discussed in Chapter 2), most large-scale housing estates label themselves as new towns. The middle-class aspiration is to have similar characteristics as those who live in the upper-middle-class areas; small developers enunciate such aspirations and copy them. Clusters being constructed by small developers resemble other clusters but differ in one thing: master planning. Unfortunately, a different kind of master planning has disrupted the connections of streets and created a ‘no man’s land’ in the middle of the urban street network, which alienates pedestrians and most kampung dwellers, while creating greater distances between places.

Apart from emulating the design ideas of large-scale developers, the small-scale developers tend to conduct their market analysis by capturing the conditions found within the local area of their proposed project. They are mainly concerned with looking at whether potential buyers exist for the location. They conduct studies on design, price and accessibility. The result is highly contextual. It meets the conditions for a specific place. What small-scale developers find on site and its surroundings constitute their perception of market demand within the area:

In the market analysis, we look at, for example what is the common house design in the location ... which housing estate sells the most ... usually because of the location, lower price, the house design ... for location, is it near to schools or not, does it have angket [public transportation means] route, does flood happen occasionally, does traffic congestion happen. (D13)

By getting to know the competitors within a local area—defined as within a certain distance from the location of their project—developers look at strategies to provide a compelling value for potential buyers. These strategies are argued to also boost confidence in selling the properties. The price range of a similar property is carefully examined in accordance with the financial feasibility of the project. Factors that developers examine to set the selling price include the cost of land as well as materials:
Market analysis, among others, we look at the competitors, their selling price. For example within 5km radius, we ask for their brochures, we also ask the marketing personnel for their land price, house price, and the bonuses. Then for our confidence, we make a list to decide our selling price. (D18)

In more detail, one interviewed developer mentioned a vivid example of how to determine the land value range for purchase. In addition to the previous discussions in this chapter, budgeting for a housing project includes calculating the price for a portion of land in addition to other cost elements, such as materials and permits, against the developer’s possible profit. It is thus clarified that developers disregard accessibility as it does not directly affect their profit in choosing a site for their project. As one small-scale developer notes:

Let me say here [at this location] it is suitable to sell houses with a price 250 million [rupiah]. It means developers at the minimum have to get land with one-third of the selling price. If we were to sell the land for 900 thousand [rupiah per square metre] then the maximum [price for] raw land [that we can buy] is 300 thousand [rupiah per square metre] or even one-fifth [of the selling price] if necessary. But getting cheap land is not easy. Then the second one [cost element] needed to be pushed down is the house price. Let say [we were to sell] 4,5 million [rupiah] per square metre but we had it built for 2,9 or 3 million [rupiah] per square metre. We would have a [profit] margin per square metre of around 1 million [rupiah]. (D18)

From the example given above, assuming that he is building a 60 sqm house on a 100 sqm lot to fulfil the BCR required in KBU, it can be calculated that this developer requires a minimum profit of 60 million rupiah from the land and another 60 million rupiah from building the house. For the whole site of one housing estate, consisting of 60 houses, this developer could gain more than seven billion rupiah. But this does not include the management costs, permits, and the building of streets and facilities. However, it is doubtful that these elements cost a significant proportion of their profit.

As a comparison to this profit, one needs to see the fairness that developers offer to the market. Looking at the price range that most developers offer for a 36 sqm house on less than a 100 sqm lot—from 500 million to one billion rupiah
(equals to 50 to 100 thousand Australian dollars)—these new housing estates are built to cater for the middle- and upper-class. This range is not affordable for the majority of metropolitan Bandung residents. Assuming that buying one of these lowest-priced houses with a 20 per cent down payment and 80 per cent mortgage, with a fixed interest rate of 9.5 per cent for 20 years, and a maximum loan payment at a third of the monthly income, potential buyers need to earn a monthly income of ten times the standard minimum wage. Remembering that the middle-class is not synonymous with having a middle level income but is rather aspirational, it seems that developers underestimate the level of affordability for the middle-class. Developers barely question this affordability. Without even being asked about affordability, this concern was voiced by most planners, who stated that even they with their own salaries, they could not afford to purchase these houses:

The house prices nowadays ... how can we afford [to buy] it. I like to complain to the developers: ‘public servants are not allowed to purchase the houses, aren’t we?. (PO7)

While clusters, as a form that promotes privatisation of space, have become a common standard for the middle-class housing estate, developers argue that it is shaped by market demand. This demand is assumed by a developer’s sale performance. Smaller house sizes have also been trending, mostly for high-earning young families with a combined monthly income of 10 million rupiah. Other than affordability, developers argue that the small-house trend is partly due to working parents having less time at home. It is implied that a smaller house requires less cleaning and maintenance:

Now if we developed houses in these clusters, 1,000 sqm with dozens of houses, we can sell them with higher prices because the buyers are relatively young couples who only have one or two children but with quite large combined incomes. They are no longer willing to buy [a house within] an open wide estate, with 80 sqm house, they do not want that. We as seller then finally follow the trend ... because the young couples prefer the clusters that contain 20-30 houses. In the end, trend happens when the market demands ... my selling since 2009 has always been good at the 40 sqm houses, 40-50 sqm. With the 80 sqm
houses, it is harder to sell. Here we only have a few lots with 80 sqm house, and up until now only 6 or 7 lots are sold ... what used to be big [the size of the house] have to be made smaller. (D09)

As mentioned before, market analysis produces contextual results. The set price of each project defines its market segment. Design and product range, whether houses are one or two storeys, a small or medium lot size, depends on what results from the predetermined price, which is usually set by the marketing officers of each developer. Having set the measurements for the houses and lots as the main product to be sold, other elements follow. Street design that defines width, building materials and amenities have become a common standard only requiring minor alteration to suit each project’s budget:

Usually the marketing team firstly talked to agents [to get to know] the market price on the particular location. Design usually is ordered from marketing, if the marketing team said to build x sqm houses then that is it. Street on the other hand is standard. (D19)

But it is not only the design of a house and the residential area that developers consider as a cost element; they also race to offer various forms of financial benefits to buyers. As one developer mentions, once the goal price range is known then the forms of financial benefit that can be offered to potential buyers are considered. For most middle-class first-time home buyers, an offer of discounted or no bank credit fee is attractive:

The buyers in this location do not prefer 1 or 2 storeys, but the price ... the market segment here is middle-class: 36 sqm for the newlyweds, with around 5 million [rupiah] income ... people are looking for houses to live in. People who actually have limited options, mostly use bank credit ... if the house price is less than 500 million [rupiah] then mostly bank credit. With that credit, there is fee and insurance that could become the discount [that we offer]. (D18)

Nevertheless, the financial benefit may also be offered as a physical product that comes with the house. Home appliances are usually included in an offer:

Does it include bonus. We have prepared the kitchen set, canopy, and water heater [as bonuses] ... these things usually attractive [for buyers]. (D09)
Sometimes unpredictable things can occur. Keeping the same house prices as announced may not be possible. One developer noted that he once deliberately changed the house design due to a slow sale process. While this created an increased house price, his action resulted in a sale. Despite the previous house design and price being published and buyers paying for it, it seems that developers feel little need to commit to any design. They are not legally bound to do so. Any design published is merely an artist’s impression to guide buyers understanding of the product being sold. All the information that developers provide in marketing brochures and flyers, the design and price, are merely promotional tools and do not necessarily reflect the on-site fact. Changes to the design or material of the house are considered fair; hence, buyers should not hold on to such information:

At another site, we had to change the house design. Soon after the [marketing] brochures were given out, we found out that it did not sell really well. Only one was sold. Then we changed everything, the design, and the brochures. The selling price became higher but it was selling fast … there was only one buyer who protested ‘why is my house [design] changed? I bought it here because of its distinctive design of the roof’ but then he accepted since there was nothing could be done, his house was already built. (D09)

The marketing strategy used by developers clearly is multi-focused. While house design merely follows the price range that has been predetermined and the residential area being sold as having the characteristics of luxury and security, the project location is promoted in the language of relative nearness for accessibility in relation to toll gates, hospitals and shopping malls. It is common to use driving time as a measurement unit. However, to show that the project has a strategic location, the driving time has been exaggerated by developers. Instead of publishing real driving time measurements, they deceive buyers by using mis-leading figures, as shown in the quotation below, to ignite curiosity in potential buyers:

Once I have it written in the [marketing] banner that [this estate] is located 5 minutes [drive] from Pasteur toll gate … the marketing strategy is [to make buyers think] ‘where is the exact position?’ but then when they came [to the site
Developers also divide construction of housing estates into several stages in order to be cost-effective, particularly for the construction of roads. This is said to prevent the roads requiring reconstruction if heavyweight trucks pass back and forth delivering building materials during the construction process. Blocks at the rear with houses that are likely to sell the fastest (the cheapest) are built first. Building then gradually continues towards the front. If the selling does not occur according to the developers’ plan, such where the front blocks are selling faster than the rear, they hold a sale until all the houses in the rear are sold. Otherwise if only one or two houses are left to be built, they stack all the materials in a nearby location for easy transportation on wheelbarrows to the construction site. During this time, buyers usually start to dwell in their newly built houses, while construction carries on. One developer states:

For shophouses, they are built at the last stage. Houses are the most important. We work on the rear part first. It is meant to be most convenient for the process of street pavement so it will not get damaged too fast. This block for example, it was planned as the first one to be built, but it could not be done in reality ... we also see how the selling goes: whichever lots sold are to be built first ... the selling of bigger house type [located at the front] is on hold ... because we think about the [construction] of the roads, if we sell the big type [first] then it will cost us more, double the cost. The road has to be repaired. (D13)

Yet, planners have different thoughts on this process, as it resembles some problematic behaviour contained in housing estate development. They argue that some developers use this as a trick to increase the house prices, as it usually occurs during the construction process. Additionally, it is a trick if it turns out that their housing estates do not sell well. This happened to one of the planners. But luckily due to a push from the bank, as he confessed, the developer was willing to finalise constructing all unfinished houses:

If the rear part has already been built, the value [of the rest of the houses] increased. So they build the rear and if it [the housing estate] does not sell they hesitate to build the front part. There are many cases like this. (P02)
I bought a house whose developer had run away. I was fortunate that my house got finished [fully constructed] ... I used bank credit then the bank was the one who harassed the developer. That is one of the benefits having bank credit, as a powerful support. (P14)

Within the processes of shaping the form of housing estates, developers always think of profit. After the housing estates are built, however, other issues in relation to the form of housing estate are considered by the estate residents.

7.4 Post-construction Issues

While there is a very limited focus contained within the planning process, interviews indicate that concerns about the built form do not end with the permit process but are likely to continue towards the post-construction stage. Due to confusion over legal titles on streets as assets (as discussed in Section 6.6), the concerns can become a sensitive topic. The problems are commonly derived from the nature of housing estate development in this suburb, as well as from the residents’ occupancy.

Along with occupancy, collected data shows that portals (see Figure 7.4) are found in many housing estates. The portals shown here are often locked and seem to be rarely opened. Meanwhile, the portals shown at the bottom are open yet guarded and are signed with warnings: ‘no public road, residents only’. Informal discussions revealed that such portals were placed due to residents’ demands to limit traffic. This reveals a global trend that Webster (2002) has identified: of privatising public goods. Not only do barriers prevent easy access through public streets by cars, they limit the access of non-residents to what should be public resources and services. This road privatisation is somewhat similar to that identified by Tedong et al. (2014) in Malaysia in their study on guarded neighbourhoods. They found that mature neighbourhoods, usually two or more decades old, were closing themselves to outsiders. Residents’ associations that choose to enclose their areas usually erected entry points, often with makeshift barricades and guard houses.
Road privatisation was confirmed and understood well by both planners and developers during the interviews. The most common reason for privatisation was that the residents aspired to security as a feature of the housing estate and wanted to make their estate more secure by limiting traffic (Charmes, 2010; Grant & Curran, 2007). Planners, while knowing the problems that may result from a badly connected street network, were also fully aware of residents’ intervention here. Even developers, while they are willing to make a connected street network, also give up once there are buyers or residents’ concerns. But of course, this happens in the midst of the minimal obligations set by local governments. As one developer and one planner stated:
Even though we made it (the estate) to allow interactions (by having access point open for public), we cannot force them (the estate residents) to interact (with neighbouring settlements), it has to be one who is willing. (D09)

It is a socio-economic aspect. The estate residents are actually unwilling ... for the dwellers (from outside the housing estate) to use their access, they (the estate residents) feel objection. Indeed from the access, it is related to security factor ... portals are installed; outsiders are not allowed to come in. The estate residents buy houses and they want the walled boundaries for that matter. We do not take things into consideration (in the permit process) either why the dwellers are not given access. If so, they (estate residents) may also complain ‘I would not know if my children play there’ or ‘there may be robbers and thefts. (P02)

Another example provided by planners is that the privatisation of streets occurs due to an imbalance of traffic or use and maintenance. While the streets in private residential areas are built by developers, they are also used by the public or even by angkot as the public transportation mode in Bandung (as discussed in section 5.1), as the example mentioned below reveals. Such public use makes the local government responsible for the maintenance of public streets, but usually this does not eventuate. Ultimately, this causes residents to feel unfairness and jealousy. As one planner explained:

Public transportation vehicles certainly have permit from the government but the streets were not accommodated by the government so the residents protested ... but then they realised that they need it [the public transport to go through their estate] so they agreed to open the access [for the public transport] but their demand came back to us. (P01)

Yet once physical connections are made, developers confirm that the estate residents do not complain as long as the non-residents do not penetrate private spaces, such as their front yards. This certainly creates the hope of establishing physical connections like access points between housing estates and the

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62 Such a case has been broadcast in the news: the sign has now been placed (http://bandung.bisnis.com/read/20141222/61818/523444/warga-komplek-bumi-prima-cimahi-tolak-penutupan-jalan)
adjacent area, as discussed in Section 6.5. It seems that residents’ concerns about security might not be as severe as most planners and developers believe:

If the neighbouring dwellers do not bother them, the buyers would not mind … unless if let say someone ride a car then park in front of their house … children like to play soccer on the streets, they would mind if the soccer ball got into their front yards. (D19)

This section has highlighted the issues that occur within the post-construction stage. It has outlined the tendency to road privatisation made by the middle-class as problematic, due to the ownership issues of legal title. In terms of providing a public access point, instead of the gated community, it has been suggested that middle-class aspirations are not necessarily based on public access, but on the image of exclusivity.

7.5 Conclusions

This chapter has considered the differences between housing estates built in the early 1990s and the gated or so-called clusters built in the mid-2000s and determined that these are mostly driven by the land and housing market and how developers react to this in relation to their own need for profit, as well as to regulations set by the government. Developers also try to avoid risk. As clusters are common, producing other forms of estates could be considered as a risk that most developers are unwilling to take.

In comparison to developers’ profits, one needs to see the value that buyers are getting and the effect on the broader public. Buyers are obtaining privacy but not necessarily security and most certainly no travel benefits. They may gain pride by putting themselves at a distance from the neighbouring community. As well as their property, they are getting the value of supporting the middle-class lifestyle. Yet this comes with the cost of a disconnected street network for public use, promoting dependence on private vehicle use.
The combination of the middle-class market segment specified for this suburb and the land market has encouraged developers to have predetermined sale prices along with physical characteristics (gates, walls and cul-de-sacs). This is blamed on the market’s desires. Nevertheless, in highlighting these features in their marketing brochures to buyers, developers also use them in their land acquisition and budgeting strategies. Physical connections and access points in housing estates are limited as they are costly, particularly if written permits from neighbouring housing estates are required, future land acquisition is inhibited and are likely to result in a less saleable area.

The market is partly perpetuated by the spatial regulations limiting building coverage. As such, this suburb has categorised locations between the upper- and the lower-middle-class. While the upper-middle-class are free to choose to live in housing estates with any kind of accessibility and walkability, the latter have only two options, apart from living with parents as the extended family: to live in kampung or in housing estates. As the Indonesian middle-class has aspired to disengage from the kampung, should they choose the latter, an affordable house is problematic. Most affordable houses suffer from a lack of accessibility and therefore create a transportation cost as another financial burden.

The role of developers in shaping the form of housing estates in practice is much stronger than that of planners. This contrasts to what should be the case: developers ought to oblige planners’ to be permitted to develop housing estates. Developers are not influenced much by planning. Their influence is limited only by regulations: fulfilling the value, following the permit process, and obtaining the permit. Unfortunately, within the permit process itself, local planners do not have any power over shaping the form or of maintaining the shape after construction.
Chapter 8 Planning for Walkability and Accessibility
Through Shaping Form of Housing Estates

This chapter connects the findings presented in the previous three chapters to the bodies of literature already discussed. As the basis for providing an in-depth understanding of: planning and development practice; the form of housing estates as planning output; and walkability and accessibility as the outcome, the practical knowledge found in the northwest suburban Bandung must be enriched by both theoretical and empirical studies found in the literature. The bodies of literature referred to cover issues of normative planning, planning process, form and travel, and Indonesian planning. This will assist in answering the overarching research question - Is the planning system in suburban Bandung contributing to a form of housing estates that discourages walkability and accessibility? If so, why?. The first section addresses concerns about the form of housing estates and its impact on walkability and accessibility. The effectiveness of the planning process and its influence in shaping the form then follows. The role of planners, as well that of developers, is discussed in two separate sections before the chapter ends with a brief overview of the Indonesian housing development history and conclusions.

8.1 Walkability and Accessibility as Implicated by Housing Estate Development

This thesis has assessed the walkability and accessibility of housing estates in the northwest suburb of Bandung to carefully reflect planning outcome. From the assessments it was found that housing estate development has resulted lack of accessibility by restricting public access. This is exacerbated by the disconnected road network between private roads with the wider public street network. This disconnect produces longer distance between uses and where people live reinforcing car dependency which is difficult for the poor to sustain given the high costs of ownership and operation of private vehicles. Automobiles are also unsuitable for children and the elderly. The gated community (Blakely & Snyder,
1998a, 1998b), which in the Indonesian planning context is called a cluster or a one-gate-system, is built to accommodate middle-class residents. Yet, it is built at the expense of others, as I shall unpack here.

The built form of new housing estates, with their restricted access, has spatially and physically separated the estate residents from everyone else in society. The physical barriers consist of gates, perimeter walls, and guarding posts are deliberately built for particular reasons to benefit estate residents. By building those elements, estate residents are meant to have exclusivity—similar to Blakely and Snyder’s (1998a, 1998b) classification of a prestige community in which the symbolisation of distinction and prestige is foregrounded. The new housing estates are also said to offer security but this is not necessarily so; instead they rather give the impression of security, as there is no actual guarding that takes place. Introducing portals to make cul-de-sacs in the case of old housing estates has a similar function: they do not really operate as Blakely and Snyder’s (1998a, 1998b) security zone.

In terms of travel, the form of housing estates is making it difficult for residents to access a range of destinations on foot and limits their travel options. In addition to the lack of a healthy lifestyle, the travel time and cost that may result from this kind of environment places them at risk of obesity as they are not as physically active such as people who travel by walking or biking (Bassett et al., 2008; Lo, 2011; Park, 2008). Data from national health research showed an increase of overweight rate from 2007 to 2013 across all ages groups for children: 12 per cent (5 years), 9 per cent (6-14 years), and 2.5 per cent (above 15 years) in 2007 to become 18.8 per cent, 10.8 per cent, and 8.8 per cent respectively (Balitbangkes, 2013; Usfar et al., 2010). Meanwhile, in adults aged 19 to 55 years, obesity has increased from 6.8 per cent in 1993, to 8.5 per cent in 2007, to 14.2 per cent in 2010, and to 15.4 per cent in 2013 (see Rachmi et al., 2017; Balitbangkes, 2013; Roemling & Qaim, 2012). Roemling and Qaim (2012) argue that this is related to socio-economic status, with a change towards a
more sedentary lifestyle such as watching TV and driving rather than biking and walking to reach places. As the national health research has also shown 26.1 per cent of less active behavior among adults. In children aged 10 years and above, nearly half (42.0%) spent 3-5.9 hours and one of four children spent ≥6 hours each day of being sedentary (Balitbangkes, 2013).

While the problem of health has been identified, if the form of housing estates affects people other than estate residents, this would be a bigger problem: one of equity. As noted by Maher (1994) and Nicholls, Phelan and Maller (2015), the effects of walkability and accessibility are not only dependent on lifestyle but also on different capacities to overcome distance. In this thesis, capacities have been defined in terms of socio-economic and physical conditions. One example of the affected people found in suburban Bandung is the kampung dwellers. With their largely varied socio-economic characteristics, some may not be able to afford the associated travel time and costs. With perimeter walls, distances increase and pathways are made unpleasant. For kampung dwellers who live adjacent to housing estates, their paths are truncated and their access may be completely cut off. By having their access cut off and having fewer travel options, the kampung dwellers receive a negative externality from the private development.

Acknowledging the potential created by the nature of housing estate development in Indonesia, where patterns of housing estates and kampung are set against one another yet exist side-by-side (Kusno, 2000; Leaf, 1996; Lesich, 2002), an increased accessibility that may result in more walking is possible. For children’s independent mobility (see for example Curtis, Babb & Olaru, 2015; Whitzman et al., 2010), the observations identified that a direct link between the housing estate and kampung was useful. Children were found walking and riding bikes in the gated housing estate. If not strolling around, they were either heading to or coming from the warung found in the adjacent kampung. This was not only due to the presence of warung and the short distance, but also the
journey to the *warung* in which streets were not equipped with footpaths yet were secure and pleasant for walking. This situation is arguably beneficial for children. This walkability is shaped by the enclosure, transparency, and presence of people found in the *kampung* alleys.

Direct links between housing estate and *kampung* also benefit street hawkers; in turn, this might also benefit the estate residents and the city at large by providing commodities within easy reach. The observations suggest that the connectivity of *kampung* alleys and residential streets is likely to result in more street hawkers. Such connectivity creates a shorter distance to overcome for street hawkers who walk with their carts.

These two findings on street hawkers and children’s mobility shows that it is important for planning to establish a direct link between housing estates and a *kampung*. Although initially, mixed uses might not be present, Baran, Rodriguez and Khattak (2008) have shown empirically that increased connectivity and smaller blocks are related to more walking. Meanwhile, more walking is naturally likely to result in economic activities (Hillier, Hanson & Grajewski, 1989). Corresponding to these two arguments, empirical studies also provide evidence that the street network configuration correlates with pedestrian travel levels, which in turns shapes land use patterns and densities over time (Hillier et al., 1989; Marshall, 2005; Penn et al., 1998; Peponis et al., 2007).

For the public, a walkable and accessible environment is necessary, as walking is a basic way to travel (Lo, 2011; Park, 2008); hence, it is the most suitable mode for non-affluent people. Walking is also an essential complement for transit, enhancing liveability and promoting healthy lifestyles (Bassett et al., 2008; Lo, 2011; McCann & Ewing, 2003; Park, 2008). Nonetheless, many housing estates have no pedestrian links, which results in longer distances, where walking to places becomes more difficult. In some cases, this could mean that developers are cutting off the existing access that was used by *kampung* dwellers. This is an equity-based concern.
For pedestrians of any age and socio-economic class, there are specific walkability matters worthy of notice. Looking at the parameter of modal conflict where the presence of pedestrian footpaths is a useful hint, the roads in this Bandung suburb are considered unsafe for walking. Yet safety does not seem to be a major concern, as pedestrians sharing street space with motorised vehicles is a common daily sight, not only within the housing estate but also elsewhere. However, looking more closely at other parameters of safety—motorist behaviour, crossings and traffic volumes (Boarnet, 2003; Hess et al., 1999; Kelly et al., 2011; Krambeck, 2006)—reveals different results for private and public roads. For a road to be simply labelled as unsafe may not be appropriate.

Looking at the street ambience, walkability differs between the public and private roads in housing estates. Within gated housing estates, minimal use and pedestrians were visible during observations, even though there are a number of advantages in terms of walkability. The environment was safe despite the lack of a footpath as traffic levels are low (Hoehner et al., 2005; Jacobs, 1993a; Park, 2008). It is also pleasant for walking due to the right proportion of enclosure and transparency (Clemente et al., 2005; Forsyth & Southworth, 2008; Handy, 1996b; Hoehner et al., 2005; Jacobs, 1993a; Krambeck, 2006; Speck, 2012). On the other side of the wall that the developers built around the housing estate, the left over public street space is enclosed by tall perimeter walls and gates. Exhibiting an amplification of exclusivity, it has completely dismissed the pedestrian’s need for a pleasant and secure walkable environment. As opposed to shorter distances and safety, such qualities may yet seem crucial for this place and may need to be enhanced in the future to promote walking as a viable travel option (Bassett et al., 2008; Boarnet & Crane, 2001; Cervero, 1994; Haybatollahi et al., 2015; Kitamura et al., 1997; Krizek, 2003; Lucas, 2009; Schwanen & Mokhtarian, 2005).

While one cannot really tell by looking at the current form, interviews with developers and planners have helped to track how development takes place: what the area previously looked like, how it was used by the kampung dwellers...
and how developers have altered the street network are now known elements. Some developers have kept existing links. Yet this was not done out of respect for agreements between the previous landowner and the kampung dwellers. Links were kept rather to make the neighbouring kampung dwellers agree to sign the neighbour permits.

In some other cases, despite the establishment of direct links by developers, pedestrian access points are marked with gates, padlocks and curfew information signs. Access points are considered part of the private property contained within the housing estates. Such markings clearly display housing estate domination over a kampung. It also displays status. Marcuse (1997) has argued that walls have two sides: the estate residents are the privileged and the kampung dwellers are the subordinate who must be hidden. Yet it was observed that street hawkers are needed by estate residents. This is similar to how the kampung have always been regarded and treated since the Dutch colonial period in Indonesia (Ford, 1993; Kusno, 2000; Leaf, 1996). Kampung dwellers or anybody other than the estate residents (except for the street hawkers) are to be kept outside the housing estates.

People other than the estate residents, namely the children, kampung dwellers and the public, are currently not considered in housing estate planning and development. Having indicated the abandonment of health and equity and how form of housing estates affects different groups of people, this thesis argues that it is important to address these problems through the planning process. What kind of planning process is it that has brought this result? This is discussed in the following sections.

8.2 Planning Processes’ Effectiveness and Influence in Shaping Form

As established in the previous section, housing estate development has ignored walkability and accessibility; this makes one wonder whether it should have been foreseen by the planners and prevented. Yet there is another question that
demands to be answered: what has become of the planning process in practice? A review of planning policies and practical processes is undertaken to answer this question.

Having considered the lengthy planning process, from strategising land use plans to dealing with lodged permit applications, planning practices are clearly not straightforward. Some processes hardly appear in the illustration shown in Figure 3.1. In addition to land acquisition, it could take years for developers to obtain permits. This process has become an influential factor that affects developers’ willingness to abide by regulations. This is related to complying with the flow timeframe, as developers want to do their marketing as soon as possible. Legally, the process depends on how fast developers are able to purchase land and comply with the regulations. However in practice it is not as simple as that. Many webs of relations are drawn into the planning permit process (Graham & Healey, 1999); thus, at least two forms of negotiations are identified: with the planners in order to obtain a series of permits and with the bordering community to obtain a neighbour permit. Both negotiations may include bribery. With the planners, developers rely on the clienthood relationship in which the permit process can be accelerated. Within statutory planning, it all depends on who has the money and power in the negotiations. Noting that it takes more than one visit to each related agency that deals with permits and adding some informal arrangements with individual planners, it is unsurprising that the process is lengthy, costly and cumbersome (Monkkonen, 2013b).

Such findings of discretionery, clienthood-based and informal practices correspond to what has been identified as commonplace in planning and development practices in Indonesia (Hudalah et al., 2014; Winarso & Firman, 2002). Here, a conflict of interest may occur between planners as individuals and as professionals. Planners as individuals may want to seek profit by satisfying developers as their clients, rather than consider what is beneficial for the broader public. As Marcuse (1976) contends, obligations to clients can conflict
with obligations to the public. It is very unfortunate that within what should not be a commodified process, planners rather act similarly to the profit-oriented developers.

The permit process allows bordering communities to play a contributing role in shaping the design of housing estates. It determines pedestrian access points that are beneficial for creating shorter distances between places, as well as spatial connections between the housing estate and *kampung*. This enhances social cohesion rather than the disengagement sought by the middle-class (Kusno, 2000; Leaf, 1996; Lesich, 2002). Interacting with the bordering community, some developers go to extreme lengths to win them over by giving ‘pocket money’. While bribery may be common in Indonesia, it is unfortunate that communities are willing to accept money at the expense of cut off access.

Such practice is allowed to happen as it has not been formalised in terms of the process of obtaining the neighbor permit as well as the consents given by the neighbor within such permit. This may brought some differences should the process is initiated and overseen by the planners. In Australia for example, Legacy and Leshinsky (2013) describe that there are procedures municipalities must take to inform citizens about a planning proposal. However, only those parties deemed to have a material interest will be notified. Consequently, only if they suffer a material interest then those parties can lodge an ‘objection’ to a proposal (Legacy & Leshinsky, 2013). In such procedure, any possible impact of a project and any form of communication between the persons who submit the proposal and the parties who may receive the impacts happen within the municipalities’ supervision and any kinds of negotiation or agreement is known by the municipalities.
Figure 8.1 Framework showing how central and local governments, developers, and neighbouring residents play roles in the process of shaping the form of housing estate

Other than the bordering community, as shown in Figure 8.1, most of the time local regulations are established by automatic reference and adoption of the national regulations established by the central government. As there is no nationally adopted policy on sustainable housing that directs local governments, it is not a surprise that concerns about the form of housing estates have not been addressed from walkability and accessibility viewpoints. As long as the national regulations do not mention these issues as a problem, they will never be treated as obligatory by the local planners.

The planning practice in this suburb controls development in a very limited manner that overlooks walkability and accessibility. It is also less likely to be
concerned with spatial plan implementation—should a plan even exist, it would have fairly limited cover. A pervasive role of government occurs in the areas of plan-making and development control, yet the role is very limited as spatial plans are made merely to fulfil the local government’s obligation (as required by the Spatial Planning Act) to direct the spatial development in their regions (Hudalah & Woltjer, 2007). The current spatial plan merely acknowledges the factors that may spatially and physically limit development.

The principal objective of the spatial plan was to direct and control developments (Rukmana, 2015) and it does not go beyond these direct limitations. While the purpose of strategic or spatial planning was to use regulations for implementation, in practice not much has been done. The purpose of the control is highly dubious, particularly in the midst of corrupt governance, the need to ensure a supply of housing, market domination, and within what Indonesian planning culture has become since even before the independence with how it was done during Dutch colonialisation. It is unlikely to align with what the regulations mention as the purpose of controlling housing development.

The current regulations, prescribing the physical and spatial characteristics for housing estate development, appear to have two effects. In relation to the density of use as part of accessibility, mixed uses (as found in the traditional form of Indonesian settlements) have been preserved. There is no separation between housing and local commercial uses within the zoning regulations, in contrast to the situation in North American suburbs (Duany, 2000; Talen, 2013).

Another effect, opposite of the above, has resulted from the regulation that sets the value of BCR in the northern part of metropolitan Bandung. This has divided the suburb into a market segmented location that is suitable only for middle- and upper-class housing estates. This problem is not unique to Bandung, as studies in other places throughout the globe have also found a similar regulatory effect on property prices and housing supply (i.e., Glaeser & Ward, 2009; Gurran & Phibs,
2014; Ihlanfeldt, 2007). Yet in Bandung and what have been identified by Roy (2009a) in India with its strong notion of informality, the rest have to reside in
the informal settlements that may still be threatened by gentrification should
the market demand and developers react.

Looking deeper into the correlation however, it is useful to refer to Ihlanfeldt’s
(2004) article that reviews exclusionary land use regulation. While regulation
may inflate the cost of housing, the correlation is not as direct as it may seem. It
has been suggested that other factors, such as economic policy, exist (see
Ihlanfeldt, 2004). Nonetheless, the inference that such a correlation exists in
suburban Bandung cannot be ignored. Adding to a study done by Hudalah et al.
(2014), this regulation has caused a tremendous increase of demand,
contributing to an affordability problem for middle-class home ownership. This
social concern affects walkability and accessibility; having a mixture of uses is
becoming rare as kampung dwellers are displaced and the homogeneous
housing estates are disconnected to the urban fabric.

This research has found that other than a lack of expectation and enforced
regulation, planners are reluctant to directly shape the design of housing estates
despite several spatial and social concerns addressed to them. One reason
behind this may lie in the historical context of planning. Ever since the beginning
of Indonesian planning, not much has been done to address shaping the form of
housing estates—instead, reliance has been put on informality as well as the
private sector in providing housing. Institutionally, within the function of the
planning agency, planners are focused on the existing regulations that come
directly from the central government regulations, which do not define form. This
has become more complicated; only limited funding is available to local
governments and their offices are short-staffed. Planners have been unable to
monitor developers to ensure compliance with policies, let alone address other
concerns not covered in the regulations.
The hands-off approach on the form of housing estates contradicts what is supposed to be a formally regulated process. By leaving the physical form to be defined by the free market, planners are implicitly forcing people to adapt to the built environment, which inhibits walking instead of changing it towards a better future form for walkability and accessibility. Nonetheless, the limit of how much can be imposed by the planners or government is an unresolved question attached to the very nature of planning itself.

Leaving too many elements left to be determined by the private sector has led us in the wrong direction: towards built forms that people cannot afford to maintain. Private roads are constructed to government construction standards, but they cannot be maintained by either the government or the estate residents due to three reasons: unclear legal title; out of (the government) budget maintenance fee; considered as less strategic for having no through connection to the urban street network. Acknowledging such problematical results, this thesis has argued that direct intervention by the local government is necessary. As Forsyth et al. (2010 p. 41) reminds us, ‘buildings come and go in a cycle of decades but street patterns last centuries’, thus altering a form that is defined by street layout is much more difficult.

Efforts have been made to increase accessibility through planning permits, however this has not yet been implemented due to site limitations and neighbour permits. Notably, the specific spatial and social characteristics of housing estate sites are affecting what planning interventions might be taken. Power given to the neighbouring dwellers enables them to partly shape the form of housing estates, but what has happened in most cases is that they are overpowered by commodification. A potentially crucial role can be played by the bordering community: when developers ask for their consent, the community could request that their settlement is physically connected through pedestrian access points at the very least, or that it has a perimeter wall completely removed if possible. Yet such a possibility is countered by persuasion of
developers, who promise increased property values or give money as financial compensation. Decisions about the built form are always be contested and prone to these dilemmas.

Accordingly, these potential efforts from the neighbouring community need to be strengthened and facilitated by planners. This is particularly important as the current planning system does not regard the form of housing estates as regulated to promote walkability and accessibility. Through this effort, access could be achieved at least for the poor who may live in the kampung and the children as well as elderly by connecting the housing estate to the kampung alleys that leads to public transportation and a range of services which the kampung may offer.

Other than these immediate factors of statutory planning, there is a more basic problem with achieving more walkable and accessible urban environments in Indonesian cities. Walkability and accessibility is part of bigger problems, for example health, equity, air quality, congestion, and pollution as has been discussed previously. However, it is unfortunate that many conditions in housing development are taken for granted and thus do not need to be changed from planners’ viewpoint. How the market operates, market analysis, how security is perceived by the middle-class, children’s mobility, and the shared space are just some examples. The middle-class aspiration for exclusivity hinders efforts to establish walkable and accessible urban environments. These conditions strongly represent market rationality where every thinking, decisions and actions are made to suit the market. Such findings direct how urban planning will need to go—to complement markets rather than try to supersede them (Staley & Scarlett, 1998). This aligns with ‘the prevailing attitude among planners to embrace neither politics nor markets, but rather to opt for professionally effective solutions’ (Sager, 2011, p. 149).

A form of housing estate that is open/non-gated cannot be forced on anyone, least of all in places that have been historically resistant to land use planning.
(Talen, 2011) and have been directed by the market towards the opposite form. Planners devoted to the idea of walkable and accessible form will need to work within existing parameters to advance their goals, as Talen (2011) contends. The goal is to look for avenues to increase the potential for walkability and accessibility and strengthen it wherever feasible (Talen, 2011). For this thesis, the form is open to negotiation—as design can address almost every kind of need—but this must be paired with the planners’ strong authoritative and hands-on approach. Above all, the results confirm that planning processes still provide a suitable avenue to address walkability and accessibility; together with the market mechanism, it plays a central role in formal decisions that shape the form of housing estates.

Changes to form should be initiated and directed by the local governments as a good example for small developers to follow, instead of giving form over to the market to shape. Adding to this argument, the identified value in housing estate development is neither standardised nor unchanging (Weber, 2002). As Weber (2002, p. 176) states: While housing development rely heavily on ‘the determinations made by technical experts, such as appraisers and market analysts, speculation, political influence and class resistance also conspire to transform the process of value creation—there is nothing that is a purely market-determined process’. The challenge is then to convince planners and the public that market-oriented systems serve those with the ability to pay rather than those with little ability (Sager, 2011). History has proven that it is ordinary people who suffer more in a capitalist crisis (Harvey, 2007). Boundaries then need to be set on where market-orientation begins and ends (Harvey, 2007).

This research has argued that small-scale developers are quite manageable, in contrast to large-scale developers, as the funding and practice of development differ. Large-scale developers tend to incorporate highly political activities as having more money and power to alter planning direction towards their own needs (see Dieleman, 2011). Meanwhile, the small-scale developers, which may
include individual land owners and start-up companies, are not risk-taking, rather they are playing it safe by following the regulations. The enactment of planning in practice is also relevant to power relations (Jonas, 2015) and thus efforts should also be monitored by higher jurisdictional authorities, at the provincial and central government levels rather than autonomously by the local government.

To support such government intervention, another avenue is through increasing public awareness. As long as residents are willing to live in suburbs and use private vehicles to commute, developers will build the kind of housing they can sell quickly, and planners will keep adjusting policy and standards in an effort to overcome housing shortages. Unless the complex cultural and economic forces creating the desire for gated communities diminish, planners may struggle to achieve the aspirations of enhancing walkability and accessibility (Brewer & Grant, 2015). Public acceptability drives political acceptability (Banister, 2008). Only when there is sufficient public support for change will action take place. Ideas about how the development of walkable and accessible housing estates (as part of mixed-income neighbourhoods) could be brought to people’s attention.

Support from the broader population could be achieved since the millenials are less likely to drive and be inspired to live in the suburbs due to have more environmental and technological awareness as has been suggested in the literature, i.e. McDonald (2015); Polzin et al. (2014). However, there are some conflicting results found in the US and Canada that suggest millenials whilst during young adults are driving less, as they age, are exhibiting behaviours that mimic the automobile dependency of prior generations (Garikapati et al., 2017; Klein & Smart, 2017; Newbold & Scott, 2017). Despite such disappointing findings, Hopkins (2016) found that the millenials in New Zealand are willing to buy a car with lower CO2 emissions, to drive more efficiently to reduce CO2 emissions, and to reduce car travel to reduce emissions. After all, it is only the beginning; by increasing public awareness of accessible and walkable built
environment, the future generations may exhibit better travel behavior. Housing market may adjust accordingly and responded by the developers. Ultimately, market analysis advocating the success of designs that provide travel options in housing estate development is required.

Alternatively, regulations that give incentives for purchasing houses within such housing estates are desirable. Other than regulatory controls, which dictate the manner in which a parcel of land can be used and developed by its owner [Stein, 2008 cited in Legacy & Leshinsky (2013)], such incentive provides an additional stimulation tools to spark the economy in achieving equitable planning outcome as has been discussed by Legacy & Leshinsky (2013).

8.3 Planners’ Role in Shaping Form of Housing Estates

Three issues emerged that have implications for the ways planners understand, manage and support walkability and accessibility in the process of shaping the form of housing estates. First, the complex ways in which planning is positioned have been demonstrated with respect to housing policy, permit regulations, planner’s authority and the housing market. The already abstract notion of public interest being subject to planners’ own subjectivity is countered with the following conditions: being outweighed by the pressure to build houses to overcome housing shortage, being unsupported by permit regulations that have been characterised by clientelism, being unsupported by a lack of authority, and the perceived qualities of housing estates in the market.

Influencing how planners play their role in shaping the form of housing estates, the housing backlog has made development urgent. Local planners have relied on the private sector to remedy the housing backlog and are thus fully aware of their profit-finding nature. This development pressure (Göçmen & LaGro, 2015) defines housing merely in terms of numbers. As a result, there are less restrictions on design and it is much easier for developers to shape and adjust the market. This also forces planners into acting in support of economically powerful stakeholders who bypass the formal structures of the planning system.
and use informal avenues to achieve profit but who may not adhere to proper planning principles (Murphy & Fox-Rogers, 2015). Local planners dealing with permit applications generally approve enclosures amid some worrying social implications and disconnected street networks. Planners perceive that any form of housing estates saves government the costs of fulfilling the enormous housing backlog. Subsequently, the middle-class market is shaped and inspired by gates and walls, creating private roads. Development pressure that defines the housing problem without prescribing quality is therefore problematical.

Overcoming the housing shortage while keeping regulation in place has become the point of planning and developing housing estates. The core focus of policy is still intended to provide shelter, and the policy is framed by the misleading term of ‘housing deficit’ (Monkkonen, 2013a). Should planners restrict housing estate development rather than facilitate development to overcome shortages? Should more emphasis be given to equity and health for kampung dwellers and the public rather than market and economic efficiency? Suburban Bandung presents a compelling summary of these issues, as described in the previous three chapters.

Second, walkability and accessibility could be improved through several identified potential means within the current planning system. There are a wide range of planner concerns that are not portrayed as relevant to walkability and accessibility, such as the elimination of traditional kampung identities, road privatisation, security measures in gated communities, developers’ measures for land acquisition and construction phasing. However, these concerns could affect how the form of housing estates is shaped and how health and equity are safeguarded. Planners could balance the inequality of access experienced between the kampung residents and the estate residents by minimising the negative effects of development (Alexander, 2002a; Campbell & Marshall, 2002; Moroni, 2004). To encourage equity-oriented planning practice for walkability and accessibility, Krumholz and Forester (1990) remind us that planners need to
assess each case according to their negotiating power and leverage, as in what benefit they contribute as opposed to their negative implications, without assuming that planners have no power at all to decide which case to give permit. What happens in the suburban Bandung, planners see themselves facilitating development, should not carry on.

Planning laws and local permit regulations, such as Perda KBB No 2/2012 on Spatial Plan and Perda Cimahi No 4/2013 on Spatial Plan have explicitly stated to safeguard the public interest. However, there is no further description on what is referred to as public interest—let alone to include walkability and accessibility within the public interest being addressed in the permit. With little specific guidance for planners to operate, and while a lack of substance and clarity in regulation can create confusion, some planners should see this as an opportunity to defend their take on walkability and accessibility as part of public interest—helping non-estate residents, some with lower income and lower physical ability, achieve better level of walkability and accessibility. Within the notion of public interest, planners have obligations to the kampung dwellers as well as estate residents.

In the end, planners should be advocates of walkability and accessibility. Apart from how estate developers view concepts of form and what the middle-class market prefers in certain forms of housing estates, walkability and accessibility that provide travel options should be directed by planning.

8.4 Developers’ Role in Shaping Form of Housing Estates

In exploring the development context, developers’ perspectives play a dominant role in framing the process of city building alongside planning policies (Fainstein, 2005), particularly in the free market. In respect to the nature of private developers, regulating housing estate development becomes complicated as it incorporates location, market and land availability (Graham & Healey, 1999). All
these factors are instrumental when the developers decide on the design of a housing estate.

The combination of the middle-class market segment specified for this suburb and the land market has brought developers towards a predetermined sale price along with physical characteristics in mind: gates, walls and cul-de-sacs to resemble gated communities or clusters. Being a resemblance, the housing estates are built without the amenities that were arguably prerequisites for a community (Ryan & McNally, 1995; Whyte, 1964).

Developers as market actors are widely assumed to operate as simple profit maximisers, basing their decisions on a calculation (Campbell et al., 2014). Developers calculate the means and strategies to attract buyers as well as sustain future development. Not just to entice buyers, gates, perimeter walls and guarding posts are also built for developers’ needs to secure future land acquisition. This does not only work (see the work of Lang and Danielsen [1997]) to discourage undesirable land from the surroundings from being developed (in this case the kampung), but it also works to increase property prices, which eventually lead to more profit for developers. Intentionally disengaging from the bordering communities, clusters of gated communities are also a means for efficient subdivision. This efficiency is perceived by developers to provide the most profit by making a more saleable area, saving the cost of delivering public amenities and allowing stages of development in the future.

Corresponding to the non-authoritative role of planners, which supposedly act with appropriate authority within their capacity as planners, developers tend to belittle the planning role. Differences found in practice have brought developers to conclude that there is an unclear and unequal enforcement of regulation. This encourages ambiguity regarding developers’ willingness to comply with regulations. Within the current practice of housing estate development in suburban Bandung, the form of housing estates is more likely to be shaped by
the commodification of permits in which developers bend the rules or persuade the neighbours through bribery, while planning is merely a routine.

As the private sector has been known to take a large role in housing provision since the 1980s, this thesis takes a stance in placing walkability and accessibility as a prioritised objective, while being aware of and facilitating the profit-oriented practices of private developers. Having indicated that a walkable and accessible form is, at the very best, of secondary importance to the middle-class, there are compromises that may be required. Most, and perhaps all, planning decisions involve compromise, but good compromises are not unprincipled and therefore require an understanding of the nature of ethical enquiry (Campbell et al., 2014).

Providing exclusivity as one way to appeal to home buyers while still providing a walkable and accessible environment is one example. Taking developers’ viewpoints, designs with grid layouts and open boundaries may not be an appropriate solution for providing such an environment because of its extreme opposition to market aspirations. Physical relations to kampung may seem completely unattractive to the middle-class buyers and therefore irrelevant to developers. Most often that is the one thing that they want to avoid in the first place. While luxury and exclusivity are commonly accepted as necessary in developing housing estate for the middle-class, a widely open housing estate that blends into the urban fabric is unwanted by the market. In terms of design, it seems that there should be a design solution to make a smoother transition from public roads leading to the more private segments of roads within the housing estates without making this too blunt in the form of gates and walls.

An example is provided by Grant (2009) on Canadian housing estate development. Grant (2009) argues that when physical requirements are in place, developers will abide by them. Nonetheless this might imply an added cost, increasing property prices to make up for the unsaleable space. Additionally, Grant (2009) found that weak political commitment and market pressures can frustrate planners’ desires to create accessible and open communities. Grant
(2009) found that the difficulty of implementing such communities was due to regulation. Though it is supported by planners, it is not by developers, let alone buyers. It would seem that planners think that suburbs will grow into urban areas, yet the developers have their own mindset to develop a suburb and its automobile-oriented design.

Similarly, in the US, Talen’s (2013b) study uncovered that much is needed from the government to create walkable and affordable housing estates, apart from the available market mechanism strategies, such as reducing floor areas of the properties to increase density. Supply-side factors like policies and planners’ views ideally shape the market for development, while demand-side factors like consumer preferences and developer practices affect the way in which theories are translated on the ground (Talen, 1996). This argument may seem true except for market-based-planning in which planners also adjust their views according to market preferences. This results in facilitating development, with very little advocacy for achieving higher levels of accessibility in this process. Resulting from this setting, while planning ideas might be supported, they are yet to be implemented due to a tendency that planning ideas and the market have contrasting ideas (Talen, 1996).

In designing the form of housing estates, there is a range of middle-class segments that these developers cater to and therefore the physical features may differ between projects. Some may have perimeter walls and guarded entrances, some may not. This is because the provision of each feature is calculated towards the property value and the financial affordability of their targeted segment. As property price is above all for the middle-class housing estate, it is the case that walkability is not a factor in this price. Physical connections and access points in housing estates are limited as they are costly, particularly if written permits from neighbouring housing estates are required. This is likely to result in a less saleable area and makes developers unable to proceed with future stages of development. Providing pedestrian footpaths may incur price
increases due to additional costs, as well as reduced saleable areas. Providing these facilities therefore is unlikely to happen in the future without direct intervention by planners. Nevertheless, this is still problematical because of how planners position themselves in relation to shaping the built form. In the meantime, the walkable qualities that relate to urban design, such as pleasantness and security from eye-level openings, might be more likely to be provided.

Affordability is another entangled problem of the truly middle-class and is more prominent in light of providing walkability. Amenity-rich places command a high price, and the notion of neighbourhoods that are both affordable and walkable is likely to remain difficult to achieve via market-based strategies alone (Talen, 2013). This thesis has described that in addition to the less accessible locations, lot sizes have been increasingly reduced from a typical 150 to 200 sqm to 70 to 120 sqm during the past two decades. Nevertheless, the affordability problem is not resolved, as house prices still escalate. Practicality as such is not enough—policy intervention is required.

For the upper-middle-class however, a possible explanation could be taken from studies which address the correlation between property values and walkability (Boyle, Barrilleaux & Scheller, 2013; Gilderbloom, Riggs & Meares, 2015). From the viewpoint of estate residents in the Indonesian suburb, reluctance is more likely to come from two sources: the developers; the upper-class who buy property as an investment. Unlike the estate residents who live in the housing estates, they are more aware of securing the market value of their product: mixing housing types and social class is prone to reduced market values, as opposed to places inhabited by one class.

Looking at the location of the housing estates, they are not surrounded by highways, shopping malls, or other significant urban elements. They are located in a suburb that is partly vacant, occupied by mostly kampung and various local shops and uses, spatially linked by a network of local streets and pathways.
organically developed at the local community level, instead of being formally planned by the local government. This shows that estate residents do not chose the estates that they live in based on spatial features of proximity to urban scale, instead looking mainly at house prices. From this lens, providing commercial uses that contribute to accessibility at the neighbourhood level could serve as a financial support not only for increasing the livelihood of the kampung dwellers but it might also reduce the transportation costs of estate residents, and most importantly for healthy lifestyles, cater for the independent mobility of children and the elderly.

Yet all these concerns are vested interests that need to be weighed against the common interest and addressed in the policy. A network of streets or paths that is highly connected is required. Focusing on walkability, the provision of a highly connected path network is plausible. Developers of new housing estates could be urged to establish several pedestrian access points connected to the bordering kampung through the mechanism of neighbour permits. This could be a problem when new housing estates are bordered by vacant land. In this case, developers might regard providing access points as illogical. The planners’ hands-on approach to enforce regulations on private developers is arguably necessary.

This thesis has confirmed that instead of merely being a design problem that facilitates targeted market preferences (as implicitly suggested by Leisch [2002]), the form of housing estates also stems from land acquisition processes and developers’ financial feasibility (Ferguson & Hoffman, 1993; Winarso, 2002), while disregarding relationships with adjacent areas. Looking at how the developers analyse markets, it seems that development at one place triggers other housing estate developments because the pioneer serves as proof of market demand in the area. Developers’ persuasion seems to hold in their very own action of market analysis. This is particularly true within a market-driven environment.
Another advantage, or in some cases disadvantage, of having developed a project close to other buildings is explained by Weber (2002). Values may increase as new development surrounds the housing estate; values may also decrease as demand wanes or if a location becomes overbuilt. Other than in relation to other properties at a location, values can also be influenced by having a staged construction. Along with the more physical structures being developed, the property values within one project are increased.

Compared to the context of other places examined in the literature, the findings here concur with those of Grant and Perrott (2011). They found that in Canadian suburbs, estate developers have relied heavily on the assumption of car use as this allows them to acquire cheap land in the suburbs. While the assumption is similar, residential attachment does not necessarily apply to the northwest suburb of Bandung. In the North American context, residential attachment is likely to be relevant, as the middle-class have fair economical sources to open their options of travel and daily mobility. They therefore choose to live in the suburbs to accommodate their car-oriented travels, as the suburbs allow a variety of uses to be located within driving distance without the bother of traffic congestion found in the city (Handy, 2006b; Jean, 2015). In suburban Bandung however, attachment towards certain travel modes is not indicated. The middle-class in the context of urbanised Indonesia is defined as having a specific aspiration towards symbolic meanings of living in housing estates, i.e. disengagement with the kampung. In relation to travel, due to the symbolic attachment inherent within practices of housing estate development in Indonesia, people are then forced to be vehicle dependent due to limited travel options.

Initially it might seem that developers are unpredictable and unruly, but once their practice is examined further, we can see that they merely act to gain profit. This is in their nature and no policies inhibit them from doing so. Nonetheless, the remaining question to address is whether the planning system can overcome
this by addressing the form of housing estates and shaping them towards walkability and accessibility. Looking at the broader context of Indonesian planning, this is a problematic question, as the following section presents.

8.5 Influence of History and Development of Housing Estates in Indonesia

Housing estate developments in Indonesia represent the aspirational home ownership of the rising middle-class who make up the largest proportion of the Indonesian population and who have a fascination for the imagery of American lifestyles and consumption patterns (Jellinek, 2000; Kusno, 2000; Leisch, 2002). Housing estates were constructed principally by setting themselves against the kampung (Kusno, 2000; Leaf, 1996; Lesich, 2002); however, these two forms exist side-by-side (Leaf, 1996). Other than the English naming that mirrors that of North America (Kusno, 2000), in the New Order period, plans for pioneer projects of housing estates such as the suburban new town in Tangerang, Lippo Karawaci, is borrowed heavily from North America as planning consultants were hired and the owner’s living experience in Southern California called upon (Silver, 2008). The latest project, Orange County on the outskirts of Jakarta, shows that emulating overseas elements for marketing purposes is not a 1990s trend that has faded away; it remains current. This aligns with what Wu (2010) found with residential development in China. There are political and economic reasons for this. The real estate market is highly competitive and thus ‘marketisation’ that imitates foreign places has become a profound factor shaping the commodification of housing (Wu, 2010).

Over time, gates and walls have been made as standard features of new suburban residential design. Yet there is no array of the market segment found within each housing estates project, they are mostly homogenous. While the middle-class is defined widely (Jellinek, 2000), nevertheless developers translate it into a range of property values. A wide array of market segments seems like a plausible solution for the North American suburbs, where instead of building independent pods for each market segment, developers need to be smart.
enough to serve many different market segments at once: starter, move-up, family, retirement, and so on (Duany et al., 2000). In this Indonesian suburb however, such an array of social characteristics could be represented by the presence of *kampung* dwellers. The nearness of *kampung* and housing estates thus needs to be incorporated into the planning for housing estates.

Showing a commodification in which developers can bargain with neighbouring dwellers as well as planners, the form of housing estates only benefits the middle-class. Economic and social aspirations that encapsulate the needs of the middle-class living within the housing estates differ from those of the *kampung* dwellers. The resulting cut-off access and increased distance between uses due to the gated enclaves may not be within the public’s, the *kampung* residents’ or even the planners’ best interests, but such development keeps occurring. Public interest (as the common potential interest for everyone, including the poor, children and the elderly) seems abandoned.

To overcome such disparities in walkability and accessibility, some aspects could be addressed through better design, such as mixed residential and commercial uses for accessibility (Duany et al., 2000; Ewing, 1997; Newman & Kenworthy, 1999; Salingaros, 2006), along with increased connectivity and street layouts to reduce distance (Duany et al., 2000; Southworth, 2005). Other aspects may not be necessary. For instance, a shared street for gated housing estates seems to work well with no obvious necessity to provide a footpath. Some street segments in non-gated housing estates have footpaths but these are used for other purposes (parking) and are obstructed by trees. In some cases, the footpath was built when trees and vegetation were already planted on the sideways by the local government after handover rather than being properly planned by the developers under the guidance of the local planners during the permit process. Additionally, providing a footpath is explicitly regarded as a waste by planners, despite being more appealing for buyers. This may be due to
developers’ tendency to maximise profit and minimise the facilities and amenities provided within housing estates.

Above the layer of design, there is the layer of planning, with an increasing complexity at the layer above that—the broader policy. Having understood the flow of the planning process, several pragmatic solutions can be devised. The lengthy, costly and cumbersome permit process could be streamlined. The codes and regulations could be made descriptive and illustrative to shape housing estate forms directly towards walkability and accessibility. The segmentation between land use and transportation planning could be integrated. These are some examples. Yet looking at the planning practice and the broader context of planning culture, whether they could be delivered is another question. Urban challenges are typically part of very complex sets of relations between the market, the state and civil society, producing no clear understandings of the stakes, the problem, and its causes (Healey, 1992b).

It is not simply how the codes and standards define which form to develop, or what problem is framed within the regulatory framework. This is where the nested context of policy could further inform this thesis. As Fischer and Forester (1993, p. 154) state, ‘the framing of a policy issue always takes place within a nested context. Policy issues tend to arise in connection with governmental programs, which exist in some policy environment, which is part of some broader political and economic setting, which is located, in turn, within a historical era’. This thesis then argues that many current practices within housing estate development in Indonesia are driven by what happened in the country’s planning history, and the uncritical adoption of some ideas (see Cowherd, 2005; Kusno, 2000, 2013), alongside what has become of the planning culture that partly resembles the treatment where citizens are left to provide their own shelter instead of it being provided by the state. The partial deregulation between the kampung and the formal environment is an inheritance that can be traced to Dutch colonisation (Cowherd, 2005; Reerink & van Gelder, 2010).
In terms of framing, housing estate development is identified by planners as overcoming the housing backlog problem. In tracing the history of this to provide an embedded context however, it seems that housing provision was a relatively new concept initiated in the 1950s with the First Housing Congress (Kusno, 2012a). Initial provision by the state was very limited as it mainly catered to government officials. It was not until the 1970s that housing provision for the public was addressed by the establishment of several institutions to regulate housing (Cowherd, 2005; Kusno, 2012a).

Similar to the experience in neighbouring Malaysia, the state played an active role in creating the conditions to support gated communities (Tedong et al., 2014, 2015). In the case of Malaysia, Tedong et al. (2014, 2015) found that the reduction in regulation played a key role.

However, in Indonesia, regulation exists but its enforcement has been under threat due to concerns about housing supply and affordability. Together, these two issues are used by the state to support calls for deregulation in the area of development control and planning systems (Barker, 2008; Gurran & Phibbs, 2016).

Indonesian planning drew upon the American gated community model to provide new housing options for affluent Indonesians. These new estates were intended to provide private amenities located within secure compounds offering a retreat for the wealthier middle-class (Tedong et al., 2015) but it does not always happen. A few examples can be found within the new town development such as Kotabaru Parahyangan in Bandung outskirt or Bumi Serpong Damai in Jakarta outskirt. The gated community concept was partly guided by the World Bank, which is an organisation that is deeply influenced by American planning ideas including suburbanisation and freeway development (Lo, 2010; Silver, 2008). In this period, physical and economic policies reinforced road-based expansion (Lo, 2010), and low-density housing forms that extended suburbanisation (Winarso, 2002). At this time, housing estate developments
were highlighted as the middle-class aspirations for a North American suburb (Dieleman, 2011; Leaf, 1996; Silver, 2008).

The decentralisation that happened in the early 2000s meant that the central government gave authority to provincial and local governments to realise spatial planning in their regions (Firman, 2009; Hudalah & Woltjer, 2007; Silver, 2003). This allowed citizen participation in the planning process to be promoted, which on paper seemed to bring a positive form of governance. However, in reality bribery within statutory planning still occurs and there are no government-facilitated meetings to allow dialogue between developers and the public to address the implications of housing estate development for walkability and accessibility.

Roy (2009b) argues that good or better planning cannot solve these issues, for planning itself is implicated in the production of this form. Yet exercises in foreseeing a better social and physical world are vital to the very notion of planning (Johnson, 2010). Hardy (2000, p. 74) notes, however, that ‘society might be better advised to look to planning ideas that are idealistic but which also offer a practical chance of measured improvement rather than await a panacea that promises everything but delivers nothing’. He also stresses that no matter how good ideas are in abstract form, society must be in harmony with their basic assumptions. In this case, this means being aware of what the middle-class aspires to while still looking for a way around it by appreciating the presence of kampung.

Interestingly, all these findings on planning in suburban Bandung have been found to reflect neoliberalism as has been seen throughout the world (see Campbell et al., 2014; Hudalah et al., 2014; Legacy & Leshinsky, 2013; Sager, 2011). Within market-led planning, power relations are crucial. In Indonesia, it is general knowledge that the role of government has changed from that of provider to an enabler, but there is no substantial proof of this. In terms of housing development, while the increasing role of the private developers in
housing provision, particularly for the middle-class, has been presented, it does
not apply to the lower-classes. The latter still mostly count on informal ways of
building houses—individually or communally.

Nonetheless, I concur with Sager (2011) that neoliberalism has had profound
spatial consequences. In terms of housing, neoliberalism has manifested in at
least the following influences: liberalisation of the housing market, gentrification,
and private neighbourhoods as a product of the resulting market mechanism
that represents class-based preferences (Brenner & Theodore, 2002; MacLeod,
258) term, it has taken shape in ‘physically proximate but institutionally
estranged’ entities throughout the urban landscape. Neoliberalism endorses
privatisation and commodification (Harvey, 2007) and contributes to widening
the social disparities between the middle-class and those of kampung dwellers
(Samara, 2013). In market-oriented planning, developers build housing as a
business, and planners tend to take a hands-off approach; communities are
bought through bribery. Naming a price to compensate for housing estate
development, neighbour permits are treated as a commodity. Working out the
way forward thus requires policy intervention and enforcement of regulation to
deal against the market-oriented planning.

8.6 Conclusions

Returning to the complexity of shaping form in practice, this thesis has argued
that while the form of middle-class housing estates may have been designed to
cater for particular needs, there are unintended consequences that may have
been overlooked—the discouragement of walkability and accessibility.

The planning system in Bandung produces a form of housing estate that
discourages walkability and accessibility. These issues cannot be resolved by
simply bringing about different forms or pedestrian facilities. The issues of
middle-class aspirations, such as security perception and affordability, are
entangled and have been translated into predetermined sale prices and certain physical characteristics—gates, walls and cul-de-sacs—for land acquisition and budgeting strategies by developers. Other than the booming market and the regulation of land purchases, the changing conditions of the land market are also an influential factor.

Several reasons exist that have allowed such forms to be built. From the extensively discussed context within which planners operate, we could conclude that planning for housing in suburban Bandung is mostly dealt with to facilitate development rather than to take control, especially when housing shortage is mentioned. The planning process has been largely considered in black and white terms, with the planners and developers in polarised positions (Grant, 2009). But here within the market-led planning environment in Indonesia, there are plenty of grey areas. It appears that a similar pattern exists: both planners and the middle-class rely widely on the private developers to provide housing and shape the urban form. While the private developers have taken on the partial task of providing shelter from the government, the interference of government in the built form is limited. As public policy is always related to the problem of balancing the private and public interests, this practice shows that the government tends to give the private interest more weight than the public interest. While there is limited role in planning, the strong market-led processes in shaping the form of housing estates characterises the nature of development in suburban Bandung, more as a development than a planning process.

The findings have included neoliberalism at the forefront of discussions. Nonetheless, the impact of neoliberalism on planning in Indonesia does not necessarily mean that deregulation exists, as this has not been present in Indonesia generally. Planning during Dutch colonisation did not include the lower-class who lived in kampung. Planning is also defined as being limited to a series of legal processes and adhering to building codes produced in spatial
plans. Yet the spatial plan itself is not detailed enough to address the dimensions that are crucial for walkability and accessibility.

While some inputs have been addressed in planning policies towards shaping better forms of housing estates in terms of walkability and accessibility—ones that could suit the practice found in the northwest suburb of Bandung—I have also acknowledged that such inputs are subject to many forces. The practice is related to a planning culture where modern approaches are mostly absent. Many small-scale housing estate developers are individuals who have begun a business and are only familiar with traditional planning activities. Yet they may be more willing to cooperate instead of negotiating their way towards their own profit, as with the large-scale developers.

While the way to provide walkability and accessibility remains a debatable question, the best option is to address the form as early as possible, before bad design lead us towards bigger health and equity problems. The benefits apart from health and equity are paramount. Higher connectivity can lead to higher levels of interaction between residents and the environment, society, and cultural and economic activities, of all of which can improve neighbourhood stability in the long term.

The solution, as discussed in this chapter, may not be perfectly clear, as the reasons behind how forms develop are complex. The answer that I have found is not as simple as I thought initially. It is not just a design problem after all. Underneath the surface of what seemed to be a design problem turned out to be a planning problem. Walkability and accessibility provision in the suburb is part of a much bigger problem within the evolving nature of Indonesian planning. Driving factors influential to shaping the forms of housing estates lie within the broader context of planning culture and history. Housing estate development in Indonesia then becomes a complex interwoven phenomenon where forms are highly problematical.
Chapter 9 Conclusions

This thesis has examined the planning processes and practices that support the development and form of housing estates using the case study of Bandung. By engaging with debates about walkability and accessibility in contemporary urban environments, this thesis has contributed to the development of an evidence base on Indonesian planning, which in its current form is still underdeveloped.

The change in travel behaviour in Indonesian cities in recent decades, which has resulted in an increase in the use of motorised vehicles, has occurred in parallel with the development of gated housing estates. In this thesis I have explored the extent to which planning has helped facilitate these changes. The examination has focused on the spatial relationship between housing estates and kampung. A discursive study of the role of planners and developers in the planning and construction of housing estates developed new insights about planning in Indonesia, and about the implementation of a new form of housing, in this case, the gated housing estate. Accordingly, the thesis is about what forces have led to the changes in travel behaviour.

By focusing on the delivery of walkable and accessible housing settlements, I was able to develop a critical framework that links planning to market processes. The planning and market-related factors that shape the construction of housing estates have been found to undermine the creation of walkable and accessible urban environments. A study of housing estates can reveal the practice and the problems associated with housing estate forms and travel and the extent to which they have been enabled by policies on housing and spatial planning. It is against a background of new travel problems – including increased congestion, air pollution from motorised vehicles, and reduced walking that may result in obesity - that the planning and practices of housing estate development have been explored here. Drawing on the case study of housing estate development in the northwest suburb of metropolitan Bandung, this thesis has produced new
knowledge about planning in Indonesia. Specifically, it has identified how the form of housing estates is shaped and how this affects walkability and accessibility in practice.

This chapter includes suggestions regarding future research in the field. It is structured into four sections. A summary of objectives and approaches is presented in the first section, followed by the major findings resulting from this research. The implications of the findings are discussed in the third section. Suggestions for future work are identified in the last section.

9.1 Summary of Objectives and Approaches

This thesis has sought to provide an in-depth and nuanced understanding of how Indonesian planning and the relatively recent introduction of housing estates have shaped planning and housing form. This study focused on walkability and accessibility. Indonesian cities were once full of people walking, but now people are driving private vehicles as the statistics have shown: motorbikes owned has escalated from nearly 20 million in 2002 to reaching more than 100 million by 2016; cars owned from less than 3.5 million to become more than 14.5 million over the same period. Despite the extensive research into the health impacts associated with private vehicles, it seems alarming that cities like Bandung are developing into automobile-dependent societies. Without strong regulation to prevent this style of urban living there is a concern that Indonesian cities like Bandung will become increasingly unhealthy and inequity places to live.

This thesis adopted a case study approach by examining 14 housing estates, interviewing nine developers who had built 22 housing estates, and 11 local planners in Bandung. This allowed for deeper engagement with the contextual aspects shaping Bandung’s planning culture and housing estate development practices. The aspects of concern to this thesis are the historical, cultural, physical and spatial factors, all of which interact with the planning process in different ways.
Documenting the walkability and accessibility problem, assessments were undertaken by highlighting the socio-cultural differences of this Indonesian suburb and the mainstream literature on developed countries, mainly from the North American, European and Australian contexts. To shape the form of housing estates towards increased walkability and accessibility, the efforts made in this research attempted to identify what design characteristics mattered for walkability and accessibility and for the nature of Indonesian housing estate development. Further, it also considered improvements by examining the sharp difference between housing estates and *kampung* as produced by Indonesian planning.

Additionally, the values, perceptions and knowledge held by planners and developers involved within the process were also identified. Narratives about the planner’s role in shaping the form of housing estate were presented in Chapters 6 and 7. Learning from this exploration, this thesis makes key suggestions regarding both the form, as well as the elements within the planning system that would need to change in order to produce more walkable and accessible housing estates. This research explored planning practice on suburban housing estates mainly driven by small-scale developers. The findings from these cases were discussed in Chapter 8 in relation to larger empirical studies (i.e. Dieleman, 2011; Leaf, 1996; Leisch, 2002; Monkkonen, 2013b; Rahadi et al., 2013; Winarso, 2002) found in the existing literature.

The focus of this thesis was on how housing estates are formed. This was achieved by exploring the practices of housing estate development, and the extent to which those practices encourage walkability and accessibility. Local factors, such as buyers’ preference and developers’ market analysis, were identified as driving housing estate development. This thesis also proposed several avenues for how might planning intervene to shape the form of housing estates to encourage walkability and accessibility. The following section will highlight these major findings.
9.2 Walkability, accessibility and the story behind housing estate development

This thesis found a relationship between the form of housing estates and travel options, particularly walking. In the case of suburban Bandung, housing estates have truncated public access, making it difficult for both the estate residents and neighbouring dwellers (who mostly live in kampung) to walk to their destination points. The issue of walkability and accessibility is found to relate to three things. They are; firstly development practices where planning has had a limited role compared to the developers; secondly, the series of decision-making starting from land acquisition to permit process and post-occupancy; and thirdly, the nature of planning which was found to be grounded on how planners regard themselves and how planning has historically been nested within the Indonesian cultural context. All three arguments will be unpacked shortly.

Within the large body of literature on travel and urban form (i.e. Banister, 2008; Bassett et al., 2008; Boarnet & Crane, 2001; Cao et al., 2009; Cervero & Kockelman, 1997; Jenks et al., 2008; Khattak & Rodriguez, 2005; Nicholls et al., 2015; Schwanen & Mokhtarian, 2005; Williams et al., 2001) there are very limited studies addressing the relationship between planning and the built form. From this exploratory study of the northwest suburb of metropolitan Bandung, Indonesia, one can see the many reasons why housing estates that discourage walkability and accessibility have been permitted. The challenges faced in making efforts to shape the forms towards walkability and accessibility have also been identified.

Within the literature on neighbourhood travel, which has mainly originated in Australian, American and Europe, this research contributes to filling the gap in knowledge about planning in Indonesian. Studies specific to Indonesian housing development (i.e. Dieleman, 2011; Leaf, 1996; Leisch, 2002; Monkkonen, 2013b; Rahadi et al., 2013; Winarso, 2002) on the other hand have not addressed the crucial relationship between planning process, urban form and
travel. This research responded to the shortcomings in these current bodies of literature.

Thus, while having its focus on the northwest suburb of metropolitan Bandung in Indonesia, this research has located its argument within a much larger historical and theoretical context. Addressing issues subsumed by the impact of urban form on travel choices, it investigates the city form while exploring the planning practices overshadowed by globalising planning ideas. This research suggests that planning practice is critical and that socio-equity and economic issues are only a few of the many things to be addressed in the way forward.

While this case study is limited in scope, it does provide indications of the need for traditional Indonesian settlements, *kampung*, to be incorporated within the effort to provide walkability and accessibility at the neighbourhood scale. Over time, gates and walls have been made as standard features of Indonesian housing estates. Thus, older housing estates are relatively more walkable and accessible as they are located in the inner part of the suburb, while having pedestrian access points to the *kampung*. There are benefits of having connections with *kampung* in several ways: providing local uses, dwelling units for the street hawkers, and walkable alleys are some of these. On the contrary, should the emulation of North American suburban housing estate continue, this might endanger the informal commercial uses largely found in *kampung*. Concerns about walls were paramount among planners as the characteristics of this traditional settlement are being erased.

On the developers’ side, aspirations towards profit are placed above everything. This can be seen in the strategies they use to ensure development, and the mechanisms they employ for developing housing estates. The combination of the middle-class market segment specified for this suburb and the land market have encouraged developers towards having a predetermined sale price, along with the specific physical characteristics they have in mind: gates, walls and cul-de-sacs that resemble gated communities or clusters. Intentionally disengaging from
the bordering communities, clusters of gated communities also generally operated as efficient subdivisions. Efficiency, which is perceived by developers to provide the most profit by making more saleable areas, saves on the costs of delivering some public amenities, and allows stages of development in the future. Differences found in practice have ensured that developers believe there is an unclear and unequal enforcement of regulation. This results in the ambiguity of developers’ willingness to comply with regulations.

Within statutory planning, this thesis has demonstrated that planners are reluctant to directly shape the design of housing estates, despite several spatial and social concerns addressed to them. However, having retraced the steps on the processes of shaping the form of housing estates, planners have shown initiative in providing accessibility. It is done by requiring developers to design street layout which one day is able to be connected to the adjacent housing estate, despite the limitations of the existing built form with the dead-end street and perimeter walls.

For the planning system, this research has found that planning practice is not straightforward—it hinges on factors often beyond the control of planning practitioners. Market-oriented planning is one example. Yet many conditions contained in such planning are taken for granted and are not changed. Housing development, planning policies and practices are very complex and future endeavours will require broader policy to be in concert with this complexity.

**9.3 Important implications of findings**

This thesis has unpacked the process shaping the form of housing estates. It is now time to consider the challenges that may arise in practice, including the practical opportunities available to planners to better support walkability and accessibility in the planning process. In examining the problems associated with the form of housing estates, I have argued that planning efforts need to be made to support the future development of walkable and accessible housing estates.
This can be achieved by providing advice through the permit process, asset handover, and in the making and enforcement of regulations. The fallout of the current practice, where policies and planners avoid intervening with the physical form of housing estates, goes a long way. It does not only affect those within an immediate distance, but also travel behaviour in general and it will affect how children travel throughout the city and get accustomed to certain way of travel. Yet it cannot be the only means to achieve health and equity. Provisions for health and equity at the neighbourhood scale are insufficient when broader connectivity issues are not addressed. To achieve greater accessibility, housing estate development needs to be supported by better integrated regional planning which addresses land use and transport.

Given the importance of the form of housing estates on walkability and accessibility, some issues that emerged from the discussions need to be raised here. Three important principles make up the basis for walkability and accessibility provision. Firstly, planners need to recognise that walkability and accessibility is a critical implication of housing developments. Walkability and accessibility that promotes walking as a basic form of travel has to be well recognised within the broader community. It is as important as overcoming housing shortage issues that have been largely sought after by planners. Planners also need to increase awareness of their authority as well as increasing their capacity as regulator who stand at the tipping point of the process in shaping form of housing estates. It is necessary that new policies and plans be written and that they include planning ideas such as land use and transport integration which can support accessibility and even walkability. It is also necessary that planners reconsider their roles in the planning process itself. Rather than being facilitators of the market-led planning process, they should intervene more directly to ensure that the ambitions of the plan and policies are realised in the built form.
The problems associated with the form of housing estates in Indonesia have partly originated from an uncritical adoption of North American suburbs initiated within the boom period in the 1980s. The implications for the future are then not to uncritically adopt certain forms from elsewhere but to appreciate the traditional forms of Indonesian settlements and enhance these for better execution. Planners can do this by: directing developers to make pedestrian access points to the adjacent kampung; advising kampung residents to keep and upgrade their access points; facilitating or attending meetings for neighbour permits; prioritising the permit process of non-gated housing estates as an incentive—and this may not be an exhaustive list.

In addition to greater sensitivity given to local and traditional urban form, there is considerable scope for planning to engage more productively with small-scale developers to help deliver a housing form that is more conducive to active travel. Providing a nuanced understanding on developers’ behaviour in housing development is a stepping stone towards delivering walkability and accessibility for health and equity. Incentives and specific regulations that address walkability and accessibility may also be needed, such as speedier permit and handover processes, and guides on how to plan housing estates so that they are walkable and accessible. Monitoring by planning authorities at the provincial and central government levels is also necessary.

The results of this research confirm that the planning process still provides a suitable avenue to address walkability and accessibility, as it plays a central role in formal decisions shaping the form of housing estates. Despite the dualism of planning practice, policy is still likely to result in adverse unintended consequences of housing estate development on health and equity resulting from a lack of walkability and accessibility.

Nevertheless, finger pointing on who is to blame and what cause the problems is no longer necessary as there is a real problem about how future housing development can encourage walkability and accessibility. These problems shall
be put into planners’ concern over future development as it could represent an opportunity to strengthen the role of planning in Indonesia alongside the private developers. Housing providers can help planners steer the direction of housing development.

Travel options that accommodate both the automobile and the pedestrian—in which the latter more often than not is forgotten—are important. This is when growing public awareness is a useful avenue. It is very unfortunate that the forms of housing estates and travel options have not been framed as relevant to the urban poor, as this is evident in urban daily life. Ideas about walkable and accessible housing estates as part of mixed-income neighbourhoods should be stimulated. This is not to repeat the failure of the inclusionary housing policy set by the central government in the early 2000s where modest homes for the lower-classes were located at different sites to the middle- and upper-classes. Support of the broader population could be made more fruitful through public participation.

9.4 Needed future work in the field

To consider walkable and accessible neighbourhoods as connected to housing estates and kampung, little is known in detail about how the Indonesian middle-class aspired to live in housing estates. Given their considerable role in shaping developers’ views of the market, what the estate residents believe housing estates should be and the values and identities associated with it needs investigation.

Closely related to such aspirations, an area of research that demands more attention and investigation is how the middle-class determined their travel preferences. Current knowledge sees that the middle-class aspires to home ownership and is willing to reside further away on the urban periphery as long as owning a house is an affordable option. Their willingness to bear transportation costs as the implication of living in such locations has yet to be understood.
Understanding how the middle-class is making residential choices is therefore needed to facilitate appropriate efforts to establish travel choices, including walkability.

The result of this thesis also invites a question on urban form and actual travel at the neighbourhood scale. Future research could address how neighbourhood uses may be of interest to the middle-class in Indonesian cities. Mixed uses at the neighbourhood scale could be examined more closely for their effects on local travel, particularly for children. As *kampung* remains, this is important to support environmental sustainability, and to help promote integration between the *kampung* and housing estates.

From the developer’s perspective, it could be fruitful to study comparisons between the large-scale and the small-scale developers in how they understand and then respond to market demand. This has been suggested because this thesis has only gained a comparison as indicated by planners and the literature on how large-scale developers behave.

At the broader level, many dynamics occur in Indonesian politics. However, there are many other avenues to explore concerning whether they affect the planning of housing estates. In terms of transport, this has been partly addressed by Lo (2010). From tracing the history of Indonesian planning, the thesis could also benefit from further research on understanding the process of policy transfer. One that is lacking in the existing literature is how the permit process originated. This is highly relevant as the Indonesian permit system is considered troublesome and should be streamlined.

From a methodological viewpoint, shortcomings are apparent in the case study approach adopted in this thesis. Albeit the theoretical generalisations being made, comparative case studies to other countries or even regions could be beneficial in identifying general features contained within the shaping of housing estate form and how they have contributed to travel and automobile
dependence. It is hoped that the methodological strategies developed and deployed here might also prove useful for those concerned with the processes of shaping the form of housing estates in other places.

Although this thesis sought to understand shaping the form of housing estates based on the concern about walkability and accessibility for health and equity, the practice of shaping form is possibly relevant to other urban problems not discussed here. For example, it has been alleged that the form of gated communities contributes to the concentration of social injustice. This topic thus merits more study in the future than it has received in the past. Hopefully, this thesis will stimulate future research on this important topic.
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Appendix A: Interview schedules

1. Local Planners

1. What are your office’s role in relation to housing estate development and your role here in the office?

2. What is the focus of regulating housing estate development? If the planning idea contained within the current policies have shifted, what factors (political, institutional, social, and cultural) have caused the change?

3. In relation to housing estate development permits and guiding the form of housing estates, what guidelines or regulations do you refer to? Are these references useful in the practice of regulating housing estate developments? Could you give me the project examples?

   a. What specific design elements are you looking at during the permit process, what is the guideline?

   b. Have accessibility towards mixed uses been considered?

   c. Have walkable environment been considered?

4. Aside from these permits and guidelines, are there any other kinds of regulations that your office usually uses?

5. Does your office coordinate with other local institutions in regulating housing estate development? Have the elected officials played a role?

6. What kind of difficulties have you found in regulating the permit process and guiding the form of housing estate?

7. What process, guidelines, or regulations that you think might be useful in the future?

8. Has the current policies and regulations in housing estate development referred to compact city or new urbanism ideas?

9. In what ways do you engage in practices elsewhere (conferences, site visits, and expert consultation)?

10. Have trends influenced the process of regulating housing estate development? Where have the current housing estate projects been located? Is there some housing prices or market segment differences found in different location or different design?
11. Do you have recommendations on particular housing estates that I could visit in relation to our discussion? Also other people that I should interview?

2. Developers

1. What is your role here in the office, how long have you been involved in developing housing estates?

2. How was the process of land acquisition for housing estate X and how it relates to the design?

3. What specific design elements were the local government looking at when you were developing housing estate X?

4. If the local government made some advices on design, how and why did it affect the proposed design?

5. What kind of difficulties have you found in complying with governments policies and regulations on housing estate development?

6. What do you think of the guidelines or regulations in relation to market preference? Where did you get information on market preference (level of occupancy, external engagement from conferences, set by leading developers)?

7. What could be changed on policy and regulatory framework to overcome this problem?

8. If housing estate X was targeted for a particular market segment, what marketing or design strategies applied? Are they stated in the marketing brochures, or in other means? What were you aiming for and what you actually deliver?

9. In relation to trend of housing estate, was housing estate X developed to follow that trend? How is the trend developing?

10. How has the form of housing estate been thought to walkability and accessibility?

11. How would you say that the form of housing estate been shaped by local government’s regulation?
# Appendix B: Walkability assessments instrument

<table>
<thead>
<tr>
<th>Date</th>
<th>Street segment number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of day</td>
<td>Street name</td>
</tr>
</tbody>
</table>

### Residential and Use

<table>
<thead>
<tr>
<th>1. Types of residential housing (mark all that apply)</th>
<th>12. Presence of sidewalk (take photos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>detached</td>
<td>one side of street, whole segment</td>
</tr>
<tr>
<td>semi-detached</td>
<td>one side of street, partial segment</td>
</tr>
<tr>
<td>row houses</td>
<td>both sides of street, whole segment</td>
</tr>
<tr>
<td>multi-family</td>
<td>both sides of street, partial segment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Fronage transparency (take photos)</th>
<th>13. Sidewalk width</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>one person</td>
</tr>
<tr>
<td>a little</td>
<td>hardly two people</td>
</tr>
<tr>
<td>much</td>
<td>two people easily lift</td>
</tr>
</tbody>
</table>

### Non-Residential and Use

<table>
<thead>
<tr>
<th>3. Presence of users on porches (take photos)</th>
<th>14. Sidewalk material</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>unpaved</td>
</tr>
<tr>
<td>less than half</td>
<td>gravel</td>
</tr>
<tr>
<td>more than half</td>
<td>paved</td>
</tr>
</tbody>
</table>

### Public Space

<table>
<thead>
<tr>
<th>5. Visible people (take photos)</th>
<th>15. Sidewalk condition: bumps/cracks/holes (take photos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>children only</td>
<td>fair</td>
</tr>
<tr>
<td>adults male/female only</td>
<td>under repair</td>
</tr>
<tr>
<td>children and adults male/female</td>
<td>very few</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Are the people being physically active? (take photos)</th>
<th>16. Sidewalk obstacles: pots, planed vehicles (take photos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>no</td>
<td>many temporary obstacles</td>
</tr>
<tr>
<td>yes, children only</td>
<td>many permanent obstacles</td>
</tr>
<tr>
<td>yes, adults male/female only</td>
<td></td>
</tr>
<tr>
<td>yes, children and adults male/female</td>
<td></td>
</tr>
<tr>
<td>children and adults male/female</td>
<td></td>
</tr>
</tbody>
</table>

### Sidewalk

<table>
<thead>
<tr>
<th>7. Visible street hawkers (take photos)</th>
<th>17. On-street parking</th>
</tr>
</thead>
<tbody>
<tr>
<td>no</td>
<td>none</td>
</tr>
<tr>
<td>many</td>
<td>a few cars/motorbikes</td>
</tr>
<tr>
<td>static</td>
<td>many cars/motorbikes</td>
</tr>
<tr>
<td>mobile</td>
<td></td>
</tr>
</tbody>
</table>

### Traffic Condition

<table>
<thead>
<tr>
<th>8. Traffic condition (take photos)</th>
<th>18. Presence of pedestrian trails (take photos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>no</td>
</tr>
<tr>
<td>a few cars/motorbikes</td>
<td>yes, soft surface</td>
</tr>
<tr>
<td>many cars/motorbikes</td>
<td>yes, hard surface</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Traffic Speed

<table>
<thead>
<tr>
<th>9. Traffic speed (take video)</th>
<th>19. Tree/shading walking area (take photos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>slow</td>
<td>no tree/shading</td>
</tr>
<tr>
<td>fast</td>
<td>some</td>
</tr>
<tr>
<td></td>
<td>yes, along segment</td>
</tr>
</tbody>
</table>

### Public Lighting

<table>
<thead>
<tr>
<th>10. Amount of litter (take photos)</th>
<th>20. Public lighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>a little</td>
<td></td>
</tr>
<tr>
<td>a moderate amount</td>
<td></td>
</tr>
<tr>
<td>a considerable amount</td>
<td></td>
</tr>
</tbody>
</table>

### Traffic Control Devices

<table>
<thead>
<tr>
<th>11. Amount of graffiti (take photos)</th>
<th>21. Transit facilities (take photos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>shelter</td>
</tr>
<tr>
<td>a little</td>
<td>benches</td>
</tr>
<tr>
<td>a moderate amount</td>
<td></td>
</tr>
<tr>
<td>a considerable amount</td>
<td></td>
</tr>
</tbody>
</table>

### Pavement Marking

<table>
<thead>
<tr>
<th>12. Presence of sidewalk (take photos)</th>
<th>22. Traffic control devices (mark all that apply)</th>
</tr>
</thead>
<tbody>
<tr>
<td>one side of street, whole segment</td>
<td>stop signs</td>
</tr>
<tr>
<td>one side of street, partial segment</td>
<td>speed limit sign(s) .. Km/h</td>
</tr>
<tr>
<td>both sides of street, whole segment</td>
<td>pavement marking</td>
</tr>
<tr>
<td>both sides of street, partial segment</td>
<td>speed bumps</td>
</tr>
<tr>
<td></td>
<td>median/traffic island</td>
</tr>
</tbody>
</table>
Appendix C: Indonesian quotes from interviews with planners (code P) and developers (code D) in chapter 6 based on chronological sequence

“Si perumahan itu, perumahan itu menjauh dari lingkungannya... menghabiskan identitasnya kampung, udah tidak ada itu. Kasihan. Sekarang jalannya juga sudah bergeser... susah lewat jalan itu... yang paling mencemaskan bagi saya, pengembang perumahan itu menjauhkan rumah kampung. Masyarakat sudah tidak punya akses, seperti jalan tol itu membelah, perumahan juga seperti itu. Kalau perumahan itu yang paling parah SetraDuta. Biasanya kan dulu perumahan itu, misalkan ini ada jalan, ini ada kantong perumahan, X mah polanya sudah tidak begitu lagi. Ini dikuasai X, ini juga, jadi semuanya, jalan itu bisa-bisa hilang” (P16)

“Terintegrasi dengan sekitar... harusnya perumahan itu seperti itu. Kalau dulu aturannya seperti itu walaupun awalnya ada batas-batas perumahannya tapi batas perumahan itu adalah benteng belakang rumah” (P04)

“Yang menengah ke bawah, itu di barat Ig... itu motor ininya. Itu juga merupakan kendala buat kami. Kalau menurut pemikiran kami disini, dibuatkan public transport sehingga tidak semua menggunakan kendaraan pribadi” (P08)

“Yang kita punya sekarang itu hanya angkot kan tidak signifikan ...Kalau hanya muter di kota Cimahi kayanya hampir tidak ada demand-nya. Paling hanya anak-anak sekolah... itu demand-nya tidak ada lah” (P08)

“Untuk pengembang yang tidak terlalu besar, lalu lintas tidak terlalu tinggi jadi Jalur pejalan kaki dirasa tidak terlalu perlu. Pengembang juga jualan, tapi saya rasa kalau jualan dengan fasilitas seperti itu lebih baik, daya tariknya juga lebih” (P03)

“Kadang-kadang pengembang itu kalau kita syaratkan lebar ROW 8m itu sudah terlalu besar. Jadi ya minimalnya pokoknya perkerasan jalan minimal 5m karena bisa sirkulasi kendaraan dua arah” (P04)

“Kalau saya sendiri pribadi suka ngusulin kenapa jalan-jalan tidak dikasih median, atau pedestrian. Keterbatasan mereka karena lahananya nanti abis.ologi kalau pengembang yang bagus malah sudah ngedesain seperti itu, karena mereka prinsipnya tidak jual rumah tapi jual lingkungan. Padahal kan kalau lingkungan bagus bisa menaikkan harga rumahnya” (P02)

“Kalau perumahan yang perlu pedestrian (sidewalk) itu jalan utama tapi sebaiknya sih memang ada... kalau lokasinya misalnya bloknya panjang biasanya harus ada pedestrian (sidewalk)... tapi kalau bukan jalan utama, jalan disekitar situ aja kalau ada pedestrian (sidewalk) jadi malah ga bermanfaat” (P04)

“Pada saat pembentukan KBB masih ada kewenangan yang diberikan ke Kecamatan untuk memberikan kemudahan, pelayanan yang lebih dekat. Baru setelah punya Perda sendiri baru mulai dibatasi” (P03)
“Proses perizinan lumayan lama, setahun-an kurang lah. Tapi intinya sih cepat, IPPT kan cepat. Izin lain yang memang terkendala, karena belum selesai. Person-nya yang kita percaya pensiun. UPL UKL yang lama, itu yang menentukan juga sebenarnya karena yang menentukan site plan kan” (D11)

“Sejak izin prinsip sudah dapat, kita bisa mulai memasarkan. Bahkan booking fee sudah ada yang masuk” (D15)

“Secara riil kita terus berusaha tapi memang kenyataannya...ya mungkin karena perumahan itu basic need sehingga ya masyarakat juga memaksakan walaupun ada aturan-aturan atau guidance yang sudah kita tentukan gitu...yang paling dominan itu misalnya kita sudah boleh membangun itu kalau sudah keluar IMB, ini belum pada punya”(P08)

“Biayanya tidak jelas, tidak ada yang baku segini...Kita kan pakai konsultan, konsultan ‘segini, pak’. Sebenarnya ga ada duitnya (retribusi), cuma IMB. Tapi di Indonesia kalau tidak ada duitnya ya tidak jalan.Mereka punya aturan tapi untuk ekspos, transparansi ke masyarakat masih sangat kurang, terutama ke harga...Akhirnya kita menghitung RAB-nya itu biar ga beresiko kita up-in, RAB kan menentukan harga jual rumah. Yang terjadi perizinan itu tidak murah, sangat mahal, nah itu yang memberatkan...Lebih baik mahal tapi jelas tidak masalah sehingga kita bikin RAB kan tepat” (D18)

“Kadang kalo aturan itu kan harus tetap ada izin masyarakat ya tinggal masyarakat tertentu aj, kasih duit, udah beres. Terus tau-tau di tengah masyarakat yang lainnya tidak tau apa-apa kok begini ya” (P01)

“Ada beberapa akses warga yang kita biarkan dan permintaan warga untuk bisa akses kesana...awalnya jalan setapak tapi kita perbagus, masuk ke jalan kompleks, diperlebar, itu dicor, yang semula hanya tanah” (D11)

“Itu dulu kan ada jalan setapak warga itu tidak bisa dimatikan. Sebetulnya kalau pakai kendaraan mereka bisa lewat jalan tapi kan untuk supaya situasi juga kondusif dengan tetangga tidak bisa juga serta merta. Mereka kan sudah mewakafkan tanahnya untuk dijadikan jalan ke kampung sehingga salah satu klausul di izin tetangga yang begitu” (D09)

“Kita meeting dengan warga, apa saja yang kira-kira mereka minta dari kita akhirnya 13 poin yang diminta...jalan warga diperbaiki...tenaga kerja 60% dari warga...akses jalan di belakang perumahan 1,5m” (D15)

“Kita meeting-nya 1RW 3RT di kantor desa. Permintaan dari warga banyak sekali. Kita bangun kantor RW 30 juta. Kompensasi per rumah tangga bentuknya uang, ada 25 juta dibagi-bagiin ke warga...Kompensasi itu dimana-mana...Beda lokasi beda kompensasinya, tergantung lingkungan. Lingkungan kota mungkin orangnya lebih educated tapi mintanya lebih besar. Izin tetangganya juga ribet. Bahkan teman saya ada bikin cuma 28 unit dia sampai ngaspal dari depan, sampai habis 280juta untuk kompensasi doang” (D18)

“Kalo tau di Gedebage ada perumahan X, tidak diteruskan pengelolaannya karena masyarakat disitu yang jadi kendala: masyarakat yang nuntut berlebihan...kadang kan
arahkan KDBnya. Jadi mereka itu perumahan, "KBU dikerjakan lama tidak...sebetulnya 40(persen)" (P08)

"Kebijakan masih banyak belum melihat ke kawasan suburban, berpikirnya masih ke dalam kota...kalau misalnya berantakan apakah harus menuntut swasta atau pemerintah? Di satu sisi kalau tidak ada swasta siapa yang mau mengelola pinggiran, pemerintah tidak menentuh itu soalnya" (P20)

"Pemerintah itu mungkin ke green city, livable city, masih sesuatu yang generik ya tidak sampai ke konsep spesifik. Itu kaya norma aja lah, paling dibanyakin hijau nya...Tapi kalau berbicara compactness itu, Pemda belum banyak mendengar itu ya karena mungkin rusun lebih banyak pemerintah pusat artinya dorongannya dari pusat" (P20)


"Dari aspek transportasi, dengan tipe 21 kan jumlahnya akan lebih besar dibandingkan dengan tipe 36. Pasti kan keluar masuk kendraa kan lebih banyak sementara jalan di Cimahi kan dari dulunya kecil-kecil tidak bisa dikembangkan lagi" (P04)

"Developer itu nakalnya misalnya KDBnya antara 20-40 (persen) ini bisa lebih dari 40(persen)" (P08)

"Sebetulnya semenjak 2008 ini sudah tidak ada lagi izin baru yang keluar, secara resmi. Di KBU itu harus memenuhi KDB itu hanya 20%...dari segi hitung-hitungan bisnis itu tidak kena. Terlalu banyak tanah kosong yang dijual...kalaupun harus keluar (izin resmi) itu harus pakai rekomendasi gubernur...sehingga rumah-rumah yang ada di perumahan lama itu pasti izin-izinnya pakai izin yang lama...Saya ada proyek lain, walaupun baru dikerjakan sekarang, izinnya sudah dari 2007" (D09)

"KBU kan primadona, jelas ada limitasi yang strict. Jadi dari awal 'ini bapak mau bikin perumahan, perumahannya kaya gimana?' kalau bicara perumahan utk RSSS yg tipe 21 itu padat kan ya itu tidak masuk kalau di KBU kita kasih tau mereka dari awal. Kalau mereka kekeuh mau disana karena misalnya tanahnya sudah beli, itu konsepnya ganti. Jadi tidak untuk permukiman padat, lebih ke kapling yang besar rumah kecil, kan KDBnya lebih kecil...Dari awal kita minta konsep, biasanya pra site plan...lalu kita arahkan supaya sesuai aturan" (P05)

"Ketentuannya belum ada Perda...Perda juga mengacu ke Permen" (P03)
“Maksimum satu blok 100m, harus ada pemisah lagi. Tapi itu untuk antisipasi bahaya kebakaran” (P04)

“Standard jalan, ROW itu berlaku untuk jalan-jalan negara, jalan desa, kabupaten, propinsi, nasional, itu jelas. Nah selama ini yang saya tahu untuk jalan-jalan perumahan belum ada aturan sampai spesifik seperti itu jadi kita cenderung gimana developer. Paling kita koreksi kalau seandainya lebar jalannya kecil atau tidak memungkinkan” (P02)

“Memang di proses pengendalian agak susah, nyolong-nyolong ini, perencanaan (awalnya) bagus, kita tidak ada tiba-tiba pas kesana (bentengnya tinggi), kita tegur mau bongkar, mau yang bongkarnya pemerintah anggarannya darimananya... kita tidak punya power untuk mengelola ini dengan baik. Tapi kadang-kadang pemerintah itu kalah sama pengembang besar...Sementara aturannya juga tidak melarang...selama kapitalnya masih, rakyat semakin hilang” (P16)

“Karena itu sudah aturannya ya kita tidak bisa ngapa-ngapain. Kita harus ngikutin aturan mereka karena kan kalau kita keukeuh tidak akan keluar izin. Jadi kita ngikutin sih” (D13)

“Kalau kita digerakkan dengan aturan tapi dengan aturan yang jelas, rasanya kita juga akan nurut. Tapi sekarang menjadi tidak mau itu karena aturannya menjadi setengah abu-abu tea. Antara boleh dan tidak bolehnya perbedaannya menjadi sangat tipis. Kita jadi kesulitan, di satu sisi kita akan tertib mengikuti aturan yang ada tapi perumahan di sebelah kita dia tidak seperti kita itu. Mengikuti aturannya dengan benang merah yang jelas itu...sehingga ada keirian tersendiri” (D09)

“Pernah ada perumahan pengen ada perumahan kaya di BSD klo ga salah, cuma karena kita aturannya tidak ada, kita jadi sulit mengomunikasikannya. Ideny developer sudah dari mana-mana. Nah ini saya perlu kajian khusus, bagaimana perhitungan RTH, KDB. Secara struktur bisa dipertangungjawabkan tapi kajian tata ruang bagaimana. Perlu kajian komprehensif lah” (P05)

“Backlog kan udah 15 juta ya? Sebenernya kan peran Pemda tidak terlihat. Kita kan CUMA ngurusin pengembang...mau bikin perumahan dimana asal sesuai dengan ruang di RTRW ya itu AJA dan tanahnya dikuasai” (P02)

“Posisi Pemerintah Kota dimana-mananya sebagai fasilitator karena kan desain, implementasi fisiknya, terkait sama akses, segala macem, itu biasanya pengembang sendiri yang merencanakan dari mulai lebar jalan, tipe bangunan, tampak...Kita hanya lebih pengendalian terkait sama kawasan hijau, luasan KDB, drainasenya...teknisnya sendiri diserahkan ke pengembang” (P16)

“Yang dilihat misalkan KDB berapa, kemudian luas kapling minimalnya harus berapa, kemudian RTH minimalnya berapa, kemudian GSB. Pengembang tentunya mau semuanya dijual kan. Setelah sesuai dengan aturan pemkot baru dikeluarkan peraturan site plan...mikanya konsultasi itu biasanya bolak balik...jadi pengembang cari nilai yang maksimal kita juga aturan tetap...kalau kita kan kasih kisi-kisinya angka aja...itu silakan mau seperti apa (desainnya)...nanti kita hitung” (P04)
“Site plan jadi kita buat ulang. Kita buat tapi dengan arahan dari mereka jadi mereka ikut campur, seperti jalan ujungnya dimana. Konsep kita kan konsep cluster, satu pintu saja di depan, jadi mereka menyarankan bentuk site plan seperti ini. Dulu jalan buntu ini tidak ada, kapling rumah yang bagian hook jadi lebih besar” (D15)

“Sebenarnya kalau untuk beberapa lokasi kalau misalnya di utara itu...sudah ada negosiasi antara kami dengan developer, jaringan jalan itu dikoneksi nantinya jadi ketika mereka membeaskannya lahan ini ‘boleh silakan tapi ini sekaligus....’kecuali memang misalnya di lokasi-lokasi yang tidak terkoneksi itu ya” (P08)

“Kalau (benteng dan akses ke masyarakat sekitar) di persetujuan site plan. Jadi kalau lahannya itu masih dimungkinan untuk akses dengan sekitarnya itu kita wajibkan untuk akses walaupun misalnya sekarang masih dibenteng tapi sudah ada connect antara yang lahan sebelahnya. Jadi kalau misalnya si penduduk kedua perumahan ini membutuhkan untuk dibuka ya tinggal bentengnya aja itu yang dibuka....Jadi di site plannya itu sudah ditentukan itu adalah untuk jalan walaupun itu jalannya buntu, nanti sebelah sini juga jalan, buntu lagi... kalau luas lahannya kecil terus lingkungannya sudah permukiman semua biasanya cluster. Karena mau kita tembuskan ke arah lain juga sudah tidak bisa...karena lingkungan sekitarnya juga sudah tertutup” (P04)

“Kadang-kadang kan penduduk tidak mau tertanggu dengan penduduk yang lain...meskipun sekarang masih dibenteng karena yang perumahan sebelah belum mau untuk membuka. Nanti ada dialog difasilitasi. Mungkin sekarang kan belum perlu akses ya, nanti suatu saat kan namanya jalan tidak bertambah, kendaraan bertambah, nanti pasti butuh dan dirasakan oleh kedua perumahan. Yang dari perumahan sini mau kesana terlalu jauh, yang dari perumahan sana mau kesini terlalu jauh, itu pasti. Walaupun mungkin bisa aja ada penjaga, ada portal” (P04)

“Kalau pengembang mau bikin akses ke perumahan sebelah, itu antar mereka. Harus dapat izin tertulis” (P02)

“Akses kearah jalan raya itu yang dibatasi karena menganggu lalu lintas jalan raya. Selama masih bisa dari Kolmas ke Sangkuriang itu saja sih yang aksesnya aktif dibuka itu” (P04)

“Karena memakai jalan umum, nanti keluar izin jalan masuk...dibatasi karena kan nanti macet kalau banyak persimpangan apalagi jaraknya cuma sekian meter, makanya biasanya satu terus bikin cluster” (P02)

“Buka akses bukan karena rekomendasi tapi inisiatifnya mereka untuk marketing, mendongkrak penjualan. Karena jumlah akses semakin banyak jadi semakin dekat sehingga orang yang dari Bandung ‘enak tuh aksesnya dari sini’...karena tidak ada keharusan dari pemerintah jadi juga tidak kita laksanakan, jaringan jalan supaya connect dengan kampung di belakang misalkan. Belum ada aware kalau kesana ya” (D09)

“Seharusnya pengembang itu sudah punya informasi yang cukup tapi kadang ternyata tidak terjadi. Mungkin pemerintah sendiri kurang menyampaikan, meskipun mungkin sampai sekarang jalannya tidak jadi-jadi, pengembang pun bingung ‘mengapa saya harus menyesuaikan dengan rencana pemkot sementara jalannya semakin lama semakin
dikuasai oleh pemukiman penduduk’. Pembebasan lahannya juga sudah sangat susah” (P16)

“Disini ada jalan alternatif. Tahun ini Pemkot akan membebaskan lahan untuk tembus ke Gunung Batu. Wacananya sudah dari 10 tahun lalu…dulu tidak jadi pertimbangan harga, sekarang iya. Harga dulu pas 2010 kan masih 390 juta, terbilang murah untuk tanah 120sqm. yang biasanya 400-an…sekarang harganya sudah mencapai 650 juta” (D15)

“Karena selama ini yang kebanyakan private, kendaraan ini tentunya kita rekayasa lalu lintas yang kita gaungkan karena untuk penambahan jalan sulit juga, lahan mahal, masyarakat menolak” (P08)

“Itu ke depannya juga kita sebenarnya di perizinan itu bahwa fasos fasum itu harus diserahkan ke Pemkot untuk dipelihara oleh kami sehingga tentunya untuk meminimalisir adanya kota-kota di dalam kota ya istilahnya… Dengan adanya aset kota tentunya jadi memudahkan kami untuk meng-connect semua jaringan jalan yang ada…. Belum kearah antisipasi jangan sampai adanya cul-de-sac” (P08)

“Pengawasan kesana yang mungkin karena kita keterbatasan SDM sehingga setelah sudah terjual semua ini lupa nih. Karena ini waktu juga nih karena penjualan kan tidak sebulan 2 bulan, setahun 2 tahun tidak. Biasanya prosesnya bisa ada 5 tahun atau lebih dan ketika 5 tahun ini terlewati dan mereka sudah terjual semua ini lupa dan ketika ini diserahkan ke warga, warga akhirnya protect mereka sendiri. Ini kejadian seperti di perumahan X, sebenernya mustinya sudah diserahkan ke kami dan itu prosesnya sudah kita laksanakan disana malah ditutup. Kami juga ada kesalahan disana harusnya penyerahan itu tidak dari warga harusnya dari developer biar resistennya tidak terlalu tinggi!” (P08)

“Pengembang itu kadang-kadang setelah dibangun, hilang…apalagi kalau ngebangunnya hanya cluster. Kaya gitu kan biasanya pengembangnya bukan perusahaan, biasanya perorangan. Susah melacak yang kaya itu” (P16)

“Sebenarnya yang harus dituntut kan perusahaan tapi masalahnya kan perusahaannya sudah tidak ada…tapi itu kan masyarakat kita…kadang gini ketika developeranya sudah tidak ada, sertifikat tanah mereka bawa kan. Sertifikatnya tidak ada loh di masyarakat, kalau sertifikat rumahnya sih mereka pegang. Tapi kan sertifikat fasos fasum, jalan, yang kaya itu kan ada sertifikat itu kan kepemilikan…anggap saja itu mau dihibahkan tapi kan legalisasi kepemilikannya tidak ada, tidak bisa juga kita terima. Nanti tau-tau ada yang nuntut ‘ini kan tanah saya kok dihibahkan” (P01)

“Tapi peraturannya walaupun tidak diserahkan tetap diambil sama kita. Tapi pemerintah kan kalau mau ambil aset harus dipelihara tapi anggarannya dari mana. Kalau diserahkan ya jalan-jalan utama yang bisa tembus, jadi tetap penghuninya harus memelihara” (P04)

“Kalau dari masyarakatnya gada keluhan ya kita diam karena kita tidak tahu” (P01)

“Kalau sudah ditinggalkan biasanya masyarakatnya seenaknya…misalkan kalau ada tanah kosong ‘gimana kalau dibikin warung?’” (P01)
“Pas kita datang ke lapangan memang bagus tapi secara spesifikasi tidak masuk. Jadi itu panjang lagi (prosesnya)...tidaklanjutnya sampai sejauh ini apa yang terjadi di lapangan kita usahakan supaya mengejar speknya, mereka ada swadaya dulu... misalnya ada perusahaan di sekitar, yang kaya gitu bisa mengelola itu dulu sampai bisa speknya terpenuhi” (P01)

“Selama proses serahterima belum beres, maintenance masih sama developer, itu kalau masih ada developer nya. Kalau yang sudah tidak ada developer nya sebenarnya itu juga masih masyarakatnya kita juga kan” (P01)
Appendix D: Indonesian quotes from interviews with planners (code P) and developers (code D) in chapter 7 based on chronological sequence

“Alasannya karena area Cimahi kan yang lagi booming lah ya. Kaya Bandung selatan itu lakunya lama, di Bdg barat itu juga tidak begitu bagus...lebih cepat yang Cimahi karena airnya bersih, lebih dekat ke Jakarta, lebih strategis, jalannya juga lebih enak. Masyarakat lebih suka...meskipun aturannya lebih ketat” (D13)

“Desakan pertumbuhan perumahan itu ada di utara. Selain lahannya yang lebih nyaman mungkin ya harganya sehingga harga tanah di utara itu sangat lumayan lah dan kawasan masyarakat yang menengah keatas itu larinya kesana. Jadi kalau dilihat dari parameter perizinan itu sangat-sangat tinggi permintaan pasar untuk pembangunan perumahan di utara” (P08)

“Harusnya (di KBU sudah tidak ada untuk kelas mengah ke bawah) karena harganya sudah 400-500ribu per meter. Itu kan tidak masuk (untuk kelas menengah bawah)” (P05)

“Rata-rata pembeli karena lokasi...apalagi sekarang di tengah menjelang tidak boleh. Orang bank bilang itu daerah anomali: jalannya kecil, rusak, rumahnya mahal-mahal tapi laku...kalau dari sisi jauh, untuk (dibandingkan dengan) daerah Bandung timur ini lebih menarik...rata-rata yang beli radius kerjanya Cimahi, Bandung yang masih ke daerah sini. Ada juga yang kerjanya di Soearno Hatta ya itu: alasannya lokasi” (D09)

“Rata-rata ada kendaraan pribadi, kalau motor sih sudah pasti mereka punya. Sekarang mobil juga bukan barang mewah lagi jadi orang berpikir beli rumah ya beli mobil. Atau jual dulu mobil untuk beli rumah, setelah itu beli lagi mobil” (D09)

“Kalau untuk perumahan menengah ke atas, jalur angkot tidak lagi menarik sebetulnya karena segmentasinya sudah berbeda...motor sudah sangat murah, mobil sudah terlalu banyak...saya yang di Cijanjuwang dari jalur angkot sekioloan (jaraknya) masih bagus penjualan” (D09)

“Saya pribadi, lihat ini sudah ada perumahan belum, berarti sudah ada market disitu. Terus yang kedua, kita bandingin harga-harganya, baru liat harga tanah masuk tidak. Setelah itu masuk, baru pertimbangan lain. Salah satunya apa ada transportasi umum. Tapi mungkin tidak perlu karena kan sudah ada perumahan. Kalo ini kan tidak ada, tapi laku tuh, karena kalau middle kan mereka sudah punya kendaraan pasti...cuma kalau ada angkutan ya ada nilai plus-nya lagi” (D18)

“Ada konsumen yang bekerja di Soekarno Hatta...kalau sudah pulang ke rumah ya di rumah dan ga kemana mana. Pulang ya berarti di rumah. Kalau pertokoan, minimarket sudah ada dimana-mana. Tidak jadi poin yang menarik” (D09)
“Cluster X, ada 20-an lah. Itu lebih eksklusif, sudah sedikit, dibuat gerbang sendiri lagi yang bagus...dengan harapan konsumen lihatnya oh niat...walaupun cuma berapa unit, terasa eksklusif” (D12)

“Benteng dibangun membatasi kenyaman konsumen...keamanannya mereka, rasa amannya pembeli kita aja sih sebetulnya. Kalau dibuat terbuka dengan warga kampung, memang seperti mengeksklusifkan diri sih sebetulnya tapi ternyata memang ini yang terbaik. Kalau dibuat terlalu blong juga malah menjadi tidak nyaman mereka...keamanan memang jadi daya jual yang lumayan. Sekian meter, dibenteng, 1 akses, ya lebih menarik lah dibanding kawasan kita kan ada gang. Meskipun kita selalu infokan keamanan 24 jam tapi dengan lasang yang sekian belas hektar juga agak sedikit susak mungkin ya kontrolnya. Tapi kalau yg cul-de-sac satu hektar, itu sih kaya semacam menarik minat aja sih sebetulnya karena kalau kecurian mah kecurian we...jadi support marketing sih jadi mendorong marketing supaya jualnya lebih percaya diri” (D09)

“Aksesnya untuk pintu masuk cuma satu tapi kita tidak cluster ya...karena memang dari segi harga akan mahal...harga kita masih, diantar sekitar harga kita masih di bawah rata-rata ya karena sekitar sini kan banyakanya cluster, berapa unit, perorangan. Sementara kita lumayan banyak, harganya di bawah mereka...Karena mereka ya itu tadi komponennya ada cluster, ada bentengnya sendiri itu otomatis menentukan harga” (D11)

“Cluster kan harganya nanti lebih mahal, security kan harus jaga gerbang...contohnya kompleks aku, jadi awal tuh mereka konsepnya cluster, gerbang utama, jalan utama yang rumahnya besar-besar...di masing-masing cluster ada security, ’security-nya kapan, pagi, siang, sore, malam? 24 jam, Pak’. Sekarang mana tidak ada, dipasang CCTV sudah mereka nongkrong disitu semua...karena biayanya besar... siapa yang mau bayar?. Makanya kita kebanyakan grid-grid gini. Nanti kalau misalnya penghuni pasang portal sudah, 3 atau 4 jalan cuma jadi 1, menggunakan control” (D12)

“Sekarang ada proyek lain tahap satu 96 unit. Tahap berikutnya masih ada 10 hektar tapi belum dibebaskan ya ke belakang. Tapi sudah diblok dari depan gerbang kita” (D18)

“Pengembang mah triknya misal dia beli tanah disini terus benteng. Jadi murah kan tanahnya. Itu mah udah lazim dimana-mana kaya gitu...yang jadi perhatian di kita itu tutupannya...sepeti kasus-kasus yang untuk benteng yang gtu-gitu kita pikir tidak berpengaruh sama lingkungan makanya tidak jadi perhatian” (P01)

“Property lagi booming banyak developer kambuhkan...karena dia punya tanah 1 hektar sudah saja bikin perumahan, kapling-kapling saja... itu tanpa perizin... yang kaya itu banyak yang perizinannya tidak masuk....karena mereka merasa punya modal jadi di lain sisi ini kan hak asasi manusia ‘tanah-tanah saya ko sampeyan urusan’, kaya gitu” (P01)

“Perusahaan baru banyak bermunculan karena marginnya tinggi. Pengembang kecil berani dengan cluster, jadi mereka bisa main, mana berani main berhektar-hektar” (P02)

“Pertama kali terlibat di proyek perumahan 2011. Proyek pertama saya mulai dari cluster hanya 4 unit dari situ berkembang bikin cluster-cluster, 10 unit, di bawah 20 unit lah. Ini ada 62 unit. Sekarang ada proyek lagi tahap satu 96 unit” (D18)
“Tergantung luas lahan, kalau luas lahanannya kecil terus lingkungannya sudah permukiman semua biasanya cluster...pengembang sekarang terbatas... yang dulu bisa mengembangkan 10 hektar sekarang 1 hektar...kemudian sekarang kan tanahnya tinggal sisa-sisa” (P04)

“Tren cluster karena mulai naiknya harga tanah...karena kesediaan tanahnya sudah terbatas” (D09)

“Developer pasti menjadik lahan yang bisa dikembangkan sementara perolehan lahan semakin sulit karena harga. Untuk proyek kita ada yang beli dan ada yang kerjasama dengan pemilik lahan, kita yang mendesain lalu sistem bagi hasil” (D17)

“Kerjasama dengan pemilik lahan, jadi rumahnya udah laku baru tanahnya dilunasin. Di KBB banyak pengembang kecil, tanah cuma 4000 sqm. bikin perumahan. Tanah cluster banyak, pemilik banyak” (P02)


“Ada beberapa ketentuan yang menjadi hilang kalau luasannya berkurang...misalnya perumahan X dengan luasan yang besar jadi harus ada fasilitas sekolah, rumah sakit. Kalau dari segi hitung-hitungan bisnis sebetulnya 5+5 itu lebih menguntungkan daripada 1x10 dari sisi cashflow...biaya yang dikeluarkan lebih mahal sebetulnya karena perizinan banyak tapi begitu dihitung di ujung proyek, cash-on kita lebih bagus yang kecil-kecil” (D09)

“Kalau cluster trend-nya rumah tidak berpagar...karena kita kan ada security di depan... perumahan meskipun besar dibikin cluster-cluster terus ada security” (D18)

“Tren ini dari dulu tahun 1990an. Tapi kalau penjagaannya terlalu luas, kita bikin pagar. Dan kalau kaplingnya udaah besar...lebih dari 500sqm.” (D19)

“Preferensi pasarnya cul-de-sac...lebih menjual...saya ada cluster yang tidak cul-de-sac, banyak orang tanya ‘kok tidak cul-de-sac ya’, jadi kurang suka gitu. Saya buka bikin 10 unit tapi memang itu jalan umum ya...akhirnya saya jualnya juga dimurahin ...akhirnya kita kasih portal” (D18)

“Kita selalu berpikir bahwa suatu saat kita akan mengembangkan lokasi, sehingga bentuk jalan kita selalu mentok, itu suatu saat ini bisa kembuka, kita bikin blok baru. Selalu begitu...kalau dibuat kelling saya hilang 2 kapling...1sqm. kali sekian juta, itu yang dihitung, hilang...ujung-ujungnya efektifitas lahan yang bisa dijual...kita yang jualan harus sangat efektif” (D09)

“Kadang developer itu menciptakan demand baru bukan ngikutin demand...kaya portal kan dulu orang tidak ngerasa butuh dengan itu sekarang semua orang tergantung dengan itu. Fenomena itu terutama perumahan di kawasan pinggiran....contohnya kan Orange County itu ada beberapa ikan yang diekspos untuk menciptakan efek...orang
Indonesia itu kan psikologisnya ‘wah ada barang baru, wah ini dari California’. Developer yang pioneer selalu mengkonstruksi barang baru, developer skala besar. Kalau yang ngikutin demand itu developer skala kecil: sekarang yang namanya cluster bikin cluster semua” (P20)

“Kajian pasarnya lihat misal di lokasi ini lebih banyak model rumah seperti apa...perumahan mana yang paling laku...biasanya karena tempatnya, harganya murah, modelnya...lokasi, mereka lebih liat dekat sekolah tidak, dilewatin angkot tidak, banjir tidak, macet tidak” (D13)

“Market analisis salah satunya lihat kompetitor, harganya berapa. Jadi misalnya di radius 5km kita mintain semua brosur-brosurnya, tanyain juga ke marketing-nya, harga tanahnya berapa, jualnya berapa, bonus-bonusnya. Nanti kita list nah kita confident-nya di harga berapa” (D18)

“Misalnya disini pasnya jual rumah yang 250 juta-an, ya sudah berarti developer itu minimal harus dapat tanahnya itu 1/3 dari harga jual. Kalau kita mau jual tanah kapling 900 ribu maksimal harga tanah mentahnya itu 300 ribu. Bahkan kalau perlu 1/5-nya. Nah untuk mendapatkan tanah murah itu tidak gampang. Lalu kedua yang perlu kita tekankan harga jual bangunan. Sekarang saya jualnya 4,5 juta per meter padahal saya bangunnya 2,9 atau 3 juta lah per meter. Jadi saya ada margin per meter sekitar 1 juta-an” (D18)

“Kalau dari harga...gimana bisa beli. Saya suka complaint ke pengembang ‘PNS tidak boleh beli ya?” (P07)

“Sekarang kalau misalnya kita bangun rumah yang cluster itu, 1000 sqm. ada beberapa puluh unit, kita bisa jual mahal karena yang belinya juga para pasangan muda yang baru punya 1-2 anak dengan posisi kerja yang punya joint income yang lumayan besar. Mereka sudah tidak mau beli perumahan yang terbuka, lebar, dan belinya tipe 40 mereka tidak mau. Kita selaku penjual juga mengikuti tren akhirnya..karena ternyata pasangan-pasangan muda rata-rata lebih suka yang itu cluster-cluster yang 20-30 unit. Akhirnya tren itu terjadi ketika pasarnya meminta sebetulunya...jualan saya dari 2009 sampai sekarang bagusnya di tipe 40, 40-50 sqm.. Ketika bangun rumah tipe 80 aja sudah mulai susah jualannya. Saya disini 80 hanya beberapa kapling, sampai sekarang cuma laku 6-7 kapling...yang tadinya besar, kita kecilin lg” (D09)

“Biasanya dari tim marketing bicara dulu sama agen-agen, biasanya lokasi ini pasarnya berapa. Desain sebenarnya terima order dari marketing, marketing bilang tipenyanya segini ya sudah. Kalau jalan sudah standard” (D19)

“Konsumennya bukan prefer ke 1 atau 2 lantai, tapi ke harganya kalau di lokasi ini...segmen pasar disini menengah: tipe 36 untuk yang baru nikah, gajinya 5 juta-an...orang cari rumah untuk ditinggalin. Orang-orang yang sebenernya terbatas ya, kebanyakan KPR. Kalau harga di bawah 500 juta kebanyakan KPR. Pasti ada biaya KPR, asuransi, nah itu salah satu diskonnya” (D18)

“Bonusnya masuk apa tidak. Kalau kaya kita kan kitchen set, canopy, water heater sudah kita siapkan...yang begitu-begitu biasanya lebih menarik” (D09)
“Saya ada lokasi lain, itu sampai ganti model rumah. Begitu sebar brosur ternyata tidak laku. Cuma satu yang kejual, semua kita rubah, desainnya kita rubah, brosur dirubah. Harga jualnya jadi lebih mahal tapi model rumahnya dirubah dan malah laku...cuma ada satu konsumen yang protes ‘kenapa rumah saya jadi berubah? Saya beli disini karena atapnya lancip begitu’ akhirnya nerima ajia mau tidak mau, sudah jadi rumahnya”  (D09)

“Dulu saya di spanduk sempat cantumkan 5 menit dari gerbang tol Pasteur... strategi marketing-nya ‘oh dimana sih posisinya’ tapi ternyata pas datang ‘ah ga ah...25 menit’, ‘ibu coba jam 12 malam kesini (pasti hanya 5 menit)”  (D09)

“Buat ruko itu biasanya terakhir. Pokoknya rumah saja dulu. Jadi bagian belakang dulu kita beresin, maksudnya sih biar enak ya, dari proses paving blok juga, jalannya, belakangnya, jadinya tidak cepat rusak jalannya. Kaya blok ini aja, kan asalnya mau dibangunnya paling duluan, ternyata kenyataannya tidak bisa...kita juga lihat ke penjualan. Kapling mana yang sudah laku itu pengaruh juga jadinya bangunnya pertama...Tipi besar kita tidak pasarkan dulu...karena kan kita mikirin jalannya, kalau yang tipe besar dulu di depan yang laku kan kita cost harga lagi ya, 2x kerja itu. Ini jalan harus dibenerin lagi”  (D13)

“Kalau yang belakang ini sudah dibangun, nilainya jadi tinggi. Jadi dibangunnya belakang dulu, klo tidak laku ya males ngembangin yang depan. Banyak kasus kaya gini”  (P02)

“Saya beli rumah terus developer nya kabur tapi untungnya rumah saya selesai dibangun...saya kan pakai KPR terus bank yang ngejar-ngjar developer nya. Itu salah satu keuntungan pakai KPR, sebagai pendukung yang kuat”  (P14)

“Walaupun dibuat supaya berinteraksi tapi kan orang juga kalau berinteraksi juga tidak bisa dipaksa, harus yang mau”  (D09)

“Itu aspek social ekonomi. Penghuninya tidak mau sebenernya, rumah-rumah non-kompleks, permukiman warga yang memakai akses mereka, mereka keberatan. Memang dari akses, faktor keamanan...pasang portal; orang luar tidak boleh masuk. Orang di kompleks kan beli rumah, pengennya sebenernya dibenteng. Kita tidak memasalahkan kenapa warga disini tidak dikasih jalan. Itu juga complaint ‘nanti anak saya kesana main tidak tau, nanti ada maling’”  (P02)

“Angkutan umum kan izinnya dari pemerintah tapi jalannya sendiri tapi kan tidak diakomodir sama pemerintah jadi mereka demo...akhir-akhirnya mereka juga butuh kan mereka sepatak (jalannya) dibuka kembali tapi tuntutannya kembali ke kita”  (P01)

“Konsumen kalau tetangganya tidak menganggu sih mereka tidak terlalu...tapi kalau misalnya ada yang bawa mobil terus parkir di depan rumahnya...kalau anak-anak main kan di jalan, kecuali kalau main bola sampai masuk-masuk ke halaman”  (D19)